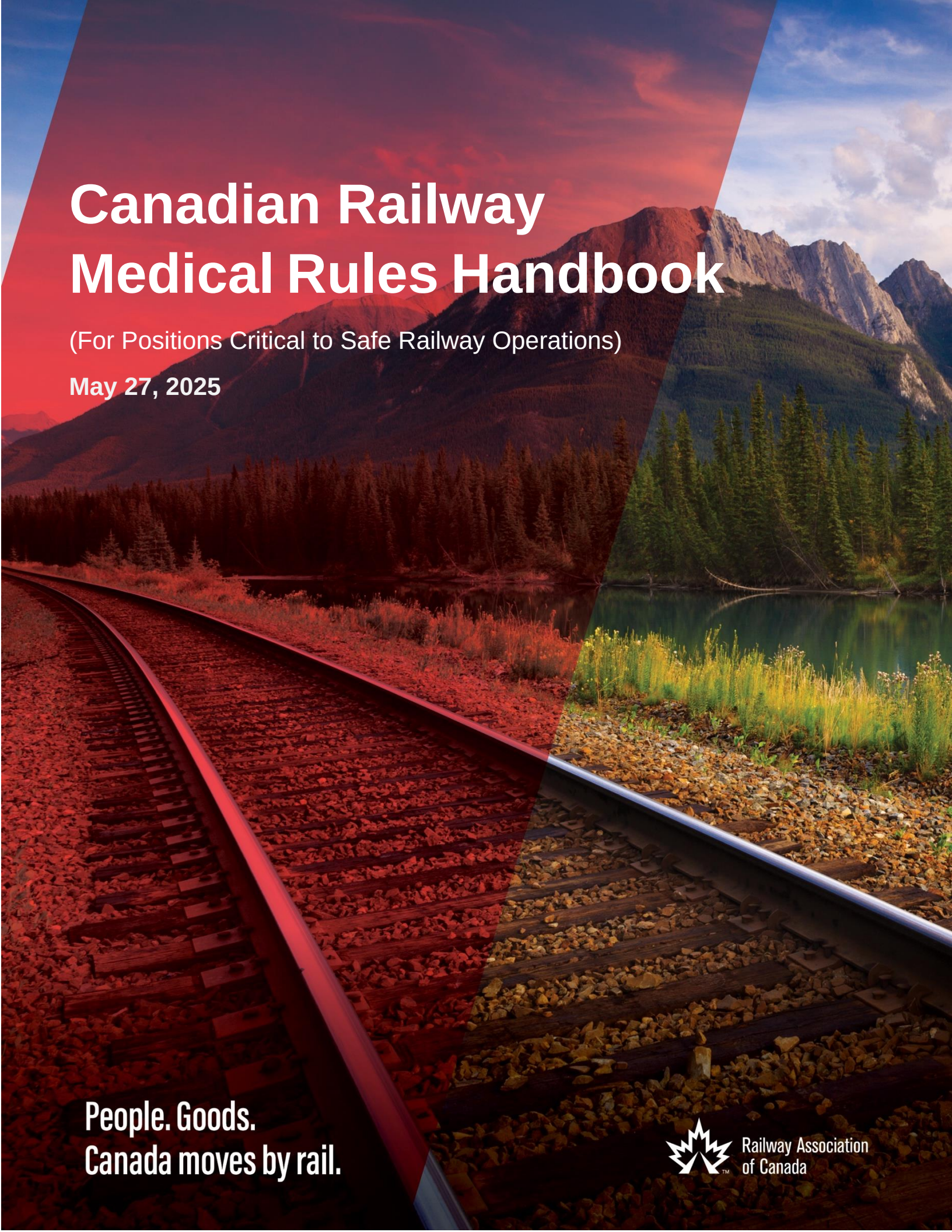
Canadian Railway Medical Rules Handbook

(For Positions Critical to Safe Railway Operations)

May 27, 2025



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Railway Association of Canada

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Acknowledgements

This document was prepared by the Medical Steering Committee and Medical Advisory Group of the Railway Association of Canada (RAC).

Medical Steering Committee Members

Mr. Michael Barfoot, Director – Regulatory Affairs – RAC
Ms. Brianna Bowman – Senior Administrative Assistant – RAC
Ms. Jenny Ho – Director (A) – Occupational Health, Safety & Environment – Metrolinx
Ms. Marie-Claude Laporte – Advisor – Disability Management – VIA Rail Canada Inc.
Mr. Marc Lavallée – Operations Practices Coordinator – exo
Mr. Sylvain Rodrigue – Senior Director – exo
Ms. Gina Stirpe – Senior Manager – Occupational Health Services & Wellness – CN
Ms. Lisa Trueman – Senior Director, Global Health Services & Disability Management – CPKC
Ms. Jessica Farinaro – Human Resources Manager – Genesee & Wyoming Canada Inc.
Mr. Sean Sefsik – Senior Director Compliance, Safety and Regulatory Affairs – Québec Gatineau Railway Inc. and St. Lawrence & Atlantic Railroad (Québec) Inc.

Medical Advisory Group and Contributing Authors

Chair

Dr. G. Lambros

Chief Editor

Dr. M. Laprade

Contributing Authors

Cardiovascular Disorders – Dr. M. Laprade, Dr. G. Lambros, Dr. M. Walker, Dr. C. Elbaz, Dr. M-D. Pitchen
Cerebrovascular Disorders – Dr. G. Lambros, Dr. M. Laprade, Dr. T. Wein, Dr. A. Elmezughi
Diabetes – Dr. M. Laprade, Dr. G. Lambros, Dr. O. Oyekanmi, Dr. A. Adebayo
Epileptic Seizures – Dr. G. Remillard, Dr. J. Cutbill, Dr. C. Lapierre
Hearing Disorders – Dr. G. Lambros, Dr. M. Laprade, Dr. A. Elmezughi
Mental Health Disorders – Dr. G. Lambros, Dr. M. Laprade, Dr. A. Elmezughi, Dr. J. Giddens, Dr. C. Els
Sleep Disorders – Dr. M. Laprade, Dr. G. Lambros, Dr. O. Oyekanmi, Dr. A. Adebayo, Dr. A. Elmezughi
Substance-Related Disorders – Dr. M-D. Pitchen, Dr. G. Lambros, Dr. M. Laprade, Dr. C. Els, Dr. J. Giddens, Dr. A. Aulakh
Therapeutic Opioids – Dr. C. Els, Dr. D. Leger, Dr. G. Lambros
Vision Disorders – Dr. G. Lambros, Dr. M. Laprade, Dr. J. Hovis

Past Medical Advisory Group Members and Contributing Authors

Dr. J. Cutbill, Dr. C. Lapierre, Dr. F. Sestier, Dr. S. Ross, Dr. W. Flemons, Dr. J. Remmers, Dr. K. Fraser, Dr. R. Baker, Dr. D. Hunt, Dr. A. Wielgosz, Dr. L. Garand, Dr. N. Adams, Dr. O. Robinow, Dr. S. Dubuc, Ms. G. Stirpe, Ms. L. Trueman

Section 1 – Introduction

This handbook was designed to provide Canadian railway companies and medical service providers with the information necessary to implement the *Railway Medical Rules for Positions Critical to Safe Railway Operations (Railway Medical Rules and Railway Rules Governing Safety Critical Positions)*.

The *Safety Critical Positions Rules* and the *Railway Medical Rules* were developed pursuant to Section 18(1) (b), Section 20(1) and Section 35 of the *Railway Safety Act* (RSA), as amended on June 1, 1999. This Act requires persons working in positions that are deemed critical to safe railway operations to undergo periodic medical examinations. These sections of the RSA are included in the Introduction for reference.

The Act requires that all persons employed in railway Safety Critical Positions must advise their medical professional of that fact prior to any examination.

The Act further requires medical examiners who believe that a person employed in a safety critical position has any condition that may reasonably pose a threat to railway safety must immediately notify both the patient and the railway company. Medical information provided to railway companies in accordance with this section of the Act is privileged and cannot be used in any legal or disciplinary proceedings except as otherwise provided.

The *Safety Critical Position Rules* and the *Railway Medical Rules* were developed by the Railway Association of Canada (RAC) and approved by the Minister of Transport on June 16, 2000. The *Railway Medical Rules* became effective on November 29, 2001, simultaneously with the revocation of General Order 0-9, *Regulations Respecting the Examination of Vision and Hearing of Railway Employees*, as amended by CTC 1985-3. Any questions regarding either the Act or the Rules should be addressed to the RAC or to the Department of Transport.

The RAC has a standing Medical Steering Committee and a Medical Advisory Group (MAG) that is composed of railway member Companies representatives with responsibilities in the functions of medical fitness for duty, occupational health and medical professionals who represent several member railways and other interested parties. This Committee and Group address questions and issues of a technical nature and monitors medical conditions which may affect safe rail operations. From time to time, the RAC may recommend new or revised medical guidelines. Persons who have received a copy of this handbook may obtain updates from the RAC when they become available.

The intent of these Rules is to provide for individual medical assessments by personal physicians for persons performing work in Safety Critical Positions in the railway industry.

Included in this handbook is background information on how and why the Rules were developed, a copy of section 35 of the Act, a copy of the Rules, guidelines for assessment of medical conditions required by the Rules, and contacts for additional information.

Section 18(1) of the *Railway Safety Act* reads as follows:

“The Governor in Council may make regulations (b) declaring positions in railway companies to be critical to safe railway operations.”

Section 20(1) of the *Railway Safety Act* reads as follows:

“A railway company shall file with the Minister for approval any rules in respect of any matter referred to in subsection 18(1) or (2.1) that it proposes to formulate or revise on its own initiative.”

Section 35 of the *Railway Safety Act* reads as follows:

(1) **Medical examination:** “A person who holds a position that is declared by regulations made under paragraph 18(1)(b) or by any rule in force under section 19 or 20 to be a position critical to safe railway operations, referred to in this section as a ‘designated position’, shall undergo a medical examination organized by the railway company concerned, including audio-metric and optometric examination, at intervals determined by the regulations made under paragraph 18(1)(c)(iii) or by any rule in force under section 19 or 20.”

(2) **Physician or optometrist to disclose potentially hazardous conditions**: “If a physician or an optometrist believes, on reasonable grounds, that a patient is a person described in subsection (1), the physician or optometrist shall, if in their opinion the patient has a condition that is likely to pose a threat to safe railway operations, (a) by notice sent without delay to a physician or optometrist specified by the railway company, inform the specified physician or optometrist of that opinion and the reasons for it, after the physician or optometrist has taken reasonable steps to first inform the patient, and (b) without delay send a copy of that notice to the patient, and the patient is deemed to have consented to the disclosure required by paragraph (a).”

(3) **Holder of designated position to inform physician or optometrist:** “A person who holds a designated position in a railway company shall, prior to any examination by a physician or optometrist, advise the physician or optometrist that the person is the holder of such a position.”

(4) **Railway Company may act in interests of safe railway operations**: “A railway company may make such use of information provided pursuant to subsection (2) as it considers necessary in the interests of safe railway operations.”

(5) **Proceedings not to lie against physician or optometrist**: “No legal, disciplinary or other proceedings lie against a physician or optometrist for anything done by that physician or optometrist in good faith in compliance with this section.”

(6) **Information privileged**: “Information provided pursuant to subsection (2) is privileged and (a) no person shall be required to disclose it or give evidence relating to it in any legal, disciplinary or other proceedings; and (b) it is not admissible in any such proceedings, except (i) as provided by subsection (4), or (ii) where the patient consents.”

Section 2 – Background and History

1 Introduction

This section describes the background and history behind the development of the *Railway Medical Rules* and the *Safety Critical Position Rules*.

2 Legislative History

Medical requirements for certain railway positions were most recently contained in General Order O-9, *Regulations Respecting the Examination of Vision and Hearing of Railway Employees*, as amended by CTC 1985-3. This legislation contained standards for vision and hearing only. Medical requirements beyond these had been left up to the individual railways as a matter of company policy.

General Order O-9 had been in place since 1978. Minor revisions had been made to the order on several occasions, most recently as part of CTC 1985-3 (April 23, 1985). In 1998, CN and CPR also obtained exemptions from some of the requirements of the General Order to address Canadian Human Rights Commission (CHRC) issues relating to the difference in initial certification and recertification standards.

The move towards legislated medical standards beyond those for hearing and vision arose primarily from the Foisy Commission review of the 1986 Hinton train collision.

Recommendation 10 of the Commission stated "that the CTC review its regulations concerning medical fitness with a view to including standards with respect to matters of physical health in addition to vision and hearing acuity and that regulations establishing such standards be promulgated as soon as possible".

As a result of this recommendation, the RTC set out in 1987 to review the issue of expanded medical examinations. Draft regulations were developed by the RTC (*Regulations Respecting the Medical Examination of Railway Employees*) and included the requirement for a physical examination including "a review of the nervous, cardiovascular, respiratory, gastro-intestinal, genitourinary and musculoskeletal systems, a clinical history and special investigations if clinically indicated having regard for the examinee's age and work duties". The proposed regulation also included the specific need for chest x-rays, electrocardiogram tests, urinalysis, and tuberculin tests. The draft regulation also required railway companies to file standards for medical fitness in each of the aforementioned areas.

The need for expanded medical examinations was carried over into the *Railway Safety Act* when it was enacted in 1989. Section 35(1) of the RSA requires that railway employees in positions deemed critical to safe railway operations undergo annual medical examinations including audiometric and optometric assessment. Section 35(2) of the Act addressed another of the Foisy commission recommendations by requiring any physician or optometrist treating a person in a Safety Critical Position to report to the railway's Chief Medical Officer any medical condition that

they believe could constitute a threat to safe railway operations. Section 35(3) of the *Railway Safety Act* requires that persons in Safety Critical Positions inform the physician or optometrist of their position.

Although included in the *Railway Safety Act* since its inception in 1989, these sections have never been fully enacted due to their reliance on regulation identifying a list of Safety Critical Positions. This regulation has been delayed several times due to various issues and concerns. Also hindering the enactment of this section of the *Railway Safety Act* was its initial specified requirement for an annual medical examination, a frequency deemed to be excessive by railway industry medical experts. Revisions to the *Railway Safety Act*, which came into force on June 1, 1999, eliminated the annual requirement.

A new initiative aimed at drafting a new medical rule for Safety Critical Positions commenced in December 1996. The Railway Association of Canada's Safety and Operations Management General Committee authorized a formal Medical Steering Committee to oversee the development of *Rules Identifying Safety Critical Positions* and *Rules Governing Medical Standards* for Safety Critical Positions.

The Steering Committee was comprised of railway industry multi-functional stakeholders including representatives from the Regulatory Affairs, Medical, Employee Relations, Labour Relations, and Law departments of various RAC member railways. A Medical Working Group consisting of the Chief Medical Officers from CN, CPR and VIA Rail was also formed to work with medical specialists in the development of specific medical requirements and the guidelines required to support the medical rules. As part of this process field research was carried out in the railway environment.

The Steering Committee's mandate was to develop rules which would provide a contemporary list of Safety Critical Positions based on potential risk to public safety as well as modern and consistent medical requirements which address those diseases or disorders that have the potential to impact railway safety.

In accordance with the requirements of the *Railway Safety Act*, the Steering Committee consulted with railway labour organizations throughout the development process. In addition, the CHRC and Transport Canada were kept up to date on the rules' progress.

The *Safety Critical Position Rules* and the *Railway Medical Rules* were developed by the Railway Association of Canada (RAC) and approved by the Minister of Transport on June 16, 2000. The *Railway Medical Rules* became effective on November 29, 2001, simultaneously with the revocation of General Order 0-9, *Regulations Respecting the Examination of Vision and Hearing of Railway Employees*, as amended by CTC 1985-3. Any questions regarding either the Act or the Rules should be addressed to the RAC or to the Department of Transport.

Section 3 – Safety Critical Position Rules

3 Overview

3.1 Background

Section 35(1) of the *Railway Safety Act* refers to the requirement for regulation or rule specifying positions deemed critical to safe railway operations. In 1997 the RAC Medical Steering Committee undertook to develop such a rule along with a related Medical rule for Safety Critical Positions.

The Committee's goal was to develop a straightforward rule which would identify the occupational requirements deemed to be safety critical while allowing individual railways to determine the specific list of occupations that meet these requirements on their particular railway.

As required by the *Railway Safety Act*, consultation with railway labour organizations took place throughout the development process. In addition, the Canadian Human Rights Commission and Transport Canada were kept up to date on the rule's development.

The *Rule Governing Safety Critical Positions* was developed by the Railway Association of Canada and approved by the Minister of Transport on June 16, 2000 (copy of approval notice can be found in section 0 below). It became effective on September 30, 2000.

3.2 Development Process

A vital part of the development of the *Railway Rules Governing Safety Critical Positions* was ensuring that an objective means was in place to identify those occupations deemed to be critical to safe railway operations.

It was important that the list of Safety Critical Positions include only those positions with the highest risk to public safety.

For this purpose, the Railway Association of Canada's Medical Rules Steering Committee developed a "risk matrix" which would allow an assessment of railway occupations based on five key risk components. These were:

- General risk component of occupation
- Public interface
- Frequency of risk activities
- Presence of safety back-up systems
- Degree of risk environment

Based on this assessment, it was determined that Safety Critical Positions should be comprised of running trades positions directly engaged in train or yard service and positions engaged in rail traffic control. In addition, other occupations would be considered as Safety Critical when performing any of these duties.

Due to variances in actual occupational titles, the list of specific SCP occupations was to be developed and filed with Transport Canada by individual railways. A typical list of occupations would include:

- Locomotive engineer
- Conductor
- Brake person
- Yard foreman
- Rail traffic controller
- Operators of specialized equipment operating as trains
- Train master
- Superintendent

Railways must reassess their SCP occupational list at regular intervals and file updated lists as required.

3.3 Disclosure Requirements

In addition to being subject to the requirements of the Medical Rules, the *Railway Safety Act* contains another important obligation for persons employed in a Safety Critical Position. This is the requirement that persons in Safety Critical Positions must, prior to any examination by a physician or optometrist, advise the physician or optometrist that they occupy a Safety Critical Position under the *Railway Safety Act*. (Note this includes all examinations and not just fitness for duty assessments under the *Medical Rules*).

Physicians and optometrists also have an obligation under the *Railway Safety Act* to report to the railway any condition in a person occupying a Safety Critical Position which they feel may pose a threat to safe railway operations. A copy of the report must also be provided to the employee.

Individual railways should ensure that they inform those employees in Safety Critical Positions of these requirements. Although information will be provided by the Railway Association of Canada to the medical community at large regarding their obligations under the *Railway Safety Act*, where possible, individual railways may also wish to provide such information to those physicians who will be dealing with employees in Safety Critical Positions.

4 Rules Governing Safety Critical Positions

4.1 Short Title

For ease of reference, this rule may be referred to as the “Safety Critical Position Rules”.

4.2 Scope

These rules have been developed pursuant to Section 20 of the *Railway Safety Act*.

4.3 Definitions

A “Safety Critical Position” is herein defined as:

a) Any railway position directly engaged in operation of trains in main track or yard service; and
b) Any railway position engaged in rail traffic control

Any person performing any of the duties normally performed by a person holding a Safety Critical Position, as set out in section 0 above, is deemed to be holding a Safety Critical Position while performing those duties.

4.4 Records to be Kept by the Company

Each railway company shall:

a) Maintain a list of all occupational names or titles which are governed by this rule;
b) Maintain a list of the names of all employees qualified to serve in Safety Critical Positions; and
c) Make all such records related to this rule available to Transport Canada inspectors upon reasonable request

5 Approval by Minister of Transport

Approval of Rule – Pursuant to Section 20 of the Railway Safety Act, Chapter R-4.2, [R.S., 1985, C. 32 (4th SUPP.)]

The Railway Association of Canada (RAC), on behalf of its constituent railway companies, has requested approval of the *Railway Rules Governing Safety Critical Positions* and *Railway Medical Rules for Positions Critical to Safe Railway Operations*.

Paragraph 19.(4)(a) of the *Railway Safety Act* gives the Minister the authority to approve Rules filed by a railway company, on their own initiative, under Section 20 of the *Act*, if he is of the opinion that the Rules are conducive to safe railway operations. Having regard to current railway practice, to the views of the railway companies and the views of the relevant associations and organizations and to other factors that I consider relevant, I am of the opinion that the Rules so filed are conducive to safe railway operations.

Pursuant to the *Railway Safety Act*, paragraph 19.(4)(a), I hereby approve the *Railway Rules Governing Safety Critical Positions* and *Railway Medical Rules for Positions Critical to Safe Railway Operations*, filed by the RAC on behalf of its constituent railway companies as set out in Appendices “B” and “C” attached hereto.

The *Railway Rules Governing Safety Critical Positions* shall apply to the railway companies listed in Appendix “A”. This Rule shall come into effect 90 days from the date of approval during which time railway companies must submit their list of safety critical positions to the Department.

The *Railway Medical Rules for Positions Critical to Safe Railway Operations* shall also apply to the railway companies listed in Appendix “A” and will come into effect once the remaining federally regulated companies become signatory to the new Rule and the subsequent revocation by the Governor in Council of General Order 0-9, *Regulations Respecting the Examination of Vision and Hearing of Railway Employees*, amended by CTC 1985-3 RAIL.

Signed by T. Burtch — June 16, 2000

Director General, Rail Safety
for Minister of Transport — Date

Section 4 – Railway Medical Rules

1 Overview

The *Railway Medical Rules* were developed over the course of 1998/99 by a Medical Steering Committee formed by the Railway Association of Canada. This committee was comprised of railway industry multi-functional stakeholders including representatives from the Regulatory Affairs, Medical, Employee Relations, Labour Relations, and Law departments of various RAC member railways.

A Medical Working Group consisting of the Chief Medical Officers from CN, CPR and VIA Rail worked with medical specialists in the development of specific medical requirements and the guidelines required to support the medical rules. As part of this process field research was carried out in the railway environment.

The Steering Committee's goal was to develop a basic enabling rule which would be supported by recommended medical practices guidelines. This would allow medical assessments to remain current through updates to the guidelines without having to regularly modify the actual rule.

The *Medical Rules* allow medical assessments for Safety Critical Positions to be directed and managed by a railway's Chief Medical Officer. It requires that an employee must meet medical fitness for duty assessment requirements so as to work in a Safety Critical Position.

The Rules set an assessment frequency of 5 years to age 40 and 3 years beyond age 40 with the Chief Medical Officer having the ability to reduce the interval for specific situations.

Assessments are based on those diseases or disorders that have potential to impact railway safety including sudden impairment, impairment of judgement or alertness, impairment of senses or significant musculoskeletal impairment. The Rules provide the basis for assessments to be conducted by personal physicians at the discretion of individual railways.

As required by the *Railway Safety Act*, consultation with railway labour organizations took place throughout the development process. In addition, the Canadian Human Rights Commission and Transport Canada were kept up to date on the rule's development.

The *Railway Medical Rules* were developed by the Railway Association of Canada (RAC) and approved by the Minister of Transport on June 16, 2000. They became effective on November 29, 2001 simultaneously with the revocation of General Order 0-9, *Regulations Respecting the Examination of Vision and Hearing of Railway Employees*, as amended by CTC 1985-3. Any questions regarding either the Act or the Rules should be addressed to the RAC or to the Department of Transport.

2 Rules

1 Short Title

1.1 For ease of reference, these rules may be referred to as the "Railway Medical Rules".

2 Scope

2.1 These rules, which have been developed pursuant to Section 20(1)(a) of the *Railway Safety Act*, define the Medical Fitness for Duty requirements for Safety Critical Positions within railway companies subject to the jurisdiction of the Department.

2.2 In the case of international train movements, a railway company may allow persons to perform limited service in Safety Critical Positions while using medical requirements stipulated by U.S. Federal Railroad Administration regulations.

3 Definitions

3.1 “Chief Medical Officer” means a physician licensed to practice medicine in Canada and who is employed or contracted by a railway company for the purpose of, among other things, directing and managing the area of Medical Fitness for Duty requirements and guidelines.

3.2 “Department” means the Department of Transport, Rail Safety Group.

3.3 “Medical Fitness for Duty” means that a determination was made by the Chief Medical Officer, subject to any restrictions or requirements imposed under Section 6 hereof, that a person has taken the medical assessments required by these rules, and that the person meets all of the Medical Fitness for Duty requirements provided herein.

3.4 “Safety Critical Position” has the same meaning as provided in the *Railway Rules Governing Safety Critical Positions*.

3.5 “Person” means a person in a Safety Critical Position.

4 Frequency of Medical Assessments

4.1 Subject to sub section 4.2, a person shall undergo a company organized Medical Fitness for Duty assessment:

a) Prior to commencement of employment in a Safety Critical Position;
b) Upon promotion or transfer to a Safety Critical Position; and
c) Every five years until the age of forty and every three years thereafter until retirement, or until that person is no longer employed in a Safety Critical Position.

4.2 Without varying the requirement of sub-section 4.1(c), no assessment shall be required under sub section 4.1(b) if the person had previously occupied a Safety Critical Position which, in the opinion of the Chief Medical Officer, had similar mental and physical demands as the Safety Critical Position into which the person is entering.

4.3 The Chief Medical Officer may require additional assessments to those set out in Section 4.1 if:

a) The person has or may have a medical condition that requires assessment or more frequent monitoring; or
b) The person is returning to work in a Safety Critical Position after a leave due to illness or injury.

5 Assessment for Medical Fitness for Duty

5.1 The Medical Fitness for Duty for a person shall be assessed on an individual basis, taking into consideration medical conditions, both past and current, that could result in:

a) Sudden impairment;
b) Impairment of cognitive function including alertness, judgement, insight, memory and concentration;
c) Impairment of senses;

d) Significant impairment of musculoskeletal function; or
e) Other impairment that is likely to constitute a threat to safe railway operations.

5.2 The medical conditions referred to in Section 5.1 shall include:
a) Diseases of the nervous system, including seizure disorders, narcolepsy, sleep apnea and other disturbances of consciousness, vestibular disorders, disorders of coordination and muscle control, head injury, post traumatic conditions and intracranial tumours;
b) Cardiovascular diseases, including high blood pressure, coronary artery disease, myocardial infarction, cerebrovascular disease, aortic aneurysm, congestive heart failure, cardiac arrhythmia, valvular heart disease and cardiomyopathy;
c) Metabolic diseases, including diabetes mellitus, thyroid disease, Cushing's Disease, Addison's Disease and pheochromocytoma;
d) Musculoskeletal disabilities, including amputation of a limb, arthritis, significant joint dysfunction, disease of the spine, obesity or other significant musculoskeletal conditions;
e) Respiratory diseases, including obstructive or restrictive conditions resulting in functional impairment;
f) Mental disorders, including the following types of mental disorders:
i) Cognitive, including dementias, delirium and amnesia;
ii) Psychotic, including schizophrenia;
iii) Mood, including depression, manic, bipolar;
iv) Anxiety, including panic attacks and phobias; and
v) Personality, resulting in anti social, erratic or aggressive behaviour;
g) Substance abuse, including abuse or dependence on alcohol, prescription medications, or illicit drugs;
h) Hearing impairment, including hearing acuity;
i) Visual impairment, including distant visual acuity, field of vision, colour vision; and
j) Any other organic, functional, or structural disease, defect or limitation that is likely to constitute a threat to safe railway operations.

5.3 In addition to the medical conditions referred to in subsection 5.2, the individual assessment of a person's Medical Fitness for Duty shall also take into consideration:
a) the occupational demands of the person's job and the person's ability to meet those demands;
b) the person's performance record; and
c) any prescription or over-the-counter medications that the person is using, or has used, that may cause mental or physical impairment or affect judgment.

5.4 Notwithstanding subsections 5.1 and 5.2, the Chief Medical Officer may determine that any additional assessments required under subsection 4.3 may be limited to assessments of particular medical conditions.

6 Medical Restrictions

6.1 If the Chief Medical Officer, in making an individual assessment of a person's Medical Fitness for Duty, is of the opinion that there exists a threat to safe railway operations, the Chief Medical Officer may:
a) Restrict a person from occupying a Safety Critical Position;
b) Require the use of corrective devices or other medical aids; or
c) Otherwise restrict a person's ability to work or perform certain tasks in a Safety Critical Position.

6.2 Upon completion of a Medical Fitness for Duty assessment, the Chief Medical Officer shall advise each person and the person's supervisor of that person's Medical Fitness for Duty and of any restrictions or requirements imposed pursuant to sub section 6.1.

7 Records to Be Kept by the Chief Medical Officer

7.1 The Chief Medical Officer of the railway company shall maintain records of all persons' medical assessments required hereunder and any restrictions required pursuant to sub section 6.1.

7.2 The Chief Medical Officer shall maintain copies of all medical policies and guidelines used by a railway company for the examination or assessment of persons employed in Safety Critical Positions.

7.3 The Chief Medical Officer shall make records, policies, and guidelines related to these rules available to the Department upon reasonable request.

8 Exceptions

8.1 These rules do not apply to passenger trains used exclusively in tourist excursion train service that travel no further than a round trip of 150 miles (240 km), at a speed not exceeding a maximum of 25 mph (40 km/h), if the railway company establishes and complies with appropriate alternative medical requirements suitable to that particular service.

8.2 In developing such alternative medical requirements, the railway company shall:

a) use these rules as a guide to ensure the alternative medical requirements achieve an equivalent level of safety to these rules; and,

b) consult with the Department on its proposed alternative medical requirements at least 90 days prior to the date on which it proposes to operate a service using those requirements.

8.3 The alternative medical requirements must include a list of the safety critical railway positions to which the alternative medical requirements shall apply.

8.4 The railway company shall not implement the alternative medical requirements established under subsection 8.1 until the Department determines that such requirements are conducive to safe railway operations.

3 Approval by Minister of Transport

Approval of Rule – Pursuant to Section 20 of the Railway Safety Act, Chapter R-4.2, [R.S., 1985, C. 32 (4th SUPP.)]

The Railway Association of Canada (RAC), on behalf of its constituent railway companies, has requested approval of the *Railway Rules Governing Safety Critical Positions* and *Railway Medical Rules for Positions Critical to Safe Railway Operations*.

Paragraph 19.(4)(a) of the *Railway Safety Act* gives the Minister the authority to approve Rules filed by a railway company, on their own initiative, under Section 20 of the *Act*, if he is of the opinion that the Rules are conducive to safe railway operations. Having regard to current railway practice, to the views of the railway companies and the views of the relevant associations and organizations and to other factors that I consider relevant, I am of the opinion that the Rules so filed are conducive to safe railway operations.

Pursuant to the *Railway Safety Act*, paragraph 19.(4)(a), I hereby approve the *Railway Rules Governing Safety Critical Positions* and *Railway Medical Rules for Positions Critical to Safe Railway Operations*, filed by the RAC on behalf of its constituent railway companies as set out in Appendices “B” and “C” attached hereto.

The *Railway Rules Governing Safety Critical Positions* shall apply to the railway companies listed in Appendix “A”. This Rule shall come into effect 90 days from the date of approval during which time railway companies must submit their list of safety critical positions to the Department.

The *Railway Medical Rules for Positions Critical to Safe Railway Operations* shall also apply to the railway companies listed in Appendix “A” and will come into effect once the remaining federally regulated companies become signatory to the new Rule and the subsequent revocation by the Governor in Council of General Order 0-9, *Regulations Respecting the Examination of Vision and Hearing of Railway Employees*, amended by CTC 1985-3 RAIL.

Signed by T. Burtch	June 16, 2000
Director General, Rail Safety for Minister of Transport	Date

APPENDIX A

Current List of Railways Signatory to the Railway Rules Governing Safety Critical Positions and *Railway Medical Rules for Positions Critical to Safe Railway Operations*

Amtrak
BNSF Railway Company
Central Maine & Québec Railway Canada Inc.
CN
CPKC
CSX Transportation Inc.
Eastern Main Railway Company
Essex Terminal Railway Company
Exo
Goderich-Exeter Railway Company Limited
Go Transit
Great Canadian Railtour Company Ltd.
Hudson Bay Railway
Kettle Falls International Railway, LLC
Knob Lake and Timmins Railway
Nipissing Central Railway Company
Norfolk Southern Railway
Ottawa Valley Railway[1]
Québec North Shore and Labrador Railway Company Inc.
Southern Ontario Railway[1]
St. Lawrence & Atlantic Railroad (Québec) Inc.
Sydney Coal Railway
Toronto Terminals Railway Company Limited, The
Tshiuetin Rail Transportation Inc.
Union Pacific Railroad Company
VIA Rail Canada Inc.
West Coast Express Limited
White Pass & Yukon Railroad

[1] RailLink Canada Ltd. Power of Attorney covers two (2) railways: the Ottawa Valley Railway, and the Southern Ontario Railway.

Section 5 – Railway Medical Guidelines

MEDICAL FITNESS FOR DUTY GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Overview

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment.

Medical fitness for duty guidelines have been developed for a number of medical conditions that are both prevalent in the population and represent a significant potential risk to safe railway operations. These medical fitness for duty guidelines take into consideration the occupational requirements of Safety Critical Positions in the Canadian railway industry and, where applicable, implement a medical risk threshold of 2% per year for sudden incapacitating events due to a medical condition. They are a resource for a Railway's Chief Medical Officer and Health Services Department, physicians, nurses, specialists and medical consultants, and other treatment providers when considering the medical fitness for duty of an individual occupying a Safety Critical Position.

The medical fitness for duty of an individual with a medical condition not covered by these guidelines will be determined by the Railway's Chief Medical Officer and guided by the "medical fitness for duty considerations" listed in each guideline, accepted medical practice and by related industry medical standards. The requirement for medical monitoring and follow up reports and the frequency of their submission will be at the discretion of the Railway's Chief Medical Officer.

The term "Railway's Chief Medical Officer" is used throughout these medical fitness for duty guidelines. At the discretion of each Railway's Chief Medical Officer, some of the roles and responsibilities of the Railway's Chief Medical Officer may be assigned to an alternate or a designate.

The Medical Advisory Group of the Railway Association of Canada, with input from medical consultants and with support provided by the Medical Steering Committee of the Railway Association of Canada, will review and update these medical fitness for duty guidelines as required.

Section 6 – Hearing Disorders

MEDICAL FITNESS FOR DUTY GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS WITH HEARING DISORDERS IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment. Individuals working in Safety Critical Positions are required to have sufficient hearing to meet the demands of these positions.

