

**GHQ/SCAP Records (RG 331, National Archives and Records Service)**

**Description of contents**

- (1) Box no. 2828
- (2) Folder title/number: (20) (end)  
Tuberculosis
- (3) Date: June 1938 - Jan. 1947
- (4) Subject:

Classification	Type of record
750	t

- (5) Item description and comment:  
American Publications

(6) Reproduction:  Yes  No

(7) Film no.

Sheet no.

(Compiled by National Diet Library)

# AFTER THE X-RAY

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*What*

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## AFTER THE X-RAY—WHAT?

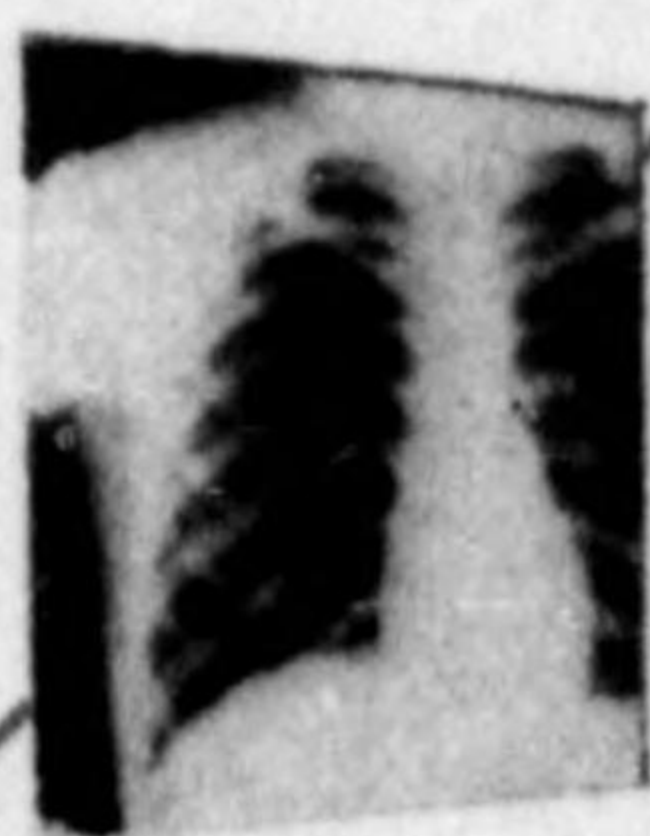
You have shown good common sense. Although you probably feel perfectly well, you've had an X-ray of your lungs. And now you ask: "What next?"

First, your X-ray has to be developed—just like a snapshot. Then doctors, experienced in studying X-ray pictures, will examine your film. They will be on the lookout for shadows that don't belong in healthy lungs.

The report on your X-ray may come directly to you. Usually, however, it is best for it to be sent to your family physician. Then, if there are things that need to be talked over, your doctor can explain them and tell you what to do.

An X-ray can show conditions other than those caused by TB.

So far as TB is concerned a chest X-ray can show *one of three things*. Let's see what they are:



### 1 NO SIGNS OF TB

No suspicious shadows are evident in the X-ray. The chances are good that the doctor will say you are in this group. This means that TB has passed you by, so far. But you can get TB at any age. Play safe and have an X-ray once a year.



### 2 SIGNS OF OLD

Perhaps your film telling the doctor that TB lungs. But your body never gave defeated the invaders but now sh battle. It is not usually possible to tell fr however, just how well healed these scars examinations may be necessary. Some be reached only after your doctor shadows be

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## SIGNS OF OLD INFECTION

Perhaps your film will bear shadows telling the doctor that TB once attacked your lungs. But your body never gave in to the germs. It defeated the invaders but now shows scars from the battle. It is not usually possible to tell from an X-ray alone, however, just how well healed these scars are. Other tests and examinations may be necessary. Sometimes the verdict can be reached only after your doctor has watched how the shadows behave in later X-rays. If it is found that your body holds the upper hand, keep your resistance high with plenty of rest and good food. Then your TB will be less likely to give you further trouble. Even when TB is healed, regular chest X-rays, at least once a year, are necessary to make sure no break-down gets a head-start.

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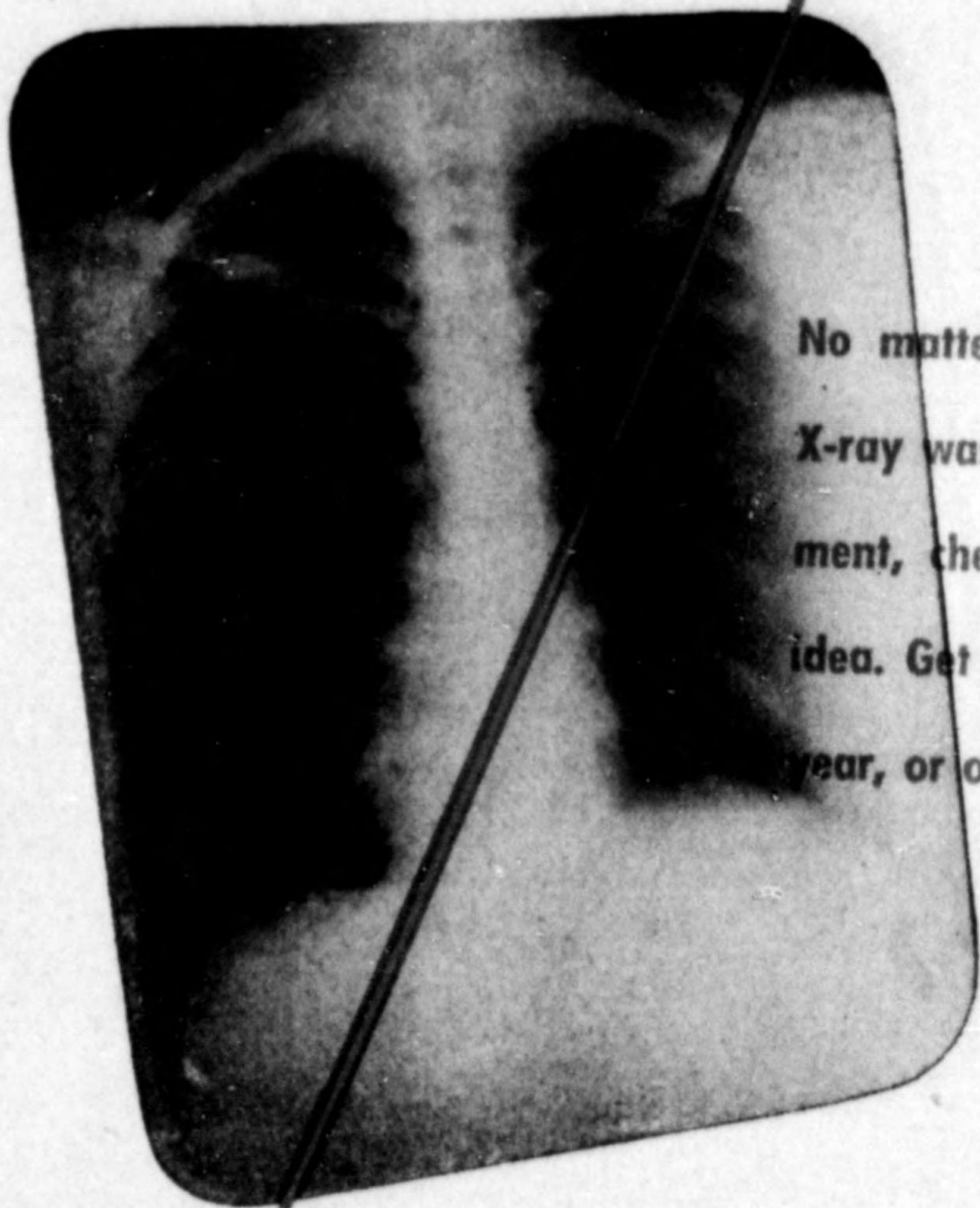


## SIGNS OF DISEASED LUNGS

There may be shadows that make your doctor suspect you have active TB. If so, further X-rays and other tests will be necessary to make sure. The question can be settled while you are at rest in a sanatorium or a hospital. There the tests can be made with the greatest ease and accuracy. Meanwhile, you will be well looked after, and your family will be protected against TB germs you might be spreading. When all the evidence is collected, your doctor will decide whether you have TB that needs further treatment. The members of your family and persons you live and work with will need to be examined, too.

If your doctor says you need hospital observation or treatment, follow his advice at once. Stay in the sanatorium until you are entirely well. Learn how to live so that TB won't wreck your plans again. Train yourself for a job you can fill safely and profitably.

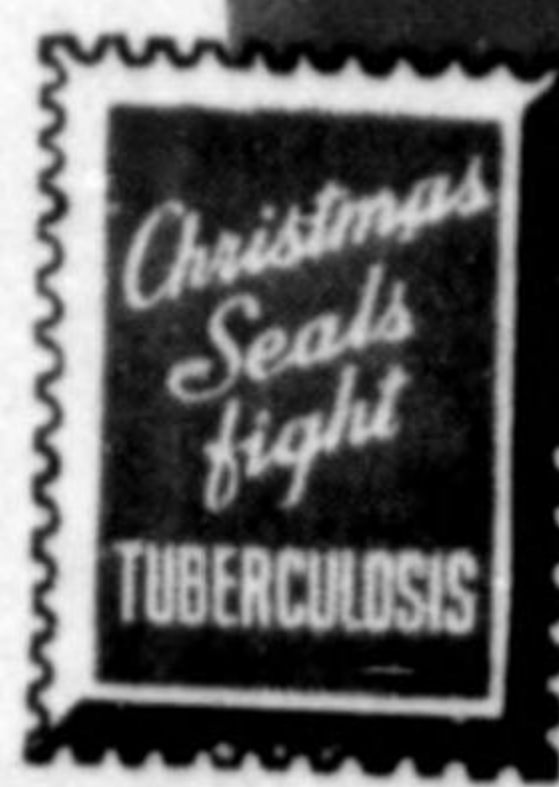
TB found early and treated at once has the best chance of being cured and less chance of being spread to other people. It costs less money and takes less time to treat an early case.



No matter what it shows, your chest X-ray was a good bet, a sound investment, cheap insurance and a sensible idea. Get an X-ray of your chest every year, or oftener if your doctor says so.

PUBLISHED BY THE NATIONAL TUBERCULOSIS ASSOCIATION

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## **Do You Know the Answer?**

Check up on What You Know About Tuberculosis

(Please don't turn the page until you have completed this short quiz)

1. Tuberculosis (or TB) is a disease a person is born with.  
     RIGHT?.....                      WRONG?.....
2. Working hard or in a damp, dirty place is what gives people TB.  
     RIGHT?.....                      WRONG?.....
3. Older folks can forget about TB — only young folks have it.  
     RIGHT?.....                      WRONG?.....
4. It's easy to know when you have TB, because you feel so sick.  
     RIGHT?.....                      WRONG?.....
5. You can tell which people have TB, just by looking at them.  
     RIGHT?.....                      WRONG?.....
6. Why treat TB? People who have it are "goners," anyhow.  
     RIGHT?.....                      WRONG?.....
7. At last there's a wonderful drug that cures tuberculosis.  
     RIGHT?.....                      WRONG?.....

Now turn the page. The RIGHT answers to these questions can save your life.

Read the other side FIRST! . . . Please . . . Read the other side FIRST!

**The RIGHT answer to every one of the 7 questions  
on the other side of this page is "WRONG!"**

1. No baby has TB when it is born. TB is caused by a germ. We catch TB from someone who has it—someone who is spreading TB germs when he coughs, sneezes, or spits, or who leaves the germs on things he uses or touches. TB spreads easily where people live or work close together, as they do in the home.
2. TB can occur on any job or in any place where someone who has TB is spreading the germs to other people.
3. Anybody can have TB, at any age. But TB hits hardest at men aged 45 to 54 years, and at women between the years of 25 and 34. Our chance of having TB during our most valuable working years is many times greater than of having it when we are children.
4. In the *early* stages, TB doesn't make us sick. TB is well along before we begin to feel tired all the time, before we start coughing, or have chest pains, or lose weight and appetite, or spit up some blood.
5. People who have *early* TB look fine, feel fine. On the surface they are OK. It takes an X-ray to look inside and find out if TB has damaged their lungs.
6. When TB is found *early* and treated *right away*, it almost always can be cured. The sooner it is found and taken care of, the sooner the patient will be well again and back on the job. It will cost less money. It will be easier for his family. And he won't be spreading TB germs to those he lives with or works with.
7. Doctors are searching for a drug or serum or something safe and sure that will cure TB the way that new drugs are curing many other diseases. So far they have not found what they are looking for. The treatment for TB is still rest in bed, best of all in a sanatorium or TB hospital, plus good food, fresh air and everything else the doctor orders.

#### ***What's the Answer to TB?***

The answer is for everybody, you and your family, me and mine, to have a chest X-ray, *right now* while we still feel healthy. We need an X-ray every year or two to make sure we stay healthy.

Find out *today* how to get a *chest X-ray*. Ask your doctor, your Health Department, or your Tuberculosis Association. If you can't afford to pay, you can have one free or for a very small cost.

*From Personal  
File 1962*

**T**  
**B**  
*through the air*

*Tuberculosis*  
*but it need not be you*

FROHLICH



# TB THROUGH THE TEENS

## THE GERM

This is the story of a germ — a bad germ — the tuberculosis germ. You can barely see it with an ordinary microscope. Under a modern electron microscope it looks something like a "hot dog." Because of its shape, it belongs among the *bacilli*, or rod-shaped germs. The tubercle bacillus lives best in the human body, especially in the lungs. It grows slowly. That's why, when it causes damage, people who have tuberculosis often don't know for a long time that anything is wrong with them.

## THE DISEASE

We are interested in the TB germ because it causes tuberculosis. This disease kills

### How to discover early TB

about 55,000 people in the United States every year. If these people had known more about the TB germ and how it works they might not have died. Right this minute there are at least a half million people in this country who have TB. The majority of them don't know yet that TB has struck them.

## HOW THE GERMS GET AROUND

Every new case of TB is caused by TB germs that come from the body of some other person who has tuberculosis. Careless coughing, sneezing or spitting will let loose a shower of germs. TB germs can live outside the body in such places as in dust or dishes or towels. A healthy person can pick up these germs by breathing them in or getting them into his mouth.

## GERMS INSIDE THE BODY

TB germs, having got into the lungs, do their best to live and multiply. The body at once tries to prevent this by sealing the germs into a

small area in the lung. This tiny scar in the lung is called a tubercle. Usually the body defeats the invading TB germs. But if the germs keep on getting into the body and the body wall them off, some germs are left free to multiply. The body is also fighting the effects of neglect and poor nutrition. TB germs have an extra good chance of succeeding if the body is weak. That TB germs, already in the body and sealed off, have a chance to break out of their prison. They

## HOW TO KNOW

Many people are exposed to attacks by TB germs. Some have some in their bodies, but they don't know it. This doesn't necessarily mean they are sick. The body may have sealed off the germs. You should find out if you have TB. A doctor can give you a test. The doctor will show him



*Tuberculin Test*



*Chest X-ray*

### Prevention

body. This is a serious matter. If the test shows you have TB, you want to take an X-ray to see if disease has spread. It is not too late to afford not to know. You should make sure.

## YOU HAVE TB

If tuberculosis has begun, finding it early is the key to a cure. It is better to know in time that TB germs are in your body than to find out you have TB because they waited until they were sick before they found out. The doctor would rather find TB before it has done much damage. If a person coughs, or loses weight, or spits blood, the disease is in advanced stages. TB germs can be cured with the least loss of time if you know TB germs are in your body, you should find out early to make sure that everything is staying

# B THE TEENS

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small area in the lung. This tiny scar in the tissues is called a *tubercle*. Usually the body defeats the invading TB germs in this way. But if the germs keep on getting into the body faster than the body can wall them off, some germs are left free to damage lung tissues. If the body is also fighting the effects of neglect or some other sickness, TB germs have an extra good chance of succeeding. It may even happen that TB germs, already in the body and sealed away for years, have a chance to break out of their prison. They are then free to do harm.

### HOW TO KNOW

Many people are exposed to attacks by TB germs. You yourself may have some in your body. This does not necessarily mean that you have TB. Your body may have walled up the germs. But you should find out if they are there. Your doctor can give you a *tuberculin* test which will show him if TB germs are in your

## Preventing serious disease



*Tuberculin Test*



*Chest X-ray*

body. This is a simple skin test. It does not hurt. If the test says *yes*, the doctor will want to take an *X-ray picture* of your lungs to see if disease has taken hold. You can't afford not to know. The chest X-ray will make sure.

### YOU HAVE THE ADVANTAGE

If tuberculosis has begun, finding it early gives you your best chance of being cured. To know in time that TB germs are in your body gives you an advantage over the germs. People who die of TB lose out because they waited until they were sick before they went to the doctor. The doctor would rather find TB before it has gone far enough to make a person cough, or lose weight, or spit blood. TB found in its early stages can be cured with the least loss of time and money. After you know TB germs are in your body, you should have chest X-rays regularly to make sure that everything is staying all right.

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If the doctor finds that you have TB germs in your body, this may mean that you got them from one of your relatives or friends. Get the older members of your family and other people who live, work or play with you to have a chest X-ray just to make sure. Your germs may have come to you from one of them without anyone's knowing it. Any person who is broadcasting germs should be in a sanatorium or hospital where he can be under treatment and where his germs won't endanger other people.

#### **YOU AND TB**

In babies TB can be very serious and may quickly kill an infant. Few very young boys and girls become sick with TB or die of it. But from the teen ages on, TB becomes a real danger. TB germs that have been quiet in your body a long time can suddenly flare into disease. And, as you grow older, go to work, travel about and mix with all kinds of other folk, there will be the constant threat of TB germs sneaking into your body from outside.

If you are of high school age or older, watch out for TB! Whether you are headed for a job, already filling one or still busy with your education you don't want TB to spoil your fun or wreck your plans. A tuberculin test, a chest X-ray can save you needless illness and expense. Don't guess. Make certain you're OK.

You can arm yourself against disease and insure your future by following a few simple rules. Here they are:

***Sleep 9 to 10 hours every night***

***Eat plenty of meat, milk, greens, fruits and cereals***

***Bathe often, wash your hands before eating***

***Stay away from people you know are sick with TB***

***Have a yearly physical exam***

***Ask your doctor to give you a tuberculin test, a chest X-ray now. Ask him how often this should be repeated.***

**TB CAN STRIKE ANYONE . . . DON'T LET IT STRIKE YOU**



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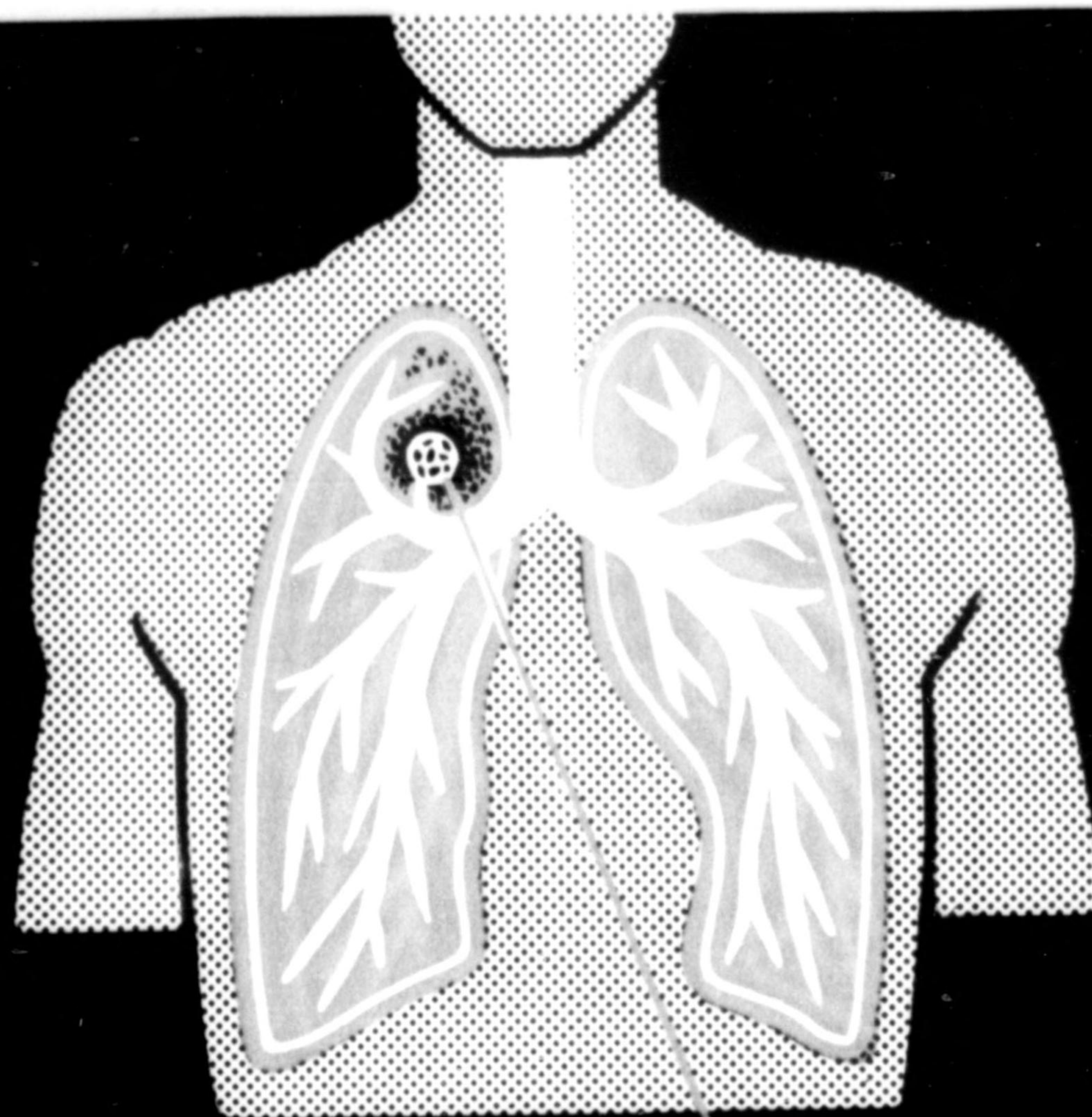
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# CHEST SURGERY

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**TB**

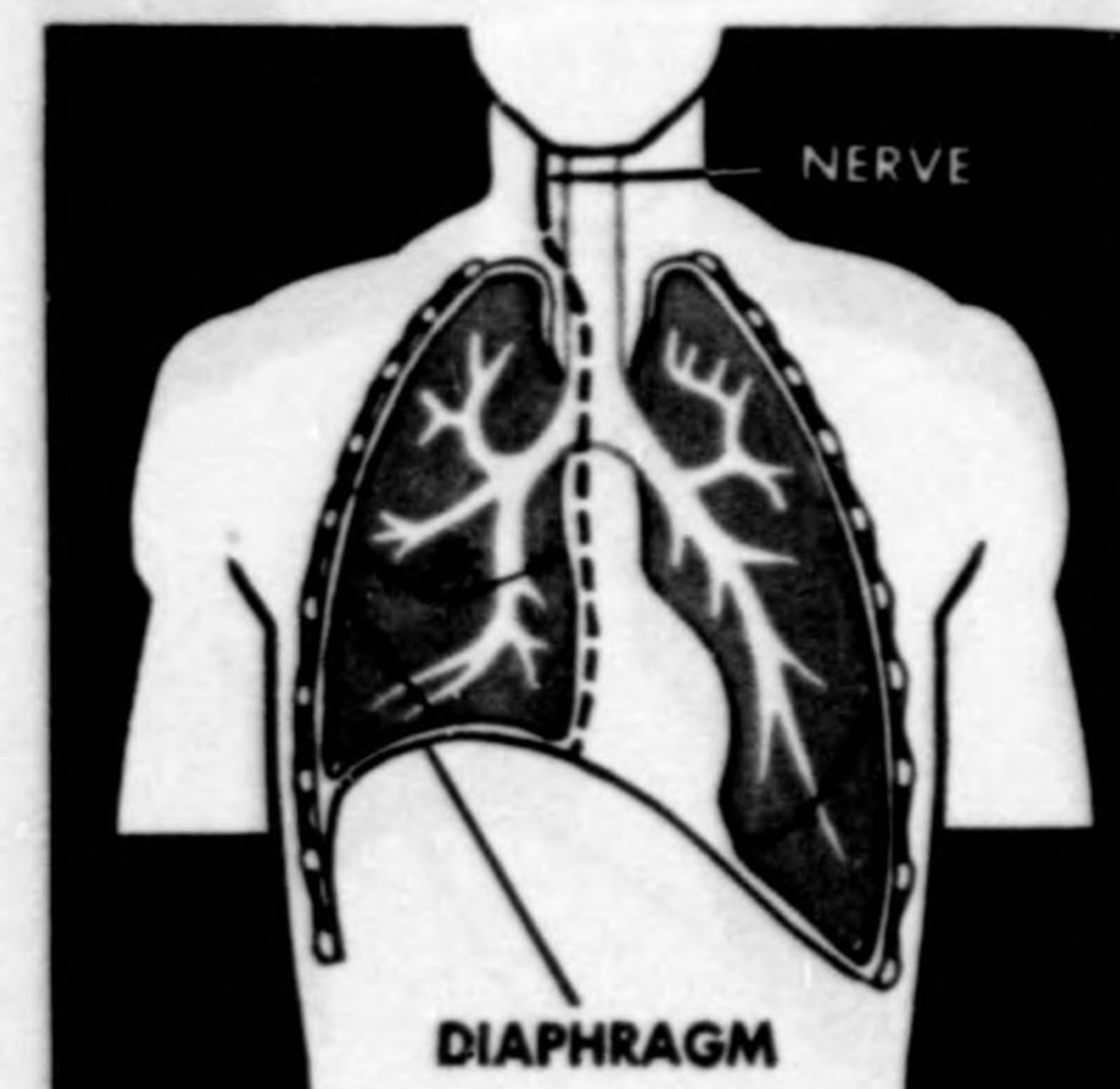
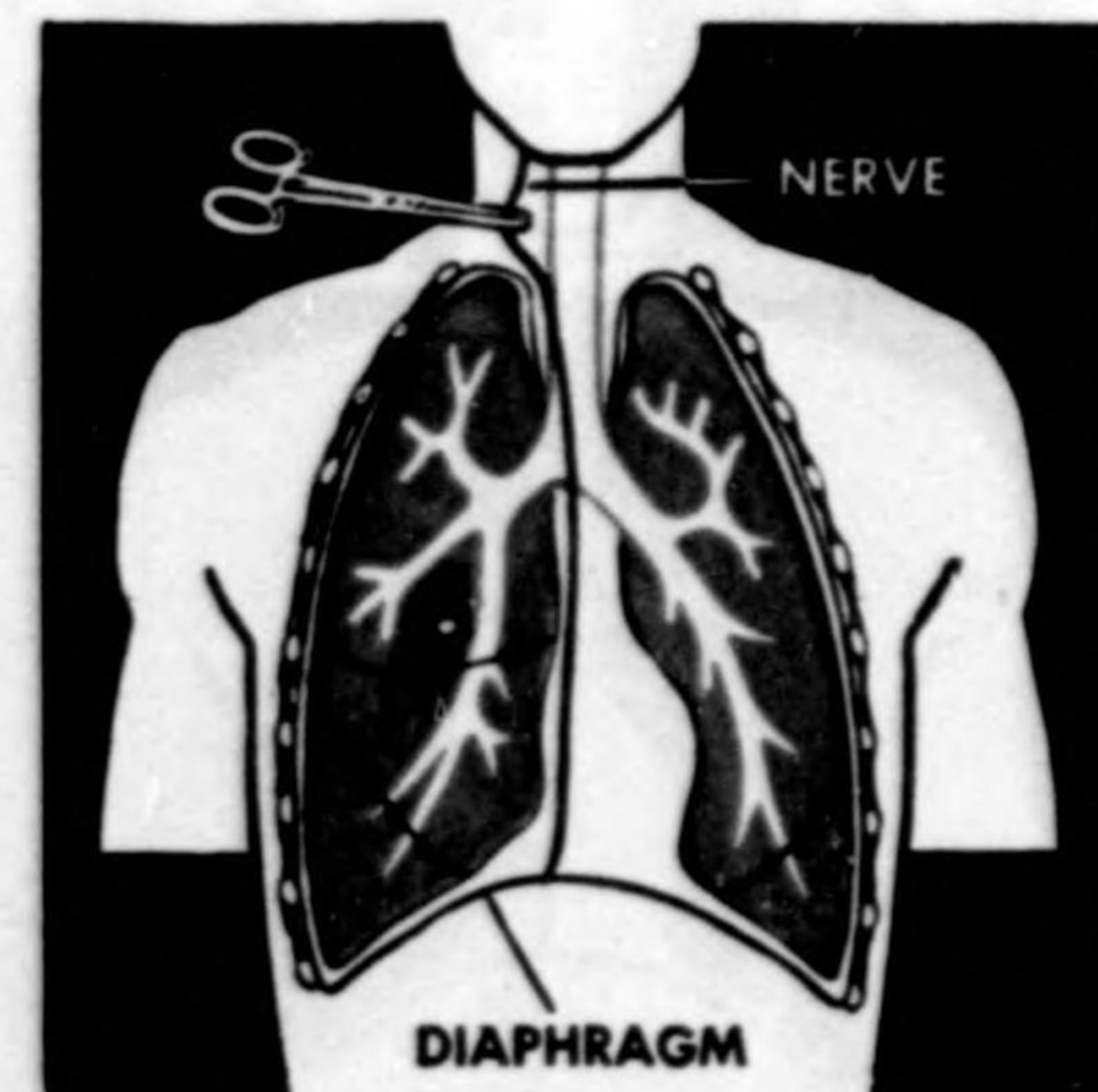


is the best treatment for tuberculosis. This means rest in bed. Bed rest in a good sanatorium or TB hospital is best. Rest gives lungs damaged by TB less work to do in breathing; it gives sick lungs a chance to heal.

Sometimes bed rest and sanatorium care are not enough to cure a person's TB. The sick lung may need more rest than it is getting. If so, there are certain things that can be done to give extra rest and relaxation to the lung.

Not everyone with TB needs chest surgery. Nor is chest surgery the best thing for everyone with TB. A doctor experienced in chest work must say who needs surgery and choose the right operation.

Even then, surgery does not take the place of bed rest. Surgery merely helps bed rest do its job. Here are the ways surgery gives extra rest and relaxation to the lung:



### PHRENIC NERVE PARALYSIS

**THE OPERATION.** This operation stops the action of the phrenic nerve which controls the diaphragm—a powerful muscle that moves up and down with each breath.

**HOW IT'S DONE.** The phrenic nerve is crushed with an instrument. That side of the diaphragm then stops moving. In about six months the nerve grows back and the diaphragm again moves normally. This temporary paralysis can be repeated one, two or even three times. When the surgeon wants a permanent paralysis of the diaphragm, he cuts the nerve instead of crushing it.

**HOW IT HELPS THE LUNG TO HEAL.** Crushing the phrenic nerve halts the diaphragm, saving the lung much motion. During the time that the diaphragm is paralyzed it stays higher up in the chest. This shortens the distance between the top and bottom of the lung and gives relaxation to the diseased area. Usually phrenic nerve paralysis is used, along with bed rest, in the treatment of disease that is not too extensive.

### PNEUMOTHORAX

**THE OPERATION.** Pneumothorax introduces air between the two layers of the pleura. One layer of pleura lines the chest wall, the other covers the lungs.

**HOW IT'S DONE.** A measured amount of air is introduced into the space between the two layers of pleura. This places a cushion of air around the lung and causes the lung to occupy a smaller space. The air is slowly absorbed so it must be replaced from time to time.

**HOW IT HELPS THE LUNG TO HEAL.** The lung becomes smaller and so does the cavity, which then has a much better chance to heal. The air cushion also keeps the lung relaxed and lessens its movement when the patient breathes. In this way the pneumothorax puts the areas of tuberculosis in the lung at rest so that healing may take place.

**THINGS TO REMEMBER.** 1. Some types of tuberculosis do not respond well to pneumothorax. The doctor must decide who needs it, and for how long. 2. Pneumothorax does not take the place of bed rest. 3. Most pneumothorax patients become able to lead fairly normal lives even while receiving pneumothorax.

