OCCUPATIONAL LUNG DISEASE IN MINEWORKERS.

WORKPLACE INFORMATION GROUP

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OCCUPATIONAL LUNG DISEASE IN MINEWORKERS.

Many mineworkers get occupational diseases. An OCCUPATIONAL DISEASE is caused by the conditions that miners work in. Mineworkers have the right to health. Improved working and living conditions and regular medical care can protect the health of mineworkers.

Lung diseases are common occupational diseases among mineworkers. In this pamphlet we will look at

A: HOW THE LUNGS WORK IN A HEALTHY PERSON
B: SILICOSIS
C: AIRWAYS DISEASE

It is important for mineworkers to know about the different lung diseases.

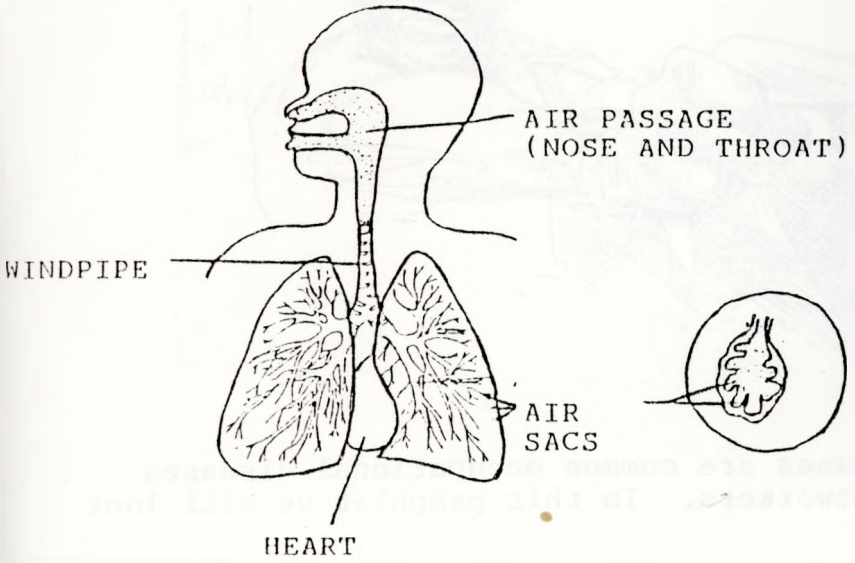
A. HOW DO THE LUNGS WORK?

We cannot live without air. Every part of our body needs air. Our LUNGS are one of the most important organs in our body. We breath air into our lungs. Then our blood takes the air from our lungs to the rest of our bodies. Let us have a look in a little detail how every part of our body gets air.

THE LUNGS

We have two lungs. One on either side of our chest. Our heart lies between our lungs and in the middle of our chest.

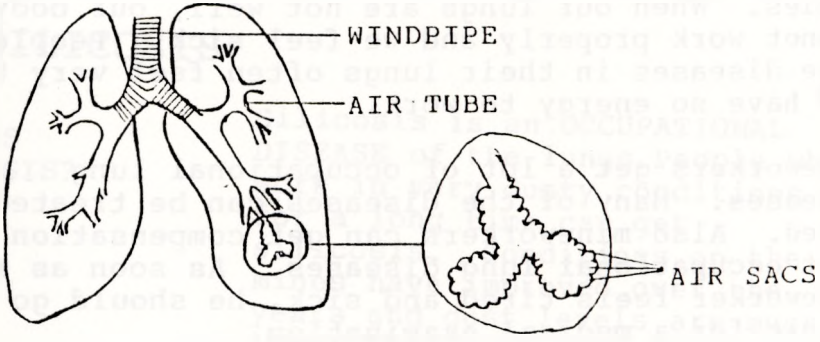
The diagram below shows where our lungs are.



LEFT AND RIGHT LUNGS, AND HEART-
SHOWING AIR SACS

We breathe in air through our nose and mouth. The air is sucked down air tubes into the lungs. In the lungs, the air tubes divide into smaller and smaller tubes. Eventually the very small tubes end in little air sacs. As we breathe in air, the air is pulled through the air tubes into the tiny air sacs in our lungs.