These medical fitness for duty guidelines include an overview of several common hearing disorders and the hearing requirements in order to work in a Safety Critical Position. If an individual has a hearing disorder not covered by these guidelines, their medical fitness for duty will be determined by the Railway's Chief Medical Officer and guided, in part, by the considerations listed in section 2.

2 Medical Fitness for Duty Considerations

Hearing disorders can cause gradual functional impairment or sudden incapacitation due to acute hearing loss. The following should be taken into consideration when assessing the medical fitness for duty of an individual occupying a Safety Critical Position:

- Length, course, and severity of the hearing disorder(s)
- Results of relevant tests
- Degree of impairment related to the individual's hearing disorder or related to methods used to treat the hearing disorder
- Compliance with treatment recommendations and follow-up
- Likelihood of progression of the hearing disorder
- Potential for acute, gradual, or chronic functional impairment
- Predictability and reliability of the individual
- Presence of any medical comorbidities
- Occupational requirements of the individual's Safety Critical Position
- Opinion of the treating physician(s) and any other physician(s) or healthcare professional(s) consulted

3 General Medical Fitness for Duty Guidelines

3.1 Assessment and Reporting

The medical fitness for duty assessment should include a thorough history, a physical examination, and a review of relevant hearing tests, as well as an evaluation of compliance with recommended treatment. The medical fitness for duty requirements in the following sections refer to commonly used diagnostic tests. The acceptance of alternate diagnostic tests will be at the discretion of the Railway's Chief Medical Officer.

A written report should be submitted to the Railway's Chief Medical Officer. It should contain:

- Diagnosis(es)
- Relevant test results
- Recommended treatment
- Recommended follow-up
- Relevant consultation letters
- Functional limitations and/or work restrictions
- An opinion on the individual's medical fitness for duty in a Safety Critical Position

The report should be completed by an otolaryngologist or an audiologist.

3.2 Hearing Aids and Hearing Assistive Devices

Hearing aids and hearing assistive devices (e.g., sound amplification earmuffs) are often recommended to correct hearing loss. These corrective devices are permitted when determining whether an individual meets the hearing medical fitness for duty requirements.

3.3 Associated Medical Conditions

When an individual has a hearing disorder that is due to a medical condition, the medical fitness for duty assessment should also take into consideration the risk associated with the medical condition.

3.4 Causes of Hearing Loss

Hearing loss can be classified as conductive, sensorineural, or mixed. Hearing loss can affect one ear or both ears and can be permanent or reversible. The potential impact on safety is generally greater with bilateral hearing loss compared to unilateral hearing loss. The table below lists some causes of hearing loss.

Conductive Hearing Loss	**Sensorineural Hearing Loss**
• Ear wax or foreign body in ear canal • Otitis media • Otitis externa • Middle ear effusion • Eustachian tube dysfunction • Perforated tympanic membrane • Otosclerosis • Cholesteatoma • Benign or malignant ear canal tumours	• Sudden sensorineural hearing loss • Presbycusis* • Noise exposure* • Meniere's disease • Labyrinthitis • Acoustic neuroma • Neurological conditions (e.g., stroke, multiple sclerosis, brain tumour, meningitis)* • Ototoxic medications (e.g., furosemide, gentamycin, cisplatin, high-dose ASA)*

(*) More likely to cause bilateral hearing loss.

Individuals with neurological conditions or on ototoxic medications should be referred to the Railway's Chief Medical Officer to determine whether a formal hearing loss assessment is indicated as part of the medical fitness for duty assessment.

3.5 Testing Methods for Hearing Loss

3.5.1 Pure Tone Audiometry

In adults, pure tone audiometry (audiogram) is considered to be the primary hearing test to identify the hearing threshold levels of an individual. It relies on an individual's behavioral responses to pure tone stimuli. The severity and type of any hearing loss can be determined, which can allow for appropriate diagnosis and management.

3.5.2 Sound Field Audiometry

Sound field audiometry assesses the hearing sensitivity of a person by acoustic signals that are presented through one or more sound sources in a room (i.e. not through earphones). This type of testing is the preferred aided hearing assessment method.

3.6 Frequency of Assessment

An assessment of hearing is required at pre-employment/pre-placement and at every periodic medical assessment. The content of this hearing assessment is to be determined by each railway company.

A screening audiogram[1] is required at pre-employment/pre-placement, at the first periodic medical assessment, and at the first periodic medical assessment after age 40 and after age 55.

An individual with an average hearing loss of 40 dB or more at 500 Hz, 1000 Hz, and 2000 Hz in both ears on a screening audiogram requires a confirmatory audiogram[2]. If the hearing loss is confirmed, a comprehensive hearing loss assessment is required. This assessment should include:

- A medical history
- A physical examination
- A medical report as per section 3.1

The requirement for more frequent medical fitness for duty assessments, additional medical reports, or additional tests will be at the discretion of the Railway's Chief Medical Officer.

4 Specific Medical Fitness for Duty Requirements and Follow-Up

In addition to the medical fitness for duty considerations in section 2 and the general medical fitness for duty requirements in section 3, individuals with a hearing disorder may be considered medically fit for duty in a Safety Critical Position if they meet the specific requirements listed in this section.

[1] Hearing test using an audiometer calibrated in accordance with the requirements of ANSI S3.6 – 2018 (R2023).

[2] Audiogram performed by a certified audiologist in accordance with best practice. A confirmatory audiogram must be performed in an audiometric test booth in accordance with the background noise requirement of ANSI S3.1 – 1999 (R2023).

Medical Fitness for Duty Requirements

- Average hearing loss in either ear of < 40 dB in the frequencies of 500, 1000, and 2000 Hz with or without hearing assistive devices

Medical Fitness for Duty Monitoring and Follow-Up

The medical fitness for duty monitoring and follow-up of individuals with a hearing disorder or a medical condition associated with potential hearing loss, or on ototoxic medications will be at the discretion of the Railway's Chief Medical Officer.

Section 7 – Vision Disorders

MEDICAL FITNESS FOR DUTY GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS WITH VISION DISORDERS IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment.

Individuals working in Safety Critical Positions are required to have sufficient vision to meet the demands of these positions. Working on, or around, moving equipment, identifying track and yard signals, controlling rail traffic, and reading work orders are duties where adequate visual acuity, visual fields, colour perception, and extraocular muscle balance is required.

These guidelines cover several common vision disorders. If an individual has a vision disorder that is not covered by these guidelines, medical fitness for duty will be determined by the Railway's Chief Medical Officer and guided, in part, by the considerations listed in section 2.

2 Medical Fitness for Duty Considerations

Vision disorders vary in severity and can cause gradual functional impairment or sudden incapacitation due to acute vision loss. The following should be taken into consideration when assessing the medical fitness for duty of an individual occupying a Safety Critical Position:

- Presence of a vision disorder
- Type and severity of the vision disorder
- Degree of impairment related to the individual's vision disorder or related to methods used to treat the vision disorder
- Compliance with treatment recommendations and follow-up
- Likelihood of progression of the vision disorder
- Potential for acute, gradual, or chronic functional impairment
- Predictability and reliability of the individual
- Presence of any medical comorbidities
- Opinion of the treating healthcare professional(s) and any other healthcare professional(s) consulted

3 General Medical Fitness for Duty Guidelines

3.1 Assessment and Reporting

The medical fitness for duty assessment should include a thorough history, a physical examination, and a review of relevant vision tests, as well as an evaluation of compliance with recommended treatment. The medical fitness for duty requirements in the following sections refer to commonly used diagnostic tests. The acceptance of alternate diagnostic tests will be at the discretion of the Railway's Chief Medical Officer.

A written report completed by an ophthalmologist or optometrist should be submitted to the Railway's Chief Medical Officer. It should contain:

- Diagnosis(es)
- Relevant test results
- Recommended treatment
- Relevant consultation letters
- Functional limitations and/or work restrictions
- An opinion on the individual's medical fitness for duty in a Safety Critical Position

3.2 Corrective Lenses

Contact lenses or spectacles (glasses) are often recommended to correct refractive errors. Safety glasses also come with prescription lenses. These corrective devices are permitted. However, coloured contact lenses, coloured glasses, or other devices purported to aid colour discrimination or correct colour vision deficiencies, are not permitted.

3.3 Associated Medical Conditions

When an individual has a vision disorder that is due to a medical condition, the medical fitness for duty assessment should also take into consideration the risk associated with the medical condition.

3.4 Testing Methods

3.4.1 Distance vision

Distance acuity is assessed using a Snellen chart or an equivalent, with the individual wearing their habitual distance visual correction (if any).

3.4.2 Near vision

Near acuity is assessed using a Snellen reading card or an equivalent, with the individual wearing their habitual near vision correction (if any).

3.4.3 Visual fields

Visual fields are assessed using the confrontation method. If a visual field defect is detected, or if the medical history is suggestive of a visual field defect, a quantitative visual field assessment should be completed, utilizing one of the following:

- Full Field 135-point performed monocularly with the single intensity test mode
- Full Field 120-point performed monocularly with the single intensity test mode
- A protocol that measures the monocular visual field out to 85 degrees temporally, 50 degrees nasally, 40 degrees superiorly and 55 degrees inferiorly using a size III (3 mm in diameter) Goldman equivalent target at a 10-decibel intensity setting

3.4.4 Colour vision

The medical history can be used to assess individuals who have a congenital colour vision deficit or who have or are at risk of developing an acquired colour vision deficit.

In addition, a screening assessment of colour vision with the Ishihara Colour Vision Test Plates using the editions listed in section 3.5 and a randomized plate presentation is to be conducted according to the indications in the table below. If a colour vision defect is detected, further assessment is required as per section 4.1.

Indications for Colour Vision Screening with the Ishihara Colour Vision Test Plates

- Pre-employment medical assessment
- Age 40
- Age 55
- The presence of a medical condition that can affect colour vision (e.g., diabetes, glaucoma, age-related macular degeneration, multiple sclerosis)[1]

3.4.5 Extraocular muscle balance

The medical history can be used to assess individuals who are at risk of developing double vision (diplopia) while at work. These risk factors include a history of diplopia, strabismus, turned eye, lazy eye, eye training exercises, prismatic correction in spectacles or extraocular muscle surgery. There are also several systemic conditions that are associated with an increased risk of diplopia. Examples include Grave's disease, diabetes, stroke, multiple sclerosis, and myasthenia gravis. Failure to meet the acuity standard in the worse eye may be a result of strabismus or a long-standing ocular muscle problem, particularly in younger individuals. Individuals who fail to meet the worse eye acuity should also be assessed to determine the cause of the reduced visual acuity and whether diplopia is present or likely to develop. The Broad H test is useful to detect individuals with diplopia within 30º radius of habitual straight-ahead gaze.

3.5 Vision Requirements

The following requirements for distance vision, near vision, visual fields, colour vision and extraocular muscle balance apply to all individuals. Further assessment is required as outlined in section 4 for individuals that do not meet these requirements and have a specific vision disorder.

General Medical Fitness for Duty Requirements

Distance vision	• Each eye tested separately using Snellen notation:
	  ○ Corrected or uncorrected distance visual acuity not less than 6/9 (20/30) in the better eye
	  ○ Corrected or uncorrected distance visual acuity not less than 6/15 (20/50) in the worse eye

Near vision	• Corrected or uncorrected near visual acuity not less than 6/9 (20/30) with both eyes open

Visual fields	• Uninterrupted monocular visual field in each eye without correction:
	  ○ Horizontal meridian: 120 degrees
	  ○ Vertical meridian: 90 degrees

[1] Please see section 4.1 for additional details on colour vision deficiency.

	○ Oblique meridians: 90 degrees • If a visual field defect is detected in one eye, the other eye cannot have an overlapping visual field defect
Unaided[2] colour vision	• Ishihara Colour Vision Test Plates: ○ Abbreviated 14 plate edition: at most 1 error from plates 1-11 ○ Concise 24 plate edition: at most 2 errors from plates 1-15 ○ Complete 38 plate edition: at most 3 errors from plates 1-21
Extraocular muscle balance	• An absence of diplopia, in daytime or nighttime conditions (constantly or intermittently) at different eye positions within a 30º radius of habitual straight-ahead gaze

3.6 Frequency of Assessment

Assessment of distance vision, near vision, visual fields, colour vision, and extraocular muscle balance is completed at pre-employment, every 5 years until the age of 40, and every 3 years thereafter as part of the periodic medical assessment program. The requirement for more frequent medical fitness for duty assessments, additional medical reports, or additional tests will be at the discretion of the Railway's Chief Medical Officer.

4 Specific Medical Fitness for Duty Requirements and Follow-Up

In addition to the medical fitness for duty considerations in section 2 and the general medical fitness for duty requirements in section 3, individuals with specific vision disorders may be considered medically fit for duty in a Safety Critical Position if they meet the specific requirements listed in this section.

4.1 Colour Vision Deficiency

Colour vision deficiency, commonly known as colour blindness, refers to a group of conditions that affect an individual's perception of colour. Colour vision deficiencies are most often congenital, however, individuals with normal colour vision or a congenital colour vision deficiency can acquire a new colour vision deficit.

The most common congenital colour vision deficiency is a red-green colour vision deficiency, which makes it difficult to distinguish between shades of red, yellow, and green. Individuals with a congenital blue-yellow colour vision deficiency find it difficult to distinguish between shades of blue and green, as well as magenta, gray, and yellow.

Acquired colour vision deficiencies can be blue-yellow, red-green, or mixed with a generalized discrimination loss. Acquired colour vision deficiencies are often due to eye disorders (e.g., cataracts, glaucoma, diseases involving the retina or the optic nerve, neurological disorders

[2] Unaided means that no visual aids other than clear spectacles, clear contact lenses, or contact lenses with light handling tints may be worn while performing the test. If there is any question as to the lightness of the tint, then clear spectacles or clear contact lenses should be worn while performing the test.

affecting the areas of the brain involved in processing visual information), certain medications, vascular disorders, or complications from systemic disorders including diabetes.

In rare cases, individuals may have a congenital complete colour vision deficiency, rendering them unable to see colours at all. These individuals usually have a profound reduction in visual acuity.

Canadian Railway Lantern Test (CNLAN): Specific colour vision test developed by the railway industry. The CNLAN is designed to determine an individual's ability to identify colours used in rail wayside signals. The intensity and size of the lights are equivalent to a viewing distance between 0.32 and 0.64 km (0.2 to 0.64 miles). The colours fall within the American Association of Railroads standards for wayside signs. Individuals who fail the Ishihara Colour Vision Test are required to undergo further assessment, which may include a CNLAN. The testing protocol for the CNLAN is described in Appendix I along with interpretation guidelines.

All practical tests, including the CNLAN and the rail traffic controllers (RTC) colour vision tests, must be conducted unaided as defined in section 3.5.

Medical Fitness for Duty Requirements

Locomotive engineer and conductor duties	• Successfully pass the CNLAN at all test distances (see Table 1 below)
Rail traffic controllers (RTC)	• Successfully pass a practical RTC colour vision test developed by each railway company

CNLAN Pass/Fail Criteria

Test Distances	**Pass/Fail Criteria**
4.6 metres (15 feet)	• One error is allowed providing that the error is not a red response for a green test light or a green response for a red test light
2.3 metres (7 feet 6 inches)	• Any error is a failure
1.15 metres (3 feet 9 inches)	• Any error is a failure
0.575 metres (1 foot 11 inches)	• Any error is a failure

Medical Fitness for Duty Monitoring and Follow-Up

Individuals with colour vision defects who pass the CNLAN or RTC colour vision test are to be retested with the CNLAN or RTC colour vision test at the time of the first periodic medical assessment (following hiring or diagnosis) and, at a minimum, with every second periodic medical assessment thereafter.

Individuals who previously passed a CNLAN or RTC colour vision test and subsequently fail the test on medical fitness for duty follow-up testing should undergo further assessment at the discretion of the Railway's Chief Medical Officer. Individuals with acquired colour vision deficiencies may be retested more frequently at the discretion of the Railway's Chief Medical Officer.

4.2 Monocular Vision

Monocular vision: An individual is considered as having monocular vision if the worse eye has a corrected distance visual acuity of less than 6/60 (20/200) or a visual field that has a radius of less than 40º around habitual straight-ahead gaze.

Medical Fitness for Duty Requirements

- A report by an ophthalmologist or optometrist indicates that, with respect to the worse eye, the condition is stable and unlikely to affect the better eye
- With respect to the better eye
  - Distance visual acuity is 6/9 (20/30) or better
  - The following continuous visual field limits are met:
    - Horizontal meridian of 120º
    - Vertical meridian of 90º
    - Oblique meridians of 90º
- Normal colour vision under binocular viewing conditions
- At least 6 months have elapsed since the vision loss and the individual has satisfactorily completed a practical test[3]

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed yearly for at least the first 2 years, and should include an evaluation of distance vision, near vision, visual fields, colour vision and extra-ocular muscle balance, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program. More frequent assessments may be required in cases where the stability of the condition and prognosis for the better eye are not fully established.

4.3 Reduced Vision in One Eye

Reduced vision in one eye: An individual is considered as having reduced vision in one eye if the worse eye has a corrected distance visual acuity vision of less than 6/15 (20/50) with a normal visual field in that eye or there are scotoma within the central 10º visual field of one eye, but the remaining visual field is normal.

[3] A practical test may not be necessary in all cases. Demonstrated ability to perform tasks similar to those in a Safety Critical Position that were gained through past work experience may be sufficient, at the discretion of the Railway's Chief Medical Officer.

Medical Fitness for Duty Requirements

- A report by an ophthalmologist or optometrist indicates that, with respect to the worse eye:
  - The condition is stable and unlikely to affect the better eye
  - The visual field is normal outside the central 10º
- With respect to the better eye:
  - Distance visual acuity is 6/9 (20/30) or better
  - The following continuous visual field limits are met:
    - Horizontal meridian of 120º
    - Vertical meridian of 90º
    - Oblique meridians of 90º
- Normal colour vision under binocular viewing conditions
- At least 6 months have elapsed since the vision loss and the individual has satisfactorily completed a practical test[3]

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed yearly for at least the first 2 years, and should include an evaluation of distance vision, near vision, visual fields, colour vision and extra-ocular muscle balance, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program. More frequent assessments may be required in cases where the stability of the condition and prognosis for the better eye are not fully established.

4.4 Cataracts

Cataracts: Opacities that form within the lens of the eye. These opacities can reduce visual acuity and can cause an increase in “glare”. Cataract surgery is a procedure undertaken to remove a cataract and replace it with a lens implant. These implants can improve visual acuity and reduce glare.

Medical Fitness for Duty Requirements

Cataract is being monitored	• Vision meets requirements in section 3.5 • Absence of restricting symptoms of glare sensitivity
After cataract surgery	• Vision meets requirements in section 3.5 when assessed at least 1 month after surgery • No multifocal intraocular lens was implanted

Medical Fitness for Duty Monitoring and Follow-Up

Cataract is being monitored: Medical fitness for duty should be reassessed yearly and should include an evaluation of distance vision, near vision, visual fields and colour vision, and any other

tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

After cataract surgery: If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program and should include an evaluation of distance vision, near vision, visual fields and colour vision, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

4.5 Keratoconus

Keratoconus: Bilateral, progressive, noninflammatory disease of the cornea that results in irregular astigmatism and corneal scarring, both of which can reduce visual acuity. The condition typically affects both eyes, although the severity can vary between eyes. Depending on the severity of the keratoconus, glasses, contact lenses, and intrastromal corneal ring segments can be fitted to improve an individual's visual acuity. Corneal crosslink surgery can also be performed to stop or slow the progression of keratoconus and improve visual acuity. As keratoconus progresses, a corneal transplant (penetrating keratoplasty) is often required due to the progressive loss of vision or due to contact lens intolerance.

Medical Fitness for Duty Requirements

Observation only	• Vision meets requirements in section 3.5 • Must be able to wear contact lenses comfortably for 12 hours (if applicable)
After surgery	• Must meet the vision requirements in section 3.5 when assessed at least 1 month after surgery

Medical Fitness for Duty Monitoring and Follow-Up

Keratoconus being monitored or managed with contact lenses or intrastromal corneal ring segments: Medical fitness for duty should be reassessed every 6 months and should include an evaluation of distance vision, near vision and visual fields, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. At the discretion of the Railway's Chief Medical Officer, the interval between medical fitness for duty assessments may be increased after 2 favourable assessments.

Keratoconus treated with cross-link surgery: Medical fitness for duty should be reassessed yearly, and should include an evaluation of distance vision, near vision and visual fields, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. At the discretion of the Railway's Chief Medical Officer, the interval between medical fitness for duty assessments may be increased after 2 favourable assessments.

Keratoconus treated with corneal transplant surgery: Medical fitness for duty should be reassessed yearly for at least the first 2 years, and should include an evaluation of distance vision, near vision and visual fields, and any other tests deemed appropriate by the treating healthcare

professional as well as confirmation of continued adherence to treatment. If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program.

4.6 Central Serous Chorioretinopathy

Central serous chorioretinopathy: Serous retinal detachment in the macula region of the retina resulting in vision loss. Central serous chorioretinopathy most commonly affects one eye, although it can also be present in both eyes. Treatment varies from monitoring of self-limiting cases to laser photocoagulation, photodynamic therapy, or anti-vascular endothelial growth factor agents (anti-VEGF) for recurrent or chronic cases.

Medical Fitness for Duty Requirements

Monitoring only	• Must meet the vision requirements in section 3.5 • 4 months have elapsed after the initial diagnosis and the condition is not worsening[4]
Treated with laser photocoagulation, photodynamic therapy, or anti-VEGF injections	• Must meet the vision requirements in section 3.5 when assessed at least 1 month after treatment

Medical Fitness for Duty Monitoring and Follow-Up

Central serous chorioretinopathy being monitored: Medical fitness for duty should be reassessed 4 months after initial presentation and yearly thereafter, and should include an evaluation of distance vision, near vision, visual fields, and colour vision, a retinal examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

Treated with laser photocoagulation, photodynamic therapy, or anti-VEGF injections: Medical fitness for duty should be reassessed yearly, and should include an evaluation of distance vision, near vision, visual fields, and colour vision, a retinal examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

4.7 Glaucoma, Glaucoma Suspect, and Ocular Hypertension

Glaucoma: Group of eye diseases that can damage the optic nerve, resulting in vision loss. Increased intraocular pressure is a major risk factor for glaucoma, however, there are types of glaucoma where the intraocular pressure remains within normal limits. Regardless of the mechanism, glaucoma causes vision loss, beginning with peripheral vision, which can progress to blindness if left untreated. A glaucoma suspect or an individual with ocular hypertension does not have overt glaucoma, but they are at higher risk for developing glaucoma.

[4] Self-limiting cases typically resolve within 4 months. Of note, individuals who meet the vision requirements at initial presentation may go on to have progressive vision loss.

Management of glaucoma consists of lowering the intraocular pressure by either medication or surgery to prevent further vision loss. Although an individual's intraocular pressure may be well controlled, some individuals with glaucoma will continue to have progressive visual field loss. Glaucoma can affect one or both eyes. If it affects both eyes, the vision loss is usually asymmetric.

Medical Fitness for Duty Requirements

Glaucoma suspect, ocular hypertension, or glaucoma managed with medications	• Must meet the vision requirements in section 3.5
Treated with laser or surgery (e.g., trabeculectomy, glaucoma drainage implant, or similar procedure)	• Must meet the vision requirements in section 3.5 when assessed at least 1 month after treatment

Medical Fitness for Duty Monitoring and Follow-Up

Glaucoma suspect, ocular hypertension, or glaucoma managed with medications: Medical fitness for duty should be reassessed 3 months and 6 months after initial presentation, and yearly thereafter if the condition is stable, and should include an evaluation of visual fields and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

Treated with laser or surgery (e.g., trabeculectomy, glaucoma drainage implant, or similar procedure): Medical fitness for duty should be reassessed 6 months after treatment, and then yearly thereafter, and should include an evaluation of visual fields and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

4.8 Diabetic Retinopathy

Diabetic retinopathy: Microvascular complication that can lead to blindness. The vision loss may be due to macular edema, retinal detachment, vitreous hemorrhage, or retinal capillary nonperfusion. High glycated hemoglobin (A1C) levels, elevated systemic blood pressure, and the length of time that the individual has had diabetes are risk factors.

There are four stages of diabetic retinopathy:

- Stage 1: mild nonproliferative diabetic retinopathy
- Stage 2: moderate nonproliferative diabetic retinopathy
- Stage 3: severe nonproliferative diabetic retinopathy
- Stage 4: proliferative diabetic retinopathy

Macular edema can occur at any stage of diabetic retinopathy, although it is more likely to occur in the advanced stages. It is a significant cause of vision loss in diabetic retinopathy. The edema is a buildup of fluid in the central part of the retina, the macula. This fluid accumulation leads to distorted or blurred vision. If left untreated, macular edema can lead to irreversible damage to the

macula and permanent vision loss. Treatment is aimed at managing complications and preventing vision loss, and may include medications, ocular injections, or laser eye surgery.

The goal of diabetic retinopathy treatment is to reduce macular edema, prevent retinal detachment or vitreous hemorrhage and prevent neovascularization of the retina. Laser photocoagulation has been the standard treatment for neovascularization and macular edema. Vitreal injections of vascular endothelial growth factor inhibitors (anti-VEGF) are also proving to be effective.

Medical Fitness for Duty Requirements

Stages 1 and 2	• Must meet the vision requirements in section 3.5
Stages 3 and 4 or presence of macular edema	• Individuals with severe nonproliferative or proliferative diabetic retinopathy are not medically fit for duty in a Safety Critical Position due to the risk of vision loss from a spontaneous vitreous hemorrhage or retinal detachment • Individuals with an acute episode of macular edema are not medically fit for duty in a Safety Critical Position due to the risk of progressive vision loss
Treated with laser photocoagulation, vitreal injections, or similar procedure	• Must meet the vision requirements in section 3.5 when assessed at least 1 month after treatment • The individual has been determined by their specialist to no longer have evidence of severe nonproliferative or proliferative diabetic retinopathy or macular edema

Medical Fitness for Duty Monitoring and Follow-Up

Stage 1: Medical fitness for duty should be reassessed 6 months after initial presentation and yearly thereafter, and should include an evaluation of distance vision, near vision, visual fields and colour vision, a retinal examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

Stage 2: Medical fitness for duty should be reassessed 3 months after initial presentation and every 6 months thereafter, and should include an evaluation of distance vision, near vision, visual fields and colour vision, a retinal examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

Stages 3 and 4, or presence of macular edema: Individuals with severe nonproliferative or proliferative diabetic retinopathy are not medically fit for duty in a Safety Critical Position due to the risk of progressive vision loss from a spontaneous vitreous hemorrhage or retinal detachment. Individuals with macular edema are not medically fit for duty in a Safety Critical Position due to the risk of progressive vision loss.

Treated with laser photocoagulation, vitreal injections, or similar procedure: Medical fitness for duty should be reassessed 3 months after treatment, and then every 6 months thereafter, and should include an evaluation of distance vision, near vision, visual fields and colour vision, a retinal

examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

4.9 Retinal Detachment

Retinal detachment: Occurs when the thin-layered retina separates from the back of the eye, resulting in vision loss. Retinal detachment can be caused by ocular trauma, diabetic retinopathy, or eye surgery, or it can occur spontaneously. This is a serious medical condition that requires urgent care. The retina can be "reattached" using a variety of surgical techniques.

Medical Fitness for Duty Requirements

Untreated and awaiting surgical consultation	• Individuals with an untreated retinal detachment who are waiting for a consultation with a retinal surgeon are not medically fit for duty in a Safety Critical Position due to the risk of further retinal detachment and progressive vision loss
Left untreated after surgical consultation	• Must meet the requirements for monocular vision in section 4.2 or for reduced vision in one eye in section 4.3
Treated with surgery	• Must meet the vision requirements in section 3.5 when assessed at least 1 month after treatment • The individual has been determined by their specialist to no longer have evidence of a retinal detachment

Medical Fitness for Duty Monitoring and Follow-Up

Untreated and awaiting surgical consultation: Individuals with an untreated retinal detachment who are waiting for a consultation with a retinal surgeon are not medically fit for duty in a Safety Critical Position.

Left untreated after surgical consultation: Medical fitness for duty should be reassessed every 6 months and should include an evaluation of distance vision, near vision, visual fields, and colour vision, a retinal examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. At the discretion of the Railway's Chief Medical Officer, the interval between medical fitness for duty assessments may be increased after 2 favourable assessments

Treated with surgery: Medical fitness for duty should be reassessed yearly for at least the first 2 years, and should include an evaluation of distance vision, near vision, visual fields, and colour vision, a retinal examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program.

4.10 Optic Neuritis

Optic neuritis: Acute demyelinating disorder of the optic nerve, characterized by an acute loss of vision, usually in one eye and without evidence of a metabolic, toxic, vascular, traumatic or compressive etiology. Characteristic symptoms include vision loss, eye pain that increases with eye movement, visual field deficits, and reduced colour discrimination. Optic neuritis can be idiopathic or due to multiple sclerosis. A less common cause is neuromyelitis optica. Optic neuritis can resolve spontaneously or can be treated with medications that reduce the inflammatory process.

Medical Fitness for Duty Requirements

- Acute episode has resolved as per treating specialist
- Must meet the vision requirements in section 3.5 when assessed at least 1 month after the acute episode has resolved

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed 6 months after resolution of the acute episode and yearly thereafter for at least the first 2 years, and should include an evaluation of distance vision, near vision, visual fields, and colour vision, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program.

4.11 Strabismus and Decompensated Phoria

Strabismus: Visual condition where the eyes are not aligned. One eye may be intermittently or constantly turned inward (esotropia), outward (exotropia), or vertically (hypertropia). Strabismus is observed in about 2.5% to 5.5% of children. When strabismus is present during early childhood, suppression of vision in the deviated eye typically occurs. If the strabismus is not treated at a young age, then the suppression may result in permanent loss of vision in the deviated eye (amblyopia). However, not all individuals with strabismus have amblyopia.

Adult-onset strabismus due to extraocular muscle imbalance can also occur. Possible causes include cranial nerve injury (traumatic or vascular), or systemic conditions (e.g., myasthenia gravis, thyroid disorders, or multiple sclerosis). Another cause of adult-onset strabismus is a decompensated phoria (intermittent strabismus). A decompensated phoria usually occurs in adulthood and is a result of an inability to maintain eye alignment. There is usually no obvious neurological defect. In the case of adult-onset strabismus, visual suppression rarely develops, and diplopia can be an ongoing problem.

Treatment options include extraocular eye muscle exercises, prismatic correction in spectacle lenses, surgery to correct the extraocular muscle imbalance, or wearing of an eye patch to cover one of the eyes.

Medical Fitness for Duty Requirements

Untreated	• Must meet the vision requirements in section 3.5
Treated with an eye patch	• Must meet requirements for monocular vision in section 4.2
Treated with extraocular eye muscle exercises, prismatic correction, or surgery	• Must meet the vision requirements in section 3.5 when assessed at least 1 month after treatment • The degree of strabismus or decompensated phoria has been determined by their specialist to be stable • There is no occurrence or recurrence of diplopia

Medical Fitness for Duty Monitoring and Follow-Up

Untreated or treated with an eye patch: The medical fitness for duty of individuals with a childhood onset and a stable condition should be reassessed as part of the periodic medical assessment program. For other individuals, medical fitness for duty should be reassessed yearly. Assessments should include an evaluation of distance vision, near vision, visual fields, and extra-ocular muscle balance, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

Treated with extraocular eye muscle exercises, prismatic correction, or surgery: Medical fitness for duty should be reassessed yearly for at least the first 2 years, and should include an evaluation of distance vision, near vision, visual fields, and extra-ocular muscle balance, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program.

4.12 Amblyopia

Amblyopia (lazy eye): Vision loss in one eye due to inadequate stimulation during early childhood, usually due to strabismus or uncorrected refractive error. Amblyopia typically does not develop during adulthood.

Medical Fitness for Duty Requirements

• Must meet requirements for monocular vision in section 4.2 or decreased vision in one eye in section 4.3

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed as part of the periodic medical assessment program and should include an evaluation of distance vision, near vision, visual fields and extra-ocular muscle balance, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

4.13 Retinal Vein Occlusion

Retinal vein occlusion: Blockage of the central retinal vein or one of the branch retinal veins. Either can result in macular edema, retinal hemorrhage, retinal detachment, glaucoma, blurred vision, or vision loss in the affected eye. Treatment is aimed at managing complications (particularly macular edema) and preventing vision loss and may include medications, ocular injections, or laser eye surgery.

Macular edema: Visual condition characterized by the buildup of fluid in the central part of the retina, the macula. This fluid accumulation leads to distorted or blurred vision. If left untreated, macular edema can lead to irreversible damage to the macula and permanent vision loss. Macular edema is commonly associated with diabetic retinopathy, retinal vein occlusion, and age-related macular degeneration. Ocular treatment is aimed at managing complications and preventing vision loss, and may include medications, ocular injections, or laser eye surgery.

Medical Fitness for Duty Requirements

- Acute episode has resolved as per treating specialist
- Must meet the vision requirements in section 3.5 when assessed at least 1 month after the acute episode has resolved

Medical Fitness for Duty Monitoring and Follow-Up

Resolved or successfully treated: Medical fitness for duty should be reassessed yearly for at least the first 2 years, and should include an evaluation of distance vision, near vision, visual fields. and colour vision, a retinal examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program.

4.14 Uveitis

Uveitis: Inflammation of the uvea, the pigmented layer of the eye between the inner retina and the outer fibrous layer composed of the sclera and cornea. It can be classified anatomically into anterior, intermediate, posterior, or panuveitic uveitis based on the part of the eye that is affected. Anterior uveitis is also known as iritis. Symptoms of uveitis may include eye pain, redness, light sensitivity, blurred vision, and dark, floating spots in the field of vision. If left untreated, uveitis can result in permanent vision loss. Uveitis can be caused by various factors such as ocular infection, ocular injury, autoimmune or inflammatory diseases; however, in some cases, the cause may not be identified. Treatment typically involves reducing ocular or systemic inflammation using eye-drop medication, ocular injections, or oral medications. Early diagnosis and treatment are crucial to prevent complications and preserve vision.

