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413 B Examination Case Studies

The Miners Clinic of Colorado

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DOL exam must show 4 things:

1. Presence of Black Lung
2. The disease arose out of coal mine employment
3. Total disability (the miner is not able to return to his or her last coal mine work or any comparable employment due to respiratory impairment)
4. Total disability is due to Black Lung

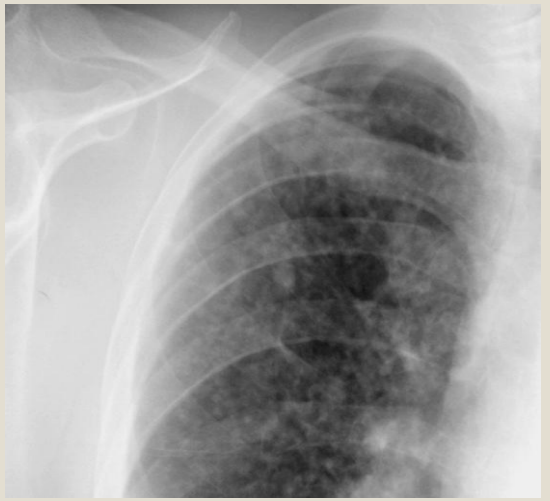
Definitions

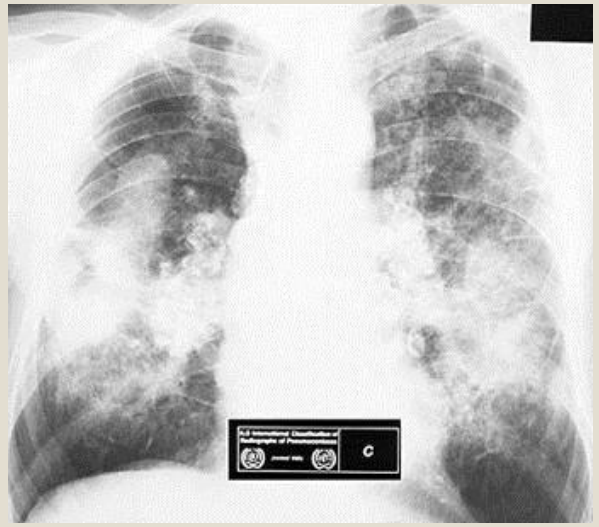
- Rebuttable presumption – a presumption made by the court which is taken to be true unless someone proves otherwise

- Irrebuttable presumption – a presumption which cannot be overcome or changed by additional evidence or argument

Presence of Black Lung

- Chest x-ray
  - B read of 1/0 or higher is positive (medical pneumoconiosis)
- Biopsy or autopsy evidence
- Physician's opinion
- Irrebuttable presumption
  - A miner is totally disabled due to Black Lung when an x-ray or biopsy/autopsy shows progressive massive fibrosis (PMF)





Proof that disease arose from coal mine employment

- 10 years or more in coal mining – presumption that disease arose from mine employment, employer has the burden of disproving it
- 8-10 years – miner may still win when it is difficult for the employer to show some other cause
- Less than 8 years – difficult for miner to win unless there is strong medical evidence

Reset Form

DATE OF RADIOGRAPH (mP -dG\\\\)

[ ][ ]-[ ][ ]-[ ][ ][ ][ ]

EXAMINEE'S Social Security Number

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

Full SSN is optional, last 4 digits are required.

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1000 Frederick Lane, MS LB208
Morgantown, WV 26508
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 01/2020

FACILITY Number - Unit Number

[ ][ ][ ][ ][ ]-[ ][ ][ ]

EXAMINEE'S Name (Last, First MI)

TYPE OF READING

A [ ] B [ ] F [ ]

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY

[1] [2] [3] [U/R]

(If not Grade 1, mark all boxes that apply)

- [ ] Overexposed (dark)
- [ ] Underexposed (light)
- [ ] Artifacts
- [ ] Improper position
- [ ] Poor contrast
- [ ] Poor processing
- [ ] Underinflation
- [ ] Mottle
- [ ] Excessive Edge Enhancement
- [ ] Other (please specify)

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?

YES [ ] Complete Sections 2B and 2C NO [ ] Proceed to Section 3A

2B. SMALL OPACITIES

a. SHAPE/SIZE PRIMARY	a. SHAPE/SIZE SECONDARY	b. ZONES R	b. ZONES L	c. PROFUSION
p s	p s	UPPER		0/- 0/0 0/1
q t	q t	MIDDLE		1/0 1/1 1/2
r u	r u	LOWER		2/1 2/2 2/3
				3/2 3/3 3/+

2C. LARGE OPACITIES

SIZE [O] [A] [B] [C] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?

