

Attachment B

Police Department - Medical Standards  
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## **I. OVERVIEW**

### Scope

This standard contains guidelines for the medical examination of candidate police officers in the City of Alexandria. This standard is specific to those positions and is not to be considered applicable as a universal standard for law enforcement activities, security, public safety, etc. positions. Specifically, positions within the department such as parking and tag enforcement, property and evidence room supervisor and clerk, fleet maintenance coordinator, delivery clerk, school crossing guard, personnel and training specialist, and records manager are not covered positions under this standard. The rationale for many of the following criteria are stated in Appendix (A).

Since all applicants for police officer positions within the City are expected to perform all of the essential functions of a police officer, this standard is applicable to all police officer applicants and can be adapted for the medical testing of these applicants. Until retention standards are established, it may be reasonable to consider this standard as a "guideline" for the health related goals of incumbent police officers. This is because even senior police officers within the City are recallable to service regardless of rank.

This standard does not apply to other city positions not properly under the authority of the City's Police Department.

### **Purpose**

The purpose of this standard is to specify minimum medical requirements for applicants to police officer positions in the City of Alexandria.

The implementation of the medical guidelines outlined in this standard will help to ensure that candidates are medically capable of undergoing Academy training and the performance of their required duties.



## II. DEFINITIONS

**Candidate.** A person who has made application to commence performance as a police officer in the City of Alexandria. In an employment context, the Americans With Disabilities Act (discussed in further detail in Appendix D) requires that any applicant medical examination take place after an offer of employment is made and prior to the commencement of duties. Therefore, in the employment context, the definition of "candidate" should be applied so as to be consistent with that requirement.

**Cardiovascular Endurance.** The ability to sustain hard physical activity. Endurance level is a function of aerobic capacity, or ability to take up and use oxygen.

**Category A Medical Condition.** This refers to a medical condition which **shall** preclude a person from performing as a police officer in a training or emergency operational environment. This is because the candidate's condition would present a significant risk to the safety and health of himself/herself or others or the condition deprives the candidate from satisfactorily performing an essential function of his/her job and no reasonable accommodation can be made.

**Category B Medical Condition.** A medical condition which, based on its severity or degree, may preclude a person from performing as a police officer in a training or emergency operational environment. This may be because the condition presents a significant risk to the safety and health of the person or others, or because it prevents the individual from satisfactorily being able to perform an essential function of his/her job. Whether reasonable accommodation can be made must be determined by an individual study of the candidate's condition and the capabilities of the City of Alexandria to accommodate the disability.

**Current Police Officer.** A person who is already a member and whose duties require the performance of essential law enforcement functions in the City.

**Disabled Person.** A police officer candidate who: 1) Has a physical or mental impairment which substantially limits one or more major life activities; 2) Has a record of such an impairment; 3) Is regarded as having such an impairment.

**Drug.** Any substance, chemical, over the counter medication, or prescribed medication that may affect the performance of the

police officer.

**Emergency Operation.** Activities of the police department relating to pursuit, restraint, combat, and special operations, including response to the scene of the incident and all functions performed at the scene.

**Essential Functions of the Job.** Activities so basic to the job that altering or eliminating them would constitute losing the very essence of the job. For example, a person in transportation must meet the visual acuity requirements to obtain a driving license. Other functions may be "marginal" and can either be reassigned, substituted for, or eliminated altogether.

**Evaluating Physician.** The person, usually a physician, physician's assistant or nurse practitioner, who actually conducts the examination for the candidate police officer on behalf of the City of Alexandria.

**Evaluation.** See Medical Evaluation.

**Police Department Physician.** When this concept is embraced, it generally refers to a licensed doctor of medicine designated by the City of Alexandria to provide professional expertise in the areas of occupational safety and health as they relate to law enforcement. While the City of Alexandria may contract with other organizations to perform the pre-placement medical examination, a designated Police Department Physician should have the responsibility for final recommendations regarding employment, duty restriction, etc.

**Police Officer.** A member of the City of Alexandria Police Department whose duties require the performance of essential law enforcement functions or substantially similar functions.

**Job Analysis.** A thorough evaluation of what a job entails, using position descriptions, focused questionnaires, etc. to establish what the essential functions of the job are and what physical capabilities are necessary to accomplish them.

**Job Site Analysis.** Similar to the job analysis but involving direct observation and recording of the critical tasks involved in accomplishing the essential functions of the job.

**Medically Certified.** A determination by the evaluating physician that the candidate or current police officer meets the medical requirements of this standard.

**Medical Evaluation.** The analysis of information for the purpose of making a determination of medical certification. Medical evaluation may or may not include a medical examination.

**Medical Examination.** An examination performed or directed by this standard which incorporates the components of the physical examination detailed in Section IV.

**Medical Guidelines.** A set of medical conditions that will trigger the need for more individual study of the candidate police officer. Having such a condition might 1) exclude an individual from employment as a police officer; 2) require alternative placement when that is feasible; or 3) invoke consideration of job accommodation. The term "Guidelines" is preferred to "medical standard" because it conveys the need to study each candidate individually and to apply these requirements in a thoughtful rather than capricious manner.

**MET.** Metabolic equivalents, used to compare varying intensities of activity. Resting metabolism is equal to one MET.

**Member.** A person involved in performing the duties and responsibilities of the City of Alexandria Police Department.

**Pre-placement Medical Examination.** A post-offer medical examination to assess the abilities of the individual candidate to perform the essential functions of the job.

**Qualified Individual With A Disability.** With respect to employment, an individual with a disability who, with or without accommodation, is capable of performing the essential functions of the job or jobs for which the candidate police officer is being considered.

**Reasonable Accommodation.** Any action taken by the City to ensure the employability of the qualified disabled worker; such action does not impose an undue hardship on the City of Alexandria.

**Risk.** The likelihood that an individual will suffer an adverse health outcome. An individual at increased risk is one who, because of the interaction of some personal risk factor (developmental, nutritional, physiological, psychological, or pathological) and workplace exposures or job demands, has an increased probability, increased severity, or an earlier manifestation of an adverse health outcome.

**Shall/Will.** Indicates a mandatory requirement.

**Should/May.** This term, as used in this standard or its appendices, indicates a recommendation or that which is advised but not required.

**Work Fitness.** Describes an individual's ability to perform the essential functions of a job. Fitness is related to physiological work capacity, underlying physical impairments, and ability to adapt to work requirements.

### **III. MEDICAL EVALUATION PROCESS**

Job analysis, job site analysis, review of Academy training requirements, surveys, questionnaires, etc. were performed and resulted in the development of critical task and physical ability profiles. After a detailed study of physical and psychological demands, the minimal capabilities required of candidate police officers was determined and reflected in the written medical guidelines.

The medical evaluation process shall include pre-placement medical evaluations, and return to duty medical evaluations.

The City of Alexandria shall ensure that the medical evaluation process and all medical evaluations shall meet all of the requirements of this section.

Each candidate or current police officer shall cooperate, participate and comply with the medical evaluation process and shall provide complete and accurate information to the evaluating physician.

Each candidate or current police officer shall, on a timely basis, report to the evaluating physician any exposure or medical condition which may interfere with the ability of the individual to perform as a police officer. Such exposures and medical conditions shall include, but not be limited to:

- (a) exposures to hazardous materials or toxic substances
- (b) exposure to infectious or contagious diseases
- (c) occupational illnesses or injuries
- (d) use of prescription or non-prescription drugs
- (e) pregnancy

If the candidate or current police officer presents with an acute medical problem, medical evaluation shall be postponed until that person has recovered from this condition and presents to the police department for review. If the candidate or current police officer presents with a newly acquired medical condition which is likely to become chronic, a reasonable period of time will be allowed for complete diagnosis and treatment before an official determination is made concerning the candidate or current police officer's capability of performing the essential functions of his job.

**Police Department Physician. (See Definitions)**

The police department physician shall be a licensed doctor of medicine. He/she shall be qualified to provide professional expertise in the areas of occupational safety and health as they relate to law enforcement. Ideally, the police department physician will have specific credentials in Occupational Medicine, such as Residency Training and Board Certification in that specialty.

For the purpose of conducting medical evaluations, the police department physician shall have a unique understanding of the physiological and psychological demands placed on police officers, and shall understand the environmental conditions under which police officers must perform.

While other contracted physician services can be utilized for the medical examinations, the police department physician, or his designee, shall evaluate every candidate before a determination "not to hire" is rendered to the City of Alexandria.

#### **IV. MEDICAL EXAMINATIONS**

##### **Pre-placement Medical Evaluation.**

The candidate shall be medically certified as meeting the medical requirements of Section 5 of this standard prior to entering into a training program to become a police officer, or performing in any law enforcement activity as a police officer.

The candidate shall be evaluated according to the medical requirements of Section 5 of this standard to assess the effect of medical conditions on the candidate's ability to perform as a police officer.

A candidate shall not be certified as meeting the medical requirements of this standard if it is determined that the candidate has any Category A medical condition specified in Section 5 of this standard.

A candidate shall not be medically certified if it is determined that the candidate has a Category B medical condition specified in Section 5 of this standard and the severity is such that, even with reasonable accommodation, a substantial risk of harm exists for the candidate or others.

Recommendations regarding reasonable accommodation shall be made by the evaluating physician. The determination of whether reasonable accommodation can be extended to the candidate shall be made by the City of Alexandria official having jurisdiction in conjunction with the police department physician.

Any candidate police officer who is pregnant shall be evaluated based on the candidate's ability to perform as a police officer in a training or operational environment.

If the candidate presents with an acute medical problem or newly acquired chronic medical condition, medical evaluation shall be postponed until that person has recovered from this condition and presents to the police department for review.

The medical evaluation of any candidate with malignant disease which is newly diagnosed, untreated, or currently being treated shall be deferred until treatment has been completed or a rational decision concerning employment with or without reasonable accommodation can be made.