Medical Fitness for Duty Requirements

Unilateral anterior uveitis currently being treated	• Must meet the vision requirements in section 3.5

Resolved or successfully treated uveitis other than unilateral anterior uveitis	• Must meet the vision requirements in section 3.5 when assessed at least 1 month after resolution or successful treatment

Medical Fitness for Duty Monitoring and Follow-Up

Unilateral anterior uveitis currently being treated: Medical fitness for duty in individuals with uveitis associated with a systemic condition should be reassessed at 1 month, 3 months, and 6 months after resolution of the acute episode, and yearly thereafter. In individuals with a first episode of mild unilateral anterior uveitis (often idiopathic or associated with a sinus infection or traumatic event), medical fitness for duty follow-up should be reassessed yearly for 3 years and as part of the periodic medical assessment program thereafter. Assessments should include an evaluation of distance vision, near vision, visual fields, and colour vision, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

Resolved or successfully treated uveitis other than unilateral anterior uveitis: Medical fitness for duty should be reassessed yearly for at least the first 2 years, and should include an evaluation of distance vision, near vision, visual fields, and colour vision, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program.

4.15 Age-Related Macular Degeneration

Age-related macular degeneration: Vision problem that affects the macula, the central portion of the retina responsible for sharp, central vision. It is the leading cause of permanent vision loss in people over 50. Age-related macular degeneration can be categorized into two types: dry and wet. In dry age-related macular degeneration, parts of the macula become thinner with age and deposits of protein drusen form, leading to a slow loss of central vision. Wet age-related macular degeneration differs in that it involves the growth of abnormal blood vessels under the macula, which leak blood and fluid, causing rapid and severe central vision loss. The symptoms of age-related macular degeneration include blurred or distorted vision, difficulty seeing fine details, and vision loss in the central field of vision. Currently, there is no effective cure for age-related macular degeneration. Treatment is aimed at preventing or slowing progression.

Macular edema: Visual condition characterized by the buildup of fluid in the central part of the retina, the macula. This fluid accumulation leads to distorted or blurred vision. If left untreated, macular edema can lead to irreversible damage to the macula and permanent vision loss. Macular edema is commonly associated with diabetic retinopathy, retinal vein occlusion, and age-related macular degeneration. Ocular treatment is aimed at managing complications and preventing vision loss, and may include medications, ocular injections, or laser eye surgery.

Medical Fitness for Duty Requirements

• Must meet the vision requirements in section 3.5 when assessed at least 1 month after presentation

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed every 6 months, and should include an evaluation of distance vision, near vision, visual fields, and colour vision, a retinal examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment.

4.16 Other Disorders of the Macula

There are several disorders that affect the macula that can result in vision loss, including a loss of colour discrimination (e.g., partial and full thickness holes, epiretinal membranes, cystoid macular edema, and myopic degeneration). Some conditions are progressive while others may resolve spontaneously or with treatment. Treatment is aimed at managing complications and preventing vision loss if possible, and may include medications, ocular injections, laser eye surgery, or other ocular surgical procedures.

Medical Fitness for Duty Requirements

Resolved or successfully treated	• Acute episode has resolved as per treating specialist • Must meet the vision requirements in section 3.5 when assessed at least 1 month after resolution or treatment

Medical Fitness for Duty Monitoring and Follow-Up

Resolved or successfully treated: Medical fitness for duty should be reassessed 6 months after resolution or treatment and yearly thereafter for at least the first 2 years, and should include an evaluation of distance vision, near vision, visual fields and colour vision, a retinal examination, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. If the vision remains stable and in the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program.

Untreatable or progressive: The medical fitness for duty follow-up of individuals with a history of untreatable or progressive disorder of the macula will be at the discretion of the Railway's Chief Medical Officer.

4.17 Refractive Surgery

There are two general types of refractive surgery. One uses lasers to modify the power of the cornea, and the other involves implanting a corrective lens into the eye. Corneal refractive techniques include laser assisted in-situ keratomileusis (LASIK), photorefractive keratectomy (PRK), laser epithelial keratomileusis (LASEK), and small incision lenticule extraction (SMILE).

Phakic intraocular implants (PIOL) are often reserved for higher diopter corrections. These implants are small lenses that are implanted in either the anterior chamber (AC-PIOL) or posterior chamber (PC-PIOL) of the eye. Potential complications depend on the refractive surgery and include difficulty with night driving, glare sensitivity, cataract formation or bulging of the cornea due to excessive thinning.

Medical Fitness for Duty Requirements

- Must meet the vision requirements in section 3.5 when assessed at least 1 week after surgery
- The individual has been determined by their specialist not to have developed any complications, including increased sensitivity to glare and halos

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed 1, 3, 12, and 24 months after surgery and should include an evaluation of distance vision and near vision, and any other tests deemed appropriate by the treating healthcare professional as well as confirmation of continued adherence to treatment. The medical fitness for duty should then be reassessed as part of the periodic medical assessment program.

4.18 Traumatic Brain Injury

The visual system is just one of many systems that can be affected in traumatic brain injury. The effects of traumatic brain injury on the visual system can include a reduction of visual acuity in one or both eyes, visual field losses, diplopia, and photosensitivity. These effects can be a permanent or transient change. Reading and comprehension can also be affected.

Medical Fitness for Duty Requirements

- Complete neurological recovery from a traumatic brain injury
- Must meet the vision requirements in section 3.5

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty monitoring and follow-up will be at the discretion of the Railway's Chief Medical Officer.

APPENDIX I – Canadian Railway Lantern Test (CNLAN)

1 Introduction

The CNLAN is designed to determine an individual's ability to identify colours used in rail wayside signals. The intensity and size of the lights are equivalent to a viewing distance between 0.32 and 0.64 km (0.2 to 0.64 miles). The colours fall within the American Association of Railroads standards for wayside signals.

2 Test Description

The test should be conducted under normal office illumination. Normal room illumination assumes a windowless office. If there are windows, then any drapes or blinds should be closed to avoid glare from the sunlight.

There are three parts to the CNLAN: the lantern itself, the control unit and a remote-control unit. There is a slot on the back of the lantern for carrying the control unit. The unit should be placed in the slot with the top facing away from the lantern and the connectors facing up. The remote control is attached to the control unit.

A computer cable connects the control unit to the lantern. There is a connector for the control unit just above the plug for the power cord on the front of the lantern. The control unit also has an RS232 connection so that a computer can control the lantern if desired.

3 Test Set-up

Place the lantern 4.6 metres from the individual. Remove the control unit from the back. If necessary, connect the control unit to the lantern using the computer cable. The control unit can be placed anywhere that is convenient, ideally so that both the individual and the lantern can be within view. The power switch is on the right side of the lantern. This switch controls power for both the lantern and control unit. As the power comes on, the control unit will set the lantern to the first example set. The colour of the lights will be listed on the control unit display.

Pressing the arrow buttons on the control panel changes the test lights. The arrow pointing to the left displays the previous set of lights and the arrow pointing to the right advances to the next set of lights. The lights will be extinguished between presentations by pressing the button labelled with the "X". This button turns off the lantern's light, but the control unit remains on. To turn the lantern on, press one of the arrow buttons.

The test lights can also be changed by the remote control. The asterisk on the remote control presents the previous set of lights and the pound button (#) advances to the next set of lights. The number buttons can be used to move to a specific set of test lights. To present a specific set, two buttons must be pressed. For example, to display set 5, buttons 0 and 5 must be pressed.

Aim the remote control at the dark rectangular window on the control unit. If the control unit received information from the remote, a little red light will flash. A light on the remote will also flash if the information was transmitted. Pressing 0 twice will turn off the test lights.

It is recommended that the entire lantern is turned off between tests as there is a thermostat which will turn off the lights if the lantern overheats and it takes approximately 45 minutes before the lantern can cool down enough to use again.

4 Testing Procedure

The individual must meet the distance visual acuity requirements before proceeding with the test.

The individual's normal clear spectacle lenses or clear contact lenses can be worn while performing the test. However, coloured spectacle lenses or coloured contact lenses worn before one or both eyes or other devices purported to aid colour discrimination or correct colour vision deficiencies are not permitted. Contact lenses, which are tinted with a light blue handling tint, are permitted. Light handling tints have essentially no effect on the test results. However, if there is any question as to how light the tint is, then testing should be completed with either clear spectacle lenses or clear contacts lenses.

The individual should be seated comfortably at a distance of 4.6 metres (15 feet) from the lantern and have a straight-on view of the front of the lantern. The room lights should be turned on, but the drapes or blinds should be closed to block out the sunlight. To minimize glare, the individual should not be positioned directly underneath an overhead light.

Set the lantern to the first presentation, Example 1, if necessary. This is one of the two examples.

The individual should be informed of the following:

- "This is a test to determine your ability to identify rail signal light colours."
- "There will always be three lights presented. The colours of the lights will be any combination of red, green, and yellow. Only the names of red, green, and yellow should be used to identify the lights."
- "Identify the colour of the lights starting at the top, followed by the middle, and then the bottom."
- "This set of test lights (EXAMPLE 1) has an example of each of the three colours. The top one is green, the middle one is yellow, and bottom is red."

Advance to the next presentation.

- "This is another set of test lights (EXAMPLE 2). The top is red, the middle is yellow, and the bottom is green."

The individual should then be asked:

- "Are there any questions or would you like to see the examples again".

After answering any questions or showing the examples again, advance to the third set of lights. This is the first test set. Record the responses on the score sheet by circling the correct answer or writing in the incorrect response.

Allow approximately 5 seconds for a response. If the individual takes longer than 5 seconds to respond, extinguish the lights, by pushing the "X" button or entering 00 on the remote. In order to avoid confusion in recording, do not advance to the next set until the individual has responded.

If the individual uses a colour name other than red, green, or yellow, they should be reminded that only red, green, and yellow responses are allowed. The exception to this rule is that amber can be used to identify yellow lights.

A passing performance at the 4.6 metre distance is no more than one error, and that error cannot be identifying a red light as green or a green light as red. The test should then be repeated at all progressively shorter viewing distances listed in the table below. Start at a different number on each trial, but do not present the two examples as part of the test series. A perfect score is required at each of the shorter distances to pass the lantern. Table 1 lists the pass/fail criteria, while table 2 shows the viewing distances equivalent with the different testing distances.

Table 1: CNLAN Pass/Fail Criteria[5]

Test Distances	**Pass/Fail Criteria**
4.6 metres (15 feet)	• One error is allowed providing that the error is not a red response for a green test light or a green response for a red test light
2.3 metres (7 feet 6 inches)	• Any error is a failure
1.15 metres (3 feet 9 inches)	• Any error is a failure
0.575 metres (1 foot 11 inches)	• Any error is a failure

Table 2: CNLAN Equivalent Viewing Distances

Test Distances	**Equivalent Viewing Distances**
4.6 metres (15 feet)	• 200 to 650 meters (0.12 to 0.40 miles)
2.3 metres (7 feet 6 inches)	• 100 to 325 meters (0.06 to 0.22 miles)
1.15 metres (3 feet 9 inches)	• 50 to 163 meters (0.03 to 0.10 miles)
0.575 metres (1 foot 11 inches)	• 25 to 82 meters (0.015 to 0.05 miles)

[5] For any given test distance, the individual must also pass at all shorter distances in order for the tested distance to be considered a pass.

APPENDIX II – Medical Report[6]

Medical Report - Vision (Safety Critical Position)

Rapport médical - Vision (Poste essentiel à la sécurité)

Section 1 - Employee information and consent - *Renseignements sur la personne examinée et consentement*

Name - *Nom*	Date of birth - *Date de naissance*	PIN - *Matricule*
Email - *Courriel*		Phone (home) - *Téléphone (domicile)*
Job title - *Titre du poste*	Immediate supervisor - *Superviseur immédiat*	Phone (work) - *Téléphone (travail)*

Examinee's consent for the release of medical information to the office of the Chief Medical Officer

I, the undersigned, acknowledge that I occupy (or may occupy) a Safety Critical Position and I will report any medical condition that may constitute a threat to safe railway operations. I declare that the information that I have provided or will be providing to the health care professional completing this report is truthful and complete. I hereby authorize the health care professional to release this completed form to the Office of the Chief Medical Officer (CMO) and to discuss the information contained in this report. I also authorize the health care professional to release any relevant medical information related to testing such as laboratory tests, ECG, etc., as well as medical reports from specialists. I understand that this information will be reviewed for the purpose of making a fitness for duty determination. This consent is valid for six months from the date of signature.

Consentement de la personne à la divulgation de renseignements médicaux au bureau du médecin-chef

Je, soussigné(e), reconnais que j'occupe (ou applique pour) un poste considéré comme essentiel pour la sécurité, et que je vais rapporter toute condition médicale qui pourrait constituer une menace à la sécurité des opérations ferroviaires. Je déclare que les renseignements que j'ai fournis et que je fournirai au professionnel de la santé complétant ce rapport sont véridiques et complets. J'autorise, par la présente, le professionnel à faire parvenir au bureau du médecin-chef la copie originale du présent formulaire et à commenter les renseignements contenus dans ce rapport. J'autorise également le professionnel à transmettre tout renseignement médical pertinent lié à des tests tels que des examens de laboratoire, etc. et à des rapports médicaux de médecins spécialistes. Je comprends que ces renseignements seront révisés avec l'objectif d'évaluer mon aptitude au travail. Ce consentement est valide pour six mois à compter de la date de signature.

Signature of examinee - *Signature de la personne examinée*

Date

[6] This is a sample medical report for individuals with a vision disorder. It has been prepared to allow for a consistent and standardized approach. It can be modified at the discretion of the Railway's Chief Medical Officer.

Examinee name - *Nom de la personne examinée*

PIN - *Matricule*

Section 2 - Instructions to professional - *Renseignements à l'intention du professionnel*

Employees working in Safety Critical Positions operate or control the movement of trains. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property or the environment. Special attention should be devoted to medical conditions that may result in sudden mental or physical impairment or any condition that may potentially interfere with an employee's ability to perform their duties in a safe manner. In the case of chronic conditions, be aware that impairment may occur gradually. In order to make an individualized assessment of your patient's fitness for duty, we require some information from you. Please complete Sections 3, 4 and 5 of this form. Under the Federal Railway Safety Act, physicians and optometrists have an obligation to notify the Office of the Chief Medical Officer if an individual occupying a Safety Critical Position has a medical condition that, in their opinion, is likely to pose a threat to safe railway operations. **Please write legibly.**

Les employé(e)s occupant un poste essentiel à la sécurité ferroviaire dirigent ou contrôlent le mouvement des trains. Toute perturbation au niveau du rendement attribuable à un trouble d'ordre médical peut menacer la santé et la sécurité des employés et de la population, et causer des dommages aux biens et à l'environnement. Une attention particulière devrait être dévolue aux conditions médicales pouvant donner lieu à une incapacité soudaine d'ordre mental ou physique, ou à toute condition qui pourrait interférer avec la capacité de l'employé(e) à effectuer ses tâches de façon sécuritaire. Dans le cas de conditions chroniques, soyez conscient que l'incapacité peut survenir de façon graduelle. Veuillez compléter les sections 3, 4 et 5. En vertu de la Loi fédérale sur la sécurité ferroviaire, les médecins et les optométristes ont l'obligation d'aviser le médecin-chef si un individu occupant un poste essentiel à la sécurité présente une condition médicale qui, selon leur opinion, est susceptible de constituer une menace pour la sécurité des opérations. ***Veuillez écrire de façon lisible.***

FOR ASSISTANCE REGARDING ANY COMPONENT OF THIS REPORT, CALL:
POUR OBTENIR DE L'AIDE CONCERNANT LE PRÉSENT RAPPORT, TÉLÉPHONEZ AU

The complete Canadian Railway Medical Rules Handbook can be found online at:
La version intégrale du Manuel du règlement médical des chemins de fer est accessible en ligne:
https://www.railcan.ca/regulatory-affairs/railway-rules-standards/

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional - *À être complété par le professionnel*

GENERAL INFORMATION - INFORMATIONS GÉNÉRALES

Is the individual a regular patient? *Suivez-vous cette personne de façon régulière?* Yes *Oui* ☐ No *Non* ☐

HISTORY OF PRESENT ILLNESS - HISTOIRE DE LA MALADIE ACTUELLE

Date of onset of symptoms - *Date d'apparition des symptômes*: _____

Diagnosis(es): _____
Diagnostic(s):

Current symptoms - *Symptômes* ***actuels***: _____

- Is there a medical condition that could impact the safety of the railway operations? *Y a-t-il une condition médicale qui pourrait mettre en danger la sécurité des opérations ferroviaires?* Yes *Oui* ☐ No *Non* ☐

If yes, please provide details - *Si oui, veuillez préciser*: _____

TREATMENT - TRAITEMENT

Treatment - *Traitement*: _____

- Is the individual compliant with treatment recommendations? *La personne respecte-t-elle le traitement prescrit?* Yes *Oui* ☐ No *Non* ☐

If no, please provide details - *Si non, veuillez préciser*: _____

- Is the individual free from treatment side effects? *La personne est-elle exempte d'effets secondaires associés au traitement?* Yes *Oui* ☐ No *Non* ☐

If no, please provide details - *Si non, veuillez préciser*: _____

- Has the individual been assessed (or been followed) by a specialist? *La personne a-t-elle été évaluée (ou suivie) par un spécialiste?* Yes *Oui* ☐ No *Non* ☐

If yes, please provide details - *Si oui, veuillez préciser:* _____

- Has the individual been hospitalized or had a surgical intervention? *La personne a-t-elle été hospitalisée ou subie une intervention chirurgicale?* Yes *Oui* ☐ No *Non* ☐

If yes, please provide details - *Si oui, veuillez préciser*: _____

What is the treatment plan going forward? - *Quel est le plan de traitement pour la suite?* _____

Follow-up appointment date - *Date du prochain suivi*: _____

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional (cont'd) - *À être complété par le professionnel (suite)*

OBJECTIVE EXAMINATION - EXAMEN OBJECTIF

**** Please complete the checked sections - *Veuillez compléter toutes les sections cochées* ****

☐ **A) Visual acuity - *Acuité visuelle***

Critères:

- *Corrected or uncorrected distance acuity not less than 6/9 (20/30) in the better eye*
  Acuité de loin corrigée ou non corrigée au moins 6/9 (20/30) dans le meilleur œil
- *Corrected or uncorrected distance acuity not less than 6/15 (20/50) in the worse eye*
  Acuité de loin corrigée ou non corrigée au moins 6/15 (20/50) dans l'œil le plus faible
- *Corrected or uncorrected near acuity not less than 6/9 (20/30) with both eyes open*
  Acuité de près corrigée ou non corrigée au moins 6/9 (20/30) avec les deux yeux ouverts

	Distance vision - *Vision de loin*		**Near vision - *Vision de près***	
	Uncorrected *Non corrigée*	Best corrected *Corrigée*	Uncorrected *Non corrigée*	Best corrected *Corrigée*
Right eye - *Œil droit*				
Left eye - *Œil gauche*				
Both eyes - *Deux yeux*				
Test - *Épreuve*				

If new glasses or contact lenses are required to meet the criteria above, have they been prescribed? *Si des nouvelles lunettes ou lentilles cornéennes sont nécessaires pour rencontrer les critères ci-dessus, une prescription a-t-elle été faite?*

☐ Yes, anticipated date of dispensing - *Oui, date prévue de livraison:* _____
☐ No, please explain - *Non, veuillez expliquer:* _____

Even if the above criteria are met with or without correction, are there other conditions contributing to the reduction in visual acuity other than uncorrected refractive errors? *Même si les critères ci-dessus sont rencontrés avec ou sans correction, existe-t-il des conditions autres que des erreurs réfractives non corrigées qui contribuent à la diminution de l'acuité visuelle?*

☐ Yes, clarify diagnosis and management - *Oui, veuillez préciser le diagnostic et le plan de traitement:*

☐ No - *Non*

If the best corrected visual acuities do not meet the above criteria, please indicate the diagnosis and treatment plan. - *Si les acuités visuelles corrigées ne rencontrent pas les critères ci-dessus, veuillez préciser le diagnostic le plan de traitement.*

** If the acuity in the better eye meets the above criteria but the one in the worse eye does not, please complete the visual fields (B) and extra-ocular muscle balance (D) sections as well. - *Si l'acuité visuelle dans le meilleur œil rencontre les critères ci-dessus mais que celle dans l'oeil le plus faible ne les rencontre pas, veuillez également compléter les sections sur les champs visuels (B) et les muscles extraoculaires (D).* **

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional (cont'd) - *À être complété par le professionnel (suite)*

OBJECTIVE EXAMINATION (CONTINUED) - EXAMEN OBJECTIF (SUITE)

☐ **B) Visual fields - *Champs visuels***

Does the examinee meet the following criteria for uninterrupted monocular visual field for each eye separately without correction? *La personne rencontre-t-elle les critères suivants pour le champ visuel monoculaire continu pour chaque œil évalué séparément et sans correction?*

	Right eye - *Œil droit*		Left eye - *Œil gauche*	
	Yes/*Oui*	No/*Non*	Yes/*Oui*	No/*Non*
Horizontal meridian: 120° continuous *Méridien horizontal: 120° continu*				
Vertical meridian: 90° continuous *Méridien vertical: 90° continu*				
Oblique meridian: 90° continuous in both 135° and 45° meridians *Méridien horizontal: 120° continu pour les méridiens 135° et 45°*				

If the monocular visual fields do not meet all of the above criteria, please indicate the diagnosis and treatment plan as well as attach the visual field testing report. - *Si les champs visuels monoculaires ne rencontrent pas tous les critères ci-dessus, veuillez préciser le diagnostic le plan de traitement et aussi joindre le rapport.*

_____

_____

_____

Indicate test method used - *Veuillez spécifier l'épreuve utilisée:*

☐ Goldmann ☐ Humphrey

☐ Other (specify) - *Autre (spécifier):* _____

☐ **C) Colour vision - *Vision des couleurs***

Version of Ishihara - *Version du Ishihara*	Plates - *Planches*	Errors - *Erreurs*
☐ 14 plate edition - *Édition 14 planches*	1-11 inc.	
☐ 24 plate edition - *Édition 24 planches*	1-15 inc.	
☐ 38 plate edition - *Édition 38 planches*	1-21 inc.	

☐ **D) Extra-ocular muscle balance - *Muscles extraoculaires***

- Is diplopia present within a 30° radius of straight-ahead gaze under daytime or night time viewing conditions? Y *a-t-il présence de diplopie dans un rayon de 30° du regard droit devant dans des conditions de vision diurne ou nocturne?* — Yes *Oui* ☐ No *Non* ☐
- Are there any restrictions of eye movements within 30° of straight-ahead? *Y a-t-il restriction des mouvements oculaires dans un rayon de 30° du regard droit devant?* — Yes *Oui* ☐ No *Non* ☐

If yes to either question, please indicate the diagnosis and treatment plan for the extra-ocular muscle or binocular vision problems. - *Si oui à au moins une des questions, veuillez préciser le(s) diagnostic(s) et le plan de traitement.*

_____

_____

_____

_____

☐ **E) Retinal exam - *Examen de la rétine*** _____

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 4 - Fitness for duty - *Aptitude au travail*

IMPORTANT : Canadian Railway employees who work in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property or the environment. **Your opinion on this individual's fitness to work in a Safety Critical Position would be appreciated.**

IMPORTANT : Les employé(e)s occupant un poste essentiel à la sécurité ferroviaire dirigent ou contrôlent le mouvement des trains. Toute perturbation au niveau du rendement attribuable à un trouble d'ordre médical peut menacer la santé et la sécurité des employés et de la population, et causer des dommages aux biens et à l'environnement. ***Votre opinion par rapport à l'aptitude de la personne à occuper un poste essentiel à la sécurité ferroviaire serait appréciée.***

In your professional opinion, is the examined individual medically fit for duty in a Safety Critical Position? - *Selon votre opinion professionnelle, la personne examinée est-elle apte à occuper un poste essentiel à la sécurité ferroviaire?*

Yes - *Oui* ☐ No - *Non* ☐

Restrictions (including physical restrictions) and/or comments - *Restrictions (incluant restrictions physiques) et/ou commentaires* :

Do you wish to discuss your patient's condition with the Office of the Chief Medical Officer? *Souhaiteriez-vous discuter de ce cas avec le bureau du médecin-chef?* Yes *Oui* ☐ No *Non* ☐

Section 5 - Professional's statement and information - *Déclaration du professionnel et renseignements*

This report will be used to make an assessment on this employee's fitness for duty and constitutes a third party service. In completing this report, please be thorough and write legibly. If you have any questions regarding any components of this report, call the toll-free number listed at the bottom of the first page.

Ce rapport servira à évaluer l'aptitude au travail de cette personne, et constitue un service fourni par une tierce partie. Lorsque vous remplirez ce formulaire, veuillez vous assurer de bien remplir toutes les rubriques et d'écrire lisiblement. Pour toutes questions concernant le contenu de ce formulaire, veuillez nous contacter au numéro sans frais mentionné au bas de la première page.

I certify that the information documented in this report is, to the best of my knowledge, correct.
J'atteste que les renseignements contenus dans ce rapport sont, en autant que je sache, exacts.

Date of examination - *Date de l'examen* : _____

Name of professional - *Nom du professionnel* : _____
Please print - *En lettres moulées*

Address and telephone number - *Adresse et numéro de téléphone* :

_____
_____
_____
_____

☐ Specialist - *Spécialiste*
Specify - *Spécifier* : _____
☐ Other - *Autre*
Specify - *Spécifier* : _____

Signature: _____ **Date (Y-*A*/M/D-*J*):** _____

Section 8 – Epileptic Seizures

MEDICAL GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS WITH EPILEPTIC SEIZURES IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Canadian railway employees who work in a Safety Critical Position (SCP) operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment. Sudden impairment of their alertness, judgement, or sensory or motor function can pose a serious safety threat.

Although the overall prognosis for seizure control is excellent, with about 70% of patients having a 5-year remission of seizures, epilepsy is a condition that can cause sudden and unpredictable impairments of the functions noted above. Each person with epilepsy has different disabilities. Complete evaluation of each case is therefore needed to assess the risk of seizure recurrence and the risk to safety caused by a seizure. The notion of "significant risk" cannot be precisely defined. A risk-free environment is unattainable and undoubtedly some employees with no history of epilepsy will have their first and unpreventable seizure on the job.

Background information on epilepsy and other epileptic seizures is provided in Appendix I.

2 Basic considerations

Employment of individuals with epilepsy or other epileptic seizures in a SCP shall be guided by the following considerations:

- Medical history and findings
- Nature of seizure disorder
- Results of investigations
- Adherence to treatment protocols
- Results of treatment
- Treatment
- Antiepileptic drugs (AEDs)
- Surgery
- Medication withdrawal
- Nature of the job

3 Definitions

In this document, the following definitions are used in accordance with a 1997 report of the International League Against Epilepsy[1]:

- **Epileptic seizure** is defined as a clinical manifestation presumed to result from an abnormal and excessive discharge of a set of neurons in the brain. The clinical manifestation consists of sudden and transitory abnormal phenomena that may include alteration of consciousness, motor, sensory, autonomic, or psychic events perceived by the patient or an observer.

[1] Epilepsia, 38 (5): 614-618, 1997

- **Epilepsy** is a disorder of the brain characterized by an enduring (but not necessarily permanent, as in some childhood epilepsies) predisposition to generate epileptic seizures and by neurobiological, cognitive, psychological and social consequences of this condition. The definition of epilepsy requires the occurrence of at least one epileptic seizure[2]. Often, seizure recurrence is required to diagnose epilepsy. However, investigation may show that there is good reason to believe that another seizure is likely to occur, such as the finding of epileptiform activity in the EEG. Many authorities will diagnose epilepsy in such cases.
- **Single (isolated) seizure** is defined as one or more epileptic seizure(s) occurring within a 24-hour period, without later recurrence.
- **Unprovoked seizures** are defined as seizures that occur likely in relation to antecedent conditions that have affected the central nervous system (CNS) substantially increasing the risk for epileptic seizures. These conditions include non-progressive (static) lesions such as sequelae of infections, cerebral trauma, or cerebrovascular disease, and progressive CNS disorders.
- **Acute symptomatic seizures** are defined as seizures occurring in close temporal association with an acute systemic, metabolic, or toxic insult or in association with an acute CNS insult (such as infection, stroke, cranial trauma, intracerebral haemorrhage, or acute alcohol or drug intoxication or withdrawal). Such seizures are often isolated epileptic events associated with acute conditions but may also be recurrent seizures or even status epilepticus when the acute conditions recur. (e.g., in alcohol withdrawal seizures).
- **Simple partial seizures** are seizures with evidence of a clinical partial onset, in which alertness and ability to interact appropriately with the environment are maintained.
- **Complex partial seizures** are seizures of partial onset in which altered consciousness, amnesia, or confusion during or after a seizure is reported.
- **Auras** are a type of subtle simple partial seizure that may herald the onset of a clinically evident attack.

4 Medical Fitness for Duty Criteria

*** As of May 13, 2025, these guidelines are currently being updated. Medical fitness for duty will be at the discretion of the Railway's Chief Medical Officer, taking into consideration the current literature, the occupational requirements of Safety Critical Positions in the Canadian railway industry and a medical risk threshold of 2% per year for sudden incapacitating events due to a medical condition. ***

4.1 Single (isolated) or Unprovoked Seizures Before a Diagnosis Is Made

- Remove from any safety critical activity
- Get neurological assessment including EEG with awake and sleep recordings and appropriate imaging
- If no epilepsy diagnosis following medical assessment, resume safety critical activity if seizure-free for 12 months
- If epilepsy diagnosis following medical assessment: see 4.2.1.

[2] Epilepsia, 46 (4): 470-472, 2005

4.2 Epilepsy

4.2.1 Epilepsy Diagnosis

- 5 years seizure-free with or without medication
- No epileptiform activity in an EEG performed within 6 months before returning to work.
- After returning to work, no overtime and no rotating shifts resulting in sleep deprivation or the likelihood of disturbed sleep patterns.

4.2.2 After Surgery to Treat Intractable Epileptic Seizures

- 5 years seizure-free on medication or 3 years seizure-free off medication
- No epileptiform activity in an EEG performed within 6 months before returning to work

4.2.3 With Epileptic Seizures Occurring in Relation to Sleep Only

- Absence of post-ictal impairment during wakefulness
- Treatment with AEDs
- 5 years seizure-free with or without medication

4.2.4 With Strictly Simple Partial Seizures (Including Auras)

- No significant impairment of cognitive, sensory, or motor function.
- Treatment with AEDs
- Stable clinical pattern for 3 years

4.2.5 Antiepileptic Drugs Withdrawal

- Remove from any safety critical activity from the beginning of the withdrawal
- Return to work no less than 6 months seizure-free after complete withdrawal
- No epileptiform activity in an EEG performed a minimum of 6 months after complete withdrawal
- If seizures recur, return to work no less than 6 months seizure-free after resuming the previous effective medication

4.2.6 Medication Change (New Medication)

- Remove from any safety critical activity
- Return to work no less than 6 months after equilibration of the new medication at therapeutic doses, or drug levels, if available
- No seizure recurrence under the new medication
- The new medication is well tolerated
- No epileptiform activity in an EEG obtained on therapeutic doses of the new medication
- If seizures recur, return to work no less than 6 months seizure-free after resuming and equilibration of the effective medication.

4.3 In the Case of Epileptic Seizures Other Than Epilepsy

4.3.1 Acute Symptomatic Seizures

- 12 months seizure-free
- Seizure trigger clearly identified, eliminated, or unlikely to recur

- No epileptiform activity in an EEG performed within 6 months before returning to work

4.4 Other Criteria of Temporary Exclusion from a SCP of Individuals With Epilepsy

- Noncompliance with treatment
- Inadequate blood AED levels unless specifically addressed in the neurologist's report.
- Side effects from AEDs that could significantly impair job performance

4.5 Criteria of Permanent Exclusion

- Unprovoked seizures owing to progressive CNS disorders.
- Repeated non-compliance with treatment, including cases of recurring acute symptomatic seizures due to identifiable causes such as alcohol withdrawal or non-medical drug use.

(See Appendix II for Medical Fitness for Duty Criteria)

5 Monitoring Requirements Before and After Returning to Work in a SCP

- Within 3 months before returning to work:
  - Review by a neurologist with submission of a written report.
- After returning to work:
  - Annual review by a neurologist with submission of a written report. The duration of the monitoring is to be assessed on a case-by-case basis at the discretion of the treating neurologist.

6 Individual assessment

Individuals with epilepsy or other epileptic seizures must be assessed with regard to their suitability for a particular position. The nature of the duties and responsibilities associated with their specific Safety Critical Position must be closely evaluated before any final determination of their fitness for duty. In a specific case, the CMO may determine different fitness for duty criteria if, after consultation with a neurologist, there is medical evidence that the present fitness for duty criteria should not be applied.

APPENDIX I – Background Information on Epileptic Seizures

It is internationally admitted that the seizure-free interval is the main concern in assessing risks of recurrence in individuals with epileptic seizures.

The risk posed by seizure recurrence for individuals in a safety critical position in the Canadian railway industry has not been studied but it should not be greater than for professional motor vehicle drivers in Canada.

In the case of epilepsy, the Canadian Medical Association recommends a seizure-free interval of 5 years for commercial driving[3].

The participants at a 1996 workshop representing all members of the European Union declared that people with epilepsy would be fit when the risk of a seizure recurrence in the next year was not greater than 2%. A driving ban of 5-10 years was considered acceptable for a seizure-free subject off medication and with no epileptiform abnormality. In the case of an individual with a single isolated seizure without any known cause, a normal neurological examination and a normal EEG and, on no medication, a seizure-free period of 2-5 years was considered acceptable.

The European studies of Chadwick and van Donselaar on professional drivers[4] also showed that a 5-year seizure-free period was necessary to obtain a low risk for seizure recurrence (2% or less). This requirement was maintained in the April 3, 2005 report from the Second European Working Group on Epilepsy and Driving[5].

In this last report, it is also suggested that for provoked seizures, the recurrence risk is not known. In some situations, like seizures provoked by medication or some metabolic diseases that might be cured and will not recur, driving ability might be considered sooner. In others, like sleep deprivation or alcohol, an individual assessment is necessary. Certain brain diseases, like serious cerebral trauma and bacterial or viral brain infections, give a high chance of developing epilepsy. In these situations, a prophylactic ban is to be considered on a case-by-case basis.

In these medical guidelines, given the progressive liberalization of international regulations over the past 50 years on epileptic seizures and working activities, the requirements for the seizure-free interval of some types of epileptic seizures have been reduced accordingly.

