Employee Medical Monitoring Program

Updated November 2024

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1.0 Regulatory Authority

California Code of Regulations (CCR) Title 3, and Title 8, CSU Employee Medical Monitoring Plan Management §1.3 and 1.4; CSU Executive Order 1039

2.0 Administrative Agency

California Division of Occupational Safety and Health (DOSH), Department of Industrial Relations (Cal OSHA)

3.0 Background

Medical surveillance in the occupational setting is the systematic collection and analysis of the health information on groups of workers potentially exposed to harmful agents, for the purpose of identifying health effects at an early and hopefully reversible stage. Biological monitoring, or the measurement of tissue levels of contaminants or metabolites, is often included as part of a medical monitoring program, even though these tests do not measure adverse health effects.

The California Code of Regulations (CCR) requires that employees with potential exposures to certain harmful agents shall receive medical monitoring examinations. These examinations serve the purpose of detecting adverse health effects which could possibly be related to workplace exposures. Early detection of disease will result in earlier treatment and will allow for cessation of additional exposures that could aggravate a potentially serious medical condition. In addition to monitoring of employee health, biological monitoring may also be necessary. Biological monitoring provides a correlation between external exposures and internal exposure. Biological monitoring provides a reliable indication of health risk to an individual worker.

4.0 Scope

Medical physical examinations are required for employees in the following categories:

- Police Officers, pre-employment per California Peace Officer Standards and Training
- Employees exposed to specific chemical and physical agents as defined in the CCR

Depending on their level of exposure, employees with occupational exposure to the following conditions and chemicals may be placed on the Employee Medical Monitoring Program (EMMP).

Medical monitoring relative to Covid-19 is not included in this plan. (See Covid IIPP for details).

Potential Sources of Exposure		Status as of 11/19/24
-	Animal Handlers	MD consultant reviews/defines requirements of IACUC and BUA protocols
-	Asbestos (abatement, etc.)	Contractor work. Not performed by SFSU employees.
§5193	Bloodborne Pathogens	Hep A/B vaccination offered, Post exposure treatment
§5157	Confined Space Entry	Contractor work. Not performed by SFSU employees.
§3205	Covid-19	See Covid IIPP
-	Defensive Driving	Random & for cause: drug screen/blood alcohol
§5192	HazWoper Spill Clean Up	Annual medical/respiratory questionnaire, exam as requested by MD
-	Hazardous Waste Handling	No medical monitoring required for user - small spill clean-up
-	Ionizing Radiation	Exposure monitoring. Medical follow-up post exposure
-	Laser Class 3 or 4	Laser eye exams - Not provided
-	Lead (paint abatement, etc.)	Contractor work. Not performed by SFSU employees.
§5097	Noise	Baseline and annual audiometry
3-6728	Pesticide Operations	CIH review of proposed pesticide use
§5144	Respiratory Protection	Annual medical/respiratory questionnaire, exam as requested by MD
Carcinogens		
§5201	1,3-Butadiene	Exposure assessment required.
§5218	Benzene	Exposure assessment required.
§5207	Cadmium	Exposure assessment required.
§5206	Chromium (VI)	Exposure assessment required.
§5217	Formaldehyde	Air exposure monitoring conducted. Results << action limits
§5202	Methylene chloride = Dichloromethane	Used exclusively in chemical fume hoods