### **Return to Duty Medical Evaluation.**

A current police officer who has been absent from duty for a medical condition of a nature or duration that may affect performance as a police officer shall be medically evaluated before returning to duty.

The police officer shall not be medically certified for return to duty if any Category A medical condition specified in Section 5 of this standard is present.

The police officer shall not be medically certified for return to duty if any Category B medical condition specified in Section 5 of this standard is present that is determined to be severe enough to affect the officer's performance. The police department physician, in conjunction with the City of Alexandria official with jurisdiction, shall take into account the police officer's current duty assignment and alternative duty assignments or other programs that would allow a police officer to gradually return to full duty.

### **Medical Evaluation Records, Results, Reporting, and Confidentiality.**

All medical information collected as part of a medical evaluation shall be considered confidential medical information, and shall be released by the evaluating physician only with the specific written consent of the candidate or current police officer.

The evaluating physician shall report the results of the medical evaluation to the candidate or current police officer, including any medical condition(s) disclosed during the medical evaluation, and the recommendation as to whether the candidate or current police officer is medically certified to perform all law enforcement activities.

## **V. CATEGORY A AND CATEGORY B MEDICAL CONDITIONS**

### **5-1 Head and Neck.**

#### 5-1.1 Head.

##### 5-1.1.1 Category A medical condition shall include:

- (a) None.

##### 5-1.1.2 Category B medical conditions shall include:

- (a) Deformities of the skull such as depressions or exostoses.
- (b) Deformities of the skull associated with evidence of disease of the brain, spinal cord, or peripheral nerves.
- (c) Loss or congenital absence of the bony substance of the skull.
- (d) Any other head condition that results in a person not being able to perform as a police officer.

#### 5-1.2 Neck.

##### 5-1.2.1 Category A medical conditions shall include:

- (a) None.

##### 5-1.2.2 Category B medical conditions shall include:

- (a) Thoracic outlet syndrome.
- (b) Congenital cysts, chronic draining fistulas, or similar lesions.
- (c) Contraction of neck muscles.
- (d) Any other neck condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria. This would include any non-reversible medical condition that prevents the police officer from wearing essential personal protective equipment.

### **5-2 Eyes and Vision.**

#### 5-2.1 Category A medical conditions shall include:

- (a) Blindness. Includes conditions that are progressive and predictably will result in early blindness.
- (b) Monocular vision. Includes conditions such as malignant tumor of bulb and others leading to monocular vision or functional monocular vision.
- (c) Color blindness (complete).
- (d) Color blindness (incomplete). Vision inadequate to identify red, green, and yellow colors. [Must be able to distinguish basic color groups.]

- (e) Far Visual Acuity. Far visual acuity shall be 20/20 binocular corrected with contact lenses or spectacles. Monocular visual acuity no worse than 20/40. Far visual acuity uncorrected shall be at least 20/60 binocular for wearers of hard contacts or spectacles.

\* Possible exception to this uncorrected vision standard is successful long term soft contact lens wearers (> 1 year). Most current research in this area has resulted in a recommendation not to allow contact lenses in this capacity; nonetheless it remains an option worthy of consideration by the City.

- (f) Full visual fields. Good peripheral vision. Visual field performance without correction shall be 140 degrees in the horizontal meridian in each eye.

5-2.2 Category B medical conditions shall include:

- (a) Diseases of the eye such as retinal detachment, progressive retinopathy, or optic neuritis.
- (b) Ophthalmological procedures such as radial keratotomy or repair of retinal detachment.
- (c) Any other eye condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

### **5-3 Ears and Hearing.**

5-3.1 Category A medical condition shall include:

- (a) Hearing deficit in the pure tone thresholds in the unaided worst ear:\*

  - (1) Greater than 25 Db in three of the four frequencies:  
(i) 500 Hz (ii) 1000 Hz (iii) 2000 Hz (iv) 3000 Hz.
  - (2) Greater than 30 Db in any one of the three frequencies:  
(i) 500 Hz (ii) 1000 Hz (iii) 2000 Hz; and an average greater than 30 Db for the four frequencies (Hz):  
(i) 500 (ii) 1000 (iii) 2000 (iv) 3000

\* Before taking action, the City of Alexandria, in conjunction with the evaluating physician, may proceed to more sophisticated testing, such as speech audiometry, to further define the hearing deficit.

5-3.2 Category B medical conditions shall include:

- (a) Auditory canal - atresia, severe stenosis, or tumor.
- (b) Severe external otitis.
- (c) Auricle - severe agenesis or traumatic deformity.
- (d) Mastoid - severe mastoiditis or surgical deformity.

- (e) Meniere's syndrome or labyrinthitis.
- (f) Otitis media - chronic/recurring.
- (g) Vestibular neuronitis, vertigo, dizziness, disequilibrium
- (h) Any other ear condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

#### **5-4 Dental.**

5-4.1 Category A medical conditions shall include:

- (a) None.

5-4.2 Category B medical conditions shall include:

- (a) Diseases of the jaws or associated tissues.
- (b) Orthodontic appliances.
- (c) Oral tissues, extensive loss.
- (d) Relationship between the mandible and maxilla that precludes satisfactory post-orthodontic replacement or ability to use protective equipment.
- (e) Any other dental condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

#### **5-5 Nose, Oropharynx, Trachea, Esophagus, and Larynx.**

5-5.1 Category A medical conditions shall include:

- (a) Tracheostomy. (Artificial larynx or esophageal speech)
- (b) Aphonia
- (c) Anosmia
- (d) Mutism

5-5.2 Category B medical conditions shall include:

- (a) Congenital or acquired deformity.
- (b) Allergic respiratory disorder.
- (c) Sinusitis, recurrent.
- (d) Dysphonia.
- (e) Any other nose, oropharynx, trachea, esophagus, or larynx condition that results in a person not being able to communicate effectively and perform the essential functions of a police officer in the City of Alexandria.

#### **5-6 Lungs and Chest Wall.**

5-6.1 Category A medical conditions shall include:

- (a) Suppurative disease of lung or pleural space.
- (b) Active Pulmonary TB with cavitation

5-6.2 Category B medical conditions shall include:

- (a) Lobectomy.
- (b) Bronchial asthma.
- (c) History of bronchiectasis, severe bronchitis, fibrous pleuritis, fibrosis, cystic disease, tuberculous, or mycotic disease of the lung.
- (d) Pneumothorax.
- (e) Any other pulmonary or chest wall condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria. This includes any medical condition of the lung and chest wall that would contradict medical certification as a respirator user.

## **5-7 Heart and Vascular System.**

5-7.1 Heart

5-7.1.1 Category A medical conditions shall include:

- (a) Current angina pectoris.
- (b) Left bundle branch block or second degree Type II atrio-ventricular block.
- (c) Myocardial insufficiency (Cardiac failure)
- (d) Acute pericarditis, endocarditis, or myocarditis. Chronic pericarditis, endocarditis with resultant significant valvular lesions, or myocarditis leading to myocardial insufficiency or serious arrhythmias.
- (e) Cardiac pacemaker.
- (f) Recurrent syncope.
- (g) Cor pulmonale secondary to COPD
- (h) Third degree atrio-ventricular block (A-V dissociation). See Appendix A for other EKG evaluations
- (i) Ventricular tachycardia (sustained)

5-7.1.2 Category B medical conditions shall include:

- (a) Other valvular lesions of the heart including prosthetic valves.
- (b) Coronary artery arteriosclerosis - asymptomatic.
- (c) Atrial tachycardia, flutter, or fibrillation.
- (d) Third degree A-V block
- (e) Ventricular tachycardia (not sustained).
- (f) Hypertrophy of the heart.
- (g) Recurrent paroxysmal tachycardia.
- (h) History of a congenital abnormality.
- (i) Aerobic capacity less than 13 METS on Work Tolerance Test
- (j) History of myocardial infarction, coronary artery bypass, or coronary angioplasty.
- (k) Any other cardiac condition that results in a person not being able to perform the essential functions as a police

officer in the City of Alexandria.

### **5-7.2 Vascular System.**

5-7.2.1 Category A medical conditions shall include:

- (a) Congenital or acquired lesions of the aorta and major vessels leading to (or predictably leading to) marked circulatory instability.
- (b) Marked circulatory instability as indicated by orthostatic hypotension, persistent tachycardia, and severe peripheral vasomotor disturbances.
- (c) Aneurysm of the heart or major vessel, congenital or acquired.

5-7.2.2 Category B medical conditions shall include:

- (a) Hypertension.
- (b) Peripheral vascular disease such as Raynaud's phenomenon.
- (c) Recurrent thrombophlebitis.
- (d) Chronic Lymphedema due to Lymphadenopathy or severe venous valvular incompetency.
- (e) Any other vascular condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

### **5-8 Abdominal Organs and Gastrointestinal System.**

5-8.1 Category A medical conditions shall include:

- (a) Chronic active hepatitis.
- (b) Recurrent peptic ulcer with bleeding

5-8.2 Category B medical conditions shall include:

- (a) Cholelithiasis or cholecystitis.
- (b) Gastritis.
- (c) Acute hepatitis.
- (d) Hernia.
- (e) Inflammatory bowel disease. (Ulcerative colitis, Regional Enteritis, diverticulitis)
- (f) Intestinal obstruction.
- (g) Pancreatitis.
- (h) Resection, bowel.
- (i) Ulcer, gastrointestinal without bleeding.
- (j) Cirrhosis, hepatic or biliary.
- (k) Diverticulosis
- (l) Any other gastrointestinal condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

## **5-9 Genitourinary System.**

### **5-9.1 Reproductive.**

5-9.1.1 Category A medical conditions shall include:

- (a) None.