[3] Determining Medical Fitness to Operate Motor Vehicles, CMA Driver's Guide, 7th Edition
[4] Epilepsy and Driving, a European View, Arthur E.H. Sonnen, June 1997 p. 85-99
[5] Epilepsy and Driving in Europe : A Report of The Second European Working Group on Epilepsy and Driving, April 3, 2005

APPENDIX II – Medical Fitness for Duty Criteria

Diagnosis		Criteria
1	Single (isolated) or unprovoked seizures before diagnosis is made	• Remove from any safety critical activity • Get neurological assessment including EEG with awake and sleep recordings and appropriate imaging • If no epilepsy diagnosis following medical assessment: resume safety critical activity if seizure-free for 12 months • If epilepsy diagnosis following medical assessment: see 4.2.1
2	a) Epilepsy diagnosis	• 5 years seizure-free with or without medication • No epileptiform activity in an EEG performed within 6 months before returning to work • After returning to work: no overtime and no rotating shifts resulting in sleep deprivation or the likelihood of disturbed sleep patterns
	b) After surgery to treat intractable epileptic seizure	• 5 years seizure-free on medication or 3 years seizure-free off medication • No epileptiform activity in an EEG performed within 6 months before returning to work
	c) With epileptic seizures occurring in relation to sleep only	• Absence of post-ictal impairment during wakefulness • Treatment with AEDs • 5 years seizure-free with or without medication
	d) With strictly simple partial seizures (including auras)	• No significant impairment of cognitive, sensory or motor function • Treatment with AEDs • Stable clinical pattern for 3 years
	e) AED's withdrawal	• Remove from any safety critical activity from the beginning of the withdrawal • Return to work no less than 6 months seizure-free after complete withdrawal • No epileptiform activity in an EEG performed a minimum of 6 months after complete withdrawal • If seizures recur, return to work no less than 6 months seizure-free after resuming the previous effective medication
	f) Medication change (new medication)	• Remove from any safety critical activity

		• Return to work no less than 6 months seizure-free after resuming and equilibration of the effective medication • No seizure recurrence under the new medication • The new medication is well tolerated • No epileptiform activity in an EEG obtained on therapeutic doses of the new medication • If seizures recur, return to work no less than 6 months seizure-free after resuming and equilibration of the effective medication
3	Acute symptomatic seizures	• 12 months seizure-free • Seizure trigger clearly identified, eliminated or unlikely to recur • No epileptiform activity in an EEG performed within 6 months before returning to work

APPENDIX III – Neurologist Medical Report Form for Individuals with Epileptic Seizures

PART 1 – EMPLOYEE INFORMATION **(TO BE COMPLETED BY EMPLOYEE)**

Employee Number (if applicable): _____

Name: _____ Date of Birth: _____

Address: _____

_____ Telephone: Home ( ) _____

_____ Postal Code: _____ Work ( ) _____

Supervisor name: _____

Employee's Declaration and Consent for the Release of Medical Information

I, the undersigned, acknowledge that I occupy a Safety Critical Position.

I declare that the information that I have provided or will be providing to the examining neurologist is truthful and complete. I understand that if I knowingly have provided false information I might be subject to action by the railway company up to and including dismissal.

I consent for the examining neurologist to release to the Office of the Chief Medical Officer of the railway company any information concerning my neurological status, past or current. I also consent for representatives from the Office of the Chief Medical Officer to discuss any details of this assessment. I understand that this information will be reviewed for the purpose of making a fitness to work determination. This consent is valid for six months from the date of signature.

_____	_____	_____
Witness	**Signature of Candidate/Employee**	**Date**

PART 2 - PHYSICIAN STATEMENT, INFORMATION AND REPORTING GUIDELINES

This individual is suffering from epilepsy or from another seizure disorder. This report will be used to make an assessment of his fitness to work and constitutes a third party service. In completing this report, please be thorough and write legibly. If you have any questions regarding any component of this form, call the toll-free number listed below for assistance.

Applicant's/Employee's Name _____ I certify that the information which I have documented in this report is, to the best of my knowledge, correct.

Date of examination on which this report is based

Physician's Signature

Physician's Name (Print): _____ [ ] Family Physician/General Practitioner

[ ] Certified Specialist in_____

Address:

Telephone: ( ) _____

City/Province: _____ Postal Code: _____ Fax : ( ) _____

The contents of this report are the property of the Railway Company.
Reports may be sent by regular mail or courier to:

FOR ASSISTANCE REGARDING ANY COMPONENT
OF THIS REPORT, CALL TOLL FREE 1-xxx-xxx-xxxx

PART 3 – TO BE COMPLETED BY THE NEUROLOGIST

A: Diagnosis

How long has the examined individual been your patient? _____

Date of first seizure: Y: _____ M: _____ D: _____

Date of last seizure: Y: _____ M: _____ D: _____

Describe prodrome, pre-ictal and post-ictal symptomatology and duration: _____

_____

_____

Diagnosis (According to the International Classification): _____

Describe all precipitating factors: _____

_____

Aside from seizures, does the examined individual's health condition include other neurological symptoms or signs?
Yes: _____ No: _____
If yes, please provide details: _____

_____

Is there any other medical condition that could impact the safety of the railway operations: Yes: _____ No: _____
If yes, please provide details: _____

_____

B: Treatment

Current treatment: _____

Does the examined individual adhere to his/her treatment? Yes: _____ No: _____

Is the examined individual free from side effects from treatment? Yes: _____ No: _____
If no, please provide details: _____

_____

Has the examined individual been adequately educated on his/her condition? Yes: _____ No: _____
If no, what will be your recommendation to the individual?
_____

_____

_____

Did the examined individual ever have surgery for his condition? Yes: _____
No:

If yes, please give date and describe procedure:

_____

C: Neurological Examination

Is the examined individual currently free from abnormal neurological findings? Yes: _____ No: _____

If no, please provide details:

_____

_____

_____

D: Additional reports

IMPORTANT

1 -The results of an EEG performed during the past 6 months **must** be attached to this medical report. (This is not required as part of the monitoring after return to work).

2 - Please, attach copies of all Antiepileptic Drugs blood levels performed during the last year.

E: Fitness to work

The Chief Medical Officer would appreciate your professional opinion on the examined individual's fitness to work in a position that is critical to the safety of the public, other employees and himself/herself.

Comments:

_____

_____

_____

In order to assess the examined individual's capacity for occupying a Safety Critical Position in the Canadian Railway Industry, would you recommend that the individual be medically assessed by a physician appointed by the railway company? Yes: _____ No: _____

F: Physician's identification

Name: _____ Date of examination: Y; _____ M: _____ D: _____

Address (in full): Street: _____

City: _____ Province: _____ Postal Code: _____

Telephone: _____ FAX: _____

_____

Signature

Date: Y: _____ M: _____ D: _____

Section 9 – Mental Health Disorders

MEDICAL FITNESS FOR DUTY GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS WITH MENTAL HEALTH DISORDERS IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment.

These medical fitness for duty guidelines provide an overview of select mental health disorders utilizing the terminology contained in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) of the American Psychiatric Association. Diagnostic criteria for specific mental health disorders are included in the DSM-5-TR.[1]

If an individual has a mental health disorder not covered by these guidelines, their medical fitness for duty will be determined by the Railway's Chief Medical Officer and guided, in part, by the considerations listed in section 3.

2 Definitions

Mental health disorder: A syndrome characterized by clinically significant disturbance in an individual's cognition, emotional regulation, or behaviour that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning. Mental health disorders are usually associated with significant distress or disability in social, occupational, or other important activities.

Remission: Significant signs or symptoms of the mental health disorder are no longer present, i.e. any signs or symptoms, if present, do not affect the individual's ability to perform their duties in a safe and predictable manner.

3 Medical Fitness for Duty Considerations

Mental health disorders cause impairment in mental functioning (e.g., alertness, attention, concentration, insight, judgement, memory) which can result in acute or gradual functional impairment. The following should be taken into consideration when assessing the medical fitness for duty of an individual occupying a Safety Critical Position:

- Length, course, and severity of the mental health disorder(s)
- Presence of any other mental health or non-mental health disorder
- Results of relevant tests
- Potential for acute or gradual functional impairment
- Degree of current behavioural dysfunction or mood dysfunction
- Degree of impairment of alertness, attention, cognitive function, concentration, insight, judgement, and memory related to the mental health disorder or to medication(s) used to treat the mental health disorder
- Compliance with treatment recommendations and medical follow-up
- Likelihood of recurrence or relapse of the mental health disorder or a related mental health disorder

[1] These guidelines define "mental health disorders" utilizing the DSM-5-TR's definition of "mental disorders".

- Occupational requirements of the individual's Safety Critical Position
- Opinion of the treating physician(s) and any other physician(s) or healthcare professional(s) consulted

4 General Medical Fitness for Duty Guidelines

4.1 Assessment and Reporting

The medical fitness for duty assessment should include a thorough history and an evaluation of the individual's alertness, attention, concentration, insight, judgement, memory, mood and psychomotor function, as well as an evaluation of compliance with recommended treatment and of any adverse effects of any medication.

A written report should be submitted to the Railway's Chief Medical Officer. It should contain:

- Diagnosis(es) as per DSM-5-TR
- Mental status examination
- Relevant test results
- Recommended treatment
- Relevant consultation letters
- Functional limitations and/or work restrictions
- An opinion on the individual's medical fitness for duty in a Safety Critical Position

The report should be completed by a primary care physician or, at the discretion of the Railway's Chief Medical Officer, by a psychiatrist.

4.2 Responsibilities of the Individual and their Healthcare Professionals

Individuals with a mental health disorder and their treating healthcare professionals are required to report immediately to the Railway's Chief Medical Officer any signs or symptoms that could affect the individual's ability to perform their duties in a safe and predictable manner (e.g., major depressive episodes, manic episodes, delusional episodes, psychotic episodes, active homicidal or suicidal ideations).

4.3 Multiple Medical Conditions

When multiple medical conditions are present, including multiple mental health disorders, the medical fitness for duty of an individual in a Safety Critical Position should take into consideration the cumulative risk associated with all their medical conditions.

5 Specific Medical Fitness for Duty Requirements and Follow-Up

In addition to the medical fitness for duty considerations in section 3 and the general medical fitness for duty requirements in section 4, individuals with a mental health disorder may be considered medically fit for duty in a Safety Critical Position if they meet the specific requirements listed in the following subsections.

The requirements for more frequent medical fitness for duty assessments, additional medical reports, or additional tests will be at the discretion of the Railway's Chief Medical Officer.

5.1 Depressive Disorders

Major depressive disorder: Characterized by a persistently low or depressed mood and a loss of interest or pleasure in activities that were once enjoyable. To be diagnosed, these symptoms must last for at least two weeks and significantly impair daily functioning.

Persistent depressive disorder (PDD): Chronic medical condition characterized by a depressed mood lasting most of the day, more days than not, for at least two years in adults. It can significantly impair daily functioning, relationships, work, and overall quality of life.

Medical Fitness for Duty Requirements

Major depressive disorder	• Mental health disorder has been in remission for at least 3 months
Persistent depressive disorder	• Mental health disorder is in remission

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty assessment should include an evaluation of the individual's alertness, attention, concentration, insight, judgement, memory, mood and psychomotor function, as well as confirmation of continued adherence to treatment. The frequency of medical fitness for duty assessments will be at the discretion of the Railway's Chief Medical Officer.

5.2 Bipolar and Related Disorders

Bipolar I disorder: Characterized by the occurrence of at least one manic episode, which is a period of abnormally elevated, expansive, or irritable mood and increased energy lasting at least one week or any duration if hospitalization is required. Most individuals with bipolar I disorder also experience episodes of depression, though a depressive episode is not required for the diagnosis. Substance-related disorders are common in individuals who have experienced a manic episode.

Bipolar II disorder: Characterized by at least one episode of major depression and at least one hypomanic episode. The hypomanic episode is a milder form of elevated mood than the manic episode that characterizes bipolar I disorder and is not severe enough to warrant hospitalization.

Medical Fitness for Duty Requirements

- Diagnosis has been confirmed by a psychiatrist
- Mental health disorder has been in remission for at least 1 year on a stable dose of medication
  or
  Mental health disorder has been in remission for at least 1 year after discontinuation of medication
- A substance-related disorder has been ruled out in the case of a manic episode

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty assessment should include an evaluation of the individual's alertness, attention, concentration, insight, judgement, memory, mood and psychomotor function, as well as confirmation of continued adherence to treatment. The frequency of medical fitness for duty assessments will be at the discretion of the Railway's Chief Medical Officer.

5.3 Trauma- or Stressor-Related Disorders

Adjustment disorder: Characterized by an excessive emotional or behavioral reaction to a significant life stressor or change. The reaction is more intense than what would typically be expected and causes notable problems in social, occupational, or educational functioning. Symptoms typically appear within three months of the stressor and last no longer than six months after the stressor (or its consequences) have ended.

Acute stress disorder: Medical condition that occurs within the first month after experiencing or witnessing a traumatic event, such as a serious accident, natural disaster, assault, or combat exposure. It typically lasts from three days up to one month.

Posttraumatic stress disorder (PTSD): Characterized by a range of symptoms, including intrusive thoughts, nightmares, and flashbacks, as well as avoidance behaviours and negative changes in mood and thought. PTSD can adversely impact daily life, making it difficult to function in social and work settings, and can lead to sudden incapacitation. It can develop after a person experiences or witnesses a traumatic event that is emotionally or physically harmful or life-threatening. Symptoms must last for more than one month and cause significant distress or impairment in daily functioning. They often begin within three months of the trauma but can also appear later and persist for months or years.

Medical Fitness for Duty Requirements

Adjustment disorder	• Mental health disorder has been in remission for at least 1 month
Acute stress disorder	• Mental health disorder has been in remission for at least 1 month
Posttraumatic stress disorder	• Mental health disorder has been in remission for at least 3 months[2]

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty assessment should include an evaluation of the individual's alertness, attention, concentration, insight, judgement, memory, mood and psychomotor function, as well as confirmation of continued adherence to treatment. The frequency of medical fitness for duty assessments will be at the discretion of the Railway's Chief Medical Officer.

[2] At the discretion of the Railway's Chief Medical Officer, an assessment by a psychiatrist may be required.

5.4 Anxiety Disorders

Generalized anxiety disorder (GAD): Characterized by excessive, uncontrollable, and often irrational worry about everyday events or activities. This worry is persistent, occurring more days than not for at least six months, and it significantly interferes with daily functioning.

Panic disorder: Characterized by recurrent, unexpected panic attacks. Panic attacks are sudden episodes of intense fear that peak within minutes and include physical symptoms such as heart palpitations, sweating, shaking, shortness of breath, dizziness, chest pain, and numbness and can lead to sudden incapacitation. These attacks occur without an obvious trigger or without real danger and are often accompanied by persistent worry about having more attacks or their consequences, which can lead to avoidance behaviors and significant distress or impairment in daily functioning.

Specific phobia: Characterized by an intense, persistent, and irrational fear of a specific object, situation, or activity that poses little or no actual danger but causes significant anxiety and avoidance behavior. Individuals with specific phobias experience immediate fear or anxiety when exposed to or even anticipating the feared object or situation, which can lead to physical symptoms such as a pounding heart, sweating, trembling, shortness of breath, dizziness, nausea, and sometimes panic attacks. The fear is disproportionate to the actual threat and typically lasts for six months or more, causing significant distress or impairment in social, occupational, or other important areas of functioning.

Medical Fitness for Duty Requirements

Generalized anxiety disorder	• Mental health disorder has been in remission for at least 3 months
Panic disorder	• Diagnosis has been confirmed by a psychiatrist • Mental health disorder has been in remission for at least 6 months
Specific phobia	• Mental health disorder is in remission • Phobic object or situation is not associated with, related to, or encountered in their Safety Critical Position

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty assessment should include an evaluation of the individual's alertness, attention, concentration, insight, judgement, memory, mood and psychomotor function, as well as confirmation of continued adherence to treatment. The frequency of medical fitness for duty assessments will be at the discretion of the Railway's Chief Medical Officer.

5.5 Attention-Deficit/Hyperactivity Disorder (ADHD)

ADHD is a neurodevelopmental disorder that is characterized primarily by symptoms of inattention, hyperactivity, and impulsivity. Symptoms typically begin in childhood and can continue into adulthood, affecting daily functioning, academic and work performance, and social relationships.

Medical Fitness for Duty Requirements

• Mental health disorder is in remission

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty assessment should include an evaluation of the individual's alertness, attention, concentration, insight, judgement, memory, mood and psychomotor function, as well as confirmation of continued adherence to treatment. The frequency of medical fitness for duty assessments will be at the discretion of the Railway's Chief Medical Officer.

5.6 Schizophrenia Spectrum and Other Psychotic Disorders

Brief psychotic disorder: Characterized by the sudden onset of at least one psychotic symptom, such as delusions, hallucinations, disorganized speech, or grossly disorganized or catatonic behavior. These symptoms last for at least one day but less than one month, with a full return to the previous level of functioning after the episode is resolved.

Delusional disorder: Characterized primarily by the presence of one or more persistent delusions. These delusions are firmly held false beliefs that are not based in reality and remain unchanged despite clear evidence to the contrary and often involve situations that could realistically occur, but they are mistaken or exaggerated perceptions of reality.

Schizophrenia: Characterized primarily by symptoms of psychosis, including delusions (false beliefs), hallucinations (seeing or hearing things that others do not), disorganized thinking and speech, abnormal motor behavior, and negative symptoms like diminished emotional expression and lack of motivation.

Schizoaffective disorder: Characterized by the symptoms of schizophrenia combined with the symptoms of a mood disorder (e.g. depression, hypomania, mania).

Medical Fitness for Duty Requirements

Brief psychotic disorder	• Diagnosis has been confirmed by a psychiatrist • Mental health disorder has been in remission for at least 6 months • A substance-related disorder has been ruled out
Delusional disorder	• Diagnosis has been confirmed by a psychiatrist • Mental health disorder has been in remission for at least 3 years • Individual has been observed performing non-Safety Critical Position duties adequately for a continuous period of at least 1 year
Schizophrenia, schizoaffective disorder and other psychotic disorders	• Not medically fit for duty in a Safety Critical Position

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty assessment should include an evaluation of the individual's alertness, attention, concentration, insight, judgement, memory, mood and psychomotor function, as well as confirmation of continued adherence to treatment. The frequency of medical fitness for duty assessments will be at the discretion of the Railway's Chief Medical Officer.

5.7 Obsessive-Compulsive and Related Disorders

Obsessive-compulsive disorder (OCD): Characterized by persistent, unwanted thoughts, urges, or images called obsessions, which cause significant anxiety or distress. To relieve this distress, individuals feel compelled to perform repetitive behaviors or mental acts known as compulsions. These compulsions are often ritualistic and temporarily reduce anxiety but do not provide lasting relief, leading to a cycle of obsessions and compulsions that interfere with daily life and functioning.

Medical Fitness for Duty Requirements

- Mental health disorder has been in remission for at least 3 months

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty assessment should include an evaluation of the individual's alertness, attention, concentration, insight, judgement, memory, mood and psychomotor function, as well as confirmation of continued adherence to treatment. The frequency of medical fitness for duty assessments will be at the discretion of the Railway's Chief Medical Officer.

5.8 Personality Disorders

Personality disorder: Characterized by enduring, inflexible, and maladaptive patterns of thinking, feeling, and behaving that deviate significantly from cultural expectations. These patterns typically begin in adolescence or early adulthood and cause significant distress or impairment in social, occupational, or other important areas of functioning.

Medical Fitness for Duty Requirements

- Mental health disorder is in remission

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty assessment should include an evaluation of the individual's alertness, attention, concentration, insight, judgement, memory, mood and psychomotor function, as well as

confirmation of continued adherence to treatment. The frequency of medical fitness for duty assessments will be at the discretion of the Railway's Chief Medical Officer.

5.9 Substance-Related and Addictive Disorders

Refer to the Railway Medical Guidelines for Substance-Related Disorders in the present document.

Section 10 – Cardiovascular Disorders

MEDICAL FITNESS FOR DUTY GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS WITH CARDIOVASCULAR DISORDERS IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment.

These medical fitness for duty guidelines provide an overview of various cardiovascular disorders. If an individual has a cardiovascular disorder not covered by these guidelines, their medical fitness for duty will be determined by the Railway's Chief Medical Officer and guided, in part, by the considerations listed in section 2.

In accordance with previous Railway Association of Canada Cardiovascular Disorders Guidelines, these guidelines continue to implement a medical risk threshold of 2% per year for sudden incapacitating events due to a cardiovascular disorder.

2 Medical Fitness for Duty Considerations

Cardiovascular disorders can cause gradual functional impairment, sudden incapacitation or, in some cases, sudden and unexpected death. The following should be taken into consideration when assessing the medical fitness for duty of an individual occupying a Safety Critical Position:

- Length, course, and severity of the cardiovascular disorder
- Presence of any other cardiovascular or non-cardiovascular disorder
- Modifiable and non-modifiable cardiovascular disease risk factors
- Results of relevant tests
- Potential for gradual functional impairment, sudden incapacitation, or sudden and unexpected death
- Degree of impairment of alertness, attention, cognitive function, concentration, insight, judgement, and memory related to the cardiovascular disorder or to medication(s) used to treat the cardiovascular disorder
- Compliance with treatment recommendations and follow-up
- Likelihood of recurrence of a cardiovascular event
- Occupational requirements of the individual's Safety Critical Position
- Opinion of the treating physician(s) and any other physician(s) or healthcare professional(s) consulted

3 General Medical Fitness for Duty Guidelines

3.1 Assessment and Reporting

The medical fitness for duty assessment should include a thorough history, a review of modifiable and non-modifiable cardiovascular disease risk factors (see below), a physical examination, and a review of relevant tests (e.g., resting electrocardiogram, exercise stress test, Holter monitor study, echocardiogram), as well as an evaluation of compliance with recommended treatment. The medical fitness for duty requirements in the following sections refer to commonly used

diagnostic tests. The acceptance of alternate diagnostic tests will be at the discretion of the Railway's Chief Medical Officer.

A written report should be submitted to the Railway's Chief Medical Officer. It should contain:

- Diagnosis(es)
- Relevant test results
- Recommended treatment
- Relevant consultation letters
- Functional limitations and/or work restrictions
- An opinion on the individual's medical fitness for duty in a Safety Critical Position

The report should be completed by a medical specialist, although a report completed by a primary care physician could be acceptable at the discretion of the Railway's Chief Medical Officer.

3.2 Multiple Medical Conditions

When multiple medical conditions are present, including multiple cardiovascular disorders, the medical fitness for duty of an individual in a Safety Critical Position should take into consideration the cumulative risk associated with all their medical conditions.

3.3 Significant Cardiovascular Disease Symptoms

Significant symptoms are defined as any symptoms that constitute a risk to safe railway operations and directly impact medical fitness for duty. Individuals with significant symptoms are not medically fit for duty in a Safety Critical Position.

Non-Exhaustive List of Significant Cardiovascular Disease Symptoms

• Distracting chest pain • Shortness of breath at rest • Limiting shortness of breath on exertion	• Excessive daytime fatigue • Distracting palpitations • Distracting extremity pain

In the absence of the significant symptoms listed above, the presence of any of the following signs and symptoms warrants further investigation.

Non-Exhaustive List of Cardiovascular Disease Signs and Symptoms Warranting Further Assessment

• Chest pain • Shortness of breath • Lower extremity edema	• Daytime fatigue • Palpitations • Heart murmur

3.4 Cardiovascular Disease Risk Factors

The risks associated with cardiovascular disease increase as the number of cardiovascular disease risk factors increase. In general, for individuals working in a Safety Critical Position modifiable cardiovascular disease risk factors should be well controlled, even in the absence of

overt cardiovascular disease. If the modifiable cardiovascular disease risk factors are not well controlled, or if the modifiable and non-modifiable cardiovascular disease risk factor profile is determined to be of concern to the Railway's Chief Medical Officer, a cardiovascular disease medical fitness for duty assessment should be completed. National guidelines have been published for most modifiable cardiovascular disease risk factors and should serve as a reference.

Non-Exhaustive List of Cardiovascular Disease Risk Factors

Modifiable Risk Factors	• Diabetes and pre-diabetes • Dyslipidemia • Elevated body mass index (BMI) • Hypertension • Obstructive sleep apnea • Physical inactivity • Smoking
Non-Modifiable Risk Factors	• Age • Ethnicity • Heredity

4 Specific Medical Fitness for Duty Requirements and Follow-Up

In addition to the medical fitness for duty considerations in section 2 and the general medical fitness for duty guidelines in section 3, individuals with a cardiovascular disorder may be considered medically fit for duty in a Safety Critical Position if they meet the specific requirements listed in the following subsections.

The requirements for more frequent medical fitness for duty assessments, additional medical reports, or additional tests will be at the discretion of the Railway's Chief Medical Officer.

4.1 Cardiac Disorders

4.1.1 Coronary Artery Disease

Angina: Chest pain caused by myocardial ischemia without evidence of myocardial cellular damage. Accordingly, cardiac biomarkers are not elevated. Stable angina refers to a predictable pattern of angina usually brought on by physical exertion. Unstable angina refers to angina that occurs at rest, nocturnally or with minimal provocation. Both stable and unstable angina are associated with an increased risk of myocardial infarction.

Myocardial infarction: Myocardial cellular damage after blood flow to part of the heart suddenly decreases or is completely blocked. There is a rise in cardiac specific troponins that is associated with changes on electrocardiogram or evidence of new loss of viable myocardium or new regional wall motion abnormalities on cardiac imaging studies. ST segment Elevation Myocardial Infarction (STEMI) is a type of myocardial infarction in which electrocardiogram findings include an elevation of the ST segments in any two contiguous leads. With a Non-ST segment Elevation Myocardial

Infarction (NSTEMI), electrocardiogram findings do not include an elevation of the ST segments in any two contiguous leads.

Coronary vasospasm: Focal spasm in any of the coronary arteries, most commonly where there is atherosclerotic plaque. This spasm reduces the blood supply to the heart. Myocardial infarction may result if the duration of the coronary artery vasospasm is prolonged.

Medical Fitness for Duty Requirements

- Duke Treadmill Score ≥ 6 for men or ≥ 5 for women based on a maximal effort treadmill test[1]
  - If treadmill test is inconclusive or cannot be performed, a pharmacological stress test shows < 10% total perfusion deficit
- Left ventricular ejection fraction:
  - ≥ 50%: medically fit for duty
  - 41-49%: further assessment required depending on etiology, stability, and response to treatment
  - ≤ 40%: not medically fit for duty
- Stability period:
  - Stable angina:
    - ♦ No stability period required if treated with medical therapy
    - ♦ 14 days after procedure if treated with percutaneous coronary intervention
  - Unstable angina:
    - ♦ 14 days after procedure if treated with percutaneous coronary intervention
    - ♦ 30 days unchanged pattern of angina if treated with medical therapy
  - NSTEMI without new wall motion abnormalities:
    - ♦ 14 days after procedure if treated with percutaneous coronary intervention
    - ♦ 30 days after procedure if treated without percutaneous coronary intervention
  - NSTEMI with new wall motion abnormalities or STEMI: 3 months after revascularization (percutaneous coronary intervention or coronary artery bypass surgery)[2]
  - Coronary vasospasm: 3 months after the date of last symptoms (provided all medical assessments by a medical specialist have been completed)
  - Coronary artery bypass surgery: 3 months after surgery[2]

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed yearly with a maximal effort treadmill stress test and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. If there is no clinical deterioration after 2 years, an exercise stress test can be completed every 2 years until 50 years of age. After 50 years of age, an exercise stress test should be conducted yearly due to the increased risk, unless a different frequency is deemed acceptable by the Railway's Chief Medical Officer.

[1] Duke Treadmill Score: https://qxmd.com/calculate/calculator_68/duke-treadmill-score#
[2] Required assessments should be completed no sooner than 1 month after discharge from the hospital.

4.1.2 Dysrhythmias, Conduction Disorders, and Implantable Devices

4.1.2.1 Supraventricular Tachycardias

Atrial fibrillation (AF): Irregularly irregular heartbeat due to underlying disease of the atria. Atrial fibrillation can cause a rapid heart rate with the potential for hemodynamic compromise and sudden incapacitation. Over time, it can also cause heart failure. Atrial fibrillation can be paroxysmal (continuous AF episode lasting longer than 30 seconds but terminating within 7 days of onset), persistent (continuous AF episode lasting longer than 7 days but less than a year), "longstanding" persistent (continuous AF episode lasting more than a year when rhythm control management is being pursued), or permanent (continuous AF for which rhythm control is not pursued). AF is considered as valvular in the presence of any mechanical heart valve, or in the presence of moderate to severe mitral stenosis.

Atrial flutter: Abnormal heart rhythm originating from one of the atria and often associated with tachycardia.

Paroxysmal supraventricular tachycardia: Intermittent episodes of supraventricular tachycardia that typically have an abrupt onset and can resolve spontaneously. Abnormal electrical pathways between the atria and ventricles can be present.

Anticoagulation therapy for atrial fibrillation and atrial flutter: Abnormal contraction of the atria can lead to the formation of an atrial thrombus. Individuals with left atrial blood clots are at risk of thromboembolism, transient ischemic attack, stroke, and sudden incapacitation. Anticoagulation therapy is initiated to reduce the risk of atrial thrombi. National guidelines and risk scores have been published to estimate the risk of thromboembolism and stroke, and the risk of bleeding due to the anticoagulation therapy.

Medical Fitness for Duty Requirements

Atrial fibrillation & atrial flutter	• Left ventricular ejection fraction: ○ ≥ 50%: medically fit for duty ○ 41-49%: further assessment required depending on etiology, stability, and response to treatment ○ ≤ 40%: not medically fit for duty • Holter monitor study after initiation of treatment confirms rhythm and/or rate control with no alternate dysrhythmia **or** The dysrhythmia was associated with a self-limited illness or treatable medical condition that has resolved and there has not been any recurrence of the dysrhythmia **or** Ablation therapy was successful as per procedure report
Paroxysmal supraventricular tachycardia	• Left ventricular ejection fraction: ○ ≥ 50%: medically fit for duty ○ 41-49%: further assessment required depending on etiology, stability, and response to treatment ○ ≤ 40%: not medically fit for duty

	• The dysrhythmia was associated with a self-limited illness or treatable medical condition that has resolved and there has not been any recurrence of the dysrhythmia **or** Treatment with an antiarrhythmic agent was successful and without complications or recurrence **or** Ablation therapy was successful as per procedure report

Medical Fitness for Duty Monitoring and Follow-Up

Atrial fibrillation and atrial flutter: Medical fitness for duty should be reassessed yearly and should include a Holter monitor study and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. If an individual has undergone successful ablation therapy or an underlying cause has been identified and effectively treated, the medical fitness for duty follow-up can be discontinued after two consecutive favourable assessments.

Paroxysmal supraventricular tachycardia: Medical fitness for duty should be reassessed yearly and should include any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. If an individual has undergone successful ablation therapy or an underlying cause has been identified and effectively treated, the medical fitness for duty follow-up can be discontinued after two consecutive favourable assessments.

4.1.2.2 Ventricular Tachycardias

Ventricular tachycardia: Regular tachycardia with at least 3 wide QRS complexes in a row. It is classified as non-sustained ventricular tachycardia or sustained ventricular tachycardia based on whether it lasts less than or more than 30 seconds. Brief episodes may not result in symptoms, but longer episodes are often associated with hemodynamic compromise, ventricular fibrillation, sudden incapacitation, and sudden cardiac death.

Ventricular fibrillation: Irregular ventricular dysrhythmia due to disordered electrical activity in the ventricles. It is associated with hemodynamic compromise, sudden incapacitation, and sudden cardiac death.

Both ventricular tachycardia and ventricular fibrillation can be caused by self-limiting, treatable, or reversible medical conditions (within 24 hours of a myocardial infarction, during coronary angiography, or due to drug toxicity).

Medical Fitness for Duty Requirements

• Underlying etiology has been identified, is stable, and is responsive to treatment

Medical Fitness for Duty Monitoring and Follow-Up

The medical fitness for duty follow-up of individuals with a history of ventricular tachycardia or ventricular fibrillation will be at the discretion of the Railway's Chief Medical Officer.

4.1.2.3 Premature Ventricular Contractions

Premature ventricular contractions (PVCs): Extra heartbeat resulting from abnormal electrical activation of the left or right ventricle before a normal heartbeat can occur. Their presence can be an indicator of underlying heart disease, including coronary artery disease, cardiomyopathy, or valvular heart disease. Frequent PVCs in individuals with underlying heart disease may lead to dangerous dysrhythmias such as ventricular tachycardia or ventricular fibrillation, which can cause sudden incapacitation or death.

Complex PVCs: Ventricular couplets, triplets, and non-sustained ventricular tachycardia.

Frequent PVCs: More than 2000 PVCs/24-hour period.

Medical Fitness for Duty Requirements

- Holter monitor study does not show any other disabling dysrhythmia
- If resting electrocardiogram and/or Holter monitor study show complex or frequent PVCs:
  - Absence of disabling dysrhythmias on maximal effort exercise stress test
  - Left ventricular ejection fraction:
    - ≥ 50%: medically fit for duty
    - 41-49%: further assessment required depending on etiology, stability, and response to treatment
    - ≤ 40%: not medically fit for duty
- Right ventricular dysplasia should be ruled out in cases of PVCs with left bundle branch block pattern

Medical Fitness for Duty Monitoring and Follow-Up

Simple and infrequent PVCs: No ongoing medical fitness for duty follow-up is required unless deemed appropriate by the Railway's Chief Medical Officer.

Complex or frequent PVCs: Medical fitness for duty should be reassessed yearly and include a Holter monitor study and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. If the Holter monitor study still shows frequent or complex PVCs, then an exercise stress test and an echocardiogram are also required. If an individual has undergone successful ablation therapy or an underlying cause has been identified and effectively treated, the medical fitness for duty follow-up should then be reassessed as part of the periodic medical assessment program and include at a minimum a Holter monitor study.

4.1.2.4 Bradycardias

Sinus bradycardia: Heart rate < 60 beats per minute generated by the sinus node. Sinus bradycardia can occur in asymptomatic healthy individuals, particularly those that are involved in vigorous exercise programs.