YES [ ] Complete Sections 3B, 3C NO [ ] Proceed to Section 4A

3B. PLEURAL PLAQUES *(mark site, calcification, extent, and width)*

Chest wall	Site	Calcification	Extent (chest wall; combined for in profile and face on)	Width (in profile only) (3mm minimum width required)
In profile	O R L	O R L	O R / 1 2 3 ; O L / 1 2 3	O R / a b c ; O L / a b c
Face on	O R L	O R L		
Diaphragm	O R L	O R L		
Other site(s)	O R L	O R L		

Up to 1/4 of lateral chest wall = 1
1/4 to 1/2 of lateral chest wall = 2
> 1/2 of lateral chest wall = 3

3 to 5 mm = a
5 to 10 mm = b
> 10 mm = c

3C. COSTOPHRENIC ANGLE OBLITERATION

[R] [L] Proceed to Section 3D NO [ ] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING *(mark site, calcification, extent, and width)*

Chest wall	Site	Calcification	Extent (chest wall; combined for in profile and face on)	Width (in profile only) (3mm minimum width required)
In profile	O R L	O R L	O R / 1 2 3 ; O L / 1 2 3	O R / a b c ; O L / a b c
Face on	O R L	O R L		

Up to 1/4 of lateral chest wall = 1
1/4 to 1/2 of lateral chest wall = 2
> 1/2 of lateral chest wall = 3

3 to 5 mm = a
5 to 10 mm = b
> 10 mm = c

4A. ANY OTHER ABNORMALITIES?

YES [ ] Complete Sections 4B-E and 5. NO [ ] Complete Section 5.

5. NIOSH Reader ID

[ ][ ][ ][ ][ ]

(Leave ID Number blank if you are not a NIOSH A or B Reader)

READER'S INITIALS [ ][ ][ ]

DATE OF READING (mm-dd-yyyy) [ ][ ]-[ ][ ]-[ ][ ][ ][ ]

SIGNATURE

PRINTED NAME (LAST, FIRST MIDDLE)

STREET ADDRESS CITY STATE [ ][ ] ZIP CODE [ ][ ][ ][ ][ ]

Save Form Print

EXAMINEE'S Name (Last, First MI)

Previous Page

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bulla(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm
- ☐ Eventration
- ☐ Hiatal hernia

Airway Disorders
- ☐ Bronchovascular markings, heavy or increased
- ☐ Hyperinflation

Bony Abnormalities
- ☐ Bony chest cage abnormality
- ☐ Fracture, healed (non-rib)
- ☐ Fracture, not healed (non-rib)
- ☐ Scoliosis
- ☐ Vertebral column abnormality

Lung Parenchymal Abnormalities
- ☐ Azygos lobe
- ☐ Density, lung
- ☐ Infiltrate
- ☐ Nodule, nodular lesion

Miscellaneous Abnormalities
- ☐ Foreign body
- ☐ Post-surgical changes/sternal wire
- ☐ Cyst

Vascular Disorders
- ☐ Aorta, anomaly of
- ☐ Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES ☐ NO ☐ | | | - | | | - | | | | |

4D. OTHER COMMENTS

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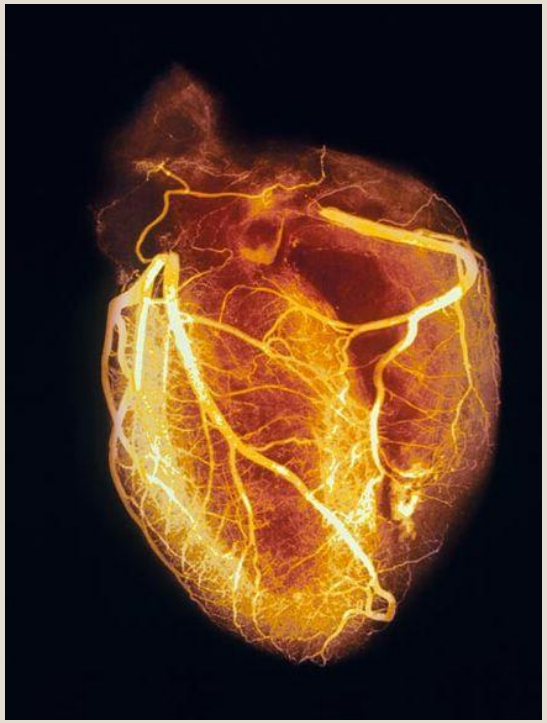
Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestings for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