5-9.1.2 Category B medical conditions shall include:

- (a) Pregnancy, for its duration. See Appendix A and B.
- (b) Dysmenorrhea
- (c) Endometriosis, ovarian cysts, or other gynecologic conditions.
- (d) Testicular or epididymal masses.
- (e) Any other genital condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

### **5-9.2 Urinary System.**

5-9.2.1 Category A medical conditions shall include:

- (a) Renal failure-moderate/severe (Ex: Requiring dialysis.)

5-9.2.2 Category B medical conditions shall include:

- (a) Single kidney or horseshoe kidney
- (b) Diseases of the kidney other than acute, self-limited disorders.
- (c) Diseases of the ureters, bladder, or prostate other than acute, self-limited disorders.
- (d) Any other urinary condition that results in a person not being able to perform as a police officer.

## **5-10 Spine, Scapulae, Ribs, and Sacroiliac Joints.**

5-10.1 Category A medical conditions shall include:

- (a) None.

5-10.2 Category B medical conditions shall include:

- (a) Congenital/other cervical spine fusion.
- (b) Repeated episodes of sciatica
- (c) Thoracic kyphosis > 75 deg.
- (d) Severe disc disease requiring discectomy, chymopapain, etc.
- (e) Arthritis (moderate-severe).
- (f) Structural abnormality, fracture, or dislocation.
- (g) Recurrent nucleus pulposus herniation or history of laminectomy.
- (h) Any other spinal condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

### **5-11 Extremities.**

5-11.1 Category A medical conditions shall include:

- (a) None.

5-11.2 Category B medical conditions shall include:

- (a) Limitation of motion of a joint. Guidelines would include:
  - 1) ROM Hip Flexion <120 deg
  - 2) ROM Hip Extension <5 deg
  - 3) ROM Knee Flexion <130 deg
  - 4) ROM Knee Extension <5 deg lag
  - 5) ROM Ankle Dorsi Flexion <10 deg
  - 6) ROM Ankle Plantar Flexion <35 deg.
- (b) Amputation or deformity of a joint or limb.
- (c) Dislocation of a joint.
- (d) Joint reconstruction, ligamentous instability, or joint replacement.
- (e) Chronic osteoarthritis or traumatic arthritis.
- (f) Inflammatory arthritis (moderate-severe).
- (g) Any other extremity condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

### **5-12 Neurological Disorders.**

5-12.1 Category A medical conditions shall include:

- (a) Ataxias of heredo-degenerative type.
- (b) Cerebral arteriosclerosis as evidenced by documented episodes of neurological impairment.
- (c) Multiple sclerosis with activity or evidence of progression within previous three years.
- (d) Progressive muscular dystrophy or atrophy.
- (e) All seizure disorders to include psychomotor, focal, petit mal, or grand mal seizures other than for those with complete control during previous five years, normal neurological examination, and definitive statement from qualified neurological specialist.
- (f) Advanced, untreatable syphilis
- (g) ALS (Lou Gerhig's Disease)
- (h) Inoperable malignancies

5-12.2 Category B medical conditions shall include:

- (a) Congenital malformations.
- (b) Migraine.
- (c) Clinical disorders with paresis, paralysis, dyscoordination deformity, abnormal motor activity, abnormality of sensation, or complaint of pain.
- (d) Subarachnoid or intracerebral hemorrhage.

(e) Abnormalities from recent head injury such as severe cerebral contusion or concussion.

- (f) Any other neurological condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

### **5-13 Skin.**

5-13.1 Category A medical conditions shall include:

- (a) None.

5-13.2 Category B medical conditions shall include:

- (a) Severe acne or inflammatory skin disease.
- (b) Severe Eczema (especially hand eczema)
- (c) Hyperhidrosis
- (d) Raynaud's phenomenon
- (e) Morphea
- (f) Chronic Discoid Lupus Erythematosus
- (g) Pemphigus
- (h) Ichthyosis vulgaris
- (i) Severe pyodermas (furunculosis, impetigo, abscesses, etc.)
- (j) Any other dermatologic condition that results in the person not being able to wear personal protective equipment or otherwise perform the essential functions of a police officer in the City of Alexandria.

### **5-14 Blood and Blood-Forming Organs.**

5-14.1 Category A medical conditions shall include:

- (a) Hemorrhagic state requiring replacement therapy.  
Ex: Hemophiliac/clotting disorders
- (b) Sickle cell disease (homozygous)

5-14.2 Category B medical conditions shall include:

- (a) Anemia.
- (b) Leukopenia.
- (c) Polycythemia vera.
- (d) Splenomegaly.
- (e) History of thromboembolic disease.
- (f) Any other hematological condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

### **5-15 Endocrine and Metabolic Disorders.**

5-15.1 Category A medical conditions shall include:

- (a) Insulin requiring (Type 1) Diabetes

5-15.2 Category B medical conditions shall include:

- (a) Diseases of the adrenal gland, pituitary gland, parathyroid gland, or thyroid gland of clinical significance.
- (b) Nutritional deficiency disease or metabolic disorder.
- (c) Diabetes mellitus-all other varieties.
- (d) Obesity (M >25%BF, F >30%BF)
- (e) Any other endocrine or metabolic condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

**5-16 Systemic Diseases and Miscellaneous Conditions.**

5-16.1 Category A medical conditions shall include:

- (a) Acquired Immune Deficiency Syndrome.

5-16.2 Category B medical conditions shall include:

- (a) Connective tissue disease, such as dermatomyositis, lupus erythematosus, scleroderma and rheumatoid arthritis.
- (b) Any other systemic condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

**5-17 Tumors and Malignant Diseases.**

5-17.1 Category A medical conditions shall include:

- (a) None.

5-17.2 Category B medical conditions shall include:

- (a) Malignant disease which is newly diagnosed, untreated, or currently being treated.
- (b) Treated malignant disease shall be evaluated based on that person's current physical condition and on the likelihood of that person's disease recurring or progressing.
- (c) Any other tumor or similar condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

**5-18 Psychiatric Conditions.**

5-18.1 Category A medical conditions shall include:

- (a) Any unstable or chronic mental condition that would constitute a significant danger to the police officer, his coworkers, or the general public.

5-18.2 Category B medical conditions shall include:

- (a) A history of psychiatric condition or substance abuse problem shall be evaluated based on that person's current condition.

- (b) Any other psychiatric condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

**5-19 Chemicals, Drugs, and Medications.**

5-19.1 Category A medical conditions shall include:

- (a) "Verified" positive (means no legitimate medical explanation) for any of NIDA-5 drugs on urine screen. (NIDA-5 drugs = Opiates, Amphetamines/Methamphetamines, Cocaine, PCP, Marijuana.)

5-19.2 Category B medical conditions shall include:

- (a) Anticoagulant agents.
- (b) Cardiovascular agents.
- (c) Narcotics
- (d) Sedative-hypnotic agents.
- (e) Stimulants.
- (f) Psychoactive agents.
- (g) Steroids.
- (h) Any other chemical, drug, or medication that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

## **Appendix A - Rationale for Medical Standards**

The medical conditions listed are organized by organ system. With the listing of a condition, a diagnostic example or descriptive circumstance () is often included to help the examiner understand the type of condition which might result in rejection or acceptance. In addition, the rationale for the exclusion is presented [] in terms of the effect of the medical condition on the capability of the person to perform the essential functions of a police officer in the City of Alexandria.

### A-5-1.1.2 Category B medical conditions:

- (a) Deformities of the skull such as depressions or exostoses. (e.g., of a degree that interferes with the use of protective equipment). [Inability to properly wear protective equipment.]
- (b) Deformities of the skull associated with evidence of disease of the brain, spinal cord, or peripheral nerves. [Potential for sudden incapacitation; inability to properly wear protective equipment; inability to communicate effectively due to oropharyngeal dysfunction.]
- (c) Loss or congenital absence of the bony substance of the skull (e.g., if associated with disease interfering with performance or if appropriate protection cannot be provided for area without interfering with protective equipment, vision). [Inability to properly wear protective equipment; inability to communicate effectively due to oropharyngeal dysfunction.]
- (d) Any other head condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

### A-5-1.2.2 Category B medical conditions:

- (a) Thoracic outlet syndrome (e.g., symptomatic) [Frequent episodes of pain or inability to perform work.]
- (b) Congenital cysts, chronic draining fistulas, or similar lesion (e.g., if lesion or underlying disease interferes with performance). [Inability to properly wear protective equipment; inability to communicate effectively due to oropharyngeal dysfunction.]

- (c) Contraction of neck muscles (e.g., if interferes with wearing of protective equipment or ability to perform essential functions). [Inability to properly wear protective equipment; inability to perform functions as a police officer due to limitation of flexibility.]
- (d) Any other neck condition that results in a person not being able to perform essential functions as a police officer in the City of Alexandria.

A-5-2.1 Category A medical conditions:

- (a) Blindness. [Failure to have adequate visual acuity to read placards and street signs or see and respond to imminently hazardous situations.]
- (b) Monocular vision. No worse than 20/40 corrected. An important visual quality that is obtained from binocular vision is stereopsis which is a form of depth perception. Stereopsis is the most critical form of depth perception in binocular individuals in most situations. Vision researchers have demonstrated that decreased acuity in one eye (amblyopia or uncorrected refractive error) results in a dramatic decrease in depth perception. Consequently, poor depth perception should be screened out by the discovery of poor binocular or monocular visual acuity.
- (c) Color Blindness. There is a range of "essential job tasks" from identifying traffic lights, color of cars, color of license plates, hazard warning placards, etc. where basic color vision is required. [Ex: Loss of color vision = Inability to identify red, green, or yellow to read traffic control signs and signals other color coded markings, warning signs, labels, or placards; or see and respond to imminently hazardous situations.]

NOTE: An individual that is dichromic will be missing one of these basic color groups, and will be unable to distinguish many colors from each other (such as red from yellow from green). Anomalous trichromats will be "weak" in one group but still generally able to distinguish basic colors.