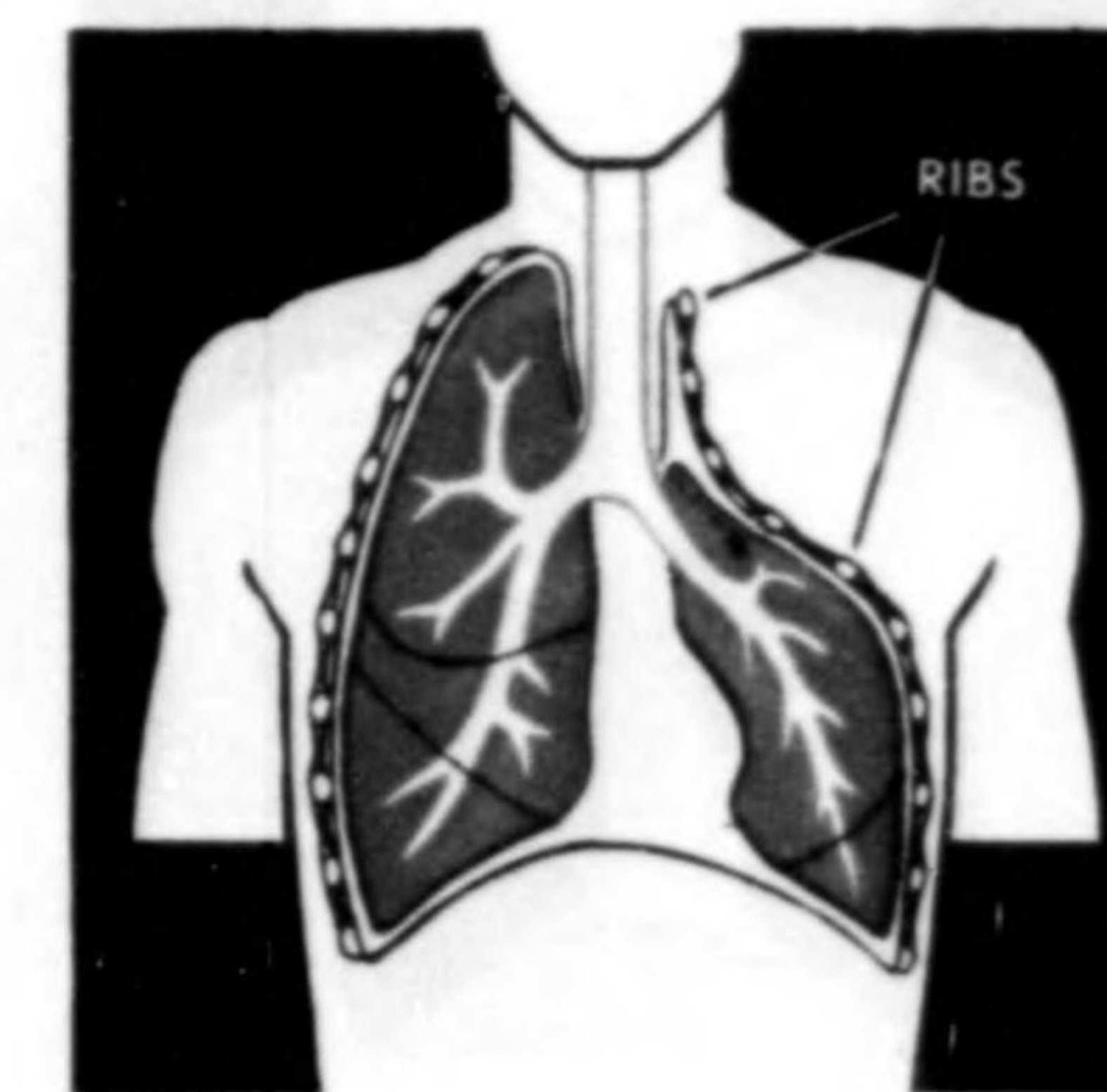
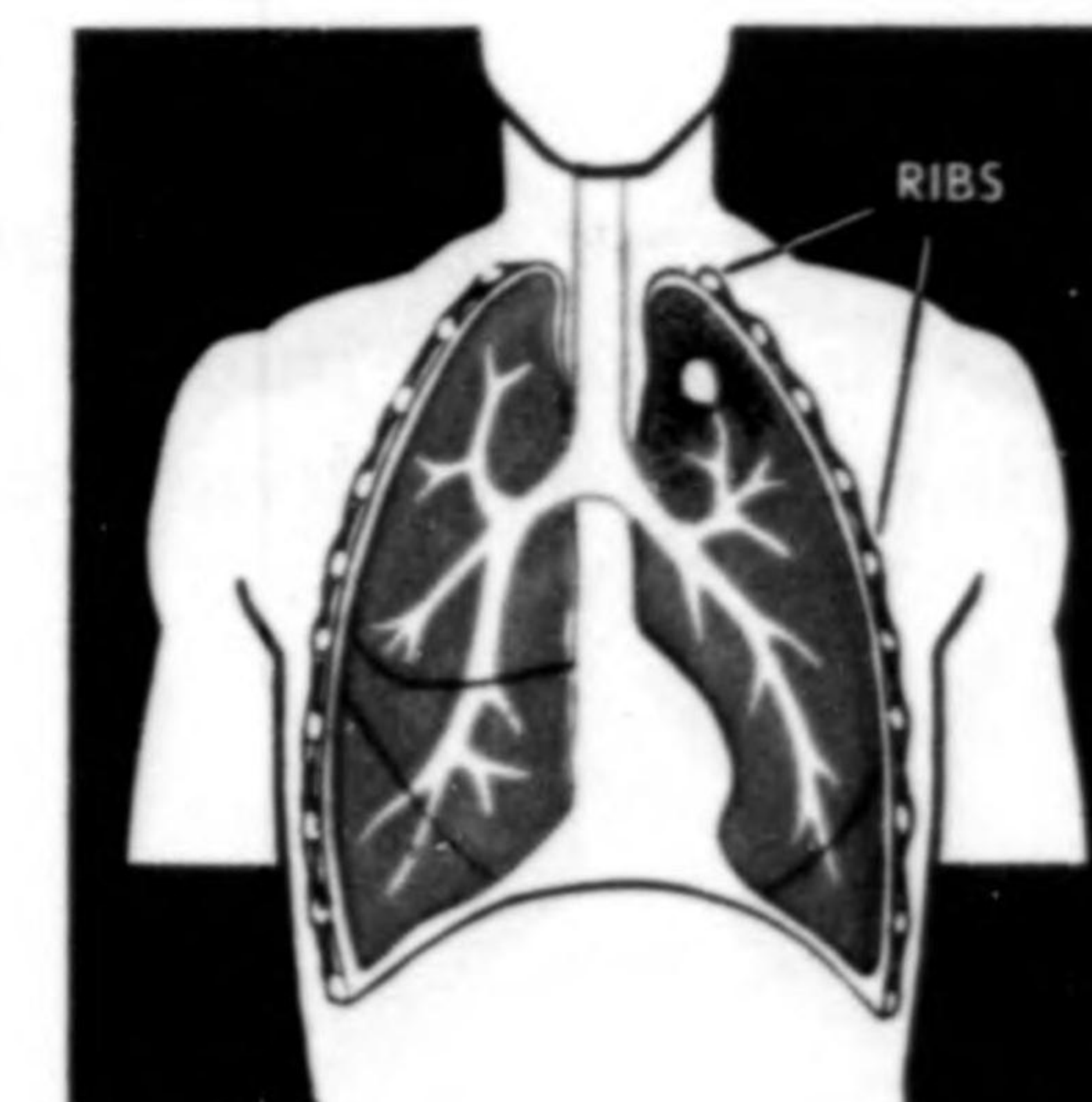
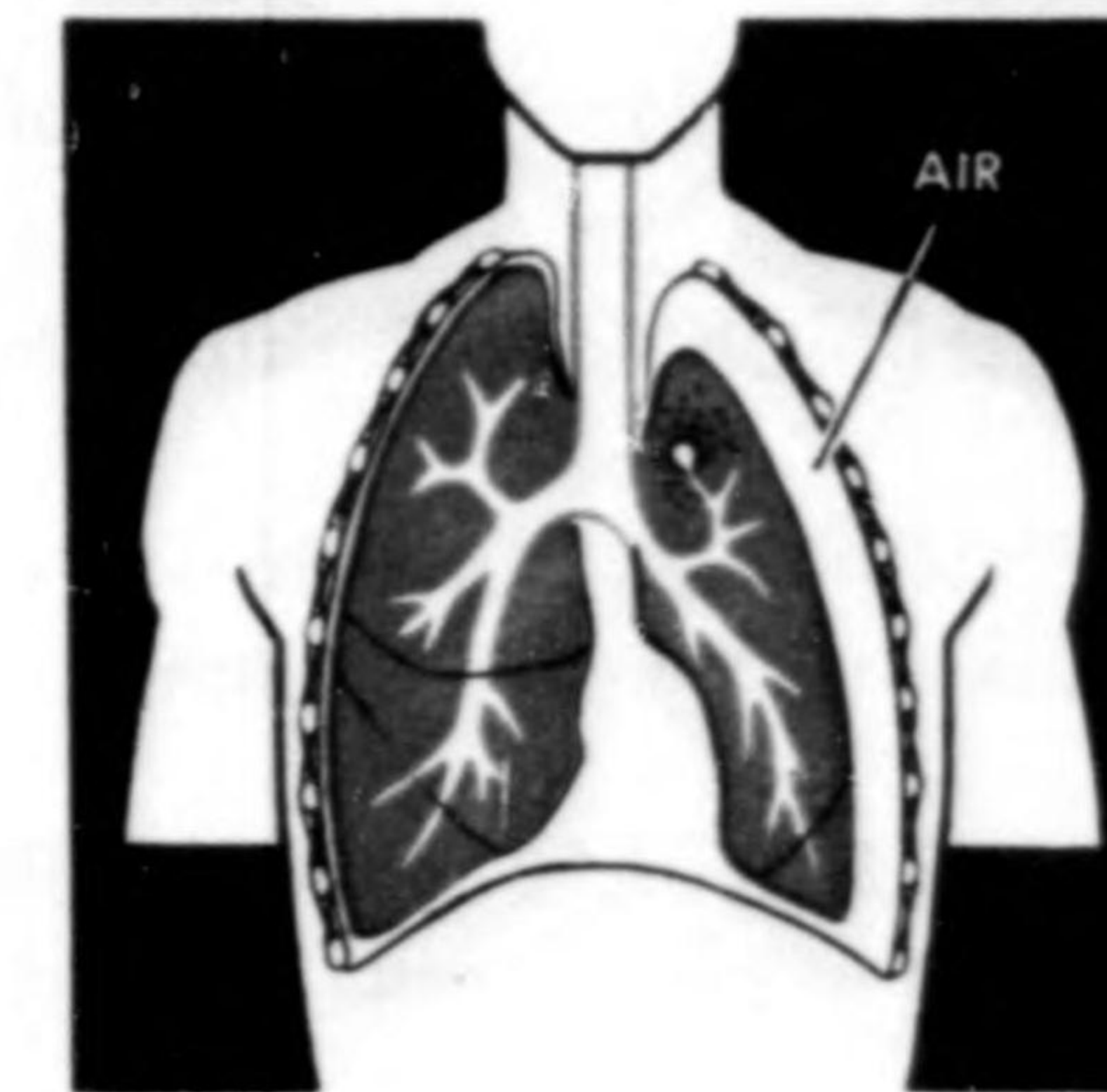
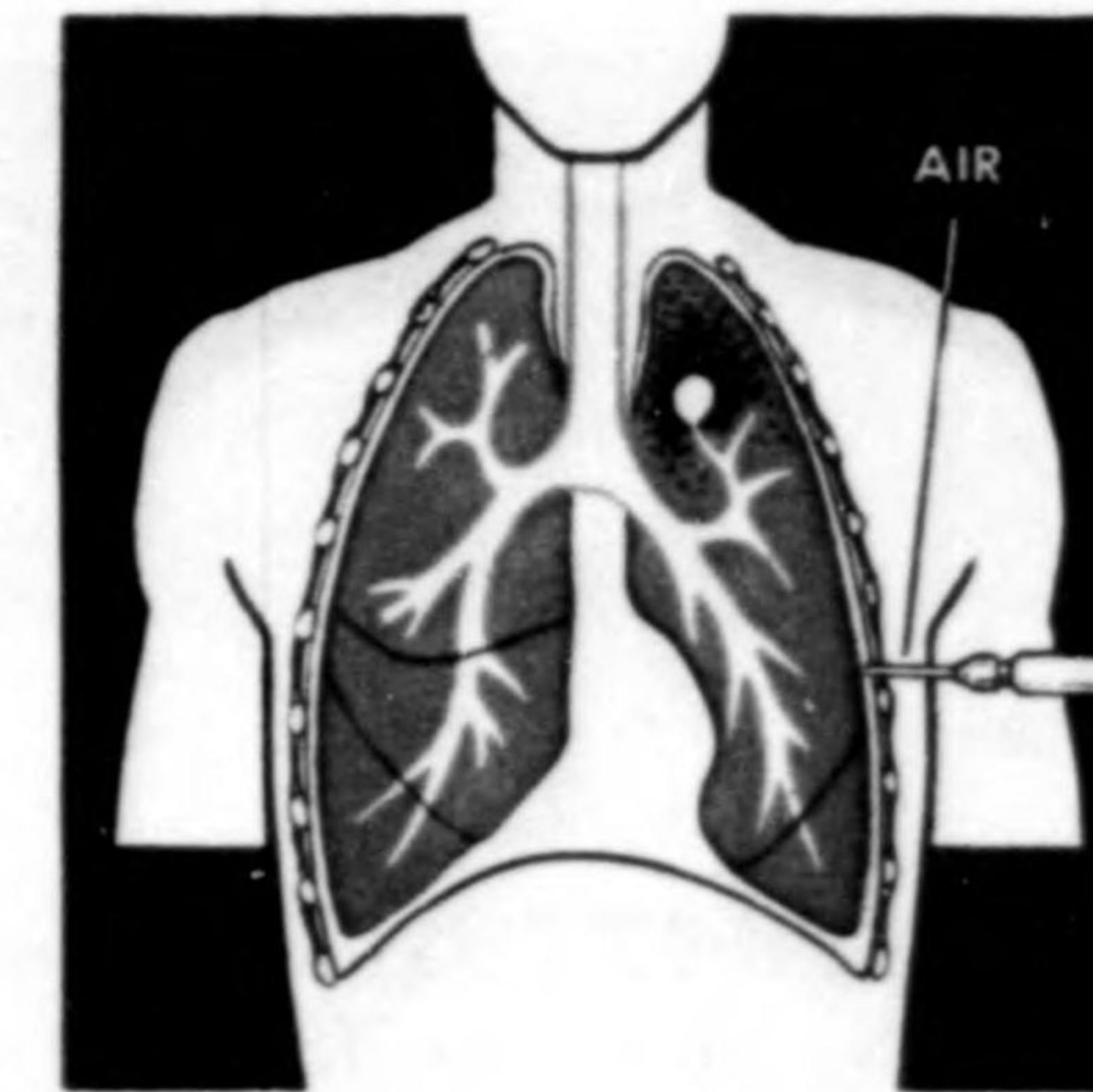
### THORACOPLASTY

**THE OPERATION.** Thoracoplasty is an operation designed to give rest to the lung by the removal of the ribs over the diseased area.

**HOW IT'S DONE.** First the ribs over the diseased area are removed. This permits the muscles and other structures in that area to fall inward, thus relaxing the diseased part of the lung. This operation is not performed all at once. Doing a thoracoplasty in stages makes it safer and easier for the patient. Where the ribs have been removed, new ribs will grow in about three months. These newly formed ribs will grow in such a way as to keep the diseased area permanently collapsed.

**HOW IT HELPS THE LUNG TO HEAL.** Thoracoplasty provides permanent collapse of the diseased part of the lung.

**THINGS TO REMEMBER.** 1. It can be done without causing marked change in the outside appearance of the body. Change is so slight that it is hardly noticeable in a person fully clothed. 2. Most patients treated by thoracoplasty return to active, normal life.



## OTHER CHEST SURGICAL PROCEDURES and what they mean

**PNEUMONOLYSIS**—an operation to make pneumothorax more effective by cutting adhesions that hold the lung to the chest wall.

**LOBECTOMY**—the removal of part of a lung.

**PNEUMONECTOMY**—the removal of one whole lung.

**PNEUMOPERITONEUM**—introduction of air into the abdominal cavity to push up the diaphragm.

**EXTRAPLEURAL PNEUMOTHORAX**—introduction of air between the *outer* layer of pleura and the chest wall.

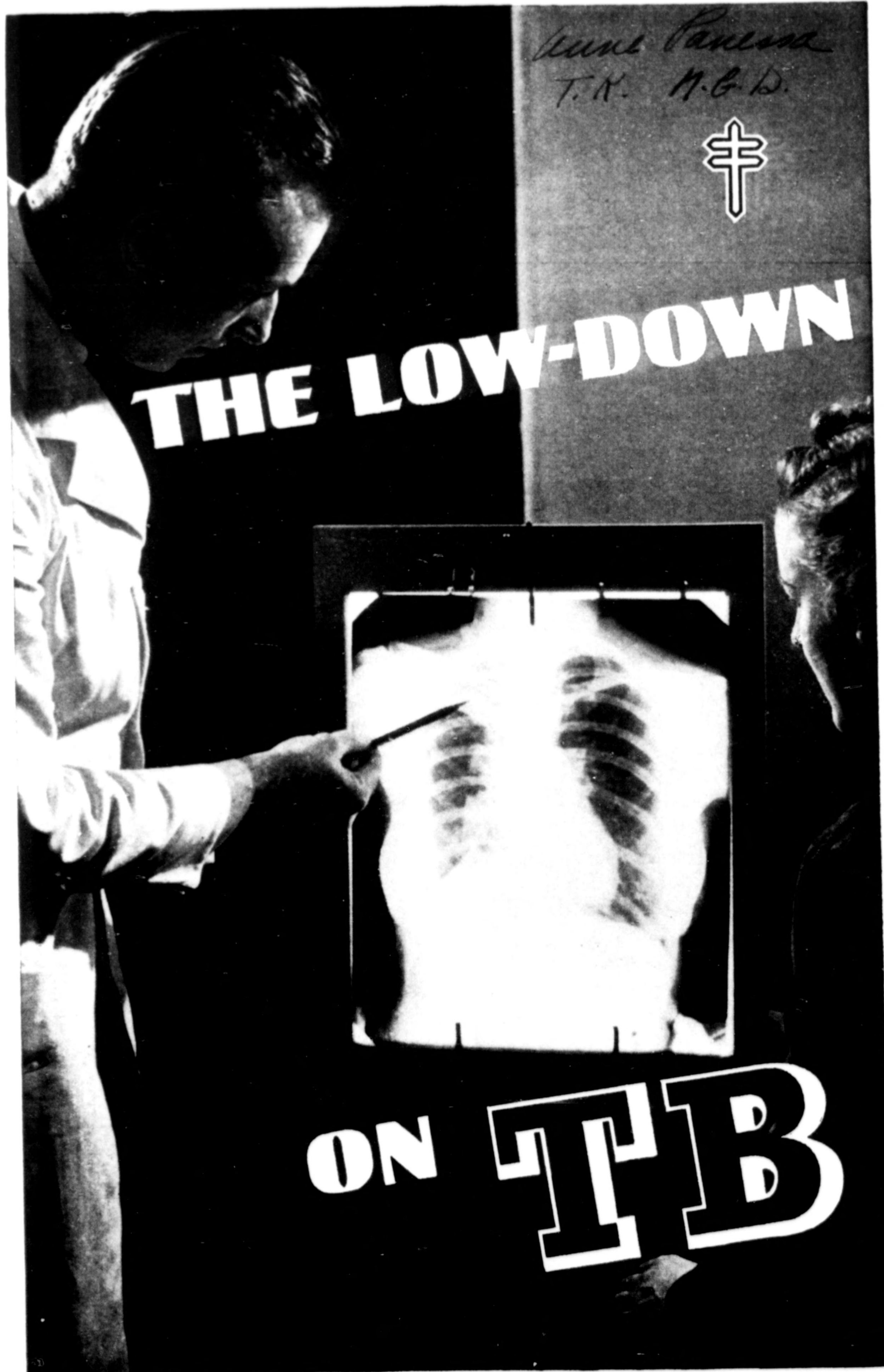
**CAVITY DRAINAGE**—designed to provide outside drainage of tuberculous cavities.

Chest surgery is an important aid in the treatment of tuberculosis. If you want more information about surgery in TB, ask your doctor. He is the one to advise you.



PUBLISHED BY THE NATIONAL TUBERCULOSIS ASSOCIATION





## THE LOW-DOWN ON TUBERCULOSIS

(Consumption)

By ARNA BONTEMPS



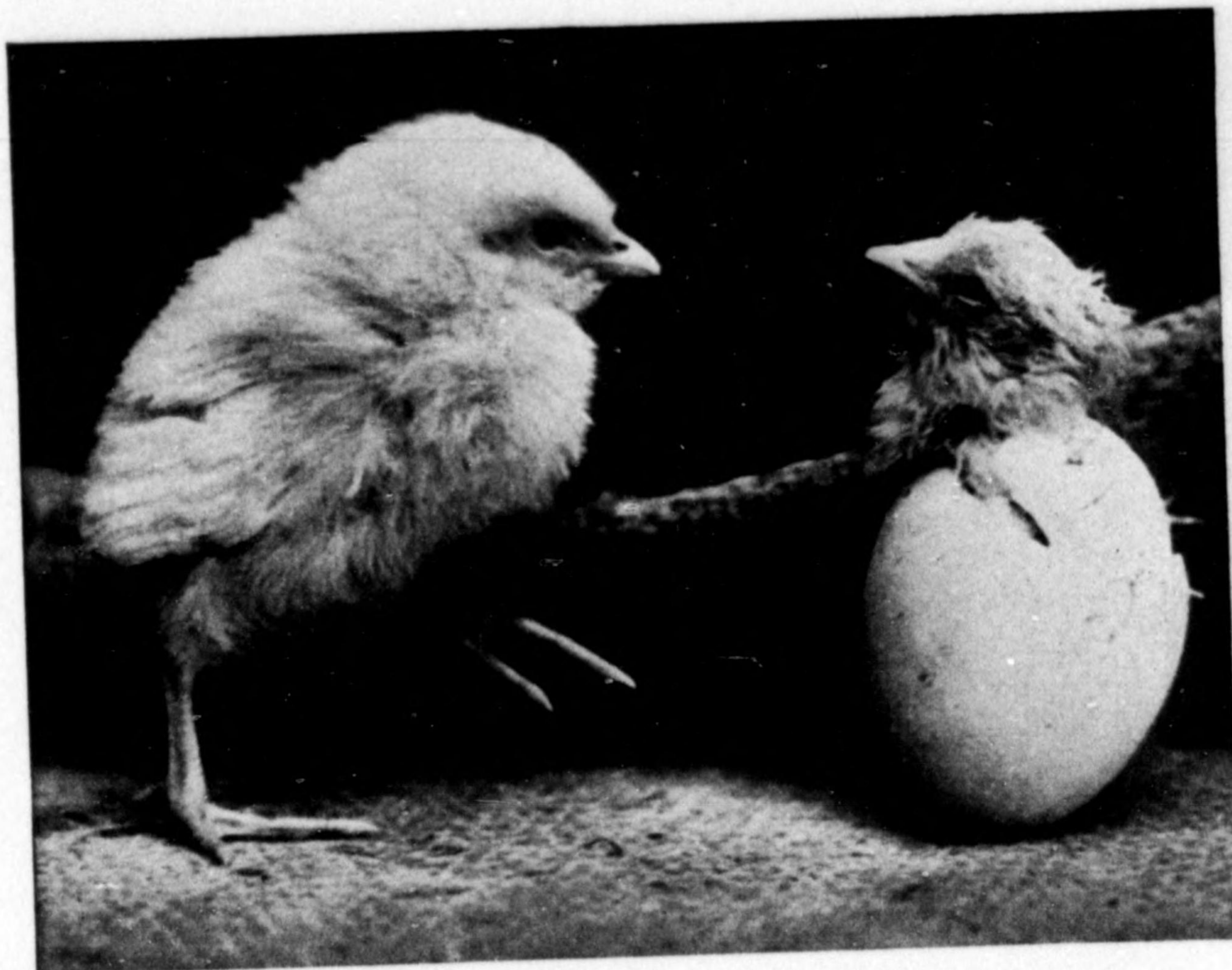
### A Snake in the Grass

**T**UBERCULOSIS, consumption, T.B. or whatever you call it is the same thing. Tuberculosis is a snake in the grass; it never comes up and looks anybody in the face. It comes up when your back is turned, and it gets you when you are not looking. That's why you have to be so spry if you want to stay away from it.

Lucky for you, there are six warning signs that you count on. They are like the rattlesnake's rattle, so you better pay attention.

1. *If you feel tired all the time, when you have nothing to be tired about, that's a danger sign.*
2. *If you keep falling off and losing weight, watch your step.*
3. *If you don't feel hungry when it's eating time, something may be wrong.*
4. *If you have a cough that hangs on and on, that's a danger sign.*
5. *If you have a pain in your chest that gets worse when you take a long breath, that means pleurisy and pleurisy is something else to think about.*
6. *If you spit up blood, that's a sure danger sign.*

Of course, it may be pure laziness that makes you feel tired and lose your appetite. Then again, it might not be. You need to see the doctor. The doctor will find out what ails you.



### **Chickens Come From Eggs — T.B. Comes From T.B.**

YOU get chickens from eggs; you get cotton from cotton seed, and potatoes from potatoes. It is just like that, and it is the same with tuberculosis. You get tuberculosis from tuberculosis bugs or germs. They are too small for you to see but they will hatch in your body and raise big families.

Tuberculosis is real sickness and it is bad, but it can be cured. You can only get it from a person who is sick with the same sickness.

You can get tuberculosis by kissing someone who has the bugs.

You can get it by eating from his plate and drinking from his cup and using his forks and knives and spoons without first boiling them well.

You can get it from the drops of spit the sick person puts out when he coughs and sneezes and when he touches things with his fingers. **SICK PEOPLE MUST NOT SPIT ALL OVER THE PLACE.** They must spit in a paper, put the paper in a bag, and burn the bag with the spit. They must cover their mouth and nose when they sneeze or cough so the bugs don't go sailing through the air. If they are careless with spit they will make other people sick.

You are likely to get it if you live for a long while with a person who has the disease. If that person is careless, you are pretty sure to get it.

Potatoes come from potatoes, chickens come from eggs, and tuberculosis comes from tuberculosis.



### Home Cures Don't Cure Tuberculosis

DON'T listen to anybody who wants to tell you a good home remedy. Don't depend on any medicine you buy at a medicine show, on the street or in a store. No ready-made medicine that you can buy anywhere can cure tuberculosis and that's a fact.

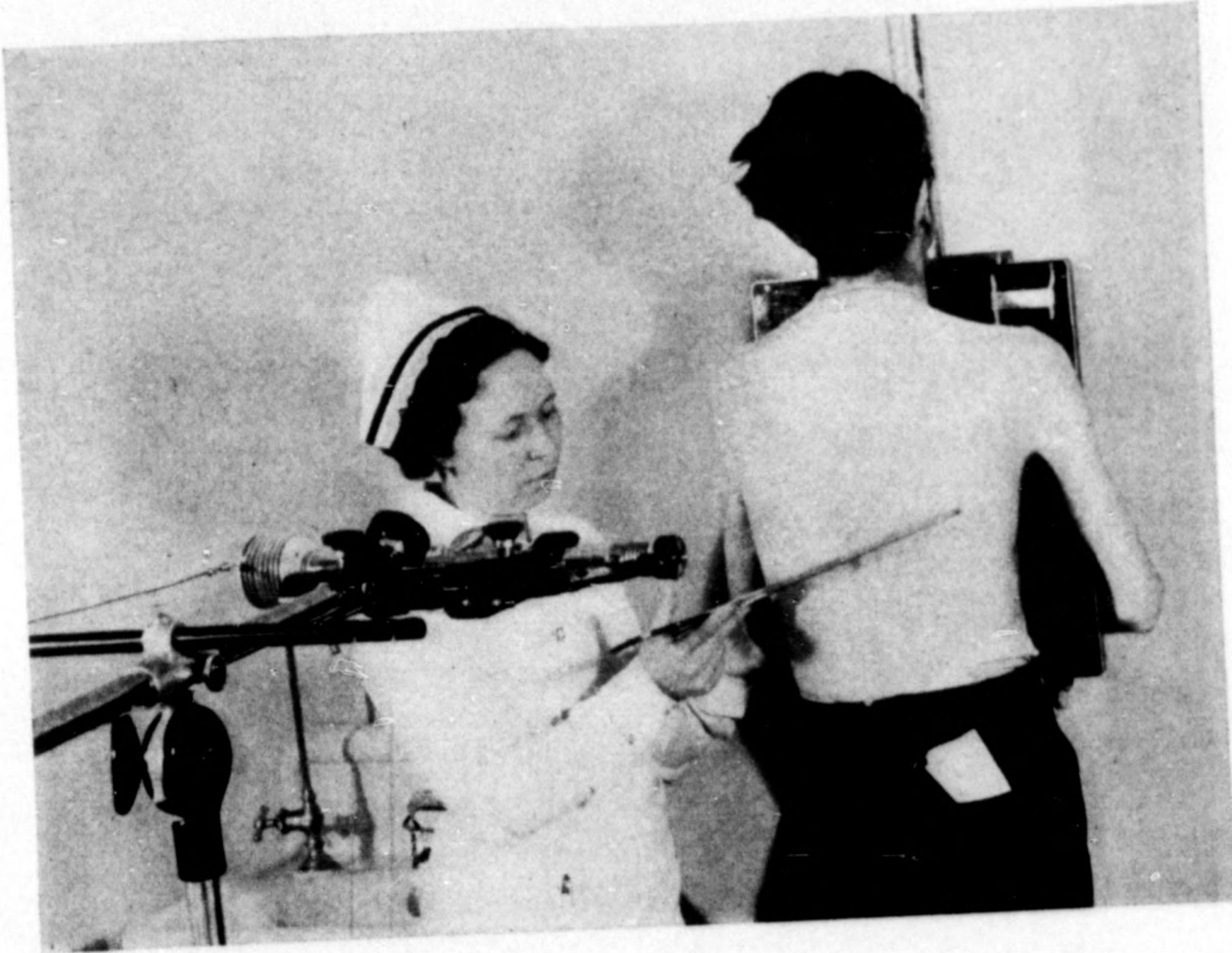
What's more, bottle-medicine is likely to do you much harm. This is how. It may stop your cough for a little while. It may ease your restlessness for a short while. By doing these things it will make you think that you are coming along fine. That will just be some more snake-in-the-grass business. You will be fooled and neglect to take the real treatment you need. And while you're fooling yourself, the tuberculosis will make headway.

Tuberculosis can be cured. Millions of people who have had it have got well. The first thing they did was to get a good doctor. Don't fool with any quack doctor.

### Beating the Bug

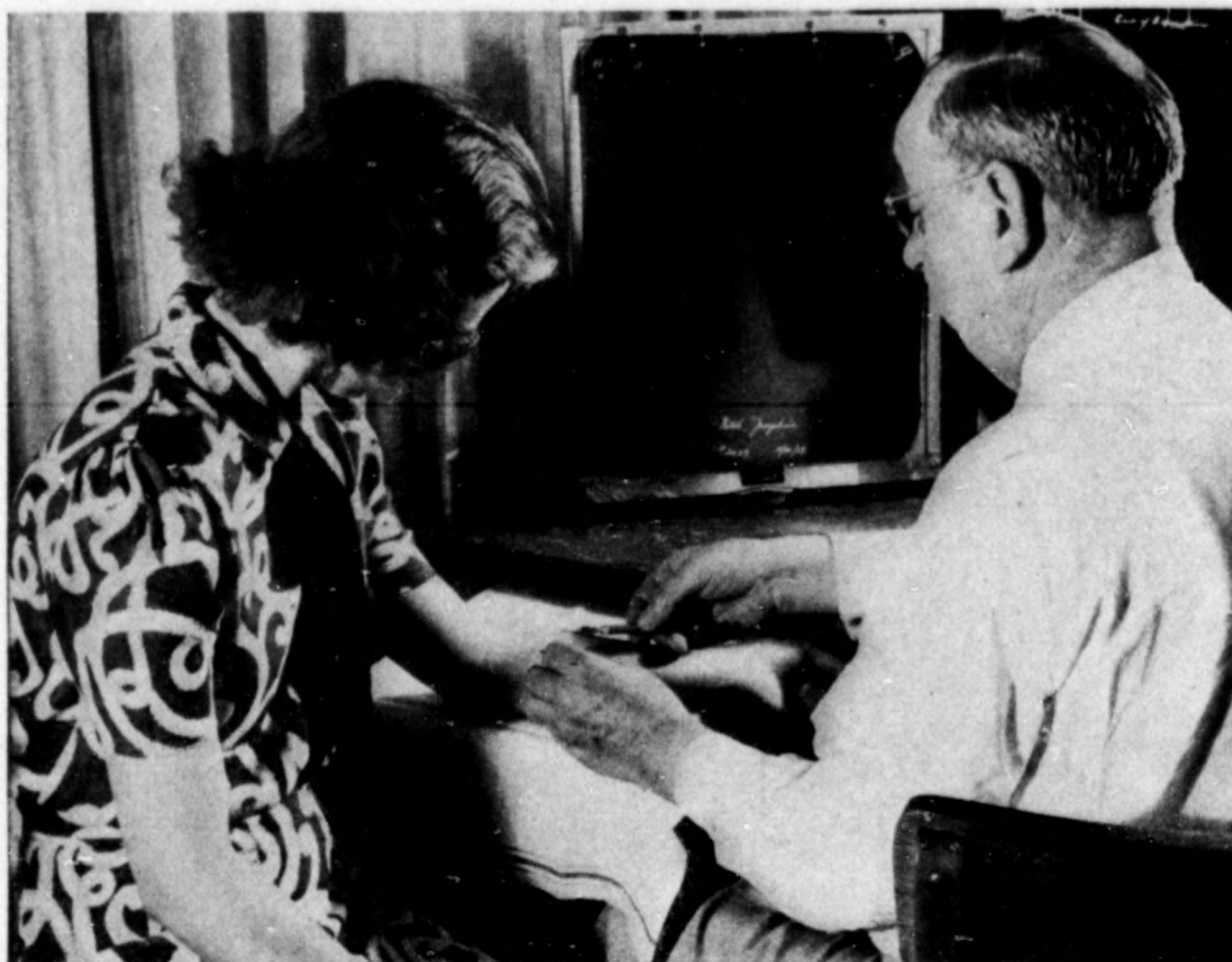
YOU will need a doctor to help you win out against T.B. bugs. If he is a good doctor, he will be your friend, and he will know two ways to tell if you have tuberculosis. The first way is by taking an X-ray picture. The other is by making a tuberculin test. These two signs can hardly miss. They should be used even if they do cost a little money.

If you can't pay a doctor, don't give up. In many places there are free clinics where you can go for help and advice. Get busy and find one of these.



### The X-Ray Machine Looks Right Through You

THE X-RAY picture is taken by a machine that can look right through your chest, just like you look through a black veil. Wonderful contraptions, too, these X-ray machines. It is not much trouble for the doctor to tell if your lungs are bad when he sees an X-ray picture. Of course, the doctor thumps your chest too—like you thump a melon—and listens to it and asks you questions about yourself. You must tell him everything. That helps him to know what the X-ray picture means.

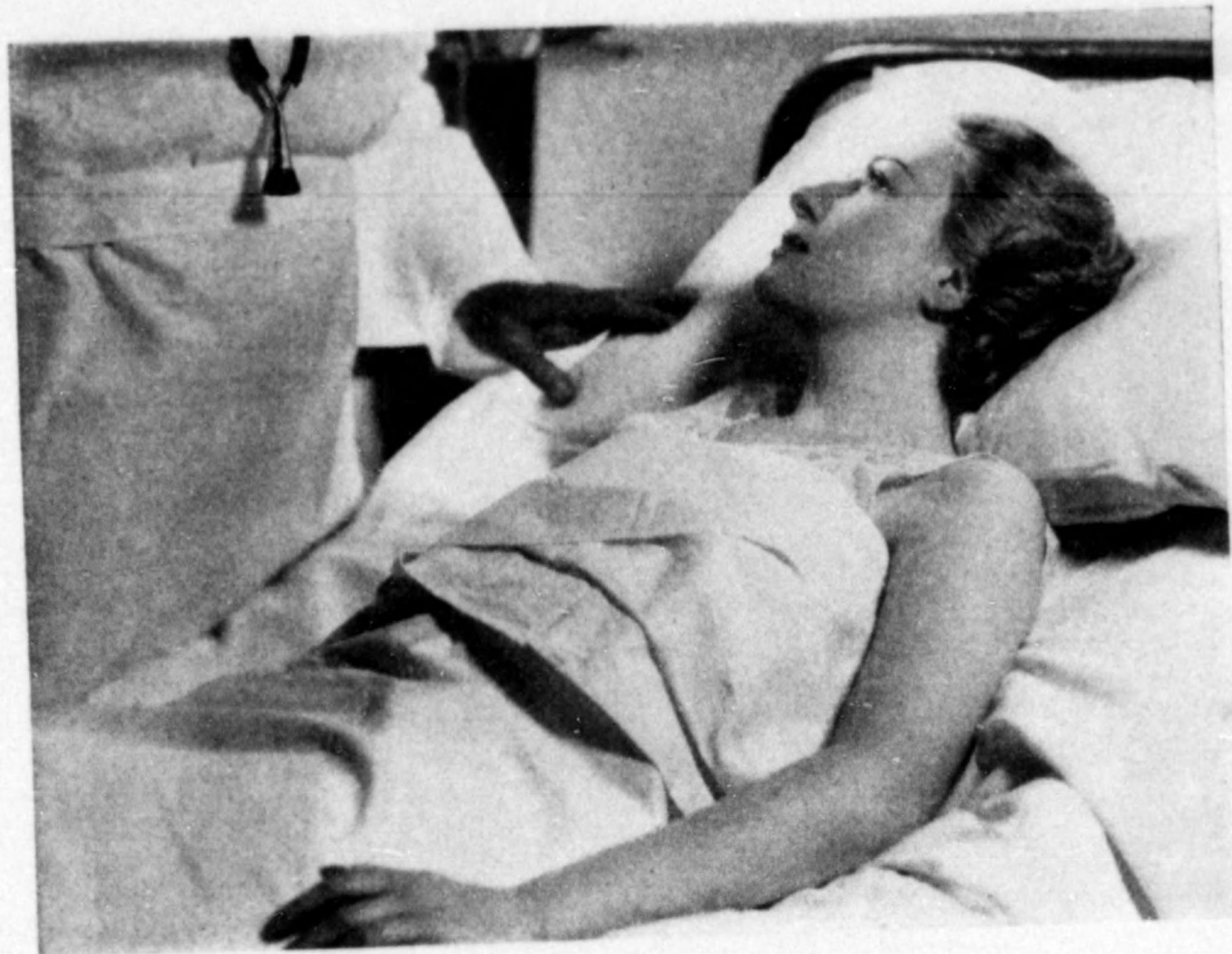


### **It Hurts No More Than A Mosquito Bite**

SOMETIMES the doctor is not sure by just looking at you if you ought to have an X-ray picture or not. So he uses another sign called the tuberculin test. This is an easy little skin test made with a harmless liquid he keeps in a small bottle. It does not make you sick and hurts no more than a mosquito bite. About two days later he looks at the place on your arm where he made the test. He can tell by the looks of the skin if germs are in your body. If he sees the germs are in your body, that's nothing to worry about either. But it means that you ought to have an X-ray picture to see if the germs have hurt your lungs.

When the doctor gets all through giving you the signs, he studies them all together. Then he tells you what's what. If you're all right, that's fine! If he says you have tuberculosis, maybe you feel like breaking and running. Never mind that.

Do exactly what the doctor says, and you have a good chance to get well. But you don't lick the T.B. bugs by talking about it, you must get down to business.



### **The Real Cure Is Rest**

DO not moan and grieve about yourself. You can get well if you do what the doctor says.

Rest as much as you can. Maybe you've been aiming to take a rest for a long time. Now is the time to take it. Stay in bed twenty-four hours every day.

Eat plenty of good food. That doesn't mean you have to stuff yourself. Just eat enough to gain weight gradually. Go strong on the milk. Eat eggs or meat one or two times a day. Vegetables are good for you. Make sure you get some that are fresh each day.

Be sure you get plenty of fresh air all the time. Don't freeze yourself when it's cold, and don't try to cook yourself in the sun when it's hot. Just make sure the room is cool and that some air is moving. **SLEEP BY YOURSELF.**

If you can make it, a hospital or sanatorium is the very best thing for you. When that's not possible, you can make sure you have a room to yourself and see to it that it is kept as clean as a pin.

