



Centers for Disease Control and Prevention

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Due to the lapse in government funding, only web sites supporting excepted functions will be updated unless otherwise funded. As a result, the information on this website may not be up to date, the transactions submitted via the website may not be processed, and the agency may not be able to respond to inquiries until appropriations are enacted.

Updates regarding government operating status and resumption of normal operations can be found at <http://www.usa.gov>.

CHEST RADIOGRAPHY

B Reader Information for Medical Professionals



If you are visiting this Web Page, you may be interested in the NIOSH B Reader Program or you may be curious about becoming a B Reader.

- Do you live in a coal mining area and expect to classify chest radiographs for the Coal Workers' X-Ray Surveillance Program as mandated by the Federal Mine Safety and Health Act of 1977 (<http://www.msha.gov/regs/act/acttc.htm>) <http://www.cdc.gov/Other/disclaimer.html>?
- Have you been asked to classify chest radiographs of asbestos- exposed workers as governed by the U.S. Department of Labor regulations?
- Are you involved in classifying chest radiographs for medical screening, surveillance, research, or compensation programs?

The B Reader Examination

B Reader approval is granted to physicians with a valid U.S. state medical license who demonstrate proficiency in the classification of chest radiographs for pneumoconioses using the International Labour Office (ILO) Classification System.

Proficiency is evaluated via the B Reader Examination, which was developed in response to the mandates of the Federal Mine Safety and Health Act. Since the examination was first administered in 1974, more than 1000 physicians have passed it. Currently, there are about 300 B Readers ([Current B Reader List \(breader-list.html\)](#)).

Examinations are offered monthly at NIOSH's Appalachian Laboratory for Occupational Safety and Health located in Morgantown, West Virginia. A passing score results in approval as a B

Reader. Each B Reader is required to be re-examined every four years. Most B Readers renew for an additional term.

Regulations mandate that all physicians who participate in the examination and/or classify chest radiographs under the Act must utilize the ILO System and Standard Films. These standard films are necessary when participating in the B Reader Examination or utilizing the NIOSH Self-Study Syllabus, and are an important resource at the American College of Radiology (ACR) Symposium on Radiology of the Pneumoconioses.

For more information:

Wagner GR, Attfield MD, Parker JE. Chest Radiography in Dust-Exposed Miners: Promise and Problems, Potential and Imperfections. OCCUPATIONAL MEDICINE: State of the Art Reviews. Philadelphia, Hanley & Belfus, Inc. 1993; 8(1):127-141.

For additional information, you may wish to refer to:

Wagner GR, Attfield MD, Kennedy RD, Parker JE. The NIOSH B Reader Certification Program --An Update Report. JOURNAL OF OCCUPATIONAL MEDICINE. 1992; 34:879-884.

ILO Revisions

NIOSH currently uses the revised edition (2011) of the *Guidelines for the Use of the ILO International Classification of Radiographs of Pneumoconioses*. Potential B Reader candidates should keep the following in mind:

- B Reader certifications under the previous ILO system will continue to be valid until their date of expiration.
- NIOSH has revised both the B Reader certification and recertification examinations to make them consistent with the 2011 ILO revision.
- A revised Roentgenographic Interpretation Form (#e), consistent with the 2011 ILO revision, is available from NIOSH and is being used in all components of the CWXSP. You may download a copy of the form from this site by clicking on the link above.
- NIOSH tests all B Reader candidates according to the 2011 revised ILO system. Upon the expiration of their certification, current B Readers will be required to recertify under the revised system.

You can visit the ILO web site to obtain a copy of the Guidelines for the use of the ILO International Classification of Radiographs of Pneumoconioses (Edition 2011) (http://www.ilo.org/safework/info/publications/WCMS_168260/lang--en/index.htm)  (<http://www.cdc.gov/Other/disclaimer.html>) and the ILO Standard Digital Images (ILO 2011-D) in DICOM  (http://www.ilo.org/safework/info/publications/WCMS_168337/lang--en/index.htm)  (<http://www.cdc.gov/Other/disclaimer.html>) format are now available on DVD for purchase from U.S. distributors. .

- PDF Version of the ILO Guidelines  (http://www.ilo.org/public/libdoc/ilo/2002/102B09_423_engl.pdf)  (<http://www.cdc.gov/Other/disclaimer.html>)
- Order hardcopies of the ILO Guidelines (http://www.ilo.org/global/What_we_do/Publications/ILOBookstore/Orderonline/Books/lang--en/docName--WCMS_PUBL_9221108325_EN/index.htm)  (<http://www.cdc.gov/Other/disclaimer.html>)

During the transition from the 1980 to the 2011 edition of the ILO Classification, readers have asked about the use of different available sets of standard radiographs in classifying films under the current 2011 revision of the Classification.

