

# Medical Standards for Municipal Fire Fighters

## Medical Evaluation<sup>3</sup>

- (1) A medical evaluation of a candidate shall be conducted prior to the candidate being placed in training programs or fire department emergency response activities. The medical evaluation of a candidate shall include a medical history, examination, and any laboratory tests required to detect physical or medical condition(s) that could adversely affect his/her ability to safely perform the essential job tasks of being a fire fighter.
- (2) The medical evaluation shall minimally include the following:
  - A comprehensive medical history
  - A baseline (pre-placement) occupational history, including significant past exposures and training and experience with personal protection equipment
  - Height and weight
  - Vital signs: pulse, respiration, blood pressure, and, if indicated, temperature
  - Dermatological system
  - Ears, eyes, nose, mouth, throat
  - Cardiovascular system
  - Respiratory system
  - Gastrointestinal system
  - Genitourinary system
  - Endocrine and metabolic systems
  - Musculoskeletal system
  - Neurological system
  - Mental status evaluation. Based on the severity, diagnosis, and impairment of any identified behavior or condition, the initial examiner is encouraged to consider referral of the applicant to a doctoral level mental health professional for further evaluation. In general, the current or recent use of psychotropic medications shall be reviewed by a Board certified psychiatrist.
  - Audiometry. Audiograms should be performed in an ANSI approved "soundproof" booth (ANSI S3.1- 1977) with equipment calibrated to ANSI standards (ANSI S3.6-1973). If a booth is unavailable, the test room sound pressure levels should not exceed those specified in the Federal OSHA noise regulations (29 CFR 1910.25),
  - Visual acuity and peripheral vision testing
  - Pulmonary function testing. A baseline test should be administered by an experienced individual. Only a spirogram that is technically acceptable and demonstrates the best efforts by an individual should be used to calculate the Forced Vital Capacity (FVC) and Forced Expiratory Volume in one second (FEV1.0),

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<sup>3</sup> Physicians are also advised to ascertain the presence of any medical conditions listed in the National Fire Protection Association's (NFPA) 1582, Medical Requirements for Fire Fighters, which would prevent the individual from performing the essential job functions without posing a significant risk.

- review of hepatitis B immunization status including hepatitis B surface antibody titer if immunized, offer of hepatitis B vaccine if not fully immunized or HbgAb titer less than 10 and documentation of declination if vaccination refused by examinee,
- A Purified Protein Derivative (PPD) test for tuberculosis, based on individual departmental infection control plans, and,
- Other diagnostic testing where indicated.
- A review of tetanus immunization status.

All medical information collected as part of a medical evaluation shall be considered confidential medical information, and shall be released by the physician only with the specific written consent of the candidate. The physician shall report the results of the medical evaluation to the candidate, including any medical condition(s) disclosed during the medical evaluation, and the recommendation whether the candidate is medically certified to perform as a fire fighter. The physician shall inform the fire department only whether or not the candidate is medically certified to perform as a fire fighter. The specific written consent of the candidate shall be required to release confidential medical information to the fire department, following guidelines set forth under the Americans With Disabilities Act (ADA) and other relevant policies.

## Medical Standards

The Commonwealth of Massachusetts Human Resources Division (HRD) has adopted the National Fire Protection Association (NFPA) 1582, Standard on Medical Requirements for Firefighters (NFPA 1582 Chapter 6) as the medical standards for municipal firefighters<sup>4</sup>. The standard shall provide specific requirements for candidates based on medical conditions that can affect a candidate's ability to safely perform the essential job tasks of a firefighter.

The standards are presented and numbered as they are in the NFPA 1582 Chapter 6: *Medical Evaluations of Candidates*.

### 6.2 Medical Conditions Affecting Ability to Safely Perform Essential Job Tasks.

Medical conditions that can affect a candidate's ability to safely perform essential job tasks shall be designated either Category A or Category B.

- Candidates with Category A medical conditions shall not be certified as meeting the medical requirements of this standard.
- Candidates with Category B medical conditions shall be certified as meeting the medical requirements of this standard only if they can perform the essential job tasks without posing a significant safety and health risk to themselves, members, or the public.

### 6.3 Head and Neck.

#### 6.3.1 Head.

6.3.1.1 Category A medical conditions shall include the following:

- (1) Defect of skull preventing helmet use or leaving underlying brain unprotected from trauma
- (2) Any skull or facial deformity that would not allow for a successful fit test for respirators used by that department
- (3) Any head condition that results in the candidate not being able to safely perform one or more of the essential job tasks

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6.3.1.2 Category B medical conditions shall include the following:

- (1) Deformities of the skull such as depressions or exostoses
- (2) Deformities of the skull associated with evidence of disease of the brain, spinal cord, or peripheral nerves
- (3) Loss or congenital absence of the bony substance of the skull

6.3.2 Neck.

6.3.2.1 Category A medical conditions shall include any neck condition that results in the candidate not being able to safely perform one or more of the essential job tasks.

