

- (6) While wearing personal protective ensembles and SCBA, searching, finding, and rescue-dragging or carrying victims ranging from newborns to adults weighing over 200 lb (90 kg) to safety despite hazardous conditions and low visibility
- (7) While wearing personal protective ensembles and SCBA, advancing water-filled hoselines up to 2½ 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

**5.1.2** The fire department physician shall consider the physical, physiological, intellectual, and psychological demands of the occupation when evaluating the candidate's or member's ability to perform the essential job tasks.

**5.1.3** Medical requirements for candidates and members shall be correlated with the essential job tasks as determined by 5.1.1.

**5.1.4** The fire department shall provide the fire department physician with the list of essential job tasks to be used in the medical evaluation of members and candidates.

## **5.2 Essential Job Tasks for Specialized Teams.**

**5.2.1** If the fire department operates specialized teams such as hazardous materials units, self-contained underwater breathing apparatus (SCUBA) teams, technical rescue teams, emergency medical services (EMS) teams, or units supporting tactical law enforcement operations, the fire department shall identify for each team it operates additional essential job tasks and specialized personal protective equipment (PPE) not specified in 5.1.1(1) through 5.1.1(13) that would apply to the members of that team.

**5.2.2** The fire department shall provide the fire department physician with the list of essential job tasks and specialized PPE specific to each specialized team.

**5.2.3** When performing the medical evaluation of members of a specialized team, the fire department physician shall consider the following:

- (1) Additional medical and/or physical requirements that are related to the job tasks being performed by the team that are not enumerated in this standard
- (2) The impact on members of having to wear or utilize specialized PPE that can increase weight, environmental isolation, sensory deprivation, and/or dehydration potential above levels experienced with standard fire suppression PPE

## **Chapter 6 Medical Evaluations of Candidates**

**6.1 Medical Evaluation.** A medical evaluation of a candidate shall be conducted prior to the candidate being placed in training programs or fire department emergency response activities.

**6.1.1\*** 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 outlined in 5.1.1.

**6.1.2** \* This 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 fire fighter.

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

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

**6.2.2** Candidates with Category A medical conditions shall not be certified as meeting the medical requirements of this standard.

**6.2.3** 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 civilians.

## **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

**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 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
- (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

### 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, 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*
- (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
- (4)\*Hearing aid or cochlear implant

**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 greater 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)\*Ménière's syndrome, 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 such as N-95 for medical response, P-100 for particulates and certain vapors, 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 polypsis
- (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 (FEV<sub>1</sub>) less than 70 percent predicted even independent of disease
- (6)\*Obstructive lung diseases (e.g., emphysema, chronic bronchitis, asthma) with an absolute FEV<sub>1</sub>/FVC less than 0.70 and with either the FEV<sub>1</sub> below normal or both the FEV<sub>1</sub> and the FVC below normal (less than 0.80) (*see references in 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 — 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 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

**6.8.1.1\*** 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:

- (1) Asthma has resolved without symptoms off medications for 2 years.
- (2) Allergen avoidance or desensitization has been successful.
- (3) Spirometry demonstrates adequate reserve (FVC and FEV<sub>1</sub> greater than or equal to 90 percent) and no bronchodilator response measured off all bronchodilators on the day of testing.
- (4) 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.

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 resectional 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) if unresponsive to treatment

## 6.9 Aerobic Capacity.

6.9.1\* Category A medical conditions shall include 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)\*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)\*A medical condition requiring an automatic implantable cardiac defibrillator or history of ventricular tachycardia or ventricular fibrillation due to ischemic or valvular heart disease, or cardiomyopathy
- (6) Third-degree atrioventricular block
- (7)\*Cardiac pacemaker

- (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 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 or hypertrophic cardiomyopathy
- (8)\*History of a congenital abnormality
- (9)\*Chronic pericarditis, endocarditis, or myocarditis

### 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 regardless of symptoms
- (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 metabolic syndrome with aerobic capacity less than 12 METs.