Potential Sources of Exposure		Current Status as of 11.19.24
Carcinogens		
§5212	1,2 Dibromo-3-Chloropropane (DBCP)	Not present per inventory. No exposure assessment necessary.
§5209	2-Acetylaminofluorene	Not present per inventory. No exposure assessment necessary.
§5209	3,3'-Dichlorobenzidine (and its salts)	Not present per inventory. No exposure assessment necessary.
§5215	4,4-Methylenebis (2-Chloroaniline)	Not present per inventory. No exposure assessment necessary.
§5209	4-Aminodiphenyl	Not present per inventory. No exposure assessment necessary.
§5209	4-Dimethylaminoazobenzene	Not present per inventory. No exposure assessment necessary.
§5209	4-Nitrobiphenyl	Not present per inventory. No exposure assessment necessary.
§5213	Acrylonitrile	Not present per inventory. No exposure assessment necessary.
§5209	alpha-Naphthylamine	Not present per inventory. No exposure assessment necessary.
§5208	Asbestos	Not present per inventory. No exposure assessment necessary.
§5209	Benzidine (and its salts)	Not present per inventory. No exposure assessment necessary.
§5205	Beryllium	Not present per inventory. No exposure assessment necessary.
§5209	beta-Naphthylamine	Not present per inventory. No exposure assessment necessary.
§5209	beta-Propiolactone	Not present per inventory. No exposure assessment necessary.
§5209	bis-Chloromethyl ether	Not present per inventory. No exposure assessment necessary.
§5211	Coke Oven Emissions	Not present per inventory. No exposure assessment necessary.
§5219	Ethylene Dibromide (EDB)	Not present per inventory. No exposure assessment necessary.
§5220	Ethylene Oxide	Not present per inventory. No exposure assessment necessary.
§5209	Ethyleneimine	Not present per inventory. No exposure assessment necessary.
§5214	Inorganic Arsenic	Not present per inventory. No exposure assessment necessary.
§5198	Inorganic Lead Compounds	Not present per inventory. No exposure assessment necessary.
§5198	Lead	Not present per inventory. No exposure assessment necessary.
§5209	Methyl chloromethyl ether	Not present per inventory. No exposure assessment necessary.
§5200	Methylenedianiline	Not present per inventory. No exposure assessment necessary.
§5209	N-Nitrosodimethylamine	Not present per inventory. No exposure assessment necessary.
§5208.1	Non Asbestiform Tremolite, Anthophyllite, or Actinolite	Not present per inventory. No exposure assessment necessary.
§5204	Respirable Crystalline Silica	Not present per inventory. No exposure assessment necessary.
§5210	Vinyl Chloride	Not present per inventory. No exposure assessment necessary.

5.0 Policy

It is the policy of the CSU that medical examinations mandated by state laws and regulations be enforced by each campus. Employees refusing to participate will sign declination forms. Failure or refusal of an employee to undergo required medical testing, as determined by campus management, may constitute a failure or refusal to perform the normal and reasonable duties of the position. In such event, the campus has the authority to commence appropriate disciplinary action up to and including termination of employment.

6.0 Objectives

- Evaluate the health status of employees and determine whether they can perform the job in a safe and effective manner.
- Detect exposure-related adverse health effects at an early and hopefully reversible stage so that occupational diseases can be prevented, and proper medical care can be rendered, if necessary.
- Periodically assess employee suitability for ongoing or new assignments that involve potential contact

with hazardous agents.

- Correlate past occupational or environmental exposures with future workplace activities and exposures, to arrive at an opinion on the risk that the job might represent to the health status of the individual.
- Provide a medical monitoring program that complies with all the pertinent State, and local regulations.
- Identify unrecognized effects of exposure by continually evaluating group employee health data to detect possible adverse health trends.

7.0 Employee Medical Records and Confidentiality

7.1 Access

Employees, their designated representatives, and authorized representatives of Cal/OSHA have full right of access to relevant exposure and medical records. Designated representatives must be given the employees written authorization to exercise the right of access. The legal representative of a deceased or legally incapacitated employee may exercise full right of access to all of an employee's medical record.

All requests for employee medical or exposure records shall be in writing to the appropriate University Medical Record Custodian. A copy or the requested records shall be provided to the employee or designated representative at no cost and no later than fifteen (15) days after the request is made. In the case of an original x-ray, access shall be restricted to on-site examination. Whenever a record has previously been provided without cost to the employee or designated representative, the university may charge for the record search and the cost of additional copies.