- (e) Far Visual Acuity. Far visual acuity shall be 20/20 binocular corrected with contact lenses or spectacles. [Failure to have adequate visual acuity to read license plates and street signs or see and respond to imminently hazardous situations.] Far visual acuity uncorrected shall be at least 20/60 binocular for wearers of hard contacts or

spectacles.

NOTE: Successful long term soft contact lens wearers (i.e., > 1 year routine use without a problem) may not be subject to the uncorrected standard. NOTE: The justification for an uncorrected vision standard is based on the possibility of a police officer losing his or her optical correction or having it dislodged during a dangerous or critical situation. Such a failure may endanger the police officer, his/her partner and the "mission". A fatal example of this scenario was very evident in a 1989 FBI shootout in Miami. One of the Special Agents was killed while searching for his glasses. Law enforcement and, arguably, fire fighting, appear to be unique with regard to the need for an uncorrected vision standard compared to other industries such as aviation. The FAA will license commercial pilots whose vision is 20/100 so long as it is correctable to 20/20.

- (f) Peripheral vision. Visual field performance without correction shall be 140 degrees in the horizontal meridian in each eye.

NOTE: Police officers must not have monocular or tunnel vision. In our project study a very high score was given to the need to be able to visualize the entirety of a "disaster scene" and to be able to appreciate not only what was happening "at hand" but also what was going on at the periphery of one's vision. [Failure to have adequate visual acuity to read placards and street signs or see and respond to imminently hazardous situations.]

#### A-5-2.2 Category B medical conditions:

- (a) Diseases of the eye such as retinal detachment, progressive retinopathy, or optic neuritis. (i.e., severe or progressive). [Failure to have adequate visual acuity to read placards and street signs or see and respond to imminently hazardous situations.]
- (b) Ophthalmological procedures such as radial keratotomy, repair of retinal detachment. Sufficient time (i.e., six months) must have passed to allow stabilization of visual acuity and to ensure that there are no post-surgical complications. [Failure to have adequate visual acuity to read placards and street signs or see and respond to imminently hazardous situations.]

(c) Any other eye condition that results in a person not being able to perform the essential functions of a police officer in the City of Alexandria.

A-5-3.1 Category A medical conditions:

- (a) Hearing deficit in pure tone thresholds in the unaided worst ear:
  - (1) Greater than 25 Db in three out of four frequencies:
    - (i) 500 Hz, (ii) 1000 Hz, (iii) 2000 Hz, (iv) 3000 Hz
  - (2) Greater than 30 Db in any one of the three frequencies:
    - (i) 500 Hz, (ii) 1000 Hz, (iii) 2000 Hz; and an average greater than 30 Db for the four frequencies (Hz):
      - (i) 500, (ii) 1000, (iii) 2000, (iv) 3000.

[Inability to hear sounds of low intensity or to distinguish voice from background noise, leading to failure to respond to imminently hazardous situations.]

When an otherwise excellent candidate is borderline on this hearing test, consideration may be given to performing "speech audiometry" testing. While this study allows a better assessment of the candidate's functional hearing it generally requires the services of a qualified audiologist and is therefore not suitable as a screening tool.

#### A-5-3.2 Category B medical conditions:

- (a) Auditory canal - atresia, severe stenosis, or tumor.  
[Inability to hear sounds of low intensity or to distinguish voice from background noise, leading to failure to respond to imminently hazardous situations.]
- (b) Severe external otitis (e.g., recurrent loss of hearing)  
[Inability to hear sounds of low intensity or to distinguish voice from background noise, leading to failure to respond to imminently hazardous situations.]
- (c) Auricle, severe agenesis or traumatic deformity (e.g., interferes with ability to wear protective equipment or with hearing acuity). [Inability to properly wear protective equipment; inability to hear sounds of low intensity or to distinguish voice from background noise, leading to failure to respond to imminently hazardous situations.]
- (d) Mastoid, severe mastoiditis or surgical deformity.  
[Inability to properly wear protective equipment; inability to hear sounds of low intensity or to distinguish voice from background noise, leading to failure to respond to imminently hazardous situations.]
- (e) Meniere's syndrome or labyrinthitis (e.g., severe).

[Potential for sudden incapacitation; inability to perform job functions due to limitations of balance.]

- (f) Otitis media, (e.g., chronic). [Frequent episodes of pain or inability to perform work; Inability to hear sounds of low intensity or to distinguish voice from background noise, leading to failure to respond to imminently hazardous situations.]
- (g) Any other ear condition that results in a person not being able to perform as a police officer.

A-5-4.2 Category B medical conditions:

- (a) Diseases of the jaws or associated tissues (e.g., incapacitating or preclude ability to use protective equipment). [Inability to properly wear protective equipment.]
- (b) Orthodontic appliances (e.g., precluding ability to use protective equipment). [Inability to properly wear protective equipment.]
- (c) Oral tissues, extensive loss (e.g., precludes satisfactory post-orthodontic replacement or ability to use protective equipment); inability to properly wear protective equipment; [Inability to communicate effectively due to oropharyngeal dysfunction.]
- (d) Relationship between the mandible and maxilla which precludes satisfactory post-orthodontic replacement or ability to use protective equipment. [Inability to properly wear protective equipment; Inability to communicate effectively due to oropharyngeal dysfunction.]
- (e) Any other dental condition that results in a person not being able to perform as a police officer.

A-5-5.1 Category A medical conditions:

- (a) Tracheostomy. [Inability to properly wear protective equipment; inability to perform job functions due to limitations of endurance; inability to communicate effectively due to oropharyngeal dysfunction.]
- (b) Mutism, regardless of cause. [Inability to communicate effectively due to oropharyngeal dysfunction.]

- (c) Anosmia. [Inability to smell smoke or hazardous materials resulting in failure to respond to imminently hazardous situation.]

A-5-5.2 Category B medical conditions:

- (a) Congenital or acquired deformity (e.g., interferes with ability to use protective equipment). [Inability to properly wear protective equipment.]
- (b) Allergic respiratory disorder (e.g., not controlled). [Frequent episodes of pain or inability to perform work; inability to perform functions as a police officer due to limitations of endurance.]
- (c) Sinusitis, recurrent (e.g., severe- requiring repeated hospitalizations or impairment). [Frequent episodes of pain or inability to perform work.]
- (d) Dysphonia, severe. [Inability to communicate effectively due to oropharyngeal dysfunction.]

A-5-6.1 Category A medical conditions:

- (a) Suppurative disease of lung or pleural space (e.g., chronic abscess of lung, bronchiectasis, or empyema). [Inability to perform functions as a police officer due to limitations of endurance.]
- (b) Active, cavitary tuberculosis. Public safety officials should not serve as a potential medium for the transmission of serious infectious disease while performing public services. [Inability to perform functions as a police officer due to limitations of endurance.]

A-5-6.2 Category B medical conditions:

- (a) Lobectomy (e.g., medical examination or pulmonary function testing indicating significant impairment). [Inability to perform essential functions as a police officer due to limitations of strength or endurance.]
- (b) Bronchial asthma (e.g., frequent medication use or symptoms caused by exposures to exertion, heat/cold, or products of combustion and other irritant inhalation). [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation; inability to perform functions as a police officer due to limitations of endurance.]

- (c) History of bronchiectasis, bronchitis, fibrous pleurisy, fibrosis, cystic disease, tuberculous, or mycotic disease of the lung (e.g., significant residual impairment of pulmonary function or requiring frequent therapy). [Frequent episodes of pain or inability to perform work; inability to perform the essential functions of a police officer due to limitations of endurance.]
- (d) Pneumothorax (e.g., history of recurrent spontaneous pneumothorax). [Potential for sudden incapacitation; inability to perform job functions due to limitation of endurance.]

A-5-7.1.1 Category A medical conditions:

- (a) Current angina pectoris. [Frequent episodes of pain or inability to perform work; progressive illness leading to functional impairment; potential for sudden incapacitation.]
- (b) Left bundle branch block or second degree Type II A-V block. [Potential for sudden incapacitation.]
- (c) Myocardial insufficiency (e.g., Congestive circulatory failure, cardiac decompensation). [Frequent episodes of pain or inability to perform work; progressive illness leading to functional impairment; potential for sudden incapacitation.]
- (d) Acute pericarditis, endocarditis, or myocarditis. Chronic pericarditis, endocarditis with resultant significant valvular lesions, or myocarditis leading to myocardial insufficiency or serious arrhythmias. [Frequent episodes of pain or inability to perform work.]
- (e) [Potential for sudden incapacitation.]

A-5-7.1.2 Category B medical conditions:

- (a) Significant valvular lesions of the heart including prosthetic valves (e.g., risk of sudden incapacitation, bleeding due to anti-coagulant therapy, or impaired exercise tolerance. Mitral valve prolapse without significant symptoms or simple presence of aortic bicuspid valve would not exclude an individual). [Potential for sudden incapacitation.]
- (b) Coronary artery arteriosclerosis (e.g., asymptomatic documented significant coronary artery disease. [Progressive illness leading to functional impairment; potential for sudden incapacitation.]

- (c) Atrial tachycardia, flutter, or fibrillation (e.g., acute or recurrent even with treatment). [Potential for sudden incapacitation.]
- (d) Third degree A-V block (e.g., disqualified unless exercise can be performed with an adequate heart rate response). [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (e) Ventricular tachycardia. [Potential for sudden incapacitation; inability to perform job functions due to limitations of strength or endurance.]
- (f) Hypertrophy of the heart (e.g., likely to lead to congestive heart failure). [Potential for sudden incapacitation; inability to perform job functions due to limitations of endurance.]
- (g) Recurrent paroxysmal tachycardia. [Potential for sudden incapacitation; inability to perform job functions due to limitations of strength or endurance.]
- (h) History of a congenital abnormality that has been treated by surgery but with residual complications or that has not been treated by surgery leaving residuals or complications. [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (i) History of myocardial infarction, coronary artery bypass, or coronary angioplasty. [Progressive illness leading to functional impairment; potential for sudden incapacitation.]