**6.12.2** Category B medical conditions shall include metabolic syndrome with aerobic capacity 12 METs or greater.

#### 6.13 Reproductive System. See B.1.2.1.

**6.13.1** Category A medical conditions shall include 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

**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) History of spinal surgery with rods that are still in place

- (3) Any spinal or skeletal condition producing sensory or motor deficit(s) or pain due to radiculopathy or nerve root compression
- (4) Any spinal or skeletal condition causing pain that frequently or recurrently requires narcotic analgesic medication
- (5) Cervical vertebral fractures with multiple vertebral body compression greater than 25 percent; evidence of posterior element involvement, nerve root damage, disc involvement, dislocation (partial, moderate, severe), abnormal exam, ligament instability, symptomatic, and/or less than 6 months post injury or less than 1 year since surgery
- (6) Thoracic vertebral fractures with vertebral body compression greater than 50 percent; evidence of posterior element involvement, nerve root damage, disc involvement, dislocation (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
- (7) Lumbosacral vertebral fractures with vertebral body compression greater than 50 percent; evidence of posterior element involvement, nerve root damage, disc involvement, dislocation (partial, moderate, severe), fragmentation, abnormal exam, ligament instability, symptomatic, and/or less than 6 months post injury or less than 1 year since surgery
- (8) Any spinal or skeletal condition 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 atrophism, 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 disectomy or laminectomy or vertebral fractures
- (7) History of spine fusion that results in instability; reduced mobility, strength, or range of motion; or persistent pain.

#### 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 Chapter 5
- (2) Amputation or congenital absence of upper-extremity limb (hand or higher)



- (3) Amputation of either thumb proximal to the mid-proximal 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 structural firefighting 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 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, 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) Ataxias of heredo-degenerative type
- (2) Cerebral arteriosclerosis as evidenced by a history of transient ischemic attack, reversible ischemic neurological deficit, or ischemic stroke
- (3) Hemiparesis or paralysis of a limb

- (4)\*Multiple sclerosis with activity or evidence of progression within previous 3 years
- (5)\*Myasthenia gravis with activity or evidence of progression within previous 3 years
- (6) Progressive muscular dystrophy or atrophy
- (7) Uncorrected cerebral aneurysm
- (8) All single unprovoked seizures and epileptic conditions, including simple partial, complex partial, generalized, and psychomotor seizure disorders other than as allowed in 6.17.1.1
- (9) Dementia (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) Any neurological condition that results in the candidate not being able to safely perform one or more of the essential job tasks

**6.17.1.1** To be medically qualified a candidate shall meet all of the following:

- (1) No seizures for 1 year off all anti-epileptic medication or 5 years seizure free on a stable medical regimen
- (2) Neurologic examination is normal
- (3) Imaging (CAT or MRI scan) studies are normal
- (4) Awake and asleep EEG studies with photic stimulation and hyperventilation are normal
- (5) A definitive statement from a qualified neurological specialist that the candidate meets the criteria specified in 6.17.1.1(1) through 6.17.1.1(4) and that the candidate is neurologically cleared for fire-fighting training and the performance of a fire fighter's 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

**6.18 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 myo- Category A and B Medical Conditions cardiac 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 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 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 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 recurrent heat stress 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
- (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 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

## **Chapter 7 Occupational Medical Evaluation of Members**

### **7.1 General.**

**7.1.1** The fire department shall establish and maintain a confidential occupational medical evaluation program for members.

**7.1.2** Occupational medical evaluations shall be conducted as a baseline for surveillance and annually thereafter.

**7.1.3** \* An occupational medical evaluation shall be performed following a member's occupational exposure, illness, injury, or protracted absence from the job.

**7.1.3.1** The scope of that evaluation shall be determined by the fire department physician after reviewing the type and severity of the condition.

**7.1.4** The components of the medical evaluations shall conform to all applicable U.S. OSHA standards, including 29 CFR 1910.120, "Hazardous waste operations and emergency response"; 29 CFR 1910.134, "Respiratory protection"; 29 CFR 1910.95, "Occupational noise exposure"; and 29 CFR 1910.1030, "Bloodborne pathogens."

### **7.2 Member Education Regarding Occupational Medical Evaluation Program.**

**7.2.1** The fire department, the fire department physician, and member organizations where they exist shall be responsible to convey the purposes and importance of the annual occupational medical evaluation to members and to the AHJ.

**7.2.2** The purpose of the annual occupational medical evaluation of members shall include but cannot be limited to the following:

- (1) Identifying conditions that interfere with a member's physical or mental ability to safely perform essential job tasks without undue risk of harm to self or others
- (2) Monitoring the effects of exposure to specific biological, physical, or chemical agents on individual members
- (3) Detecting changes in a member's health that can be related to harmful working conditions
- (4) Detecting patterns of disease or injury occurrence in the workforce that could indicate underlying work-related problems
- (5)\*Providing members with information about their current health, promoting wellness, and referring them for appropriate further evaluation and treatment
- (6) Providing members with information and education about occupational hazards
- (7) Providing a cost-effective investment in work-related disease prevention, early detection, and health promotion for members
- (8) Complying with federal, state, provincial, local, and/or other jurisdictional requirements

### **7.3 Timing of the Annual Occupational Medical Evaluation of Members.**

**7.3.1** All members shall receive a baseline medical evaluation after hiring and prior to performing fire fighter emergency functions and at least annually thereafter.