Designated representatives must be given the employee's written authorization to exercise rights of access. A written authorization shall contain the following:

a. The name and signature of the employee authorizing the release of the medical information.
b. The date of the written authorization.
c. The name of the individual or organization authorized to release the medical information.
d. The name of the individual or organization authorized to receive the medical information.
e. A general description of the medical information that is authorized to be released.
f. A general description of the purpose for release of the medical information, and a date or condition upon which the written authorization will expire. The employee or representative will be provided a copy of the requested medical records at no charge to the employee.

7.2 Retention, Recordkeeping and Confidentiality

An important part of the Employee Medical Monitoring Program (EMMP) is the confidentiality of the medical and exposure records generated by the program. This program has been carefully designed to ensure that the medical information for individual employees be made available only to medical professionals (including medical records services personnel) and the employee. Specifically, individual medical information is not available to SFSU management personnel, and in the absence of a subpoena, will not be made available to any person other than the employee or their designated representative or an inspector of State regulatory agencies, e.g. Cal/OSHA.

The only information kept on file at the University is a cover-letter describing the employee's medical qualification to perform regular work, a description of work restrictions (if any) and the names of tests completed by the occupational medicine provider.

Often, an employee may have undergone a previous medical examination. This information may be of value to the physician performing the exam. If the employee authorizes, copies of these old records may be obtained. Medical and exposure records are maintained for 30 years after the termination of employment at SFSU.

7.3 Definition of Medical and Exposure Records

a. Medical records include the following:

1. Medical and employment questionnaires and histories.
2. The results of medical examinations and laboratory tests.
3. Medical opinions and diagnosis, progress rates and recommendations.
4. First aid records.
5. Description of treatment and prescriptions.
6. Employee medical complaints.

b. Medical records do not include medical information in the form of:

1. Physical specimens (e.g. blood or urine samples) which are routinely discarded as part of normal medical practice.
2. Records created solely in preparation for litigation which are protected from discovery under applicable rules of procedure on evidence.
3. Records concerning voluntary employee assistance programs.

c. Exposure records include:

1. A record containing measurements or monitoring results of the amount of a toxic substance or harmful physical agent to which the employee is or has been exposed.
2. In the absence of directly relevant records, records of other employees with past or present job duties or working conditions related to or similar to those of the employee, may be used to indicate the amount and nature of the toxic substances or harmful physical agents to which the employee is or has been subjected.
3. Exposure records to the extent necessary to reasonably indicate the amount and nature of the toxic substance or harmful physical agent at workplaces or working conditions to which the employee is being assigned or transferred.
4. EHS Staff members who are responsible for the creation of exposure records will be HIPAA certified. Once exposure records are put into storage they are be treated as medical records.

8.0 Medical Monitoring Program Operations

8.1 Administration

a. Supervisors and the EHS Department determine the potential need for employee physicals based on job description and hazard analysis.
b. Once need is determined, supervisors coordinate with the EH&S Office and provide pertinent employee information.
c. The Workers Comp Manager will schedule the exams with the contracted occupational medicine provider, Kaiser on the Job, who will notify the supervisor and employee of date/time/instructions.
d. The EHS Department, is financially responsible for the total cost of exams, screening, tests, etc.

8.2 Examination Frequency

a. The Initial Baseline Examination - Affected employees shall be given a baseline examination before being assigned to work with respirators or in occupations with known potentially hazardous exposures or Cal/OSHA regulated substances.

b. Periodic/Annual Examination - Personnel who have taken the initial examination shall be re-examined periodically in accordance with hazard-specific regulations. The date of each periodic examination should fall on or as closely as possible to, the anniversary of the previous examination.

   Any employee who has not participated in potentially hazardous work or who is no longer required to use a respirator during the 12 month period following his/her last annual examination, and who is not expected to continue to participate, may discontinue participation in the medical monitoring program as determined by the EH&S Officer and the employee's appropriate administrator/supervisor.