**You Can Get Well Right Where You Are**

DON'T worry too much about going away for a change of climate. Travel costs a lot of money, and often it is wasted. You can get well right where you are if you do exactly what the doctor says and not what your neighbor and kinfolds say. Then when you get the bugs on the run, watch out for relapse. That comes from being in too big a hurry to get back to your work or fun. None of that. The person who has had T.B. must always be careful to keep from getting down again. Sleep plenty. Don't burn the candle at both ends. Remember that you had a close call. From now on get all the rest you need. Watch your step until you learn to stay well.

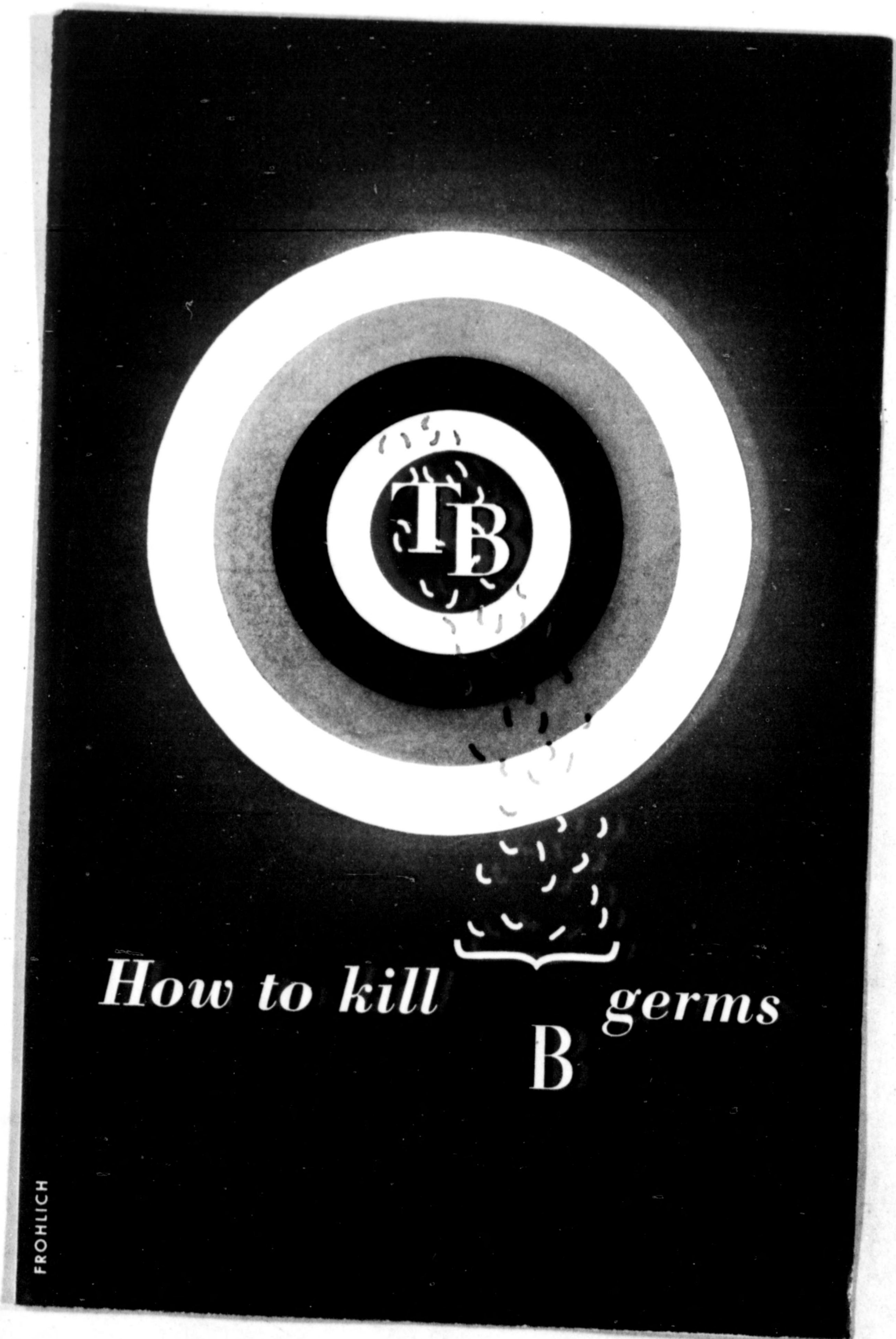


Christmas Seals paid for this educational pamphlet

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293





*How to kill* *germs*  
B

FROHLICH

# How to kill TB germs

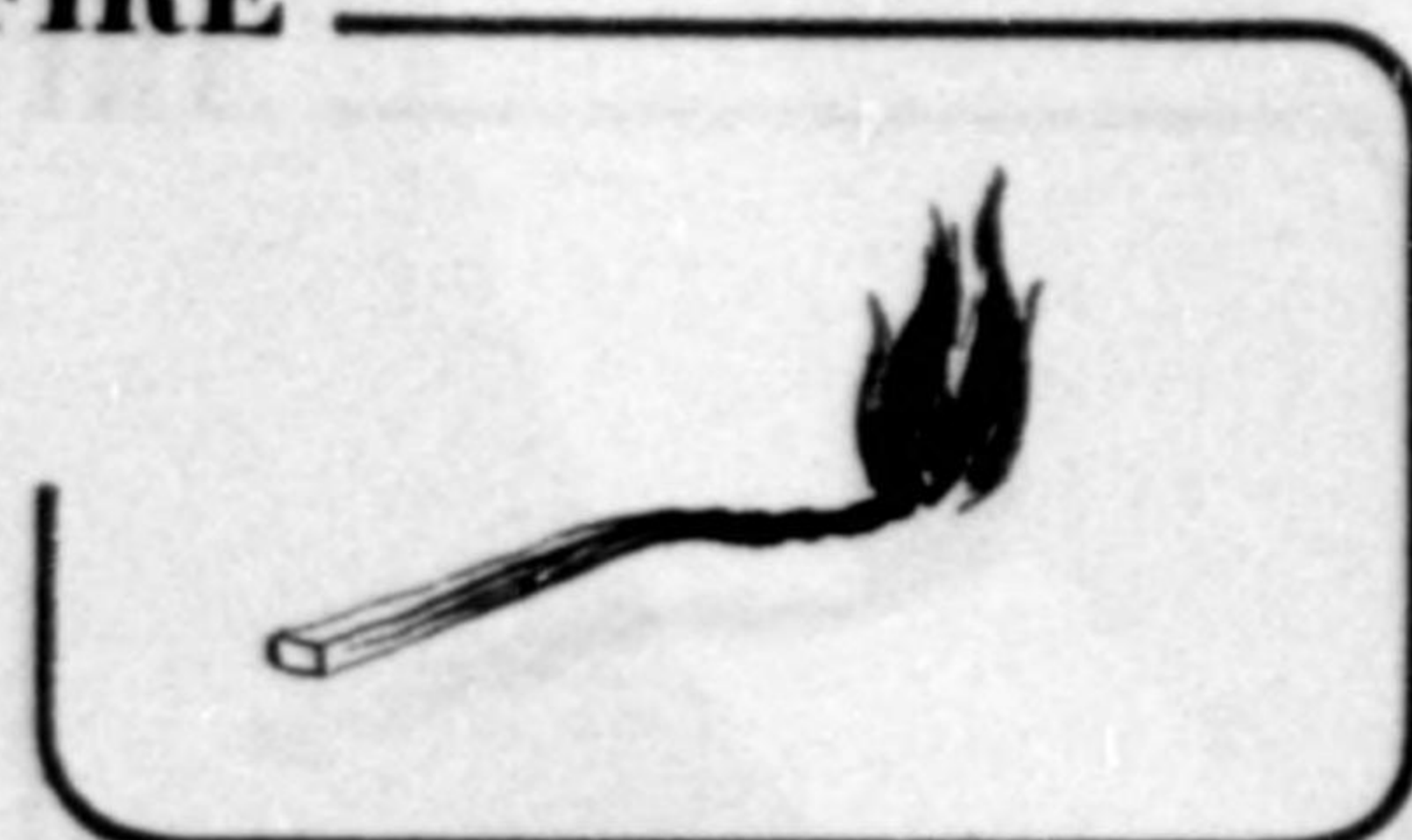
## OUTSIDE THE HUMAN BODY

### SUNLIGHT



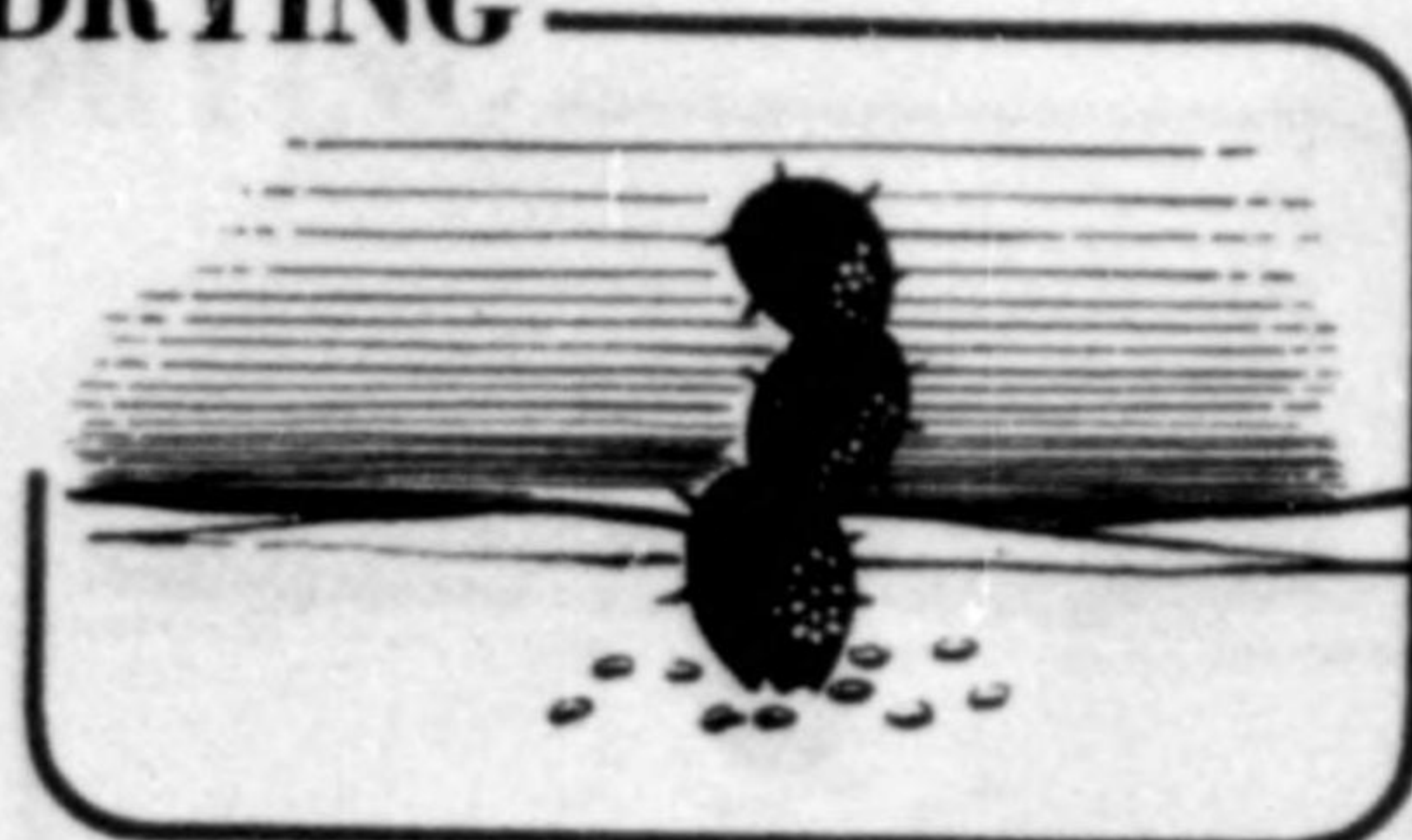
Sunlight, out-of-doors, kills TB germs in about 6 hours. In the shade TB germs stay alive at least 6 days. In cool, dark, moist places TB germs may live for months.

### FIRE



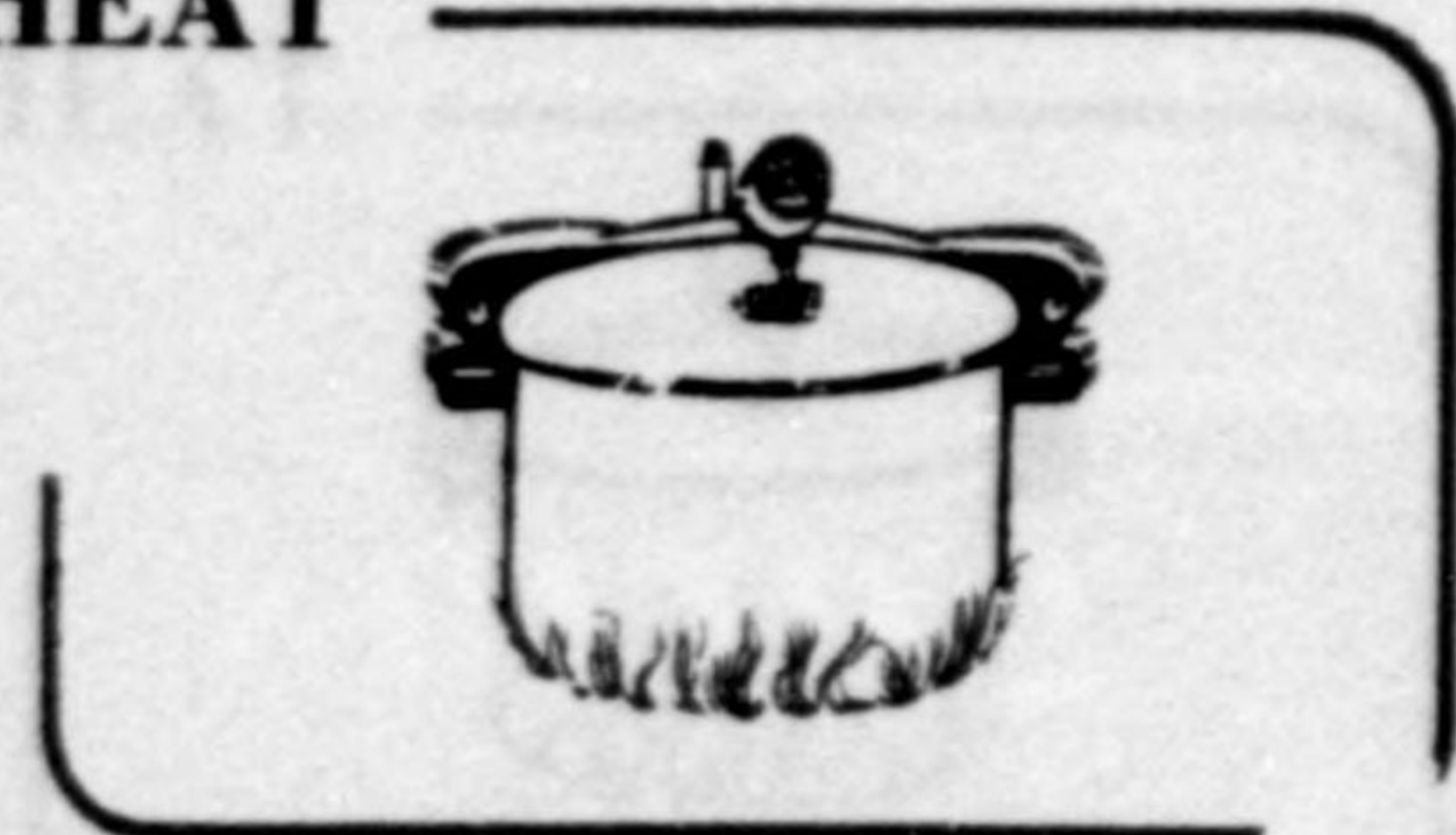
Fire kills TB germs. Germ-soiled things which are no longer useful should be burned.

### DRYING



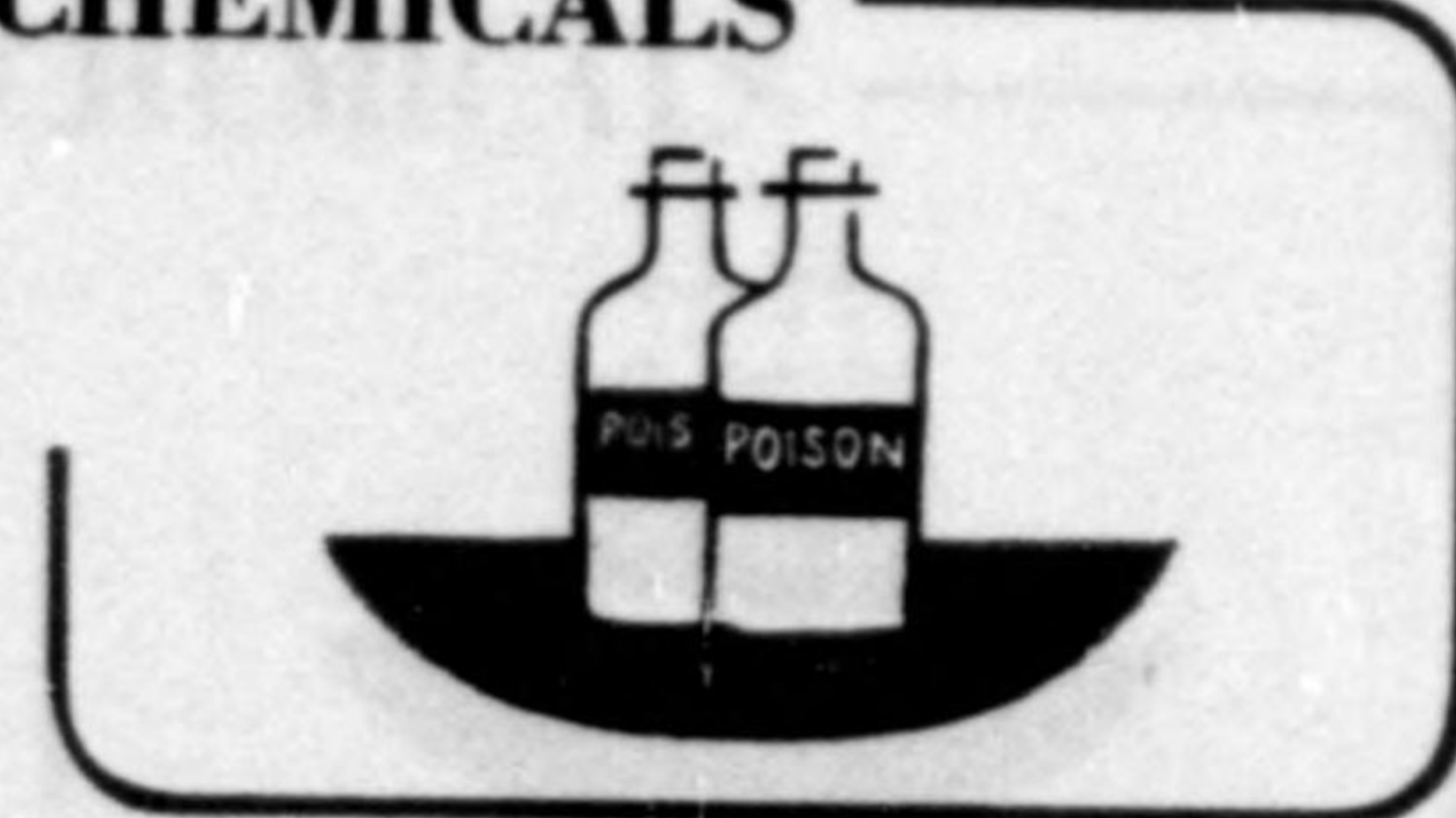
To kill germs by drying takes a long time. To be on the safe side, let things dry out in a light, airy place for 6 weeks.

### HEAT



Heat can be used to kill TB germs:  
1. By heating in an oven for one hour;  
2. By using fifteen pounds of steam in a pressure cooker for 20 minutes;  
3. By boiling in water for 10 minutes. Boiled eggs hatch no chicks. Boiled germs hatch no TB.

### CHEMICALS



#### WARNING:

Many disinfectants sold as germ killers do not kill germs. They often ruin valuable articles long before they kill the germs on them.

Tuberculosis germs can be found in what a sick person coughs up. This stuff is called *sputum*. These germs can spread TB to other people.

## THE RIGHT WAY TO GET RID OF SPUTUM



Tuberculosis germs do not crawl, walk, or fly. To get around they must hitchhike.

The quickest way to pass germs is from mouth to mouth. From mouth to hand is another way. Germ-soiled hands can spread germs to other things. Germs also ride like parachute troops in the fine drops of moisture shot into the air when people cough.

## STOP THE TRAVEL OF TB GERMS AND YOU STOP THE SPREAD OF TB

### PEOPLE WHO MAY BE SPREADING TB GERMS MUST FOLLOW THESE RULES:

1. Don't kiss.
2. Don't let others use your things.
3. Don't use other people's things.
4. Be careful to cover up every cough or sneeze.
5. Keep clean.



Cover Up Your Cough



Beware of Soiled Things

# How to deal with germ-soiled THINGS

## **SPUTUM**

The most important thing is to get rid of the sputum in the right way. The sick person should spit in paper tissues and place the used tissues in a paper bag. The filled bags should be burned.

## **EATING UTENSILS, DISHES, TABLEWARE**

The next important thing to do is to clean all things the patient has touched with his lips. Burn any food left on the patient's plate. The patient should have his own set of dishes. Do not mix them with the family dishes. Wash them well in hot water and soapsuds, scald with boiling water and allow to drain dry.

## **LINEN, COTTON GOODS**

Keep the patient's laundry apart from the family laundry. Boil the patient's laundry for 10 minutes. Dry it in the sun.

## **CLOTHES, SUITS, DRESSES**

Hang them out-of-doors in the sunlight for several days, or send them to be dry cleaned.

## **MATTRESSES, PILLOWS, RUGS**

Put them out-of-doors in the sunlight for several days. If they are badly soiled, burn them.

## **FURS, WOOLENS**

Hang them out-of-doors in the sunlight for several days.

## **BOOKS**

Stand the books on edge and fan out the pages so that light and air can get in. Store them in a light, airy place. Don't use them for 6 weeks.

## **ROOMS, FURNITURE**

Air them thoroughly and scrub with hot soapsuds.

**SOAP AND WATER ARE CHEAP**

**USE THEM TO HELP PROTECT AGAINST TUBERCULOSIS**



PUBLISHED BY THE NATIONAL TUBERCULOSIS ASSOCIATION



## ...You've had a chest X-ray

Perhaps you are wondering why an X-ray of your lungs was necessary.

- ◆ Are you going through a complete medical check-up? A chest X-ray is a vital part of a thorough examination.
- ◆ Are you being treated for a sickness that seems to you to have nothing to do with your lungs? A chest X-ray is important in all such cases, too.
- ◆ Did you enter the hospital to have some surgery done? It is a good safety measure to have a chest X-ray while you're there.
- ◆ Are you expecting a baby in your home? The doctor wisely orders a chest X-ray plus various other tests and examinations to protect the health of the mother and the baby.

Yes, the truth is that everyone, everywhere, needs a chest X-ray to make sure his lungs are healthy. And everyone needs an X-ray regularly, at the doctor's direction, to make sure his lungs stay healthy.

IT'S COMMON SENSE to X-ray the lungs of people who look and feel perfectly well. It's even more necessary to give this protection to folks who are under medical care. When a person is under medical care it is possible to make an X-ray picture of the lungs easily and quickly.

That's why you can feel very pleased that you have just had a chest X-ray

- no matter why you came to the hospital;
- no matter why you are a patient at the clinic;
- no matter why you decided to see your doctor.

You are lucky that you chose an up-to-date doctor, clinic, or hospital. You are protected by a chest X-ray. So are the other patients you meet. So are the nurses, doctors and others who take care of you. This protection works in all directions. It protects everybody.

SOME FACTS ABOUT CHEST X-RAYS . . . TB in the lung can be found long before you feel sick. First an X-ray picture of the chest, then an examination by your doctor will tell whether you have tuberculosis. If TB is found early and you start treatment at once you can get well sooner. If TB is not found early, getting rid of it is a tough job.

X-ray can find the trouble long before a person feels sick. Early discovery means early recovery.

Then, too, there are other lung diseases or heart conditions that may show up on an X-ray picture of the chest.

YOUR CHEST X-RAY BRINGS YOU GOOD NEWS . . .

. . . If it shows you have a healthy chest, that is GOOD NEWS!

. . . If it shows you have already fought a round with tuberculosis germs and have won, that is GOOD NEWS!

. . . If it shows you have TB in the early stage, before you have begun to feel sick, that, believe it or not, is GOOD NEWS, TOO!

Why? Because your chances for curing tuberculosis are excellent if it is found early, if you start treatment at once, and if you stay with it till you are well.

TO SUM UP: Tuberculosis is a disease that is caused by germs. Persons who have TB may spread their germs to other people. TB germs may cause serious trouble in the lungs. This trouble may stay hidden a long time unless a chest X-ray has a chance to show what damage is being done.

**Congratulations!**



**You can  
congratulate  
yourself**

that you went to a  
doctor, a hospital,  
or a clinic where  
every patient is given  
a chest X-ray.

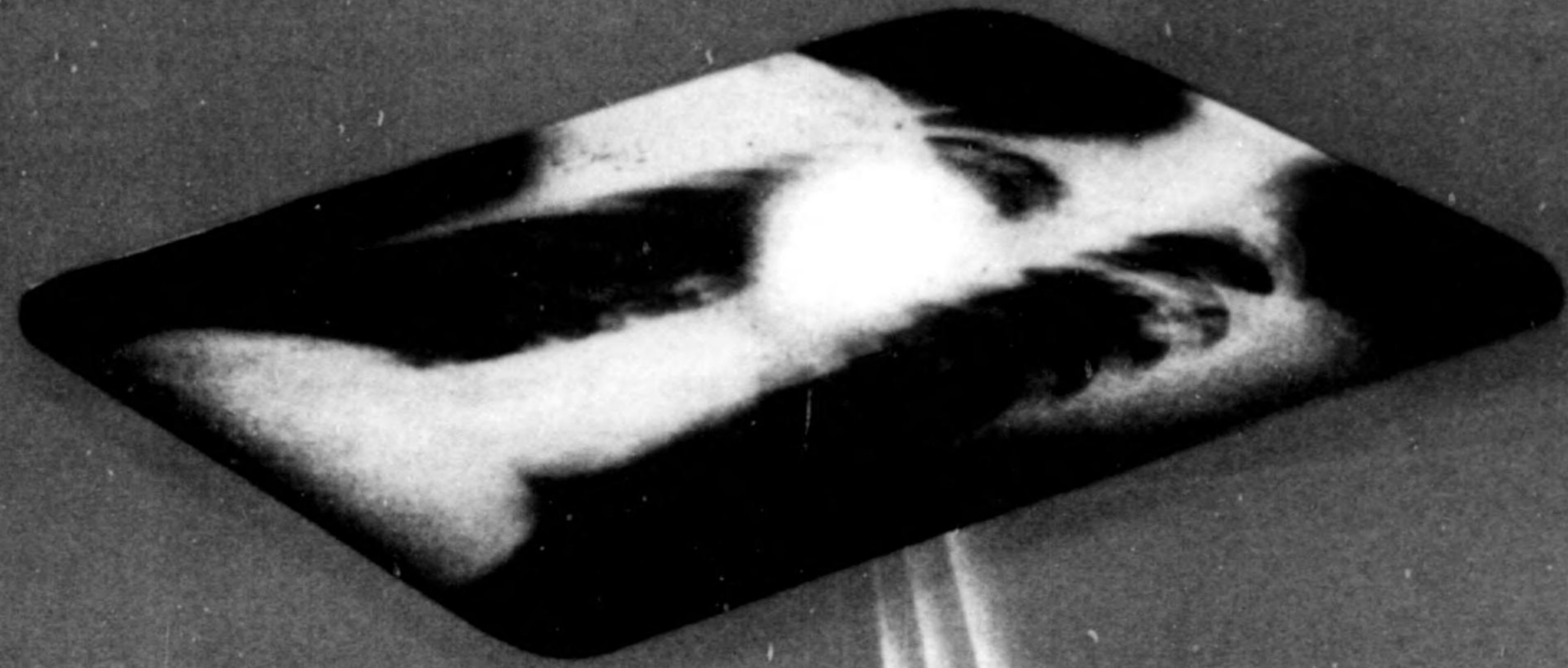
**Remember — nobody is safe until everybody is safe!**

**YOUR FAMILY DOCTOR, YOUR HOSPITAL, YOUR HEALTH  
DEPARTMENT, OR YOUR TUBERCULOSIS ASSOCIATION WILL  
GLADLY TELL ANYONE IN YOUR FAMILY OR AMONG YOUR  
FRIENDS HOW AND WHERE TO GET A CHEST X-RAY.**



PUBLISHED BY THE NATIONAL TUBERCULOSIS ASSOCIATION

# X-RAY



*will show  
tuberculosis  
long before  
you feel sick*

FROHLICH

## things you'll want to know about chest x-rays

**T**B in the lung can be found long before you feel sick. An X-ray picture of the chest and an examination by a good doctor will tell whether you have tuberculosis. If TB is found early and you start treatment at once you can get well again. If TB is *not* found early, getting rid of it is a tough job.

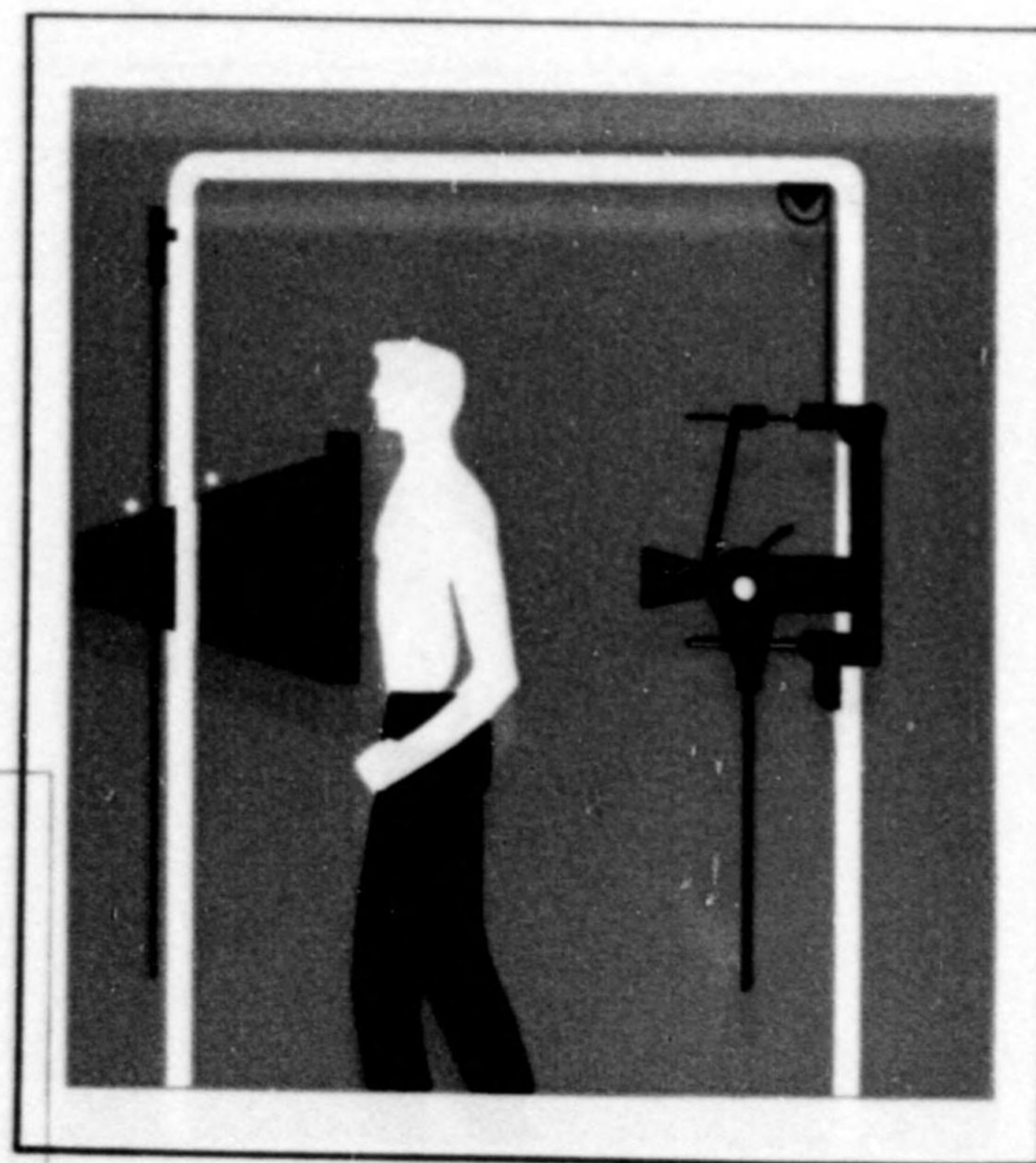
When TB germs make a home in the human body, they usually enter the lungs. Then one of three things can happen:

1. A healthy body may fight off all the germs. This is especially likely if the number of germs is small. Your *body resistance* is on the job all the time getting rid of dangerous germs. Many people don't know that their bodies have fought a round with tuberculosis germs and have come out the winner.

### WHY X-RAY? . . .

*Very often an X-ray picture shows scars of old battles.*

2. Sometimes the body can't defeat *all* the TB germs. Millions of people have



*Take a deep  
breath — Hold it.  
That's all.*

TB germs living in their bodies. These germs wait for *body resistance* to weaken. The body holds its own against the germs. The battle goes on. Neither side is winning.

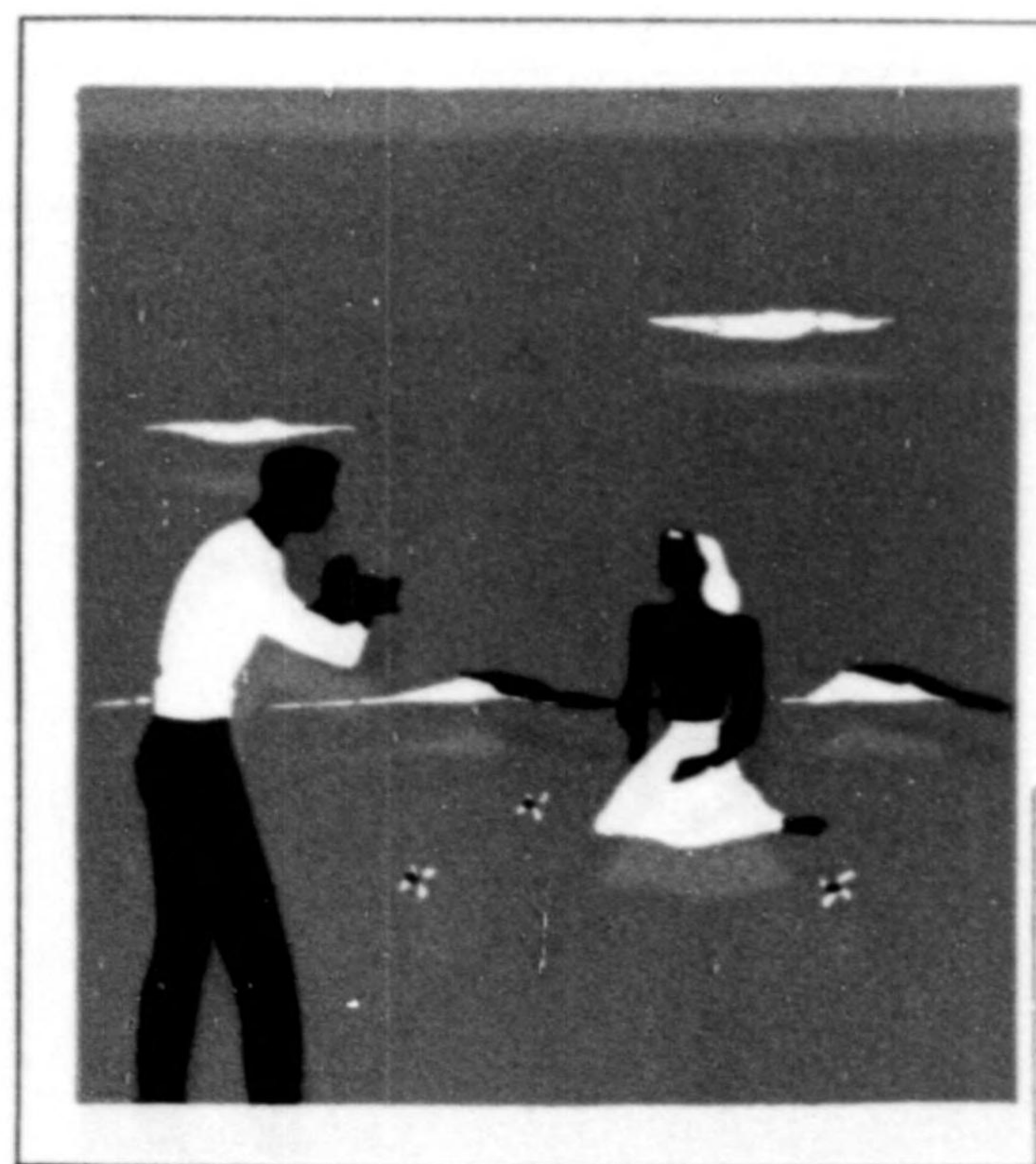
### WHY X-RAY? . . .