Sick sinus syndrome: Inability of the sinus node to generate a normal heart rate. The abnormal heart rate can be too fast, too slow, interrupted by long pauses, or a combination of abnormal heart rates.

Medical Fitness for Duty Requirements

Sinus bradycardia	• Absence of symptoms
	• Heart rate ≥ 50 bpm: Underlying cause, if any, has been identified and effectively treated
	• Heart rate < 50 bpm:
	  ○ Underlying cause, if any, has been identified and effectively treated
	  ○ No sinus pauses ≥ 3 seconds and no alternate dysrhythmia on resting electrocardiogram and Holter monitor study

Sick sinus syndrome	• Must be adequately treated if symptomatic and/or presence of sinus pauses ≥ 3 seconds

Medical Fitness for Duty Monitoring and Follow-Up

Sinus bradycardia: Medical fitness for duty should be reassessed yearly and include a Holter monitor study and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. Healthy individuals with asymptomatic sinus bradycardia do not require ongoing medical fitness for duty follow-up unless deemed appropriate by the Railway's Chief Medical Officer.

Sick sinus syndrome: Medical fitness for duty should be reassessed yearly and include a Holter monitor study and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. Individuals with an untreated sick sinus syndrome are not considered to be medically fit for duty in a Safety Critical Position in the presence of symptoms or sinus pauses ≥ 3 seconds.

4.1.2.5 Pre-excitation Syndrome

Pre-excitation syndrome: Early activation of the ventricles that usually occurs due to electrical impulses bypassing the normal atrioventricular conduction system via an accessory pathway. This ventricular pre-excitation can result in pathologic tachycardia. The most common pre-excitation syndrome is the Wolff-Parkinson-White syndrome. An electrophysiologic (EP) study is required to determine the pathway risk level.

Medical Fitness for Duty Requirements

Low-risk pathway as per EP study	• Accessory pathway stops conducting at higher heart rates on exercise stress test • Absence of associated congenital heart disease on an echocardiogram
High-risk pathway as per EP study	• Successful ablation therapy

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed yearly and should include any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. The medical fitness for duty follow-up of individuals with low-risk pathways or who have undergone successful ablation therapy can be discontinued after two consecutive favourable assessments.

4.1.2.6 Inherited Dysrhythmias

Inherited dysrhythmias: Abnormal rhythms due to genetic defects that alter the normal morphology and duration of the cardiac action potentials. Inherited dysrhythmias include long QT syndrome, short QT syndrome and Brugada syndrome. Individuals with inherited dysrhythmias often present with syncope or a life-threatening cardiac rhythm and are at increased risk of sudden incapacitation and sudden cardiac death. They are therefore not considered to be medically fit for duty in a Safety Critical Position.

4.1.2.7 Conduction Disorders

1st degree atrioventricular (AV) block: Slowing of the signal between the atria and ventricles with all atrial electrical signals conducted to the ventricles.

Mobitz type I 2nd degree atrioventricular (AV) block: The electrical signal between the atria and ventricles becomes progressively slower until an atrial electrical signal is blocked from reaching the ventricles.

Mobitz type II 2nd degree atrioventricular (AV) block: One or more of the electrical signals in the atria are blocked from reaching the ventricles. More likely to be associated with hemodynamic compromise and can progress to complete heart block.

3rd degree atrioventricular (AV) block (complete heart block): All the signals from the atria are blocked from reaching the ventricles, resulting in the atria and ventricles beating independently. The heart rate is determined by the ventricular rate. Complete heart blocks are often associated with hemodynamic compromise, severe bradycardia, and sudden cardiac death.

Bundle branch block: Intraventricular conduction delay that can be present in healthy individuals or can develop due to several medical conditions, including ischemic heart disease.

Medical Fitness for Duty Requirements

1st degree AV block	• Electrocardiogram does not show any other abnormalities
Mobitz type I 2nd degree AV block	• If due to a reversible cause, it has been addressed and is unlikely to recur • Holter monitor study does not show any higher-grade conduction disorder
Mobitz type II 2nd degree AV block & 3rd degree AV block	• Not medically fit for duty if untreated

Left or right bundle branch block	• If due to a reversible cause, the reversible cause has been addressed and is unlikely to recur
	• If new diagnosis of left or right bundle branch block:
	  ○ Absence of structural heart disease on an echocardiogram
	  ○ Absence of ischemia on myocardial perfusion scan in the case of a left bundle branch block

Medical Fitness for Duty Monitoring and Follow-Up

1st degree or 2nd degree type I atrioventricular block: Medical fitness for duty should be reassessed yearly for individuals with an underlying pathology and should include a resting electrocardiogram and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. Healthy individuals with an asymptomatic 1st degree or 2nd degree type I atrioventricular block should not require ongoing medical fitness for duty follow-up unless deemed appropriate by the Railway's Chief Medical Officer.

2nd degree type II or complete atrioventricular block: Individuals with an untreated 2nd degree type II or complete atrioventricular block are not considered to be medically fit for duty in a Safety Critical Position.

Bundle branch block: Medical fitness for duty should be reassessed yearly for individuals with an underlying pathology and should include a resting electrocardiogram and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. Asymptomatic individuals with no underlying pathology should not require ongoing medical fitness for duty follow-up unless deemed appropriate by the Railway's Chief Medical Officer.

4.1.2.8 Electrocardiogram Abnormalities

Electrocardiogram abnormalities include Brugada pattern (to be differentiated from Brugada syndrome), early repolarization pattern and non-specific anomalies. Individuals with a Brugada pattern require an initial electrophysiologic study to confirm the diagnosis.

The medical fitness for duty of individuals with these abnormalities on an electrocardiogram will be at the discretion of the Railway's Chief Medical Officer.

4.1.2.9 Implantable Devices

Pacemaker: Pacemakers sense electrical events and respond when necessary by delivering electrical stimuli to the heart. Indications include symptomatic bradycardia or high-grade atrioventricular block. There are multiple types of pacemakers based on which cardiac chambers are sensed, which cardiac chambers are paced, how the pacemaker responds to a sensed event (inhibits or triggers pacing), whether the pacemaker can increase the heart rate during exercise (rate-modulating), and whether pacing is multisite.

Implantable cardioverter defibrillator (ICD): Delivers therapy (either a defibrillator shock or rapid pacing) in the event of a life-threatening dysrhythmia. There are 3 major concerns with respect to individuals with an ICD: the underlying cardiac condition for which the ICD was inserted, the risk of an appropriate possibly incapacitating therapy delivered by the ICD, and the risk of an inappropriate and possibly incapacitating therapy delivered by the ICD.

Medical Fitness for Duty Requirements

Pacemaker	• Absence of structural heart disease on an echocardiogram • The individual is being followed by a pacemaker clinic and there are no concerns with pacemaker function or the underlying heart condition after insertion of the pacemaker as per pacemaker report • One month has passed from the time of insertion of the pacemaker • The individual must be cleared by their treating specialist based on the specificities of their position including possible exposure to electromagnetic fields • The individual is not pacemaker dependent
Implantable cardioverter-defibrillator (ICD)	• Not medically fit for duty

Medical Fitness for Duty Monitoring and Follow-Up

Pacemaker (nondependent): Medical fitness for duty should be reassessed yearly and should include a pacemaker clinic report and any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

Pacemaker-dependent and implantable cardioverter-defibrillator: Due to the risk of a sudden incapacitating event, individuals who are pacemaker-dependent or who require an ICD are not considered to be medically fit for duty in a Safety Critical Position.

4.1.3 Valvular Heart Disease

4.1.3.1 Aortic and Mitral Valve Disease

Aortic stenosis: Narrowing of the aortic valve. Causes include congenital heart valve abnormalities (e.g., bicuspid aortic valve), rheumatic heart disease, progressive calcification of the valve, and radiation therapy to the chest.

Aortic regurgitation: "Back-flow" of blood across the aortic valve. Causes include congenital heart valve abnormalities (e.g., bicuspid aortic valve), rheumatic heart disease, progressive calcification of the valve, and endocarditis. It can also be caused by non-cardiac conditions such as Marfan's syndrome and other connective tissue disorders, autoimmune disorders, and chest trauma.

Mitral stenosis: Narrowing of the mitral valve. Causes include congenital mitral valve stenosis, rheumatic heart disease, progressive calcification of the valve, and radiation therapy to the chest.

Mitral regurgitation: "Back-flow" of blood across the mitral valve. Causes include congenital abnormalities of the mitral valve, rheumatic heart disease, endocarditis, ischemic heart disease, cardiomyopathy, annular dilation from an enlarged left ventricle, and chest trauma.

Mitral prolapse: Improper closure of the 2 leaflets of the mitral valve. It is most often caused by myxomatous degeneration of the valve leaflets but can also result from non-cardiac conditions such as muscular dystrophies and collagen tissue disorders.

Medical Fitness for Duty Requirements

- Moderate severity, at most, on an echocardiogram
- Not medically fit for duty if more severe disease

Medical Fitness for Duty Monitoring and Follow-Up

Mild or mild-moderate disease: Medical fitness for duty should be reassessed as part of the periodic medical assessment program and should include an echocardiogram and any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

Moderate disease: Medical fitness for duty should be reassessed yearly and should include an echocardiogram and any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

Moderate-severe or severe disease: Individuals with moderate-severe or severe valvular disease are not considered to be medically fit for duty in a Safety Critical Position.

4.1.3.2 Valve Replacement and Valve Repair

Valve replacement surgery: Replacement of a poorly functioning heart valve with either a bioprosthesis or a mechanical heart valve. Mechanical heart valves are more prone to thromboembolism, and individuals will usually require long-term anticoagulation therapy after surgery.

Valve repair surgery: Surgical repair of a poorly functioning heart valve.

Medical Fitness for Duty Requirements

- Moderate residual valvular disease, at most, on an echocardiogram
- No reported postoperative complications on a follow-up assessment no sooner than 3 months following surgery
- The individual is stable on full anticoagulation therapy for at least 1 month (if indicated)

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed yearly and should include an echocardiogram and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

4.1.4 Cardiomyopathy

4.1.4.1 Non-hypertrophic Cardiomyopathy

Dilated cardiomyopathy: Cardiomyopathy where the ventricles stretch and become thinner and weaker. It can result in dysrhythmias, blood clots, valvular heart disease or sudden death. Dilated cardiomyopathy can be inherited, but it can also be caused by a number of medical conditions, medications and toxins.

Ischemic cardiomyopathy: Cardiomyopathy caused by a lack of blood supply to the heart due to coronary artery disease. It can result in dysrhythmias, left ventricular dilatation, valvular heart disease or sudden death. Most common form of cardiomyopathy.

Restrictive cardiomyopathy: Cardiomyopathy where the ventricles become stiff and unable to fully relax, thus preventing normal filling of the ventricles during the diastole. A number of medical conditions, medications and toxins can cause restrictive cardiomyopathy.

Heart failure with preserved ejection fraction: Clinical syndrome in which patients have signs and symptoms of heart failure as the result of high left ventricular filling pressure despite normal or near normal left ventricular ejection fraction (≥50%). Medical fitness for duty will be at the discretion of the Railway's Chief Medical Officer.

Medical Fitness for Duty Requirements

- Underlying cause has been identified and effectively treated, if applicable
- Left ventricular ejection fraction:
  - ≥ 50%: medically fit for duty
  - 41-49%: further assessment required depending on etiology, stability, and response to treatment
  - ≤ 40%: not medically fit for duty

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed yearly and should include an echocardiogram and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. Individuals with ischemic cardiomyopathy also require a yearly maximal effort exercise stress test. In individuals in which the underlying cause has been treated and cardiomyopathy has resolved, medical fitness for duty follow-up can be discontinued after two consecutive favourable assessments.

4.1.4.2 Hypertrophic Cardiomyopathy

Hypertrophic cardiomyopathy: An abnormal thickening of the heart muscle. It is usually caused by abnormal genes or genetic mutations. In hypertrophic obstructive cardiomyopathy, the interventricular septum thickens, which results in reduced outflow through the aortic valve. The walls of the ventricles can also stiffen. The main concern for individuals with obstructive hypertrophic cardiomyopathy is the risk of sudden incapacitation. In non-obstructive hypertrophic cardiomyopathy, the ventricles thicken and stiffen, which limits normal filling of the ventricles and cardiac output. There is generally no reduction in aortic valve outflow.

Medical Fitness for Duty Requirements

- At least 10 METs on an exercise stress test (e.g., 3 stages on the BRUCE protocol)
- Must not be in high-risk group for sudden cardiac death[3]
  - Requires an echocardiogram and Holter monitor study

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty should be reassessed yearly and should include an echocardiogram, an exercise stress test, a Holter monitor study and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

4.1.5 Inflammatory Heart Disease

Pericarditis: Inflammation of the pericardium that is often associated with viral infections. It can also be caused by bacterial infections, toxins, certain medications, and autoimmune disorders. Some cases of pericarditis remain of unknown etiology.

Endocarditis: Inflammation of the endocardium most often involving the heart valves. It can be classified as infective or non-infective.

Myocarditis: Inflammation of the myocardium that is most often caused by a viral infection. It can also be caused by bacterial infections, toxins, certain medications, and autoimmune disorders. Some cases of myocarditis remain of unknown etiology.

[3] HCM Risk-SCD Calculator: https://qxmd.com/calculate/calculator_303/hcm-risk-scd

Medical Fitness for Duty Requirements

Pericarditis	• Acute symptoms have resolved • Any post-recovery complications have been managed

Endocarditis	• Acute symptoms have resolved
	• Any post-recovery complications have been managed
	• Left ventricular ejection fraction:
	  ○ ≥ 50%: medically fit for duty
	  ○ 41-49%: further assessment required depending on etiology, stability, and response to treatment
	  ○ < 40%: not medically fit for duty

Myocarditis	• Acute symptoms have resolved
	• Any post-recovery complications have been managed
	• Left ventricular ejection fraction:
	  ○ ≥ 50%: medically fit for duty
	  ○ 41-49%: complete cardiology assessment is required including a cardiac MRI to rule out residual or alternate cardiovascular disease
	  ○ < 40%: not medically fit for duty

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty follow-up should not be required unless deemed appropriate by the Railway's Chief Medical Officer.

4.1.6 Congenital Heart Disease

Congenital heart disease (or defect): Congenital abnormality in the structure of the heart or of the great vessels that can vary in severity. All but the mildest forms of disease are generally identified and treated during infancy or childhood.

This section will only specifically cover atrial and ventricular septal defects. The medical fitness for duty of other types of congenital heart disease will depend on the severity of the defects, the effectiveness of treatment, and any ongoing electrophysiologic, hemodynamic, or structural abnormalities.

Patent foramen ovale (PFO): Opening in the interatrial septum that is present in 20% of the population and usually benign. It can rarely cause cerebrovascular events.

Atrial septal defect: Opening in the interatrial septum that can allow blood to flow between the left and right atria. This can result in oxygen-rich blood flowing directly from the left atrium to mix with the oxygen-poor blood in the right atrium, or conversely, depending on atrial pressures. The size of the opening and the amount of shunting of blood determine the hemodynamic significance of the defect.

Ventricular septal defect: Opening in the interventricular septum that can allow blood to flow between the left and right ventricles. This typically results in oxygen-rich blood from the left ventricle flowing into the right ventricle to mix with oxygen-poor blood. The hemodynamic significance of the defect is determined by the size of the opening and the amount of shunting of blood. An interventricular defect can also sometimes be acquired due to trauma or after a myocardial infarction.

Medical Fitness for Duty Requirements

Patent foramen ovale	• Absence of symptoms of a cerebrovascular event

Atrial septal defects (other than PFO)[4]	• Absence of symptoms
	• Echocardiogram or cardiac catheterization[5]:
	  ○ Pulmonary/systemic flow ratio < 1.5
	  ○ Right heart pressures within normal limits
	  ○ Absence of right atrial or right ventricular enlargement
	• Holter monitor study does not show any disabling dysrhythmia

Ventricular septal defects[4]	• Absence of symptoms
	• Echocardiogram or cardiac catheterization[5]:
	  ○ Pulmonary/systemic flow ratio < 1.5
	  ○ Pulmonary arterial pressure within normal limits
	  ○ Left ventricular dimensions are normal
	• Left ventricular ejection fraction:
	  ○ ≥ 50%: medically fit for duty
	  ○ 41-49%: further assessment required depending on etiology, stability, and response to treatment
	  ○ ≤ 40%: not medically fit for duty

Medical Fitness for Duty Monitoring and Follow-Up

The medical fitness for duty follow-up of individuals with an atrial or ventricular septal defect (whether surgically repaired or not) will be at the discretion of the Railway's Chief Medical Officer.

4.1.7 Heart Transplant

Due to the cumulative high rate of morbidity, including vascular complications, and the increasing mortality rate over time, individuals with a history of heart transplant are not considered to be medically fit for duty in a Safety Critical Position.

[4] Includes individuals with atrial or ventricular septal defects that were surgically corrected.
[5] If the atrial or ventricular defect is corrected in adulthood, the medical fitness for duty assessment as well as all required tests should not be completed until 3 months after surgery.

4.2 Vascular Disorders

4.2.1 Hypertension

Hypertension is a leading cause of cardiovascular disease. Poorly controlled hypertension can cause sudden incapacitation due to several related conditions including myocardial infarction, a transient ischemic attack and stroke. Target blood pressure levels are outlined in national guidelines.

Medical Fitness for Duty Requirements

- Single blood pressure measurements:
  - Systolic BP < 180 mmHg
    and
    Diastolic BP < 110 mmHg
- 3-month average blood pressure measurements:
  - Systolic BP < 160 mmHg
    and
    Diastolic BP < 100 mmHg

Medical Fitness for Duty Monitoring and Follow-Up

The frequency of medical fitness for duty follow-up will be at the discretion of the Railway's Chief Medical Officer.

4.2.2 Aortic Aneurysm

Aortic aneurysm: Enlargement of the aorta due to weakness in the artery wall which can lead to progressive distension. Aortic aneurysms may be present without causing any symptoms; however, a ruptured aneurysm can result in sudden incapacitation or be fatal. Aortic aneurysms are often associated with coronary artery disease.

Medical Fitness for Duty Requirements

- Diameter < 5.5 cm (or < 5 cm if presence of additional risk factors for aneurysm rupture)

Medical Fitness for Duty Monitoring and Follow-Up

Diameter < 4 cm: Medical fitness for duty should be reassessed as part of the periodic medical assessment and should include imaging of the dilated aorta and any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

Diameter ≥ 4 cm and < 5.5 cm (< 5 cm if additional risk factors for aneurysm rupture): Medical fitness for duty should be reassessed yearly and should include imaging of the dilated aorta and any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

Diameter ≥ 5.5 cm (5 cm if additional risk factors for aneurysm rupture): Due to the risk of sudden incapacitating event, these individuals are not considered to be medically fit for duty in a Safety Critical Position.

4.2.3 Carotid Stenosis

Carotid stenosis: Narrowing of one or both carotid arteries that usually occurs due to accumulation of atherosclerotic plaque. It is often asymptomatic, and only detected by a carotid bruit on examination. The risk of a stroke or transient ischemic attack increases with the degree of stenosis. Carotid stenosis is also associated with coronary artery disease.

Medical Fitness for Duty Requirements

- Coronary artery disease has been ruled out or is adequately managed if present
- Carotid stenosis < 70% in both carotid arteries on bilateral doppler ultrasound

Medical Fitness for Duty Monitoring and Follow-Up

Stenosis < 50% in both carotid arteries: Medical fitness for duty will be at the discretion of the Railway's Chief Medical Officer.

Stenosis ≥ 50% in either carotid artery: Medical fitness for duty should be reassessed yearly and should include imaging of the carotid arteries and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

4.2.4 Peripheral Thrombosis

4.2.4.1 Venous Thromboembolic Events

Venous thrombosis: Formation of a thrombus (blood clot) within a vein. These blood clots often originate from the venous system of the legs (deep vein thrombosis or DVT). They can develop spontaneously or be caused by an acute or chronic predisposing medical condition. Individuals with chronic predisposing medical conditions or with recurrent episodes of venous thrombosis usually require long-term anticoagulation therapy. Deep venous thrombi can travel to the pulmonary arterial vascular system and cause a pulmonary embolus. They can also have longer term effects on the affected venous system, resulting in a higher rate of recurrence. Active malignancy, surgery, immobilization, and estrogen use and pregnancy are common transient provoking factors. However, up to 50% of the time the development of an initial DVT is unprovoked ("idiopathic").

Pulmonary embolus: A blood clot that has traveled to the pulmonary arterial vascular system from elsewhere in the body. A DVT is often the source of pulmonary embolus; however, a pre-existing venous thrombus may not always be identified. Pulmonary emboli can cause a sudden blockage of blood flow in the arteries of one or both lungs. Large pulmonary emboli can cause sudden incapacitation and can be fatal. They can also have longer term effects on the pulmonary arterial vascular system and on cardiac function. Most deaths directly related to the pulmonary emboli occur in the first month after the event.

Anticoagulation therapy: Initial anticoagulation therapy is aimed at preventing venous thrombus extension, preventing pulmonary embolus occurrence or progression, and relieving acute symptoms. Frequent reasons associated with extension, progression or recurrence of a venous thrombus or a pulmonary embolism include an underlying medical condition (e.g., cancer, antiphospholipid syndrome, autoimmune disease) or inadequate anticoagulation (e.g., medication non-compliance, drug-drug interactions, drug-food interactions). Recurrences of venous thromboembolic events are treated the same as the initial events, taking into consideration their etiology.

Long term effects: Venous thrombosis and pulmonary embolism can damage the venous vascular system resulting in residual post-thrombotic syndrome or chronic thromboembolic pulmonary hypertension. These conditions can limit an individual's physical abilities even without the presence of a venous thrombus or pulmonary embolus.

Bleeding risk: The overall bleeding risk on oral anticoagulation (including small bleeds such as epistaxis) is around 1-2% per year.

Medical Fitness for Duty Requirements

Major transient provoking factor	• At least 1 month has elapsed following adequate treatment and acute symptoms are improving • At least 3 months of anticoagulation treatment planned
Unprovoked or major persistent provoking factor	• At least 1 month has elapsed following adequate treatment and acute symptoms are improving • Planned indefinite anticoagulation therapy

Medical Fitness for Duty Monitoring and Follow-Up

Major transient provoking factor: Medical fitness for duty should be reassessed at 3 months. Specific requirements for medical fitness for duty follow-up will be at the discretion of the Railway's Chief Medical Officer.

Unprovoked or major persistent provoking factor: Medical fitness for duty should be reassessed at 3 months and yearly thereafter and include any tests deemed appropriate by the treating physician, as well as confirmation of continued adherence to treatment. If anticoagulation therapy is discontinued, then medical justification will be required. Medical fitness for duty will then be at the discretion of the Railway's Chief Medical Officer.

4.2.4.2 Peripheral Arterial Thrombosis

Arterial thrombosis: Formation of a thrombus within an artery. It typically begins with the development of an atherosclerotic plaque (peripheral artery disease) but may also occur in the setting of a coagulopathy or another chronic predisposing medical condition.

Medical Fitness for Duty Requirements

- Coronary artery disease has been ruled out or is adequately managed if present
- At least 1 month has elapsed following adequate treatment and acute symptoms are improving

Medical Fitness for Duty Monitoring and Follow-Up

The medical fitness for duty follow-up will be at the discretion of the Railway's Chief Medical Officer.

4.3 Syncope

Syncope: Clinical syndrome in which transient loss of consciousness is caused by a period of cerebral hypoperfusion, most often the result of an abrupt drop of systemic blood pressure. Syncope must be differentiated from other conditions that can have similar presentations including seizures, stroke, substance-related causes, and hypoglycemia. Major cardiovascular causes of syncope can be divided into reflex syncope, orthostatic hypotension, and cardiac syncope. Presyncope is an ensemble of symptoms that may progress to syncope.

Reflex syncope (or neurally-mediated syncope): Syncope due to a reflex response encompassing vasodilatation and/or bradycardia, leading to systemic hypotension and cerebral hypoperfusion. Types of reflex syncope include vasovagal syncope, situational reflex syncope (e.g., micturition, coughing, swallowing, etc.), carotid sinus syncope, and some cases without apparent triggers. Typically, reflex syncope is short in duration (1-2 minutes). Full recovery may be delayed due to feeling fatigued for an extended period of time after the event. Vasovagal syncope is the most common cause of syncope in individuals of all ages. Acute vasovagal reactions leading to syncope or presyncope are also common in a number of potentially stressful settings. Vasovagal syncope typically occurs either in the standing or sitting position. Classic triggers include emotional or orthostatic stress, painful or noxious stimuli, fear of bodily injury, prolonged standing, heat exposure, or after physical exertion.

Orthostatic hypotension: Significant reduction in blood pressure when an upright position is assumed. Symptoms occur within seconds to a few minutes of standing and resolve rapidly on lying down.

Cardiac syncope: Syncope due to an underlying cardiac cause (e.g., dysrhythmia, structural heart disease, cardiomyopathy, large pulmonary embolus).

Classic prodromal symptoms associated with imminent reflex syncope and presyncope:

• Light-headedness • Sweating • Palpitations • Nausea • Abdominal discomfort	• Feeling of being warm or cold • Visual "blurring" occasionally proceeding to temporary darkening of vision • Occurrence of unusual sounds or diminution of hearing • Objective pallor

Medical Fitness for Duty Requirements

- The individual is aware of any triggering events and can take measures to prevent future events of syncope or presyncope
- At least 12 months have elapsed since the syncopal episode if the etiology is unknown

Medical Fitness for Duty Monitoring and Follow-Up

The medical fitness for duty follow-up for individuals with a history of syncope of unknown etiology should be reassessed after one year and include any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. Medical fitness for duty follow-up can be discontinued after two consecutive favourable assessments. The medical fitness for duty follow-up for other cases of syncope or presyncope will be at the discretion of the Railway's Chief Medical Officer.

APPENDIX I – Medical Report[6]

Medical Report - Cardiovascular Disorders (Safety Critical Position)

Rapport médical - Troubles cardiovasculaires (Poste essentiel à la sécurité)

Section 1 - Employee information and consent - *Renseignements sur la personne examinée et consentement*

Name - *Nom*	Date of birth - *Date de naissance*	PIN - *Matricule*

Email - *Courriel*	Phone (home) - *Téléphone (domicile)*

Job title - *Titre du poste*	Immediate supervisor - *Superviseur immédiat*	Phone (work) - *Téléphone (travail)*

Examinee's consent for the release of medical information to the office of the Chief Medical Officer

I, the undersigned, acknowledge that I occupy (or may occupy) a Safety Critical Position and I will report any medical condition that may constitute a threat to safe railway operations. I declare that the information that I have provided or will be providing to the health care professional completing this report is truthful and complete. I hereby authorize the health care professional to release this completed form to the Office of the Chief Medical Officer (CMO) and to discuss the information contained in this report. I also authorize the health care professional to release any relevant medical information related to testing such as laboratory tests, ECG, etc., as well as medical reports from specialists. I understand that this information will be reviewed for the purpose of making a fitness for duty determination. This consent is valid for six months from the date of signature.

Consentement de la personne à la divulgation de renseignements médicaux au bureau du médecin-chef

Je, soussigné(e), reconnais que j'occupe (ou applique pour) un poste considéré comme essentiel pour la sécurité, et que je vais rapporter toute condition médicale qui pourrait constituer une menace à la sécurité des opérations ferroviaires. Je déclare que les renseignements que j'ai fournis et que je fournirai au professionnel de la santé complétant ce rapport sont véridiques et complets. J'autorise, par la présente, le professionnel à faire parvenir au bureau du médecin-chef la copie originale du présent formulaire et à commenter les renseignements contenus dans ce rapport. J'autorise également le professionnel à transmettre tout renseignement médical pertinent lié à des tests tels que des examens de laboratoire, etc. et à des rapports médicaux de médecins spécialistes. Je comprends que ces renseignements seront révisés avec l'objectif d'évaluer mon aptitude au travail. Ce consentement est valide pour six mois à compter de la date de signature.

Signature of examinee - *Signature de la personne examinée*

Date

[6] This is a sample medical report for individuals with a cardiovascular disorder. It has been prepared to allow for a consistent and standardized approach. It can be modified at the discretion of the Railway's Chief Medical Officer.

Examinee name - *Nom de la personne examinée*

PIN - *Matricule*

Section 2 - Instructions to professional - *Renseignements à l'intention du professionnel*

Employees working in Safety Critical Positions operate or control the movement of trains. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property or the environment. Special attention should be devoted to medical conditions that may result in sudden mental or physical impairment or any condition that may potentially interfere with an employee's ability to perform their duties in a safe manner. In the case of chronic conditions, be aware that impairment may occur gradually. In order to make an individualized assessment of your patient's fitness for duty, we require some information from you. Please complete Sections 3, 4 and 5 of this form. Under the Federal Railway Safety Act, physicians have an obligation to notify the Office of the Chief Medical Officer if an individual occupying a Safety Critical Position has a medical condition that, in their opinion, is likely to pose a threat to safe railway operations. **Please write legibly.**

Les employé(e)s occupant un poste essentiel à la sécurité ferroviaire dirigent ou contrôlent le mouvement des trains. Toute perturbation au niveau du rendement attribuable à un trouble d'ordre médical peut menacer la santé et la sécurité des employés et de la population, et causer des dommages aux biens et à l'environnement. Une attention particulière devrait être dévolue aux conditions médicales pouvant donner lieu à une incapacité soudaine d'ordre mental ou physique, ou à toute condition qui pourrait interférer avec la capacité de l'employé(e) à effectuer ses tâches de façon sécuritaire. Dans le cas de conditions chroniques, soyez conscient que l'incapacité peut survenir de façon graduelle. Veuillez compléter les sections 3, 4 et 5. En vertu de la Loi fédérale sur la sécurité ferroviaire, les médecins ont l'obligation d'aviser le médecin-chef si un individu occupant un poste essentiel à la sécurité présente une condition médicale qui, selon leur opinion, est susceptible de constituer une menace pour la sécurité des opérations. ***Veuillez écrire de façon lisible.***

FOR ASSISTANCE REGARDING ANY COMPONENT OF THIS REPORT, CALL:
POUR OBTENIR DE L'AIDE CONCERNANT LE PRÉSENT RAPPORT, TÉLÉPHONEZ AU

The complete Canadian Railway Medical Rules Handbook can be found online at:
La version intégrale du Manuel du règlement médical des chemins de fer est accessible en ligne:
https://www.railcan.ca/regulatory-affairs/railway-rules-standards/

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional - *À être complété par le professionnel*

GENERAL INFORMATION - INFORMATIONS GÉNÉRALES

Is the individual a regular patient? *Suivez-vous cette personne de façon régulière?* Yes *Oui* ☐ No *Non* ☐

MEDICAL HISTORY - HISTOIRE DE LA MALADIE

Diagnosis(es): ***Diagnostic(s):***

- ☐ Hypertension - *Hypertension artérielle*
- ☐ Stable angina - *Angine stable*
- ☐ Unstable angina - *Angine instable*
- ☐ NSTEMI
- ☐ STEMI
- ☐ Valvular disease - *Maladie valvulaire*
- ☐ Dysrhythmia - *Dysrythmie*
- ☐ Stroke/TIA - *AVC/ICT*
- ☐ Pulmonary emboli - *Embolie pulmonaire*
- ☐ DVT - *TVP*
- ☐ Aortic aneurysm - *Anévrisme de l'aorte*
- ☐ Other (specify) - *Autre (spécifier)*

Please provide **details** (date of onset, dates of hospitalization, ER visits) - *Veuillez fournir des détails (date d'apparition des symptômes, dates d'hospitalisation, visites à l'urgence):*

Current signs & symptoms - *Signes et symptômes* ***actuels***: _____

CURRENT TREATMENT - TRAITEMENT ACTUEL

Medication(s) ***Médication(s)***	**Start date** ***Date de début***	**Current dose** ***Dose actuelle***

Other treatments - *Autres traitements*: _____

• Is the individual compliant with treatment recommendations? *La personne respecte-t-elle le traitement prescrit?* Yes *Oui* ☐ No *Non* ☐

If no, please provide details - *Si non, veuillez préciser*: _____

• Is the individual free from treatment side effects? *La personne est-elle exempte d'effets secondaires associés au traitement?* Yes *Oui* ☐ No *Non* ☐

If no, please provide details - *Si non, veuillez préciser*: _____

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional (cont'd) - *À être complété par le professionnel (suite)*

CURRENT TREATMENT (CONTINUED) - TRAITEMENT ACTUEL (SUITE)

• Is the individual being followed by a specialist? Yes ☐ No ☐
La personne est-elle suivie par un spécialiste? *Oui* *Non*
If yes, please provide details - *Si oui, veuillez préciser:* _____

What is the treatment plan going forward? - *Quel est le plan de traitement pour la suite?* _____

Follow-up appointment date - *Date du prochain suivi*: _____

GLOBAL CARDIOVASCULAR RISK ASSESSMENT - ÉVALUATION DU RISQUE CARDIOVASCULAIRE GLOBAL

	YES/*OUI*	**NO/*NON***
• Family history of coronary artery disease - *Histoire familiale de maladie coronarienne athérosclérotique*	☐	☐
Specify - *Spécifier:* _____		
• Smoking - *Tabagisme*	☐	☐
Cessation date - *Date d'arrêt:* _____		
• Diabetes - *Diabète*	☐	☐
• Hypertension - *Hypertension artérielle*	☐	☐
• Is the individual physically active? - *La personne est-elle active physiquement?*	☐	☐

Date of last lipid profile - *Date du dernier bilan lipidique:* _____

Total cholesterol - *Cholestérol total:* _____
LDL cholesterol - *Cholestérol LDL:* _____
HDL cholesterol - *Cholestérol HDL:* _____
Triglycerides - *Triglycérides:* _____
Total chol/HDL - *Chol total/HDL:* _____

Objective exam - *Examen objectif:*

Weight - *Poids:* _____ BMI - *IMC:* _____
Height - *Taille:* _____ Waist - *Tour de taille:* _____

• Are the individual's modifiable risk factors for coronary artery disease under control? Yes ☐ No ☐
Les facteurs de risques cardiovasculaires modifiables sont-ils sous contrôle? *Oui* *Non*
If no, please provide details - *Si non, veuillez préciser:* _____

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional (cont'd) - *À être complété par le professionnel (suite)*

MEDICAL REPORTS - RAPPORTS MÉDICAUX

Please attach reports of the following tests or procedures completed over the past 12 months - *Veuillez joindre les rapports des procédures ou examens suivants complétés au cours des 12 derniers mois:*

- ☐ Resting ECG - *ECG au repos*
- ☐ **Maximal effort** exercise stress test (Bruce protocol if possible) - *Épreuve d'**effort maximal** (protocole Bruce si possible)*
  Duke score - *Score de **Duke***: _____
  (https://qxmd.com/calculate/calculator_68/duke-treadmill-score)
- ☐ Pharmacological stress test - *Épreuve d'effort pharmacologique*
- ☐ Echocardiogram - *Échographie cardiaque*
- ☐ Angiography - *Angiographie*
- ☐ Holter monitor study - *Moniteur Holter*
- ☐ Cardiac MRI - *IRM cardiaque*
- ☐ Chest x-ray - *Radiographie pulmonaire*
- ☐ Surgical procedure report - *Protocole opératoire*
- ☐ Other - *Autre:* _____

Please attach specialists' consultation reports/clinic notes for the past 12 months - *Veuillez joindre les rapports de consultation/notes cliniques de spécialistes des 12 derniers mois.* Yes *Oui* ☐ No *Non* ☐

Section 4 - Fitness for duty - *Aptitude au travail*

IMPORTANT : Canadian Railway employees who work in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property or the environment. **Your opinion on this individual's fitness to work in a Safety Critical Position would be appreciated.**

IMPORTANT : Les employé(e)s occupant un poste essentiel à la sécurité ferroviaire dirigent ou contrôlent le mouvement des trains. Toute perturbation au niveau du rendement attribuable à un trouble d'ordre médical peut menacer la santé et la sécurité des employés et de la population, et causer des dommages aux biens et à l'environnement. ***Votre opinion par rapport à l'aptitude de la personne à occuper un poste essentiel à la sécurité ferroviaire serait appréciée.***

In your professional opinion, is the examined individual medically fit for duty in a Safety Critical Position? - *Selon votre opinion professionnelle, la personne examinée est-elle apte à occuper un poste essentiel à la sécurité ferroviaire?*

Yes - *Oui* ☐ No - *Non* ☐

Restrictions/comments - *Restrictions/commentaires*: _____

Do you wish to discuss your patient's condition with the Office of the Chief Medical Officer? *Souhaiteriez-vous discuter de ce cas avec le bureau du médecin-chef?* Yes *Oui* ☐ No *Non* ☐

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 5 - Professional's statement and information - *Déclaration du professionnel et renseignements*

This report will be used to make an assessment on this employee's fitness for duty and constitutes a third party service. In completing this report, please be thorough and write legibly. If you have any questions regarding any components of this report, call the toll-free number listed at the bottom of the first page.