A-5-7.2.1 Category A medical conditions:

- (a) Congenital or acquired lesions of the aorta and major vessels (e.g., syphilitic aortitis, demonstrable atherosclerosis that interferes with circulation, congenital or acquired dilatation of the aorta). [Potential for sudden incapacitation; inability to perform functions of a police officer due to limitations of endurance.]
- (b) Marked circulatory instability as indicated by orthostatic hypotension, persistent tachycardia, and severe peripheral vasomotor disturbances. [Inability to perform functions as a police officer due to limitations of endurance; inability to perform functions of a police officer due to limitations of balance.]

- (c) Aneurysm of the heart or major vessel, congenital or acquired. [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]

A-5-7.2.2 Category B medical conditions:

- (a) Hypertension (e.g., uncontrolled, poorly controlled, evidence of significant end-organ damage, or requiring medication likely to interfere with performance of duties). [Progressive illness leading to functional impairment; potential for sudden incapacitation.]
- (b) Peripheral vascular disease such as Raynaud's phenomenon (e.g., interferes with performance of duties or makes the individual likely to have significant risk of severe injury). [Frequent episodes of pain or inability to perform work; inability to perform functions as a police officer due to limitations of endurance.]
- (c) Recurrent thrombophlebitis. [Frequent episodes of pain or inability to perform work; inability to perform functions as a police officer due to limitations of endurance.]
- (d) Chronic lymphedema due to lymphopathia or severe venous valvular incompetency. [Inability to perform functions as a police officer due to limitations of endurance.]

A-5-8.1 Category A medical conditions:

- (a) Chronic active hepatitis. [Frequent episodes of pain or inability to perform work.]
- (b) Recurrent peptic ulcer with bleeding. [Frequent episodes of pain; inability to do work; sudden incapacitation.]

A-5-8.2 Category B medical conditions:

- (a) Cholelithiasis or cholecystitis (e.g., frequent pain due to stones, infection). [Frequent episodes of pain or inability to perform work.]
- (b) Gastritis (e.g., recurrent pain and impairment). [Frequent episodes of pain or inability to perform work.]
- (c) Acute hepatitis (e.g., until resolution of acute hepatitis as determined by clinical examination and appropriate laboratory testing). [Frequent episodes of pain or inability to perform work.]

- (d) Hernia (e.g., inguinal or abdominal hernia which could obstruct during duty). [Potential for sudden incapacitation.]
- (e) Inflammatory bowel disease (e.g., disabling pain or diarrhea). [Frequent episodes of pain or inability to perform work; progressive illness leading to functional impairment.]
- (f) Intestinal obstruction (e.g., recent obstruction with impairment). [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (g) Pancreatitis (e.g., chronic or recurrent with impairment). [Frequent episodes of pain or inability to perform work.]
- (h) Resection, bowel (e.g., if frequent diarrhea precludes performance of duty). [Frequent episodes of pain or inability to perform work.]
- (i) Ulcer, gastrointestinal (e.g., symptoms uncontrolled by drugs or surgery). [Frequent episodes of pain or inability to perform work.]
- (j) Cirrhosis, hepatic or biliary. (e.g., symptomatic or danger of bleeding). [Frequent episodes of pain or inability to perform work.]
- (k) Diverticulosis. [Sudden incapacitation]

A-5-9.1.2 Category B medical conditions:

- (a) The pregnant officers' capability to perform in law enforcement should be periodically evaluated during pregnancy, particularly during the later months. [Frequent episodes of pain or inability to perform work; inability to perform functions as a police officer due to limitations of endurance or flexibility; inability to perform functions as a police officer due to limitations of strength; inability to properly wear protective equipment.]

There is medical evidence that chemical exposure, heat, noise, and physical exertion affects various endpoints of reproductive health, including fertility, fetal loss, and growth parameters of the offspring.

Based on a recent Supreme Court decision (International

Union, et al. v. Johnson Controls, Inc. S.Ct. Docket No. 215, 59 U.S.LW. 4209, March 20, 1991,)), the ability to perform as a police officer should be the basis for the medical certification. In addition, the pregnant police officer should be fully informed of the potential risk to her fetus due to her exposures during law enforcement duties (See Appendix B RE: Pregnancy).

- (b) Dysmenorrhea (e.g., leading to recurrent incapacitation). [Frequent episodes of pain or inability to perform work.]

- (c) Endometriosis, ovarian cysts, or other gynecologic conditions (e.g., severe - leading to recurrent incapacitation). [Frequent episodes of pain or inability to perform work.]
- (d) Testicular or epididymal mass (e.g., requires medical evaluation). [Frequent episodes of pain or inability to perform work; progressive illness leading to functional impairment.]

A-5-9.2.2 Category B medical conditions:

- (a) Diseases of the kidney (e.g., requiring dialysis). [Frequent episodes of pain or inability to perform work; progressive illness leading to functional impairment.]
- (b) Diseases of the ureters, bladder, or prostate (e.g., requiring frequent or prolonged treatment). [Frequent episodes of pain or inability to perform work.]

A-5-10.2 Category B medical conditions:

- (e) Arthritis (e.g., progressive impairment or limitation of movement). [Progressive illness leading to functional impairment; inability to perform functions as a police officer due to limitations of endurance or flexibility.]
- (f) Structural abnormality, fracture, or dislocation (e.g., progressive or recurrent impairment). [Progressive illness leading to functional impairment; inability to perform functions as a police officer due to limitations of strength or flexibility.]
- (g) Recurrent sciatica with extended convalescence (e.g., if symptomatic within last three years). [Progressive illness leading to functional impairment; inability to properly wear protective equipment.]

A-5-11.2 Category B medical conditions:

- (a) Limitation of motion of a joint of a degree to interfere with successful and safe performance of law enforcement duties. [Inability to perform functions as a police officer due to limitation of flexibility.]
- (b) Amputation or deformity of a joint or limb of a degree to interfere with successful and safe performance of law enforcement duties. [Inability to perform functions as a police officer due to limitations of strength; inability to perform functions as a police officer due to limitations of balance.]
- (c) Dislocation of a joint (e.g., recurrent or with residual limitation of motion of a degree to interfere with successful and safe performance of law enforcement duties. Successful surgery for recurrent shoulder dislocation if range of motion is intact would not exclude a person). [Inability to perform functions as a police officer due to limitations of strength or flexibility.]
- (d) Joint reconstruction, ligamentous instability, or joint replacement (e.g., recurrent or with residual limitation to motion of a degree to interfere with successful and safe performance of law enforcement duties. Surgery for a torn anterior cruciate ligament may disqualify if quadriceps strength is not normal or if the knee is lax or develops pain or swelling when stressed). [Inability to perform functions as a police officer due to limitations of strength or flexibility.]
- (e) Chronic osteoarthritis or traumatic arthritis (e.g., recurrent exacerbations leading to impairment). [Frequent episodes of pain or inability to perform work; inability to perform functions as a police officer due to limitations of strength, endurance, or flexibility.]
- (f) Inflammatory arthritis (e.g., severe recurrent or progressive illness or with deformity or limitation of range of motion of a degree to interfere with successful and safe performance of law enforcement duties). [Frequent episodes of pain or inability to perform work; inability to perform functions as a police officer due to limitations of strength, endurance, or flexibility.]

A-5-12.1 Category A medical conditions:

- (a) Ataxias of heredo-degenerative type. [Inability to perform functions as a police officer due to limitations of balance.]
- (b) Cerebral arteriosclerosis as evidenced by documented episodes of neurological impairment. [Inability to perform functions as a police officer due to limitations of strength; inability to perform functions due to limitations of balance.]
- (c) Multiple sclerosis with activity or evidence of progression within previous three years. [Inability to perform functions as a police officer due to limitations of strength or flexibility.]
- (d) Progressive muscular dystrophy or atrophy. [Inability to perform functions due to limitations of strength; inability to perform functions as a police officer due to limitations of balance.]
- (e) All seizure disorders to include psychomotor, focal, petit mal, or grand mal seizures except for those with complete control during previous five years, normal neurological examination, and definitive statement from qualified neurological specialist. [Potential for sudden incapacitation.]

A-5-12.2 Category B medical conditions:

- (a) Congenital malformations (e.g., severe vascular malformations that interfere with the capability to wear protective equipment). [Inability to properly wear protective equipment.]
- (b) Migraine (e.g., recurrent with impairment not controlled). [Frequent episodes of pain or inability to perform work; Potential for sudden incapacitation.]
- (c) Clinical disorders with paresis, paralysis, dyscoordination, deformity, abnormal motor activity, abnormality of sensation, or complaint of pain (e.g., progressive or severe). [Progressive illness leading to functional impairment; inability to perform functions as a police officer due to limitations of strength flexibility, or balance.]

- (d) Subarachnoid or intracerebral hemorrhage, verified either clinically or by laboratory studies except for those corrected with verification by laboratory studies and report of treating physician. [Progressive illness leading to functional impairment; potential for sudden incapacitation.]

- (e) Abnormalities from recent head injury such as severe cerebral contusion or concussion. [Potential for sudden incapacitation.]

A-5-13.2 Category B medical conditions:

- (a) Acne or inflammatory skin disease (e.g., if condition precludes good fit of protective equipment). [Inability to properly wear protective equipment.]
- (b) Eczema (e.g., if broken skin results in impairment from infections or pain or interferes with seal between skin and personal protective equipment). [Frequent episodes of pain or inability to perform work.]
- (c) Any other dermatologic condition that results in the person not being able to perform as a police officer.

