

CHAPTER 9 – MEDICAL MONITORING

GENERAL COMMENTS FOR INSTRUCTORS:

This chapter provides the information needed to set up a medical monitoring program for silica exposed workers.

Medical surveillance is intended to: (1) identify respirable crystalline silica-related diseases so that employees with those diseases can take actions to protect their health; (2) determine if an employee has any condition, such as a lung disease, that might make him or her more sensitive to respirable crystalline silica exposure; and (3) determine the employee's fitness to use respirators.

The silica standard for both general industry/maritime and construction employers specifies which employees must be offered medical surveillance, when and how often the examinations must be offered, and the tests that make up medical examinations. The standard also specifies the information that the employer must give to the physician or other licensed health care professional (PLHCP) who conducts the examinations and the information that the employer must ensure that the PLHCP provides to the employee and employer.

All medical examinations and procedures required by the standard must be performed by a PLHCP. Medical surveillance must be provided at no cost to employees, and at a reasonable time and place. If getting the medical examination requires the employee to travel away from the worksite, the employer is required to cover the cost of travel. The employer must also pay employees for time spent traveling and taking medical examinations.

Remember, silicosis may take 20 or more years to develop. Workers who smoke should stop. Lungs are at an even greater risk of becoming diseased if someone smokes.

Monitoring results should be kept available for the employee's duration of employment plus 30 years.

This chapter also covers reporting requirements and reporting should be stressed to all participants. Companies need to report to MIOSHA anytime there is a known or suspected occupational disease.

AUDIO VISUAL AIDS:

- PowerPoint® Chapter 9

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APPENDICES:

- Appendix IX - MIOSHA Occupational Health Standard Part 470 - Employee Medical Records and Trade Secrets.
- Appendix XIX - Recommended Medical Screening Protocol for Silica Exposed Worker
- Appendix XX – Michigan Administrative Recording and Reporting Rules
 - Appendix XX-A: PART 11, Michigan Administrative Rule for Recording and Reporting of Injuries and Illnesses.
 - Appendix XX-B: MIOSHA Form OH-51 - Known or Suspected Occupation Disease Report.
 - Appendix XX-C: MIOSHA Log 300 - Log of Work Related Injuries and Illnesses
 - Appendix XX-D: MIOSHA Form 301 - Injury and Illness Incident Report
 - Appendix XX-E: MIOSHA Form 300A - Summary of Work-Related Injuries and Illnesses

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IF YOU USE SILICA SAND AS AN ABRASIVE OR YOU PERFORM ABRASIVE BLASTING ON A SILICA-CONTAINING SUBSTRATE:

The Silica standard for both general industry/maritime and construction requires employers to provide medical surveillance for employees performing work activities producing respirable crystalline silica.

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The silica standard for General Industry/Maritime and Construction has identical language except for which employees must be provided medical surveillance. The difference is highlighted below. The remainder of the discussion about medical surveillance applies to both General Industry/Maritime and Construction employers.

It should always be kept in mind that medical surveillance is not a substitute for good dust control in the workplace.

Controlling exposure is the only effective primary prevention strategy.

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WHICH EMPLOYEES MUST BE PROVIDED MEDICAL SURVEILLANCE?

Construction Employers

Construction employers performing abrasive blasting or blasting on silica-containing substrates must make an initial or periodic medical examination available to employees who will be required by the silica standard to wear a respirator for 30 or more days per year. *If the employee is required to wear a respirator at any time during a day, that counts as one day of respirator use.*

An employer must estimate how often respirator use will be required by the standard in the upcoming year based on the types of tasks that the employee will perform, as well as how long and how often those tasks are performed. Respirator use with past employers does not count toward the 30-day threshold.

When unexpected circumstances result in employees being required to wear respirators more frequently than first expected, employers must make medical surveillance available as soon as it becomes apparent that the employee will be required by the silica standard to wear a respirator for 30 or more days in the upcoming year.

General Industry/Maritime Employers

Medical surveillance must be offered to employees who will be exposed above the PEL ($50 \mu\text{g}/\text{m}^3$) for 30 or more days a year.

Starting on June 23, 2020, medical surveillance must be offered to employees who will be exposed at or above the action level ($25 \mu\text{g}/\text{m}^3$) for 30 or more days a year.

FREQUENCY OF MEDICAL EXAMINATIONS

Employers must offer medical examinations:

- Within 30 days of initial assignment (the day the employee starts working in a job/task) unless the employee has had an examination that meets the requirements of the silica standard within the last three years.
- At least every three years from the employee's last examination that met the requirements of the silica standard, or more frequently if recommended by the PLHCP. A PLHCP might recommend more frequent medical examinations based on factors such as high exposure levels or a medical finding such as an X-ray suggesting silicosis.

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TESTS THAT MUST BE INCLUDED IN THE EXAMINATION

Employees who must be offered medical surveillance are at risk of developing respirable crystalline silica-related diseases, and the required tests are the minimum tests needed to look for those diseases. More tests may also be needed to address an employee's medical complaint or a finding related to respirable crystalline silica exposure, such as abnormal lung function. The standard gives the PLHCP the flexibility to order additional tests he or she deems appropriate. Employers must make those tests ordered by the PLHCP available to the employee.

