

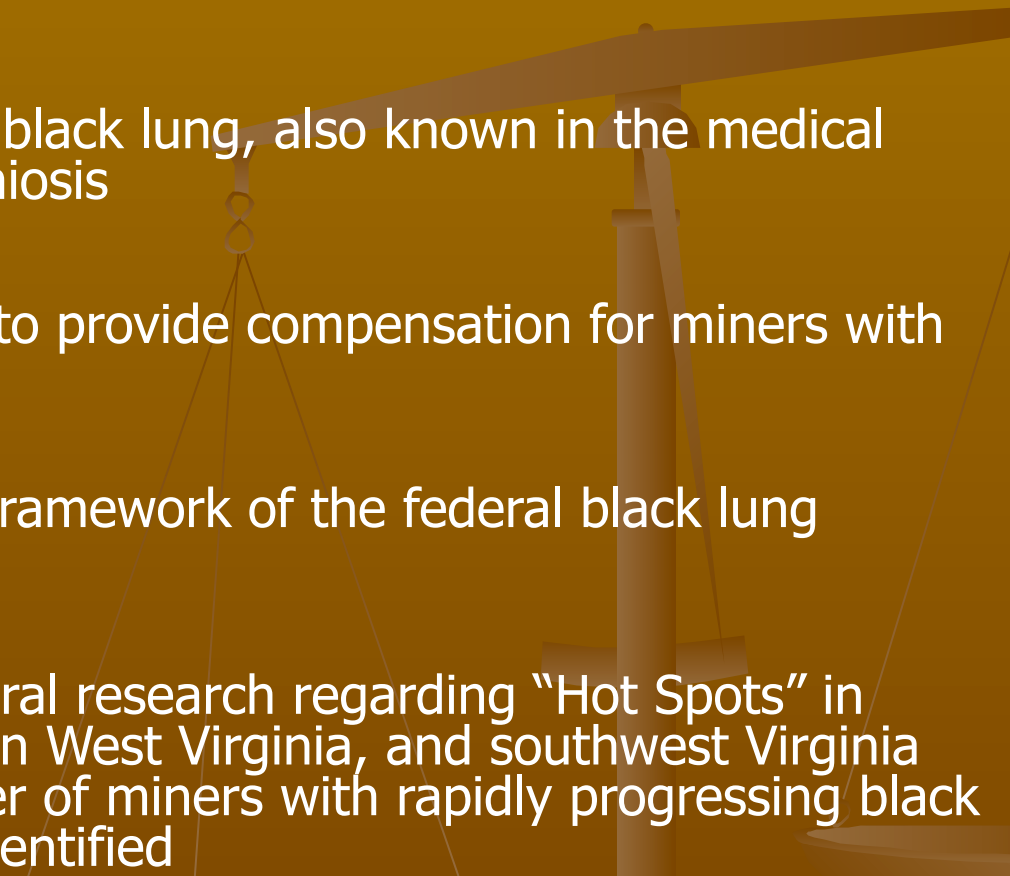
OVERVIEW OF FEDERAL BLACK LUNG BENEFITS PROGRAM



For years miners have complained of cough, sputum production and shortness of breath caused by breathing coal mining dust. These complaints continue long after the miner stops work, and they are due to a disease commonly referred to as black lung.