The diagram below shows the inside of our lungs. You can see the air tubes dividing into smaller tubes. You can also see the tiny air sacs at the end of the tubes.



NORMAL LUNG SHOWING AIR TUBES AND AIR SACS (ALVEOLI)

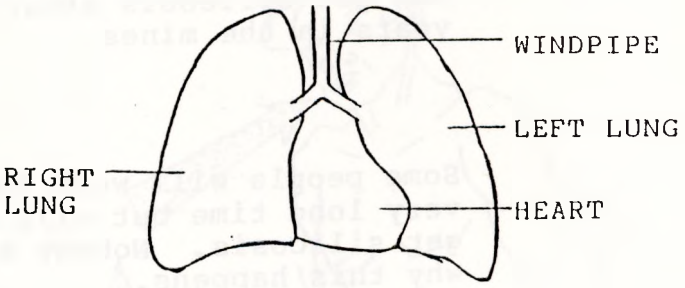
The heart pumps blood into the lungs. The blood picks up the the air we have breathed into our lungs. As the blood passes through the lungs, it picks up the air in the tiny air sacs. The blood takes the air to every part of our body so that it can work properly.

Our body uses up the good air, and used air is left. The blood picks up the used air in all parts of our body and takes it back to the lungs. Then we breathe out the used air.

This process goes on all the time. In the same way that cars need petrol to go, so our bodies need air to work properly. The air gives our bodies power to grow and energy to do things. Our lungs should be in good condition if we want to lead a healthy active life. If our lungs do not work properly, we cannot get the good air into our blood. We also cannot get the used air out of our bodies. When our lungs are not well, our body cannot work properly and we feel sick. People who have diseases in their lungs often feel very tired and have no energy to work.

Mineworkers get a lot of occupational lung diseases. Many of the diseases can be treated and cured. Also mineworkers can get compensation for most occupational lung diseases. As soon as a mineworker feels tired and sick, he should go to a clinic for a medical examination.

An X-ray is one kind of test that checks if the lungs are working properly. Below is what an X-ray of normal healthy lungs looks like.



NORMAL X-RAY

We will now look at two very common lung diseases in mineworkers:

Silicosis and Airways disease.

B. SILICOSIS

WHAT IS SILICOSIS?

Silicosis is an OCCUPATIONAL DISEASE of the lungs.People who work in very dusty conditions for a long time can get silicosis. Conditions on the mines have improved over the years and dust levels are much lower than they used to be. But mineworkers can still get silicosis if they work for a very long time in the mines.

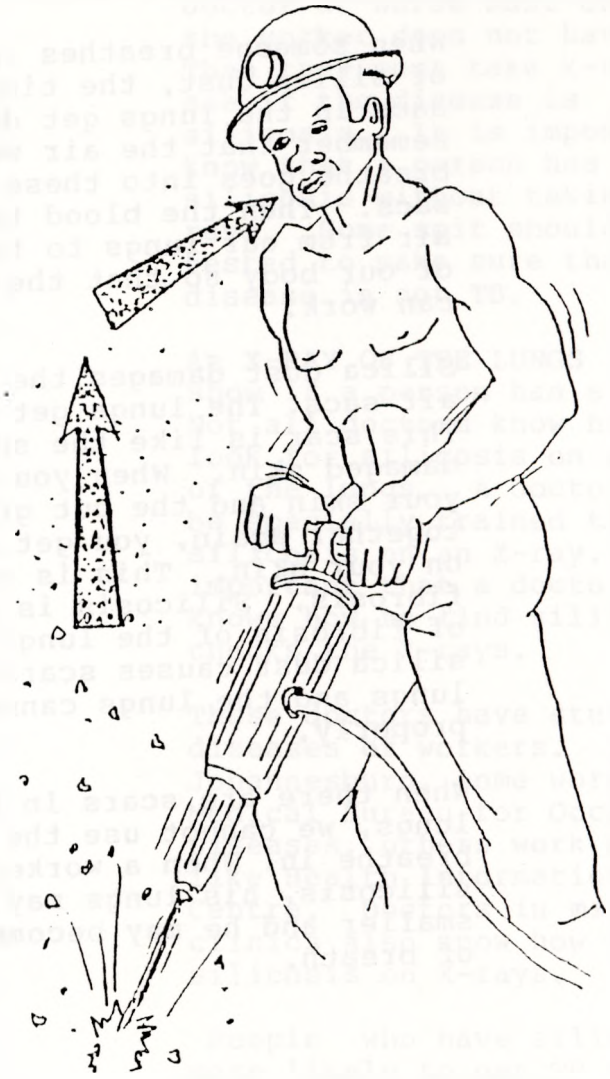
HOW DOES SILICOSIS DEVELOP?