6.3.2.2 Category B medical conditions shall include the following:

- (1) Thoracic outlet syndrome
- (2) Congenital cysts, chronic draining fistulas, or similar lesions
- (3) Contraction of neck muscles

## **6.4 Eyes and Vision.**

6.4.1 Category A medical conditions shall include the following:

- (1) Far visual acuity worse than 20/40 binocular, corrected with contact lenses or spectacles, or far visual acuity worse than 20/100 binocular for wearers of hard contacts or spectacles, uncorrected
- (2) Color perception — monochromatic vision resulting in inability to use imaging devices such as thermal imaging cameras
- (3) Monocular vision
- (4) Any eye condition that results in the candidate not being able to safely perform one or more of the essential job tasks

6.4.2 Category B medical conditions shall include the following:

- (1) Diseases of the eye such as retinal detachment, progressive retinopathy, or optic neuritis
- (2) Ophthalmological procedures such as radial keratotomy, Lasik procedure, or repair of retinal detachment
- (3) Peripheral vision in the horizontal meridian of less than 110 degrees in the better eye or any condition that significantly affects peripheral vision in both eyes
- (4) Amblyopia

## **6.5 Ears and Hearing.**

6.5.1 Category A medical conditions shall include the following:

- (1) Chronic vertigo or impaired balance as demonstrated by the inability to tandem gait walk
- (2) On audiometric testing, without the aid of a hearing assistance device, average hearing loss in the unaided better ear worse 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
- (3) Any ear condition or hearing impairment that results in the candidate not being able to safely perform one or more of the essential job tasks

6.5.2 Category B medical conditions shall include the following:

- (1) Unequal hearing loss
- (2) Average uncorrected hearing deficit at the test frequencies 500 Hz, 1000 Hz, 2000 Hz, and 3000 Hz worse than 40 dB in either ear
- (3) Atresia, stenosis, or tumor of the auditory canal
- (4) External otitis, recurrent
- (5) Agenesis or traumatic deformity of the auricle
- (6) Mastoiditis or surgical deformity of the mastoid
- (7) Meniere's disease, labyrinthitis, or tinnitus
- (8) Otitis media, recurrent
- (9) Surgical procedures to correct or improve hearing or other conditions of the ear

### **6.6 Dental.**

6.6.1 Category A medical conditions shall include any dental condition that results in inability to safely perform one or more of the essential job tasks.

6.6.2 Category B medical conditions shall include the following:

- (1) Diseases of the jaws or associated tissues
- (2) Orthodontic appliances
- (3) Oral tissues, extensive loss
- (4) Relationship between the mandible and maxilla that interferes with satisfactory postorthodontic replacement or ability to use protective equipment

### **6.7 Nose, Oropharynx, Trachea, Esophagus, and Larynx.**

6.7.1 Category A medical conditions shall include the following:

- (1) Tracheostomy
- (2) Aphonia
- (3) Any nasal, oropharyngeal, tracheal, esophageal, or laryngeal condition that results in inability to safely perform one or more of the essential job tasks, including fit testing for respirators used by the fire department and SCBA for fire and hazmat operations

6.7.2 Category B medical conditions shall include the following:

- (1) Congenital or acquired deformity
- (2) Allergic rhinitis
- (3) Epistaxis, recurrent
- (4) Sinusitis, recurrent
- (5) Dysphonia
- (6) Anosmia
- (7) Tracheal stenosis

- (8) Nasopharyngeal polyposis
- (9) Obstructive apneas (e.g., sleep apnea) if unresponsive to treatment

## **6.8 Lungs and Chest Wall.**

6.8.1 Category A medical conditions shall include the following:

- (1) Active hemoptysis
- (2) Current empyema
- (3) Pulmonary hypertension
- (4) Active tuberculosis
- (5) A forced vital capacity (FVC) or forced expiratory volume in 1 second (FEV1) less than 70 percent predicted even independent of disease
- (6) Obstructive lung diseases (e.g., emphysema, chronic bronchitis, asthma) with an absolute FEV1/FVC less than 0.70 and with either the FEV1 below normal or both the FEV1 and the FVC below normal (i.e., less than 0.80) (see references in Section F.2)
- (7) Hypoxemia oxygen saturation less than 90 percent at rest or exercise desaturation by 4 percent or to less than 90 percent exercise testing indicated when resting oxygen is less than 94 percent but greater than 90 percent
- (8) Asthma, including reactive airways disease requiring bronchodilator or corticosteroid therapy at least once in the previous 2 years, unless the candidate can meet the requirement in 6.8.1.1
- (9) Any pulmonary condition that results in the candidate not being able to safely perform one or more of the essential job tasks
- (10) Lung transplant
- (11) Obstructive sleep apnea with excessive daytime sleepiness, unless all the following criteria are met:
  - 1. Successful treatment
  - 2. Documentation of compliance with CPAP, for sleep study with an oral appliance, or of sleep study after surgery
  - 3. No excessive daytime sleepiness with treatment

6.8.1.1 A candidate who has been diagnosed with asthma or has in the past required bronchodilator, corticosteroid, or anti-inflammatory therapy (e.g., a leukotriene receptor antagonist, such as montelukast) 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:

- (1) The applicant denies bronchospasm during exertion, temperature/humidity extremes, or irritant exposures.
- (2) The applicant denies the use of bronchodilator rescue medications during exertion, temperature/humidity extremes, or irritant exposures.
- (3) The applicant's asthma has not required systemic corticosteroids, emergency room treatment, or hospital admission in the past 2 years.
- (4) Allergen avoidance or desensitization has been successful.
- (5) 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.