A-5-14.1 Category A medical conditions:

- (a) Hemorrhagic states requiring replacement therapy (e.g., von Willebrand's disease, thrombocytopenia, hemophilia). [Frequent episodes of pain or inability to perform work.]
- (b) Sickle cell disease (homozygous). [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]

A-5-14.2 Category B medical conditions:

- (a) Anemia (e.g., requiring regular transfusions). [Frequent episodes of pain or inability to perform work; progressive illness leading to functional impairment.]
- (b) Leukopenia (e.g., chronic, indicative of serious illness). [Progressive illness leading to functional impairment.]
- (c) Polycythemia vera (e.g., severe, requiring treatment). [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (d) Splenomegaly (e.g., susceptible to rupture from blunt trauma). [Potential for sudden incapacitation.]
- (e) History of thromboembolic disease (e.g., more than one episode, underlying condition). [Potential for sudden incapacitation.]

A-5-15.2 Category B medical conditions:

- (a) Diseases of the adrenal gland, pituitary gland, parathyroid gland, or thyroid gland of clinical significance (e.g., symptomatic, poorly controlled). [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (b) Nutritional Deficiency Disease or Metabolic Disorder (e.g., clinically significant and not correctable by replacement therapy or other medication). [Frequent episodes of pain or inability to perform work.]
- (c) Diabetes mellitus. (e.g., poorly controlled or untreated or significant risk of developing hypoglycemic episodes). [Frequent episodes of pain or inability to perform work; progressive illness leading to functional impairment; potential for sudden incapacitation.]
- (d) Obesity (reflects poor fitness). [Inability to perform work; inability to perform functions of police officer due to limitation of endurance.]

A-5-16.2 Category B medical conditions:

- (a) Connective tissue disease, such as dermatomyositis, lupus erythematosus, scleroderma and rheumatoid arthritis (e.g., when manifested by systemic impairment or limitations of motion). [Progressive illness leading to functional impairment; inability to perform functions as a police officer due to limitations of strength or flexibility.]
- (b) Residuals from past thermal injury (e.g., frost bite resulting in significant symptomatic discomfort). [Inability to perform functions as a police officer due to limitations of strength, endurance, or flexibility.]
- (c) Documented evidence of a predisposition to heat stress with recurrent episodes or resulting residual injury. [Potential for sudden incapacitation; inability to perform functions as a police officer due to limitations of endurance.]

A-5-17.2 Category B medical conditions:

- (a) The medical evaluation of any person with malignant disease that is newly diagnosed, untreated, or currently being treated will be deferred. See 2-3.7 of Section 2.

- (b) Any person with treated malignant disease should be evaluated based on that person's current physical condition and on the likelihood of that person's disease recurring or progressing.

A-5-18.2 Category B medical conditions:

- (a) Other persons with a history of psychiatric condition or substance abuse problem shall be evaluated based on that person's current condition. [Frequent episodes of pain or inability to perform work; progressive illness leading to functional impairment; potential for sudden incapacitation.]

A-5-19.1 Category A medical conditions:

- (a) Any use of illicit drugs or illicit use of prescription drugs should not be tolerated. [Potential for sudden incapacitation; threat to the safety of co-workers and general public.]

NOTE: Under the American's With Disabilities Act, "current users" of illicit drugs (= positive drug test) are not considered as having a disability. A positive drug test (NIDA-5 drugs) can be grounds for withdrawing employment. These Public Safety employees would not be protected under the Act.

A-5-19.2 Category B medical conditions:

- (a) Anticoagulant agents (e.g., coumadin). [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (b) Cardiovascular agents (e.g., anti-hypertensives). [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (c) Narcotics. [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (d) Sedative-hypnotic agents. [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (e) Stimulants. [Frequent episodes of pain or inability to perform work; potential for sudden incapacitation.]
- (f) Psychoactive agents. [Frequent episodes of pain or inability

to perform work; potential for sudden incapacitation.]

- (g) Steroids. [Frequent episodes of pain or inability to perform work.]

## **VI. FITNESS REQUIREMENTS**

Physical fitness has a number of components, we have divided them into four general areas:

- 1) **aerobic, or cardiovascular fitness**
- 2) **muscular fitness**
- 3) **body composition**
- 4) **flexibility**

The muscular dimension can be further divided into elements of strength, muscular endurance, and power.

### **6-1 Aerobic or cardiovascular fitness**

- 6-1.1 A high level of aerobic fitness is imperative. A discussion of the methodology and rationale for these tests can be found in Appendix A.
- 6-1.2 Aerobic capacity will be measured using a multi-lead exercise test.
- 6-1.3 A fitness level of 14 METS will meet job requirements and provide a margin of safety for the future. The minimum level should be 13 METS. This corresponds to completing 11.6 minutes of the Bruce protocol.
- 6-1.4 Aerobic capacity - 13 METS (or 45.5 ml/kg/min)  
Work Tolerance Test - 11.6 minutes Bruce Protocol  
(Symptom limited maximal test)

### **6-2 Musculoskeletal**

- 6-2.1 Neuromuscular fitness will be assessed through factor analysis of various capacities and capabilities.
- 6-2.2 **Muscular strength** - is the ability to exert maximal force through the recruitment of muscle fibers. We can measure strength as a function of the force generated, such as the total mass lifted, or as the amount of force generated against a calibrated resistance. Strength can be "dynamic", where the mass or weight is moved, or "static" (isometric), where nothing moves and a gauge is used to determine force.

## **Static Strength**

- a. Hand grip (Use high quality dynamometer such as that produced by Jamar/Asimow Engineering) - Two trials each hand. Best value recorded in KG Force.
- b. Curl Test (Use high quality digital force gauge such as that produced by American Therapeutics) - Two Trials. Best value recorded in KG Force.
- c. Pull Down Test - Two trials. Best value recorded in KG Force.
- d. Push With Legs - Two trials. Best value recorded in KG Force.

## **Dynamic strength**

- a. Bench Press. Record maximum weight (resistance) candidate can lift into full arm extension for 5 repetitions (record in LBS).

### **6-2.3 Muscular endurance.**

Push-ups (Maximum in 2 minutes)  
Sit-ups (Maximum in 2 minutes)

Record average of push-ups and sit-ups as the Muscular Endurance Index.

### **6-2.4 Power Testing**

Vertical jump. Best of three. Measured from height at maximal standing reach to fingertips with maximal vertical jump. Two Trials. Best value recorded in inches to nearest 1/2".

### **6-3 Body Composition Assessment (% Body Fat) [See Section 12]**

Males: less than or equal to 20%  
Females: less than or equal to 25%

### **6-4 Flexibility Assessment:**

**Sit and Reach Test** - Two trials. Best value without lunging or bouncing that is held for >1 second. Record in inches to the nearest 1/2".

## **Appendix A - Rationale for Fitness Requirements**

This section assesses "fitness". Clearly, for a police officer to perform both safely and well he or she must be fit. Candidates and current officers will undergo limited performance testing during their medical examination. This data can be used by Academy officials and personnel involved in ongoing fitness training to tailor the fitness programs of individual officers. The results are informative only and do not constitute a deficiency that would, per se, preclude or restrict employment. (Note #1: Both work tolerance testing and %Body Fat are included separately in Section 5 as well.) (Note#2: In other aspects of the candidate's application, he/she may be required to meet certain minimal performance standards and these guidelines should not be construed to undermine the authority of any responsible official from imposing such standards.)

Physical fitness has a number of components, we have divided them into four general areas:

- 1) **aerobic, or cardiovascular fitness**
- 2) **muscular fitness**
- 3) **body composition**
- 4) **flexibility**

The muscular dimension can be further divided into elements of strength, muscular endurance, and power.

### **A-6-1 Aerobic or cardiovascular fitness**

A-6-1.1 A high level of aerobic fitness, combined with a low level of risk factors for cardiovascular disease, can help police officers perform safely in their hostile work environment. The cardiovascular risk factors are: smoking, hypertension, heredity, sex, obesity, sedentary lifestyle, hyperlipidemia, and age. Both the number of factors present and the severity of each are important.

A-6-1.2 A multi-lead exercise test using the Bruce protocol should be performed. The high metabolic requirements associated with law enforcement mandate an above average level of aerobic fitness.

A-6-1.3 A fitness level of 14 METS will meet job requirements and provide a margin of safety for the future. The minimum level should be 13 METS. This corresponds to completing Stage IV Bruce protocol. A-6-1.4 Aerobic capacity - 13

METS (or 45.5 ml/kg/min)  
Work Tolerance Test - 11.6 minutes Bruce Protocol  
(Symptom limited maximal test)

## **A-6-2 Musculoskeletal**

A-6-2.1 Neuromuscular fitness will be assessed through factor analysis of various capacities and capabilities.

A-6-2.2 **Muscular strength** - is the ability to exert maximal force through the recruitment of muscle fibers. We can measure strength as a function of the force generated, such as the total mass lifted, or as the amount of force generated against a calibrated resistance. Strength can be "dynamic", where the mass or weight is moved, or "static" (isometric), where nothing moves and a gauge is used to determine force.

### **Static Strength**

**Hand Grip** - Each subject is informed that the dynamometer measures static hand strength, and is a good indicator of total body strength. The following procedures should be followed:

1. Two trials with each hand will be allowed (alternating hands), record the highest value.
2. Proper technique involves keeping the hand free from contact with the body during the actual test. The subject must be standing for the test, but may move through any range of motion to elicit the best results.
3. Discourage any quick movements with the dynamometer during the test; this can offset the measuring needle and invalidate the results.
4. If the subject has a very large or small hand, adjust the dynamometer grip to a more comfortable setting.