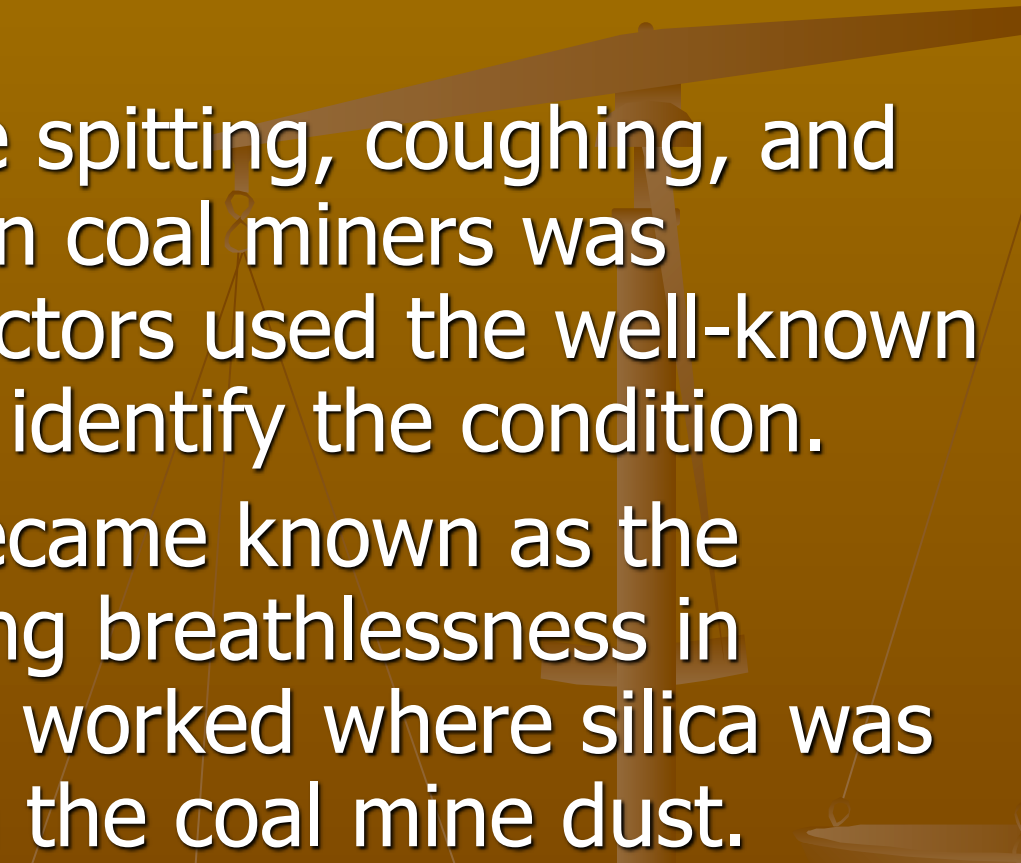


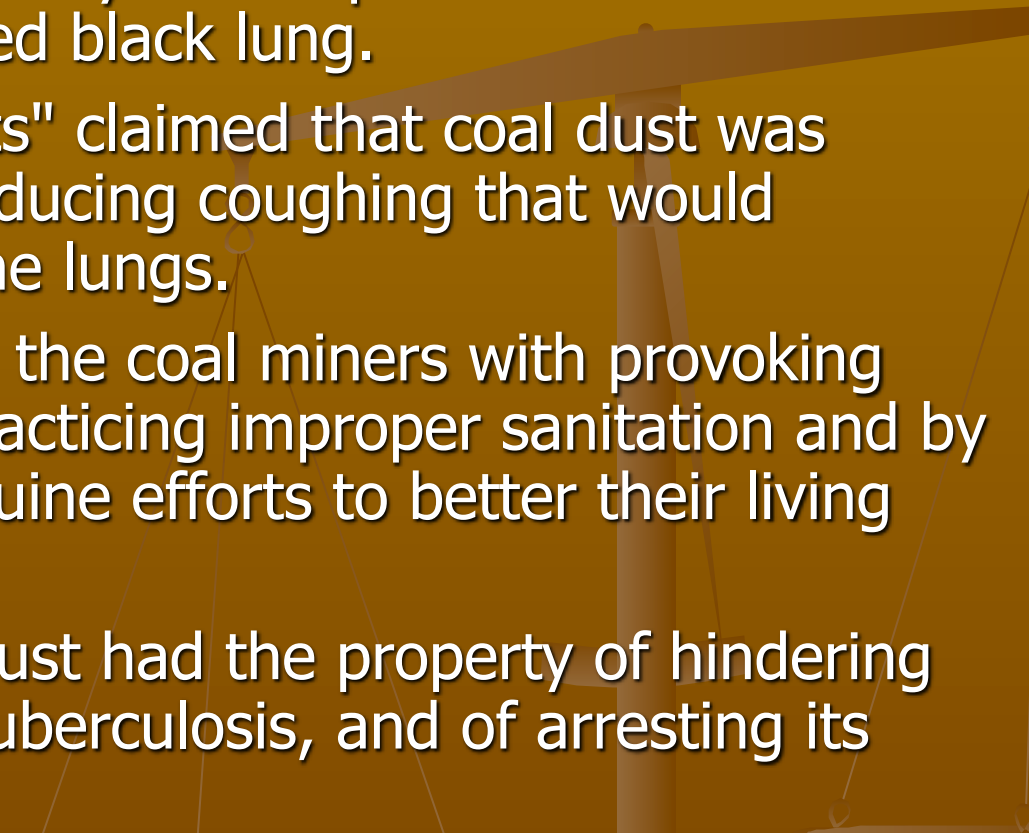
The intent of this overview is to provide:

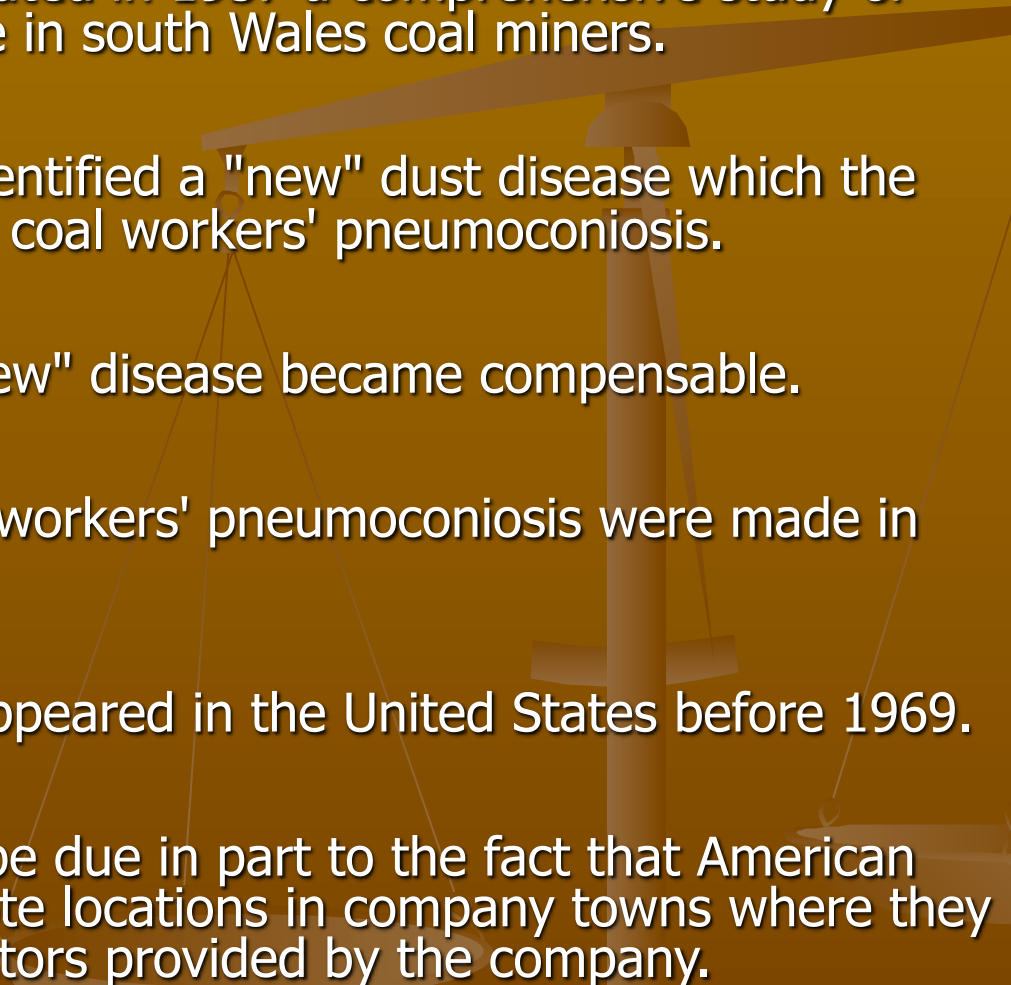
- A brief description of the nature of the damage caused by breathing coal mine dust
 - The history of diagnosing black lung, also known in the medical community as pneumoconiosis
 - The history of the efforts to provide compensation for miners with pneumoconiosis
 - The statutory/regulatory framework of the federal black lung benefits program
 - A summary of recent federal research regarding “Hot Spots” in eastern Kentucky, southern West Virginia, and southwest Virginia where an alarming number of miners with rapidly progressing black lung disease have been identified
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Black lung is a legal term describing man-made, occupational lung diseases that are contracted by prolonged breathing of coal mine dust. Call it miner's asthma, silicosis, coal workers' pneumoconiosis, or black lung—they are all dust diseases with the same symptoms.

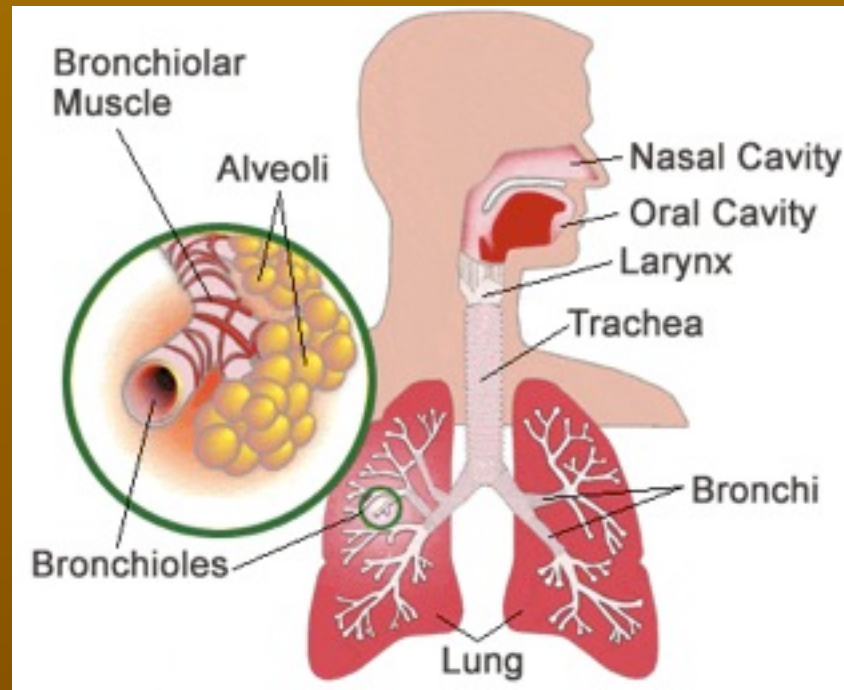


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- Miners' asthma was first used in 1822 to describe the lung disease occurring among coal miners.
 - The cause of the spitting, coughing, and breathlessness in coal miners was unknown, so doctors used the well-known word asthma to identify the condition.
 - Later, silicosis became known as the disease producing breathlessness in miners who had worked where silica was thought to be in the coal mine dust.

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- In America, in the early years of the twentieth century, efforts to suppress coal mine dust subsided.
 - It was claimed by industry that improved mine ventilation had virtually eliminated black lung.
 - Some medical "experts" claimed that coal dust was possibly beneficial, inducing coughing that would dislodge silica from the lungs.
 - Some doctors blamed the coal miners with provoking their symptoms by practicing improper sanitation and by refusing to make genuine efforts to better their living conditions.
 - A few said that coal dust had the property of hindering the development of tuberculosis, and of arresting its progress.