- (6) Normal or negative response to provocative challenge testing [e.g., cold air, exercise (12 METs), methacholine (PC20 greater than 8 is considered normal because response at dose greater than 8 mg/ml might not be clinically significant), histamine, mannitol, or hypertonic saline] or negative response to exercise challenge.

6.8.1.1.1 Challenge testing shall be performed off all anti-inflammatory medications (e.g., inhaled or oral steroids, leukotriene receptor antagonists) for 4 weeks preceding the test, off all antihistamines (e.g., oral allergy medications) for 1 week, and off all bronchodilators on the day of testing.

6.8.2 Category B medical conditions shall include the following:

- (1) Pulmonary resection surgery, chest wall surgery, and pneumothorax
- (2) Pleural effusion
- (3) Fibrothorax, chest wall deformity, and diaphragm abnormalities
- (4) Interstitial lung diseases
- (5) Pulmonary vascular diseases or history of pulmonary embolism
- (6) Bronchiectasis, if abnormal pulmonary function or recurrent infections
- (7) Infectious diseases of the lung or pleural space
- (8) Cystic fibrosis
- (9) Central or obstructive apnea (e.g., sleep apnea)

## **6.9 Aerobic Capacity.**

6.9.1 Category A medical conditions shall include:

- (1) An aerobic capacity less than 12 metabolic equivalents (METs) (12 METs = 42 mL O<sub>2</sub>/kg/min).

## **6.10 Heart and Vascular System.**

6.10.1 Heart.

6.10.1.1 Category A medical conditions shall include the following:

- (1) Clinically significant coronary artery disease, including history of myocardial infarction, angina pectoris, coronary artery bypass surgery, coronary angioplasty, and similar procedures
- (2) Cardiomyopathy or congestive heart failure, including signs or symptoms of compromised left or right ventricular function or rhythm, including dyspnea, S3 gallop, peripheral edema, enlarged ventricle, abnormal ejection fraction, and/or inability to increase cardiac output with exercise
- (3) Acute pericarditis, endocarditis, or myocarditis
- (4) Syncope, recurrent
- (5) Any medical condition requiring an automatic implantable cardiac defibrillator, unless the condition no longer requires an automatic implantable cardiac defibrillator, or a medical history of ventricular tachycardia or ventricular fibrillation due to ischemic or valvular heart disease, or cardiomyopathy
- (6) Third-degree atrioventricular block
- (7) Cardiac pacemaker, if the applicant is pacemakerdependent
- (8) Hypertrophic cardiomyopathy, including idiopathic hypertrophic subaortic stenosis

(9) Any cardiac condition that results in the candidate not being able to safely perform one or more of the essential job tasks

(10) Heart transplant

6.10.1.2 Category B medical conditions shall include the following:

(1) Valvular lesions of the heart, including prosthetic valves

(2) Recurrent supraventricular or atrial tachycardia, flutter, or fibrillation

(3) Left bundle branch block

(4) Second-degree atrioventricular block in the absence of structural heart disease

(5) Sinus pause of more than 3 seconds

(6) Ventricular arrhythmia (history or presence of multifocal PVCs or nonsustained ventricular tachycardia on resting EKG with or without symptoms; history or presence of sustained ventricular tachycardia with or without symptoms)

(7) Cardiac hypertrophy

(8) History of a congenital abnormality

(9) Chronic pericarditis, endocarditis, or myocarditis

(10) Brugada syndrome

(11) Long QT syndrome

(12) Arrhythmogenic right ventricular cardiomyopathy

(13) Cardiac pacemaker, if the applicant is not pacemakerdependent

(14) Coronary artery disease, if not covered by 6.10.1.1

6.10.2 Vascular System.

6.10.2.1 Category A medical conditions shall include the following:

(1) Hypertension

(a) Uncontrolled or poorly controlled hypertension

(b) Hypertension with evidence of end organ damage

(2) Thoracic or abdominal aortic aneurysm

(3) Carotid artery stenosis or obstruction resulting in greater than or equal to 50 percent reduction in blood flow

(4) Peripheral vascular disease resulting in symptomatic claudication

(5) Any other vascular condition that results in inability to safely perform one or more of the essential job tasks

6.10.2.2 Category B medical conditions shall include the following:

(1) Vasospastic phenomena such as Raynaud's phenomenon

(2) Thrombophlebitis, thrombosis, or varicosities

(3) Chronic lymphedema due to lymphadenopathy or venous valvular incompetency

- (4) Congenital or acquired lesions of the aorta or major vessels
- (5) Circulatory instability as indicated by orthostatic hypotension, persistent tachycardia, and peripheral vasomotor disturbances
- (6) History of surgical repair of aneurysm of the heart or major vessel

