



## CALGARY FIRE DEPARTMENT RECRUIT INFORMATION- MEDICAL REQUIREMENTS

The following document provides GENERAL BUT NOT ALL INCLUSIVE INFORMATION on common conditions and steps you can take to help CFD physicians improve efficiency in assessing you for medical clearance. However, this is not an exhaustive list, and you should cross reference with the **complete National Fire Protection Association guidelines (NFPA 1582- Standard on Comprehensive Occupational Medical Program for Fire Departments 2013 Edition)** and be aware that if there is cause for concern by the Fire Department physicians, you may be denied or deferred clearance for the recruit class that you are being assessed for that could affect leave of absence from your current or prior employment. Meeting NFPA criteria is still not a guarantee, for example in the case of seizure disorders.

**Please contact CFD if you have any significant condition(s) or concerns prior to accepting a position as a recruit candidate. It may be important to get a complete medical and screen for certain medical conditions with your GP prior to submitting an application to CFD, for example, getting an ECG and labs like glucose, etc and using the following list of conditions referenced from NFPA as a guideline. A copy of the guideline can be purchased from NFPA.org.**

The Calgary Fire Department references and follows the guidelines set forth by NFPA. **Category A** conditions would generally eliminate an individual from medical clearance. **Category B** conditions (listed in NFPA, not listed in this form) **MAY** eliminate you and are assessed on a case by case basis.

- **Diabetes Mellitus - insulin dependence** usually excludes an individual. Rare circumstances whereby an individual has documented excellent control and stable management, with absence of low sugars or labile control (as evidenced by logbooks and endocrinology letter providing this information with support for a career in firefighting) may be considered. Non-insulin dependent diabetes will be considered under similar circumstances. See NFPA guidelines. **We are very strict on this and require AT MINIMUM to meet NFPA criteria.**
- **Clotting or bleeding disorders-** a past or current diagnosis of bleeding disorders, medications that increase bleeding (ie warfarin, new oral anticoagulants, etc) or conditions resulting in clotting (pulmonary embolism, DVT) will likely restrict from clearance except in exceptional circumstances. Specialist notes, testing, treatment recommendations and plans (type, length of treatment course), hospitalization records will be required to evaluate fitness for duties but a supporting letter may not guarantee clearance. Specialists should be made aware of and comment on job demands of firefighters in any letters of support written (with limitations explicitly listed).
- **Neurologic conditions-** limiting conditions per NFPA guidelines include cerebral arteriosclerosis (history of transient ischemic attack, reversible ischemic neurological deficit, or ischemic stroke), past or present seizures/epilepsy (refer to NFPA guidelines for full details and criteria). Even if all criteria are met, this does not guarantee clearance. **SEIZURE DISORDER IS A HIGH RISK CONDITION IN FIREFIGHTING AND IS DISCOURAGED. CHECK WITH CFD IF YOU HAVE THIS HISTORY AND ARE CONSIDERING APPLYING AS IT MAY EXCLUDE YOU.** Uncorrected cerebral aneurysm, dementia, multiple sclerosis, myasthenia gravis, Parkinson's disease and other movement disorders resulting in uncontrolled movements, bradykinesia, or cognitive impairment are also listed as Category A conditions.
- **Cardiac-** Various heart conditions (or family history of certain heart conditions) can exclude an individual. Please refer to NFPA complete list for heart conditions and **APPENDIX A** of this document for a self-check list. **Any murmur should be investigated with an echocardiogram through your family doctor. Be aware that 1 or more positive answers in Appendix A may require further investigations prior to consideration of clearance.** Coronary artery disease, cardiomyopathy or congestive heart failure, acute



pericarditis/endocarditis/ myocarditis, recurrent syncope, any medical condition that would require an implantable cardiac defibrillator or history of ventricular tachycardia or ventricular fibrillation due to ischemic or valvular heart disease, third-degree atrioventricular block, cardiac pacemaker, heart transplant are medical conditions that are likely to exclude as per NFPA. Hypertrophic cardiomyopathy (HCM), including idiopathic hypertrophic subaortic stenosis (see screening checklist for HCM and other congenital cardiac conditions -Appendix A) is a Category A exclusion. Consider getting an ecg with your family doctor and working up any abnormalities further prior to seeing CFD wellness doctors. Uncontrolled or poorly controlled high blood pressure, thoracic or abdominal aortic aneurysm, carotid artery stenosis or obstruction resulting in greater than or equal to 50 percent reduction in blood flow, peripheral vascular disease resulting in symptomatic claudication are other examples of Category A NFPA criteria.