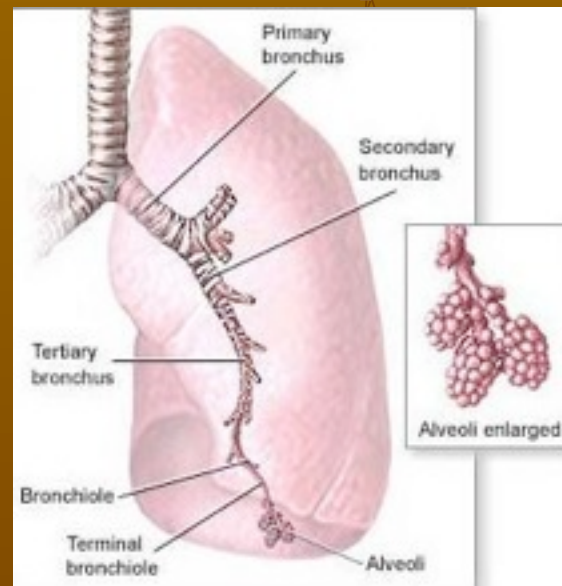
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- British investigators, unlike their American cousins, continued their concern for diseases associated with coal mine dust.
 - The British Medical Research Council, a counterpart of the U.S. Public Health Service, initiated in 1937 a comprehensive study of chronic pulmonary disease in south Wales coal miners.
 - The first report in 1942 identified a "new" dust disease which the British investigators called coal workers' pneumoconiosis.
 - The following year this "new" disease became compensable.
 - Countless reports on coal workers' pneumoconiosis were made in British medical journals.
 - Relatively little research appeared in the United States before 1969.
 - This lack of research may be due in part to the fact that American miners often lived in remote locations in company towns where they received treatment by doctors provided by the company.

Overview of the Respiratory System

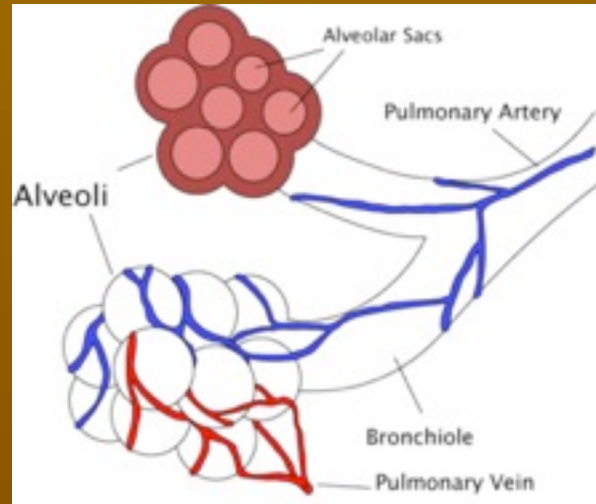


Human Lung

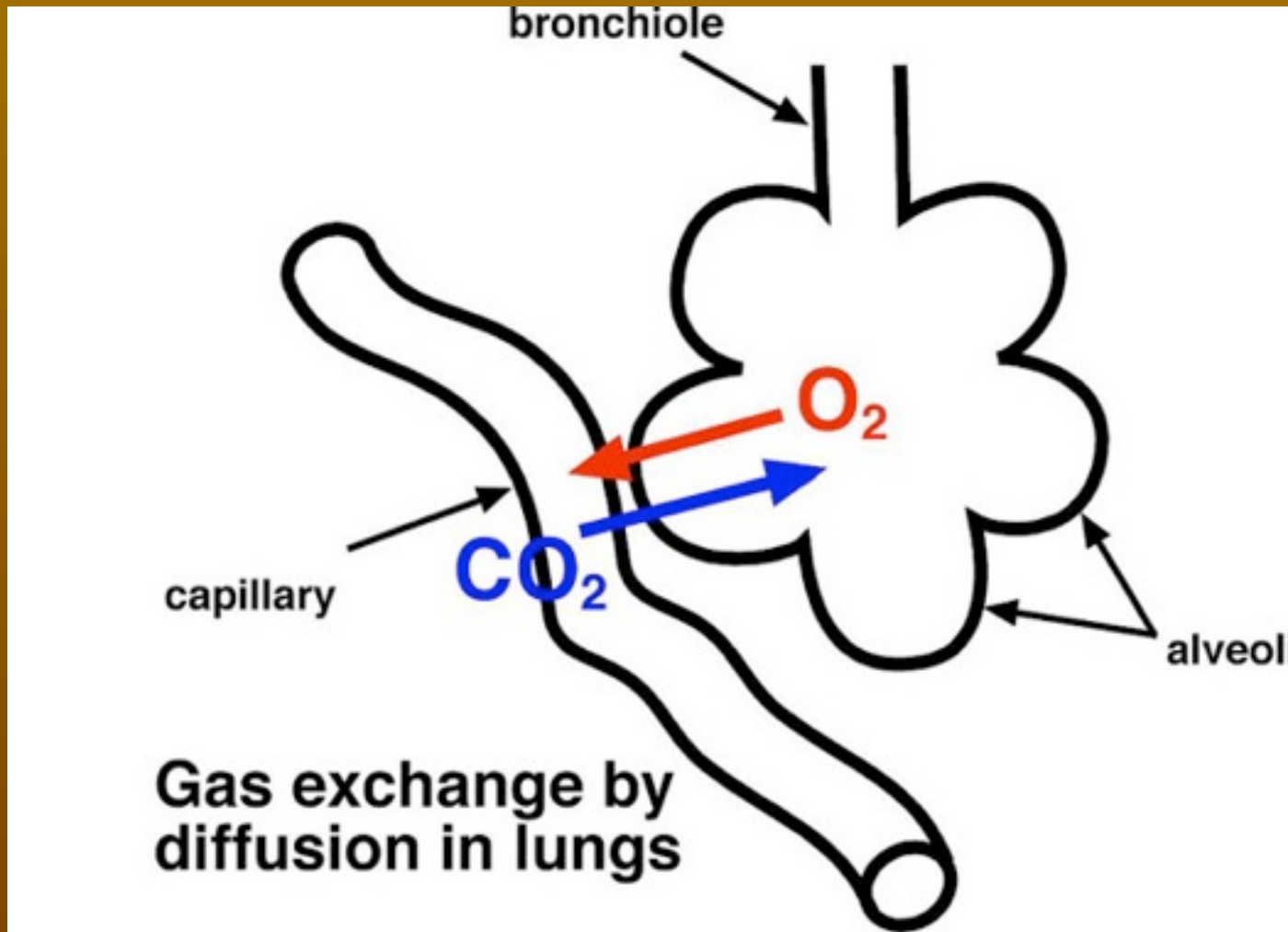
The airways branch out like an upside-down tree, and at the end of each branch are many small, balloon-like air sacs. In healthy people, each airway is clear and open. The air sacs are small and dainty, and both the airways and air sacs are elastic and springy.