### **6.11 Abdominal Organs and Gastrointestinal System.**

6.11.1 Category A medical conditions shall include the following:

- (1) Presence of uncorrected inguinal/femoral hernia, if symptomatic
- (2) Any gastrointestinal condition that results in the candidate not being able to safely perform one or more of the essential job tasks

6.11.2 Category B medical conditions shall include the following:

- (1) Cholecystitis
- (2) Gastritis
- (3) GI bleeding
- (4) Acute hepatitis
- (5) Hernia including the following:
  - (a) Uncorrected umbilical, ventral, or incisional hernia if significant risk exists for infection or strangulation
  - (b) Significant symptomatic hiatal hernia if associated with asthma, recurrent pneumonia, chronic pain, or chronic ulcers
  - (c) Surgically corrected hernia more than 3 months after surgical correction
- (6) Inflammatory bowel disease or irritable bowel syndrome
- (7) Intestinal obstruction
- (8) Pancreatitis
- (9) Diverticulitis
- (10) History of gastrointestinal surgery
- (11) Peptic or duodenal ulcer or Zollinger-Ellison syndrome
- (12) Asplenia
- (13) Cirrhosis, hepatic or biliary
- (14) Chronic active hepatitis

### **6.12 Metabolic Syndrome.**

6.12.1 Category A medical conditions shall include:

- (1) metabolic syndrome with aerobic capacity less than 12 METs.

6.12.2 Category B medical conditions shall include:

- (2) metabolic syndrome with aerobic capacity 12 METs or greater.

## **6.13 Reproductive System<sup>5</sup>.**

6.13.1 Category A medical conditions shall include:

- (1) Any genital condition that results in inability to safely perform one or more of the essential job tasks.

6.13.2 Category B medical conditions shall include the following:

- (1) Pregnancy, for its duration
- (2) Dysmenorrhea
- (3) Endometriosis, ovarian cysts, or other gynecologic conditions
- (4) Testicular or epididymal mass

## **6.14 Urinary System.**

6.14.1 Category A medical conditions shall include the following:

- (1) Renal failure or insufficiency requiring continuous ambulatory peritoneal dialysis (CAPD) or hemodialysis
- (2) Any urinary condition that results in the candidate not being able to safely perform one or more of the essential job tasks
- (3) Chronic kidney disease of Stage 4 or greater [glomerular filtration rate (GFR) < 1 oz/min (30 ml/min)]

6.14.2 Category B medical conditions shall include the following:

- (1) Diseases of the kidney
- (2) Diseases of the ureter, bladder, or prostate

## **6.15 Spine and Axial Skeleton.**

6.15.1 Category A medical conditions shall include the following:

- (1) Scoliosis of thoracic or lumbar spine with angle greater than or equal to 40 degrees
- (2) Any spinal or skeletal condition producing sensory or motor deficit(s) or pain due to radiculopathy or nerve compression
- (3) Any spinal or skeletal condition causing pain that frequently or recurrently requires narcotic analgesic medication
- (4) Cervical vertebral fractures with multiple vertebral body compression greater than 25 percent; evidence of posterior element involvement, nerve root damage, disc involvement, dislocation (i.e., partial, moderate, severe), abnormal exam, ligament instability, symptomatic, and/or less than 6 months post injury or less than 1 year since surgery
- (5) Thoracic vertebral fractures with vertebral body compression greater than 50 percent; evidence of posterior element involvement, nerve root damage, disc involvement, dislocation (e.g., severe — with or without surgery), abnormal exam, ligament instability, symptomatic, and/or less than 6 months post injury or less than 1 year since surgery

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<sup>5</sup> **Pregnancy and Reproduction.** Federal regulations, as well as many court decisions, including the U.S. Supreme Court's decision in *International Union, et al. v. Johnson Controls, Inc.* [499 U.S. 187, 111 S. Ct. 1196 (1991)], have interpreted the requirements of Title VII with respect to pregnancy and reproduction. The AHJ should seek the advice of counsel in resolving specific questions concerning these requirements as well as other requirements that can be imposed by state or local laws.