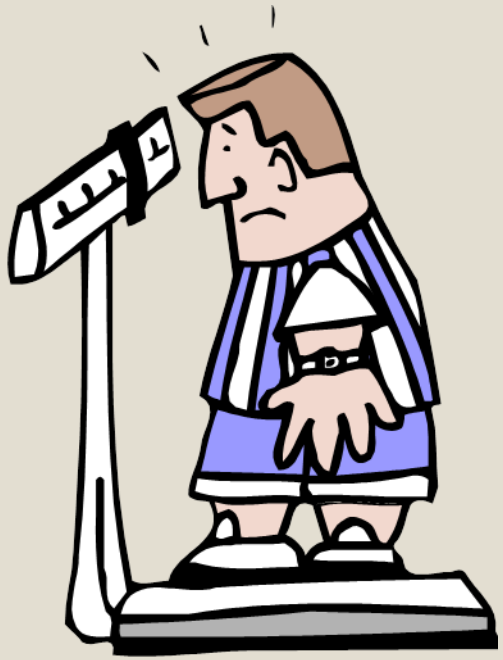
Exposure ≠ Disease

Symptoms ≠ Disease

Lots of things cause shortness of breath



http://science.nationalgeographic.com



http://www.yourstopsmokingplace.com

Proof of total disability

- Four possible ways:
  1. Pulmonary function studies that qualify under Part 718-Appendix B
  2. Arterial blood gas studies that qualify under Part 718-Appedix C
  3. Diagnosis of cor pulmonale or right sided congestive heart failure; or
  4. A documented and reasoned physician's opinion.

Proof of total disability due to Black Lung

- A physician must reach this conclusion in the written report.
- **Documented and well reasoned**
- If other medical conditions contribute to the disability, the miner need only show that Black Lung is a **substantially contributing cause**.

Byrd Amendments

- Rebuttable presumption
  - If the miner worked at least **15 years** and has a **totally disabling lung impairment**, miner is presumed to be disabled due to Black Lung
  - Burden is on employer to disprove
  - Applies to claims filed after January 1, 2005

Submitting Additional Evidence

- Claims examiner reviews medical evidence and work history
- Issues **Schedule for the Submission of Additional Evidence (SSAE)**
- Responsible Operator (RO) and claimant have 60 days to submit additional evidence
- Each party then has 30 days to respond to the evidence of the other party

Remember…

- RO can have the miner examined by a physician of their choice.
- If the miner refuses to be examined, the claim may be denied.

Recently…

- Center for Public Integrity investigation
- For miners who worked **more than 15 years** and were **awarded benefits** on preliminary determination, the claims examiner will ask the DOL 413b physician to review the RO's evidence and **provide a supplementary opinion**.

Proposed Decision and Order

- Claims examiner will review the evidence and issue a final decision which is called the **Proposed Decision and Order (PDO)**.
- Either party can appeal the decision.
- The claim will move to the Administrative Law Judge (ALJ) for a formal hearing.
- If the claimant is denied benefits, he or she can **withdraw the claim** and file again in the future.

Case study #1: Miner

- 80 year old
- Former Miner
- History of surface coal mining (1974-1996)
  - Worked as a laborer
- Never smoker

2009 Clinic findings

- Symptoms: breathlessness, wheezing and cough
- Chest X-ray B read findings: 2/3 profusion
- Unable to perform spirometry
- We recommended filing for Black Lung benefits because of B read findings

Black Lung Claim Timeline

- May 2010 – Forms sent to DOL
- June 2010 – DOL exam: abnormal CXR and resting ABG due to coal mine dust exposure (nonsmoker)
- November 2010 – District Director awarded benefits
- RO appealed decision
- April 2011 – RO exam: Interstitial Lung Disease
- April 2012 – Miner started working with attorney
- August 2014 – Dr.'s opinion on RO evidence
- September 2014 - ALJ hearing
  - RO agreed to pay benefits before ALJ's decision