Alveoli Where Oxygen and Carbon Dioxide are Exchanged



O₂ and CO₂ Exchange



Clinical Pneumoconiosis

- “Clinical” pneumoconiosis is an abnormal lung condition revolving from the inhalation of dust. Where the dust is from coal mining, the condition is referred to as CWP.
- Minute coal dust particles travel down the respiratory system until they reach the final gas exchange areas, known as the alveoli
- The body has defense mechanisms in the alveoli known as scavenger cells (or macrophages), which try to eliminate foreign particles.
- The macrophages ingest the minute coal dust particles and then migrate back from the alveoli into the smaller airway branches or into the lymph system, in an effort to take the dust out of the lungs.
- CWP develops when the mechanism for removing the dust-laden macrophages from the lungs proves insufficient. Consequently, macrophages carrying dust accumulate at the area of division between the smallest airways, known as the respiratory bronchiole. The macrophages form a coal macule (sometimes referred to as a nodule) which produces scar tissue and becomes fibrotic. The result is stiffened and weakened respiratory bronchioles.

2 Classes of Clinical Pneumoconiosis

- **Simple CWP** is a less severe fibrosis, it may be identified by x-ray, however, studies have shown that simple CWP may not be seen on x-ray although it is found by biopsy or on autopsy after death.
- **Complicated pneumoconiosis**, which arises due to the accumulation of a large amount of simple CWP or due to a more complex disease process caused by dust inhalation, is a cluster of fibrotic material about 1 cm or greater in size.

Healthy Lungs and Lungs Afflicted with CWP



Healthy Tissue



**Healthy Tissue
90-year-old
schoolteacher**



**Progressive
massive fibrosis
40-year-old-miner**

The effect of Clinical Pneumoconiosis is to reduce the normal elasticity of the lung, reducing the volume of air which can be inhaled and exhaled.

The scarring also interferes with the exchange of oxygen and carbon dioxide.

COPD

- Chronic obstructive pulmonary disease (COPD) is a lung disease in which the lungs are damaged, making it hard to breathe. In COPD, the airways—the tubes that carry air in and out of your lungs—are partly obstructed, making it difficult to get air in and out.
- In COPD, the airways and air sacs lose their shape and become floppy. Less air gets in and less air goes out because:
 - The airways and air sacs lose their elasticity (like an old rubber band).
 - The walls between many of the air sacs are destroyed.
 - The walls of the airways become thick and inflamed (swollen).
 - Cells in the airways make more mucus (sputum) than usual, which tends to clog the airways.
- Cigarette smoking is the most common cause of COPD.
- Breathing in other kinds of lung irritants, like pollution, dust, or chemicals, over a long period of time may also cause or contribute to COPD.
- Coal mine dust can cause COPD.

Farmington Mine Explosion

On November 20, 1968, the nation was numbed by the sight and fury of a devastating coal mine explosion at Farmington, West Virginia. This was the first time that a major coal mine disaster was televised on the nightly news, and the public reaction to the slaughter of 78 miners was immediate outrage. While earlier legislative achievements were also preceded by major mine disasters with great loss of life, the reaction to the 1968 disaster grew to a fervent intensity never witnessed before. Overnight there was an outraged clamor for a strong federal health and safety law, wiping out long-standing barriers which the pleas of the miners and their union had previously been unable to tear down. The public and Congressional campaign to try to eliminate the daily toll of coal mine accidents soon included measures to compensate for the equally destructive losses due to black lung.



Activists Lead Movement to Create a Black Lung Benefits Program

- In southern West Virginia, several months before the Farmington disaster, some interested coal miners, young activists and three physicians — I.E. Buff, Donald R. Rasmussen, and Hawey A. Wells, Jr. — toured the coal fields.
- They met with working and disabled miners and their wives and widows, explaining the death and disability caused by black lung.
- The United Mine Workers union joined in this effort, which intensified after the Farmington mine explosion.
- Miners in West Virginia engaged in strikes to demand fair compensation for black lung disease.

The Federal Black Lung Benefits Act

- In 1969, as part of a federal mine safety law in response to the Farmington mine disaster, the federal black lung benefits program was created. In creating this law the Congress recognized that there were a significant number of coal miners who were totally disabled due to pneumoconiosis and that there were survivors of coal miners whose deaths were due to this disease.
- The stated purpose of this law is “to provide benefits to coal miners who are totally disabled due to pneumoconiosis and to the surviving dependents of miners whose death was due to such disease; and to ensure that in the future adequate benefits are provided to coal miners and their dependents in the event of their death or total disability due to pneumoconiosis.”
- The Act is located at 30 U.S.C. Section 901. The regulations are located at 20 CFR Sections 718 and 725.