- (6) Lumbosacral vertebral fractures with vertebral body compression greater than 50 percent; evidence of posterior element involvement, nerve root damage, disc involvement, dislocation (i.e., partial, moderate, severe), fragmentation, abnormal exam, ligament instability, symptomatic, and/or less than 6 months post injury or less than 1 year since surgery
- (7) History of spine surgery or injury that results in the candidate not being able to safely perform one or more of the essential job tasks

6.15.2 Category B medical conditions shall include the following:

- (1) Congenital or developmental malformations of the back, particularly those that can cause instability, neurological deficits, pain, or limit flexibility
- (2) Scoliosis with angle less than 40 degrees
- (3) Arthritis of the cervical, thoracic, or lumbosacral spine
- (4) Facet tropism, high lumbosacral angle, hyperlordosis, Schmorl's nodes, Scheuermann's disease, spina bifida occulta, spondylolisthesis, spondylolysis, or transitional vertebrae
- (5) History of infections or infarcts in the spinal cord, epidural space, vertebrae, or axial skeletal joints
- (6) History of discectomy or laminectomy or vertebral fractures

## **6.16 Extremities.**

6.16.1 Category A medical conditions shall include the following:

- (1) Joint replacement, unless all the following conditions are met:
  - (a) Normal range of motion without history of dislocations post-replacement
  - (b) Repetitive and prolonged pulling, bending, rotations, kneeling, crawling, and climbing without pain or impairment
  - (c) No limiting pain
  - (d) Evaluation by an orthopedic specialist who concurs that the candidate can complete all essential job tasks listed in NFPA 1582 Chapter 5
- (2) Amputation or congenital absence of upper-extremity limb (hand or higher)
- (3) Amputation of either thumb proximal to the midproximal phalanx
- (4) Amputation or congenital absence of lower-extremity limb (foot or above) unless the candidate meets all of the following conditions:
  - (a) Stable, unilateral below-the-knee (BKA) amputation with at least the proximal third of the tibia present for a strong and stable attachment point with the prosthesis
  - (b) Fitted with a prosthesis that will tolerate the conditions present in fire fighting when worn in conjunction with standard fire-fighting PPE
  - (c) At least 6 months of prosthetic use in a variety of activities with no functional difficulties
  - (d) Amputee limb healed with no significant inflammation, persistent pain, necrosis, or indications of instability at the amputee limb attachment point
  - (e) No significant psychosocial issues pertaining to the loss of limb or use of prosthesis
  - (f) Evaluated by a prosthetist or orthopedic specialist with expertise in the fitting and function of prosthetic limbs who concurs that the candidate can complete all essential job tasks listed in

NFPA 1852 Chapter 5, including wearing personal protective ensembles and SCBA while climbing ladders, operating from heights, and walking or crawling in the dark along narrow and uneven surfaces that may be wet or icy

- (g) Has passed the department's applicant physical ability test as a condition of appointment without accommodations or modification of the protocol

(5) Chronic nonhealing or recent bone grafts

(6) History of more than one dislocation of shoulder without surgical repair or with history of recurrent shoulder disorders within the last 5 years with pain or loss of motion, and with or without radiographic deviations from normal

(7) Any extremity condition that results in the candidate not being able to safely perform one or more of the essential job tasks

6.16.2 Category B medical conditions shall include the following:

(1) History of shoulder dislocation with surgical repair

(2) Significant limitation of function of shoulder, elbow, wrist, hand, or finger due to weakness, reduced range of motion, atrophy, unequal length, absence, or partial amputation

(3) Significant lack of full function of hip, knee, ankle, foot, or toes due to weakness, reduced range of motion, atrophy,

(1) unequal length, absence, or partial amputation

(4) History of meniscectomy or ligamentous repair of knee

(5) History of intra-articular, malunited, or nonunion of upper or lower extremity fracture

(6) History of osteomyelitis, septic, or rheumatoid arthritis

(7) Bone hardware such as metal plates or rods supporting bone during healing

## **6.17 Neurological Disorders.**

6.17.1 Category A medical conditions shall include the following:

(1) All single unprovoked seizures and epileptic conditions, including simple partial, complex partial, generalized, and psychomotor seizure disorders other than the seizure disorders meeting all of the following conditions:

(a) No seizures for the most recent consecutive 5 years after single unprovoked seizure

(b) No seizures for the most recent consecutive 10 years if the applicant was diagnosed with epilepsy

(c) Currently on a stable regimen of antiepileptic drugs for the most recent 5 years, or on no antiepileptic drugs for the most recent 5 years

(d) Normal neurological examination results

(e) Normal brain MRI results

(f) Normal awake and asleep photic stimulation and hyperventilation EEG study results

(g) A definitive statement from a qualified neurological specialist that the candidate meets the criteria specified in 6.17.1(1) and is neurologically cleared for fire-fighting training and the performance of a fire fighter's essential job task

- (2) Ataxias of heredo-degenerative type
- (3) Cerebral arteriosclerosis as evidenced by a history of transient ischemic attack, reversible ischemic neurological deficit, or ischemic stroke
- (4) Hemiparalysis or paralysis of a limb
- (5) Multiple sclerosis with activity or evidence of progression within the previous 3 years
- (6) Myasthenia gravis with activity or evidence of progression within the previous 3 years
- (7) Progressive muscular dystrophy or atrophy
- (8) Uncorrected cerebral aneurysm
- (9) Dementia (e.g., Alzheimer's and other neurodegenerative diseases) with symptomatic loss of function or cognitive impairment (e.g., less than or equal to 28 on Mini-Mental Status Exam)
- (10) Parkinson's disease and other movement disorders resulting in uncontrolled movements, bradykinesia, or cognitive impairment (e.g., less than or equal to 28 on Mini-Mental Status Exam)
- (11) Narcolepsy with cataplexy
- (12) Narcolepsy with persistent excessive daytime sleepiness despite medical treatment
- (13) Amyotrophic lateral sclerosis (ALS)
- (14) Any neurological condition that results in the candidate not being able to safely perform one or more of the essential job tasks