*A chest X-ray can tell the doctor that a battle is in progress. To keep an eye on how the battle is going the doctor will want to have more X-rays and careful examinations and tests.*

3. Sometimes the body needs help if it is to win the battle. Tuberculosis germs can attack in such numbers and with such power that body resistance can't fight them off. Once the germs get the upper hand the body is in for trouble. A person whose body is losing the fight against TB germs may not feel sick right away. After a while he loses his pep and feels tired all the time. He may begin to cough, and to spit blood.

### WHY X-RAY? . . .

*X-ray can find the trouble long before a person feels sick. Early discovery means early recovery.*



*It's just like  
having your  
picture taken.*



## YOUR CHEST X-RAY BRINGS YOU GOOD NEWS . . . .

- . . . If it shows you have a healthy chest, *that is GOOD NEWS!*
- . . . If it shows you have already fought a round with tuberculosis germs and have won, *that is GOOD NEWS!*
- . . . If it shows you have TB in the early stage, before you have begun to feel sick, *that is GOOD NEWS, TOO!*

Why? Because your chances for curing tuberculosis are excellent if it is found *early*, if you start treatment *at once*, and if you stay with it till you are well.

**Look over this list. If you find yourself in it... you need a chest X-ray**

### CHECK YOURSELF!

If you are on this list you need a chest X-ray.

I have never had a chest X-ray.

I have not had a chest X-ray in the last two years.

There has been TB in my home.

I have worked with someone who had TB.

I want to know that my lungs are OK.

### DANGER CHECK LIST

I feel tired all the time for no good reason. My appetite is poor and I am losing weight.

I catch cold easily and it takes a long time to get over it. I have a cough that hangs on.

I have been told I have a congestion in the lungs, bronchitis, asthma, heart trouble or sinus infection, but I have not had my chest X-rayed.

**ASK YOUR FAMILY DOCTOR, YOUR HEALTH DEPARTMENT, OR YOUR TUBERCULOSIS ASSOCIATION WHERE YOU CAN GET A CHEST X-RAY**



PUBLISHED BY THE NATIONAL TUBERCULOSIS ASSOCIATION

SAFEGUARD YOUR CHILD AGAINST...

# *typhoid fever*



***What is the Nature of Immunization  
Against Typhoid Fever?***

This is a simple, rapid, efficient method of immunization by means of a vaccine, which has been proven in both World War I and World War II.

***Who Should Receive This Immunization?***

All children and adults should receive this immunization who are likely to be exposed to typhoid fever organisms, either through the handling of patients, through consuming contaminated water, milk, or other liquids, or foods. Those who are likely to live in the tropics particularly need this protection.

***When Should This Immunization Be Practiced?***

Vaccination may be given at any time, in infancy, childhood, youth, or adult life.

***What Results Are Accomplished By This Immunization?***

Vaccination provides a complete immunity in almost all cases. In populations such as Army personnel, who were vaccinated en masse with the combined vaccine, both typhoid and paratyphoid fevers were essentially eradicated.

***Who Should Apply This Immunization?***

Your physician, or a trained nurse under his supervision, in his office, at your home, or in a clinic.



Litho in U. S. A.

4266-250-KML 5/47

COMMON CHILDHOOD INFECTIONS!

SAFEGUARD YOUR CHILD AGAINST...

# *tuberculosis*



### ***What is the Nature of This Test Against Tuberculosis?***

This is not an immunization, since there is no known method of immunizing against tuberculosis. However, this test is of great benefit in "screening" campaigns to ascertain persons who are "susceptible" to tuberculosis. It is the first step in locating possible cases of tuberculosis for further study. This test does not hurt and is as simple and easy as wearing a small strip of adhesive tape for two days. If all students were patch-tested once a year, infections and early cases would be brought to light for further study and care at the stage when there is the best opportunity for cure and the prevention of spreading the infection.

### ***Who Should Receive This Test?***

Every student in school should have the benefit of an annual test by means of TUBERCULIN PATCH TEST (VOLLMER) *Lederle*. Adults should be tested where there is suspicion of late tuberculosis.

### ***When Should This Test Be Given?***

The test should be applied preferably at the beginning of the school year, so that further testing may proceed at once and students or others who actually have tuberculosis may be spared the effect of

intense school activity upon a disease which usually can be promptly arrested if treated by proper means.

### ***What Results Are Accomplished By This Test?***

The majority of students show no reaction at all. Even if two red spots like those in the picture appear after the tape is removed, it does not mean that active tuberculosis is present. It simply indicates that a further examination should be made of the case by means of X-rays and physical examinations, since the person either has had, or has, tuberculosis. Un-suspected cases can thus be detected. The earlier the disease is treated, the more promptly it will be halted.

### ***Method of Using This Test***

One of the simplest, easiest, and most efficient ways to track down unsuspected tuberculosis is by means of the Tuberculin Patch Test. TUBERCULIN PATCH TEST (VOLLMER) *Lederle* is a strip of adhesive tape on which are three little squares of paper. Two of the squares contain the testing material, and the third square checks the accuracy of the test. The adhesive tape is left on the skin for two days, then removed, and two days later the result can be interpreted by the physician making the test.

***Do not let the test strip get wet! Do not take the test strip off to look under it!***

D9

**Food**

+

**FOR THE  
TUBERCULOSIS  
PATIENT**

STATE DEPARTMENT OF HEALTH  
G. F. MATHEWS, M. D., COMMISSIONER  
OKLAHOMA CITY, OKLAHOMA

ICE CREAM

TRADE A

## WHY GOOD FOOD IS IMPORTANT

1. Good food, properly prepared, combined with rest and treatment will help you to recover.
2. It helps to build up resistance against disease germs.
3. It builds and repairs body tissues.

## DAILY FOOD

Three well-balanced meals a day, eaten at regular dining periods are the basis for the diet treatment of a tuberculosis patient.

Between-meal feedings may be given in some cases, but if it interferes with the appetite at regular meal times, it should be omitted.

Foods from each of the following groups should be included in the daily diet:

### *Green and yellow vegetables:*

(Raw, cooked, frozen, canned, or dried) greens, such as - turnips, beets, mustard, kale, spinach, leaf lettuce and

peas, beans, okra, carrots, squash, corn, sweet potatoes.

### *Citrus fruits:*

Oranges, tomatoes, grapefruit, lemons, limes, tangerines

### *Potatoes and other fruits and vegetables*

Head lettuce, lima beans, cucumbers, parsnips, onions, sauerkraut, turnips, apples, bananas, cherries, grapes, raisins, etc.

### *Milk and milk products*

One quart of whole milk a day -  
Cheese of all kinds  
Ice cream

*Meat, poultry, fish, eggs, liver, (or dried beans, peas, nuts, or peanut butter)*

### *Butter or fortified margarine*

### *Bread, flour, and cereals*

Whole grain or enriched

### *Water*

Four to six glasses a day

## MEAL PATTERNS

### *Breakfast*

Fruit or fruit juice  
whole grain cereal or egg  
Whole grain or enriched bread  
Butter or fortified margarine  
Milk

### *Lunch or Supper*

Meat or meat alternate  
Vegetable, raw or cooked  
Whole grain or enriched bread  
Butter or fortified margarine  
Milk  
Simple dessert or fruit

### *Dinner*

Meat, fish, or poultry  
Potato  
Vegetables - green or yellow  
Whole grain or enriched bread  
Butter or fortified margarine  
Milk  
Fruit or simple dessert

(For further information write to Nutrition Service, State Department of Health, 3400 North Eastern, Oklahoma City, Oklahoma)

### SOME FACTS YOU SHOULD KNOW

1. A person with uncomplicated tuberculosis does not require a special diet.
2. The daily diet should include the seven basic food groups, with plenty of the protective foods such as fruits, vegetables, milk, meat, eggs, and whole-grain cereals.
3. A constant slight gain in weight (one pound weekly) is desirable if the patient is underweight, but he should not be allowed to gain more than 15-20 pounds beyond his normal weight. Excessive gain in weight does not necessarily mean improvement.
4. Vitamin pills or capsules should be taken only upon prescription by a doctor.
5. Too much food often causes indigestion, but if the doctor advises, lunches between meals may be given that consist of milk, fruit, or fruit juices.
6. An excess amount of sweets is not good.

### FOR THE ONE WHO PREPARES THE MEALS

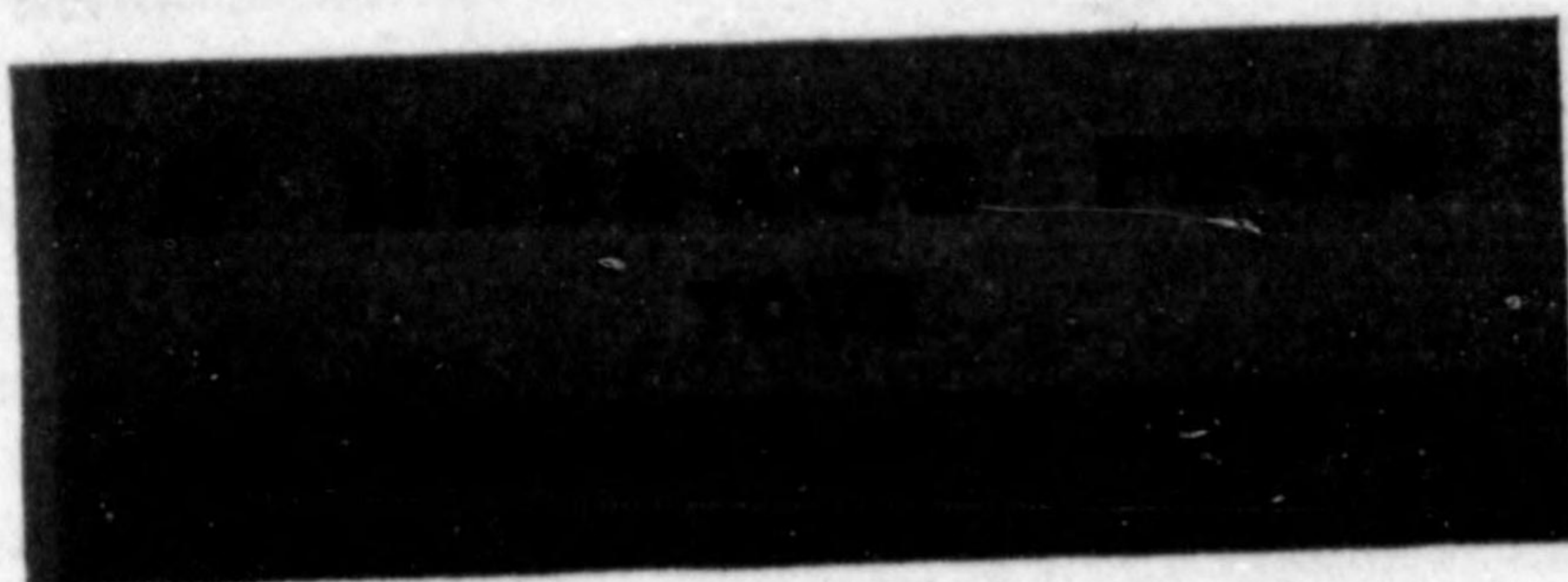
1. Cook vegetables in a small amount of boiling, salted water, *only until tender*. Cook in a covered vessel.
2. Use the cooking water in soups, gravies, and vegetable drinks.
3. Serve lots of raw fruits and vegetables.
4. Steam or bake vegetables whenever you can to save their protective qualities.
5. Never use soda in cooking vegetables.
6. Don't let peeled or cut-up raw fruits and vegetables stand before cooking or serving.
7. Whenever possible, broil meats, instead of frying. Roasting meats at a low temperature is desired.
8. When serving foods, make the tray attractive. Use clean linens. Never overcrowd the tray with food.

D9

THE  
CURED

AND THE

WAVE CURED  
WAVE CURED



≠

is a niche for you — be sure of that — a niche which you can fill, and fill well.

I have known many cured and half-cured tuberculous patients. The first group get along very well, and to many of them tuberculosis is only a half-forgotten memory. Those who were satisfied with half-cures lead an up-and-down existence. They work for a while — then they must quit and rest for a while. They get nowhere because they were not willing in the first place to take the time they needed to **CLINCH THEIR CURE.**

When jobs are easy to get, there is great temptation for patients with tuberculosis to jump the gun, especially if their cure is progressing well. To be out earning good money *now* weighs heavily in the balance against taking the time necessary to **MAKE THE CURE COMPLETE.**

Don't yield to that temptation. It's a terrible mistake. There isn't a job in the world worth the dangerous gamble. The proof?

If you're a half-cure, you'll lose the job anyway.

If you carry through until your cure is **COMPLETE AND SUCCESSFUL**, you will not only be able to land a better job — you'll hold it!

#### **ABOUT THE AUTHOR**


*During his battle with tuberculosis, Will Ross laid the plans for the successful business career that has made him a distinguished citizen and president of two thriving commercial enterprises.*

*He has done much to help his fellowmen defeat tuberculosis. Devoted service to tuberculosis associations has been given at local, state and national levels. For the period 1945-46, he was elected President of the National Tuberculosis Association.*

Printed as a rehabilitation project at  
Potts Memorial Institute, Livingston, N. Y.

NTA-300M-3/46





**It's not supposed to**

**you**

**happened to  
be one of the  
half-million  
persons in the  
U.S.A. who have  
tuberculosis**

**...What could you count on  
to help you get well again?**



**FIRST** of all, let's hope your TB was found early—that you got a chest X-ray while you still felt fine.

Your doctor tested and studied you, decided you needed care at once. You followed his orders and started treatment without delay.

What the doctor ordered, of course, was *rest*. For rest is still the biggest, surest part of treatment for anyone who has TB. The whole patient must rest. So must the sick lung. The constant search by scientists for a drug to cure human TB has not succeeded yet.

If the body is to rest, gather its fighting powers and heal its damaged tissues, it must take "time out." Naturally, the best place to rest is in bed.

Where should a TB patient go to bed? Not at home, but in a modern sanatorium or TB hospital. Here there are skilled doctors and nurses. The patient gets the right kind of food, fresh air, quiet nights and restful days. He enjoys the companionship of others who are "in the same boat." He learns how to live so that TB won't knock him off his feet again later on.

Suppose you did go to such a sanatorium. Left behind would be your family, your friends and others you lived and worked among. That's not pleasant, but it has its good side. Because then you couldn't spread deadly TB germs to healthy people. And you could have visitors, safely, when the doctor allowed them.

Sometimes rest in bed is not enough. Your doctor might decide you needed surgical treatment as well. There are various ways, many of them quite simple, of giving the sick lung extra rest, causing it to relax, do less work, heal more quickly. TB hospitals and sanatoriums are equipped to give expert surgical help.

Like every sick person you would worry about your work. But there are specially trained people ready to help you rehabilitate yourself. That long word just means getting you strong enough for your old job or preparing you for a new one better suited to your strength and future safety. Private and government rehabilitation advisers would aid you in finding and holding that kind of job.

*well...*



*well,*

... How did it feel to make believe you were a TB patient? Not too comfortable — yet a long way from hopeless. For you were lucky. Your TB was found early, treated promptly and properly. • Let's agree, then, that health is something it doesn't pay to guess about or gamble on. Your family doctor, the health department, or your Tuberculosis Association will tell you how and where to get a thorough physical check-up. This includes an X-ray of your lungs. • Then you needn't suppose you're O. K. You'll know for sure!



Every dollar you contribute  
helps to pay the cost of  
tuberculosis control  
and treatment.

D9

# Tuberculosis

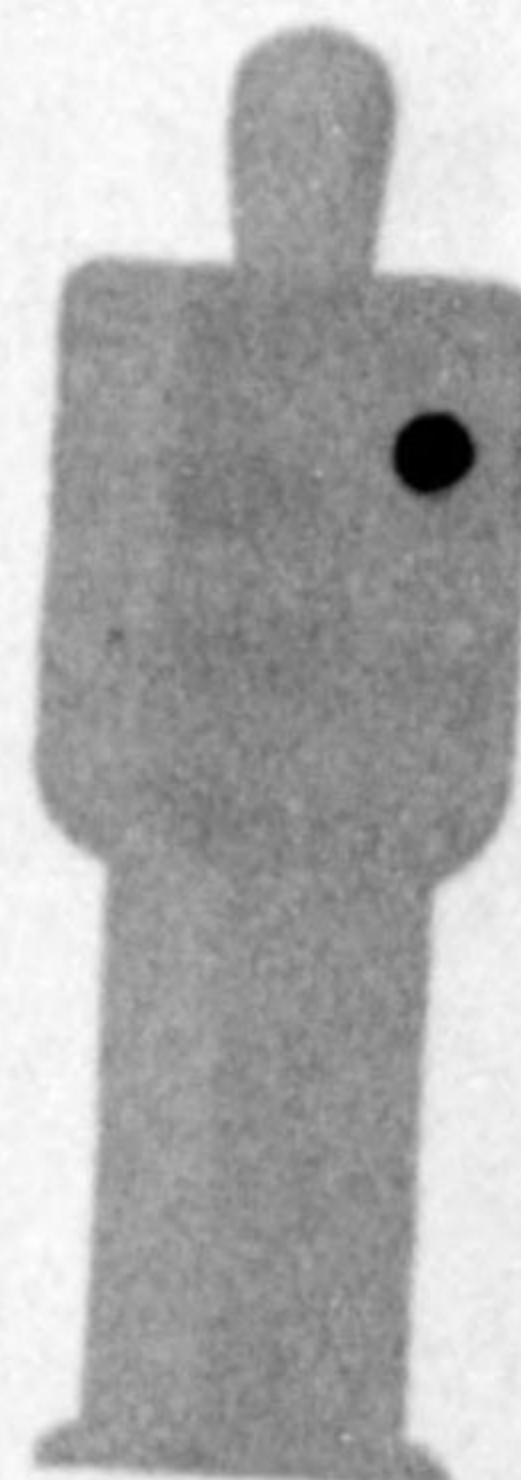
Facts in Picture Language



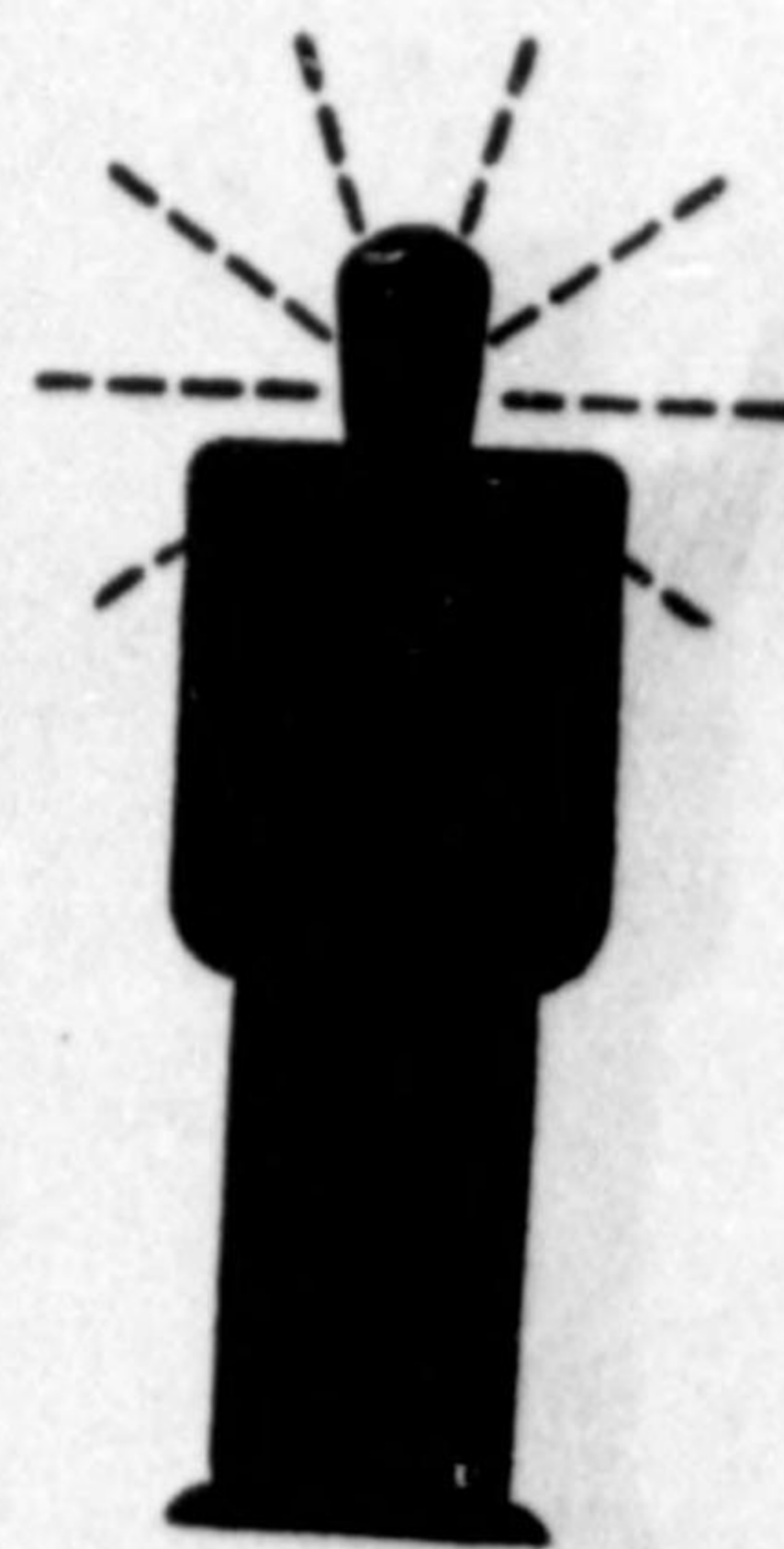
healthy



infected



healed



sick

## TUBERCULOSIS

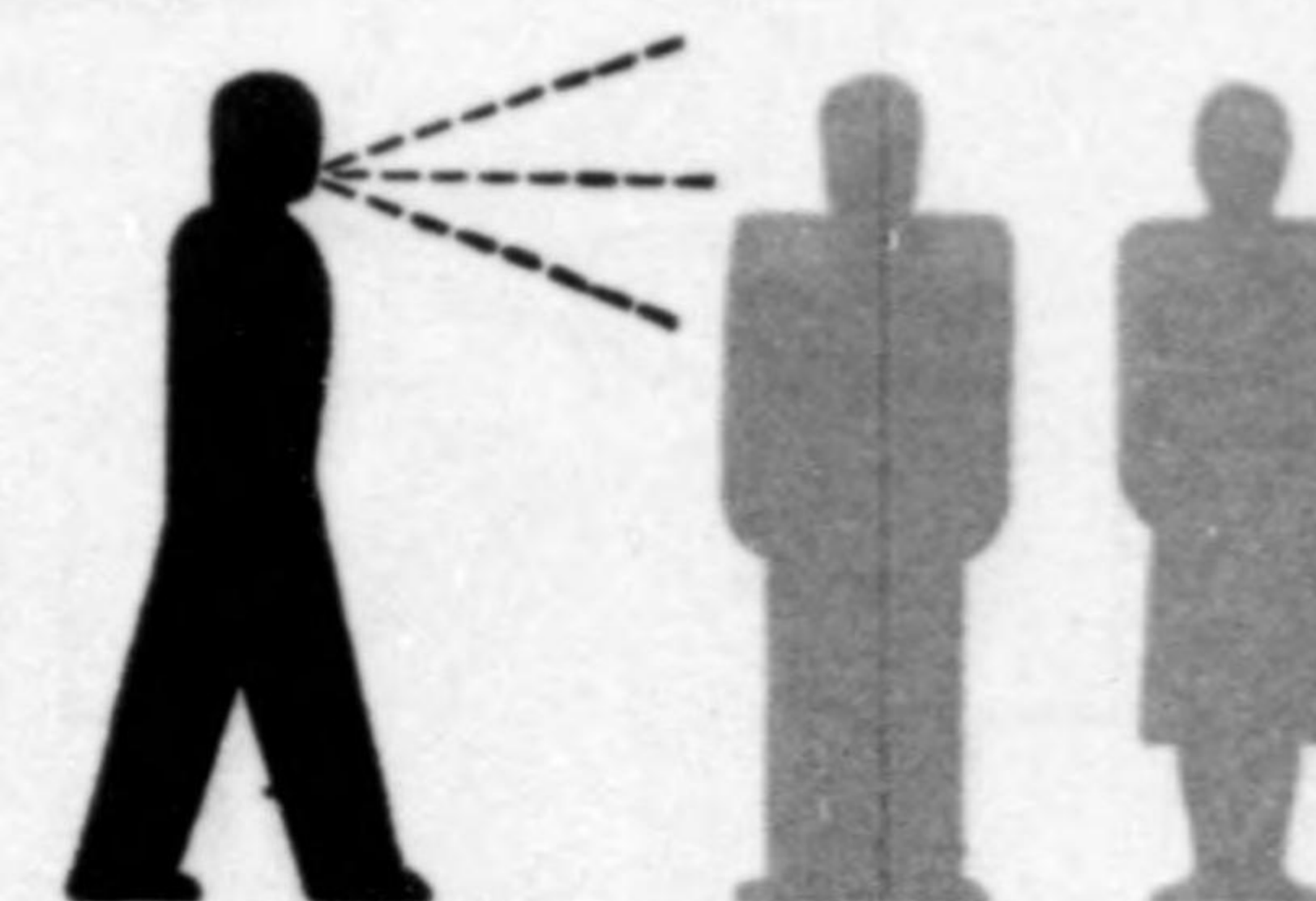
Every case of tuberculosis comes from another case. The disease is not inherited. It is caused by living germs too small to be seen without a microscope. These germs grow in the body of a person who has the disease. When passed to a healthy person the germs may cause the disease in his body also.

However, the germs do not always cause the disease because the body fights back and keeps the germs from spreading and doing harm. The first time germs get into the body (first infection) the slight damage they may cause is usually healed in a short time and only a few small, firm scars are left.

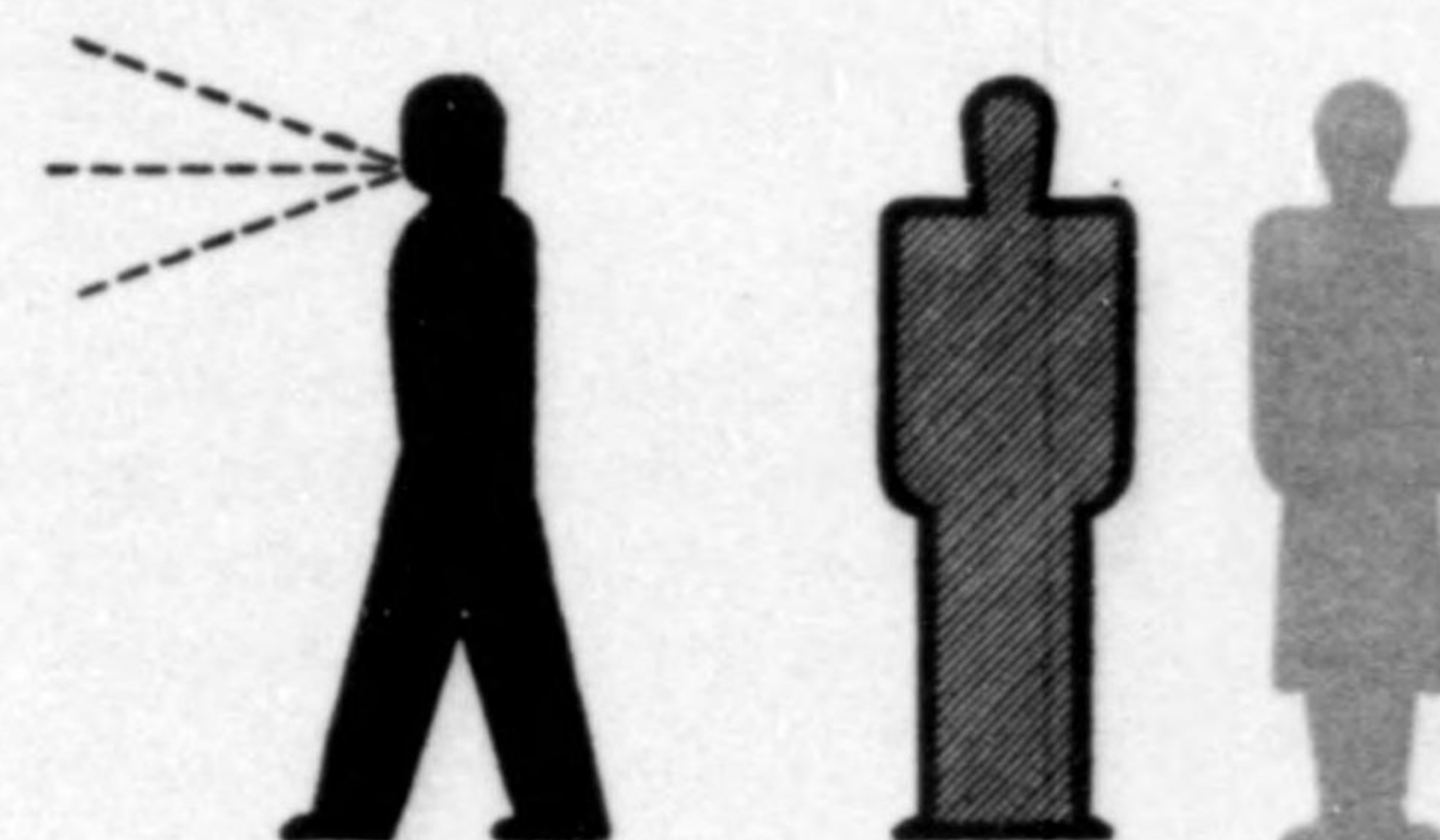
But if the germs at any time in life gain the upper hand in the battle, the lungs become diseased. If discovered early, this form of tuberculosis also can be healed. If neglected, the disease may get worse and finally cause death.

The reason why tuberculosis often spreads through a household is that the sick member is in close contact with other members. The disease is spread from one to another. The pictures show one way in which the disease may be brought into and then spread within a household.

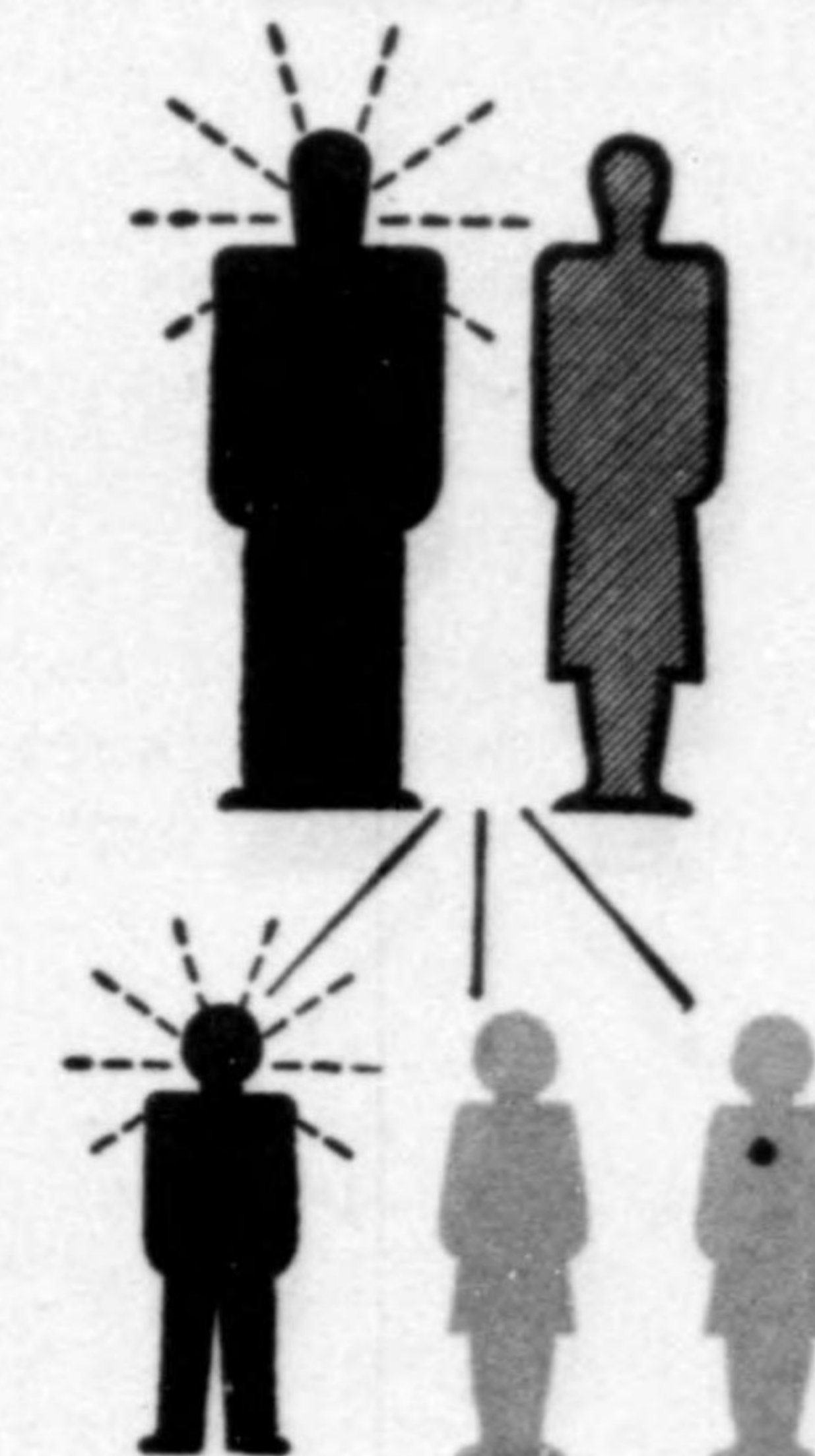
A relative or boarder who has tuberculosis comes to live in the home of this healthy man and wife. One or both are likely to get the disease from him.

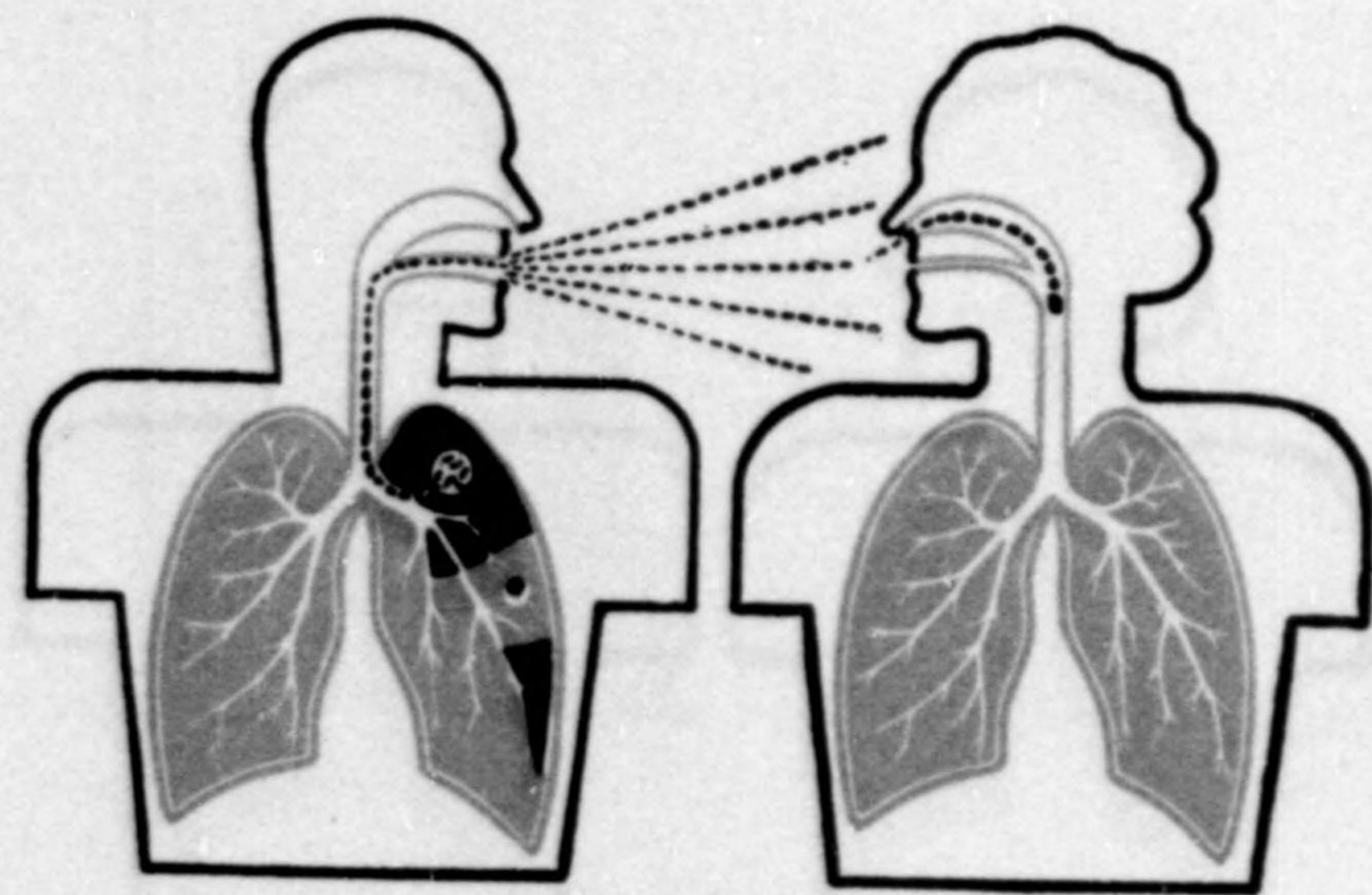


About one year later the boarder leaves the household. Meantime the husband has been infected by the boarder, though he shows no signs of sickness.