An initial medical examination must consist of:

- A medical and work history that focuses on: past, present, and anticipated exposure to respirable crystalline silica, dust, and other agents affecting the respiratory system; any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (for example, shortness of breath, cough, wheezing); history of tuberculosis; and smoking status and history;
- A physical examination that focuses on the respiratory system;
- A digital or film chest X-ray interpreted according to the International Labour Office (ILO) International Classification of Radiographs of Pneumoconioses by a National Institute for Occupational Safety and Health (NIOSH)-certified B Reader (this involves a certified physician reading the X-ray according to certain procedures to determine if it shows signs of diseases such as silicosis);
- A lung function (spirometry) test that includes forced vital capacity (FVC: the total amount of air that is forcefully blown out after taking a full breath), forced expiratory volume in one second (FEV1: the amount of air forcefully blown out in the first second), and FEV1/FVC ratio (the speed of air that is forcefully blown out), administered by a spirometry technician with a current certificate from a NIOSH-approved spirometry course;
- Testing for latent tuberculosis infection;
- Any other tests deemed appropriate (medically necessary and related to respirable crystalline silica exposure) by the PLHCP.

A periodic examination include all these tests, with the exception of testing for latent tuberculosis.

NIOSH Certified B Readers: Physicians from inside the United States that have who have demonstrated competence in applying the ILO classification by successfully completing the NIOSH B Reader examination within the last 4 years. Listing does not imply medical licensure. The NIOSH Certified B Reader list can be found at: <https://wwwn.cdc.gov/niosh-rhd/cwhsp/ReaderList.aspx>.

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INFORMATION THE EMPLOYER MUST PROVIDE TO THE PLHCP

The employer must ensure that the examining PLHCP has a copy of the standard and must provide the PLHCP with:

- A description of the employee's past, current, and future duties as they relate to respirable crystalline silica exposure;
- The employee's past, current, and future levels of exposure to respirable crystalline silica (if the employer does not have information on the employee's past or current exposure level because they are following Table 1 and are not required to measure exposures, the employer can indicate if the employee is likely exposed at or above the PEL, based on required respirator use under Table 1);
- A description of any personal protective equipment used, or to be used, by the employee, including when and for how long the employee has used or will use that equipment; and
- Information from records of employment-related medical examinations previously provided to the employee and currently within the control of the employer.

The PLHCP needs this information to evaluate the employee's health in relation to assigned duties and fitness to use personal protective equipment, such as respirators. The information provided to the PLHCP includes only that within the control of the employer; the employer is not required to obtain information from past employers.

THE PLHCP'S WRITTEN MEDICAL REPORT FOR THE EMPLOYEE

Employers must make sure that:

- Employees receive a *dated* copy of the PLHCP's written medical opinion.
 - This allows the employee to present that opinion to a new employer as proof of a current medical examination.
 - Employers can determine when they must offer an employee the next periodic medical examination based on the examination date on the written medical opinion.
- The PLHCP explains the results of the medical examination to the employee and gives the employee a written medical report within 30 days of each medical examination performed. The PLHCP can give a copy of the opinion directly to the employee, so long as the time deadline is met. *Only the employee receives the written medical report*; the employer does not receive a copy of this report. The medical report to the employee must contain:
 - A description of the medical examination results, including any medical condition(s) that would place the employee at increased risk of material impairment of health from exposure to respirable crystalline silica (any health condition that might make the employee more sensitive to exposure).

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- Any medical conditions that require further evaluation or treatment;
- Any recommended limitations on the employee's use of respirators;
- Any recommended limitations on respirable crystalline silica exposure; and
- A statement that the employee should be examined by a specialist if the B-reader classifies the chest X-ray provided under the silica standard as 1/0 or higher (X-ray evidence of silicosis in employees exposed to respirable crystalline silica), or if the PLHCP otherwise recommends referral to a specialist.

THE PLHCP'S WRITTEN MEDICAL OPINION FOR THE EMPLOYER

The employer must get a written medical opinion from the PLHCP within 30 days of the medical examination. The written opinion must contain only the following information:

- The date of the examination;
- A statement that the examination has met the requirements of the silica standard; and
- Any recommended limitations on the employee's use of respirators.

If the employee gives written authorization, the written medical opinion to the employer must also contain one or both of the following:

- Any recommended limitations on the employee's exposure to respirable crystalline silica;
- A statement that the employee should be examined by a specialist if the B reader classifies the chest X-ray provided under the silica standard as 1/0 or higher (X-ray evidence of silicosis in employees exposed to respirable crystalline silica), or if the PLHCP otherwise recommends referral to a specialist.

WHAT REPORTING REQUIREMENTS APPLY?

Michigan Public Health Code requires a physician, hospital, clinic, **or employer** knowing of an individual having a case of occupational disease or a health condition aggravated by workplace exposures to report the case to the Michigan Department of Licensing and Regulatory Affairs within 10 days after the discovery of the occupational disease or condition.