Ce rapport servira à évaluer l'aptitude au travail de cette personne, et constitue un service fourni par une tierce partie. Lorsque vous remplirez ce formulaire, veuillez vous assurer de bien remplir toutes les rubriques et d'écrire lisiblement. Pour toutes questions concernant le contenu de ce formulaire, veuillez nous contacter au numéro sans frais mentionné au bas de la première page.

I certify that the information documented in this report is, to the best of my knowledge, correct.
J'atteste que les renseignements contenus dans ce rapport sont, en autant que je sache, exacts.

Date of examination - *Date de l'examen*: _____

Name of professional - *Nom du professionnel*: _____
Please print - *En lettres moulées*

Address and telephone number - *Adresse et numéro de téléphone*:

_____
_____
_____
_____

☐ Family physician - *Médecin de famille*
☐ Specialist - *Spécialiste*
Specify - *Spécifier*: _____

Signature: _____ **Date (Y-*A*/M/D-*J*):** _____

Section 11 – Cerebrovascular Disorders

MEDICAL FITNESS FOR DUTY GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS WITH CEREBROVASCULAR DISORDERS IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment.

These medical fitness for duty guidelines provide an overview of select cerebrovascular disorders. If an individual has a cerebrovascular disorder not covered by these guidelines, their medical fitness for duty will be determined by the Railway's Chief Medical Officer and guided, in part, by the considerations listed in section 2.

In accordance with the Railway Association of Canada Cardiovascular Disorders Guidelines, these guidelines also implement a medical risk threshold of 2% per year for sudden incapacitating events due to a cerebrovascular disorder.

2 Medical Fitness for Duty Considerations

Cerebrovascular disorders can cause gradual functional impairment, sudden incapacitation or, in some cases, sudden and unexpected death. They can also lead to acute and chronic neurological impairment, including cognitive, motor, dexterity, language, and visuospatial impairment. The following should be taken into consideration when assessing the medical fitness for duty of an individual occupying a Safety Critical Position:

- Length, course, and severity of the cerebrovascular disorder(s)
- Presence of any other cerebrovascular or non-cerebrovascular disorder
- Modifiable and non-modifiable cardiovascular disease risk factors
- Results of relevant tests
- Presence of any acute or chronic neurological sequelae
- Potential for gradual functional impairment, sudden incapacitation, or sudden and unexpected death
- Degree of impairment of alertness, attention, cognitive function, concentration, insight, judgement, and memory related to the cerebrovascular disorder or to medication(s) used to treat the cerebrovascular disorder
- Compliance with treatment recommendations and medical follow-up
- Likelihood of recurrence of a cerebrovascular event
- Likelihood of occurrence of a related neurological disorder (e.g., post-event seizures, post-event stroke)
- Occupational requirements of the individual's Safety Critical Position
- Opinion of the treating physician(s) and any other physician(s) or healthcare professional(s) consulted

3 General Medical Fitness for Duty Guidelines

3.1 Assessment and Reporting

The medical fitness for duty assessment should include a thorough history, a review of modifiable and non-modifiable cardiovascular disease risk factors (see below), a physical examination, and a review of relevant tests and diagnostic imaging results, as well as an evaluation of compliance with recommended treatment.

A written report should be submitted to the Railway's Chief Medical Officer. It should contain:

- Diagnosis(es)
- Relevant test results
- Recommended treatment
- Relevant consultation letters
- Functional limitations and/or work restrictions
- An opinion on the individual's medical fitness for duty in a Safety Critical Position

The report should be completed by a medical specialist, although a report completed by a primary care physician could be acceptable at the discretion of the Railway's Chief Medical Officer.

3.2 Multiple Medical Conditions

When multiple medical conditions are present, including multiple cerebrovascular disorders, the medical fitness for duty of an individual in a Safety Critical Position should take into consideration the cumulative risk associated with all their medical conditions.

3.3 Cardiovascular Disease Risk Factors

The risks associated with cardiovascular and cerebrovascular disease increase as the number of cardiovascular disease risk factors increase. In general, for individuals working in a Safety Critical Position, modifiable cardiovascular disease risk factors should be well controlled, even in the absence of overt cerebrovascular disease. If the modifiable cardiovascular disease risk factors are not well controlled, or if the modifiable and non-modifiable cardiovascular disease risk factor profile is determined to be of concern to the Railway's Chief Medical Officer, a cardiovascular disease medical fitness for duty assessment should be completed. National guidelines have been published for most modifiable cardiovascular disease risk factors and should serve as a reference.

Non-Exhaustive List of Cardiovascular Disease Risk Factors

Modifiable Risk Factors	• Diabetes or pre-diabetes • Dyslipidemia • Elevated body mass index (BMI) • Hypertension • Obstructive sleep apnea • Physical inactivity • Smoking

Non-Modifiable Risk Factors	• Age • Ethnicity • Heredity

4 Specific Medical Fitness for Duty Requirements and Follow-Up

In addition to the medical fitness for duty considerations in section 2 and the general medical fitness for duty requirements in section 3, individuals with a cerebrovascular disorder may be considered medically fit for duty in a Safety Critical Position if they meet the specific requirements listed in the following subsections.

The requirements for more frequent medical fitness for duty assessments, additional medical reports, or additional tests will be at the discretion of the Railway's Chief Medical Officer.

4.1 Transient Ischemic Attack and Stroke

Transient ischemic attack (TIA): Focal neurological deficit lasting less than 24 hours, without an apparent non-vascular cause and without any ischemic lesions on neuroimaging. Transient ischemic attacks are most often caused by a small clot that briefly blocks an artery that supplies blood to the brain. They are often called a mini-stroke or a warning stroke, warning that a stroke may subsequently occur.

Stroke or cerebrovascular accident (CVA): New onset of focal neurological deficit lasting at least 24 hours, due to rupture or obstruction of a blood vessel supplying blood to the brain, and without an apparent non-vascular cause. An ischemic stroke is caused by a blockage or clot in an artery supplying blood to the brain. A hemorrhagic stroke occurs when an artery supplying blood to the brain leaks or ruptures.

Medical Fitness for Duty Requirements

TIA	• Any underlying cause and all risk factors have been addressed and adequately managed • Any comorbid neurological or cardiovascular disorder has been identified and adequately managed • A minimum of 3 years has elapsed since the TIA[1]
Stroke	• Medically unfit for duty[2]

[1] Individuals with a patent foramen ovale-associated TIA may be considered medically fit for duty at the discretion of the Railway's Chief Medical Officer, provided a minimum of 1 year has elapsed since the TIA.
[2] Individuals with a patent foramen ovale-associated stroke may be considered medically fit for duty at the discretion of the Railway's Chief Medical Officer.

Medical Fitness for Duty Monitoring and Follow-Up

Transient ischemic attack: Medical fitness for duty should be reassessed yearly, and include any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. If the TIA resulted from a patent foramen ovale that has been successfully repaired, the medical fitness for duty can be reassessed as part of the periodic medical assessment program.

Stroke: Individuals with a history of stroke are not considered medically fit for duty in a Safety Critical Position.[2,3]

4.2 Cerebral Aneurysm

Cerebral aneurysm: Area of enlargement of a cerebral artery due to localized weakness of the artery wall. A cerebral aneurysm can leak or rupture or, depending on its size, cause symptoms due to compression to adjacent nerves or brain tissue. They can also be asymptomatic and are often found incidentally during brain imaging for unrelated neurological disorders. Rupture or leakage of a cerebral aneurysm can lead to a hemorrhagic stroke, brain damage, or in extreme cases, death.

Treatment options include endovascular surgery with placement of a coil within the aneurysm or a mesh stent (flow diverter), as well as open craniotomy with aneurysm clipping.

Medical Fitness for Duty Requirements

Treated	• Coil or stent: at least 3 months have elapsed since successful treatment • Clip: at least 12 months have elapsed since successful treatment
Untreated	• Diameter < 10 mm

Medical Fitness for Duty Monitoring and Follow-Up

Treated with coil or stent: Medical fitness for duty should be reassessed yearly for at least 2 years, and include any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. In the absence of complications, medical fitness for duty should then be reassessed as part of the periodic medical assessment program.

Treated with clip: Medical fitness for duty should be reassessed yearly, and include any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

[3] The medical fitness for duty of an asymptomatic individual with an incidental finding of a single lacunar infarct and with modifiable cardiovascular disease risk factors that are well controlled will be at the discretion of the Railway's Chief Medical Officer.

Untreated aneurysm with diameter < 10 mm: Medical fitness for duty should be reassessed yearly for at least 2 years and include neurovascular imaging and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. In the absence of complications, medical fitness for duty should then be reassessed based on the monitoring plan as per the treating specialist.

Untreated aneurysm with diameter ≥ 10 mm: Due to the risk of sudden incapacitating event, these individuals are not considered medically fit for duty in a Safety Critical Position.

APPENDIX I – Medical Report Form[4]

Medical Report - Cerebrovascular Disorders (Safety Critical Position)

Rapport médical - Troubles cérébrovasculaires (Poste essentiel à la sécurité)

Section 1 - Employee information and consent - *Renseignements sur la personne examinée et consentement*

Name - *Nom*	Date of birth - *Date de naissance*	PIN - *Matricule*

Email - *Courriel*	Phone (home) - *Téléphone (domicile)*

Job title - *Titre du poste*	Immediate supervisor - *Superviseur immédiat*	Phone (work) - *Téléphone (travail)*

Examinee's consent for the release of medical information to the office of the Chief Medical Officer

I, the undersigned, acknowledge that I occupy (or may occupy) a Safety Critical Position and I will report any medical condition that may constitute a threat to safe railway operations. I declare that the information that I have provided or will be providing to the health care professional completing this report is truthful and complete. I hereby authorize the health care professional to release this completed form to the Office of the Chief Medical Officer (CMO) and to discuss the information contained in this report. I also authorize the health care professional to release any relevant medical information related to testing such as laboratory tests, ECG, etc., as well as medical reports from specialists. I understand that this information will be reviewed for the purpose of making a fitness for duty determination. This consent is valid for six months from the date of signature.

Consentement de la personne à la divulgation de renseignements médicaux au bureau du médecin-chef

Je, soussigné(e), reconnais que j'occupe (ou applique pour) un poste considéré comme essentiel pour la sécurité, et que je vais rapporter toute condition médicale qui pourrait constituer une menace à la sécurité des opérations ferroviaires. Je déclare que les renseignements que j'ai fournis et que je fournirai au professionnel de la santé complétant ce rapport sont véridiques et complets. J'autorise, par la présente, le professionnel à faire parvenir au bureau du médecin-chef la copie originale du présent formulaire et à commenter les renseignements contenus dans ce rapport. J'autorise également le professionnel à transmettre tout renseignement médical pertinent lié à des tests tels que des examens de laboratoire, etc. et à des rapports médicaux de médecins spécialistes. Je comprends que ces renseignements seront révisés avec l'objectif d'évaluer mon aptitude au travail. Ce consentement est valide pour six mois à compter de la date de signature.

Signature of examinee - *Signature de la personne examinée*

Date

[4] This is a sample medical report for individuals with a cerebrovascular disorder. It has been prepared to allow for a consistent and standardized approach. It can be modified at the discretion of the Railway's Chief Medical Officer.

Examinee name - *Nom de la personne examinée*

PIN - *Matricule*

Section 2 - Instructions to professional - *Renseignements à l'intention du professionnel*

Employees working in Safety Critical Positions operate or control the movement of trains. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property or the environment. Special attention should be devoted to medical conditions that may result in sudden mental or physical impairment or any condition that may potentially interfere with an employee's ability to perform their duties in a safe manner. In the case of chronic conditions, be aware that impairment may occur gradually. In order to make an individualized assessment of your patient's fitness for duty, we require some information from you. Please complete Sections 3, 4 and 5 of this form. Under the Federal Railway Safety Act, physicians have an obligation to notify the Office of the Chief Medical Officer if an individual occupying a Safety Critical Position has a medical condition that, in their opinion, is likely to pose a threat to safe railway operations. **Please write legibly.**

Les employé(e)s occupant un poste essentiel à la sécurité ferroviaire dirigent ou contrôlent le mouvement des trains. Toute perturbation au niveau du rendement attribuable à un trouble d'ordre médical peut menacer la santé et la sécurité des employés et de la population, et causer des dommages aux biens et à l'environnement. Une attention particulière devrait être dévolue aux conditions médicales pouvant donner lieu à une incapacité soudaine d'ordre mental ou physique, ou à toute condition qui pourrait interférer avec la capacité de l'employé(e) à effectuer ses tâches de façon sécuritaire. Dans le cas de conditions chroniques, soyez conscient que l'incapacité peut survenir de façon graduelle. Veuillez compléter les sections 3, 4 et 5. En vertu de la Loi fédérale sur la sécurité ferroviaire, les médecins ont l'obligation d'aviser le médecin-chef si un individu occupant un poste essentiel à la sécurité présente une condition médicale qui, selon leur opinion, est susceptible de constituer une menace pour la sécurité des opérations. ***Veuillez écrire de façon lisible.***

FOR ASSISTANCE REGARDING ANY COMPONENT OF THIS REPORT, CALL
POUR OBTENIR DE L'AIDE CONCERNANT LE PRÉSENT RAPPORT, TÉLÉPHONEZ AU

The complete Canadian Railway Medical Rules Handbook can be found online at:
La version intégrale du Manuel du règlement médical des chemins de fer est accessible en ligne:
https://www.railcan.ca/regulatory-affairs/railway-rules-standards/

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional - *À être complété par le professionnel*

GENERAL INFORMATION - INFORMATIONS GÉNÉRALES

Is the individual a regular patient? *Suivez-vous cette personne de façon régulière?* Yes *Oui* ☐ No *Non* ☐

MEDICAL HISTORY - HISTOIRE DE LA MALADIE

Diagnosis(es):
Diagnostic(s): _____

Please provide **details** (date of onset, dates of hospitalization, ER visits) - *Veuillez fournir des détails (date d'apparition des symptômes, dates d'hospitalisation, visites à l'urgence):*

Current signs & symptoms - *Signes et symptômes* ***actuels***: _____

CURRENT TREATMENT - TRAITEMENT ACTUEL

Medication(s) ***Médication(s)***	**Start date** ***Date de début***	**Current dose** ***Dose actuelle***

Other treatments - *Autres traitements*: _____

- Is the individual compliant with treatment recommendations? *La personne respecte-t-elle le traitement prescrit?* Yes *Oui* ☐ No *Non* ☐
  If no, please provide details - *Si non, veuillez préciser*: _____

- Is the individual free from treatment side effects? *La personne est-elle exempte d'effets secondaires associés au traitement?* Yes *Oui* ☐ No *Non* ☐
  If no, please provide details - *Si non, veuillez préciser*: _____

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional (cont'd) - *À être complété par le professionnel (suite)*

CURRENT TREATMENT (CONTINUED) - TRAITEMENT ACTUEL (SUITE)

• Is the individual being followed by a specialist? Yes ☐ No ☐
La personne est-elle suivie par un spécialiste? *Oui* *Non*
If yes, please provide details - *Si oui, veuillez préciser:* _____

What is the treatment plan going forward? - *Quel est le plan de traitement pour la suite?* _____

Follow-up appointment date - *Date du prochain suivi*: _____

GLOBAL CARDIOVASCULAR RISK ASSESSMENT - ÉVALUATION DU RISQUE CARDIOVASCULAIRE GLOBAL

	YES/*OUI*	**NO/*NON***
• Family history of coronary artery disease - *Histoire familiale de maladie coronarienne athérosclérotique*	☐	☐
Specify - *Spécifier:* _____		
• Smoking - *Tabagisme*	☐	☐
Cessation date - *Date d'arrêt:* _____		
• Diabetes - *Diabète*	☐	☐
• Hypertension - *Hypertension artérielle*	☐	☐
• Is the individual physically active? - *La personne est-elle active physiquement?*	☐	☐

Date of last lipid profile - *Date du dernier bilan lipidique:* _____

Total cholesterol - *Cholestérol total:* _____
LDL cholesterol - *Cholestérol LDL:* _____
HDL cholesterol - *Cholestérol HDL:* _____
Triglycerides - *Triglycérides:* _____
Total chol/HDL - *Chol total/HDL:* _____

Objective exam - *Examen objectif:*

Weight - *Poids:* _____ BMI - *IMC:* _____
Height - *Taille:* _____ Waist - *Tour de taille:* _____

• Are the individual's modifiable risk factors for cardiovascular disease under control? Yes ☐ No ☐
Les facteurs de risques cardiovasculaires modifiables sont-ils sous contrôle? *Oui* *Non*
If no, please provide details - *Si non, veuillez préciser:* _____

MEDICAL REPORTS - RAPPORTS MÉDICAUX

If applicable, please attach reports of - *S'il y a lieu, veuiller joindre les rapports suivants*:

• Diagnostic imaging - *Résultats d'imagerie*	Yes/*Oui* ☐	No/*Non* ☐
• Laboratory tests - *Examens de laboratoire*	Yes/*Oui* ☐	No/*Non* ☐
• Specialist consultation(s) - *Consultation(s) en spécialité*	Yes/*Oui* ☐	No/*Non* ☐
• Surgical procedure(s) - *Intervention(s) chirurgicale(s)*	Yes/*Oui* ☐	No/*Non* ☐

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 4 - Fitness for duty - *Aptitude au travail*

IMPORTANT : Canadian Railway employees who work in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property or the environment. **Your opinion on this individual's fitness to work in a Safety Critical Position would be appreciated.**

IMPORTANT : Les employé(e)s occupant un poste essentiel à la sécurité ferroviaire dirigent ou contrôlent le mouvement des trains. Toute perturbation au niveau du rendement attribuable à un trouble d'ordre médical peut menacer la santé et la sécurité des employés et de la population, et causer des dommages aux biens et à l'environnement. ***Votre opinion par rapport à l'aptitude de la personne à occuper un poste essentiel à la sécurité ferroviaire serait appréciée.***

In your professional opinion, is the examined individual medically fit for duty in a Safety Critical Position? - *Selon votre opinion professionnelle, la personne examinée est-elle apte à occuper un poste essentiel à la sécurité ferroviaire?*

Yes - *Oui* ☐ No - *Non* ☐

Restrictions/comments - *Restrictions/commentaires* : _____

Do you wish to discuss your patient's condition with the Office of the Chief Medical Officer? *Souhaiteriez-vous discuter de ce cas avec le bureau du médecin-chef?* Yes *Oui* ☐ No *Non* ☐

Section 5 - Professional's statement and information - *Déclaration du professionnel et renseignements*

This report will be used to make an assessment on this employee's fitness for duty and constitutes a third party service. In completing this report, please be thorough and write legibly. If you have any questions regarding any components of this report, call the toll-free number listed at the bottom of the first page.

Ce rapport servira à évaluer l'aptitude au travail de cette personne, et constitue un service fourni par une tierce partie. Lorsque vous remplirez ce formulaire, veuillez vous assurer de bien remplir toutes les rubriques et d'écrire lisiblement. Pour toutes questions concernant le contenu de ce formulaire, veuillez nous contacter au numéro sans frais mentionné au bas de la première page.

I certify that the information documented in this report is, to the best of my knowledge, correct.
J'atteste que les renseignements contenus dans ce rapport sont, en autant que je sache, exacts.

Date of examination - *Date de l'examen* : _____

Name of professional - *Nom du professionnel* : _____
Please print - *En lettres moulées*

Address and telephone number - *Adresse et numéro de téléphone* :

_____
_____
_____
_____

☐ Family physician - *Médecin de famille*
☐ Specialist - *Spécialiste*
Specify - *Spécifier* : _____
☐ Other - *Autre*
Specify - *Spécifier* : _____

Fax number - *Télécopieur* : _____

Signature: _____ **Date (Y-*A*/M/D-*J*):** _____

Section 12 – Diabetes

MEDICAL FITNESS FOR DUTY GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS WITH DIABETES IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment.

These medical fitness for duty guidelines provide an overview of diabetes mellitus (diabetes), medications used to treat diabetes, and diabetes-related complications. The Diabetes Canada Clinical Practice Guidelines served as a reference for the development of these guidelines.

If an individual has a medical condition related to diabetes that is not covered by these guidelines, medical fitness for duty will be determined by the Railway's Chief Medical Officer and guided, in part, by the considerations listed in section 2.

2 Medical Fitness for Duty Considerations

Diabetes, medications used to treat diabetes, and diabetes-related complications can cause gradual functional impairment or sudden incapacitation. The following should be taken into consideration when assessing the medical fitness for duty of an individual occupying a Safety Critical Position:

- Type, duration, course, and severity of the diabetes
- Presence of diabetes-related complications
- Results of relevant tests
- Stability of the individual's diabetes
- Potential for gradual functional impairment or sudden incapacitation
- Degree of impairment of alertness, attention, cognitive function, concentration, insight, judgement, and memory due to the diabetes or to medications used to treat the diabetes
- Compliance with treatment recommendations and medical monitoring
- Presence of any medical comorbidities
- Occupational requirements of the individual's Safety Critical Position
- Opinion of the treating physician(s) and any other physician(s) or healthcare professional(s) consulted

3 General Medical Fitness for Duty Guidelines

3.1 Assessment and Reporting

The medical fitness for duty assessment should include a thorough history, a physical examination, a review of relevant tests results, as well as an evaluation of compliance with recommended treatment.

A written report should be submitted to the Railway's Chief Medical Officer. It should contain:

- Diagnosis(es)
- Relevant test results

- Recommended treatment
- Relevant consultation letters
- Functional limitations and/or work restrictions
- An opinion on the individual's medical fitness for duty in a Safety Critical Position

The report should be completed by a primary care physician or a medical specialist. It is however acknowledged that access to a treating physician may be limited in some regions. At the discretion of the Railway's Chief Medical Officer, an assessment by a treating nurse practitioner trained in diabetes care may be an acceptable alternative.

3.2 Responsibilities of the Individual and their Healthcare Professionals

Individuals with diabetes and their treating healthcare professionals are required to report immediately to the Railway's Chief Medical Officer:

- Any episode of hypoglycemia with cognitive impairment, as defined in section 4.1
- Initiation of treatment with an insulin secretagogue medication
- Initiation of insulin therapy
- Modification of treatment involving an insulin secretagogue medication, including changes to medication monotherapy, initiation of combination therapy or changes to combination therapy
- Modification of insulin therapy including changes to the number of insulin injections per day or any change in the type of insulin, as well as initiation of combination therapy or changes to combination therapy

3.3 Cardiovascular Disease Assessment

A cardiovascular disease medical fitness for duty assessment, including an assessment for ischemic heart disease, should be completed in individuals with diabetes with any of the following:

- Typical or atypical symptoms of myocardial ischemia (e.g., unexplained dyspnea, chest discomfort)
- Comorbid medical conditions:
  - Peripheral arterial disease
  - Carotid bruit or carotid stenosis
  - History of a previous transient ischemic attack, stroke, or other cerebrovascular event
  - Chronic kidney disease
- Reported abnormalities on a resting electrocardiogram that are indicative of myocardial ischemia or previous myocardial infarction
- Calcium score > 400 (if available)
- Modifiable cardiovascular disease risk factors that are not well controlled

Pharmacologic stress echocardiography or nuclear imaging should be used in individuals with diabetes in whom resting electrocardiogram abnormalities preclude the use of exercise stress testing (e.g., left bundle branch block, ST-T abnormalities).

3.4 Multiple Medical Conditions

When multiple medical conditions are present, including diabetes-related complications, the medical fitness for duty of an individual occupying a Safety Critical Position should take into consideration the cumulative risk associated with all their medical conditions.

4 Specific Medical Fitness for Duty Requirements and Follow-Up

In addition to the medical fitness for duty considerations in section 2 and the general medical fitness for duty guidelines in section 3, individuals with diabetes may be considered medically fit for duty in a Safety Critical Position if they meet the specific requirements listed in the following subsections.

The requirements for more frequent medical fitness for duty assessments, additional medical reports, or additional tests will be at the discretion of the Railway's Chief Medical Officer.

The medical fitness for duty requirements in the following sections refer to commonly used diagnostic tests. The acceptance of alternate diagnostic tests will be at the discretion of the Railway's Chief Medical Officer.

4.1 Diabetes Mellitus (Diabetes)

Diabetes: Medical condition in which the body cannot produce adequate amounts of insulin or is resistant to the action of the insulin it produces. As a result, blood glucose levels are not well controlled. In type 1 diabetes, the body cannot produce insulin due to autoimmune damage to the beta cells of the pancreas. Type 1 diabetes generally develops in childhood or adolescence; however, it can occur at any age. Individuals with type 1 diabetes require insulin therapy. In type 2 diabetes, the body is resistant to the action of insulin or cannot produce adequate amounts of insulin. Type 2 diabetes can often be managed by a healthy diet, maintaining an appropriate body weight, and participating in regular exercise. If these measures are not sufficient, oral or parenteral medications may be required to control blood glucose levels. Glycated hemoglobin (hemoglobin A1c, HbA1c, or A1C) is an indirect measure of glycemic control and provides insight into the individual's average blood glucose levels over the previous three months.

Hyperglycemia (elevated blood glucose levels): Can cause acute and chronic diabetes-related complications. Acute hyperglycemia can cause visual disturbances, cardiovascular complications, diabetic ketoacidosis, a hyperosmolar hyperglycemic state, or diabetic coma. Chronic hyperglycemia can lead to cardiovascular disorders, cerebrovascular disorders, neurological disorders, vision disorders, and other diabetes related medical conditions (see section 4.2).

Diabetes treatment: Multi-faceted approach to control blood glucose levels that includes a healthy diet, maintaining an appropriate body weight, participating in regular exercise, and identifying and managing diabetes related medical conditions. Diabetes education programs offer individual counselling and/or group workshops that can support individuals living with diabetes and empower them to manage their medical condition. Treating physicians and healthcare professionals trained in diabetes care can also provide effective diabetes education, often within a multidisciplinary medical clinic or facility. Medications include oral and injectable non-insulin

medications, and injectable insulin. Appendix I lists examples of common medications for each medication class.

Hypoglycemia (low blood glucose levels): Can cause gradual functional impairment or sudden incapacitation. Individuals that manage their diabetes only with lifestyle modification and/or non-insulin secretagogue medications are at a lower risk of developing hypoglycemia than individuals that require the use of insulin secretagogue medications. Individuals on insulin are at the greatest risk of developing hypoglycemia. Hypoglycemia with cognitive impairment refers to hypoglycemia episodes associated with neuroglycopenic symptoms (e.g., difficulty concentrating, confusion, weakness, drowsiness, vision changes, difficulty speaking, headache, dizziness) or requiring the assistance from another person. With hypoglycemia unawareness, the individual is unaware that their blood glucose level is low as they do not experience the characteristic neurogenic (autonomic) symptoms of hypoglycemia (e.g., trembling, palpitations, sweating, anxiety, hunger, nausea, tingling) that serve to warn that the blood glucose is low.

Medical Fitness for Duty Requirements

For the purposes of these guidelines, the medical fitness for duty requirements are organized into three categories based on the risk of induced hypoglycemia associated with the treatment.

Lifestyle changes only and non-insulin secretagogues • Alpha-glucosidase inhibitors • Biguanides • DPP-4 inhibitors • Thiazolidinediones • GLP-1 receptor agonists • SGLT2 inhibitors	• Completion of diabetes education • Recent A1C level (within the previous 3 months) ≤ 12% • Absence of hypoglycemia unawareness • All episodes of hypoglycemia with cognitive impairment have been investigated by the treating healthcare professional and appropriate measures have been taken to minimize recurrence • Any abnormalities on a resting electrocardiogram have been assessed and the individual is medically fit for duty in accordance with the applicable medical fitness for duty guidelines • Diabetes-related complications have been assessed and the individual is medically fit for duty in accordance with the applicable medical fitness for duty guidelines
Insulin secretagogues • Sulfonylureas • Meglitinides	• Completion of diabetes education • Recent A1C level (within the previous 3 months) ≤ 12% • Absence of hypoglycemia unawareness • All episodes of hypoglycemia with cognitive impairment have been investigated by the treating healthcare professional and appropriate measures have been taken to minimize recurrence • Compliance with blood glucose monitoring as recommended by their treating healthcare professional

	• Always have a glucometer and a source of fast-acting carbohydrates available while on duty or subject to duty • Medication regimen has not changed for a minimum period of one week including any changes to medication monotherapy, initiation of combination therapy, or changes to combination therapy • Any abnormalities on a resting electrocardiogram have been assessed and the individual is medically fit for duty in accordance with the applicable medical fitness for duty guidelines • Diabetes-related complications have been assessed and the individual is medically fit for duty in accordance with the applicable medical fitness for duty guidelines
Insulin and insulin analogs • Insulin injections • Insulin pump therapy[1]	• Completion of diabetes education • Recent A1C level (within the previous 3 months) ≤ 12% • Absence of hypoglycemia unawareness • All episodes of hypoglycemia with cognitive impairment have been investigated by the treating healthcare professional and appropriate measures have been taken to minimize recurrence • Compliance with blood glucose monitoring as recommended by their treating healthcare professional • Always have glucometer and a source of fast-acting carbohydrates available while on duty or subject to duty • Medication regimen has not changed for a minimum period of one month including any changes to the type of insulin or to the number of insulin injections • Any abnormalities on a resting electrocardiogram have been assessed and the individual is medically fit for duty in accordance with the applicable medical fitness for duty guidelines [2] • Diabetes-related complications have been assessed and the individual is medically fit for duty in accordance with the applicable medical fitness for duty guidelines

[1] Insulin pump therapy (continuous subcutaneous insulin infusion) with sensory augmentation via feedback from a continuous glucose monitoring device is a relatively new and evolving technology. The medical fitness for duty of individuals using this type of system is at the discretion of the Railway's Chief Medical Officer.

[2] For individuals with type 1 diabetes, a resting electrocardiogram is required at initial presentation and then yearly starting at age 30.

Medical Fitness for Duty Monitoring and Follow-Up

Lifestyle changes only and non-insulin secretagogue medications: Medical fitness for duty should be reassessed as part of the periodic medical assessment program and should include a recent A1C, a resting electrocardiogram, and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

Insulin secretagogue medications: Medical fitness for duty should be reassessed one year after initiation of an insulin secretagogue or modification of treatment involving insulin secretagogue medications and should include a recent A1C, a resting electrocardiogram, and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. Medical fitness for duty should then be reassessed as part of the periodic medical assessment program thereafter.

Insulin and insulin analogs: Medical fitness for duty should be reassessed yearly and should include a recent A1C, a resting electrocardiogram[2], and any other tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment.

4.2 Diabetes-Related Complications

Individuals with diabetes can develop a variety of complications related to their diabetes. The table below lists some of the most common diabetes-related complications.

Non exhaustive list of diabetes-related complications

Cardiovascular disorders	• Coronary artery disease • Peripheral artery disease
Cerebrovascular disorders	• Stroke • Transient ischemic attack
Kidney disease	• Diabetic nephropathy
Neurological disorders	• Peripheral neuropathy • Autonomic neuropathy
Vision disorders	• Diabetic retinopathy • Cataracts

The presence of any diabetes-related complication warrants a review of the individual's current symptoms, cardiovascular disease risk factors and management of their diabetes, as well as a medical fitness for duty assessment taking into consideration each diabetes-related complication. The medical fitness for duty of individuals with a diabetes-related medical complication will be at the discretion of the Railway's Chief Medical Officer.