6.17.2 Category B medical conditions shall include the following:

- (1) Congenital malformations
- (2) Migraine
- (3) Clinical disorders with paresis, dyscoordination, deformity, abnormal motor activity, abnormality of sensation, or complaint of pain
- (4) History of subarachnoid or intraparenchymal hemorrhage
- (5) Abnormalities from recent head injury such as severe cerebral contusion or concussion
- (6) Provoked seizure

## **6.18 Skin.**

6.18.1 Category A medical conditions shall include the following:

- (1) Metastatic or locally extensive basal or squamous cell carcinoma or melanoma
- (2) Any dermatologic condition that would not allow for a successful fit test for any respirator required by the fire department
- (3) Any dermatologic condition that results in the candidate not being able to safely perform one or more of the essential job tasks

6.18.2 Category B medical conditions shall include the following:

- (1) Skin conditions of a chronic or recurrent nature (eczema, cystic acne, psoriasis) that cause skin openings or inflammation or irritation of the skin surface
- (2) Surgery or skin grafting

- (3) Mycosis fungoides
- (4) Cutaneous lupus erythematosus
- (5) Raynaud's phenomenon
- (6) Scleroderma (skin)
- (7) Vasculitic skin lesions
- (8) Atopic dermatitis/eczema
- (9) Contact or seborrheic dermatitis
- (10) Stasis dermatitis
- (11) Albinism, Darier's disease, ichthyosis, Marfan syndrome, neurofibromatosis, and other genetic conditions
- (12) Folliculitis, pseudo-folliculitis, miliaria, keloid folliculitis
- (13) Hidradenitis suppurativa, furuncles, carbuncles, or Grade IV acne (cystic)
- (14) Mechano-bullous disorders (epidermolysis bullosa, Hailey pemphigus, porphyria, pemphigoid)
- (15) Urticaria or angioedema

#### **6.19 Blood and Blood-Forming Organs.**

6.19.1 Category A medical conditions shall include the following:

- (1) Hemorrhagic states requiring replacement therapy
- (2) Sickle cell disease (homozygous)
- (3) Clotting disorders
- (4) Any hematological condition that results in inability to safely perform one or more of the essential job tasks

6.19.2 Category B medical conditions shall include the following:

- (1) Anemia
- (2) Leukopenia
- (3) Polycythemia vera
- (4) Splenomegaly
- (5) History of thromboembolic disease
- (6) Any other hematological condition that results in inability to safely perform essential job tasks

#### **6.20 Endocrine and Metabolic Disorders.**

6.20.1 Category A medical conditions shall include the following:

- (1) Type 1 diabetes mellitus, unless a candidate meets all of the following criteria:
  - (a) Is maintained by a physician knowledgeable in current management of diabetes mellitus on a basal/bolus (can include subcutaneous insulin infusion pump) regimen using insulin analogs.

- (b) Has demonstrated over a period of at least 6 months the motivation and understanding required to closely monitor and control capillary blood glucose levels through nutritional therapy and insulin administration. Assessment of this shall take into consideration the erratic meal schedules, sleep disruption, and high aerobic and anaerobic workloads intrinsic to fire fighting.
  - (c) Has a dilated retinal exam by a qualified ophthalmologist or optometrist that shows no higher grade of diabetic retinopathy than microaneurysms, as indicated on the International Clinical Diabetic Retinopathy Disease Severity Scale.
  - (d) Has normal renal function based on a calculated creatinine clearance greater than 60 mL/min and absence of proteinuria. (Creatinine clearance can be calculated by use of the Cockcroft-Gault or similar formula. Proteinuria is defined as 24-hour urine excretion of greater than or equal to 300 mg protein or greater than or equal to 300 mg of albumin per gram of creatinine in a random sample.)
  - (e) Has no autonomic or peripheral neuropathy. (Peripheral neuropathy is determined by diminished ability to feel the vibration of a 128 cps tuning fork or the light touch of a 10-gram monofilament on the dorsum of the great toe proximal to the nail. Autonomic neuropathy might be determined by evidence of gastroparesis, postural hypotension, or abnormal tests of heart rate variability.)
  - (f) Has normal cardiac function without evidence of myocardial ischemia on cardiac stress testing (to at least 12 MET) by ECG and cardiac imaging.
  - (g) Has a signed statement and medical records from an endocrinologist or a physician with demonstrated knowledge in the current management of diabetes mellitus as well as knowledge of the essential job tasks and hazards of fire fighting as described in NFPA 1582 Chapter 5.1.1, allowing the fire department physician to determine whether the candidate meets the following criteria:
    - i. Is being successfully maintained on a regimen consistent with 6.20.1(1)(a) and 6.20.1(1)(b).
    - ii. Has had hemoglobin A1C measured at least four times a year (intervals of 2 to 3 months) over the last 12 months prior to evaluation if the diagnosis of diabetes has been present over 1 year. A hemoglobin A1C reading of 8 percent or greater shall trigger a medical evaluation to determine if a condition exists in addition to diabetes that is responsible for the hemoglobin A1C not accurately reflecting average glucose levels. This shall include evidence of a set schedule for blood glucose monitoring and a thorough review of data from such monitoring.
    - iii. Does not have an increased risk of hypoglycemia due to alcohol use or other predisposing factors.
    - iv. Has had no episodes of severe hypoglycemia (defined as requiring assistance of another) in the preceding 1 year, with no more than two episodes of severe hypoglycemia in the preceding 3 years.
    - v. Is certified not to have a medical contraindication to fire-fighting training and operations.
- (2) Insulin-requiring Type 2 diabetes mellitus, unless a candidate meets all of the following criteria:
- (a) Is maintained by a physician knowledgeable in current management of diabetes mellitus.
  - (b) Has demonstrated over a period of at least 3 months the motivation and understanding required to closely monitor and control capillary blood glucose levels through nutritional therapy and