Silicosis develops very slowly. Mineworkers can work for 10 years or even 20 years on the mines before they get silicosis. If the dust levels are very high then mineworkers can get silicosis after a few years in the mines.

Some people will work for a very long time but will never get silicosis. Nobody knows why this happens.

The dust that causes silicosis is called SILICA DUST or QUARTZ. This dust is found in most parts of the rock under the ground.

Mineworkers breathe in a lot of this dust when they DRILL and TUNNEL into rock. Workers who do STOPING, DEVELOPING and SHAFT-SINKING can also get silicosis. Even miners who work on the surface can get this disease. THose who work in the CRUSHING PLANT breathe in a lot of dangerous dust because the rocks which are crushed contain silica dust.



DUST CAUSED BY MINER DRILLING STAYS IN THE AIR AND IS BREATHED IN BY HIM CAUSING LUNG DISEASE IF BREATHED FOR A FEW MONTHS OR LONGER

Now let us look what happens to the lungs when workers breathe in a lot of silica dust.

When someone breathes in a lot of silica dust, the tiny air sacs in the lungs get damaged. Remember that the air we breathe goes into these tiny sacs. Then the blood takes the air from our lungs to the rest of our body so that the body can work.

Silica dust damages the tiny air sacs. The lungs get SCARS. This scar is like the scar on damaged skin. When you cut your skin and the cut grows together again, you get a scar on your skin. This is called fibrosis. Silicosis is a form of fibrosis of the lungs. The silica dust causes scars in the lungs and the lungs cannot work properly.

When there are scars in the lungs, we cannot use the air we breathe in. When a worker gets silicosis, his lungs may get smaller and he may become short of breath.

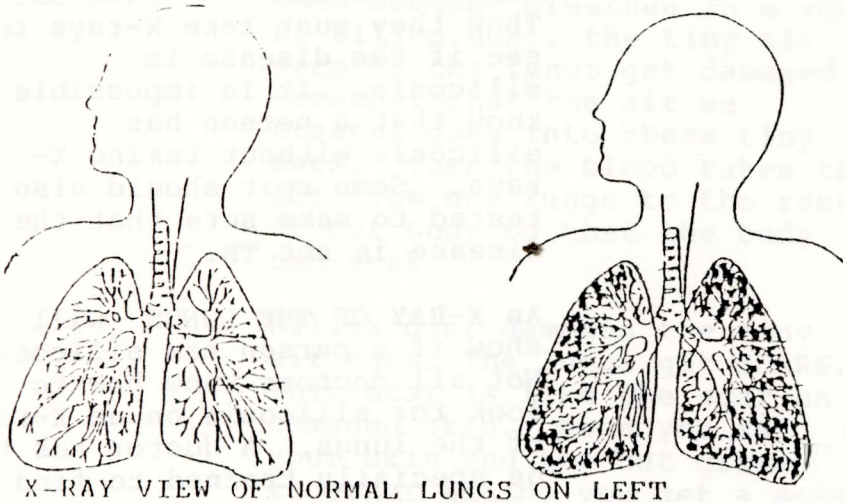
A person who is short of breath and coughs may have TB. The doctor or nurse must check that the worker does not have TB. Then they must take X-rays to see if the disease is silicosis. It is impossible to know that a person has silicosis without taking X-rays. Some spit should also be tested to make sure that the disease is not TB.