Tuberculosis has spread in the family. The husband is sick with tuberculosis. The wife is infected but not sick. The oldest child also has tuberculosis. The second child is in perfect health. The youngest (with black spot) shows an infection which has healed.





The germs that cause tuberculosis grow in the lungs of the person who has the disease. These germs are very small. From the lungs they get into the mouth and on the lips. A tuberculous mother kissing her baby may plant the germs directly onto the child's lips.

The germs may be coughed or sneezed in tiny droplets of sputum into the face of another person. By sleeping in the same bed together, a sick person may spread the germs to a well person.

People who have tuberculosis sometimes spit on the ground. A child may later pick up germs on his fingers and carry them to his mouth.

All personal articles that touch the mouth such as spoons, forks, drinking glasses, handkerchiefs and so on may be the means of carrying germs from one person to another.

[4]

Once the germs are in the mouth of a healthy person they may find their way into the lung. While no two cases of tuberculosis are exactly alike, these pictures show in general how the disease develops.



Tuberculosis germs have entered the lung for the first time and have gained a foothold over a portion of it.



In most cases this condition heals in a few weeks, leaving only a scar. The person may not even feel sick.



Later, tuberculosis germs may again attack the lungs and the result may be serious disease. Unless promptly treated, it may spread.



The disease has spread and a large hole or cavity has formed in the upper portion. From this cavity may come millions of germs.

[5]



Tiredness or fatigue that comes on too easily or for no good reason may be due to tuberculosis.



Loss of weight means that something is wrong. Tuberculosis may be the cause.



Cough that hangs on for 10 days or more is a signal that should not be passed by.



Indigestion and poor appetite are not diseases but both may be due to tuberculosis.



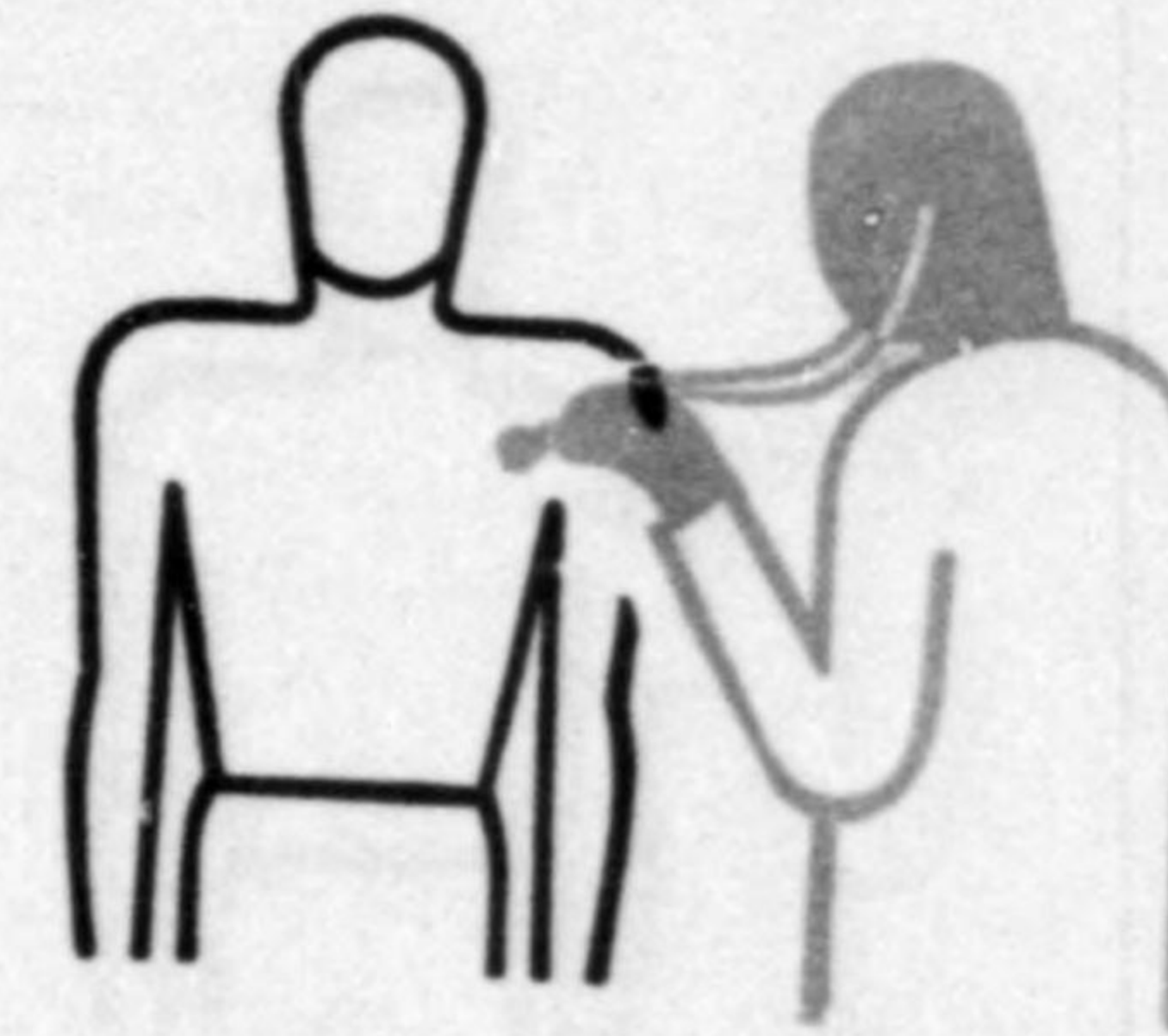
Blood spitting or any blood coming from the mouth, even if it is only a red streak in the sputum, is a danger signal.

These are common warning signals of tuberculosis. None of them means that one has tuberculosis but each may be caused by tuberculosis and should cause one to go to the doctor or the clinic at once.

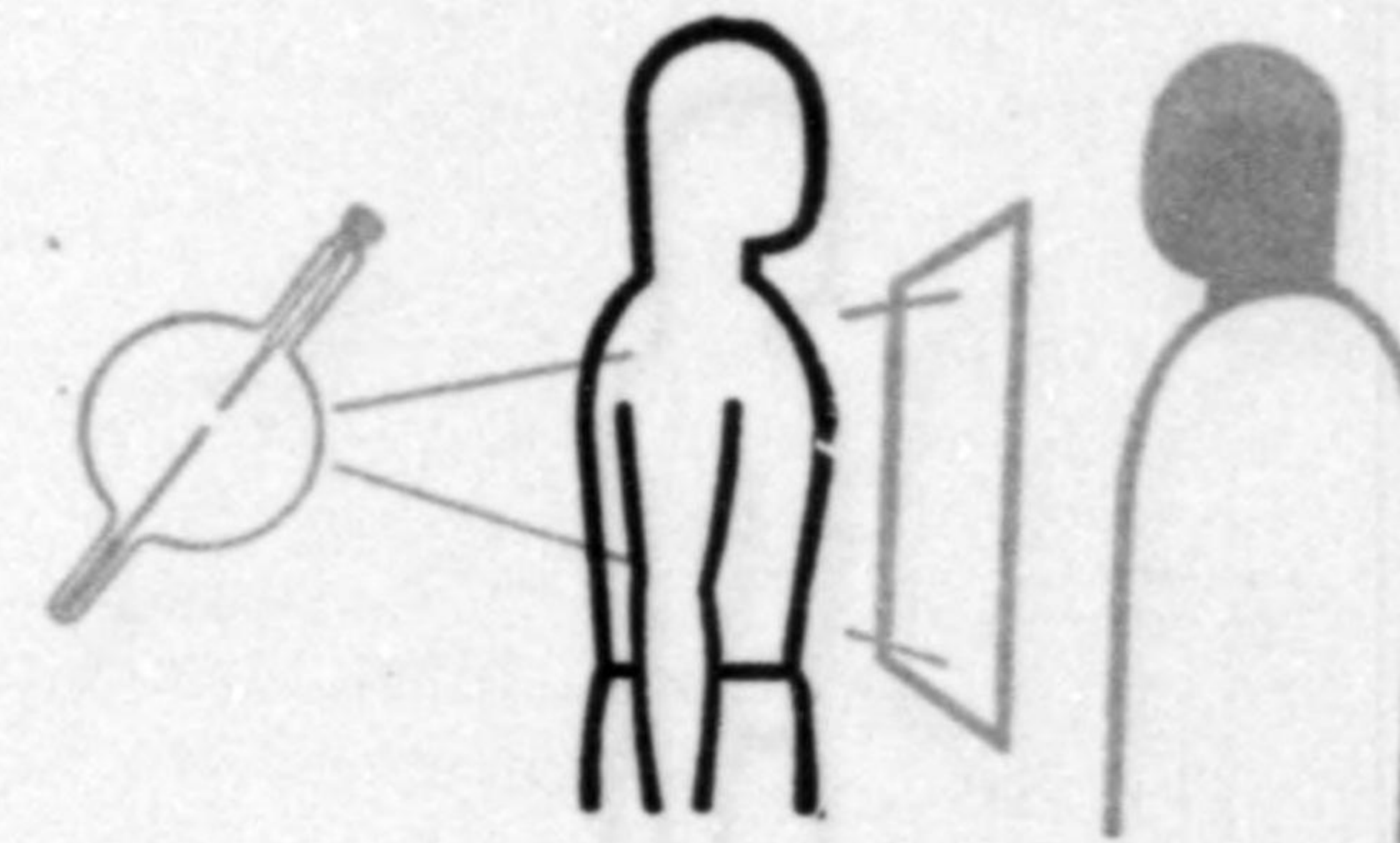
[6]



Only the doctor can tell who has tuberculosis.



He examines the whole body. His practiced ear knows what the sounds made by breathing mean. He has the sputum examined.



The X-ray makes a picture of the lungs and shows where the trouble is.

[7]

Tuberculosis can be cured. Rest, good food and fresh air are necessary to get well from tuberculosis. But what is needed most is a good doctor. The best place to get well is at a tuberculosis hospital or sanatorium where everything is planned to help people fight the disease.

If there is no sanatorium, every citizen should urge that one be built. Tuberculosis is a burden so great that all should share the cost of caring for those who have it. The sanatorium is the surest means of protecting the well. Persons who are in the sanatorium cannot spread the disease to others. Without a sanatorium, no home is safe.

Great care should be taken by those who have the disease to prevent the spread of the germs to others, especially to children. Kissing is absolutely forbidden. The sick person should have his own dishes, knives, forks, and spoons and these should be well scalded after use. The sputum must be destroyed and the best way is to burn it. The sick person should sleep alone.

While tuberculosis is growing a little less common each year there are still thousands of people in the United States who have the disease. Avoid coming in close contact with tuberculosis. Try to build strong health. To do this, good food, sunshine, plenty of sleep and saving yourself from strain of mind and body, are important. Happiness, interest in one's work and play and the joy of living, are helpful, while worry, fear, anger and poor living conditions give the disease a chance.



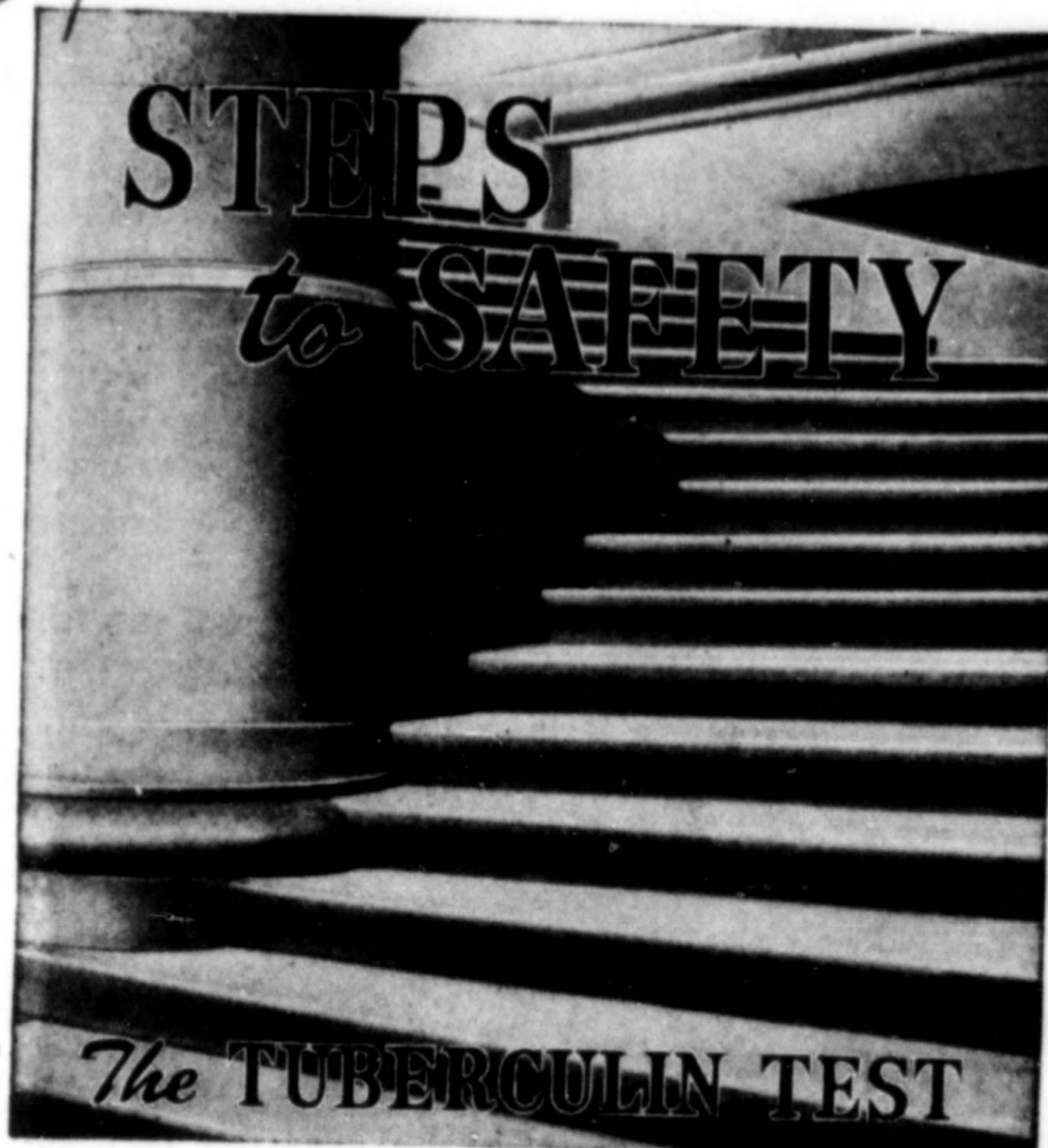
Published by  
NATIONAL TUBERCULOSIS ASSOCIATION  
1790 Broadway, New York, N. Y.



U-100M-2-45



D9



**O**NE STEP at a time—that's the way we hunt for tuberculosis.

*Early TB can be cured. That's why the first step for finding TB early is so important.*

Let's talk about the *first step* —  
**THE TUBERCULIN TEST**

### WHAT IS THE TEST?

When TB germs get into our bodies and live there, they soon make the skin and other tissues "sensitive." Your doctor can give you a skin test to find out whether *you* have any TB germs in *your* body:

1. He may inject a drop of germ-free liquid called tuberculin into the outer layers of your skin, usually on the forearm. This is the *Mantoux test*.
2. He may make a small scratch and rub tuberculin in it. This is the *von Pirquet test*.
3. Or he may tape against the skin tiny squares of paper containing tuberculin. This is the *Patch test*.

### HOW DOES IT WORK?

Two or three days later the doctor looks at the place where he applied the test. If he finds no skin "reaction," no raised or red area, he says the test is "negative." This means that you probably have no TB germs living in your body. Your doctor may want you to have the test again later on to make sure it stays "negative."

If the skin at the test place is red and raised, the doctor calls the test "positive." Don't be alarmed. This is a warning signal, but it doesn't say you have TB. A "positive reaction" means that somewhere, sometime, TB germs got into your body.

Right away we must find out whether they are doing any harm to your lungs. How? That calls for the *second* step—THE CHEST X-RAY.

### WHAT DOES THE CHEST X-RAY DO?

Having a chest X-ray is as simple as having your picture taken — only it looks *inside* you, at your lungs, the place where TB germs are most likely to attack.

The chest X-ray tells how much damage the germs have caused and whether you may be on the way to serious illness. You see, a chest X-ray will show up TB long before a person feels sick.

When there are large numbers of people to be examined, as in factories, institutions, for military service or during the X-raying of a whole community, doctors may prefer simply to give everyone a chest X-ray. Then they tuberculin-test only the ones whose X-ray pictures show suspicious shadows.

### WHY TAKE THESE STEPS?

Because — TB discovered in its early stages can be cured. Because — the sooner it is found, the less time and money it takes to cure it. Because — the sooner it is treated, the less chance there is of deadly TB germs being spread by the patient to family, friends, fellow workers.

Too many people go to the doctor only when their TB is far advanced. They wait until they feel sick. They have a cough that won't quit. They are tired all the time. They have pains in the chest. They may spit up blood.

By the time these symptoms appear, TB is well along. And TB past its early stages is much more serious than when it's found early. It is harder and slower to treat. It may kill the patient.

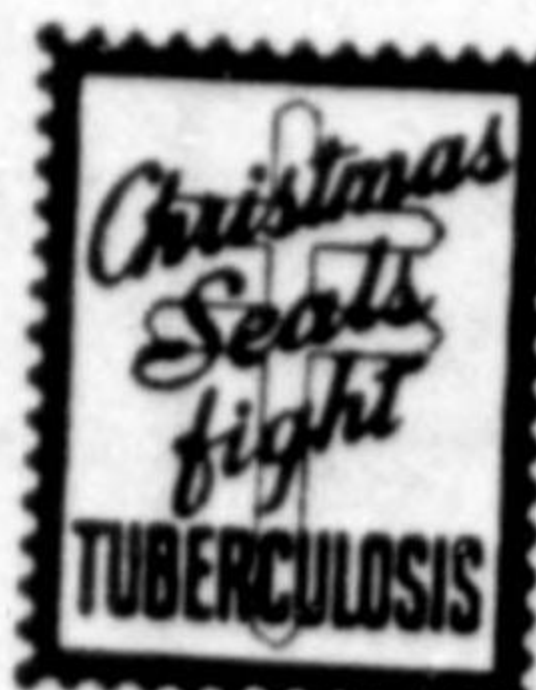
**WHAT STEPS SHOULD YOU TAKE?**

- Step 1: The tuberculin test.
- Step 2: The chest X-ray.
- Step 3: Whatever else your doctor advises.

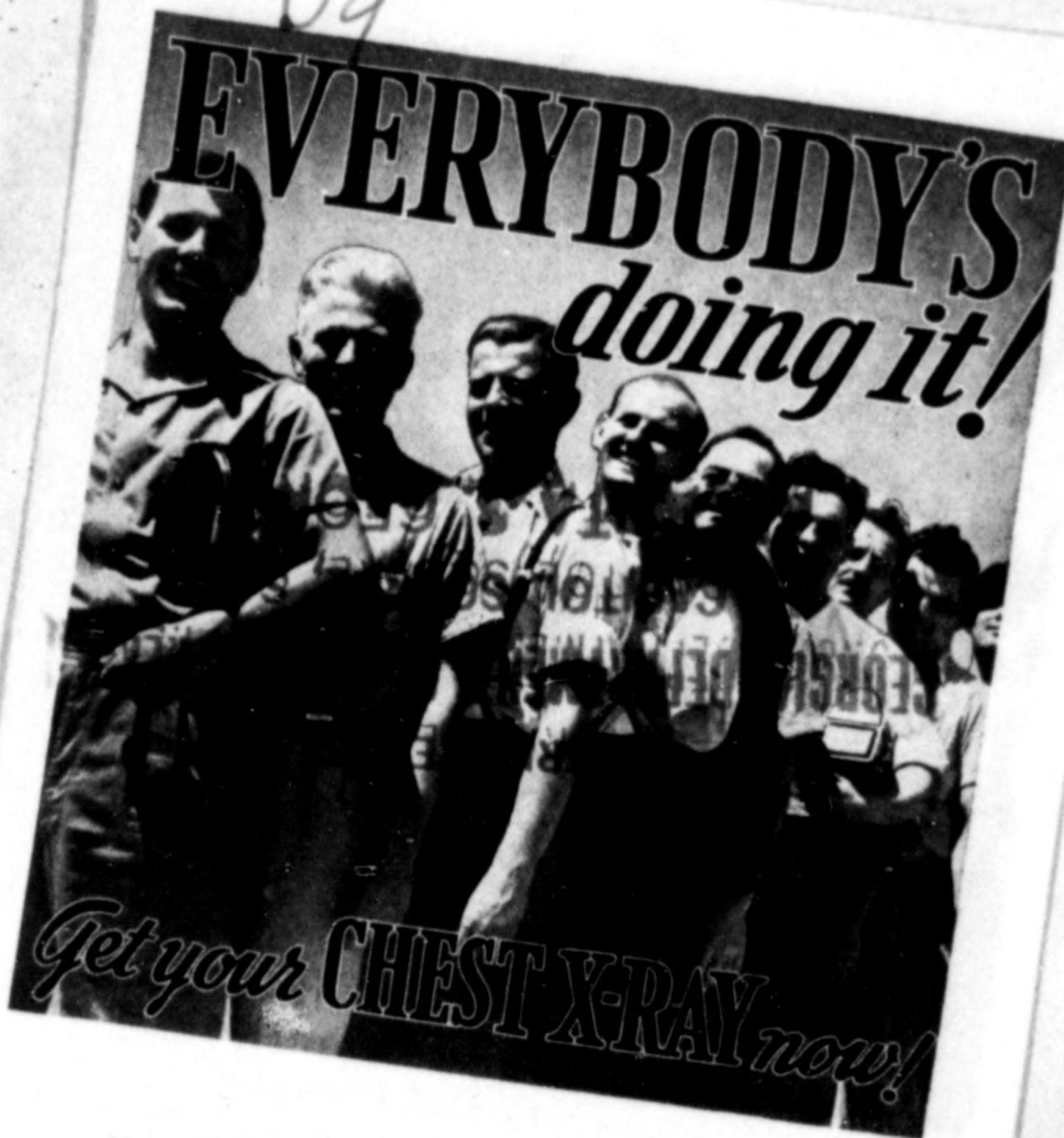
**IT PAYS TO KNOW THAT YOU'RE SAFE.**

Ask your doctor, your health department or your Tuberculosis Association how and where to get a tuberculin test, an X-ray of your lungs. You'll be glad you took these **STEPS TO SAFETY.**

Printed as a rehabilitation project at  
The Potts Memorial Institute  
Published by the National Tuberculosis Association



D-600M-3-46



**M**ORE AND MORE people are lining up for health. Are you one of them? If not, join the ranks today!

Wartime hazards and wartime loads are threats to the nation's health. Your fitness is part of the American might that will win the war. Be sure you stay fit!

### WHY X-RAY HEALTHY MEN AND WOMEN?

You may look healthy and feel fine, show no signs of lung trouble when your doctor questions you, thumps your chest, listens through his stethoscope. On the *surface* you're all right. But is there unsuspected tuberculosis *inside*?

The answer is to let the doctor take a look inside. That means a chest X-ray!

### WHO SAYS X-RAY?

Uncle Sam says so, with top medical backing. Every man and woman before being allowed to wear this country's uniform must have an X-ray showing healthy lungs.

Leading industries agree. Many are offering X-rays to their employees, protecting the worker examined and every person who lives and works with him. For tuberculosis is *catching*—spread by germs that get into healthy bodies from people who have the disease, often from folks who don't dream they are spreading it.

Finally, other thousands are asking for chest X-rays: labor unions, students, teachers, office workers, nurse's aides and others. They realize a medical examination that includes a chest X-ray gives them facts, not fancies!

### HOW IS IT DONE?

Any competent doctor, using a modern X-ray machine, can do the job. With manpower now so precious, new methods of X-raying have been developed. Equipment is often used that takes in a single day hundreds of X-ray films or small

snapshots of X-ray images. Some outfits move readily so as to reach many people quickly, with little fuss or work stoppage. There are several rapid, economical ways of X-raying large groups, but the best method available will vary in different places.

### DOES ONE X-RAY TELL EVERYTHING?

Not necessarily. Suspicious shadows may mean tuberculosis or may prove due to something else. But always they demand a thorough search by your physician to discover the truth.

He may order further pictures to compare with the first one; a tuberculin test; or examination of some sputum if any is coughed up. The study may take some time before your doctor can say what is wrong and what you must do. But don't forget, the inquisitive X-ray gave the first clue.

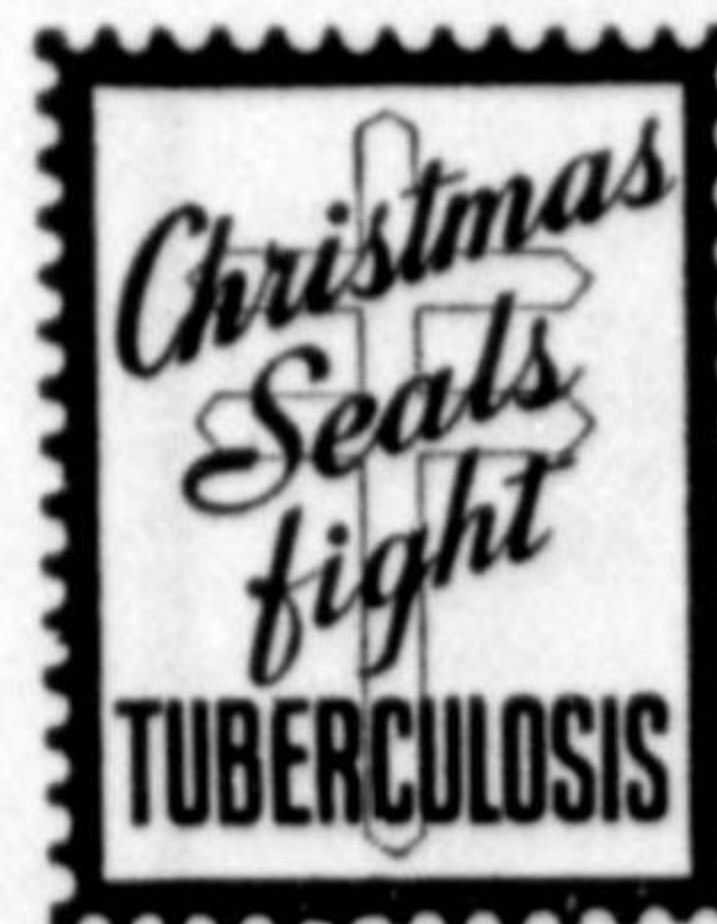
### DOES IT PAY TO HAVE A CHEST X-RAY?

Preventing a fire is best. Stamping out a small one comes next. A big blaze can destroy property, halt work. So, too, with tuberculosis. Finding it early and caring for it at once prevents others in the home or among friends and associates from catching it. Early discovery saves time, money and grief in getting well. Failure to have an X-ray while you feel healthy may let smoldering tuberculosis advance until it is a roaring blaze that does you great damage and burns up your earning power, your future, even your chances of recovery.

**AFTER THE X-RAY, WHAT?**

Don't be impatient! Doctors are few and busy. Trust yours completely and be sure to get his advice. He will say whether your picture shows healthy lungs. In all probability it will. If not, have him find out what actually is wrong. Try hard not to worry. Anyone smart enough to have an X-ray should be wise enough not to imagine trouble.

If it turns out that you are among the minority who really have tuberculosis, look on the bright side. Be thankful it was found early and in a curable stage. Then show your gumption as well as your gratitude by doing exactly what the doctor orders.



Published by the National Tuberculosis Association

D-500M-11-43



# *Going Home*

FROM THE SANATORIUM

## Going Home

EACH year thousands of patients are discharged, with medical approval, from American sanatoria. Many of you make a new start in life and remain as well as on the day of discharge. Such patients get the most out of life—more, sometimes, than persons who have not been sick.

Other patients, however, have trouble in fitting into the outside world. They soon forget what they have learned in the sanatorium. Too often their tuberculosis lights up again. Sometimes the results of bad judgment may be fatal. How can you best insure your chances of holding gains made while under treatment in the sanatorium?

There is no single magic formula. But here are some suggestions gathered from patients who have made the grade and from physicians who have watched them do it and who have also studied common causes of relapse.

You may be surprised at their simplicity. But common sense, coupled with what you learned in the sanatorium, will do most to keep what you have gained while under treatment.

### Take Stock of Your Training

The day of discharge is a good time for you to take stock of how you have learned to fight tuberculosis. It is time to begin applying to your new life what you have learned in the sanatorium. Especially, should you plan each item concerning SLEEP, FOOD, REST and the REGULAR HABITS which are the essence of a sanatorium regime.

### Keep in Contact

With the aid of the sanatorium staff, promptly make arrangements for medical check-up at the intervals advised by the staff physician. If your home is far away from the sanatorium, your local or state tuberculosis association can supply the names of tuberculosis physicians or of public clinics, according to your means.

A principal factor in the improvement which you have made in the sanatorium is your cooperation with

[ 2 ]

## What the Family can do

### WHEN THE PATIENT RETURNS FROM THE SANATORIUM

WHETHER a patient, after discharge from a tuberculosis sanatorium, continues on the road to health or becomes ill again, often depends upon how much understanding and help is given by the family. Many patients are helped by their families to carry through the fight for health to permanent victory. Many others are so hindered that the disease flares up once more, often fatally.

How can the family help? How does it hinder? Here are a few principles which have helped hundreds of patients to win, and whose neglect has cost many lives:

*The sanatorium physician* and, after discharge, the physician to whom the patient is referred, are the *only* safe guides and counselors concerning the patient's health. Appearance is no proof whatever of the condition of a patient's chest. A pale, thin and apparently fragile patient may have a very fortunate healing condition in the infected lung. A plump patient, with rosy cheeks, may face great hazard of breakdown. Let the doctor who advises the patient after he goes home decide, just as you let the sanatorium doctor decide while he was a bed patient.

*Protect the patient* from the advice of well-meaning friends and relatives. It is often dangerous and the sources are frequently inadequately informed. Change the subject!

*Avoid extremes* in your own attitude toward the patient. Excessive sympathy is as bad for patients as is brutality. On the one hand, the patient's life may be endangered when he is urged to do more than the physician says he should. On the other hand, failure to make use of all exercise ordered by the doctor often delays complete recovery and may undermine character.

Patients come *back* to the sanatorium both from homes where "anyone can see that he is all right now" and from homes in which the patient has been "babied" to a point where failure to take exercise ordered by the doctor has made the patient a ready victim for influenza or pneumonia. A cold is a much more serious risk to a



recently discharged patient than it may be to you. He is justified in extra rest in bed and in checking up with his physician. Encourage this sensible course of action; but don't get panicky about it nor encourage panic in the patient.

*Back up the patient* in his efforts to apply to his further recovery what he has learned at the sanatorium. If the doctor has recommended rest periods, see that the patient is allowed to observe them in peace. Rest is the most successful treatment for tuberculosis, and treatment should go on as long as the doctor recommends it, whether or not the need for rest is apparent to others. If the doctor recommends continued collapse treatment, back up the patient in obtaining "refills" promptly at the intervals recommended. Pneumothorax has prolonged and saved many lives. Neglect is extremely dangerous.

In the sanatorium, the patient has learned the value of regular habits. A great deal in the treatment of tuberculosis depends as much upon doing the prescribed thing at a regular time as upon what is done. Encourage the patient, when he comes home, to continue in regular habits. Do not subject him to the whims of other members of the family or of visiting friends. The result of these unscheduled changes of hours, meals or activity may be dangerous.

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the physician there. If your future check-up or treatment is to be by a physician outside the sanatorium, give him the same kind of cooperation, in order that you may safeguard and continue the progress you have made toward health.

If you have been receiving collapse treatment (pneumothorax) up to the time of your discharge, lose no time in arranging for "refills". Failure to maintain collapse has brought too many patients back to the sanatorium with a re-expanded lung in which the re-opened cavity could no longer be treated in this way. Good collapse, kept up as long as medically advised, has prolonged thousands of lives.

### Plan Your Life and Live Your Plan

If you determine to make sensible application of what you learned in the sanatorium and you stick to your plan, your relatives and friends will soon learn that you mean what you say and they will stop urging you to break training "just this once".

In the sanatorium, many decisions were made for you. You were allowed to concentrate on your fight with tuberculosis. Outside the sanatorium, you must make all your own decisions. If visitors stay over long, there is no nurse to ease them out; it is up to you. You must learn to say yes and no for yourself, pleasantly, quietly, but firmly and finally. Now comes the supreme test of personal character.

### Consider Others

Your tuberculosis interests your doctor; but your relatives and friends are interested in you, not in the disease. Talk about *their* interests, not about your tuberculosis. If others ask about tuberculosis, use the free circulars available from local tuberculosis associations. Don't talk tuberculosis. Conversation of the "my operation" type is the height of bad manners.

Do you remember, when diagnosis was first made, how some of your friends disappeared? How others came to see you just once and did not return a second time? This should prepare you for the fact that some people are "scared" about tuberculosis. Nothing *you* can say will persuade them that you no longer broadcast thousands of germs. All the health education of the last quarter century hasn't overcome their fears.

[ 3 ]

There is nothing *you* can do about it except smile with tolerance at their backwardness.

On the other hand, never say to anyone "but you don't understand about tuberculosis." You never know when a new acquaintance is also an ex-patient who has learned to keep quiet about his battles with the bug. Many of our bravest veterans will not talk about the war.

### Consider Yourself, Too

Go to bed when you have a cold. The sanatorium has taught you enough about infections to know that a patient in bed doesn't infect others and gets well faster than one who insists on staying on his feet. Always report a cold to your advising physician. Sputum samples taken at this time should be submitted for examination.

### Be on Guard

Most patients who light up a second time do so within the first year after discharge. Sleep alone. If any sputum whatever is present, use sputum cups and burn them no matter how long your tests have been negative.

### Play Fair With Your Physician

If you attempt to fool him, you fool yourself most of all. If, as and when he says you are ready to work, don't try to make the job you are discussing seem any easier—or any harder—than it is in fact. Be equally frank about your play life. For a few months, at least, you may have to plan for one thing at a time.

### Don't Worship Your Handicap

It is true that tuberculosis has left you with a permanent physical handicap which limits your future activities in certain directions. But, lest you feel too sorry for yourself, consider the thousands whose accident or illness has left a mutilation or deformity which can be seen, such as lameness. Would you change places with any of them?

Do you know that much of the important work in the world is done by persons who are hindered by serious physical handicaps but whose determination, per-

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Climate  
and  
Tuberculosis



Years ago, a change of climate was the first thing a person thought of when he found he had tuberculosis. Patients in the West hurried away to the Eastern forests and mountains. Those in the East travelled to the dry Southwest. Everyone believed that new air would be magic air - that the smell of pine trees or the heat of the desert sun would kill the germs. As we look back, the travel and expense and loneliness seem especially sad because they were all so unnecessary.