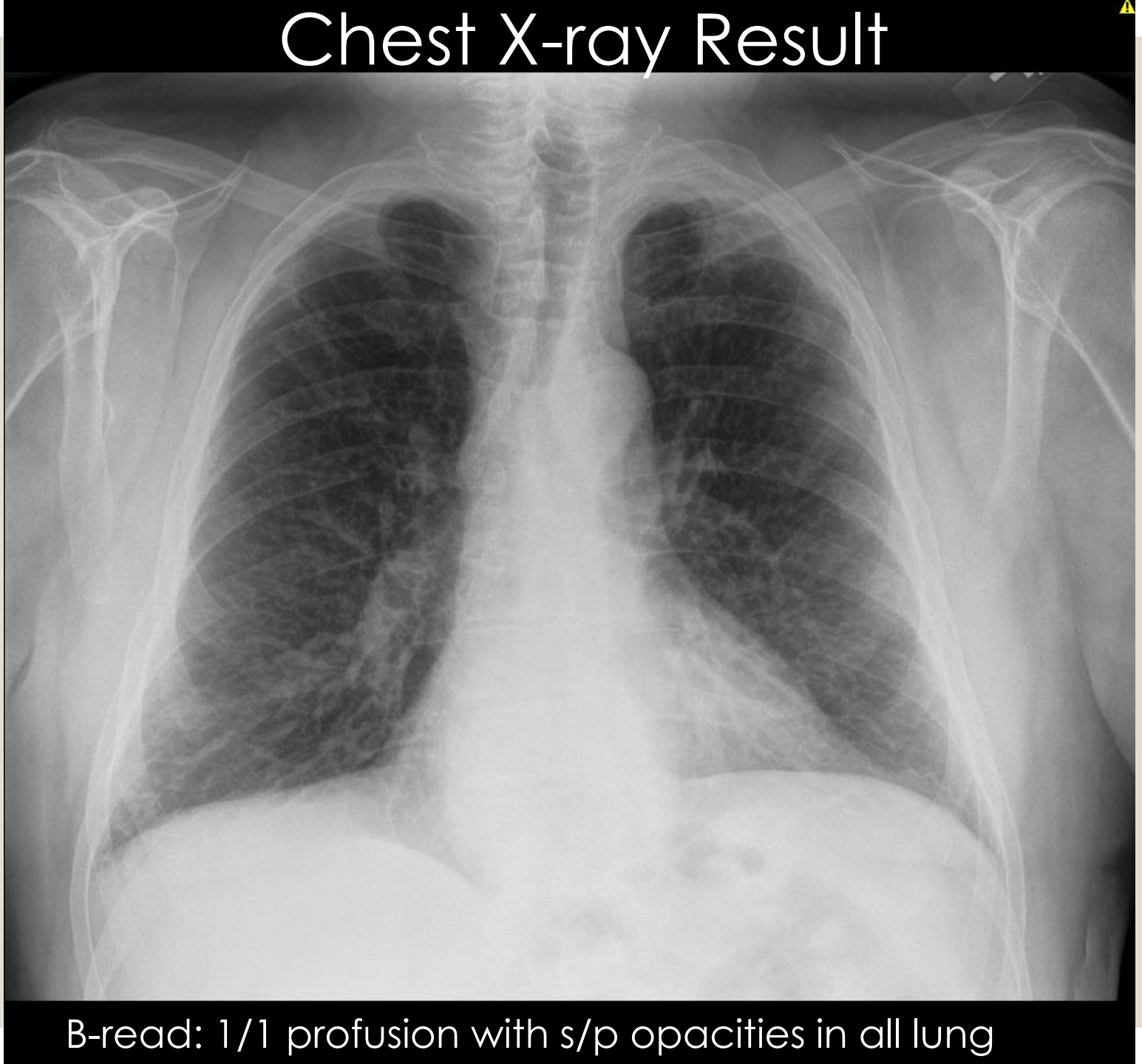
Case study #2: Miner

- 86 y/o former miner
- Symptoms:
  - Daily cough
  - Productive of clear-yellow phlegm
  - Dyspnea with stairs and inclines
- Tobacco history:
  - 4-pk-year smoking history (1ppd from age 18-22)

Case Study #2

- Exposures:
  - Coal mine dust for 43 years (1941-1984) – (machine helper, driller, loader operator, etc)
  - Underground for 2/3 of this time.
  - Physical demands of last coal mine job as supervisor of surface maintenance – walk 1-2 miles/day, no heavy lifting, 30-40% office based.