An X-RAY OF THE LUNGS will show if a person has silicosis. Not all doctors know how to look for silicosis on an X-ray of the lungs. A doctor has to be specially trained to find silicosis on an X-ray. It is important that a doctor who knows how to find silicosis checks the X-rays.

These doctors have studied the diseases of workers. In Johannesburg, some work at the Medical Bureau for Occupational Diseases, others work at places like Health Information Centre. Doctors in mine clinics also know how to find silicosis on X-rays.

People who have silicosis are more likely to get TB than people without silicosis. Miners with silicosis should be regularly checked to see that they do not have TB.

Below is diagram of an X-ray of somebody with silicosis.



X-RAY VIEW OF NORMAL LUNGS ON LEFT AND SICK LUNGS ON RIGHT AFTER LONG DUST EXPOSURE

MEDICAL TESTS FOR SILICOSIS

Sometimes a mineworker with silicosis may feel well. He may not show any signs of silicosis. Mineworkers should have regular medical examinations every 9 months. They should have X-rays of the lungs every year or every second year, and when they stop work on the mines. They should also have x-rays of the llngs if they have a bad cough or shortness of breath. Doctors at the mine clinics should know how to see if there is silicosis on the x-ray.

Now let us look at the signs of silicosis.

SIGNS OF SILICOSIS

Workers usually get silicosis many years after they first worked in dusty conditions. Sometimes workers have already stopped working in a dusty place when they first discover that they have silicosis.

A worker with silicosis may get TIRED quickly. He may find that he can no longer do what he used to do. He may find it difficult to breathe and gets SHORT OF BREATH. For example, a worker who used to play a lot of soccer may find he gets tired and breathless on the field. Another sign of silicosis is a DRY COUGH.

It is impossible to be sure that someone has silicosis, without examining him. If a person has signs such as a dry cough and shortness of breath, he must go to a doctor or nurse for an examination.

There are a few tests to find out if a person does have silicosis.

First, the person must have worked in a dusty place for about 10 years or more. If the workplace was very very dusty, then the worker might have worked there for a shorter time.

Mineworkers must always tell the doctor if they worked in a dusty place. Then the doctor can check if the mineworker has silicosis. Mineworkers should always ask the doctors what he or she sees on the X-ray. They should also ask the doctor to show them what is wrong on the X-ray.

There is no treatment for silicosis. It cannot be cured.

So silicosis must be prevented. Mineworkers should not get silicosis.

WE CAN PREVENT SILICOIS

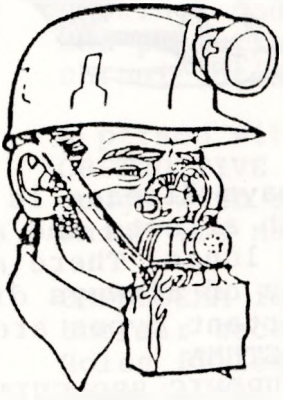
SILICOSIS CAN BE PREVENTED. Nobody should ever get silicosis. When working conditions are good, no workers will get silicosis.

DUST LEVELS in the mines must be as low as possible. There are three ways to stop lots of dust in the mines.

First, the rock should be WATERED DOWN at the same time as workers drill into the rock. This is called the WET METHOD. It makes the dust levels low.

Secondly, GOOD VENTILATION reduces the amount of dust. Good ventilation also reduces the heat underground. It is more pleasant and safer for miners to work when it is not so hot.
The law says that there must be good ventilation and watering down in all mines. This law is called the MINES AND WORKS ACT.

There is a third way to prevent mineworkers from breathing in dust. Workers can WEAR RESPIRATORS. This is not a good solution because it is very hot underground. Miners find it uncomfortable to wear masks in this heat.



EXAMPLE OF A RESPIRATOR-
THESE ARE OFTEN UNCOMFORTABLE
TO WEAR

Now we will look at another occupational lung disease called airways disease.

C. AIRWAYS DISEASE

Many people suffer from airways disease. The whole name for airways disease is chronic obstructive airways disease.

In this pamphlet we will talk about "airways disease".

WHAT IS AIRWAYS DISEASE?