   Records will be kept by EH&S clearly documenting the reasoning and approval for each individual discontinuation of participation.

c. Exit Examination – Wherever possible an exit examination shall be offered to employees whose employment has included contact with OSHA regulated agents and who has been a participant in medical monitoring. If a medical exam has been administered within one year of exit, this requirement may be waived in certain cases.

d. Special / Emergency Examination (situational medical clearance) - Special testing may be required on certain projects due to the potential for exposure to specific substances. This may be necessary after an exposure that results in a toxicity reaction. The need for special testing will be assessed on an ongoing basis. Emergency testing may be necessary in the event the of employee exposure.

e. Physician's reports - Examining physicians will use the information provided by the employee in the questionnaire, the examination results, and the results of the laboratory tests to determine if any work restrictions or occupational health problems appear to be present. The physician must send a report of the examination directly to the employee as will the SFSU Workers Compensation Manager, who will maintain the employees' records. These records are confidential and can only be viewed by the employee, the employee's representative, and authorized representatives of the Chief of the Division of Occupational Safety and Health.

Non-work related health issues may arise during the course of the medical evaluation. The examining physician may recommend that employees see their family doctor or a specialist. Any additional tests required to investigate non-work related health issues will be the employee's responsibility.

8.3 Routine Examinations

a. EH&S identifies employees covered by these regulations and coordinates the completion of baseline, periodic / annual and exit examinations with the employee or his or her supervisor.

b. Appointments for an Employee Medical Monitoring Examination are arranged at Kaiser On-The-Job by SFSU's Workers Compensation Manager. Kaiser contacts the employee and handles the arrangements and any instructions.

c. The employee completes all applicable forms prior to the examination and observes the pre-exam instructions and attends the appointment.

d. The examining Physician sends their report to SFSU's Workers Compensation Manager with a copy of their findings to the employee.

e. SFSU's Workers Compensation Manager reviews the Health Status Review Form and initiates appropriate action.

8.4 Special Examinations

If situations arise in which an employee may have experienced a hazardous exposure or alleges symptoms, EH&S will evaluate the potential workplace problems and arrange for appropriate medical diagnosis and treatment if indicated or required.

EH&S will contact the examining physician who will coordinate investigations and treatment to determine if overexposure to a hazardous substance has occurred.

An Incident Report detailing the hazardous exposure will be completed by the appropriate administrator and forwarded to EH&S.

ANNEX - REGULATORY STANDARDS AND PROTOCOLS

A. Occupational Noise (8 CCR 5097)

A.1 Covered employees
All employees whose workplace noise exposures equal or exceed the action level.

A.2 Examinations
Shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using maintaining and checking calibration and proper functioning of the audiometers being used. The technician must be responsible to an audiologist, otolaryngologist or physician.

A.3 Frequency
Within 6 months of first exposure; at least annually after obtaining the valid baseline audiogram; if using a mobile test van, exams shall be conducted within one year of first exposure

A.4 Protocol
Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. This requirement may be met by wearing hearing protectors of 80 dBA or below. The employer shall inform the employee of the need to avoid high levels of non-occupational noise exposure during the preceding 14 hours.

The audiogram shall be compared to the baseline to determine if a standard threshold shift (STS) has occurred. A retest may be obtained within 30 days if a STS has occurred and consider the results of the retest and the annual audiogram. A STS is defined as a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, 4000 Hz in either ear. Allowance may be made for presbycusis.

A.5 Physician's Report
If a STS has occurred, the employee shall be notified in writing within 21 days; and shall be referred for a clinical audiological evaluation, an otological examination, as appropriate, if additional testing is necessary.