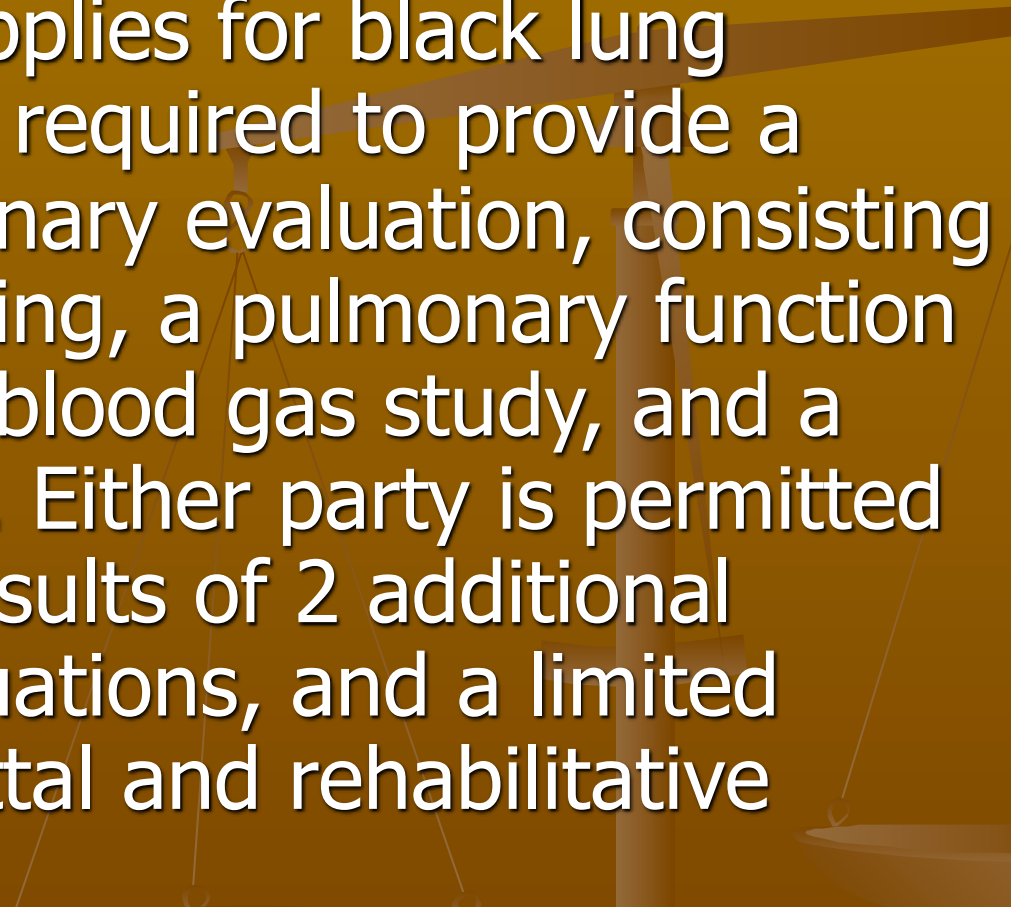
An Adversarial System



- The Department of Labor (DOL) administers the black lung program.
- When a miner applies for benefits, DOL identifies the miner's last coal mine employer (12 months or more) as the Responsible Operator (RO).
- The RO is liable to pay any benefits awarded.
- The RO is normally a named party, while an insurance company becomes the miner's adversary and tries to defeat the miner's claim.

Evidence Development

When a miner applies for black lung benefits, DOL is required to provide a complete pulmonary evaluation, consisting of an x-ray reading, a pulmonary function test, an arterial blood gas study, and a medical opinion. Either party is permitted to submit the results of 2 additional pulmonary evaluations, and a limited amount of rebuttal and rehabilitative evidence.



Administrative Stages



- The black lung claim is filed with a DOL District Office, which is responsible for obtaining the initial evaluation and also identifying the RO. The District Office makes a decision which is termed a Proposed Decision and Order, because either party may reject it and ask for a formal hearing before an Administrative Law Judge.
- If the District Office awards benefits, the miner is paid monthly benefits while the formal hearing process goes forward.

Administrative Law Judge (ALJ)



- After an appeal the case is assigned to an ALJ, who holds a hearing and issues a de novo decision. Additional evidence may be submitted to the ALJ.
- The proceeding is governed by the black lung law and regulations and also by the Administrative Procedures Act, which places the burden of proof on the claimant and which requires the ALJ to issue a decision with specific findings of fact on all contested issues and a reasoned explanation supporting each finding of fact and conclusion of law.

Further Appeals



- The ALJ decision may be appealed to the Benefits Review Board, an administrative appellate body.
- The BRB may affirm the ALJ decision, or vacate and remand the decision, or reverse and set aside the decision.
- By statute the BRB is authorized to review the ALJ decision to determine whether it is supported by substantial evidence and whether it is legally erroneous. The BRB also reviews the reasoning of the ALJ.
- Further appeal is available to the United States court of appeals, which also reviews the final ALJ decision under the substantial evidence/legally erroneous standard.