Today, doctors know that a person with tuberculosis does not have to go to a new climate in order to get well. They know that good sanatorium care near the patient's home gives him his best chance to recover.

Unless your usual income will continue after you stop work, it is necessary to consider carefully the money cost of getting well. Tuberculosis can become a long, expensive illness, which may require months of hospital care. Your own State or community will try to give you that care if you need it. If you move to another State, you cannot get such care until you have lived there long enough to become a legal resident. In some of the warm, dry, Southwestern States, a person becomes a resident only after three years. Many persons, not understanding the laws and regulations that govern State sanatoriums, have become seriously ill and stranded far from home. There is a distinct money advantage and a feeling of security to be gained in recovering from tuberculosis in your own State.

Treatment in a nearby sanatorium gives the patient many other advantages. He doesn't spend his time and money in useless travel. He is near his family

and friends. He has constant medical and nursing care. He is in a treatment center that has been built around one idea - to help him, and other people with tuberculosis, to get well.

Fortunately, nobody needs to go far from home to find a good tuberculosis sanatorium. Every State, and many counties, have built one or more public tuberculosis sanatoriums in healthful locations. There are many good private institutions too. In each of these treatment centers there are doctors who understand the disease and know how to treat it. The patient and his family can be sure that good sanatorium treatment gets the same good results anywhere in the United States, regardless of climate.

Families often try to talk the doctor into agreeing to home care for the sick person. They are afraid that he will be lonely among strangers, and that he can't get well away from home. Many thousands of well people who have been patients in tuberculosis sanatoriums say that this is not so. A new patient is encouraged by others in the sanatorium. Many fine friendships are started there. The doctor knows that this is true. He knows, also, that home care is dangerous because tuberculosis can spread to other members of the household.

Once the move from home is past, the patient feels happier in his new surroundings. He doesn't have to worry about spreading the disease in his family. He never feels set apart from other people, because his new companions are all patients like himself. He sees his family and friends as soon as the doctor thinks he is well enough to have callers. Later, as his health improves, he may be allowed

a visit home now and then. At the sanatorium he is trained in new ways of living that build up his strength and keep him well. He is helped to form the habit of physical and mental relaxation so necessary to his recovery. There, close to family and friends, and in his own home climate, he learns how to get well.

*For additional information about tuberculosis send for U. S. Public Health Service leaflet "Tuberculosis."*

JUNE 1947

FEDERAL SECURITY AGENCY  
U. S. PUBLIC HEALTH SERVICE  
Health Education Series No. 2



**YOUR X-RAY IS A TRACER BULLET IN THAT FIGHT**

**"Let's keep tabs on these bugs!  
Let's have an X-ray every year!"**



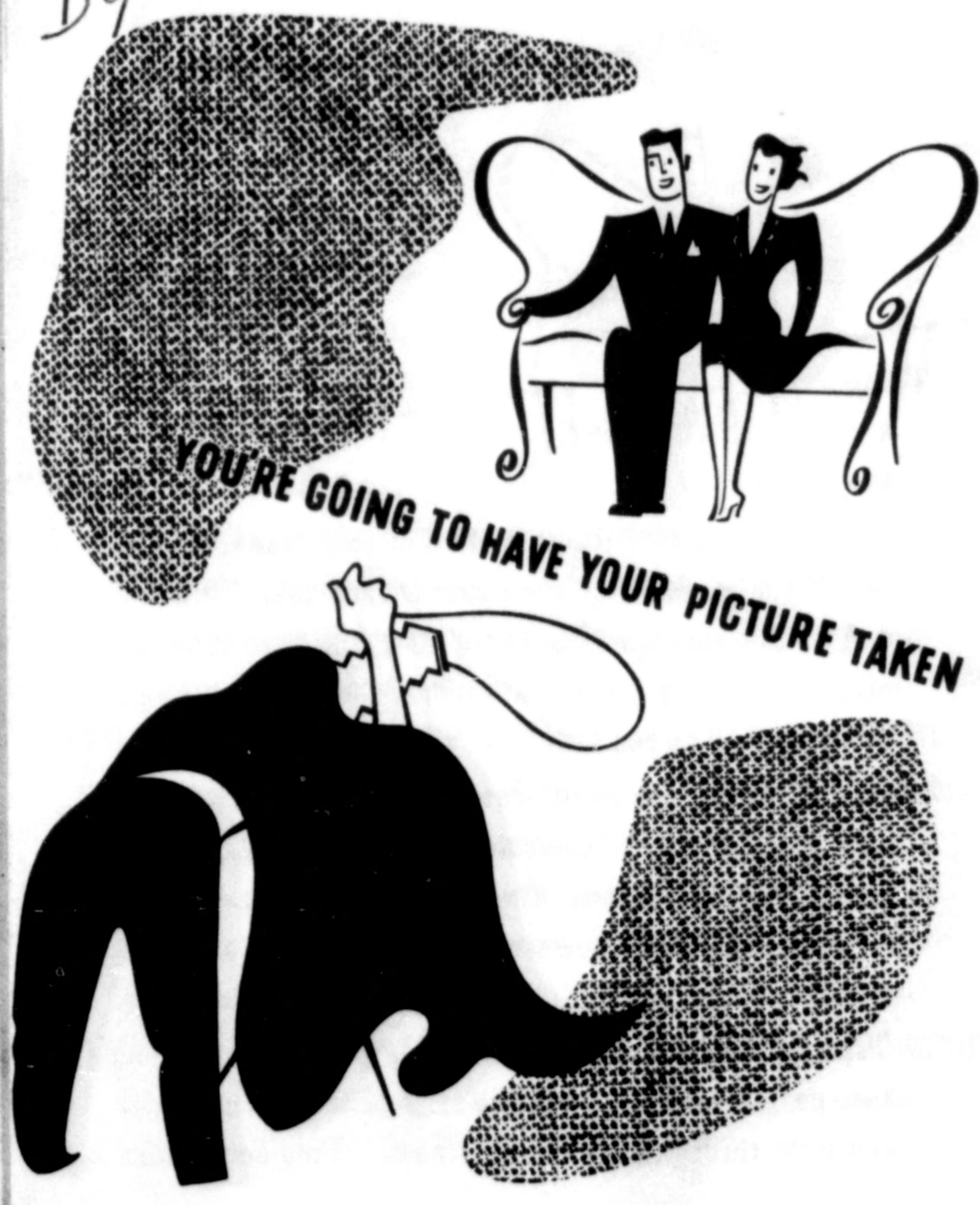
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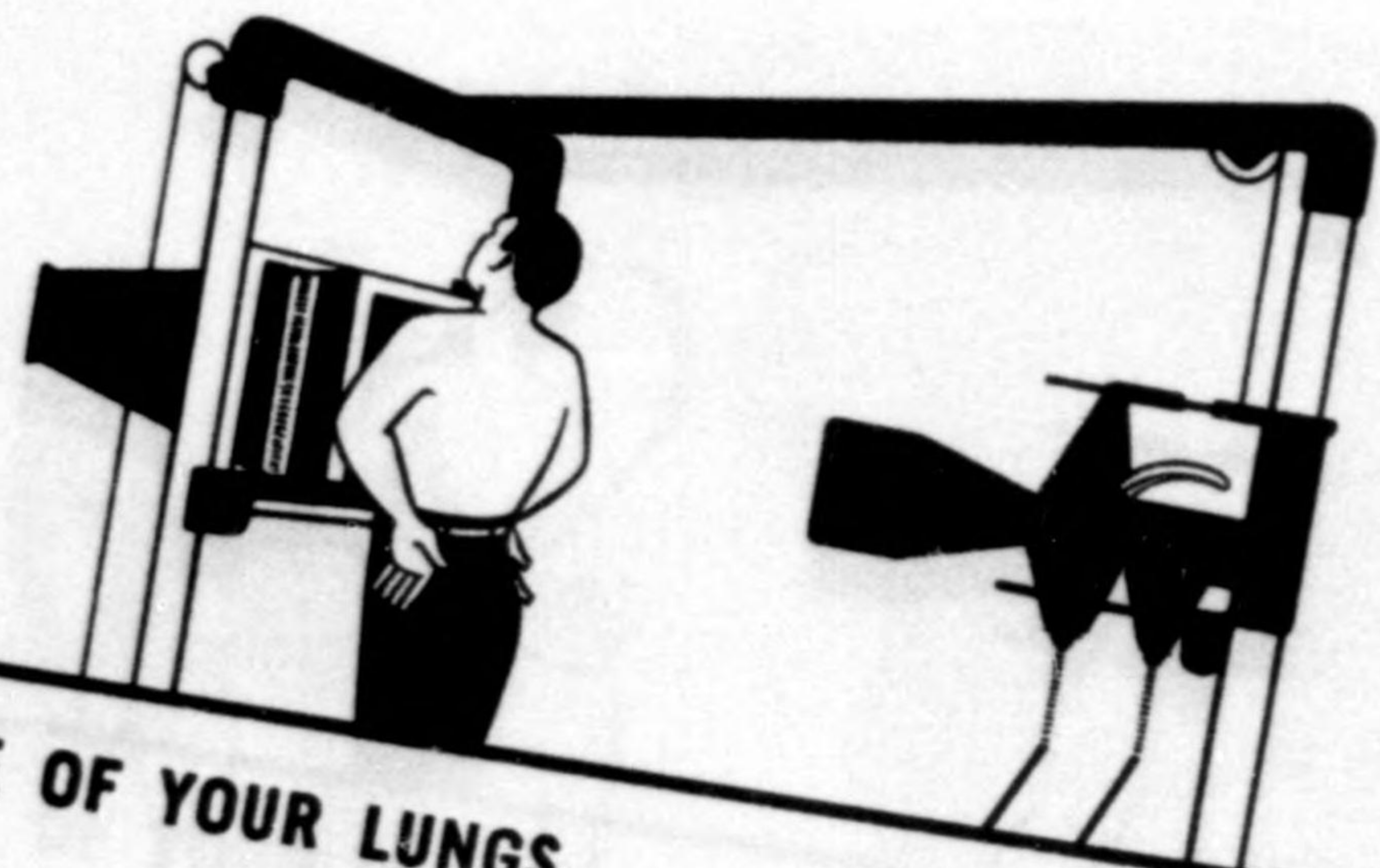
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**CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH  
AND YOUR LOCAL HEALTH DEPARTMENT**

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D9





**A PICTURE OF YOUR LUNGS**

—is more important than a picture of your face. "I feel swell!" you may answer when your friends ask, "How are you?" But you can "feel swell" and still have tuberculosis. The X-ray picture will show whether your lungs are as healthy as you feel.

**AN X-RAY** picture is good health insurance and good job insurance for workers. Tuberculosis takes its biggest toll among men and women of working age. War workers putting in long hard hours on their battlefield are good targets for tuberculosis. X-ray pictures spot this sniper.

**TUBERCULOSIS IS CAUSED BY A GERM.** These germs come from people who have tuberculosis. Their germs enter your body through your mouth or nose. They don't make

a noise when they go in. They don't bite. They don't turn on a red light. By the time a person feels sick, the disease may be far advanced. Then the sick person will lose years from work.

**"BUT I'VE NEVER BEEN AROUND PEOPLE WITH TUBERCULOSIS!"** Nobody can say that because nobody knows for sure. Thousands of people in the United States have the disease. Many of them don't know they are sick. They go to school or to work. They eat in restaurants. They go to the movies. They use drinking glasses and set them down for others to use. They wipe their hands on the nearest towel. They cough; they sneeze; they spit. They spread their germs.

**YOU MAY HAVE MET UP WITH TUBERCULOSIS GERMS** —sometime in your life. It would be hard to miss them altogether. When you were a child, someone in your home or a playmate's home may have had the disease. As an adult, you may have a relative, fellow-worker or friend with tuberculosis.

**THE ONLY WAY TO BEAT TB** is to find it—case by case. The earlier the better. An X-ray picture of every worker's lungs is part of the **BIG FIGHT** against TB.



**YOUR X-RAY IS A TRACER BULLET IN THAT FIGHT**

**"Let's keep tabs on these bugs!  
Let's have an X-ray every year!"**



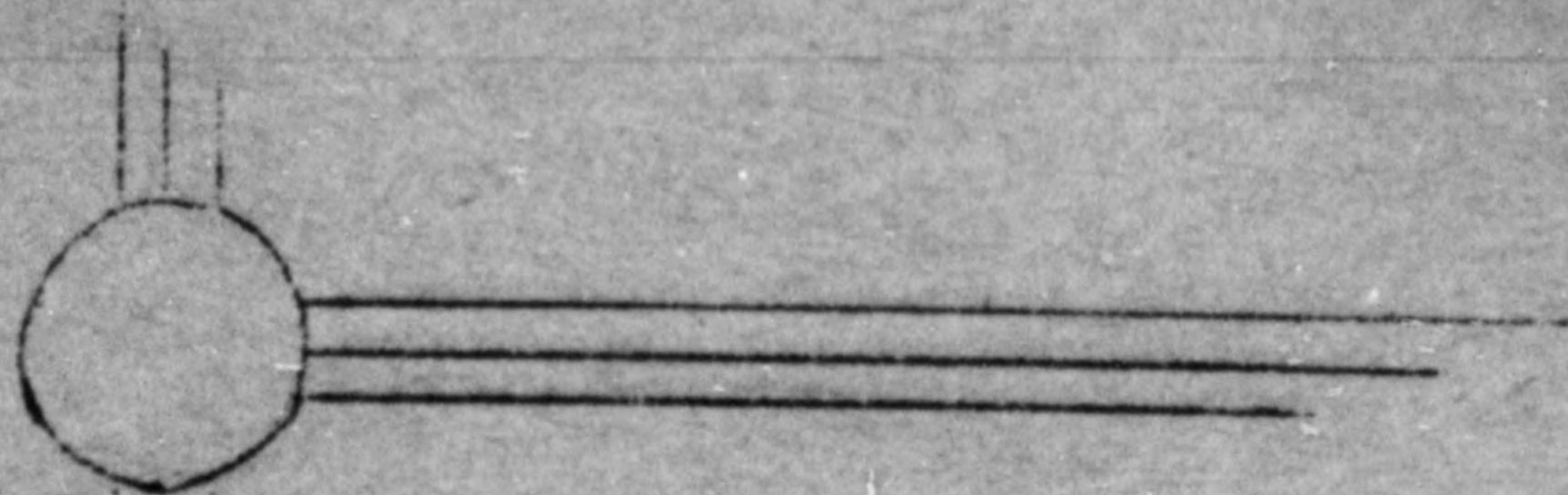
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A  
Letter  
to  
YOU

*C A Henderson*

Savannah-Chatham County  
Health Department

## A Letter to You -

You are to be congratulated in having your chest X-Rayed. This means that you are interested in knowing how to secure good health.

The fact that the Doctor says you have tuberculosis, and we want to help you, means only 1 thing - YOU are worth a lot to this community, and that's why they want you to be properly cared for now.

The sanatorium will give you the best care possible. In a home, it is almost impossible to give the patient absolute bed rest. Also in the home the patient may be innocently spreading the disease to those he loves most.

So to protect your family and to help you get well faster, you are being advised to go to the sanatorium.

When you first get to the sanatorium you will be given absolute bed rest most of the time.

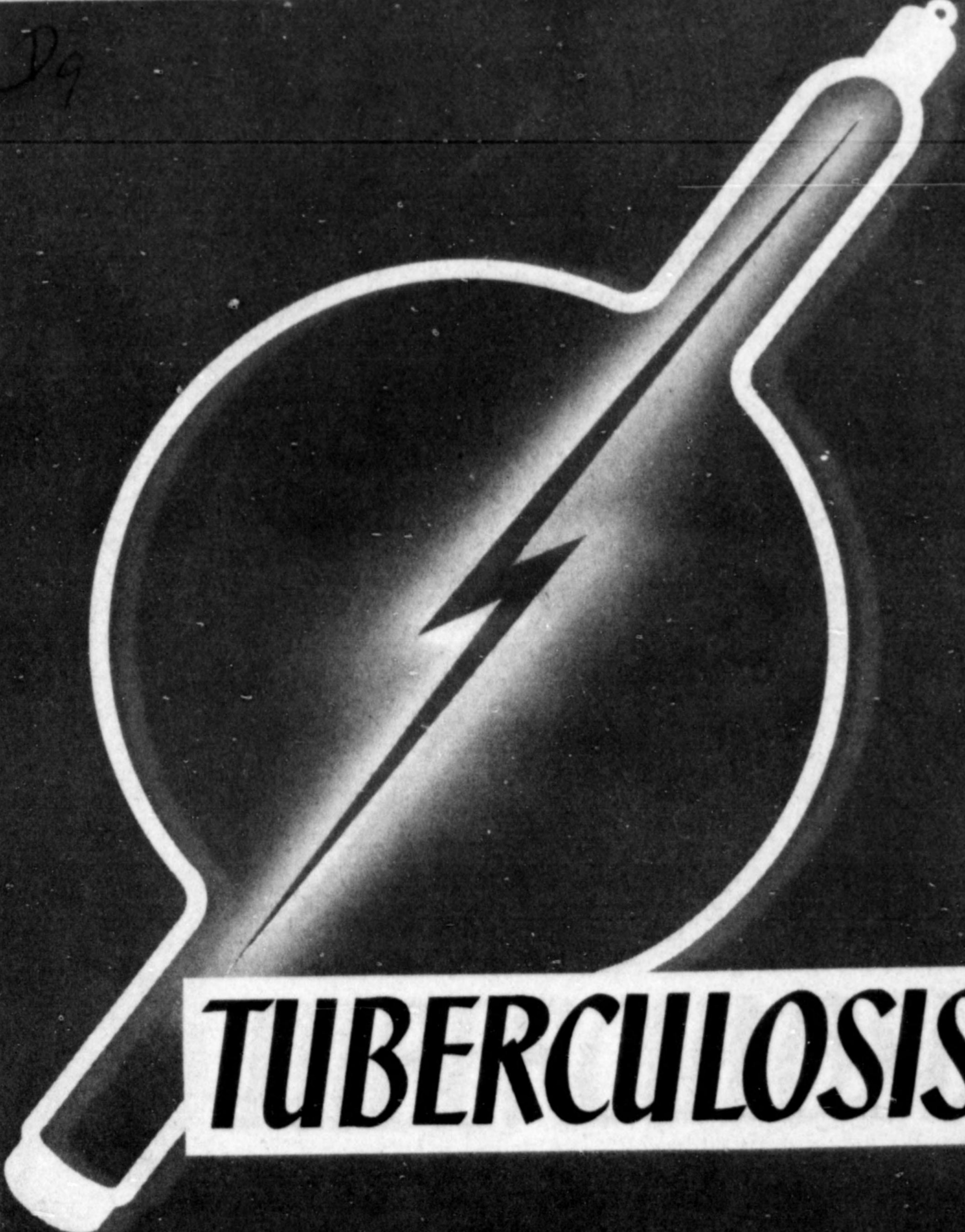
When you get better, you will be in a room with other patients who are also receiving treatment for tuberculosis. You will be given an opportunity to talk and listen to the radio and take part in other social activities.

You will be given instructions regarding the kinds of foods you need to eat to help you get well.

When you improve enough you will be able to enjoy the various types of recreation that are present in the sanatorium such as reading, Chinese checkers, crocheting, movies and special programs. You will be given guidance and instruction for future employment so that when you are released, you will be able to do work that will not be detrimental to your health.

Above all, while you are in the sanatorium if it is necessary, your community welfare workers will be helping your family at home solve its financial problems so that you can rest at ease knowing that they are being cared for.

D9



# TUBERCULOSIS

**METROPOLITAN LIFE INSURANCE COMPANY**  
HOME OFFICE: NEW YORK  
Pacific Coast Head Office: San Francisco • Canadian Head Office: Ottawa





*Wonderfully penetrating X-rays can show up evidence of tuberculosis even before any outward symptoms of the disease appear.*

• • •

*Prepared with the cooperation and advice of the  
NATIONAL TUBERCULOSIS ASSOCIATION  
and the  
AMERICAN TRUDEAU SOCIETY*

• • •

NOTE—In nearly every community there is a local tuberculosis association which works closely with the State and national tuberculosis associations. These agencies will gladly help anyone who is faced with a problem connected with tuberculosis. Information on the disease and its treatment, on sanatoria, on training recovered patients for new types of work, and on other subjects will gladly be given to anyone.

## **Tuberculosis or Consumption or T. B. or Phthisis**

ANY ONE of these names may be applied to the disease caused by the tubercle bacillus. This germ may infect any organ in the body, but most frequently it is the lungs that are invaded. For many years tuberculosis of the lungs headed the list of the leading causes of death in the United States, but it has steadily declined until it now stands in seventh place. This is a remarkable retreat for a disease that was once called "The Captain of the Men of Death" and "The Great White Plague." Yet, tuberculosis still takes the lives of 60,000 people each year. Other diseases, such as heart disease and cancer, claim far more victims, but no other illness makes such inroads upon the health of young people. *Between the ages of 15 and 45, tuberculosis kills more persons than any other disease!* Here is one of the chief reasons why so many medical, health, and educational forces are fighting tuberculosis, for no community can afford to have its young citizens menaced by a disease that strikes most frequently during the happiest and most productive years of life.

### **Pioneers in the Fight Against Tuberculosis**

The germ that causes tuberculosis was discovered in 1882 by Robert Koch, "a little-known health officer in a small German village." This discovery was the first decisive step toward the control of tuberculosis. There have been many other great pioneers in the fight against this disease. Indeed, countless millions have had a part in it—including those who can do no more than buy antituberculosis stickers, or Christmas seals, and stick them on Christmas letters and packages to show that a contribution has been made toward conquering the disease.



## How Tuberculosis Spreads

"Tuberculosis always comes from tuberculosis." In other words, tuberculosis is a catching disease, the germs of which are spread from the sick to the well in numerous ways, principally as follows:

1. *Through germ-laden droplets or sputum discharged from the lungs of a person who has active tuberculosis.* Droplets of moisture from the lungs are sprayed into the air during coughing or sneezing. If a person comes in contact with this spray, he may breathe in or inhale some of the living germs and thus catch the disease.
2. *Through kissing.* A tuberculous patient may spread the germs directly by kissing anyone on the lips.
3. *Through dust containing tuberculosis germs.* If the germs are spit out, they may mix with dust on the floor or the ground and, after drying, be carried by air currents to a person who may breathe them into his body. A child, crawling about the floor or playing on the ground, may pick up some of the germs on his fingers or on his toys and carry them to his mouth.
4. *Through objects of common use, such as water glasses, dishes, eating utensils, or bed linen.* Any objects that have touched the lips of a tuberculous patient are dangerous sources of infection if they are used by anyone other than the patient before being sterilized.
5. *Through milk.* Unpasteurized milk from cows that have bovine tuberculosis can give people the disease.

Unlike most catching diseases, tuberculosis takes some time to develop and may depend on repeated or prolonged exposure.

The fact that several members of a family may have tuberculosis has given rise to the belief that the disease is inherited. It is true that tuberculosis "runs in families," not only because increased susceptibility to it may be inherited, but mainly because the intimate contacts of home life make it easy for the germs to be spread from one person to others in the family circle. Contact, therefore, rather than inheritance, is the chief reason why tuberculosis often affects several members of one household.

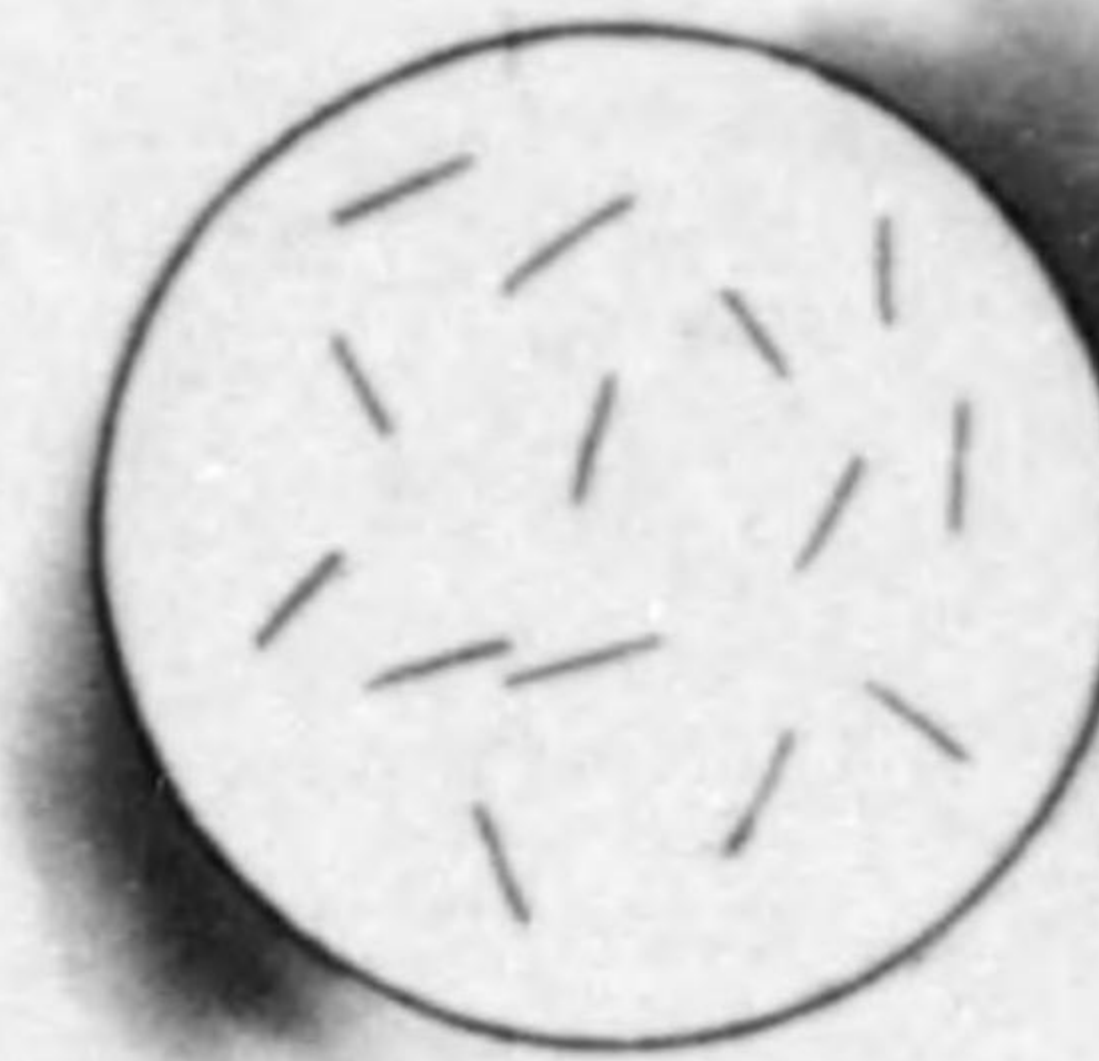
## How the Body Fights Tuberculosis Germs

What happens when tuberculosis germs get into the body? If they are not immediately overcome by the defense forces of the body they lodge—nine times out of ten—in the lungs, although any organ may become infected.

As soon as the germs reach the lungs, the body usually begins to put up a fight to keep them from gaining a foothold. Body cells near the spot where the germs have lodged commence to form shells or capsules around the germs. These capsules and their contents are

called tubercles. Unless the germs invade the body in overwhelmingly large numbers (mass infection) or belong to an especially virulent type, a healthy body frequently is able to wall off the germs in this manner.

So long as the germs are safely locked up in the tubercles, little harm is done, as only the small amount of lung substance within the tubercle is eaten away. In time the tubercles become filled with a gritty substance called calcium (lime) which makes them strong and hard. Thus the germs, even though they may be alive, are imprisoned within the walls of the tubercles, and can do no harm to the rest of the lung as long as the body remains healthy. Many of us have at some time become infected with tuberculosis germs, but since the healthy body can often halt their progress by the formation of capsules or tubercles, we do not become recognizably sick with the disease. However, if the defenses of the body are weakened in any way, the walls of the tubercles may break away and free the germs. In that case the disease again becomes active (reactivation).



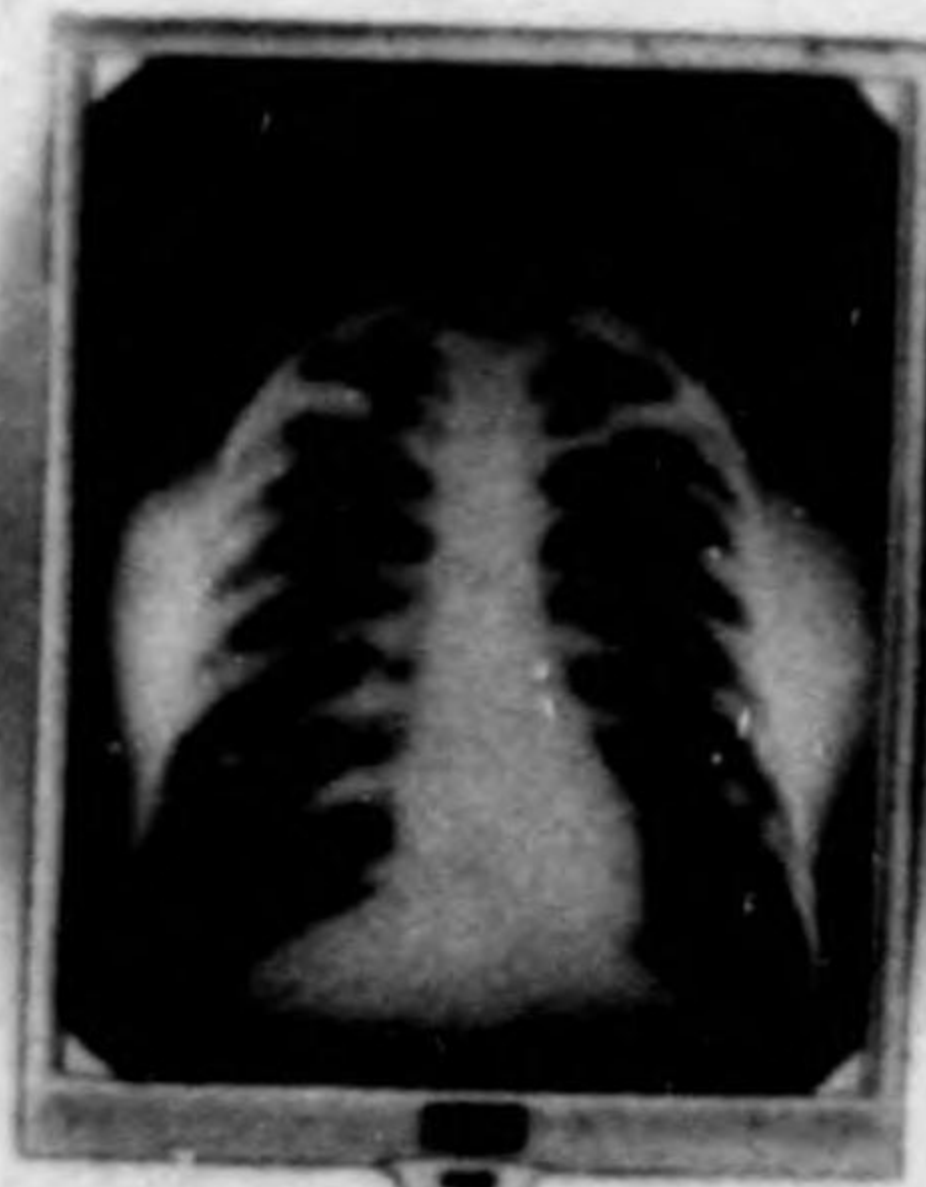
## Early Danger Signals

Unfortunately, a person may have tuberculosis without knowing that the germs are beginning to damage the lungs, for the disease seldom strikes a sharp blow in the beginning, and may progress for a time without symptoms. Weeks or months frequently pass before suspicion is aroused, and even then the symptoms may be nothing more than vague "hints" that something is wrong—like continual "touches of indigestion," steady loss of weight, an irritating hoarseness, poor appetite, a continual "all in" or "tired-out" feeling that persists when there is no good reason for it. More definite warning signals are a cough that "hangs on," spitting of blood or blood-streaked sputum, persistent or recurring pains in the chest, and afternoon rises in temperature. Any one or more of these symptoms may or may not indicate tuberculosis, but to be on the safe side see a doctor without delay and let him decide.

The early diagnosis of tuberculosis is of vital importance. There is perhaps no serious disease that is easier to cure in its early stages and harder to treat successfully when it is more advanced. Thus,

the sooner its presence is discovered the better for the patient and all those with whom he comes in contact.

Everyone, regardless of age, should be on guard against this dangerous disease. The first infection with tuberculosis germs is likely to take place in childhood, though it may occur at any period of life—even in old age. Those who should be doubly watchful are boys and girls in their late teens, young adults, workers exposed to silica and asbestos dusts, and particularly anyone who has been in contact with an active case of tuberculosis, especially within his own family or among his fellow workers.



### The X-Ray Tells the Story

The instrument that aids the doctor most in his examination for early signs of tuberculosis is the X-ray. When an X-ray picture of infected lungs is taken, certain telltale shadows of varying shades of gray are seen. To the doctor's trained eye these shadows show what damage has already been done.

It is advisable for those who have been in contact with an active case of tuberculosis, especially for young adults, to have X-rays of the chest made at least once a year, even though they do not remain in contact with the source of infection.

The fluoroscope is also useful in detecting tuberculosis in its early stages. Many progressive industries give fluoroscopic examinations to their employees as a routine part of annual physical examinations. If the fluoroscope reveals any signs of the disease, an X-ray picture is then made of the chest, and a sample of the patient's sputum is examined in the laboratory. The latter is done to determine whether or not tubercle bacilli are present in the sputum; yet even if bacilli are not found, the disease may be active and progressing.

### The Tuberculin Test

The tuberculin test is used to determine whether or not tuberculosis germs are present in the body. The test is simple and harmless. A small amount of tuberculin is injected in the skin, or a patch impregnated with tuberculin is attached to the skin. If the germs are present, a slight redness and swelling develop within two days around the place where the tuberculin was injected or applied by

means of a patch. Such a reaction is called "positive." It shows that the person tested has been infected with tuberculosis, but it does not tell whether his body has overcome the infection or whether the germs in his body are still active. If the test is positive, the individual should always have an X-ray picture of the chest taken to help determine how much damage the infection has caused, and whether it appears old and probably healed or recent and probably active. Many adults who react positively to the tuberculin test are shown by X-ray to have inactive or healed infections.



The tuberculin test is now used primarily to discover childhood infections. If a child shows a positive reaction, every effort should be made to find out if he is in contact with someone who has the disease. Until all his contacts, especially the members of his immediate family and the servants, have been X-rayed, there is no assurance that the child may not be exposed constantly to added infection. Thus the tuberculin test often gives a clue leading to the discovery of unsuspected active cases of tuberculosis among adults. By securing medical supervision for such adult contacts, children who have been infected through close association with them may be protected from reinfection. In order to keep an inactive childhood infection from ever becoming active again (reactivation) and to increase resistance to a fresh germ invasion (reinfection), the child must be helped and encouraged to build up his health above par.

### Case Finding

Tuberculosis authorities know that there are many thousands of undiscovered cases of the disease among people who seem to be in good health. Fortunately, health officials know where these hidden cases are most likely to be found. In order to locate early tuberculosis, health officials are making surveys (with the help of the X-ray and tuberculin test) among susceptible groups. "Case finding" is the term that is applied to this method of tracking down the disease. Once the cases are found, treatment can be commenced, the sources of infection can be traced, and other protective measures can be put into effect to safeguard the community.

## Getting Well

When a person learns that he has tuberculosis and that treatment will probably be a long and slow process, he must then and there face the facts and muster his fighting spirit. The attitude of the patient is a most important part of the routine of getting well. He or she must learn to live a new life, at least for the immediate future, in which patience and good sportsmanship are the essential factors. If a victim of early tuberculosis does not get "fed up" with the routine of treatment and works with the doctor, as long as is necessary, he has an excellent opportunity for recovery. Even in advanced cases there is hope of an extended and comfortable life if the doctor's orders are faithfully followed. Here is some good advice for anyone who has been told that he has tuberculosis:

1. Do not be discouraged if progress is slow.
2. Keep striving toward the goal of cure.
3. Persist in following sound medical advice, even if it calls for things that try your patience.

The patient should allow nothing to interfere with his plans to "take the cure," regardless of how urgent he considers business or personal matters to be. *Delay in commencing treatment is dangerous.*

## Facts About Treatment

There are no "shots," no medicines, no special diets that will cure tuberculosis. Scientific tests with certain chemicals are to some degree promising, but still entirely experimental. The only proven remedies to date are rest, good food, plenty of sleep, fresh air, and a determination on the part of the patient to keep his mind at ease and do as the doctor says. All of these factors help the patient to build up his body so that the disease can be overcome.