A.6 Employers Responsibility
If STS has occurred, the employer shall institute the wearing of hearing protection and / or retraining the employee in the proper use of hearing protection

A.7 Examination Protocols

TEST	PRE-EXPOSURE OR PRE-PLACEMENT	ANNUAL	PERIODIC	EXIT	REMARKS
Audiometric Examination	X	X		X	

B. Respiratory Protection (8 CCR 5144)

B.1 Covered employees
Any employee who is required to use respiratory protective equipment against a potentially toxic exposure. Note: Voluntary use of respiratory protection for comfort does not require medical testing. However users of voluntary protection must sign a form acknowledging the limitations of the protection.

B.2 Examinations
Persons should not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work while using the required respiratory equipment. A licensed physician shall determine what health and physical conditions are pertinent.

B.3 Frequency
The medical status of persons assigned use of respiratory equipment shall be reviewed annually.

B.4 Protocol

Mandatory tests:

1. Comprehensive medical examination with emphasis on respiratory and cardiovascular condition

At Physician's discretion:

2. Pulmonary function test
3. 2-view and 4-view X-Ray (alternating years)

Optional test:

1. Electrocardiogram

B.5 Physicians Report
Shall indicate if there are any restrictions to be wearing of respiratory protective equipment; shall indicate what levels of respiratory equipment may be worn.

B.6 Examination Protocols

TEST	PRE-EXPOSURE OR PRE-PLACEMENT	ANNUAL	PERIODIC	EXIT	REMARKS
Comprehensive medical exam	X	X		X (1)	(1) If not conducted within previous 12 months. (2) Recommended for employees over 40 yrs. (3) At the discretion of the employee, if desired less frequent. (4) At the examining physicians discretion where there is justifiable concern regarding health risk from use of respirator.
Pulmonary function test	X(3)	X(3)		X (3)	
EKG Stress Test	X(3) X (4)	X (3)	X (3) X (4)	X (3) X (4)	

C. Lead (8 CCR 5198)

C.1 Employees Covered
All work where an employee may be occupationally exposed to lead. All employees occupationally exposed on any day to lead at or above the action level. All employees who are or may be exposed at or above the action level for more than 30 days in any consecutive 12 months.

C.2 Examinations
A comprehensive medical examination and biological monitoring shall be performed by or under the supervision of a licensed physician.

C.3 Frequency
Medical examinations shall be performed prior to initial exposure and annually for each employee:

- **a.** Additional Examinations and biological monitoring shall be performed as soon as possible when either the employee has developed signs or symptoms commonly associated with lead intoxication, desires medical advice concerning reproductive hazards, or the employee has demonstrated difficulty in breathing during a respirator fitting or during use and as medically appropriate for each employee removed from exposure to lead.
- **b.** At least every 2 months for each employee whose last blood lead level was at or above 40ug/100 g until two samples in a row are less than 40ug/100g.
- **c.** Monthly during the period an employee is removed from exposure due to an elevated blood lead level.

C.4 Biological Monitoring Shall Include

- **a.** blood lead level
- **b.** hemoglobin and hematocrit, red cell indices and peripheral smear
- **c.** morphology
- **d.** zinc protoporphyrin (ZPP)
- **e.** blood urea nitrogen and creatine
- **f.** urinalysis with microscopic examination
- **g.** any laboratory or other test which the examining physician deems necessary by sound medical practice

C.5 Medical Removal Protection
The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a periodic and follow-up blood sampling test conducted indicate that the employee’s blood level is at or above 50 ug/100 g.

The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that at a final medical examination the employee has a detected medical condition which places the employee at increased risk of material impairment to health from exposure.

C.6 Return to Former Job Status

The employee shall be returned to former job status: if removed for a blood lead level at or above 80 ug/100 g when the employee's blood lead level is at or below 60 mg/100 g of whole blood; if removed for a level at or above 70 ug/100 g when two consecutive tests indicate the blood lead level is at or below 50 mg/100 g; if removed for a level at or above 50 ug/100 g when two consecutive tests indicate the blood lead level is at or below 40 mg/100 g; when removed due to a final medical determination when a subsequent final medical determination states that the employee no longer has a detected medical condition which places the employee at increased risk of material impairment to health.