Two issues have arisen:

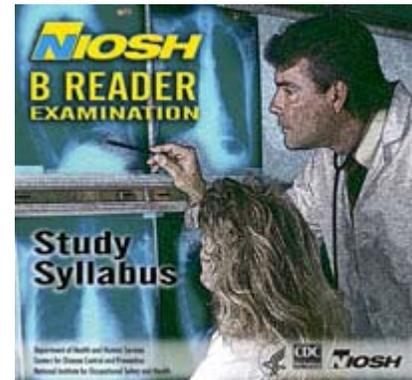
1) The ILO now offers two distinct sets of the standard films: the "Complete Set" consisting of 22 radiographs, and the "Quad Set" consisting of 14 radiographs. Although the two sets are generally comparable, international trials have demonstrated some tendency for film classifications to vary, depending on the set of radiographs used. Thus, for the purposes of classifications under the NIOSH Coal Workers' X-ray Surveillance Program, use of the "Complete Set" is preferred. Readers should consult with the responsible parties regarding this issue when they perform classifications for other purposes, such as research studies, medical surveillance programs, or clinical or medical-legal evaluations.

2) In order to preserve continuity and consistency in the classifications, the images used in reproducing the 2011 version of the standard radiographs are identical to those used for the 1980 set of standard radiographs, aside from one image which demonstrates pleural abnormalities. The ILO did endeavor to improve image quality in the 2000 set by utilizing advanced computer image techniques. The NIOSH Coal Workers' X-ray Surveillance Program requires that readers submit classifications adhering to the 2011 Revised Edition of the Guidelines for the Use of the ILO International Classification of Radiographs of Pneumoconiosis. The sets of standard images used in the 2011 and 1980 Classifications are nearly identical, and thus it is the individual reader's choice which of these two sets of standard radiographs to use after that time. However, because the quality of the 2011 standard radiographs has been enhanced by the ILO, NIOSH recommends that readers consider using these current standard radiographs for classifying films for NIOSH programs and studies.

Pre-Examination Preparation

[\(breader-study-syllabus.html\)](#) NIOSH strongly recommends pre-test preparation for examination participants to assure familiarity with the ILO Classification System and associated Roentgenographic Interpretation Form (#e). Pre-test preparation is extremely important because anyone who fails the initial examination must wait ninety days before re-testing. The examination is difficult: only about half of the examinees pass.

The NIOSH Self Study Syllabus ([breader-study-syllabus.html](#)) is offered in several formats from NIOSH and/or by attendance at the American College of Radiology (ACR) Symposium on Radiology of the Pneumoconioses.



The American College of Radiology (ACR) Symposium on Radiology of the Pneumoconioses is usually held every 2-3 years. Please contact the ACR (http://www.acr.org/MainMenuCategories/about_us/StaffDirectory.aspx) [🔗](#) (<http://www.cdc.gov/Other/disclaimer.html>) for further details (800) 227-5463.

Digital Radiography

The world is in process of transition from film screen radiology to the use of digital imaging. In many places, the transition is virtually complete. Being aware of this trend, the National

Institute for Occupational Safety and Health (NIOSH) has been pursuing means to facilitate and standardize the evaluation of chest images, with the object of enhancing the accuracy and precision of determinations and making modern digital imaging technologies accessible and practical for use in classification. Please refer to [Chest Radiography: Digital Imaging Updates \(digital-imaging-updates.html\)](#).

Roentgenographic Interpretation Form

[Roentgenographic Interpretation Form](#)  (</niosh/topics/surveillance/ords/pdfs/CWHSP-ReadingForm-2.8.pdf>)

[En español](#)  (<http://www.cdc.gov/spanish/niosh/docs/pdfs/xray-reading-form-sp.pdf>)

(OMB 0920-0020) (CDC/NIOSH 2.8) (December 2009)

This form must be completed by the A or B Reader that interprets a chest radiograph for NIOSH as part of the Coal Workers' X-ray Surveillance Program. Mail to the address on the form. Do NOT send this form electronically to NIOSH. Print/Copy as a double-sided form.

More Information

For more information about the NIOSH B Reader process, write or telephone--

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