insulin administration. Assessment of this shall take into consideration the erratic meal schedules, sleep disruption, and high aerobic and anaerobic workloads intrinsic to fire fighting.

- (c) Has a dilated retinal exam by a qualified ophthalmologist or optometrist that shows no higher grade of diabetic retinopathy than microaneurysms, as indicated on the International Clinical Diabetic Retinopathy Disease Severity Scale.
- (d) Has normal renal function based on a calculated creatinine clearance greater than 60 mL/min and absence of proteinuria. (Creatinine clearance can be calculated by use of the Cockcroft-Gault or similar formula. Proteinuria is defined as 24-hour urine excretion of greater than or equal to 300 mg protein or greater than or equal to 300 mg of albumin per gram of creatinine in a random sample.)
- (e) Has no autonomic or peripheral neuropathy. (Peripheral neuropathy is determined by diminished ability to feel the vibration of a 128 cps tuning fork or the light touch of a 10-gram monofilament on the dorsum of the great toe proximal to the nail. Autonomic neuropathy can be determined by evidence of gastroparesis, postural hypotension, or abnormal tests of heart rate variability.)
- (f) Has normal cardiac function without evidence of myocardial ischemia on cardiac stress testing (to at least 12 METS) by ECG and cardiac imaging. (g) Has a signed statement and medical records from an endocrinologist or a physician with demonstrated knowledge in the current management of diabetes mellitus as well as knowledge of the essential job tasks and hazards of fire fighting as described in NFPA 1582 Chapter 5.1.1, allowing the fire department physician to determine whether the candidate meets the following criteria:
  - i. Is maintained on a stable insulin regimen and has demonstrated over a period of at least 3 months the motivation and understanding required to closely monitor and control capillary blood glucose levels despite varied activity schedules through nutritional therapy and insulin administration.
  - ii. Has had hemoglobin A1C measured at least four times a year (intervals of 2 to 3 months) over the last 12 months prior to evaluation if the diagnosis of diabetes has been present over 1 year. A hemoglobin A1C reading of 8 percent or greater shall trigger a medical evaluation to determine if a condition exists in addition to diabetes that is responsible for the hemoglobin A1C not accurately reflecting average glucose levels. This shall include evidence of a set schedule for blood glucose monitoring and a thorough review of data from such monitoring.
  - iii. Does not have an increased risk of hypoglycemia due to alcohol use or other predisposing factors.
  - iv. Has had no episodes of severe hypoglycemia (defined as requiring assistance of another) in the preceding 1 year, with no more than two episodes of severe hypoglycemia in the preceding 3 years
  - v. Is certified not to have a medical contraindication to fire-fighting training and operations.

- (3) Any endocrine or metabolic condition that results in the candidate not being able to safely perform one or more of the essential job tasks

6.20.2 Category B medical conditions shall include the following:

- (1) Diseases of the adrenal gland, pituitary gland, parathyroid gland, or thyroid gland of clinical significance
- (2) Nutritional deficiency diseases or other metabolic disorder