**Curl Test** - A digital force gauge is used. The gauge with gripping bar is suspended from the floor platform by a chain, in such a way that the chain can be adjusted to the subject's height. The procedure is:

1. Question the individual concerning any problems that might be exacerbated by this exercise.

2. Specific stretching exercises, such as shoulder girdle and slow shoulder circumduction can be performed.
3. The subject's feet must be securely strapped to the floor platform directly below the digital force gauge.
4. Legs extended with upper arms parallel to body and forearms at right angles, pull on bar using underhand grip. Exert a gradual, maximal pulling force.

**Pull Down Test** - Same as above except the digital gauge/gripping bar is suspended from the ceiling by the chain and adjusted to the subject's height. The arms are flexed at 90 degrees to the trunk, upper arm parallel to the floor. Use an underhand grip. Exert a gradual, maximal pulling force.

**Push With Legs** - Same as the Curl Test except chain length adjusted to allow for bent knees. Gauge measures the maximal pulling by the subject as he/she attempts to straighten legs.

### **Dynamic strength**

This test involves standard procedures for a bench press. After a calculated estimate is made, the subject attempts increasing resistance (weights) until he/she can no longer push the weight into complete arm extension with 5 consecutive repetitions. Try not to fatigue the subject with too many trials.

A-6-2.3 **Muscular endurance** is often mistaken for muscular strength, when in reality they are separate and distinct components of muscular fitness. Muscular endurance is defined as the ability to contract the muscle repeatedly over a period of time. Low levels of muscular endurance indicate inefficiency in movement and low capacity to perform work. Two tests of muscular endurance which are easy to administer are the push-up and sit-up.

With the push-up, the subject must keep his back straight at all times and from the up position lower himself to the floor until his chest touches the administrators hand and then push to the up position again. The total number of correct push-ups is recorded.

With the sit-up, the subject starts by lying on his back, knees bent, heels flat on the floor, and hands interlocked behind the neck. The feet are secured. In

the up position, the subject should touch his knees with his elbows and then return to a full lying position.

The Muscular Endurance Index is based on an average of sit-ups and push-ups.

Push-ups (Maximum in 2 minutes)

Sit-ups (Maximum in 2 minutes)

A-6-2.4 Power Testing differs from strength because of the timed component associated with the application of force. Power is the ability to exert a maximal force over a distance in the shortest possible time:  $(f \times d)/t$ . The speed at which force can be produced is very important in completing many physical tasks. The idea is to release maximum force in the fastest possible time. The vertical jump test is commonly used as a measure of power. A yardstick, measuring tape, smooth wall, or a specially made vertical jumpboard, are required for the test. Chalk dust is placed on the fingers of one hand. The subject reaches as high as possible and this is recorded as the reaching height. The subject then jumps as high as possible, reaching upwards and marking the wall again at the peak of the jump. The test is scored as the number of inches, measured to the nearest 1/2 inch, between the "reach" and jump marks. The best of three trials is recorded as the score.

A-6-3 **Body Composition Assessment (% Body Fat)** [See Section 12]

Males: less than or equal to 20%

Females: less than or equal to 26%

A-6-4 **Flexibility Assessment:** Flexibility is included in the neuromuscular assessment since many physical/structural problems, particularly low back pain, are associated with poor flexibility. No one test measures the flexibility of all joints; however, the Wells-Dillon test serves as a reliable measure of hip and low back flexibility.

Method: Sit on the floor with legs straight, feet together, shoes off, backs of knees touching the floor, and toes pointed up (ankles at right angle with legs).

The heels touch the near edge of the tape or box. A yardstick is placed between the legs of the subject and

rests on the floor with the 15-inch mark on the edge of the box. The subject slowly reaches forward with both hands as far as possible and holds the position momentarily. The distance on the yardstick by the fingertips is recorded. The best of three trials is considered as the flexibility score.

## **VII. GUIDE FOR PHYSICIANS**

This information is designed to help physicians implement the requirements of this standard. The appendix includes sections on the occupational health risks for City of Alexandria police officers; organization of a medical program for police officers; guidance for conducting the examinations; further information on medical conditions that might cause difficulties when implementing this standard; and a flow diagram defining how the examination process should be "staged".

The medical conditions outlined in this appendix (Section 12) apply to individuals conducting essential law enforcement functions (See Appendix C) for the City of Alexandria.

## **Section 1 - Occupational Health and Safety Problems for Police Officers.**

Law enforcement officers perform functions which are physically and psychologically very demanding. These functions must often be performed under stressful conditions. Studies have shown that many law enforcement functions require working at near maximal heart rates for prolonged periods of time. Heavy protective and defensive equipment, stressful circumstances, exposure to toxic substances and environmental conditions combine to contribute to this physical load.

The available health data on police officers is surprisingly limited. Existing descriptive epidemiology of occupational injuries and illnesses for the law enforcement community lacks consensus credibility. The IACP (an international committee addressing medical issues in law enforcement) is currently discussing the need to formally address this issue. There are few illnesses which are significantly increased in incidence over the general population. But again, the number of respectable retrospective (or certainly prospective) studies are very scarce and these limitations should be recognized when medical decision making turns to employment decisions.

Available data indicate that police officers have increased risk for injuries, cardiovascular disease, and noise induced hearing loss. The strenuous work demands of law enforcement combined with exposures to environmental (or lifestyle) pollutants may increase the risk for cardiovascular disease among police officers. The combination of the physical stress of law enforcement and environmental exposures for a person with preexisting coronary heart disease might increase the risk of a myocardial infarction or other acute event. The degree of this risk has not been determined. Whether law enforcement operations also contribute to the development of coronary heart disease is uncertain.

Noise induced hearing loss has been documented in several studies of police officers. They may also be at risk from other specific exposures including the transmission of blood-borne infectious diseases.

## **Section 2 - Guidance for Medical Evaluations.**

### **Pre-placement and Baseline Medical Evaluations.**

Pre-placement medical evaluations assess an individual's health status before assignment to a position. There are at least three important reasons to perform this medical evaluation.

The first is to ascertain whether the individual has any health condition that would substantially compromise his or her ability to satisfactorily perform the essential functions of the job; including the capability to use and/or wear protective equipment required for the job.

The second is to identify any medical problems that would constitute a direct threat to the health and safety of the public and the individual's co-workers.

The third is based in every employer's obligation (as required by the General Duty Clause of the OSHA ACT) to provide safe and healthful work and workplace for employees. A pre-placement examination should also seek to identify health problems that could be substantially aggravated by the physical demands and working conditions inherent in law enforcement.

Two types of information are essential for a medical pre-placement evaluation for those performing law enforcement duties.

First, the physician must understand the working conditions and physical demands of this occupation. Appendix C provides a summary of the critical task list used during the Project Study.

The organization of the City of Alexandria Police Department can be found in this Appendix (Section 15). For the evaluation of some medical conditions, the physician will need to obtain further information about specific job duties in order to make a determination. This may require on-site inspections and consultation with police department personnel and the designated Police Department physician.

Secondly, the physician needs to have accurate information about the person's disease or medical condition, the functional limitations associated with that condition, and an understanding of how physical demands and working conditions would impact on that condition. An accurate diagnosis is often the key factor in determining the person's capability. For example, different skin diseases may have similar clinical appearances but markedly differ in their response to environmental exposures. The physician must also recognize that variability may exist between persons with the same clinical condition.

Upon completion of the examination, the physician should provide written notification to the departmental designee. See below. When the evaluating physician is unsure about any part of the examination that bears on the decision to hire, with or without restrictions, consideration should be given to obtaining a second medical opinion.

### **Content of the Medical Evaluation.**

#### 1. Medical and Occupational History

The medical history should cover known health problems such as major illnesses, surgeries, medication use, allergies, etc. Symptom review is also important for detecting early signs of illness. In addition, a comprehensive medical history should include a personal health history, a family health history, a health habit history, an immunization history, and a reproductive history. An occupational history should also be obtained to collect information about the person's past occupational and environmental exposures.

#### 2. Medical Examination

The suggested components of the medical examination are:

- (a) Vital signs: Pulse, respirations, blood pressure, and, if indicated, temperature
- (b) Dermatological system (Whole Body Skin Examination)
- (c) Head, neck, ears, eyes, nose, mouth, throat  
Eyes:(incl: visual acuity, near and far, corrected and uncorrected; depth, peripheral vision)  
Ears:(incl. pure tone air conduction audiometry)
- (d) Cardiovascular system (incl. resting ECG, aerobic treadmill "work tolerance" test) (Lab: incl. CBC)
- (e) Respiratory system  
(Pulmonary function testing - after baseline, only as indicated clinically)  
(Chest radiograph - after baseline, only when indicated).
- (f) Gastrointestinal system (incl. rectal exam, guaiac)  
(Lab: incl. AST, ALT, Total bilirubin, GGT, Alkaline Phosphatase)
- (g) Genitourinary system (incl. urinalysis, BUN, Creatinine)
- (h) Endocrine and metabolic systems (Fasting glucose, electro-lytes, T4 (thyroxine), Lipid Profile) (Obtain % body fat)
- (i) Musculoskeletal system (See physical performance profile)
- (j) Neurologic system
- (k) Psychiatric (mini-mental status exam documented)

### 3. Laboratory tests

Baseline CBC, biochemical test battery (SMA 12) and urinalysis should be conducted for detecting specific illnesses as well as a baseline for later comparison.

### 4. X-rays

A baseline chest X-ray may be helpful for individuals with a history of respiratory health problems or symptoms. For others, it may be useful for later comparison.

### 5. Pulmonary function testing

Pulmonary function testing may be helpful for individuals with a history of respiratory health problems, heavy chronic smokers and as a baseline for later comparison. A baseline test should be administered by an experienced person. 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). Police officers are only occasional respirator users and their medical surveillance need not adhere strictly to the OSHA standard for workers who wear respirators routinely.

### 6. Audiometry

Audiograms should be performed in an ANSI approved soundproof booth (ANSI S3.11) with equipment calibrated to ANSI standards (ANSI 53.6-1973). If a booth is unavailable, test room sound pressure levels should not exceed those specified in the Federal OSHA noise regulation (29 CFR 1910.95).