- **Respiratory**- please refer to pulmonary section in NFPA guidelines. For asthma, a section of this has been adapted from the guidelines for you to review. We recommend seeking specialist opinion (Pulmonologist) and review the criteria listed with the specialist. Patients with asthma or other chronic lung disease will require PFTs and a Pulmonologist's letter outlining that all criteria as per the NFPA have been met. Active hemoptysis, current empyema, pulmonary hypertension, active tuberculosis, hypoxemia, lung transplant are Category A criteria. Certain lung conditions like COPD or asthma would require meeting criteria as outlined in NFPA (review guideline under this section).

*\*Asthma — reactive airways disease requiring bronchodilator or corticosteroid therapy for 2 or more consecutive months in the previous 2 years, unless the candidate can meet the following:*

- *A candidate who has in the past required bronchodilator, corticosteroid, or anti-inflammatory therapy (e.g., leukotriene receptor antagonists, such as Montelukast) for asthma but who does not believe he/she has asthma shall be evaluated by a pulmonologist or other expert in asthmatic lung diseases, such as an allergist, to determine if the candidate meets all the following:*
  - *Asthma has resolved without symptoms off medications for 2 years.*
  - *Allergen avoidance or desensitization has been successful.*
  - *Spirometry demonstrates adequate reserve (FVC and FEV1 greater than or equal to 90 percent) and no bronchodilator response measured off all bronchodilators on the day of testing.*
  - *Normal or negative response to provocative challenge testing [e.g., cold air, exercise (12 METs), methacholine, histamine, mannitol, or hypertonic saline] or negative response to exercise challenge.*
- **Cancer**- most active and some cancers in remission can exclude clearance so refer to NFPA guidelines. Application requires supporting documents including details of diagnosis and treatment, oncology/specialist letters specifically outlining support for your application as a firefighter with comments on prognosis, treatment plans, and thoughts on any work limitations. The specialist should be made aware of job demands of firefighting (**Appendix B**).
  - **Other**- numerous other conditions may limit clearance (ie. significant joint or spine arthritis or immobility, facial anomalies or other head and neck conditions, certain prescription medications, mental health conditions, substance abuse, endocrine, blood, neurologic or other organ/system disorders). Please review NFPA guidelines for details or contact CFD Wellness with questions.
  - **Eyes and Vision**- Far visual acuity less than 20/40 binocular, corrected with contact lenses or spectacles, or far visual acuity less than 20/100 binocular for wearers of hard contacts or spectacles, uncorrected.
  - **Hearing**- (1) Chronic vertigo or impaired balance as demonstrated by the inability to tandem gait walk (2) On audiometric testing, average hearing loss in the unaided better ear greater than 40 decibels (dB) at 500 Hz, 1000 Hz, 2000 Hz, and 3000 Hz when the audiometric device is calibrated to ANSI Z24.5, Audiometric Device Testing



- **Abdominal Organs and Gastrointestinal (GI) System-** presence of uncorrected inguinal/femoral hernia regardless of symptoms and any GI condition not allowing the individual to safely complete one or more of the essential job tasks are listed as CATEGORY A NFPA CRITERIA.
- **Urinary System-**kidney failure or insufficiency requiring continuous ambulatory peritoneal dialysis (CAPD) or hemodialysis are examples of CATEGORY A NFPA CRITERIA.
- **Spine and Axial Skeleton-**scoliosis of thoracic or lumbar spine with angle greater than or equal to 40 degrees, history of spinal surgery with rods that are still in place, any spinal or skeletal condition producing sensory or motor deficit(s) or pain due to radiculopathy or nerve root compression or requiring use of narcotics, any cervical/thoracic/lumbar fractures are examples of CATEGORY A NFPA CRITERIA.
- **Amputations-**refer to NFPA. Contact CFD for further consideration in unique circumstances.
- **Chemicals, Drugs, and Medications-**chronic or frequent treatment with any of the following medications: narcotics, methadone, sedative-hypnotics, anticoagulants, beta-adrenergic blocking agents at doses that prevent a normal heart rate response to exercise, high-dose diuretics, or central acting antihypertensive agents (e.g., clonidine), respiratory medications: inhaled bronchodilators, inhaled or systemic corticosteroids, theophylline, and leukotriene receptor antagonists (e.g., Montelukast), high-dose corticosteroids for chronic disease, anabolic steroids. This is not a comprehensive list, please contact CFD if needed.
- **Psychiatric Conditions.** To be determined and discussed with the psychiatrist and attending physician for any active conditions.