- (3) Diabetes mellitus, not on insulin therapy, but controlled by diet, exercise, and/or oral hypoglycemic agents unless all of the following are met:
- (a) Has had hemoglobin A1C measured at least four times a year (intervals of 2 to 3 months) over the last 12 months prior to evaluation if the diagnosis of diabetes has been present over 1 year. A hemoglobin A1C reading of 8 percent or greater shall trigger a medical evaluation to determine if a condition exists in addition to diabetes that is responsible for the hemoglobin A1C not accurately reflecting average glucose levels. This shall include evidence of a set schedule for blood glucose monitoring and a thorough review of data from such monitoring.
  - (b) If on oral hypoglycemic agents, has had no episodes of severe hypoglycemia (defined as requiring assistance of another) in the preceding year.
  - (c) Has a dilated retinal exam by a qualified ophthalmologist or optometrist that shows no higher grade of diabetic retinopathy than microaneurysms, as indicated on the International Clinical Diabetic Retinopathy Disease Severity Scale.
  - (d) Has normal renal function based on a calculated creatinine clearance greater than 60 mL/min and absence of proteinuria. (Creatinine clearance can be calculated by use of the Cockcroft-Gault or similar formula. Proteinuria is defined as 24-hour urine excretion of greater than or equal to 300 mg protein or greater than or equal to 300 mg of albumin per gram of creatinine in a random sample.)
  - (e) Has no autonomic or peripheral neuropathy. (Peripheral neuropathy is determined by diminished ability to feel the vibration of a 128 cps tuning fork or the light touch of a 10-gram monofilament on the dorsum of the great toe proximal to the nail. Autonomic neuropathy can be determined by evidence of gastroparesis, postural hypotension, or abnormal tests of heart rate variability.)
  - (f) Normal cardiac function without evidence of myocardial ischemia on cardiac stress testing (to at least 12 METs) by ECG and cardiac imaging.

## **6.21 Systemic Diseases and Miscellaneous Conditions.**

### 6.21.1 Category A medical conditions shall include:

- (1) Any systemic condition that results in the candidate not being able to safely perform one or more of the essential job tasks.

### 6.21.2 Category B medical conditions shall include the following:

- (1) Connective tissue disease, such as dermatomyositis, systemic lupus erythematosus, scleroderma, and rheumatoid arthritis
- (2) History of thermal, chemical, or electrical burn injury with residual functional deficit
- (3) Documented evidence of a predisposition to or history of heat illness, rhabdomyolysis, metabolic acidosis, or exertion-related incapacitation

## **6.22 Tumors and Malignant Diseases.**

### 6.22.1 Category A medical conditions shall include the following:

(1) Malignant disease that is newly diagnosed, untreated, or currently being treated, or under active surveillance due to the increased risk for reoccurrence, unless not interfering with the performance of the essential job tasks

(2) Any tumor or similar condition that results in the candidate not being able to safely perform one or more of the essential job tasks

6.22.2 Category B medical conditions shall be evaluated on the basis of an individual's current physical condition and on the staging and prognosis of the malignancy (i.e., likelihood that the disease will recur or progress), and include the following:

- (1) Benign tumors
- (2) History of CNS tumor or malignancy
- (3) History of head and neck malignancy
- (4) History of lung cancer
- (5) History of GI or GU malignancy
- (6) History of bone or soft tissue tumors or malignancies
- (7) History of hematological malignancy

### **6.23 Psychiatric Conditions.**

6.23.1 Category A medical conditions shall include:

- (1) Any psychiatric condition that results in the candidate not being able to safely perform one or more of the essential job tasks.

6.23.2 Category B medical conditions shall include the following:

- (1) A history of psychiatric condition or substance abuse problem
- (2) Requirement for medications that increase an individual's risk of heat stress, or other interference with the ability to safely perform essential job tasks

### **6.24 Chemicals, Drugs, and Medications.**

6.24.1 Category A medical conditions shall include those that require chronic or frequent treatment with any of the following medications or classes of medications:

- (1) Narcotics, including methadone
- (2) Sedative-hypnotics
- (3) Full-dose or low-dose anticoagulation medications or any drugs that prolong prothrombin time (PT), partial thromboplastin time (PTT), or international normalized ratio (INR)
- (4) Beta-adrenergic blocking agents at doses that prevent a normal cardiac rate response to exercise, high-dose diuretics, or central acting antihypertensive agents (e.g., clonidine)
- (5) Respiratory medications: inhaled bronchodilators, inhaled corticosteroids, systemic corticosteroids, theophylline, and leukotriene receptor antagonists (e.g., montelukast)
- (6) High-dose corticosteroids for chronic disease
- (7) Anabolic steroids
- (8) Any chemical, drug, or medication that results in the candidate not being able to safely perform one or more of the essential job tasks

6.24.1.1 Tobacco use shall be a Category A medical condition (where allowed by law).

6.24.1.2 Evidence of illegal drug use detected through testing, conducted in accordance with Substance Abuse and Mental Health Service Administration (SAMHSA), shall be a Category A medical condition.

6.24.1.3 Evidence of clinical intoxication or a measured blood alcohol level that exceeds the legal definition of intoxication according to the AHJ at the time of medical evaluation shall be a Category A medical condition.

6.24.2 Category B medical conditions shall include the use of the following:

- (1) Cardiovascular agents
- (2) Stimulants
- (3) Psychiatric medications
- (4) Other than high-dose systemic corticosteroids
- (5) Antihistamines
- (6) Muscle relaxants
- (7) Leukotriene receptor antagonists (e.g., montelukast) used for allergies that do not affect the lower respiratory system
- (8) Providing members with information and education about occupational hazards
- (8) Providing a cost-effective investment in work-related disease prevention, early detection, and health promotion for members
- (9) Complying with federal, state, provincial, local, and/or other jurisdictional requirements