### 7. Electrocardiography

Baseline electrocardiography should be conducted and interpreted by a licensed physician competent in the interpretation of ECGs.

### **Immunization: a) Hepatitis vaccination and Follow-up b) Tetanus/diphtheria**

1. All sworn police officers should be encouraged to receive Hepatitis vaccination from the City of Alexandria. For adults with normal immune systems (essentially 100% of working officers) the antibody response to properly administered vaccine is excellent, and protection lasts for at least 5 years. Booster doses of vaccine are not

routinely recommended, **nor is routine serologic testing to assess antibody levels in vaccine recipients necessary during this period.**

2. The immunogenicity of the recombinant vaccine is comparable to that of the plasma derived vaccine. When given in a three dose series (10 ug/dose-deltoid-IM), the recombinant HB vaccine induces protective antibody (antiHBs) in over 95% of healthy adults. The recombinant vaccine, like the plasma derived vaccine, produces a somewhat lower antibody response in older adults than in younger (20-34) adults. **There does not appear to be any distinct advantage to switching from one formulation to the other to achieve a more robust immunogenic response.**

3. Tetanus/diphtheria (Td) should be administered every 10 years. Standard practice procedures should be followed after wound care including a review of tetanus immunization.

## **Section 3 - Specific Medical Conditions**

### **Uncorrected vision standard**

This standard (uncorrected vision binocular = 20/60) is more restrictive than for fire fighters or any other public safety official in the City. A large body of literature (see references) establishes the need for this standard and documents the Judicial System's willingness to support it. Section 7, Appendix A, provides additional rationale for this standard.

In general, accommodation should be reserved (ex. use of contacts) for incumbents with a long track record of safe work practices and no adverse health effect from the use of ocular soft contacts.

### **Diabetes**

The term insulin dependent diabetes as used here applies to an individual whose disease course is characterized by an absolute need for insulin with a tendency towards ketoacidosis or marked hyperglycemia and insulin-induced hypoglycemia. The latter condition is the major concern, as individuals who become hypoglycemic during critical law enforcement operations could endanger themselves, fellow officers, or the public. The best predictor for the occurrence of a hypoglycemic episode in a diabetic is a history of a previous episode.

On the other hand, the occasional individual treated with insulin for what would normally be considered maturity onset diabetes (Type II) may be considered if there has been a documented stable course without a history of hypoglycemic episodes and where ongoing monitoring is assured.

### **Asthma**

Asthma and other reactive airways disorders are characterized by variable and often rapidly fluctuating airways obstruction, cough, and sputum production. Conditions encountered in law enforcement (irritants and hot/cold air inhalation, heavy exertion) may trigger asthmatic attacks in some individuals. However, asthmatics with a stable history of symptoms (e.g., only after respiratory infections or exposure to usually avoidable allergens) may not have attacks triggered by typical law enforcement activities or exposures. For a current police officer with preexisting or new onset asthma, the past response to both routine and critical law enforcement activities may provide guidance on his/her capability to continue to work.

### **Coronary Artery Disease**

Due to the high prevalence of this condition and the changing diagnostic technology, this category may cause difficulty. Most individuals with coronary artery disease should not be performing law enforcement operations. An example of an acceptable person with coronary artery disease would be an asymptomatic individual with insignificant coronary artery disease (< 70% obstruction of any coronary artery) with normal left ventricular function and no evidence of myocardial ischemia at maximal exercise tolerance as determined by Thallium imaging, echocardiography, or a comparable technique.

### **Seizure Disorder**

Due to the unusual nature of law enforcement (i.e., shift work, toxic exposures and potentially dangerous circumstances) the presence of an active seizure disorder (< 5 years under treatment) represents a disability that cannot be accommodated by the City because it represents a direct threat to the safety of the candidate, his future partners and the general public.

### **Pregnancy**

In the aftermath of the Supreme Court's decision that fetal protection policies violate the Civil Rights Act, the EEOC has issued a policy guidance stating that "policies that exclude members of one sex from the workplace cannot be justified". The Commission advised that whenever a fetal protection policy excludes women, it is a violation of Title VII of the Civil Rights Act, regardless of whether the employer can prove that a substance to which its workers are exposed will endanger the health of the fetus. Nonetheless, the evaluating physician needs to be aware that substantial and credible evidence exists that certain toxic substances or conditions exist in the law enforcement environment that are dangerous to the safety and well being of the unborn fetus. Therefore it is important to educate all police officers about these risks and the reasons for recommending (when appropriate) that pregnant police officers, especially late in pregnancy, restrict their law enforcement activities. Some concerns are those involving physical work. Prolonged standing, heavy lifting, and exposures to temperature extremes and humidity have been related to an increased risk of pre-term and low birth weight infants. Acute trauma to the abdomen could have serious consequences.

Because of these concerns, the police officer who may be pregnant should obtain early pregnancy testing and should defer specific exposures and activities apropos to the stage of their pregnancy and personal medical condition and should be offered alternative duty.

Recognizing potential risks to the unborn fetus from the law enforcement environment is a relatively recent event, and many police officers may not be aware of these risks. At such time as the police officer is no longer pregnant, the officer should be reinstated to the position held prior to becoming pregnant, without loss of seniority or accrued time toward promotions, etc.

### **Noise-Induced Hearing Loss**

This category may pose difficulties because a high percentage of current police officers have noise-induced hearing loss because of their occupational exposures. Implementation of hearing conservation programs and programs to reduce noise exposures should lead to a decrease in the prevalence of this condition in the future.

### **Obesity**

Obesity is defined in these medical guidelines in terms of the percentage of a person's body weight that is composed of body fat versus lean body mass. This concept is referred to as body composition analysis. In most medical literature, the accepted definition of obesity is body fat levels in excess of 25% and 30% for males and females, respectively. Currently, determination of the percentage of body fat is performed most accurately via the hydrostatic (underwater) weighing technique, but equations for use with skinfold calipers have been developed that can be used by a capable technician to derive valid estimates of body composition.

Skinfold calipers measure the thickness of subcutaneous adipose tissue, thus discounting claims that excessive weight may be due to an individual's "big bones" or "muscle weight." Accumulation of body fat above the designated guidelines constitutes an established health hazard as well as being an important factor in producing deficiencies on performance testing and agility testing.

Obesity is caused by some combination of overeating, inactivity, genetics and, less commonly, endocrine malfunction. Health risks include an increased incidence of coronary artery disease, hypertension, diabetes, low back pain, and others.

Over the past 10 years, there has been increased attention paid to the relationship of obesity to performance. Recent articles such as "Excess body fat - not age - viewed as a greater culprit in the fitness decline" (Fire Engineering, 133:33-37, 1980) reflect growing scientific interest and support for the use of % body fat as an acceptable medical criterion.

## I. Equations for Body Composition Analysis

FEMALES [Jackson & Pollock, 1980]

$$D = 1.096095 - .0006952(\text{TOTAL}) + .0000011(\text{TOTAL})^2 - .0000714(\text{age})$$

TOTAL = tri + abd + suprailiac + thigh

MALES [Jackson & Pollock, 1978]

$$D = 1.112 - .00043499(\text{TOTAL}) + .00000055(\text{TOTAL})^2 - .00028826(\text{age})$$

TOTAL = chest + subscap + tri + midaxill + abd + thigh + calf

$$\% \text{Fat} = (4.57/D - 4.142) (100) = \underline{\hspace{2cm}} \%$$

## II. Skinfold Locations

Triceps - Vertical fold, on back of right arm, midway between acromion and olecranon.

Abdomen - Vertical fold, approximately one centimeter to the right of the umbilicus.

Subscapular - Diagonal fold, along the inferior tip of the right scapula.

Chest - Diagonal fold, midway between the axillary crease and the right nipple.

Midaxillary - On the right side of the rib cage, directly down from the center of the armpit, horizontally on the same level as the xiphoid process, fold along the line of the ribs.

Suprailiac - Vertical fold, directly above the right iliac crest.

Thigh - Vertical fold, front of right thigh, midway between patella and inguinal crease. Patient should shift weight over to left foot during this.

Calf - Vertical fold, just below popliteal space on back of right knee (top of calf). Patient should shift weight over to left foot during this.

## **Section 4 - Essential Functions of City Police Officers**

The critical tasks of the City's Police force were studied from the perspective of the essential physical abilities required for satisfactory performance. An emphasis was placed on the following areas: musculoskeletal fitness, vision, hearing, ability to use weapons, psychological factors.

### **A. Musculoskeletal fitness**

1. Use of non-deadly weapons requiring use of baton to subdue an aggressive suspect, proper footwork, maintaining of body balance, and escaping from suspect's grasp.
2. Unarmed confrontations utilizing control holds and takedown tactics that place force on joints and extremities, self - defense techniques that require strength, stamina and agility and disarming suspects with various weapons.
3. Unusual hazardous situations such as auto accidents or disaster sites where the lifting and removal of victims may be necessary, or where the administration of first aid and CPR is required.
4. Operation of a motor vehicle under emergency conditions requiring safe driving techniques, skid control, backing, and defensive driving.
5. The pursuit, arrest, and restraint of aggressive/hostile suspects requires all aspects of physical exercise.
6. Identification and use of practical mental, emotional, and physical preparation and response to officer ambush or sniper situations both on foot and in a vehicle.

### **B. Vision** (includes visual acuity, color, depth of field, peripheral vision)

1. Observation on foot or in vehicle during investigations.
2. Firearms training and practical use.
3. Vehicle operations, color distinction of signs and suspect vehicles, and emergency traffic situations.
4. Suspect confrontations, ambush or sniper situations, multiple arrests all require depth of field and peripheral functioning.

C. **Hearing** ( includes ability to hear warnings, cries for help, field instruction and normal classroom instruction.