C.7 Examination Protocols

TEST	PRE-EXPOSURE OR PRE-PLACEMENT	ANNUAL	PERIODIC	EXIT	REMARKS
Comprehensive medical exam	X	X		X	(1) As required by blood level tests.
Biological monitoring for Lead	X	X	X (1)		
Urinalysis	X	X		X	

D. Blood Borne Pathogens (8 CCR 5193)

D.1 Employees covered
All employees who could be "reasonably anticipated" to have occupational exposure to blood or other potentially infectious materials (OPIMs).

D.2 Examinations
All medical evaluations and procedures are to be conducted under the supervision of a licensed physician or another licensed healthcare professional. A "licensed healthcare professional" is defined as a person whose legally permitted scope of practice allows them to independently perform the activities required.

D.3 Program
a. Voluntary hepatitis vaccinations shall be offered to all employees who have occupational exposure to blood or OPIM's
b. An employee declining a Hepatitis B Vaccination must sign a Hepatitis B declination form.
c. An employee who initially declines hepatitis B vaccination but at a later date decides to accept the vaccination, shall receive that hepatitis vaccination at that time.
d. If a routine booster dose (titer) of hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster dose(s) shall be made available to identified employees.
e. Following an exposure incident, a confidential medical evaluation must be performed to include documentation regarding circumstances of exposure, source testing if feasible, testing exposed employee's blood (with consent), post-exposure prophylaxis, counseling and evaluation of reported illness.
f. See the University Exposure Control Plan for required forms.

E. Asbestos (8 CCR 5208)

E.1 Employees Covered
All employees, who are, or may reasonably be expected to be, exposed to asbestos at or above the action level and/or above the action level and/or excursion limit.

E.2 Examinations
Performed by or under the supervision of a licensed physician

E.3 Frequency
Before an employee is assigned to work involving exposure or within 30 days of the employee's initial exposure to asbestos, in the event of an emergency, and at least annually thereafter. A termination examination shall be given unless the employee has had an exam within the past year.

E.4 Content of Exam

a. In addition to evaluating for asbestos-related disease, the physician shall evaluate for fitness to wear personal protective equipment including respirators.

b. Comprehensive medical exam plus completion of the required initial medical questionnaire for pre-placement or initial examinations or the periodic medical questionnaire for subsequent found in 8 CCR, Section 5208 Appendix D (copy attached).

c. Chest x-rays shall consist of a 14" X 17" AP and right and left anterior oblique views interpreted by a NIOSH certified B-reader on an ILO rating form. The following frequencies for chest x-rays will be observed.

Years Since First Exposure	Age of Employee	
	Less than 40	40 and older
0 to 10	Every three years	Annually*
10 and above	Annually*	Annually*
* Oblique x-rays need only be performed every three years.		

1) Spirometry to include forced vital capacity (FVC) and force expiatory volume at 1 second (FEV1) performed by a technician certified by NIOSH in pulmonary function testing.

d. Additional tests deemed appropriate or necessary by the examining physician.

E.5 Information provided to the Physician
A copy of title 8 CCR 5208 and Appendices D, E, and I; a description of the employee's duties; their representative or anticipated exposure levels; description of any personal protective equipment to be used; information from previous medical examinations.

E.6 Physician report

The report shall contain the results of the examination without diagnosis disclosure unrelated to occupational exposure to asbestos. It shall also contain any recommended limitations on the employee or upon the use of personal protection equipment; the physician's opinion as to whether the employee has any detected medical conditions that would place the employee at an increased risk of material impairment from exposure to asbestos; and a statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions resulting from asbestos exposure that require further explanation or treatment.