Chest X-ray Result



B-read: 1/1 profusion with s/p opacities in all lung

Spirometry

	Baseline	% Pred	Post-BD	% Pred	Change
FVC	3.45 L	116%	3.57 L	120%	3%
FEV1	2.13 L	96%	2.23L	100%	5%
FEV1/FVC	62%		62%		

Interpretation: Normal spirometry. No bronchodilator response

Question

- Do you think this miner has Black Lung?
- Is this patient likely to be totally impaired from performing his last coal mine job?
- Should this patient apply for Black Lung Benefits?

Arterial Blood Gases

	pH	PaCO2	PaO2	SaO2
Rest	7.40	36 mmHg	70 mmHg	93%
End Walk	7.40	36 mmHg	76 mmHg	93%

Interpretation: Normal arterial oxygen content at rest and with exertion (reference range: paO2 65-75 mmHg).

Final Assessment

- 43 years of coal mine dust exposure
- Chest x-ray evidence of coal workers pneumonconiosis

BUT

- Normal spirometry
- Normal resting and exercise arterial blood gas

THEREFORE

- Coal mine dust lung disease does not meet DOL criteria for totally disabling this patient from performing his last coal mine job.

Need proof of the following for a survivors claim

- Presence of Black Lung in deceased miner
- Disease arose out of coal mine employment
- Miner's death was substantially due, in part, to Black Lung

Proof of presence of Black Lung for survivor's claim

- Shown by X-ray or autopsy evidence
- Irrebuttable presumption that a miner's death was due to Black Lung at the time of death when a x-ray or biopsy or autopsy evidence shows Progressive Massive Fibrosis (PMF) – opacity greater than 1 cm in diameter

Proof that disease arose out of coal mine employment: survivor's claim

- Same as proof needed for miners claim:
  - 10 years or more in mining – presumption that disease arose from coal mine employment, employer has the burden of disproving it
  - 8-10 years – may still win because it is difficult for the employer to show some other cause
  - Less than 8 years – difficult to win unless there is no relevant exposure and there is strong medical evidence

Proof that disease substantially contributed at least in part to death

- To show link between Black Lung and miner's death:
  - Use pathologist's opinion if there is an autopsy
  - Use pulmonologist's opinion (with or without autopsy)

Case Study #3: Widow

- 64 year old coal miner - deceased

- Employment History
  - 18 years of coal mine employment at a surface coal mine
  - Worked as mobile equipment operator and as driller/shooter, and lead driller/shooter

Medical History

- Never Smoker
- Type 2 diabetes mellitus, high blood pressure, high cholesterol, chronic knee pain

- Developed pneumonia twice in one year
- Second time pneumonia complicate by sepsis, multi-organ failure with respiratory failure resulting in death.
- Medical record during hospitalization for pneumonia mentions – "component of pneumoconiosis"

Imaging Findings

- Chest x-ray: patchy infiltrates in both lungs consistent with pneumonia.
- Chest CT scan: multiple infiltrates in both lungs consistent with extensive pneumonia.

- Review of chest x-rays and chest CT scan with chest radiologist – no evidence of nodular or linear opacities, no emphysema, no chest lymph node calcifications.

Pulmonary Physiology

- No pulmonary function testing available

- Arterial blood gas (2 ½ weeks prior to death):

  pH = 7.44, $PaCO_2$ = 41 mmHg, PaO_2 = 70 mmHg

Surgical Pathology

- Bronchoscopy with biopsies within a week of patient's death:
  - Inflammation due to pneumonia, but no pathology evidence of Black Lung.

Death Certificate

- Cause/condition resulting in death:
  - Respiratory failure due to or as a consequence of bacterial pneumonia.

Final Assessment

- 18 years of coal mine dust exposure at a surface mine
- Death due to severe pneumonia with sepsis
- Hospital record mentions component of pneumoconiosis

BUT

- No imaging abnormalities c/w Black Lung
- Normal arterial blood gas 2 ½ weeks before death
- Biopsy was without findings of Black Lung

Take home messages

- Black Lung claims are often difficult to win.
- Black Lung Clinics should help identify people who might have successful claims and help them navigate through the DOL benefits system.
- It is important to help miners understand the process and have realistic expectations.

References

- U.S. DOL Division of Coal Mine Workers' Compensation website: www.dol.gov/owcp/dcmwc
- W.V. Black Lung Clinics Program, Benefits Counseling Handbook (Section 5)
- Appalachian Citizens' Law Center, Inc. (Section 6)
- Office of Workers' Compensation Programs (OWCP), DCMWC Application Process, NCBLRDC Conference, Bristol, VA
- 20 CFR Parts 718 and 725