REST—Rest and more rest—this is the first and most important remedy in the treatment of tuberculosis. The sort of rest the tuberculous patient must have is not the casual sort that most of us are accustomed to take, like "stretching out" for a few hours or "taking things easy" now and then. Rest for the tuberculosis victim often lasts for months, or longer, and must be complete rest in bed for 24 hours each day or for as long as the doctor specifies. This type of rest makes the work of the lung easier—thus giving it a chance to heal.

Rest is so important that medical science has found ways to give the sick lung itself the necessary rest treatment. Even when a person is asleep the lungs are in motion. To relieve the diseased lung from this work it must be put to rest in certain cases.

The most common method used is called pneumothorax, which literally means "air in the chest." Each lung, under normal conditions, is filled with tiny air spaces or sacs and can be compressed or permitted to collapse to about one tenth or one twentieth of its normal size, much as a sponge can be squeezed into a small compass. When the diseased lung is collapsed by means of pneumothorax, regular breathing is carried on by the healthy lung.

Other operations affecting the action of the diaphragm or shortening several ribs on one side of the chest are sometimes carried out in order to collapse and rest the lung. These operations have been performed successfully many times, and thousands of patients have been helped along the road to recovery by them.

FOOD—Next to rest of body and rest of mind, the most important measure in dealing with tuberculosis is to build up the body with nourishing food. In addition to the foods that are needed by everyone to maintain good health, extra quantities of citrus fruits or tomatoes are recommended. Usually this amounts to two or three glasses of the juice or the equivalent in whole citrus fruits or tomatoes daily. The physician also may wish to add some form of fish-liver oil. The patient should eat just enough to make the gain in weight that his physician thinks desirable. The old-fashioned practice of "stuffing" the victim with fattening foods is no longer recommended, nor are *special* food combinations.

CLIMATE, AIR, SUN—Climate alone will not cure or greatly benefit the majority of tuberculous patients. It is neither necessary nor desirable to go to a distant place where the climate differs from that of the home locality unless a competent physician has prescribed it after careful study of the case. There is no climate in the United States where people do not get well from the disease.

For a long time fresh air and sunlight were considered the great cure-alls for tuberculosis. The patient was urged to get out of doors, "fill his lungs with fresh air," and "rough it" winter and summer. This is no longer recommended. Like everyone else, the patient thrives best in moving, fresh, clean air, at comfortable temperature.

Prolonged direct exposure to sunlight may be very dangerous. A patient should be exposed to the sun only in accordance with the physician's recommendations.

### Sanatorium or Home Care?

A special hospital, called a sanatorium, is the best place for the tuberculous patient to "take the cure." The home is organized for the normal well individual, while the sanatorium is organized for the sick person. In the sanatorium those who have the disease are sure of getting the best modern scientific treatment. No patient should object to going to a sanatorium, for it is more like a training school than a hospital for the sick. Besides getting the necessary treatment, the patient learns what he must do to get well and to keep well. The modern sanatorium is a cheerful place where patients have many pleasant leisure-time activities. Patients are not shut off from their loved ones, as there are regular times when visits can be made by families and friends. In nearly all States there are tax-supported sanatoriums to which patients are admitted free or at low cost. Tuberculous patients should be encouraged by members of their families to accept sanatorium care and treatment whenever possible.

If it is not possible for a patient to enter a sanatorium, treatment at home may be carried out successfully under careful medical direction. The doctor must direct other members of the family as well as the patient, and his orders must be followed to the letter. In caring for an adult patient at home, one of the hardest things to do is to keep from him the worries and disturbances that are apt to occur in every household.

The patient should have a room to himself. It should be sunny and cheerful, with windows on two sides if possible. There should be no carpet or rugs on the floor. The room should be cleaned with a vacuum cleaner and damp mops and cloths. Dust from the vacuum cleaner should be burned immediately, and the mops and the cloths should be kept separate from those used in cleaning other parts of the house.

Both the person who cares for the patient at home and the patient himself are responsible for protecting the rest of the family from infection. The patient must be especially careful about the disposal of discharges from the mouth and nose. In cases of active tuber-

culosis the germs that cause the disease are usually present in such discharges. Paper sputum cups, with covers, may be bought for getting rid of sputum. After use they should be burned. Handkerchiefs of cloth or paper that can be burned after use should be held before the mouth when coughing or sneezing.

Mothers who have tuberculosis should never nurse their babies. One of the rules for protecting future generations is that a woman should never have children while she has active tuberculosis.

The person who cares for the patient should wash her hands often and thoroughly with warm water and soap. It is particularly important to do this after attending the patient and before eating and preparing meals.

The patient should have his own dishes, glasses, knives, forks, and spoons. In cleansing these, waste food should be scraped into a paper bag and burned, and the dishes and utensils should then be placed in a pan covered with warm, soapy water and boiled for at least 10 minutes. The patient's sheets, pillowcases, and body linen also should be boiled after use and kept separate from those used by the rest of the family.

Every member of the family of a tuberculous patient should have an X-ray examination as often as the doctor thinks advisable. *No child below the age of 16 should be allowed to enter the patient's room.* A child who lives in the same house with a person who has active tuberculosis is in constant danger, unless everyone in the household is on the alert to protect him. If any children in the family are in a run-down condition, they should, if possible, be removed from the home. The best plan, after all, is to arrange for sanatorium care, especially in homes where it is impossible or difficult to give the sole use of one room to the patient.

### Following Recovery

Patients who have recovered from tuberculosis must guard against doing anything that might cause the disease to become active again. The old ways of life cannot be resumed "all at once" or perhaps ever, even though the patient may seem hale and hearty. When he returns home, it is still necessary to follow the doctor's orders regarding rest, exercise, work, and play. Throughout his life, the recovered patient must make a constant effort to avoid strain and overwork.

The question of returning to work is of the utmost importance. There is no one rule to follow, but each recovered patient must, with the advice of a doctor and the help of his family and friends, decide upon the best course to pursue in the future. It may be safe to return to the old job, or it may be necessary to find a new type of work. While in the sanatorium the patient may undergo tests to determine his particular abilities, and in some cases a course of study may be undertaken to prepare the patient for a new occupation. Tuberculosis associations can give excellent advice about getting back into harness. Thousands of recovered patients return to useful, enjoyable occupations and take their rightful place as productive citizens of the community.

### To Beat T. B.

**1 KEEP YOUR BODY  
AT ITS BEST BY**

- Getting adequate sleep.
- Exercising out of doors.
- Eating a variety of nourishing foods.
- Avoiding overwork and other excesses that are weakening.
- Having periodic medical examinations.

**2 AVOID INFECTION BY**

- Practicing the rules of cleanliness.
- Using pasteurized milk.
- Avoiding those who cough and spit carelessly.

### Tuberculosis and War

Tuberculosis has been called "one of war's most active allies." Many of the nations seriously affected by the present war are experiencing a marked increase in mortality from the disease. In our country today there are signs indicating that a rise in the tuberculosis death rate must be guarded against. Among the factors that may increase its toll are more severe working conditions, the shifting of populations resulting in congestion and unsanitary living, and the employment of individuals unaccustomed to strenuous labor, or those who very unwisely abandon sanatorium care because of special war-work opportunities. All the forces in the thick of the fight against tuberculosis—citizens, physicians, public health nurses, voluntary tuberculosis associations, and official health agencies—must still keep on the alert. Less than a generation ago this disease was the leading cause of death; let us hold fast to the hope that another generation will see tuberculosis wiped out!

**TUBERCULIN PATCH TEST (Vollmer) Lederle**  
Tuberculosis Diagnostic

**Description**

Thin filter paper is saturated with tuberculin, dried, cut into squares of 1 x 1 cm. and placed on adhesive tape 1 x 3 in. in size. Each strip of tape contains two tuberculin test squares placed on each side of a control square of paper saturated with glycerine broth. The moisture of the skin dissolves the tuberculin and sufficient absorption follows to provide a reliable cutaneous reaction.



**Application**

Select an area on the arm, over the sternum or upper portion of the back. Cleanse the area with acetone. Remove crinoline from "TUBERCULIN PATCH TEST (Vollmer) Lederle" and apply patch to cleansed skin area. Do not allow patch to become wet. Remove patch at the end of 48 hours and read 48 hours after removal (96 hours after application). Patient should be advised to report later reactions. A positive reaction is indicated by two red spots under the tuberculin squares and no reaction under the control square.

**Packages**

1, 10 and 100 Tests.

LEDERLE LABORATORIES DIVISION, *American Cyanamid Company*  
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

**TUBERCULOSIS DIAGNOSTIC**  
Tuberculin Patch Test (Vollmer) Lederle**Indications**

In mass case-finding as a first procedure; in following up contacts; in physicians' private practice. Its usefulness should not be overlooked for testing infants and young children up to 3 years of age.

**Advantages**

Stable and potent for at least one year. No solutions to be kept or made up. Avoids the use of instruments and resultant resistance by young patients. Can be employed by nurses, under medical supervision.

**Precautions**

Patients thought to be hypersensitive to tuberculin may be tested by the application of the Patch Test for a period of 3, 6 or 12 hours as a preliminary measure, followed by the routine application of the test. In a suspicious case of tuberculosis a negative patch test should not be relied upon for diagnosis. Mantoux tests, x-ray, sputum examinations, etc. should always be made. In the interpretation of tuberculin Patch Test reactions (with the Patch Test) care should be taken not to confuse the occasional plaster reaction with a true positive.

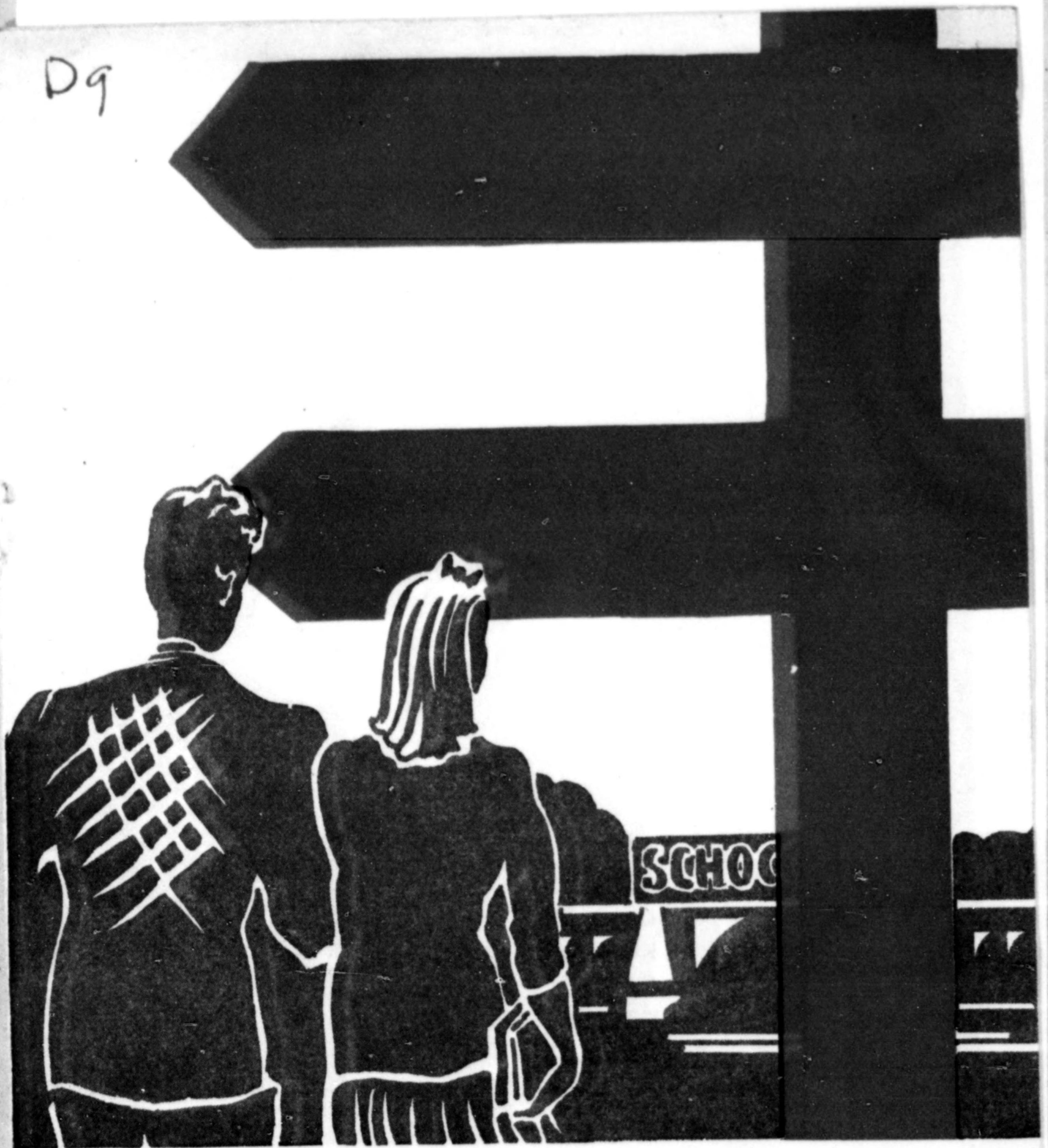
*Literature on Request*

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30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.



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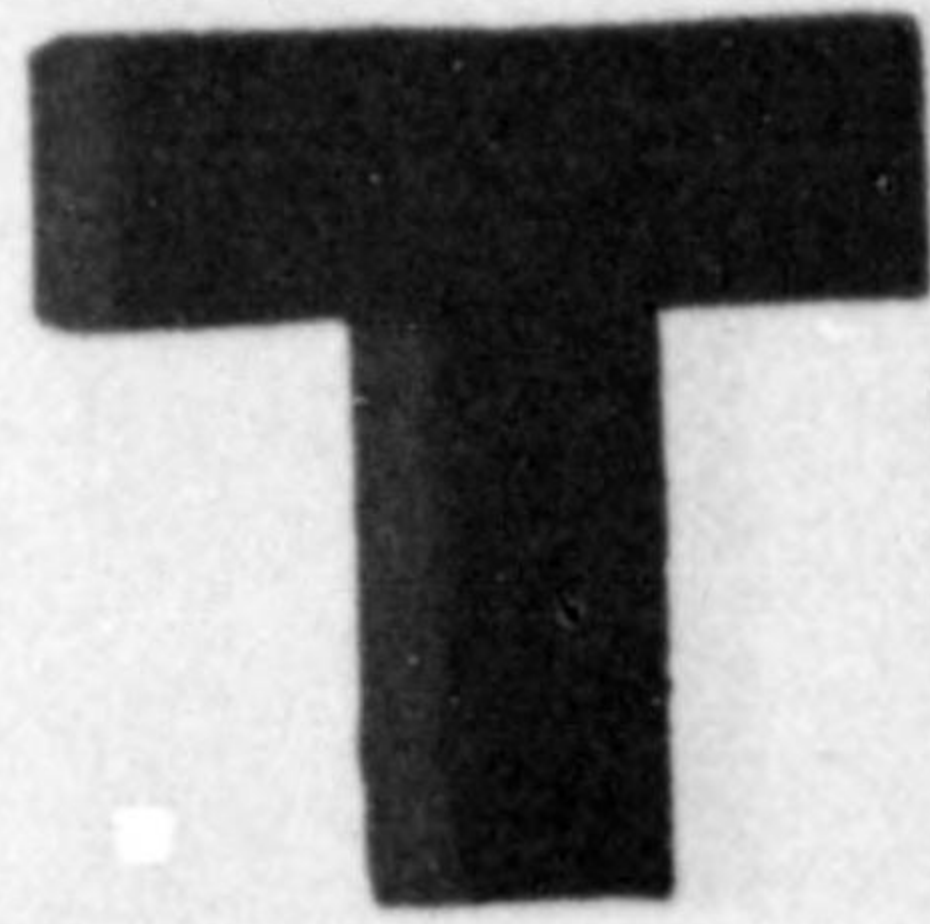


**THE MESSAGE OF THE  
DOUBLE-BARRED CROSS**





DOUBLE-BARRED CROSS  
OF THE NATIONAL  
TUBERCULOSIS  
ASSOCIATION



TAU CROSS

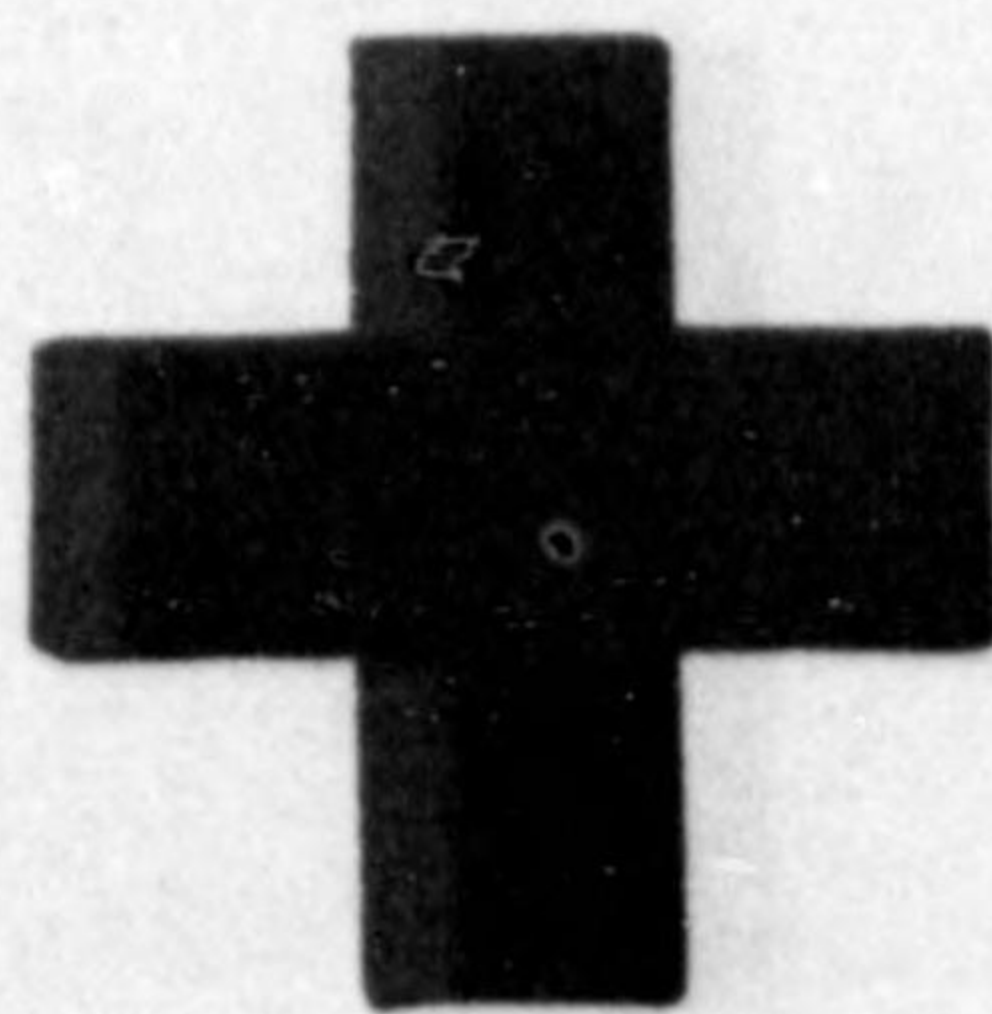
CROSS OF  
LORRAINE  
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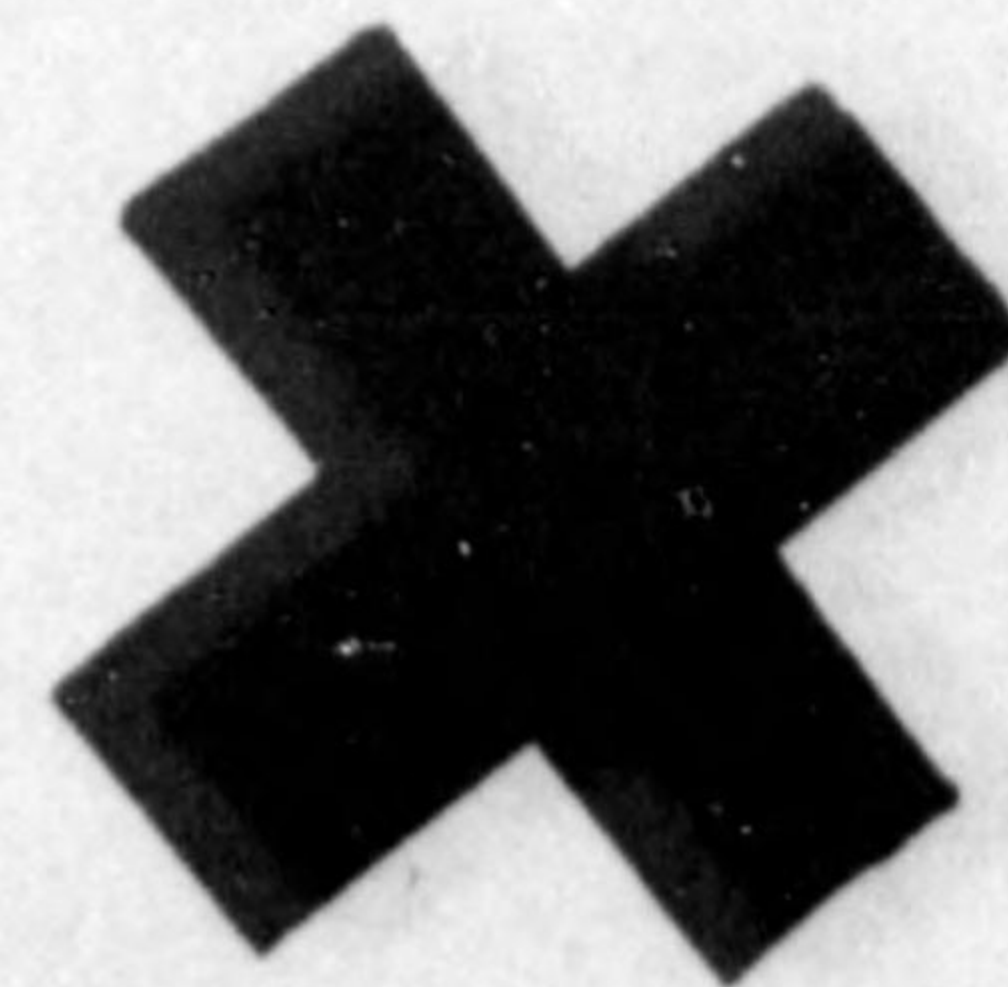
PATRIARCHAL  
CROSS



LATIN CROSS



GREEK CROSS



ST. ANDREW'S CROSS

**THE MESSAGE**  
*of the*  
**DOUBLE-BARRED CROSS**

*A Study Unit for Junior and Senior High Schools*  
(REVISED)

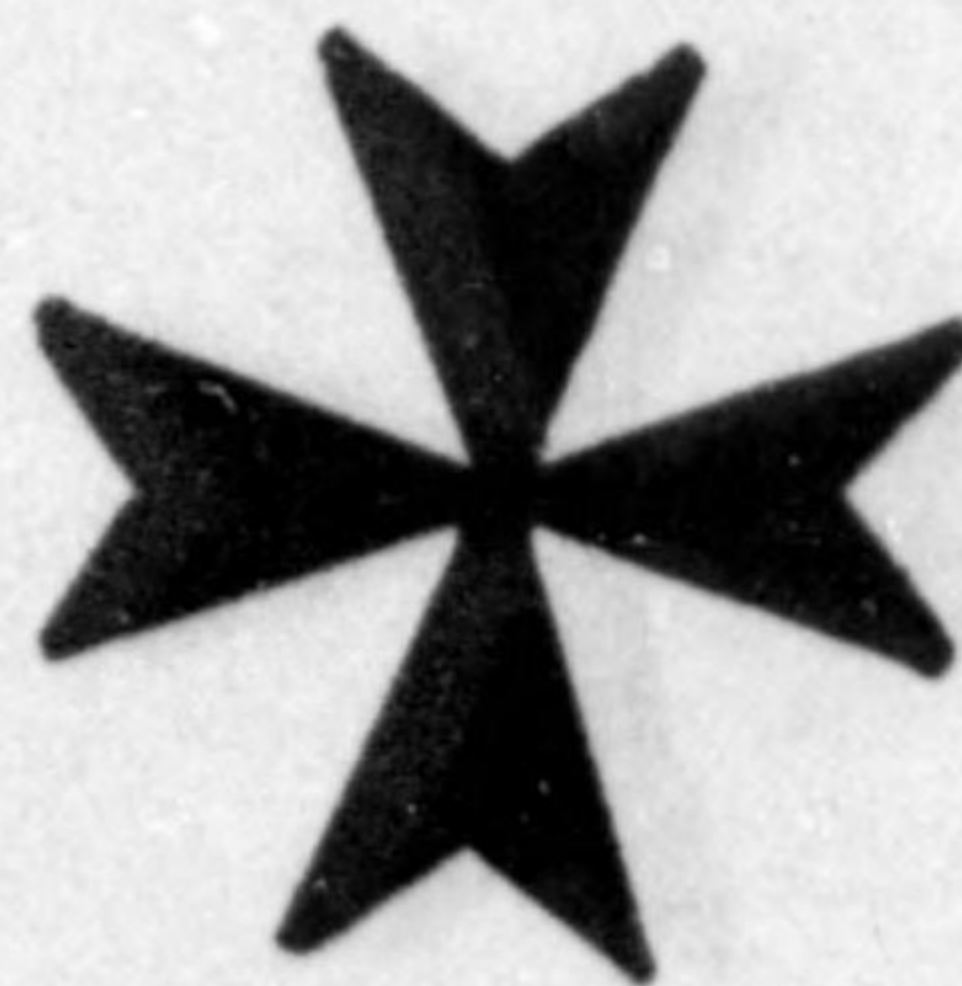
*This booklet tells about*

Crosses and Their History  
The Modern Crusade for Health  
The Local Tuberculosis Association  
The State Association  
The National Association  
What You Can Do

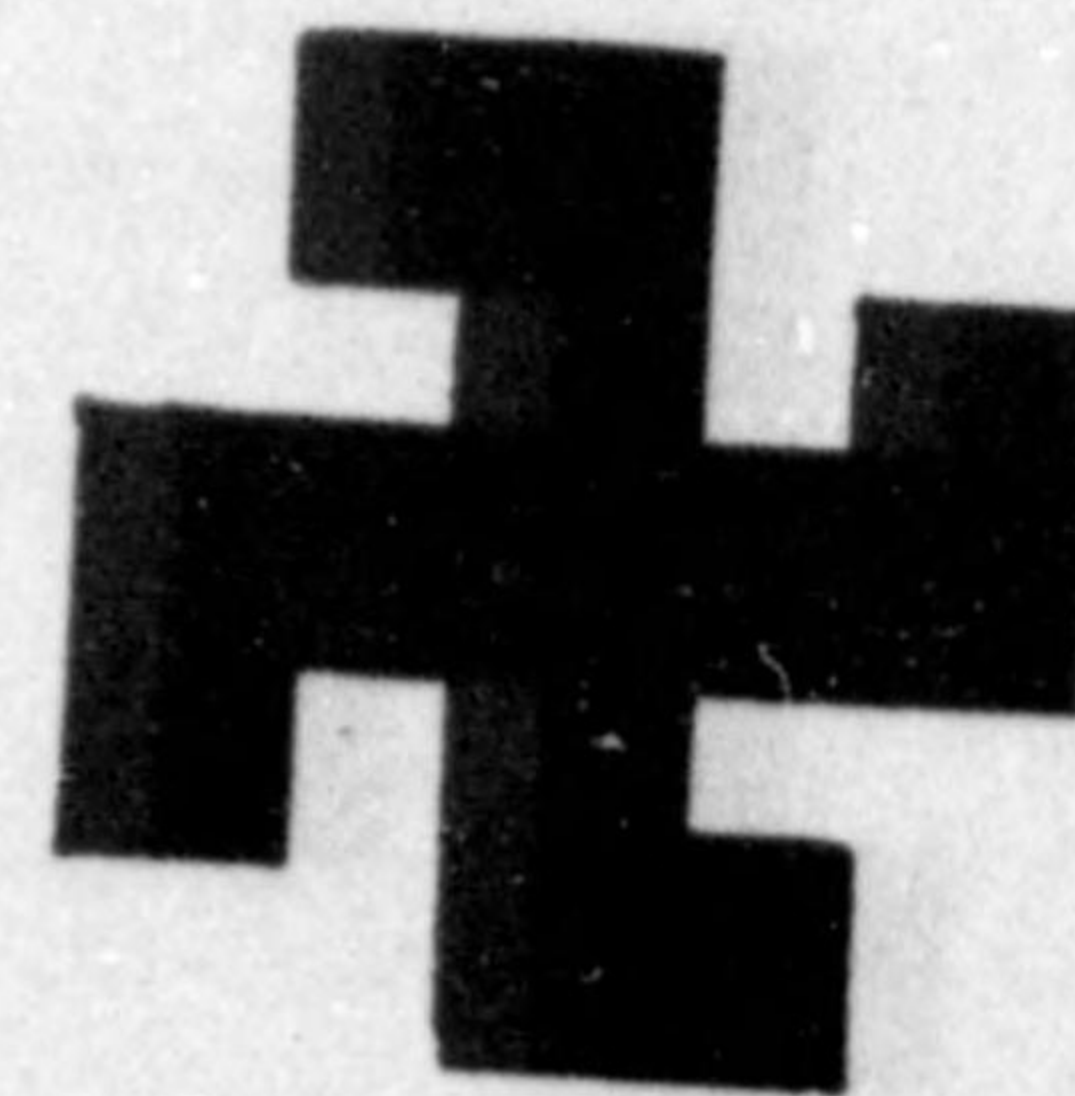
Prepared originally in 1939 by W. W. Charters and Velma L. Carter  
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1790 Broadway, New York 19, N. Y.



**CELTIC CROSS**



**MALTESE CROSS**



**SWASTIKA CROSS**



## CROSSES AND THEIR HISTORY

The double-barred cross of the National Tuberculosis Association brings its message of hope for those who are sick and its call to service for those who are well. Throughout the year it appears on pamphlets and posters. At Christmas time you see the seal with the double-barred cross on millions of letters and packages. Although the picture on the seal changes each year, you will always find somewhere a double-barred cross that looks like this  $\ddagger$ . That cross is the symbol and registered trademark of the National Tuberculosis Association. Every year millions of people buy these Christmas Seals and so help to do their part to free the nation from tuberculosis. The double-barred cross serves as an emblem under which they fight for better health for all people.

### WELL-KNOWN CROSSES

You have seen many other kinds of crosses, of course. Some of those pictured on the inside front cover have a long history. Two of the oldest are the tau cross and the swastika. The tau cross is shaped like the Greek letter *tau* (T) and gets its name from it. It was in common use in Egypt many hundreds of years before Christ. That is why it is sometimes called the Egyptian cross. The swastika is another very old cross of a different shape. Many people think of it as the symbol of the Nazis, but more than two thousand years ago the East Indians and the Chinese used it. The American Indians display it on their pottery and in their weaving.

The cross you know best is the Latin cross, for that was the form of cross on which Christ died. His followers used this cross as their secret symbol or badge. About two hundred and fifty years after His death, His faith had spread so widely over Europe that the Roman Emperor Constantine made this cross the symbol of Christianity. Since that time a cross has been the religious symbol for members of the Christian faith. Different churches have employed different forms of the cross — the Greek cross, St. Andrew's cross, which is said to be the form of cross on which he died, and St. Anthony's cross, which is the same shape as the tau cross and was like the crutch that St. Anthony carried.

These same crosses have other uses. You will find on the Union Jack of Great Britain the Greek cross for St. George of England, the cross of St. Andrew of Scotland, and another cross for St. Patrick of Ireland (Eire). The Greek cross

in white on a red background became the flag of Switzerland. The same cross in red on a white background became a symbol of our world-wide Red Cross.

In the Middle Ages other crosses were utilized by knights as emblems. For example, the Maltese cross denoted the Knights of Malta. With much of their faces covered by helmets, it was hard to tell friend from foe. Crosses and other marks on their shields and banners helped to identify them.

#### **DOUBLE-BARRED CROSSES**

On the inside front cover you will find three crosses with double bars. The Lorraine cross was the emblem of the Dukes of Lorraine of France. One of this family, Godfrey de Bouillon, was a leader of the First Crusade. He fought to win the Holy Land where Christ was born and lived. He became the first Christian ruler of Jerusalem. Naturally, his double-barred cross became a mark of honor.

Through the years double-barred crosses like the Lorraine cross have been used as tokens of hope and peace. In World War I the 79th Division of the United States Army bore this mark, perhaps to indicate a fight for a better world. In World War II when the Free French wanted an emblem they chose the double-barred cross of their crusading hero of long ago, Godfrey de Bouillon.

### **THE MODERN CRUSADE FOR HEALTH**

Before World War I the double-barred cross of the Crusaders was chosen as the symbol of a different kind of crusade. It is a crusade for good health, a crusade against sickness and death, a crusade against tuberculosis. In the first International Conference on Tuberculosis held in 1902, Dr. Gilbert Sersiron of Paris suggested the adoption of the double-barred cross as the symbol of this new movement. Thus the double-barred cross became the device of peace rather than war, of life rather than death, of a new crusade that would unite all nations. The crusaders of today work together to make the world a healthier and happier place for young and old.

#### **THE DOUBLE-BARRED CROSS ON THE CHRISTMAS SEAL**

How is the money for the crusade for better health raised? The Christmas Seal with its double-barred cross plays an important part in this present-day health program. The Christmas Seal is not very old. Einar Holboell, a post office

worker in Denmark, first thought of it as a means of raising money to care for children sick with tuberculosis. He interested the royal family of Denmark in this idea. The first seals were used on letters and packages during the 1904 Christmas season. They sold rapidly and soon there were funds enough to build a sanatorium where children could be given care and treatment.

In 1907 the seal reached America. Jacob Riis, a great American, who had come as an immigrant boy from Denmark, received one of these Christmas Seals on a letter from his old home. At once he wrote to find out about it. He decided the idea was a good one for America, too, and wrote an article about it for a popular magazine, *The Outlook*. In Wilmington, Delaware, Emily P. Bissell, a welfare worker, needed money to help children sick with tuberculosis. When she read the article she decided to look into the Christmas Seal idea.

Miss Bissell took her plan to a newspaper, the Philadelphia *North American*. At first the Sunday editor was not interested, but a reporter, Leigh Mitchell Hodges, felt that the idea of a Christmas Seal would appeal to the people of the nation. He was so enthusiastic that he soon won the editor over. "Tell Miss Bissell the *North American* is hers for the holidays," said the chief. "Give her all the time you can spare and take all the space you need."

One day after the seals had been placed on sale, a little newsboy came into the newspaper office with a penny for a seal, and said, "Gimme one. Me sister's got it." Then Mr. Hodges knew that the Christmas Seal idea would succeed. It became the means by which a great voluntary movement for the control of tuberculosis has been supported in the United States.

An idea that springs from the people is supported by the people. At least ten million people give something every year to this cause. No nationwide program has rested for so many years on so broad a base made up of millions of small gifts.

Of all the money raised in the Christmas Seal sale, approximately 90 per cent comes in by mail, two per cent is in the form of large gifts, and eight per cent from booth and street sales and other small donations.

#### WHY THE MONEY FROM CHRISTMAS SEALS IS NEEDED

All the money from the sale of Christmas Seals is spent to check tuberculosis and build better health. It is used to carry on the programs of the tuberculosis associations. These voluntary health associations supplement and strengthen the work of the tax-supported health agencies.

Much ground has been won already. In 1904, when the National Tuberculosis Association began its work, the number of deaths from tubercu-

losis was 188 in every 100,000 people in the United States. By 1944, the 188 had been reduced to 41 per 100,000 people. This is great progress.

But the war against tuberculosis is not yet won. This year about 55,000 Americans will die of tuberculosis. That means about 40 out of every 100,000 people in this country. It is estimated there are about 500,000 people who have tuberculosis at this very moment. About half of them don't even know yet that they have it. Tuberculosis is still the disease that causes most deaths among persons 15 to 34 years of age, in spite of the fact that we now know how this heavy toll of illness and unnecessary death can be prevented.

Because tuberculosis is still a big problem, a big world-wide program is needed to fight it. The government (local, state and federal) builds many hospitals, makes health laws, and through health departments provides nurses, doctors and other health workers to prevent communicable diseases and to promote health. Private physicians and the medical societies to which they belong serve in many ways. The schools carry on their part of a well-rounded health program. The tuberculosis association, whose symbol is the double-barred cross, works with these and other groups for the common purpose — freedom from disease and good health for all. The rest of this booklet tells you about the work of your tuberculosis associations.