E. 7 Examination Protocols

TEST	PRE-EXPOSURE OR PRE-PLACEMENT	ANNUAL	PERIODIC	EXIT	REMARKS
Comprehensive medical exam	X	X		X (1)	(1) If last exam not within past 12 months.
Asbestos medical questionnaire	X	X			
Chest X-ray	X	X	"B-Reader" every other year	X	
Spirometry	X	X			

F. Pesticides (3 CCR 6728)

F.1 Covered employees
Employees who mix, load, apply, store, transport or otherwise handle pesticides in toxicity category one or two that contain an organophosphate or carbamate.

F.2 Examinations
Baseline red cell and plasma cholinesterase tests shall be performed by a clinical laboratory currently approved by the State Department of Health to perform these tests.

F.3 Frequency
Baseline red cell and plasma cholinesterase tests shall be verified every two years.

F.4 Monitoring Shall Include

F. 5 Examination Protocols

TEST	PRE-EXPOSURE OR PRE-PLACEMENT	ANNUAL	PERIODIC	EXIT	REMARKS
Comprehensive medical exam	X	X		X (1)	(1) If not conducted within previous 12 months.
* See Respiratory Protection for additional protocols.					

G. Formaldehyde (8 CCR 5217)

G.1 Covered employees

Medical monitoring is provided for employees exposed to formaldehyde vapor great than the AL or STEL, employees experiencing signs and symptoms related to exposure, employees concerned about their exposure, or employees in emergency situations.

G.2 Examinations

A medical questionnaire is completed by the employee (see Appendix D of 29 CFR 1910.1048). The physician then determines whether an examination is also necessary. Examinations are performed by a licensed physician. The physician must submit a written opinion to the employer, for each employee examined.

G.3 Frequency

If respirators are worn by employees, then examinations and pulmonary function tests must be performed annually.

G.4 Examination Protocols

TEST	PRE-EXPOSURE OR PRE-PLACEMENT	ANNUAL	PERIODIC	EXIT	REMARKS
Comprehensive medical exam	X	X		X (1)	(1) If not conducted within previous 12 months.
* See Respiratory Protection for additional protocols.					

H. Comprehensive Medical Examination

a. **Identification provided:** Name, birth date, gender, job title, department, etc.

b. Personal medical history:

1. Medications
2. Allergies
3. Illness, injuries, hospitalizations, surgeries
4. Smoking, alcohol, drug histories
5. Medical conditions-specifically lung disease, heart disease, liver disease, skin conditions, neurological condition

c. Family medical history: specifically cancers and lung, heart, liver, kidneys or neurological diseases

d. General Appearance and Physical Development and Posture: Height and weight are recorded.

e. Head-Eyes: Titimus vision testing including near, far, color vision and depth, lateral phoria, esophoric, exphoric and vertical phoria (right and left hemisphere) and peripheral vision. Also noting ptosis, discharge, visual fields, ocular muscle imbalance, presence of corneal scarring, exophthalomos or srabismus uncorrected by corrective lenses. If the applicant wears contact lenses, it will be noted whether they have good tolerance and has adapted to their use. All vision testing is done without corrective lenses and then with the corrective lenses. This is done in order to determine a baseline vision as well as effectiveness of corrective lenses. Note that certain positions do not allow the use of contact lenses.

f. Ears: Audiometric tests shall be pure tone, air conduction, hearing threshold examinations with test frequencies including as a minimum, 500, 1000, 2000, 3000, 4000 and 6000 Hz. Tests at each frequency shall be taken separately for each ear. Audiometric screening should meet specifications of, and be maintained and used in accordance with ANSI, S 3.6-1969. Audiometry testing room should meet the requirements for maximum allowable octave-band sound pressure levels for audiometric test rooms. In addition, audiometric calibration should be checked acoustically on an annual basis according to Title 8 California Code of Regulations, Section 5097 Appendix D. Ear examination also includes noting any evidence of mastoid or middle ear disease, discharge symptoms of aural vertigo or Meniere’s Syndrome.

g. Throat: Examination includes detection of any deformities of the throat, larynx, masses or nodes which may interfere with normal breathing and eating.