SEE THE FOLLOWING PAGE FOR A SUMMARY LETTER TO TAKE TO YOUR FAMILY DOCTOR OR SPECIALIST WHERE APPLICABLE. REFER TO AND PRINT OUT A COPY OF APPENDIX B (ESSENTIAL JOB TASKS) TO REVIEW WITH YOUR PHYSICIAN. CERTAIN CARDIAC, RESPIRATORY, DIABETES AND SEIZURE DISORDERS WILL BE CONSIDERED INDIVIDUALLY AND CLEARANCE IS BASED ON A NUMBER OF FACTORS INCLUDING SPECIALIST NOTES AND LETTER OF SUPPORT. GETTING CFD THE REQUIRED INFORMATION AS EARLY AS POSSIBLE CAN HELP TREMENDOUSLY.

**A copy of the NFPA 1582 guidelines can be purchased from [NPFA.org](http://NPFA.org)**



Dear Physician:

Fire suppression is amongst the most dangerous aspects of a firefighter's job. Certain medical conditions can put both themselves and their team members at risk. If a firefighter is to collapse or become incapacitated in a fire, both the public (if trapped and having to be saved) and firefighter team members (having to save a non-functioning team member in addition to other duties) are at risk, in addition to the individual.

Please note that the NFPA Guidelines are set out by the International Association of Firefighters to help guide physicians in determining safety for duties. Firefighters have a wide range of mental and physical requirements and job demands throughout their career. This is not just limited to fighting fires and includes duties such as medical calls, CPR, attending accidents or chemical spills/gas leaks, driving large vehicles, vehicle extractions and rescue calls amongst many other job demands. The job can range from highly physical and stressful/traumatic mixed with periods of down time.

At the Calgary Fire Department, a physician familiar with fire fighting job demands and the NFPA guidelines assesses both recruits and active firefighters for initial and ongoing fitness for duties and deems them cleared or unfit for such demands. The NFPA guidelines are aptly named- guidelines. As such, there may be circumstances whereby an individual may meet criteria set out in these NFPA guidelines and still be excluded from clearance (such as in seizure disorders, insulin dependent diabetes, hypertrophic obstructive cardiomyopathy, or other conditions that may put a person at significant risk of collapse or incapacitation while performing their duties as a firefighter). There occasionally may be cases where it is unclear whether an individual meets the NFPA criteria and yet may be considered in circumstances where specialists and the Calgary Fire Department physicians both agree that the condition may be managed or mitigated safely to allow the applicant to complete a lifelong career as a firefighter.

We do recommend job demands be reviewed (candidate should provide a copy of Appendix B) in assessing an individual for pursuing a job in fire suppression and related duties. A letter of support based on your review of the patient's condition in the context of these job demands **and** reviewing the applicable section of the NFPA guidelines will be considered when the Calgary Fire Department's physician is assessing an individual for clearance. The more detailed a supporting letter is, the more weight it may hold in helping to evaluate a candidate's fitness for a career in firefighting.