Winning a Black Lung Claim



- To win an award of benefits, a miner must prove the following:
 - 1. That he was employed in the coal industry.
 - 2. That he has a chronic dust disease of the lung (pneumoconiosis).
 - 3. That his lung disease is due to his coal mine employment.
 - 4. That he has a respiratory or pulmonary impairment that disabled him from doing his last coal mine job or a job with similar work requirements in a non-dusty environment.
 - 5. That his pneumoconiosis is a significant or substantial cause of his respiratory or pulmonary impairment.

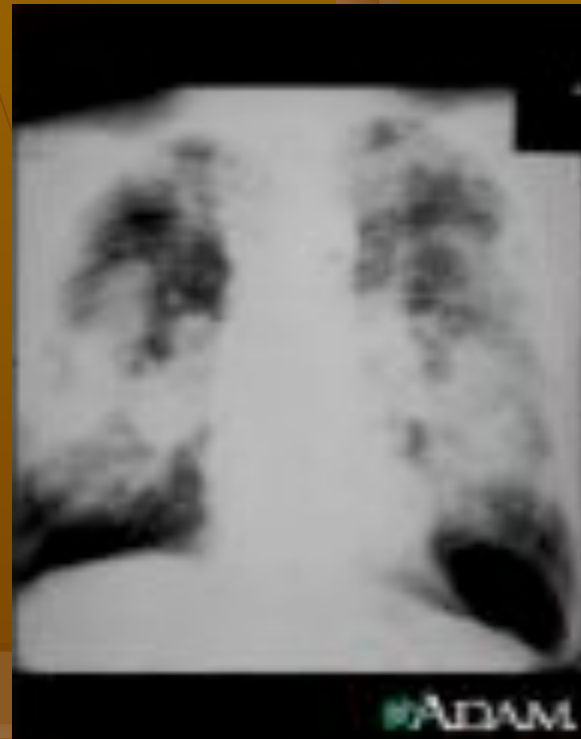
Proving Pneumoconiosis



- Pneumoconiosis can be either clinical or legal. Clinical pneumoconiosis can be proved by x-ray evidence or biopsy/autopsy evidence.
- Legal pneumoconiosis can be proved by establishing through competent medical evidence that the miner has a respiratory or pulmonary impairment and that coal mine dust exposure is a material cause of the impairment. Other causes of the impairment such as smoking must be considered.

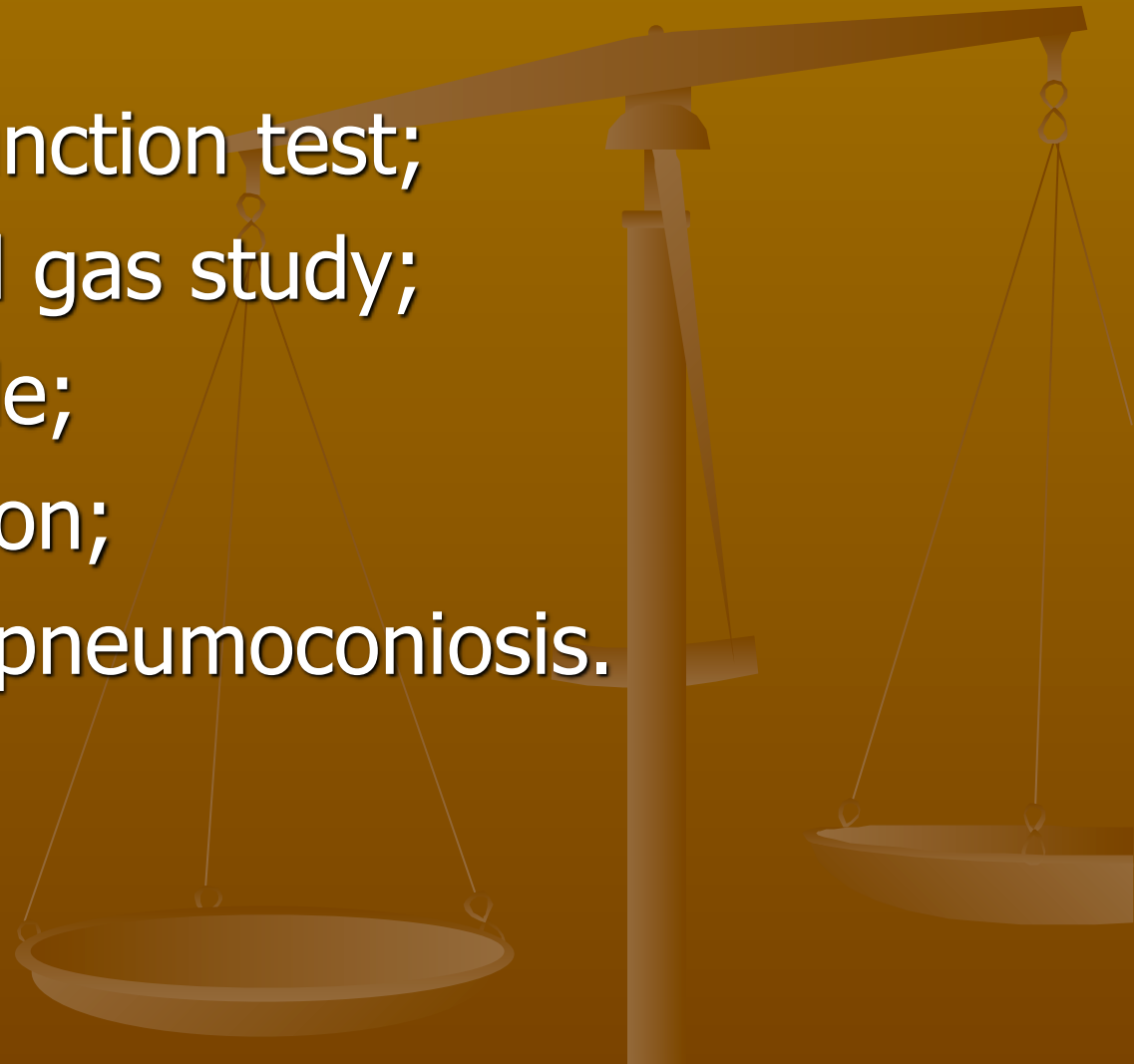
Chest X-ray

Simple CWP is often based on x-ray evidence of small nodules in the upper and posterior zone.