h. Heart: Auscultation by stethoscope for heart sounds, presence of murmurs, clicks, rubs, additional heart sounds and dysrhythmias. PMI will be ascertained, and full cardiac history is obtained for symptoms such as dyspnea, palpitations, syncope. Blood pressure determinations are also made.

i. Pulmonary: Examination of lungs and thoracic area. Breath sounds are examined specifically noting any signs of chronic obstructive pulmonary disease, congestive heart failure and history of lung disease like asthma or bronchitis.

j. Gastrointestinal System: Complete history, and current signs and symptoms will be noted. Noting will be made specifically for presence of hernia, scars, weakness or injuries, location, size and character of any abdominal masses. Bowl sounds will also be noted. A rectal examination with stool guaiac will be obtained on all male employees over 50 years of age.

k. Genitourinary: Examination for presence of infection or other abnormal findings including urinalysis (noting uncontrolled diabetes, presence of albumin).

l. Neurological: Examination includes pupil reflexes for light and accommodation, sensory, vibratory and positional movements.

m. Extremities: Close examination of all extremities for color, warmth, presence of peripheral pulses and skin turgor. Any deformities, paralysis or varicose veins and leg muscle weakness will be documented.

n. Spine: History of pain, injuries, and physical examination for deformities will be performed.

o. Resting 12-lead Electrocardiogram: Electrocardiograms will be read by a Board Certified Cardiologist.

p. Treadmill EKG: or MASTER STEP TEST

q. Pulmonary Function Testing: To include (at the discretion of the examining physician):

1. FVC- Forced Vital Capacity
2. FEV 1.0-Forced Expired Volume in one second
3. FEV 3.0-Forced Expired Volume in three seconds
4. FEF 25-75 - Forced Expiratory flow
5. RV - Residual Volume

Results of pulmonary function testing are calibrated in prediction equations. Degree of respiratory impairment is assessed. Some obstructive diseases that may be associated with abnormal findings include: chronic bronchitis, asthma and emphysema. Restrictive diseases like pleural thickening, pulmonary fibrosis and congestive heart failure are associated with other abnormalities found in pulmonary function testing. All pulmonary function testing equipment must be approved by the American Thoracic Society and the operators must be certified by NIOSH (National Institute for Occupational Safety and Health).

r. Complete Blood Count (RBC, Hgb, HCT, WBC, differential)

s. Blood Chemistry Panel, Requiring any/all of the following tests:

Glucose	Sodium	Potassium
Chloride	Creatinine	BUN
Phosphate	Uric acid	Cholesterol
Total protein	Calcium	Globulin
Triglycerides	Albumin	Total Bilirubin
Alkaline Phosphatase	G-Glutamyl Transpep	Transaminase (AST ALT)
LDH	Sickle Cell Index	Lead
Mercury	Cadmium	Cobalt

All laboratory testing is performed by a CLIA approved and licensed clinical laboratory.

t. Chest X-Rays: Posterior / anterior view x-rays. Radiologist interpretation should be done by a Board Certified Radiologist. For employees with potential asbestos exposure, Certified "B" readers will interpret x-rays.

u. Urinalysis (with Microscopy) to test for:

Specific Gravity	pH
Albumin Glucose	Acetone Protein

v. Biological Monitoring for Lead:

Blood lead level

Hemoglobin and hematocrit, red cell indices and peripheral smear morphology
Zinc protoporphyrin (ZPP)
Blood Urea nitrogen and creatinine

w. Red blood cell and Plasma Cholinesterase Tests

x. Stool Specimen

Submitted for culture and examination for OVA and parasites

I. Program Review and Changes Log

January 2020 Added Covid references, and Index I.

October 2021 Reviewed – No changes

October 2022 Reviewed – No changes

November 2023 Reviewed – Typos corrected, and formatting changes made

November 2024 Reviewed – Typos corrected, and carcinogen monitoring status updated