Sincerely,

The Physicians at CFD Wellness  
DR JUDY WONG  
DR CORY WOWK



## Appendix A

The 14-Element Cardiovascular Screening Checklist for Congenital and Genetic Heart Disease:

### Personal history:

1. Chest pain/discomfort/tightness/pressure related to exertion
2. Unexplained syncope/near-syncope\*
3. Excessive exertional and unexplained dyspnea/fatigue or palpitations, associated with exercise
4. Prior recognition of a heart murmur
5. Elevated systemic blood pressure
6. Prior restriction from participation in sports
7. Prior testing for the heart, ordered by a physician

### Family history:

8. Premature death (sudden and unexpected, or otherwise) before age 50 attributable to heart disease in  $\geq 1$  relative
9. Disability from heart disease in close relative  $< 50$  y of age
10. Hypertrophic or dilated cardiomyopathy, long-QT syndrome, or other ion channelopathies, Marfan syndrome, or clinically significant arrhythmias; specific knowledge of certain cardiac conditions in family members

### Physical examination:

11. Heart murmur\*\*
12. Femoral pulses to exclude aortic coarctation
13. Physical stigmata of Marfan syndrome
14. Brachial artery blood pressure (sitting position)\*\*\*

\*Judged not to be of neurocardiogenic (vasovagal) origin; of particular concern when occurring during or after physical exertion.

\*\*Refers to heart murmurs judged likely to be organic and unlikely to be innocent; auscultation should be performed with the patient in both the supine and standing positions (or with Valsalva maneuver), specifically to identify murmurs of dynamic left ventricular outflow tract obstruction.

\*\*\*Preferably taken in both arms.

Referenced from <http://www.acc.org/latest-in-cardiology/articles/2014/09/15/14/24/acc-aha-release-recommendations-for-congenital-and-genetic-heart-disease-screenings-in-youth>



## APPENDIX B:

### Essential Job Tasks and Descriptions (adapted from NFPA)

- (1) While wearing personal protective ensembles and self-contained breathing apparatus (SCBA), performing firefighting tasks (e.g., hoseline operations, extensive crawling, lifting and carrying heavy objects, ventilating roofs or walls using power or hand tools, forcible entry), rescue operations, and other emergency response actions under stressful conditions including working in extremely hot or cold environments for prolonged time periods
- (2) Wearing an SCBA, which includes a demand valve–type positive-pressure face piece or HEPA filter masks, which requires the ability to tolerate increased respiratory workloads
- (3) Exposure to toxic fumes, irritants, particulates, biological (infectious) and non-biological hazards, and/or heated gases, despite the use of personal protective ensembles and SCBA
- (4) Depending on the local jurisdiction, climbing six or more flights of stairs while wearing a fire protective ensemble, including SCBA, weighing at least 50 lb (22.6 kg) or more and carrying equipment/tools weighing an additional 20 to 40 lb (9 to 18 kg)
- (5) Wearing a fire protective ensemble, including SCBA, that is encapsulating and insulated, which will result in significant fluid loss that frequently progresses to clinical dehydration and can elevate core temperature to levels exceeding 102.2°F (39°C)
- (6) While wearing personal protective ensembles and SCBA, searching, finding, and rescue-dragging or carrying victims ranging from newborns to adults weighing over 200lb (90 kg) to safety despite hazardous conditions and low visibility
- (7) While wearing personal protective ensembles and SCBA, advancing water-filled hoselines up to 2 1/2 in. (65 mm) in diameter from fire apparatus to occupancy [approximately 150 ft (50 m)], which can involve negotiating multiple flights of stairs, ladders, and other obstacles
- (8) While wearing personal protective ensembles and SCBA, climbing ladders, operating from heights, walking or crawling in the dark along narrow and uneven surfaces that might be wet or icy, and operating in proximity to electrical power lines or other hazards
- (9) Unpredictable emergency requirements for prolonged periods of extreme physical exertion without benefit of warm-up, scheduled rest periods, meals, access to medication(s), or hydration
- (10) Operating fire apparatus or other vehicles in an emergency mode with emergency lights and sirens
- (11) Critical, time-sensitive, complex problem solving during physical exertion in stressful, hazardous environments, including hot, dark, tightly enclosed spaces, that is further aggravated by fatigue, flashing lights, sirens, and other distractions
- (12) Ability to communicate (give and comprehend verbal orders) while wearing personal protective ensembles and SCBA under conditions of high background noise, poor visibility, and drenching from hoselines and/or fixed protection systems (sprinklers)
- (13) Functioning as an integral component of a team, where sudden incapacitation of a member can result in mission failure or in risk of injury or death to civilians or other team members