5 Methods to Prove Respiratory or Pulmonary Disability

- 1. Pulmonary function test;
- 2. Arterial blood gas study;
- 3. Cor Pulmonale;
- 4. Medical opinion;
- 5. Complicated pneumoconiosis.



Pulmonary Function Test

Pulmonary function testing (PFT), also referred to as spirometry or ventilatory testing, measures the ability to get air in and out of the lungs. Disability is shown with an FEV1 of 60% of the predicted normal and either:

- A. an FVC of 60% of normal, or
- B. an FEV1/FVC ratio of 55%, or
- C. an MVV of 60% of normal.

PFT's are effort dependent and may be invalid based on the medical expert's opinion of insufficient effort.

Spirometry

- Spirometry, or lung function testing, is done by inhaling as deeply as possible, then exhaling into a piece of equipment which measures the volume of air exhaled. A minimum of three trials are required and the results must be sufficiently reproducible to determine the test is valid.



Arterial Blood Gas Studies (ABG)

An arterial blood gas study may show abnormal results indicating a problem in the heart or lungs which interferes with the normal transfer of gases in the lung-capillary system.

An arterial blood sample is taken at rest and the pressure of CO₂ and O₂ is measured. The ABG may also be done with exercise, if the patient is able to exercise.

To determine if there is a disability the results obtained on the ABG must be compared to a table contained in the regulations.

Cor Pulmonale

Disability may also be shown if the miner has pneumoconiosis and has been shown by the medical evidence to be suffering from cor pulmonale with right-sided congestive heart failure.

Cor pulmonale, or right-sided heart failure, is an enlargement of the right ventricle due to high blood pressure in the lungs usually caused by chronic lung disease

Dilatation
(stretching)
Hypertrophy
(overgrowth of cells)



Medical Opinion

Where total disability cannot be shown under the three ways described above, or where pulmonary function tests and/or blood gas studies are medically contraindicated, total disability may nevertheless be found if a physician exercising reasoned medical judgment, based on medically acceptable clinical and laboratory diagnostic techniques, concludes that a miner's respiratory or pulmonary condition prevents or prevented the miner from engaging in employment.

Complicated Pneumoconiosis

There is an irrebuttable presumption of total disability where the evidence establishes that a miner has a chronic dust disease of the lungs and x-ray evidence of large opacities (greater than one centimeter), or pathology showing massive lesions, or when diagnosed by other means results in evidence demonstrating lung disease of this type.

Widow's Benefits

- A widow is eligible for benefits if she proves that the miner had CWP and that CWP caused his death.
- CWP is considered to be the cause of death if it substantially contributes to cause death or if it hastens death.
- Proof of complicated CWP results in an irrebuttable presumption of death due to CWP.

Weighing the Evidence



The law requires that all of the medical evidence be weighed together. However, because the PFT and ABG measure different respiratory and pulmonary capabilities, and because the existence of complicated pneumoconiosis does not necessarily result in significant loss of lung function or impairment of gas exchange, it may not be appropriate to weigh and balance one type of evidence against another.

Efforts to End Black Lung Have Not Been Successful

- The U.S. Congress ordered black lung to be eradicated from the coal industry in 1969. Today, over three decades later, it is estimated that 1,500 former coal miners die of black lung each year.
- Congress directed the Mine Safety and Health Administration to enforce limits on the amount of respirable dust that miners were exposed to.
- Compliance with these limits has been questionable. Large scale fraud has been discovered in some companies, and the measurement of dust exposure on individual miners has been difficult.

Hot Spots Study



The National Institute of Occupational Safety and Health (NIOSH) studied data collected between 1996 and 2002. This data revealed “hot spots” of miners who had rapidly progressing CWP, including many cases of complicated CWP in eastern Kentucky, southwest Virginia and southern West Virginia.

Miners in small mines with less than 50 employees had a much higher rate of CWP than miners in large mines, leading NIOSH to question the efforts to protect miners from dangers of coal mine dust.

The NIOSH hot spots study is a continuing effort to determine how to prevent CWP.

TABLE 1. Age and tenure characteristics of 11 miners with advanced cases of coal workers' pneumoconiosis — Lee and Wise counties, Virginia, 2006

Miner	Age (yrs)	Year began coal mining	No. of years coal mining	No. of years working at coal face*
1	62	1963	43	33
2	61	1966	40	30
3	57	1970	36	36
4	52	1973	33	33
5	52	1973	33	33
6	54	1973	33	33
7	52	1974	32	29
8	46	1979	27	27
9	45	1981	25	25
10	42	1981	24	24
11	39	1989	17	17

* The cutting surface where coal is sheared from the wall and dust levels typically are greatest.

Dust on Surface Mines Also Causes CWP



BLACK LUNG

Make it disappear