APPENDIX I – Diabetes Medications

Non-insulin secretagogues	
Alpha-glucosidase inhibitors	• Acarbose
Biguanides	• Metformin, long-acting metformin
DPP-4 inhibitors[3]	• Linagliptin, saxagliptin, sitagliptin
GLP-1 receptor agonists[4]	• Exenatide, liraglutide, semaglutide
GIP/GLP-1 receptor agonist[5]	• Tirzepatide
SGLT2 inhibitors[6]	• Canagliflozin, dapagliflozin, empagliflozin
Combination agents	• Linagliptin/metformin, saxagliptin/metformin, sitagliptin/metformin
Insulin secretagogues	
Meglitinides	• Nateglinide, repaglinide
Sulfonylureas	• Gliclazide, glimepiride, glyburide
Insulin & insulin analogs	
Rapid acting insulin analogs	• Insulin aspart, insulin glulisine, insulin lispro, faster acting insulin aspart
Short acting insulins	• Insulin regular
Intermediate acting insulins	• Insulin neutral protamine Hagedorn
Long-acting insulins	• Insulin detemir, insulin glargine, insulin degludec
Premixed regular insulins-NPH	• Humulin® 30/70 • Novolin® 30/70, 40/60, 50/50
Premixed insulin analogs	• Biphasic insulin aspart, insulin lispro/lispro protamine

[3] Inhibitors of dipeptidyl peptidase 4
[4] Glucagon-like peptide-1 receptor agonists
[5] Glucose-dependent insulinotropic polypeptide/Glucagon-like peptide-1 receptor agonist
[6] Sodium-glucose cotransporter-2 inhibitors

APPENDIX II – Medical Report[1]

Medical Report - Diabetes (Safety Critical Position)

Rapport médical - Diabète (Poste essentiel à la sécurité)

Section 1 - Employee information and consent - *Renseignements sur la personne examinée et consentement*

Name - *Nom*	Date of birth - *Date de naissance*	PIN - *Matricule*

Email - *Courriel*	Phone (home) - *Téléphone (domicile)*

Job title - *Titre du poste*	Immediate supervisor - *Superviseur immédiat*	Phone (work) - *Téléphone (travail)*

Examinee's consent for the release of medical information to the office of the Chief Medical Officer

I, the undersigned, acknowledge that I occupy (or may occupy) a Safety Critical Position and I will report any medical condition that may constitute a threat to safe railway operations. I declare that the information that I have provided or will be providing to the health care professional completing this report is truthful and complete. I hereby authorize the health care professional to release this completed form to the Office of the Chief Medical Officer (CMO) and to discuss the information contained in this report. I also authorize the health care professional to release any relevant medical information related to testing such as laboratory tests, ECG, etc., as well as medical reports from specialists. I understand that this information will be reviewed for the purpose of making a fitness for duty determination. This consent is valid for six months from the date of signature.

Consentement de la personne à la divulgation de renseignements médicaux au bureau du médecin-chef

Je, soussigné(e), reconnais que j'occupe (ou applique pour) un poste considéré comme essentiel pour la sécurité, et que je vais rapporter toute condition médicale qui pourrait constituer une menace à la sécurité des opérations ferroviaires. Je déclare que les renseignements que j'ai fournis et que je fournirai au professionnel de la santé complétant ce rapport sont véridiques et complets. J'autorise, par la présente, le professionnel à faire parvenir au bureau du médecin-chef la copie originale du présent formulaire et à commenter les renseignements contenus dans ce rapport. J'autorise également le professionnel à transmettre tout renseignement médical pertinent lié à des tests tels que des examens de laboratoire, etc. et à des rapports médicaux de médecins spécialistes. Je comprends que ces renseignements seront révisés avec l'objectif d'évaluer mon aptitude au travail. Ce consentement est valide pour six mois à compter de la date de signature.

Signature of examinee - *Signature de la personne examinée*

Date

[1] This is a sample medical report for individuals with diabetes. It has been prepared to allow for a consistent and standardized approach. It can be modified at the discretion of the Railway's Chief Medical Officer.

Examinee name - *Nom de la personne examinée*

PIN - *Matricule*

Section 2 - Instructions to professional - *Renseignements à l'intention du professionnel*

Employees working in Safety Critical Positions operate or control the movement of trains. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property or the environment. Special attention should be devoted to medical conditions that may result in sudden mental or physical impairment or any condition that may potentially interfere with an employee's ability to perform their duties in a safe manner. In the case of chronic conditions, be aware that impairment may occur gradually. In order to make an individualized assessment of your patient's fitness for duty, we require some information from you. Please complete Sections 3, 4 and 5 of this form. Under the Federal Railway Safety Act, physicians have an obligation to notify the Office of the Chief Medical Officer if an individual occupying a Safety Critical Position has a medical condition that, in their opinion, is likely to pose a threat to safe railway operations. **Please write legibly.**

Les employé(e)s occupant des postes classifiés comme essentiel pour la sécurité ferroviaire sont responsables du mouvement des trains et en assurent le fonctionnement. Toute perturbation au niveau du rendement attribuable à un trouble d'ordre médical peut menacer la santé et la sécurité des employés et de la population, et causer des dommages aux biens et à l'environnement. Une attention particulière devrait être dévolue aux conditions médicales pouvant donner lieu à une incapacité soudaine d'ordre mental ou physique, ou à toute condition qui pourrait interférer avec la capacité de l'employé(e) à effectuer ses tâches de façon sécuritaire. Dans le cas de conditions chroniques, soyez conscient que l'incapacité peut survenir de façon graduelle. Veuillez compléter les sections 3, 4 et 5. En vertu de la Loi fédérale sur la sécurité ferroviaire, les médecins ont l'obligation d'aviser le médecin-chef si un individu occupant un poste considéré comme essentiel pour la sécurité présente une condition médicale qui, selon leur opinion, est susceptible de constituer une menace pour la sécurité des opérations. ***Veuillez écrire de façon lisible.***

FOR ASSISTANCE REGARDING ANY COMPONENT OF THIS REPORT, CALL:
POUR OBTENIR DE L'AIDE CONCERNANT LE PRÉSENT RAPPORT, TÉLÉPHONEZ AU

The complete Canadian Railway Medical Rules Handbook can be found online at:
La version intégrale du Manuel du règlement médical des chemins de fer est accessible en ligne:
https://www.railcan.ca/regulatory-affairs/railway-rules-standards/

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional - *À être complété par le professionnel*

GENERAL INFORMATION - INFORMATIONS GÉNÉRALES

Is the individual a regular patient? *Suivez-vous cette personne de façon régulière?* Yes *Oui* ☐ No *Non* ☐

HISTORY OF PRESENT ILLNESS - HISTOIRE DE LA MALADIE ACTUELLE

Date of diagnosis - *Date du diagnostic*: _____ Type 1 ☐ Type 2 ☐

• Has the individual completed diabetes education (mandatory)? *La personne a-t-elle complété un enseignement diabétique (obligatoire)?* Yes *Oui* ☐ No *Non* ☐

Date: _____ Provider - *Fourni par*: _____

Is there any evidence of - *Y a-t-il évidence de*:

• Ophthalmic disease - *Atteinte ophtalmique*?	Yes/*Oui* ☐	No/*Non* ☐
• Cardiovascular disease - *Atteinte cardiovasculaire*?	Yes/*Oui* ☐	No/*Non* ☐
• Neurological disease - *Atteinte neurologique*?	Yes/*Oui* ☐	No/*Non* ☐
• Renal disease - *Atteinte rénale*?	Yes/*Oui* ☐	No/*Non* ☐
• Other complications - *Autres complications*?	Yes/*Oui* ☐	No/*Non* ☐

Specify - *Spécifier*: _____

Comments - *Commentaires*: _____

• Has your patient had any surgical/laser procedure(s) done in either eye in the last year? *La personne a-t-elle subi une intervention aux yeux dans la dernière année (chirurgie/laser)?* Yes *Oui* ☐ No *Non* ☐

If yes, please provide details - *Si oui, veuillez préciser*: _____

CURRENT TREATMENT - TRAITEMENT ACTUEL

NOTE: An invidvidual who is starting insulin will be considered unfit for duty in a Safety Critical Position for a period of at least one month. The physician **MUST** report immediately to the office of the Chief Medical Officer the initiation of any insulin therapy.

***NOTE**: Les personnes débutant un traitement à l'insuline ne peuvent pas occuper un poste essentiel à la sécurité pour une période d'au moins un mois. Le médecin **DOIT** signaler immédiatement au bureau du médecin-chef le début d'une insulinothérapie.*

Medication(s) ***Médications(s)***	**Start date** ***Date de début***	**Current dose** ***Dose actuelle***	**Date last adjusted** ***Modifié le***

If on insulin, any change in the number of injections in the last 6 months? *Si insulinothérapie, le nombre d'injections a-t-il changé dans les 6 derniers mois?* Yes *Oui* ☐ No *Non* ☐

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 3 - To be completed by the professional (cont'd) - *À être complété par le professionnel (suite)*

CURRENT TREATMENT (CONTINUED) - TRAITEMENT ACTUEL (SUITE)

- Is the individual compliant with treatment recommendations? *La personne respecte-t-elle le traitement prescrit?* Yes *Oui* ☐ No *Non* ☐
  If no, please provide details - *Si non, veuillez préciser*: _____
- Is the individual free from treatment side effects? *La personne est-elle exempte d'effets secondaires associés au traitement?* Yes *Oui* ☐ No *Non* ☐
  If no, please provide details - *Si non, veuillez préciser*: _____
- Has the individual been assessed (or been followed) by a specialist? *La personne a-t-elle été évaluée (ou suivie) par un spécialiste?* Yes *Oui* ☐ No *Non* ☐
  If yes, please provide details - Si oui, veuillez préciser: _____

What is the treatment plan going forward? - *Quel est le plan de traitement pour la suite?* _____

Follow-up appointment date - *Date du prochain suivi*: _____

MONITORING AND HYPOGLYCEMIA - SURVEILLANCE ET HYPOGLYCÉMIES

- Is the individual compliant with blood glucose monitoring? *La personne est-elle observante avec la surveillance de la glycémie?* Yes *Oui* ☐ No *Non* ☐
- Is the individual familiar with the symptoms of hypoglycemia? *La personne connaît-elle les symptômes de l'hypoglycémie?* Yes *Oui* ☐ No *Non* ☐
- If the individual has had hypoglycemic episodes - *Si la personne a eu des épisodes d'hypoglycémie*:
  - Does the individual recognize the symptoms at the time of an episode? *A-t-elle reconnu les symptômes avant-coureurs au moment de l'épisode?* Yes *Oui* ☐ No *Non* ☐
  - Can the individual explain the cause of the episode? *Peut-elle expliquer la cause de l'épisode?* Yes *Oui* ☐ No *Non* ☐
  - Is the individual capable of treating it quickly? *A-t-elle été en mesure de traiter le problème rapidement?* Yes *Oui* ☐ No *Non* ☐
- Average number of minor hypoglycemic episodes (recognized and treated by the individual) per month: *Nombre moyen d'épisodes d'hypoglycémie légers (reconnus et traités par la personne) par mois:* _____
- Have there been episodes in the past 12 months - *Y a-t-il eu des épisodes au cours des 12 derniers mois:*
  - That have required an emergency visit or hospitalization? *Ayant nécessité une visite à l'urgence ou hospitalisation?* Yes *Oui* ☐ No *Non* ☐
  - That came on suddenly (without warning signs)? *Étant survenus subitement sans symptômes avant-coureurs?* Yes *Oui* ☐ No *Non* ☐
  - That reduced concentration or readiness at work? *Ayant causé une diminuation de la concentration ou aptitude à travailler?* Yes *Oui* ☐ No *Non* ☐
  - That have caused a loss of consciousness or required someone's assistance? *Ayant causé une perte de conscience ou nécessité l'intervention d'autrui?* Yes *Oui* ☐ No *Non* ☐

If you answered yes to any of the 4 questions above, please describe the episodes, dates, causes and any other characteristics or circumstances. Please also provide the clinical notes, if available. - *Si vous avez répondu par l'affirmative à l'une des 4 questions ci-dessus, veuillez décrire chaque épisode en précisant la date, la cause et toutes autres caractéristiques ou circonstances. Veuillez fournir les notes cliniques, si disponibles.*

Examinee name - *Nom de la personne examinée* | PIN - *Matricule*

Section 3 - To be completed by the professional (cont'd) - *À être complété par le professionnel (suite)*

MONITORING AND HYPOGLYCEMIA (CONTINUED) - SURVEILLANCE ET HYPOGLYCÉMIES (SUITE)

For individuals treated with insulin or an insulin secretagogue medication - *Pour les personnes traitées avec de l'insuline ou un sécrétagogue de l'insuline:*

- Does the individual always carry a source of fast-acting carbohydrate while at work? *La personne a-t-elle toujours une source de glucides à action rapide sur elle lorsqu'elle travaille?* Yes *Oui* ☐ No *Non* ☐

  If no, please provide details - *Si non, veuillez préciser*:

- Does the individual always have a glucometer available when working? *La personne a-t-elle toujours accès à un glucomètre lorsqu'elle travaille?* Yes *Oui* ☐ No *Non* ☐

  If no, please provide details - *Si non, veuillez préciser*:

OBJECTIVE FINDINGS - EXAMEN OBJECTIF

Weight - *Poids* | Height - *Taille* | Blood pressure - *Tension artérielle*

MEDICAL REPORTS - RAPPORTS MÉDICAUX

The following reports **MUST** be attached to this form - *Les rapports suivants **DOIVENT** être joints au présent formulaire:*

- Interpreted report of resting ECG completed in the past 3 months *Rapport interprété d'un ECG au repos complété dans les 3 derniers mois* Yes *Oui* ☐ No *Non* ☐
- A1C result completed during the past 3 months *Résultat du taux d'hémoglobine glyquée dosé au cours des 3 derniers mois* Yes *Oui* ☐ No *Non* ☐

If reports not attached, please explain - *S'il y a lieu, veuillez expliquer l'absence des rapports ci-demandés:*

Examinee name - *Nom de la personne examinée* _____ PIN - *Matricule* _____

Section 4 - Fitness for duty - *Aptitude au travail*

IMPORTANT : Canadian Railway employees who work in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property or the environment. **Your opinion on this individual's fitness to work in a Safety Critical Position would be appreciated.**

IMPORTANT : Les employé(e)s occupant des postes classifiés comme essentiel pour la sécurité ferroviaire sont responsables du mouvement des trains et en assurent le fonctionnement. Toute perturbation au niveau du rendement attribuable à un trouble d'ordre médical peut menacer la santé et la sécurité des employés et de la population, et causer des dommages aux biens et à l'environnement. ***Votre opinion par rapport à l'aptitude de la personne à occuper un poste essentiel à la sécurité ferroviaire serait appréciée.***

In your professional opinion, is the examined individual medically fit for duty in a Safety Critical Position? - *Selon votre opinion professionnelle, la personne examinée est-elle apte à occuper un poste essentiel à la sécurité ferroviaire?*

Yes - *Oui* ☐ No - *Non* ☐

Restrictions/comments - *Restrictions/commentaires* : _____

Do you wish to discuss your patient's condition with the Office of the Chief Medical Officer? *Souhaiteriez-vous discuter de ce cas avec le bureau du médecin-chef?* Yes *Oui* ☐ No *Non* ☐

Section 5 - Professional's statement and information - *Déclaration du professionnel et renseignements*

This report will be used to make an assessment on this employee's fitness for duty and constitutes a third party service. In completing this report, please be thorough and write legibly. If you have any questions regarding any components of this report, call the toll-free number listed at the bottom of the first page.

Ce rapport servira à évaluer l'aptitude au travail de cette personne, et constitue un service fourni par une tierce partie. Lorsque vous remplirez ce formulaire, veuillez vous assurer de bien remplir toutes les rubriques et d'écrire lisiblement. Pour toutes questions concernant le contenu de ce formulaire, veuillez nous contacter au numéro sans frais mentionné au bas de la première page.

I certify that the information documented in this report is, to the best of my knowledge, correct.
J'atteste que les renseignements contenus dans ce rapport sont, en autant que je sache, exacts.

Date of examination - *Date de l'examen* : _____

Name of professional - *Nom du professionnel* : _____
Please print - *En lettres moulées*

Address and telephone number - *Adresse et numéro de téléphone* :

_____
_____
_____
_____

☐ Family physician - *Médecin de famille*
☐ Specialist - *Spécialiste*
Specify - *Spécifier* : _____
☐ Other - *Autre*
Specify - *Spécifier* : _____

Fax number - *Télécopieur* : _____

Signature: _____ **Date (Y-*A*/M/D-*J*):** _____

Section 13 – Substance-Related Disorders

MEDICAL FITNESS FOR DUTY GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS WITH SUBSTANCE-RELATED DISORDERS IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment.

These medical fitness for duty guidelines cover specific substance-related disorders primarily utilizing the terminology contained in the most recent American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision* (DSM-5-TR). For reference, the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) was first published in May of 2013. The DSM-5-TR was then published in March 2022. Of note, previous editions, including the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR), made a distinction between "substance abuse" and "substance dependence", whereas the DSM-5 and DSM-5-TR no longer make that distinction. Instead, substance use disorders are now stratified into mild, moderate, or severe severity based on diagnostic criteria related to substance use in the past 12 months. For reference, a summary of the DSM-IV-TR and DSM-5-TR substance use disorder diagnostic criteria is provided in Appendix 1.

If an individual has a medical condition or other issue related to substance use not covered by these guidelines, medical fitness for duty will be determined by the Railway's Chief Medical Officer and guided, in part, by the considerations listed in section 3.

2 Definitions

Substance: Any mood-altering, psychoactive, or potentially addictive chemical. Categories of substances include alcohol, cannabis/cannabinoids, hallucinogens, inhalants, opioids, sedatives, hypnotics and anxiolytics, and stimulants (including amphetamine-type substances and cocaine).

Addiction medicine physician: Physician with formal accreditation or experience in the diagnosis and treatment of substance-related disorders.

Relapse prevention agreement (RPA): Formal document listing all necessary behaviours expected of an individual with a diagnosis of substance use disorder to remain in stable abstinent recovery. A sample RPA is provided in Appendix 2.

Mutual support program: Program consisting of group meetings, structured recovery activities, educational material, and relapse prevention techniques for people recovering from a substance-related disorder and for their families.

Substance use disorder treatment program: Residential or outpatient treatment program that is abstinence-based and provides psychoeducation, motivational enhancement, cognitive/behavioural therapy, skills training, physical activities, mutual support program introduction, and family therapy.

3 Medical Fitness for Duty Considerations

Substance-related disorders can cause gradual functional impairment, sudden incapacitation or, in some cases, sudden and unexpected death. The following should be taken into consideration when assessing the medical fitness for duty of an individual occupying a Safety Critical Position:

- Presence of a substance-related disorder
- Length, course, and severity of the substance-related disorder(s)
- History of previous substance-related disorder(s)
- Degree of current behavioural or mood dysfunction
- Degree of impairment of alertness, attention, cognitive function, concentration, insight, judgement, memory, and other cognitive domains related to the substance-related disorder(s) or to medication(s) used to treat the substance-related disorder(s)
- Compliance with treatment recommendations and medical monitoring
- Likelihood of relapse
- Recovery environment
- Potential for acute or gradual functional impairment
- Predictability and reliability of the individual
- Presence of any medical comorbidities (including psychiatric comorbidities)
- Occupational requirements of the individual's Safety Critical Position
- Opinion of the treating physician(s) and any other physician(s) or healthcare professional(s) consulted

4 General Medical Fitness for Duty Guidelines

To make informed decisions regarding an individual's medical fitness for duty in a Safety Critical Position, a DSM-5-TR diagnosis must first be obtained. Any history of a previous substance-related disorder must also be considered.

It is acknowledged that substance-related disorder diagnostic criteria are mainly based on subjective reporting. When possible, information should be obtained from collateral sources, particularly when there is concern regarding the validity of the subjective reporting.

4.1 Assessment and Reporting

A written report should be submitted to the Railway's Chief Medical Officer. It should contain:

- DSM-5-TR diagnosis(es)
- Relevant test results
- Recommended treatment
- Relevant consultation letters
- Functional limitations and/or work restrictions
- An opinion on the individual's medical fitness for duty in a Safety Critical Position

The report should be completed by the individual's treating healthcare provider. At the discretion of the Railway's Chief Medical Officer, an assessment by a substance abuse professional, an addiction medicine physician, and/or a psychiatrist may also be required.

The components of a comprehensive substance-related disorder medical assessment are summarized in Appendix 3.

5 Specific Medical Fitness for Duty Requirements and Follow-Up

In addition to the medical fitness for duty considerations in section 3 and the general medical fitness for duty guidelines in section 4, individuals with a diagnosis of a substance-related disorder may be considered medically fit for duty in a Safety Critical Position if they meet the specific requirements listed below.

5.1 Substance Use Disorders

Medical Fitness for Duty Requirements

- Compliance with recommended treatment, including residential treatment if applicable
- At least 90 days of documented abstinence from all substances
- Compliance with the components of a relapse prevention agreement (RPA):
  - Mild substance use disorder: minimum duration of 1 year
  - Moderate or severe substance use disorder: minimum duration of 2 years
- The above durations should be extended in the presence of any evidence supporting a longer duration

Medical Fitness for Duty Monitoring and Follow-Up

Medical fitness for duty monitoring should include documented compliance with all components of a relapse prevention agreement which includes biological monitoring for the use of substances. Additional requirements will be at the discretion of the Railway's Chief Medical Officer.

It should be noted that there is evidence to support that relapses are common and occur most frequently during the first year of treatment. Evidence also supports that structured relapse prevention programs and biological monitoring for the use of substances can assist individuals in maintaining prolonged abstinence.

5.2 Other Substance-Related Disorders

Medical fitness for duty for individuals with a substance-related disorder that does not meet criteria for a substance use disorder will be determined by the Railway's Chief Medical Officer and guided, in part, by the considerations listed in section 3.

APPENDIX I – Summary of DSM-IV-TR and DSM-5-TR Diagnostic Criteria for Substance Use Disorders

Criteria	**DSM-IV-TR Substance abuse** **1 or more**	**DSM-IV-TR** **Substance dependence** **3 or more**	**DSM-5-TR** **Substance use disorder** **Mild: 2-3 criteria** **Moderate: 4-5 criteria** **Severe: 6 or more**
Recurrent use resulting in failure to fulfill major roles at work, school, or home	[ ]		[ ]
Recurrent use in physically hazardous situations	[ ]		[ ]
Recurrent substance-related legal problems	[ ]		N/A
Continued use despite persistent or recurrent social or interpersonal problems related to effects of the substance	[ ]		[ ]
Tolerance		[ ]	[ ]
Withdrawal		[ ]	[ ]
Taken in larger amounts or over a longer period than intended		[ ]	[ ]
Persistent desire or unsuccessful efforts to cut down or control use		[ ]	[ ]
Great deal of time spent to obtain, use, or recover from effects		[ ]	[ ]
Important activities given up or reduced because of use		[ ]	[ ]
Continued use despite persistent or recurrent physical or psychological problems related to use		[ ]	[ ]
Craving or strong desire or urge to use		N/A	[ ]

APPENDIX II – Substance Use Disorder Relapse Prevention Agreement[1]

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment.

The medical reports and documents regarding your substance use disorder(s) have been reviewed. This relapse prevention agreement will assist you in maintaining your stable and abstinent recovery. It is also required to support your ongoing medical fitness for work in a Safety Critical Position.

You must review and acknowledge that you understand and agree to comply with all components of this relapse prevention agreement. This relapse prevention agreement will be in effect for ____ year(s). The duration may be extended at the discretion of the Railway's Chief Medical Officer.

The components of your relapse prevention agreement include:

1) Total abstinence from all legal or illicit drugs and any other mood-altering substances (which include alcohol, cannabis/cannabinoids, any substance that has previously been problematic for the individual, and any potentially addictive medications) for the duration of this Relapse Prevention Agreement (unless approved by the Railway's Chief Medical Officer)
2) Participation in a workplace substance testing program
3) Compliance with all treatment recommendations:
   - ❑ Residential treatment program of a minimum duration of _____
   - ❑ Outpatient program of a minimum duration of _____
   - ❑ Relapse prevention program counsellor meetings at a frequency to be determined by the counsellor
   - ❑ Mutual support program meetings at a minimum frequency of _____ with attendance records to be provided on request.
   - ❑ Maintenance of a substance use disorder sponsor
   - ❑ Other: _____
4) Immediately notifying the Railway's Chief Medical Officer of any relapse behaviours, including the use of any prohibited substances including legal or illicit drugs and any other mood-altering substances
5) Reporting to the Railway's Chief Medical Officer any new prescription medication as well as the use of any mood-altering or potentially addictive prescribed or over-the-counter medication
6) Written reports from your healthcare provider(s), at the discretion of the Railway's Chief Medical Officer

Incidences of non-compliance with the components of this relapse prevention agreement will result in a review of your medical fitness to work.

[1] This is a sample substance use disorder relapse prevention agreement. It has been prepared to allow for a consistent and standardized approach. It can be modified at the discretion of the Railway's Chief Medical Officer.

Acknowledgement:

I acknowledge that I have read and that I understand and agree to comply with all components of this relapse prevention agreement.

I consent for a copy of this relapse prevention agreement to be forwarded to my treating physician.

_____

Name (printed)

_____ _____

Signature Date

_____ _____

Phone number Email address

APPENDIX III – Comprehensive Substance-Related Disorder Medical Assessment

A comprehensive substance-related disorder medical assessment should include the following:

1) Signed, informed consent, including permission to communicate all findings to the Railway's Chief Medical Officer
2) A medical history, including:
   a) Past and current history of substance use
   b) Past and current history of medical conditions associated with substance-related disorders (e.g., hypertension, liver disease, pancreatitis, seizures, type 2 diabetes, etc.)
   c) Past and current history of psychiatric conditions (e.g., anxiety disorders, depressive disorders, trauma- and stressor-related disorders, etc.)
   d) Substance-related injuries (e.g., motor vehicle accidents, fights, recreational injuries, etc.)
3) A psychosocial history, including family and relationship dysfunction
4) A history of behaviors associated with substance use disorders, including:
   a) Retaining/consulting multiple doctors or pharmacies
   b) Frequent changes in doctors or pharmacies
   c) Missed medical appointments
   d) Abusive or concerning interactions with medical office staff
   e) Erratic or volatile emotions
   f) Cigarette or tobacco use
   g) Unexplained weight loss or weight gain
   h) Frequent requests for notes for workplace absences
   i) Early requests for psychoactive medication prescription refills
   j) Requests for repeat prescriptions for opioids or benzodiazepines for acute self-limiting conditions
   k) Preference for short-acting opioids over sustained-release opioids
   l) Requests for cannabis/cannabinoids for medical purposes
   m) Forensic history/charges associated with substance use
   n) Driving-related concerns including any history of speeding tickets, driving under the influence, insurance premiums increasing, and frequent accidents
5) An occupational history, including:
   a) Multiple jobs with different employers
   b) Multiple job dismissals
   c) Workplace absenteeism
   d) Multiple workplace injuries
   e) Presenteeism, or any change in performance
   f) Any reasonable suspicions as reported by coworkers or supervisor
6) A pain evaluation, if indicated
7) A review of systems to assess for any comorbid medical conditions
8) A mental status examination including any indications of imminent or substantial risk of harm
9) A physical examination focusing on signs of substance use, including:
   a) Smell of alcohol and/or cannabis
   b) Advanced dental or periodontal disease
   c) Signs of advanced liver disease
   d) Nasal cavity damage (e.g., cocaine use)

    e) Needle marks
10) Substance use disorders assessment tools, including:
    a) Alcohol Use Disorders Identification Test (AUDIT)
    b) CAGE Questionnaire
    c) Drug Abuse Screening Test (DAST)
    d) Cannabis Use Disorders Identification Test – Revised (CUDIT-R)
11) Laboratory investigations, including:
    a) Blood work (e.g., MCV, GGT, AST, ALT, uric acid, etc.)
    b) Urinalysis
    c) Substance testing (e.g., breath alcohol, hair and/or urine testing, etc.)
12) Review of supplementary information, including:
    a) Collateral interviews
    b) Review of collateral medical, legal, and vocational documents
    c) A diagnostic formulation
    d) Treatment recommendations
    e) A prognostic formulation

Section 14 – Sleep Disorders

MEDICAL FITNESS FOR DUTY GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS WITH SLEEP DISORDERS IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Canadian railway employees working in a Safety Critical Position operate or control the movement of trains. Physical and mental fitness is mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment.

These medical fitness for duty guidelines provide an overview of sleep disorders including obstructive sleep apnea, central sleep apnea, narcolepsy, and idiopathic hypersomnia. If an individual has a sleep disorder that is not covered by these guidelines, medical fitness for duty will be determined by the Railway's Chief Medical Officer and guided, in part, by the considerations listed in section 3.

2 Definitions

Apnea: Cessation of breathing for ≥ 10 seconds. A central apnea event is defined as a ≥ 10 second pause in ventilation without an associated respiratory effort.

Hypopnea: 30% or greater reduction in airflow from baseline that lasts ≥ 10 seconds and is accompanied by an arousal and/or at least 3% oxygen desaturation.

Apnea hypopnea index (AHI): Number of apneas and hypopneas per hour of sleep.

Respiratory disturbance index (RDI) or respiratory event index (REI): Number of respiratory disturbances (apneas, hypopneas, and respiratory event related arousals) per hour of sleep.

Home sleep apnea test (level 3 sleep study): Unattended sleep study performed by an individual in their home using a home sleep apnea test device (portable monitor) to diagnose obstructive sleep apnea.

Polysomnography (level 1 sleep study): Attended sleep study performed in a sleep laboratory. Sleep is recorded and staged by electroencephalography, electro-oculography, and electromyography. In addition, breathing, heart rate and rhythm, oxygen saturation, and snoring are recorded.

Positive airway pressure (PAP) devices: Devices that introduce positive pressure into the airways to keep them patent. PAP can be auto-titrating (auto PAP), specific with inspiration and expiration (BiPAP), continuous (CPAP), or it can provide auto-titrating support.

Oral appliance: Device used to advance the mandible and/or keep the tongue in position to reduce airway obstruction.

3 Medical Fitness for Duty Considerations

Sleep disorders can negatively affect mental, physical, social, and occupational functioning, and can result in gradual or sudden incapacitation. The following should be taken into consideration when assessing the medical fitness for duty of an individual occupying a Safety Critical Position:

- Presence of a sleep disorder
- Severity of the sleep disorder
- Potential for gradual functional impairment or sudden incapacitation
- Degree of impairment of alertness, attention, cognitive function, concentration, insight, judgement, and memory due to the sleep disorder
- Compliance with treatment recommendations and follow-up
- Effectiveness or adverse effects of treatment
- Presence of any medical comorbidities
- Occupational requirements of the individual's Safety Critical Position
- Opinion of the treating physician(s) and any other physician(s) or healthcare professional(s) consulted

4 General Medical Fitness for Duty Guidelines

4.1 Assessment and Reporting

The initial medical fitness for duty assessment should include a thorough history, a physical examination, a review of relevant tests results, as well as an evaluation of compliance with recommended treatment.

A written report should be submitted to the Railway's Chief Medical Officer. It should contain:

- Diagnosis(es)
- Relevant test results
- Recommended treatment
- Relevant consultation letters
- Functional limitations and/or work restrictions
- An opinion on the individual's medical fitness for duty in a Safety Critical Position

4.2 Responsibilities of the Individual and their Healthcare Professionals

Individuals and their treating healthcare professionals are required to report immediately to the Railway's Chief Medical Officer the presence of any significant sleep disorder symptoms (see section 4.4 below) that may pose a risk to safe railway operations.

4.3 Multiple Medical Conditions

When multiple medical conditions are present, the medical fitness for duty of an individual occupying a Safety Critical Position should take into consideration the cumulative risk associated with all their medical conditions.

4.4 Significant Sleep Disorder Symptoms

Significant sleep disorder symptoms are defined as any symptoms that constitute a risk to safe railway operations and directly impact medical fitness for duty. Individuals with significant sleep disorder symptoms are not medically fit for duty in a Safety Critical Position.

Non-exhaustive List of Significant Sleep Disorder Symptoms

- Excessive daytime fatigue or sleepiness
- Impaired concentration
- Cognitive deficits

In the absence of the significant symptoms listed above, the presence of any of the following signs or symptoms warrants further investigation prior to determining medical fitness for duty.[1]

Non-exhaustive List of Sleep Disorder Signs and Symptoms Warranting Further Assessment

- Mood changes
- Irritability
- Nocturnal apneas
- Choking or gasping during sleep
- Nonrestorative sleep
- Frequent awakenings
- Angina on awakening
- Reports of motor vehicle collision or near miss

4.5 Screening for Obstructive Sleep Apnea

Screening for obstructive sleep apnea (OSA) is completed by using the STOP-Bang questionnaire (see Appendix I) at the pre-employment medical assessment and with every periodic medical assessment. Additional screening will be at the discretion of the Railway's Chief Medical Officer. Indications for a sleep study are listed in the table below.

Sleep Study Indications for Individuals not Currently on PAP Therapy

- STOP-Bang score ≥ 3
- Prior diagnosis of mild obstructive sleep apnea with:
  - Increase in weight ≥ 10%
    or
    Increase in STOP-Bang score
- Significant sleep disorders symptoms as defined in section 4.4

5 Specific Medical Fitness for Duty Requirements and Follow-Up

In addition to the medical fitness for duty considerations in section 3 and the general medical fitness for duty guidelines in section 4, individuals with a sleep disorder may be considered medically fit for duty in a Safety Critical Position if they meet the specific requirements listed in the following subsections.

The requirements for more frequent medical fitness for duty assessments, additional medical reports, or additional tests will be at the discretion of the Railway's Chief Medical Officer.

[1] A sleep study should be considered.

5.1 Sleep Apnea

Sleep apnea is divided into obstructive and central sleep apnea. Some individuals also present with a mixed form of sleep apnea.

Treatment options depend on the type and the severity of the sleep apnea. They include lifestyle modifications, PAP devices, oral appliances, or alternate therapies (e.g., upper airway surgery, hypoglossal nerve stimulation, pharmacologic therapy).

5.1.1 Obstructive Sleep Apnea

Obstructive sleep apnea (OSA): Repetitive upper airway collapse and obstruction during sleep, resulting in apneas, hypopneas, increased respiratory effort, intermittent hypoxemia, and arousals.