The Michigan Public Health Code also requires a physician, hospital, clinic, **or employer** knowing of a *suspected case* of occupational disease or a health condition aggravated by workplace exposures shall report the case to the Michigan Department of Licensing and Regulatory Affairs within 10 days after the discovery of the occupational disease or condition.

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The report shall state the name and address of the individual, the name and business address of the employer, the business of the employer, the place of the individual's employment, the length of time of employment in the place where the individual became ill, the nature of the disease, and other information required by the department.

Appendix XX contains Michigan Administrative Rule Part 11 – Recording and Reporting of Occupational Injuries and Illnesses and the MIOSHA-MTSD-51 - Known or Suspected Occupation Disease Report. The notification can be made by accessing the MIOSHA webpage at https://www.michigan.gov/lara/0,4601,7-154-89334_11407---,00.html. Click on Recordkeeping and Statistics link. Instructions for complying with Part 11, and options for reporting (mail and online) are available. Another option for reporting a suspected case of occupational disease or health condition aggravated by a workplace exposure is to access the MSU Occupational and Environmental Medicine (OEM) website at www.oem.msu.edu/. On the MSU OEM home page is an online reporting option.

In 2015, MIOSHA revised MIOSHA Administrative Standard Part 11, Recording and Reporting of Occupational Injuries and Illnesses recordkeeping and reporting rules in response to an OSHA recordkeeping and reporting rule change. The recordkeeping regulation revision requires employers to report to MIOSHA within 24 hours:

- all work-related in-patient hospitalizations
- amputations
- loss of an eye

The work-related fatality reporting requirement is unchanged: all employers are required to report work-related fatalities to MIOSHA within eight hours.

Employers can use the [online form](#) to report an in-patient hospitalization, amputation, or loss of an eye incident or call the MIOSHA Severe Injury Report Line 844-464-6742. This system should NOT be used for reporting work-related fatalities. **All work-related fatalities must still be reported within eight hours to the current fatality line: 800-858-0397.**

WHAT RECORDING REQUIREMENTS APPLY?

Employers must record information about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid on the MIOSHA 300 – Log of Work Related Injuries and Illnesses form. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional, and work-related injuries and illnesses that meet any of the specific recording criteria listed in Public Law of 1970 (P.L. 91-596) and Michigan Occupational Safety and Health Act 154, P.A. 1974, Part 11, Michigan Administrative Rule for Recording and Reporting of Injuries and Illnesses.

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Employers must complete an injury and illness incident report (MIOSHA Form 301 or equivalent form – Injury and Illness Incident Report) within 7 days after you receive information that a recordable work-related illness or injury has occurred. If you're not sure whether a case is recordable, call your local MIOSHA office for help. You may be fined for failure to comply.

If you have had more than 10 employees at any one time during the calendar year immediately before the current calendar year, you must prominently post the MIOSHA Log 300A Summary of Work-Related Injuries and Illnesses at the worksite from February 1 to April 30 of the year following the year covered by the form.

Appendix XX contains copies of MIOSHA Log 300, Form 300 A and Form 301. The MIOSHA 300 log and Forms 300A and 301 can also be found as Excel spreadsheets or PDFs on the MIOSHA website at:

https://www.michigan.gov/lara/0,4601,7-154-89334_11407_30929---,00.html

RECORD RETENTION

Employers must keep the PLHCP medical opinion on record for the duration of employment plus thirty (30) years.

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SILICA AND SMOKING

Silica alone can cause lung disease. But, if you smoke, your lungs are at even greater risk of becoming diseased. If you are an abrasive blaster, it is very important that you stop smoking.

Your body goes through many changes when you quit smoking:

After 20 minutes of your last cigarette:

- * Your heart rate and blood pressure drop.

12 Hours:

- * The carbon monoxide level in your blood drops to normal.

2 Weeks to 3 Months:

- * Circulation improves.
- * Walking becomes easier.

1 Month to 9 Months:

- * Coughing and shortness of breath decrease.
- * Tiny hair-like structures that move mucus out of the lungs (called cilia) start to regain normal function in your lungs, increasing their ability to handle mucus, clean the lungs, and reduce the risk of infection.

1 Year:

- * The excess risk of coronary heart disease is half that of someone who still smokes. Your heart attack risk drops dramatically.

5 Years:

- * Your risk of cancers of the mouth, throat, esophagus, and bladder is cut in half. Cervical cancer risk falls to that of a non-smoker. Your stroke risk can fall to that of a non-smoker after 2 to 5 years.

10 Years:

- * Your risk of dying from lung cancer is about half that of a person who is still smoking. Your risk of cancer of the larynx (voice box) and pancreas decreases.

15 Years:

- * Your risk of coronary heart disease is that of a non-smoker's

American Cancer Society.

Internet

Address:

<http://www.cancer.org/docroot/home/index.asp?level=0>

FOR MORE INFORMATION

If you require additional information, or have further questions, please direct your request to:

American Lung Association

1-800-LUNG-USA

(1-800-586-4872)

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REFERENCES:

- *Appendix IX: MIOSHA Occupational Health Standard Part 470 - Employee Medical Records and Trade Secrets.*
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Notes