Airways disease is a disease which affects the air tubes in your lungs. There are different types of airways disease. Four important types are:

1. ASTHMA
2. CHRONIC BRONCHITIS
3. CHRONIC OBSTRUCTIVE BRONCHITIS
4. EMPHYSEMA

We will now look at each of these.

1. ASTHMA	A person with ASTHMA has air tubes which become narrow for a few hours or days. The air tubes then open up to the normal size again. When the air tubes are narrow it is difficult for the person to breath. Mineworkers do not get asthma from working in the mines. But mineworkers who have asthma may get worse if they work in hot dusty conditions.
2. CHRONIC BRONCHITIS	A person with CHRONIC BRONCHITIS coughs up sputum. This person will cough up sputum every day for a few months of the year The biggest cause of chronic bronchitis is cigarette smoking. Bad working conditions and pollution can also cause chronic bronchitis.
3. CHRONIC OBSTRUCTIVE BRONCHITIS	A person with CHRONIC OBSTRUCTIVE BRONCHITIS has a cough with sputum and air tubes which are narrow.
4. EMPHYSEMA	EMPHYSEMA is a disease in which the air sacs get broken down. Holes filled with air in the form in the lung. This means the lungs don't work properly.

SIGNS OF AIRWAYS DISEASE

People with airways disease have a BAD COUGH. They usually cough up sputum. The cough lasts for a long time, it does not go away.

Some people with airways disease are SHORT OF BREATH. In the beginning they only get short of breath when they work hard or run a lot or walk very fast. If the disease gets worse they will get short of breath when they walk slowly or even when getting dressed. The shortness of breath can get so bad that the person is tired and breathless all the time.

If the airways disease is bad the heart finds it difficult to pump blood through the damaged lungs. In this way people with lung disease may also getHEART DISEASE.

People can die from heart disease and airways disease.

THE BIGGEST CAUSE OF AIRWAYS DISEASE IS SMOKING. PEOPLE WHO SMOKE CAN GET AIRWAYS DISEASE AND CANCER. SMOKING IS NOT GOOD FOR YOU. PEOPLE WHO SMOKE ARE USUALLY MUCH SICKER THAT PEOPLE WHO DO NOT SMOKE

MEDICAL TESTS FOR AIRWAYS DISEASE

The best test for airways disease is a LUNG FUNCTION TEST A person has to blow hard into a machine. The machine tells how big the lungs are and how strong the lungs are.These tests are easy to do. They are not painful or harmful.

LUNG FUNCTION BEING DONE

TREATMENT FOR AIRWAYS DISEASE

Once airways disease is bad it cannot be cured. If it has just started it will get better if the person stops smoking and working in dusty conditions. If a person has airways disease he/she must stop smoking and working in bad conditions before his/her airtubes are badly damaged.

There are medicines which open up the airtubes and help people cough up the sputum. These medicines may help some people with airways disease.

COMPENSATION FOR AIRWAYS DISEASE

A mineworker with airways disease can get compensation if:

* he did not have the disease before he started work on the mines.
* the lung function test shows he has permanent damage to his lungs.

Compensation is not a lot of money. But it may help the mineworker and his family.

Publications:

* Working Women, Pregnancy and Maternity Rights
* Contraception
* VD
* Teargas
* TB
* Shift Work
* Occupational Lung Disease in Miners
* Compensation for Occupational Lung Diseases in Miners
* TB in the Mines
* Health Hazards of Bus Driving
* SA Laws around Health and Safety
* Asbestos
* Lead
* Asthma
* Health Hazards of the Grain Milling Industry

Posters:

* Solvents in Paints and Inks can Make you Sick
* Working Women, Pregnancy and Maternity Rights
* Silicosis - A Disease from Dusty Work
* Make Your Workplace Safe

HEALTH AND SAFETY GROUPS IN SOUTH AFRICA

Workers face many hazards at work:

- factory noise cause deafness
- unsafe machinery causes accidents
- dust can damage workers' lungs
- harmful chemicals
- heat

The following groups can help your union with health and safety problems by:

- providing information
- running training courses and seminars
- helping with accident investigations
- inspecting workplaces
- doing surveys
- producing pamphlets

etc.

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HEALTH AND SAFETY BEFORE PROFITS