Severity of OSA is determined by the AHI, RDI, or REI as follows:

- Mild: 5 to < 15 events/hour
- Moderate: 15 to < 30 events/hour
- Severe: ≥ 30 events/hour

PAP therapy is considered the first-line treatment for moderate and severe OSA due to its effectiveness in maintaining open airways, reducing symptoms like loud snoring and daytime sleepiness, and significantly improving sleep quality. By delivering a continuous stream of pressurized air, PAP therapy prevents apneas and hypopneas, thereby lowering the risk of cardiovascular complications including hypertension, myocardial infarction, and stroke. It has a proven track record of consistent success, with modern machines offering customizable features for enhanced comfort and adherence. Furthermore, effective PAP therapy use can help manage comorbid conditions like diabetes and depression, reduce cognitive impairment, and improve overall quality of life by ensuring stable oxygen levels throughout sleep.

Medical Fitness for Duty Requirements

Mild OSA	• Absence of significant symptoms after recommended treatment
Moderate & severe OSA	• Absence of significant symptoms after recommended treatment • A 14-day PAP therapy download shows[2]: ○ Residual AHI < 5 **or** AHI decrease of at least 50% **and** an AHI < 15 ○ Average hours used over all days ≥ 5 hours

[2] In exceptional cases with documented intolerance to PAP therapy and an AHI < 30, treatment with alternate therapies may be deemed acceptable at the discretion of the Railway's Chief Medical Officer. In those cases, a repeat sleep study with the alternate therapy would be required to confirm efficacy of treatment. For OSA treated with oral appliance therapy, devices with compliance monitoring capabilities are preferred.

Medical Fitness for Duty Monitoring and Follow-Up

Mild OSA: The medical fitness for duty should be reassessed as part of the periodic medical assessment program. More frequent assessments will be at the discretion of the Railway's Chief Medical Officer.

Moderate and severe OSA: The medical fitness for duty should be reassessed yearly with a 30-day PAP therapy compliance and efficacy report. More frequent assessments will be at the discretion of the Railway's Chief Medical Officer.

5.1.2 Central Sleep Apnea

Central sleep apnea: Repetitive cessation or decrease of both airflow and ventilatory effort during sleep. Primary central sleep apnea has no clear or known etiology and is relatively rare. Secondary central sleep apnea is associated with medical or neurological conditions, medication or substance use, or high-altitude periodic breathing. The diagnosis is confirmed by polysomnography in the presence of more than 5 central apneas per hour of sleep with associated symptoms of disrupted sleep.

Medical Fitness for Duty Requirements

- Absence of significant symptoms after recommended treatment
- Any underlying medical condition has been addressed and managed appropriately
- The individual has been deemed medically fit for duty by their treating physician

Medical Fitness for Duty Monitoring and Follow-Up

The medical fitness for duty should be reassessed yearly and include any tests deemed appropriate by the treating physician as well as confirmation of continued adherence to treatment. More frequent assessments will be at the discretion of the Railway's Chief Medical Officer.

5.2 Narcolepsy

Narcolepsy: Sleep disorder characterized by daily periods of an irrepressible need to sleep or daytime lapses into sleep (sleep attacks) over a period of at least three months. Narcolepsy is associated with excessive daytime somnolence and signs of rapid eye movement (REM) sleep dissociation or abnormal manifestations of rapid eye movement sleep.

Medical Fitness for Duty Requirements

- Not medically fit for duty

Medical Fitness for Duty Monitoring and Follow-Up

Individuals with narcolepsy are not considered to be medically fit for duty in a Safety Critical Position.

5.3 Idiopathic Hypersomnia

Idiopathic hypersomnia: Sleep disorder characterized by chronic excessive daytime sleepiness with daily periods of irrepressible need to sleep or daytime lapses into sleep, without cataplexy, and which is not explained by another disorder or by medication or substance use. Individuals with this condition may have trouble arousing from nighttime sleep or daytime naps. Daytime naps are usually unrefreshing. Idiopathic hypersomnia is considered a long-lasting sleep disorder; however, spontaneous resolution has been reported.

Medical Fitness for Duty Requirements

- Not medically fit for duty

Medical Fitness for Duty Monitoring and Follow-Up

Individuals with idiopathic hypersomnia are not considered to be medically fit for duty in a Safety Critical Position. In cases of spontaneous resolution, the medical fitness for duty will be at the discretion of the Railway's Chief Medical Officer.

APPENDIX I – STOP-Bang Questionnaire[3]

The STOP-Bang questionnaire is an 8-point screening tool to determine the risk for obstructive sleep apnea. The specific questions have been adapted for the purpose of these guidelines and are outlined in the table below.

Snoring	Do you snore loudly (loud enough to be heard through closed doors or your bed-partner elbows you for snoring at night)?
Tired	Do you often feel tired, fatigued, or sleepy during the daytime (such as falling asleep during driving or talking to someone)?
Observed	Has anyone observed you stop breathing or choking/gasping during your sleep?
Pressure	Do you have or are being treated for high blood pressure?
Body Mass Index > 35 kg/m²?	Body Mass Index calculation: weight (in kilograms)/height (in metres)²
Age	Age older than 50 years old?
Neck size as measured around the “Adams apple”	For male, is your neck circumference ≥ 43 cm? For female, is your neck circumference ≥ 41 cm?
Gender	Male?

[3] http://www.stopbang.ca/

Total score is obtained by adding up all the positive answers. The risk for obstructive sleep apnea can then be stratified as such:

Risk of obstructive sleep apnea	**Number of positive answers**
Low	• 0-2
Intermediate	• 3-4
High	• 5-8 or • ≥ 2 of 4 STOP questions AND male gender or • ≥ 2 of 4 STOP questions AND BMI > 35 kg/m^2 or • ≥ 2 of 4 STOP questions AND neck circumference ≥ 43 cm in males or 41 cm in females

Section 15 – Therapeutic Opioids

MEDICAL GUIDELINES FOR THE EMPLOYMENT OF INDIVIDUALS UNDER TREATMENT WITH THERAPEUTIC OPIOIDS IN SAFETY CRITICAL POSITIONS IN THE CANADIAN RAILWAY INDUSTRY

1 Introduction

Railway employees who work in a Safety Critical Position (SCP) operate or control the movement of trains. Physical and mental fitness are mandatory. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property, or the environment. Sudden impairment of their cognitive, sensory, or motor functions can pose a serious threat to the safety of the railway operations. Therapeutic opioid use may affect these functions.

It had been postulated that opioid tolerant individuals using long-acting opioid(s) could develop normalization of their cognitive, sensory, and motor functions. A 2009 guideline statement of the American Pain Society/American Academy of Pain Medicine on driving and work safety stated that:

“In the absence of signs or symptoms of impairment, there is no evidence that a patient maintained on stable doses of chronic opioid therapy (COT) should be restricted from driving”.

Subsequently, the American College of Occupational and Environmental Medicine (ACOEM) conducted a thorough literature review on the subject and commented that the aforementioned 2009 Guideline statement did not provide references for original epidemiological studies. The results of the ACOEM literature review were published with Practice Guidelines in the Journal of Occupational and Environmental Medicine in July 2014 (Volume 56, Number 7)[1].

The following are excerpts from the ACOEM Practice Guidelines:

“Both weak and strong opioids have been consistently associated with increased risks of motor vehicle crashes (MVC) in all large epidemiological studies of working age adults sufficiently powered to detect motor vehicle crash risk with the risk estimates ranging from 29% to more than 800% increased risk...”

“… the ACOEM Evidence-based Practice Opioids Panel recommends preclusion of opioid use in safety-sensitive jobs.”

Accordingly, and in contrast to the previous version of the Railway Association of Canada Railway Medical Guidelines for the Employment of Individuals Under Treatment with Therapeutic Opioids in Safety Critical Positions in the Canadian Railway Industry the current body of evidence does not support the safe use of opioids by individuals working in an SCP.

2 Scope

These Railway Medical Guidelines pertain only to individuals working in an SCP who have a medical condition that requires the use of an opioid.

[1] Hegmann K, Weiss M, Bowden M, Branco F, DuBrueler K, Els C, Mandel S, McKinney DW, Miguel R, Mueller KL, Nadig RJ, Schaffer MI, Studt L, Talmage J, Travis RL, Winters T, Thiese MS, Harris JS. (2014) Opioids and Safety-sensitive Work: The ACOEM Practice Guidelines. JOEM 56:e46-53.

3 Definitions

For the purpose of these Railway Medical Guidelines, the following definitions are applicable:

1) Opioid(s):
   a) *Opioids* refer to both the naturally occurring opiates (i.e., medications / substances derived from opium, i.e., morphine, codeine, and heroin) as well as a large number of synthetic congeners, all of which mostly have morphine-like activity at receptors in the brain[2]. Synthetic opioids include compounds like tramadol, oxycodone, hydromorphone, fentanyl, meperidine, methadone, as well as buprenorphine, which is a partial agonist at the receptor.
   b) Different opioids vary in half-life[3] and are commercially available in a variety of immediate-release and slow-release formulations. This results in a wide variability in their duration of action.
   c) The metabolism of opioids is impacted by a number of factors, which includes a variety of enzyme systems. The rate of metabolism and the risk of drug interactions with opioids are determined largely by which enzyme systems metabolize the opioid[4]. Medical conditions, degree of tolerance to opioids, medication use, alcohol use patterns, and individual differences in metabolism may result in a significant lack of predictability in opioid-related impairment, and hence occupational capacity and risk.
2) **Occasional Use of an Opioid**: Single administration of an opioid on an “as needed” basis.
3) **Continuous Use of an Opioid**: Regular, typically daily, opioid use.

4 Medical Fitness for Duty

4.1 Occasional Use

1) The occasional use of shorter-acting or immediate-release opioids in therapeutic doses may result in cognitive and performance impairment and occupational risk that is usually sufficiently mitigated 8 hours after the time of their last use.
2) The use of slow-release opioids, truly long-acting opioids (e.g., methadone and others), or high dose opioid use may result in impairment beyond 8 hours. In some cases, cognitive and performance impairment may persist even beyond 24 hours after the time of their last use.
3) Cognitive and performance deficits may persist beyond the period of time that an individual experiences therapeutic or adverse effects from the use of an opioid. Determination of whether an individual is experiencing adverse effects 8 hours after their last use of an opioid may not be sufficiently sensitive to rule out ongoing cognitive or performance impairment.
4) An individual that has used an opioid cannot be relied upon to accurately determine the degree of their opioid-related cognitive or performance impairment and may underestimate the degree of their impairment.
5) Non-medically trained co-workers or supervisors cannot be relied upon to accurately determine the degree of an individual’s opioid-related cognitive or performance impairment.

[2] Ries R, Fiellin DA, Miller SC, Saitz R. (Eds) Principles of Addiction Medicine 5th Edition, 2014.
[3] The amount of time for the concentration to drop to half of its initial value.
[4] Smith HS. Opioid Metabolism. Mayo Clin Proc. 2009;84:613–624.

6) Opioid-related cognitive and performance impairment may occur even in individuals who have become tolerant to the use of opioid(s).
7) Guidelines for return to work in an SCP after the use of an opioid:
    a) In general, an individual under occasional treatment with a shorter-acting or immediate-release opioid cannot work in an SCP for a minimum period of 8 hours after the time of their last use. This period may be longer depending on the duration of action of the opioid, the dosage of the opioid, the use of other medications, and a variety of other factors.
        i) An individual under occasional treatment with a long-acting opioid or a sustained-release opioid cannot work in an SCP for a minimum period of 24 hours after the time of their last use.
        ii) The use of transdermal patches may result in longer duration of impairment, especially as the skin may act as a reservoir.
        iii) After removal of the patch, serum fentanyl concentrations decline gradually, falling about 50% in approximately 17 hours (i.e., range: 13 to 22 hours). The drug should clear within 4-5 half-lives, i.e., 68 to 85 hours (2.8-3.5 days). An individual under treatment with fentanyl transdermal patch cannot work in an SCP for a minimum period of 4 days (96 hours) after the removal of the last skin patch.
        iv) The determination of the presence of cognitive or performance impairment should be conducted on an individualized basis.

4.2 Continuous Use

An individual under continuous treatment with any opioid cannot work in a SCP.

Section 16 – Railway Medical Report Forms

1 Overview

The Railway Medical Rules specify that medical assessments shall be done on persons prior to their commencement of employment in a Safety Critical Position, upon promotion or transfer to a Safety Critical Position and every five years until the age of forty, and every three years thereafter until retirement, or until that person is no longer employed in a Safety Critical Position. In support of this requirement for medical assessments, the Railway Association of Canada (RAC) Medical Advisory Group has developed medical report forms.

The medical report forms in this section have been prepared to assist railway companies in having a consistent and standardized approach to assessing fitness for duty for a Safety Critical Position. An Employment Medical Report form has been included at Section 5.2 that can be used for those persons being considered for a Safety Critical Position, either initial employment or upon promotion or transfer to a Safety Critical Position. Section 5.3 contains a Periodic Medical Report form that can be used for the periodic medical assessments done by a Physician for persons performing work in Safety Critical Positions.

Similar to the approach used for the Railway Medical Guidelines, the RAC Medical Advisory Group will review and update these report forms as needed to ensure they reflect accepted medical practices in Canada. Additional medical report forms may be developed as required.

2 Employment Medical Report Form

PART 1 – CANDIDATE/EMPLOYEE INFORMATION (TO BE COMPLETED BY CANDIDATE/EMPLOYEE)

Position applied for: _____ Male ☐ Female ☐
Employee Number (if applicable): _____
Name:_____ Date of Birth: _____
Address: _____
Telephone: Home ( ) _____
Postal Code:_____ Work ( ) _____

Candidate's/Employee's Declaration and Consent for the Release of Medical Information

I, the undersigned, acknowledge that I may occupy a Safety Critical Position and I will report any medical condition, past or current, that may constitute a threat to safe railway operations.

I declare that the information that I have provided or will be providing to the examining physician is truthful and complete. I understand that if I knowingly have provided false information or have not declared a medical condition, past or current, I will be subject to action by the Railway Company up to and including dismissal.

I consent for any physician, hospital, medical clinic or other medical service provider to release to the Office of the Chief Medical Officer of the Railway Company any information concerning any medical condition, past or current, that may constitute a threat to safe railway operations. I also consent for representatives from the Office of the Chief Medical Officer to discuss any details of this assessment with my physician. I understand that this information will be reviewed for the purpose of making a fitness to work determination. This consent is valid for six months from the date of signature.

_____ _____ _____
Witness **Signature of Candidate/Employee** **Date**

PART 2 - PHYSICIAN STATEMENT, INFORMATION AND REPORTING GUIDELINES

This report will be used to make an assessment on an applicant's/employee's fitness to work and constitutes a third party service. In completing this report, please be thorough and write legibly. If you have any questions regarding any component of this form, call the toll free number listed below for assistance.

Applicant's/Employee's Name _____

Date of examination on which this report is based _____

Physician's Name (Print): _____

Address: _____

City/Province: _____ Postal Code: _____

I certify that the information which I have documented in this report is, to the best of my knowledge, correct.

_____
Physician's Signature

☐ Family Physician/General Practitioner
☐ Certified Specialist in_____

Telephone: ( ) _____
Fax : ( ) _____

The contents of this report are the property of the Railway Company.
Reports may be sent by regular mail or courier to:

FOR ASSISTANCE REGARDING ANY COMPONENT OF THIS REPORT, CALL TOLL FREE 1-xxx-xxx-xxxx

PART 3 – HEALTH QUESTIONNAIRE (TO BE COMPLETED BY APPLICANT/EMPLOYEE)

A: Current Activities

Do you presently have difficulty or are unable to do any of the following activities?

	Yes	No		Yes	No
Carrying, pushing or pulling up to 50 lb. (22kg)	☐	☐	Bending forward to floor level	☐	☐
Lifting up to 80 lb. (35kg)	☐	☐	Kneeling or crawling	☐	☐
Looking directly overhead	☐	☐	Climbing ladders	☐	☐
Neck rotation (e.g. shoulder checking while driving)	☐	☐	Climbing stairs	☐	☐
Reaching overhead with either arm	☐	☐	Activities requiring steady balance	☐	☐
Firm gripping or twisting using either hand	☐	☐	Working at heights (15 feet)	☐	☐
Fine movement or feeling with the fingers	☐	☐	Working night shifts/rotating/on-call	☐	☐
Prolonged standing or walking	☐	☐	Wearing personal safety equipment	☐	☐
Walking on uneven or sloped ground	☐	☐	Working in hot weather	☐	☐
Walking fast on level ground	☐	☐	Working in cold weather	☐	☐
In the last year, what has been your usual (weekly) sport, exercise, or outdoor activities?			Do you wear a brace or a splint for any activities? If yes, please describe:	☐	☐
In the last year, have you held a job that involves heavy physical work? If yes, please describe:_____	☐	☐	Have you ever had a claim for, or received benefits from, disability or workers' compensation for an absence of three weeks or more? If yes, please describe:_____	☐	☐

B: Current Health Problems

In the last year, have you had

	Yes	No	Sleep Apnea	Yes	No
Loss of consciousness or awareness?	☐	☐	Have you ever been diagnosed with sleep apnea?	☐	☐
Loss of vision?	☐	☐			
Double vision?	☐	☐	Have you had high blood pressure (hypertension)?	☐	☐
Balance disorder?	☐	☐			
			Have you been told you snore **most nights**?	☐	☐
Medical care for injuries to your muscles, bones or joints?	☐	☐			
Kidney stones?	☐	☐	Have you been told you choke, gasp, or stop breathing **most nights** while sleeping?	☐	☐
Any permanent disability?	☐	☐	(most nights = 5 to 7 nights a week)		

B: Current Health Problems (cont'd)

Drug and Medication Use	**Yes**	**No**	**Medical Care**	**Yes**	**No**
Do you currently smoke tobacco? If yes, how many packs per day? _____	☐	☐	**Do you have current health problem(s) that may:**		
Have you used marijuana or hashish in the last year? If yes, date last used_____	☐	☐	1. Require medical care or monitoring?	☐	☐
			2. Require urgent attention while at work?	☐	☐
Have you ever used cocaine, crack, LSD, PCP, heroin, methamphetamine or other illegal drugs? If yes, date last used: _____	☐	☐	3. Affect your ability to regularly attend work?	☐	☐
			If yes to any 'Medical Care' questions, please describe:		
Have you ever been in a treatment program for alcohol or drug addiction? If yes, dates in program: _____	☐	☐	_____ _____ _____ _____		
Has the use of alcohol or other drugs ever caused any problems in your life? (e.g. driving convictions, police encounters, injury to you or others, etc) If yes, please describe: _____ _____ _____	☐	☐	_____ _____ _____ _____ _____ _____ _____ _____		
List all prescribed or over-the-counter medications you have used in the last 12 months: _____ _____					

C: Past Health Problems

Have you ever had? **Heart Problems**	**Yes**	**No**	**Nervous System Problems**	**Yes**	**No**
Chest pain? (e.g. angina)	☐	☐	Skull fractures or brain injury? (e.g. concussion)	☐	☐
Heart attack? (myocardial infarction)	☐	☐	Epilepsy, seizures or convulsions?	☐	☐
Abnormal heartbeat or palpitations?	☐	☐	Stroke?	☐	☐
Abnormal heart tests? (e.g. ECG, exercise test)	☐	☐	Narcolepsy or other sleep disorders?	☐	☐
Heart murmurs? (as an adult)	☐	☐	Problems with nerves in your arms, legs or spine?	☐	☐
Other heart diseases?	☐	☐	Movement or coordination disorders?	☐	☐
Diseases of the blood vessels or circulation?	☐	☐	Other diseases of the brain or nervous system?	☐	☐
			Headaches requiring prescription medication?	☐	☐

C: Past Health Problems (cont'd)

Have you ever had?

Breathing Problems	Yes	No
Asthma (as an adult)?	☐	☐
Tuberculosis?	☐	☐
Abnormal lung/ breathing test(s)?	☐	☐
Other lung diseases? (e.g., emphysema, chronic bronchitis, other lung infections)	☐	☐

Other Medical Problems	Yes	No
Kidney disease?	☐	☐
Hepatitis or jaundice (as an adult)?	☐	☐
Other digestive diseases?	☐	☐
Problems with muscles in your arms, legs or spine?	☐	☐
Diseases of your joints or bones? (e.g. arthritis)	☐	☐
Fibromyalgia or chronic fatigue syndrome?	☐	☐
Cancer of any type?	☐	☐
Severe allergic reactions? (e.g. foods, insect stings)	☐	☐
Diabetes or high blood sugar?	☐	☐
Low blood sugar (hypoglycemia)?	☐	☐
Severe frostbite to the hands or feet?	☐	☐
Reading or learning disorders?	☐	☐
Any surgery? If yes, when and why?	☐	☐

Vision and Hearing Problems	Yes	No
Cataracts?	☐	☐
Glaucoma?	☐	☐
Loss of vision in either eye?	☐	☐
Weak or 'lazy' eye?	☐	☐
Loss of hearing in either ear?	☐	☐
Other eye or ear disorders?	☐	☐

Mental Health Problems	Yes	No
Anxiety disorders?	☐	☐
Panic or phobic disorders?	☐	☐
Post-traumatic stress disorder?	☐	☐
Obsessive-compulsive disorder?	☐	☐
Depression?	☐	☐
Manic depression (bipolar) disorder?	☐	☐
Psychosis, delusions or schizophrenia?	☐	☐
Personality disorder?	☐	☐
Attention-deficit / hyperactivity disorder?	☐	☐
A mental health problem that required care in hospital? If yes, when and why?	☐	☐
Other mental health disorder(s)? If yes, please specify:	☐	☐

PART 4 – PHYSICIAN COMMENTS (PLEASE PROVIDE COMMENTS FOR ALL 'YES' ANSWERS IN PART 3

PART 5 – PHYSICAL EXAMINATION (TO BE COMPLETED BY PHYSICIAN)

A: General

Height	Weight	BP	Heart rate	Neck circumference (cm)

Normal	Abnormal	Item	Specific finding	Yes	No	Additional comments
☐	☐	Pupils	Cataracts	☐	☐	
☐	☐	Ocular movements	Diplopia or strabismus	☐	☐	
☐	☐	Ears				
☐	☐	Nose	Perforated septum	☐	☐	
☐	☐	Mouth & teeth				
☐	☐	Speech				
☐	☐	Neck	Neck masses or nodes	☐	☐	
☐	☐	Chest expansion				
☐	☐	Breath sounds				
☐	☐	Heart sounds	Murmurs	☐	☐	
☐	☐	Major arteries	Bruits	☐	☐	
☐	☐	Peripheral circulation				
☐	☐	Abdomen	Masses	☐	☐	
			Hernia (men only)	☐	☐	
☐	☐	Liver	Signs of liver disease	☐	☐	
☐	☐	Gait				
☐	☐	Balance				
☐	☐	Eye-hand coordination	Tremor	☐	☐	
☐	☐	Skin	Hand dermatitis	☐	☐	
			Injection track marks	☐	☐	
☐	☐	Cognition				
☐	☐	Mood				
☐	☐	Behaviour				

B: Musculoskeletal

Please asses problems noted in the 'Current Activities' section and note any reduced ROM, weakness, deformity, or joint instability

Normal	Item	Abnormal	Additional Comments
☐	Cervical spine	☐	
☐	Thoracic spine	☐	
☐	Lumbosacral spine	☐	
☐	Shoulders	☐	
☐	Elbows	☐	
☐	Wrists & hands	☐	
☐	Hips	☐	
☐	Knees	☐	
☐	Ankles & feet	☐	

	Yes	No
Are there any findings on your examination that require further assessment	☐	☐

If yes, what advice have you given to the candidate?

PART 6 – PHYSICIAN'S FITNESS TO WORK OPINION (TO BE COMPLETED BY PHYSICIAN)

Based on the information provided by the candidate/employee and on his physical examination, he/she is considered: (check one category)

☐ Fit to work in the position applied for without restrictions

☐ Fit to work in the position applied for with the following restrictions:

List all restrictions: _____

_____

_____

_____

_____

☐ Temporarily unfit. Further medical information/evaluation is required

Please explain: _____

_____

_____

_____

_____

☐ Unfit to work in the position applied for

Please explain: _____

_____

_____

_____

_____

_____

Examining physician's name (print)

_____ _____

Examining physician's signature Date:

3 Periodic Medical Report Form

PART 1 – Information for the physician

Canadian Railway employees working in Safety Critical Positions operate or control the movement of trains. Impaired performance due to a medical condition could result in a significant incident affecting the health and safety of employees, the public, property or the environment.

It is federally mandated by the Railway Safety Act that individuals in Safety Critical Positions undergo periodic medical assessments. This report is to be used to record the results of this medical assessment. The Office of the Chief Medical Officer will review the contents of this report, which in conjunction with supplementary information, will be used to determine this employee's ongoing fitness to work in a Safety Critical Position.

In completing this form, please be aware that the safety of the employee, their co-workers and the general public is at stake. Special attention should be devoted to medical conditions that may result in sudden mental or physical impairment or any condition that may potentially interfere with an employee's ability to perform their duties in a safe manner. In the case of chronic conditions, be aware that impairment may occur gradually. Under the Railway Safety Act, physicians have an obligation to notify the Office of the Chief Medical Officer if an individual occupying a Safety Critical Position has a medical condition that in their opinion is likely to pose a threat to safe railway operations.

See next page for information on payment for completing this form. Please write or print legibly.

PART 2 – Employee Information and Consent (to be completed by the employee)

Name:	Employee number:
Address:	Date of birth:
	Telephone numbers – Home: Work:
Postal Code:	Supervisor:

Employee's Consent for the Release of Medical Information to the Railway Company

I, the undersigned, acknowledge that I occupy a Safety Critical Position and I will report any medical condition that may constitute a threat to safe railway operations. I declare that the information that I have provided or will be providing to the physician completing this report is truthful and complete. I consent for the physician performing this periodic medical assessment to release to, and discuss information contained in this report with, the Office of the Chief Medical Officer. I also consent for representatives from the Office of the Chief Medical Officer to discuss any details of this assessment with my physician. I understand that this information will be reviewed for the purpose of making a fitness to work determination. This consent is valid for six months from the date of signature.

_____ _____

Current Position Signature of Employee Date

PLEASE WRITE LEGIBLY
FOR ASSISTANCE REGARDING ANY COMPONENT OF THIS REPORT, CALL 1-XXX-XXX-XXXX

PART 3 – Medical Assessment (to be completed by the physician)

For any "Yes" response, please elaborate in the space provided and enclose any relevant documentation. Particular attention should be made to any medical condition that may result in sudden impairment.
PLEASE NOTE: Shaded areas are physical examination sections to be completed.

A – VISION – Please complete all sections

History or evidence of:	Yes	No
(a) Reduced distance vision	☐	☐
(b) Reduced near vision	☐	☐
(c) Reduced field of vision	☐	☐
(d) Double vision	☐	☐
(e) Strabismus	☐	☐
(f) Impaired depth perception	☐	☐
(g) Deficient colour vision	☐	☐
(h) Disease(s) of the eye (cataracts, glaucoma, retinal disorders, trauma, etc)	☐	☐

If "Yes" to any of the above, please elaborate:
_____

Please include the results of Snellen visual acuities:

Distance vision – with visual correction (if any)
Right eye _____/_____
Left eye _____/_____

Near vision – with visual correction (if any)	Yes	No
At 40 cm., can this individual identify correctly all 5 letters in one of the series below? (Randomly select one of the six series of letters. If > one error, repeat using a second series of letters).	☐	☐

asxro vzonc saenr
rzvnu enuor aszxn

Indicate number of errors (if any) _____

Visual Fields (by confrontation method)

	Normal	Abnormal
Right eye	☐	☐
Left eye	☐	☐

B – HEARING

History or evidence of:	Yes	No
(a) Significant hearing loss? (enclose audiogram if available)	☐	☐
(b) Other disease(s) of the ear (acoustic neuroma, otosclerosis, tinnitus, etc.)	☐	☐

If "Yes", please elaborate: _____
_____

C – CENTRAL NERVOUS SYSTEM DISORDERS

History or evidence of:	Yes	No
(a) Seizure disorder or syncopal episode (s)?	☐	☐
(b) Other disease(s) of the nervous system? (e.g. disorders of coordination or muscle control, head injury, intracranial tumours, post-traumatic conditions, vestibular disorders etc.)	☐	☐

If "Yes" to any of the above, please elaborate:
_____

D – CARDIOVASCULAR DISORDERS

Blood pressure _____/_____ **Pulse** _____
(If > 140/90 please repeat)

Height _____ **Weight** _____

History or evidence of:	Yes	No
(a) Coronary artery disease	☐	☐
(b) Myocardial infarction(s) Indicate date(s) _____	☐	☐
(c) Cerebrovascular disease (aneurysm / stroke/TIAs, etc)	☐	☐
(d) Hypertension	☐	☐
(e) Aortic aneurysm	☐	☐
(f) Congestive heart failure	☐	☐
(g) Cardiac dysrhythmia	☐	☐
(h) Valvular heart disease	☐	☐
(i) Cardiomyopathy	☐	☐
(j) Heart transplant	☐	☐
(k)Any other cardiovascular disease not listed above	☐	☐

If "Yes" to any of the above, address the following 3 areas:
(1) Please elaborate_____
_____
_____

(2) Indicate Canadian Cardiovascular Society Functional Class (circle)
I - no limitations, II - mid, III - moderate, IV - severe

(3) Enclose relevant specialists report and the results of diagnostic test (ECG, echocardiogram, stress test, etc...) if available

PART 3 – Medical Assessment (to be completed by the physician) (cont'd)

E - ENDOCRINE DISORDERS	Yes	No
History or evidence of symptomatic metabolic disease? (e.g., diabetes, hypothyroidism, Cushing's Disease, Addison's Disease, pheochromocytoma, etc.)	☐	☐

If "Yes", please elaborate:

_____

_____

If there is a history of diabetes, please complete the following:

State onset of diabetes (approx. date): _____

Type of control:

Diet only ☐ Oral Medication ☐ Insulin ☐

Current medication(s) and dose: _____

_____

Has this individual had a hypoglycemic episode(s) within the last 12 months?	☐	☐
If "Yes" please indicate date(s) of last hypoglycemic episode(s):	☐	☐

_____

_____

History or evidence of hypoglycemic unawareness?	☐	☐

If "Yes", please elaborate:

_____

F - RESPIRATORY DISORDERS	Yes	No
History or evidence of respiratory disease? (e.g., asthma, COPD, bronchitis, sarcoidosis, etc.)	☐	☐
Does this individual smoke? (indicate packs, years)	☐	☐

If "Yes", please elaborate:

_____

G - GASTROINTESTINAL/GENITOURINARY DISORDERS	Yes	No
History or evidence of significant gastrointestinal or genitourinary condition(s)?	☐	☐

H - MUSCULOSKELETAL DISORDERS	Yes	No
History or evidence of significant musculoskeletal condition? (e.g., amputation of a limb, arthritis, significant major joint dysfunction, disease of the spine, etc.)	☐	☐

If "Yes", please elaborate:

_____

_____

I - SUBSTANCE USE DISORDERS	Yes	No
History or evidence of abuse or dependence on alcohol, illegal drugs, medications, or other substances?	☐	☐
Has the use of alcohol or other drugs (substances) ever caused any problems for this person?	☐	☐

If "Yes", please elaborate:

_____

_____

J - MEDICATIONS

List all current medications including any over-the-counter and prescription medication(s):

Medication	Dose
_____	_____

K - PSYCHIATRIC/MENTAL DISORDERS History or evidence of:	Yes	No
(a) Anxiety disorder(s)? (e.g., generalized anxiety, panic attack, phobias, etc.)	☐	☐
(b) Cognitive disorder(s)? (e.g., dementia, delirium, amnesia, etc.)	☐	☐
(c) Mood disorder(s)? (e.g., depression, manic, bipolar, etc.)	☐	☐
(d) Personality disorder(s) manifesting in anti-social, erratic or aggressive behaviour?	☐	☐
(e) Psychiatric/mental disorder(s) due to a general medical condition?	☐	☐
(f) Psychotic disorder(s)? (e.g., schizophrenia, delusional, unspecified, etc.)	☐	☐
(g) Any other psychiatric/mental disorder(s) not listed above?	☐	☐

If "Yes" to any of the above, please elaborate:

_____

Enclose relevant specialists reports if available.

L - SLEEP DISORDERS	Yes	No
History of established diagnosis of sleep apnea?	☐	☐

If "No", please complete the following obstructive sleep apnea screening assessment:

Please measure neck circumference in centimeters

_____

History of hypertension?	☐	☐
History of frequent* reported snoring?	☐	☐
History of frequent* reported choking, gasping or witnessed apneas?	☐	☐

*occurs on most nights (5/7 to 7/7)

History or evidence of other sleep disorder(s)? ☐
☐

If "Yes", please elaborate:

_____
_____
_____
_____
_____

Part 4 – Physician summary

1.	In your medical opinion, does this individual have a medical condition that is likely to pose a threat to safe railway operations?	Yes ☐	No ☐
2.	Do you think that there is a need for further assessment in regards to your patient's fitness to work?	Yes ☐	No ☐
3.	Would you like to discuss this report with the Railway Company Physician?	Yes ☐	No ☐
4.	How long has this individual been your patient? _____		

COMMENTS:

_____
_____
_____
_____

PART 5 - Physician Statement and Contact Information

This report will be used to make an assessment on an employee's fitness to work and constitutes a third party service. In completing this form, please be thorough and write legibly. If you have any questions regarding any component of this form, call the number listed below for assistance.

Employee's Name

_____

Date of medical visit on which this report is based

_____

I certify that the information contained in this report is, to the best of my knowledge, correct.

Physician's Name: _____ Telephone: ( ) _____

Address: _____ Fax: ( ) _____

_____

_____ Postal Code: _____

☐ Family Physician/General Practitioner
☐ or Certified Specialist in _____

Part 6 - Information Regarding Payment

The Railway Company agrees to pay to the physician a fee of $XX.XX. This fee is used as a guide. It is appreciated that in some circumstances a greater fee may be appropriate commensurate with the physician's time and the detail of the information provided. In such circumstances, a fee in accordance with the current provincial guidelines for uninsured services would be appropriate. No additional invoice is necessary. Please provide in the space below the person to whom the cheque should be made payable, and the address. **Reports may be sent by regular mail or courier to:**

INSERT ADDRESS OF RAILWAY COMPANY HERE

Person to whom the cheque should be made payable and the mailing address:

PLEASE WRITE LEGIBLY
FOR ASSISTANCE REGARDING ANY COMPONENT OF THIS REPORT,
CALL 1 - XXX - XXX - XXXX