### WHAT THE MONEY FROM CHRISTMAS SEALS DOES

Most of the money from Christmas Seals is spent in the local community — right where the money was raised. This money makes possible the program of your local tuberculosis association. Some of the money goes to the state tuberculosis association for state-wide work. Only five per cent, or five pennies in each dollar, goes to the National Tuberculosis Association for nation-wide work. Let us now see what each of these three kinds of associations — local, state, and national — does.

### THE LOCAL TUBERCULOSIS ASSOCIATION

There are about 2,900 tuberculosis associations in the 48 states and the District of Columbia, Alaska, Hawaii, and Puerto Rico. In your state, and perhaps near your own home, there is a tuberculosis association at work.

The program of a local tuberculosis association is like a suit; it must fit. That is why the program of your local association may be quite different from the program somewhere else. Each community has a different program of health, social work, and education. The local tuberculosis association studies



the situation as a whole. It finds out what the health problems are, particularly with reference to tuberculosis, and helps to do something about them. It shows the community a way to better health.

These are the kinds of work local tuberculosis associations do:

1. *Study year by year the local community:* the number of deaths from tuberculosis, the number of new cases reported and the number of cases already on record; the nursing care and hospital beds for patients with tuberculosis; the milk supply, housing, working conditions, and other influences that may increase the number of cases of tuberculosis.

2. *Teach people how to prevent tuberculosis and how it is cured.* This may be done through newspaper stories, magazine articles, literature, radio programs, motion pictures, exhibits, posters and public meetings.

3. *Help public health workers* in their programs for people sick with tuberculosis.

4. *Make early discovery of tuberculosis possible* for all.

It is important to support tuberculosis case-finding programs. People may have tuberculosis and not know it. The family physician, who takes care of all kinds of people from every part of the community, can do a great deal to discover tuberculosis early. So can tuberculosis clinics and community-wide chest X-ray programs that promote early discovery of the disease. Clinics can give service at low

cost, or free to people who cannot afford to pay. Facilities are needed for those who have or who suspect they have tuberculosis and for any who have been living or working with



a sick person. However, in a truly community-wide chest X-ray search for tuberculosis everyone should have an X-ray, including those who feel perfectly well.

An X-ray can find trouble long before a person feels sick. If the disease is discovered and treated before it becomes serious, the patient is more likely to get well and in a shorter time.

5. *Work to see that there is a sanatorium* (tuberculosis hospital), if one is needed in the community. There patients with tuberculosis are treated and taught how to stay well when they leave the hospital. Although training for work that will not be bad for their health takes place after leaving the hospital, patients are prepared in the hospital for this next step. The sanatorium also helps to prevent the spread of tuberculosis by taking the sick person away from other persons in his home and community.

6. *Help the tuberculosis patient* to get suitable work and to make satisfactory living arrangements when he is discharged from the sanatorium.

7. *Work with schools* for better health of teachers and pupils.

8. *Interest community agencies and groups* in supporting an adequate community health program.

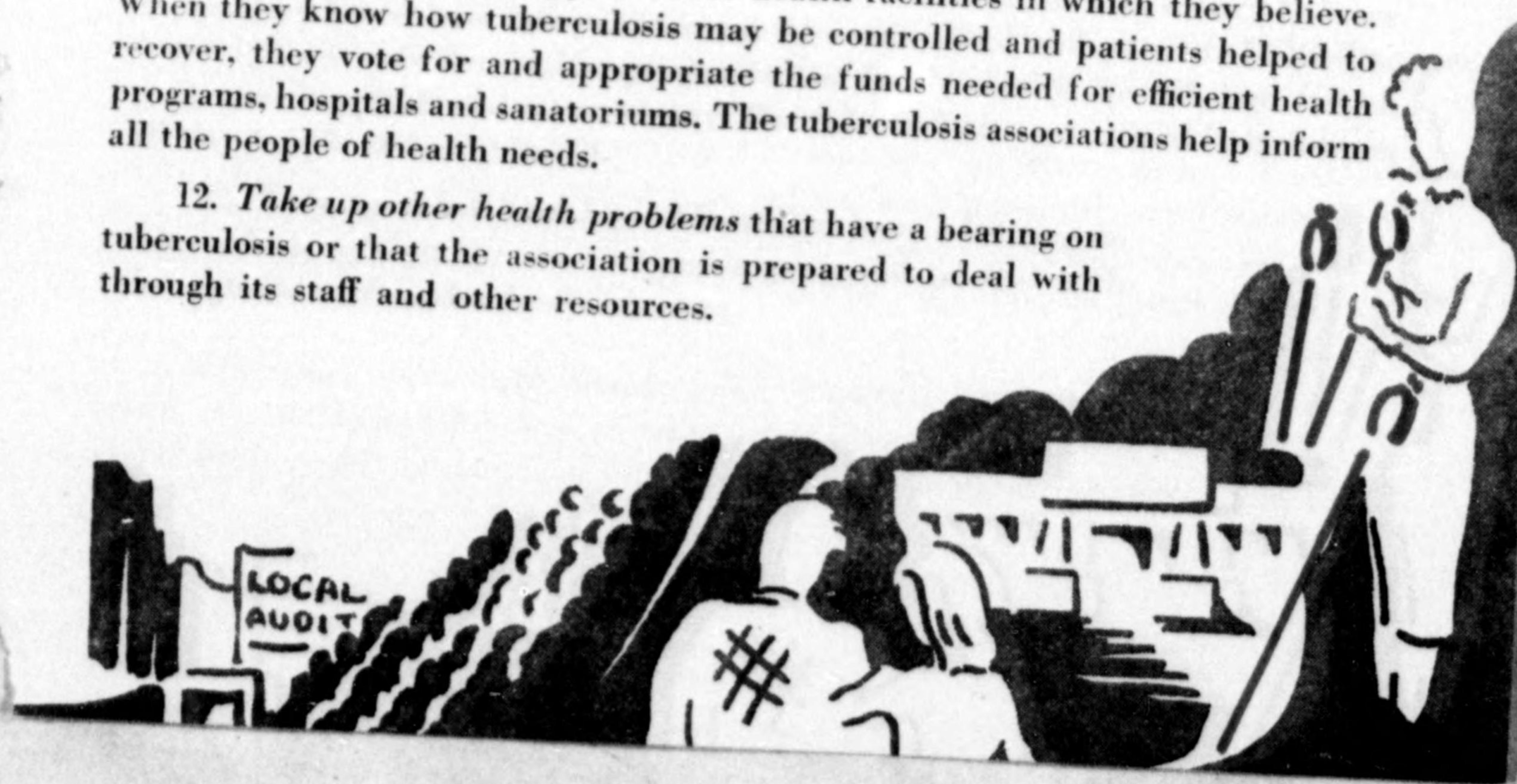
9. *Take educational and X-ray programs into industries* to find early tuberculosis among workers.

10. *Work with other groups* that are trying to improve the health and welfare of the community.

11. *Demonstrate the value of the kind of health program the community needs.* Benefits from the services of the health educator, the social worker, the public health nurse, the rehabilitation worker, still need to be proved to the citizens in many places.

Cities and counties support those health facilities in which they believe. When they know how tuberculosis may be controlled and patients helped to recover, they vote for and appropriate the funds needed for efficient health programs, hospitals and sanatoriums. The tuberculosis associations help inform all the people of health needs.

12. *Take up other health problems* that have a bearing on tuberculosis or that the association is prepared to deal with through its staff and other resources.



## THE STATE ASSOCIATION

Health education is also the keynote of your state association's program. Through the cooperation of industry, schools, health departments, and the medical and nursing professions, health education is carried on all the time. Working for the passage of better public health laws is one of the most important duties of the state association. The state associations, for instance, help to inform the public so that public funds may be obtained (1) for adequate hospital care of the tuberculous, (2) for clinics needed in the early detection of tuberculosis, and (3) for assistance to patients and their families. Because conditions are not the same in all places, the services of the state associations are not the same throughout the country. But all the states have one common objective — to carry on the program to promote health and to prevent sickness and death from tuberculosis. The state association gives leadership to the local associations and coordinates their efforts with a state-wide program.

## THE NATIONAL ASSOCIATION

The National Tuberculosis Association works with and through its affiliated local and state organizations, supplying national leadership and help. Obviously, most of the activities for the control of tuberculosis are carried on in your own town, city, county and state.

The National Tuberculosis Association collaborates with various federal agencies and national associations on problems relating to tuberculosis, public health, child health and other problems.

The Association produces motion pictures, filmstrips, radio programs, exhibits, newspaper and magazine articles, and pamphlets, which the state and local associations use in spreading facts about the detection, cure and prevention of tuberculosis. Its main task is education. It is the responsibility of the Association to get the most up-to-date facts about tuberculosis into interesting, readable form. It has published many easy-to-read leaflets about tuberculosis. Posters, leaflets, pamphlets, and booklets come out from the National Association in a steady stream. The total number sent out every year is approximately a billion.

The *Bulletin* of the National Tuberculosis Association tells workers in tuberculosis associations, teachers in schools, and interested citizens about current events in the field of preventing and overcoming tuberculosis. More

technical information is given to doctors and nurses. In a scientific journal, *The American Review of Tuberculosis*, research workers exchange information, and doctors who treat tuberculosis learn about new discoveries.

Leaders are needed and the National Association helps to train them. They go to special schools to learn as much as possible about tuberculosis and how to decrease the number of cases in their own communities. Other workers in local associations may take special courses in health education, in rehabilitation, and other phases of their work. Through demonstrations of modern methods of education, workshops, institutes, and conferences, local workers are helped by the National Association to do better jobs.

New facts about tuberculosis are being discovered by scientists. Fifty years ago we knew a lot less about tuberculosis. Since then a great deal has been learned. There is still much to be discovered about the tuberculosis germ, what it does to the body and how to treat the disease. Research is going on all the time in laboratories and hospitals. For twenty-five years the National Tuberculosis Association has initiated and supported research on tuberculosis through its Committee on Medical Research. This committee is continuing its work and, in addition, serves as a clearing house for information on research in progress.

Facts about progress that has been made in the control of tuberculosis are collected by the National Tuberculosis Association and made into graphs. The job of collecting facts for even a simple statement such as "the annual death rate of tuberculosis has fallen from 188 in 100,000 in 1904 to 41 in 1944" takes a large amount of work by many persons skilled in handling figures.

The old Crusades lasted 350 years. The program of which the double-barred cross is now the symbol has been going on for only 42 years. It will not need to last for 350 years. Victory will come before that because millions of people are working together intelligently to learn how to make tuberculosis a disease of the past and to put health in place of sickness. This is a program that has sprung from the hearts of the people and is being carried on by millions of them.



## WHAT YOU CAN DO

Your personal contribution is more than a gift of money. It is relatively easy for anyone to buy Christmas Seals at holiday time. The greatest personal contribution you can make is to keep yourself free from tuberculosis. Then your friends will never have to help you get well, while you can help others keep well. You will be able to take your part as an active member of your community.

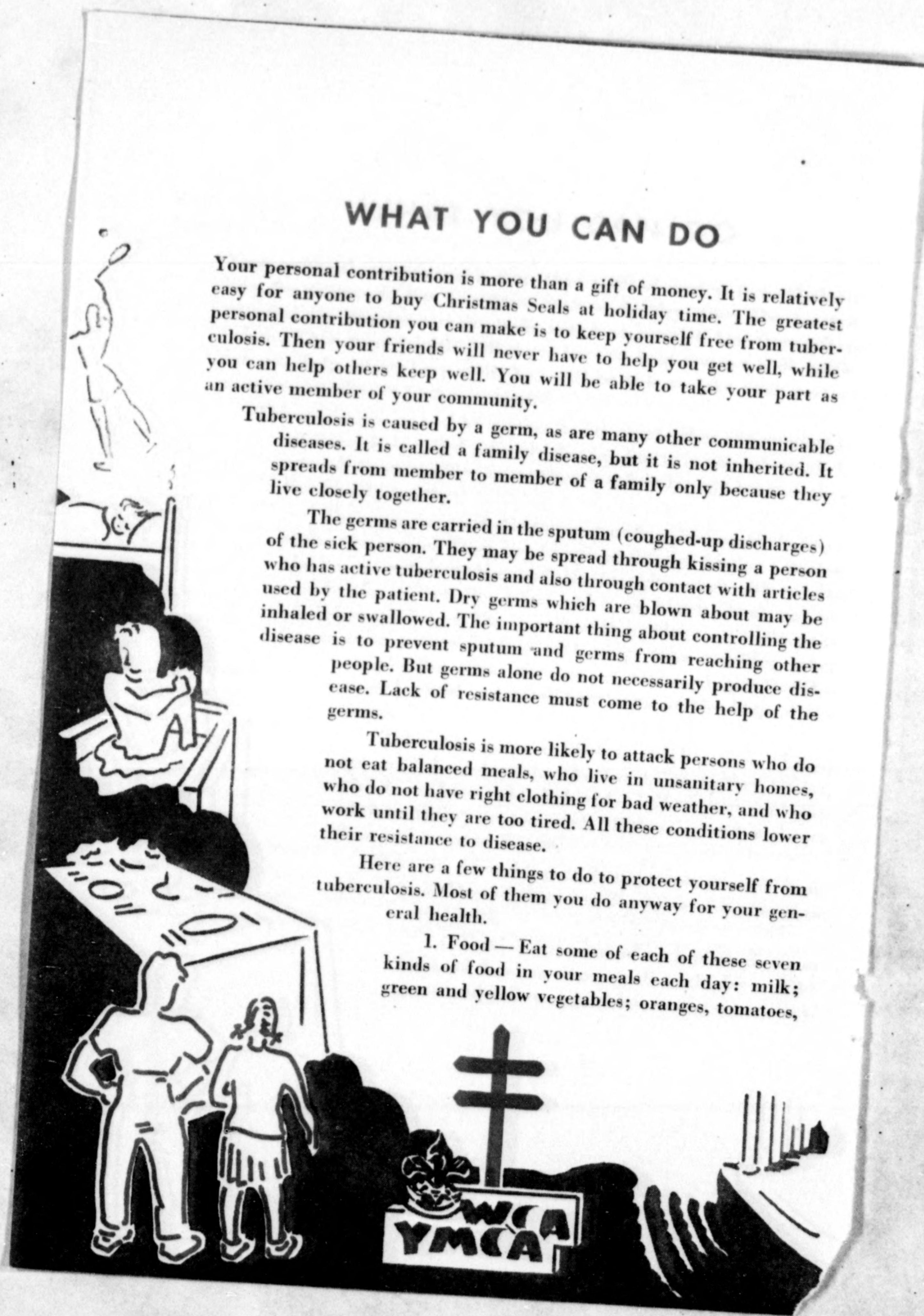
Tuberculosis is caused by a germ, as are many other communicable diseases. It is called a family disease, but it is not inherited. It spreads from member to member of a family only because they live closely together.

The germs are carried in the sputum (coughed-up discharges) of the sick person. They may be spread through kissing a person who has active tuberculosis and also through contact with articles used by the patient. Dry germs which are blown about may be inhaled or swallowed. The important thing about controlling the disease is to prevent sputum and germs from reaching other people. But germs alone do not necessarily produce disease. Lack of resistance must come to the help of the germs.

Tuberculosis is more likely to attack persons who do not eat balanced meals, who live in unsanitary homes, who do not have right clothing for bad weather, and who work until they are too tired. All these conditions lower their resistance to disease.

Here are a few things to do to protect yourself from tuberculosis. Most of them you do anyway for your general health.

1. Food — Eat some of each of these seven kinds of food in your meals each day: milk; green and yellow vegetables; oranges, tomatoes,



grapefruit, or raw cabbage and other salad greens; potatoes and other vegetables and fruits; meat, fish, eggs, nuts, peas and beans; whole or enriched cereals and bread; butter, or margarine fortified by the addition of vitamin A. Be sure the milk you drink is pasteurized.

2. Rest and exercise — Sleep nine or ten hours each night. Avoid getting overtired, but have enough outdoor exercise to make you feel good.

3. Cleanliness — Bathe frequently and wash your hands before eating. Do not use carelessly washed dishes or common drinking cups.

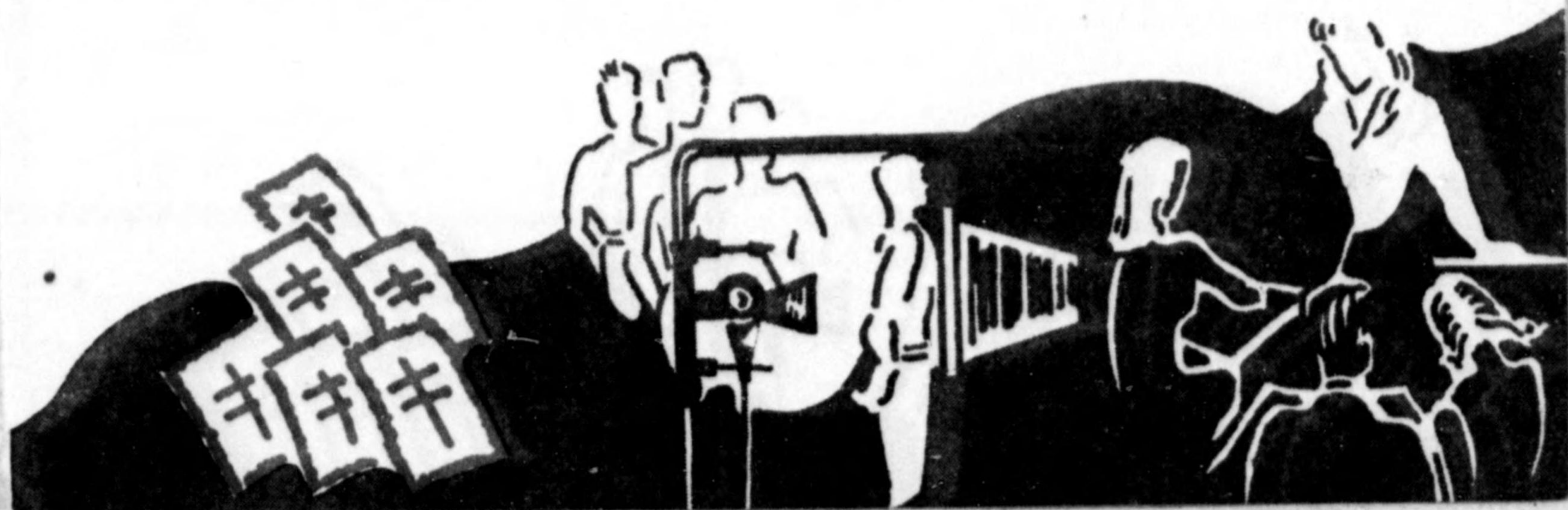
4. Sensible precautions — Avoid close contact with persons you know are sick with tuberculosis or any other communicable disease. When you do visit a relative or a friend who has tuberculosis, be as careful to protect yourself as he will be to protect you. Treat colds seriously and do what your doctor advises. Have a medical examination periodically. The examination should include a tuberculin test and an X-ray for all who have a positive tuberculin reaction. Sometimes, when people are examined in groups, everyone is X-rayed.

Another thing you can do is to work for better health in your community. Soon you will have more responsibilities in the community. You will vote and have something to say about the health laws that should be made and obeyed. Your action should be based on knowledge. So it is important for you to get and use knowledge.

The pioneer health educator, Dr. Hermann M. Biggs, coined the slogan: "Public health is purchasable." He knew it would cost a substantial sum. The continuing task of health education is to point out the value of health measures to those who pay for them.

In your community there is health work that can be done by volunteers. Find out what it is. Prepare yourself to do it. Find time to do it. For example, much of the work of selling Christmas Seals is done by volunteers. During World War II young people did a great many volunteer jobs that helped to make children and other persons in their community healthy and safe.

Turn the page for some of the ways in which you can serve:



## ACTIVITIES

1. Obtain from your local or state tuberculosis association one collection of all its publications that would be useful for your class. When you receive them, form a committee to divide them into groups:

- a. Easy-to-read pamphlets that are for persons who want to protect themselves and their families from tuberculosis
- b. Easy-to-read pamphlets for persons who have tuberculosis
- c. Pamphlets for pupils in school who are studying how to be healthy
- d. Pamphlets for teachers who want to do their part in a total health program
- e. Pamphlets for workers in local tuberculosis associations
- f. Pamphlets for doctors, nurses and social workers.

After you have grouped the pamphlets and learned what is in them, you may want to place some in the school library for school use and to give selected ones to persons who could best use the information.

2. Write and give a play in assembly or to a Parent-Teacher Association showing how the local tuberculosis association helped someone to discover tuberculosis early and prevented it from becoming serious.

3. As a class, make a study of what your local community is doing to prevent and cure tuberculosis as part of a total health program. You may want to get the answers to many of these questions:

- a. What is the local health department doing?
- b. What are organizations like the 4-H Clubs, Boy Scouts, Girl Scouts, Camp Fire Girls, YMCA, YWCA, and others doing?
- c. Is there a local tuberculosis association or a local tuberculosis and health association? If so, a member of your class might arrange an interview with workers in the association.
- d. Is your local tuberculosis and health association teaching people about tuberculosis through
  - Stories and articles about tuberculosis in newspapers and magazines?
  - Radio programs?
  - Car cards in buses, trolleys?
  - Posters on billboards and in other places?
  - Talks and discussions, using motion pictures, other visual aids and literature to make facts clearer or to start discussions?
  - To whom are talks given?
    - Church groups, labor unions, mothers' clubs, social and civic clubs, scout troops, parent-teacher associations, Red Cross home-nursing classes, patients in tuberculosis hospitals?
  - With whom are discussions arranged?
    - Health workers, nurses, doctors, social workers, clerygmen, others?

- e. How is your local tuberculosis and health association helping the school's health program? Is it
    - Working with teacher groups, particularly health education groups?
    - Helping with the Columbia Scholastic Press project?
    - Making tuberculin-testing popular among students, teachers, and other personnel?
    - Making it easy for those who show positive reactions to the tuberculin test to be X-rayed?
  - f. What are other services of your local tuberculosis and health association?
    - Sponsoring tuberculin-testing and X-raying so that all early tuberculosis can be detected?
    - Setting up consultation chest clinics in convenient community centers?
    - Forming a special committee of leaders from any group in the community which has special health problems?
    - Helping persons who have been cured of tuberculosis to have self-confidence and to get back to work?
  - g. With what other persons, agencies, and community groups does your local tuberculosis and health association work?
    - Hospitals, churches, industrial and civic clubs, welfare agencies, state vocational rehabilitation service, private physicians, others?
  - h. What studies has your local tuberculosis and health association made?
    - What are the outstanding health needs and ways of meeting these needs?
4. Bring in clippings from newspapers and magazines telling about the work of local, state, and national tuberculosis associations. Put on the bulletin board first and later file them.
  5. Have a round-table or panel discussion on tuberculosis as a problem in your community, what is being done, and what can be done.
  6. Find out what people in your community know about tuberculosis and where they got their information.

## FOR TEACHERS

This is an important health unit for students who will soon be adult members of their community.

You might well begin the unit by letting them choose as a class project one or more of the activities listed. Perhaps they will think of a better activity — one that grows out of some immediate community need or interest. After they have chosen the activity as a class or as a committee, you will give them all the help they need in working it out successfully.

After the pupils have obtained some firsthand information about tuberculosis programs in their community, they will be better able to plan practical ways in which they can contribute to the local program.

## REFERENCES

Here are a few of the pamphlets and leaflets available from your local or your state tuberculosis association:

*The High School's Share in Solving the Community's Tuberculosis Problem.* A Plan of Action and an Outline for Teaching. 16p. 1944.

*Take-Off*, by GRACE T. HALLOCK. A gift booklet for students graduating from or leaving high school. 16p. 1945.

*Help Fight Tuberculosis.* An illustrated primer on tuberculosis for educating adults. 31p. 1944.

*Rehabilitation.* A school program and study unit for use in high schools. Prepared by a committee of Cincinnati public school teachers. 12p. 1945.

*Help for the Busy Teacher.* A selected list of pamphlet material on health education. Compiled by the American Association for Health, Physical Education, and Recreation, a department of the National Education Association. 1944. Folder.

*Tuberculosis as an Economic and Social Problem*, by ROBERT E. PLUNKETT, M.D. 8p. 1944. Reprint.

*We the People Fight TB.* The fight against tuberculosis belongs to the nation. 1945. Leaflet.

*TB through the Teens.* Tuberculosis can attack anyone, but it need not be you. 1945. Leaflet.

*Tuberculosis from 18 to 80.* 1945. Leaflet.

*How Your Body Fights Tuberculosis.* 1945. Leaflet.

*How to Kill TB Germs.* 1945. Leaflet.

*X-Ray.* Will show tuberculosis long before you feel sick. 1945. Leaflet.

*After the X-ray—What?* 1946. Leaflet.

*Steps to Safety.* The Tuberculin Test. 1946. Leaflet.

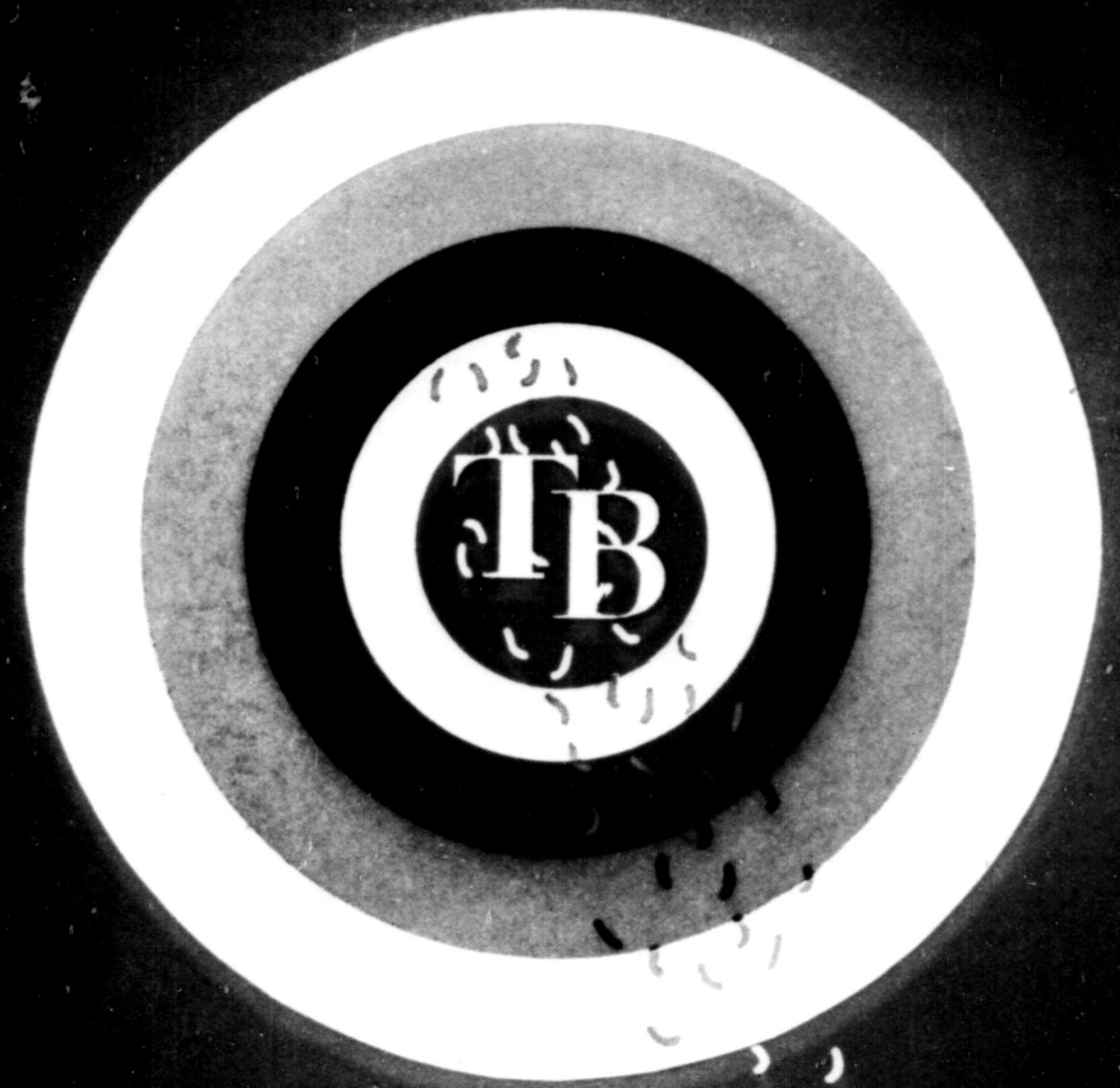
*Everybody's Doing It! Get Your Chest X-ray Now.* 1946. Leaflet.

*Tuberculosis*, by CHARLES E. LYGT, M.D. Personal Growth Leaflet Number 110. National Education Association, Washington, D. C. 16p.

*What You Should Know About Tuberculosis.* A booklet for patients and their families. 32p. 1946.

Publication made possible by the sale of Christmas Seals.





*How to kill* **TB** *germs*

FROHLICH

# How to kill TB germs

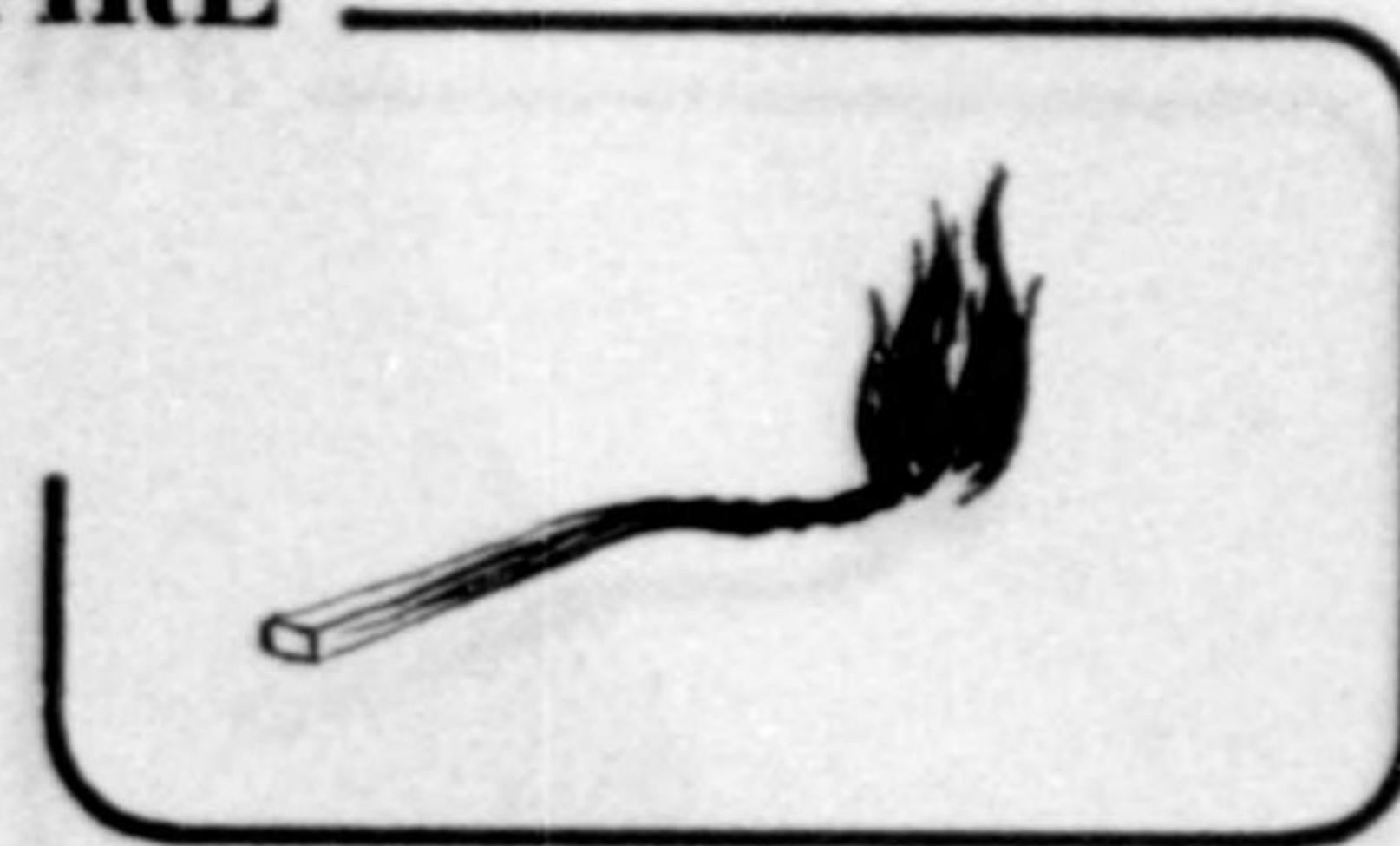
## OUTSIDE THE HUMAN BODY

### SUNLIGHT



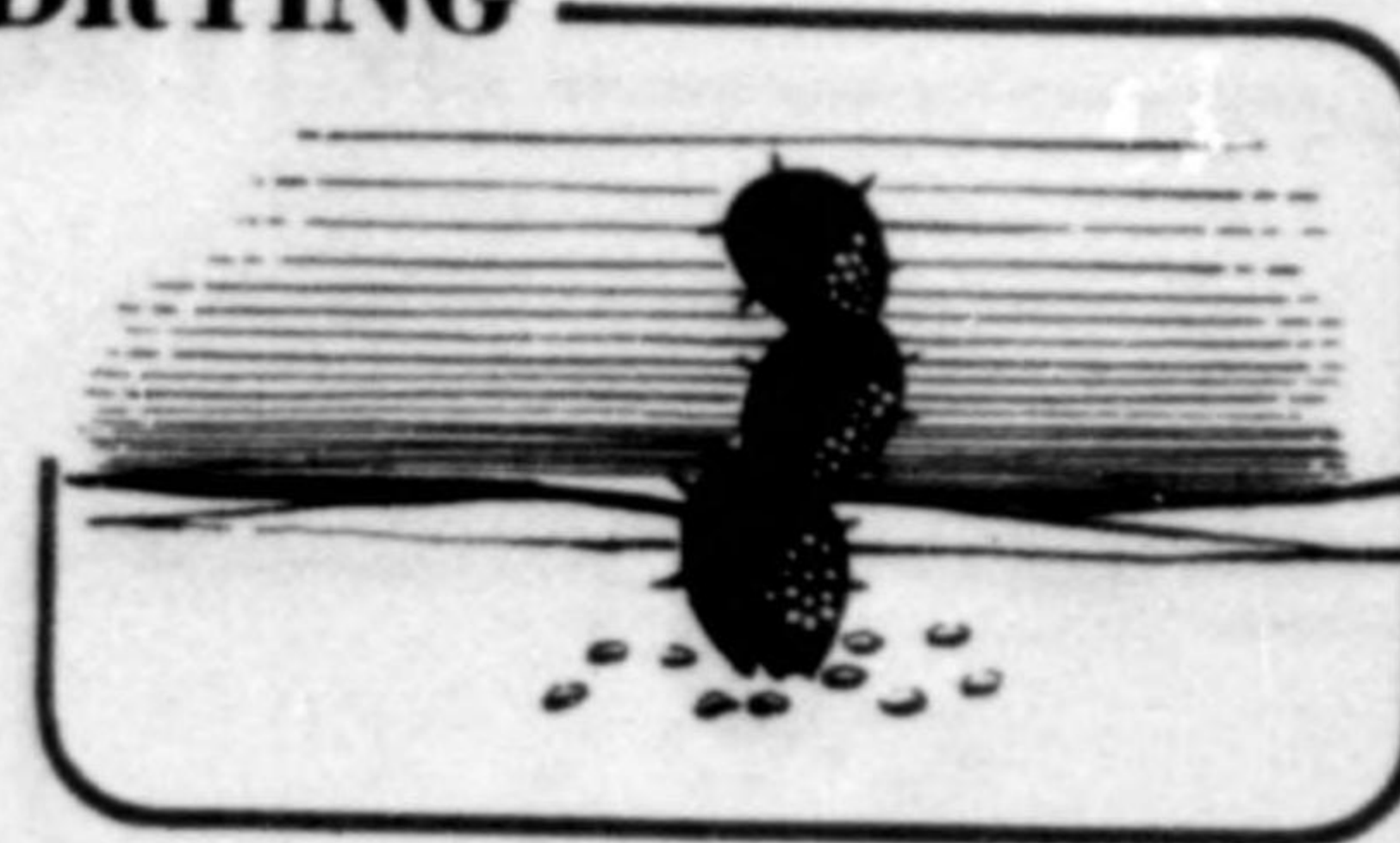
Sunlight, out-of-doors, kills TB germs in about 6 hours. In the shade TB germs stay alive at least 6 days. In cool, dark, moist places TB germs may live for months.

### FIRE



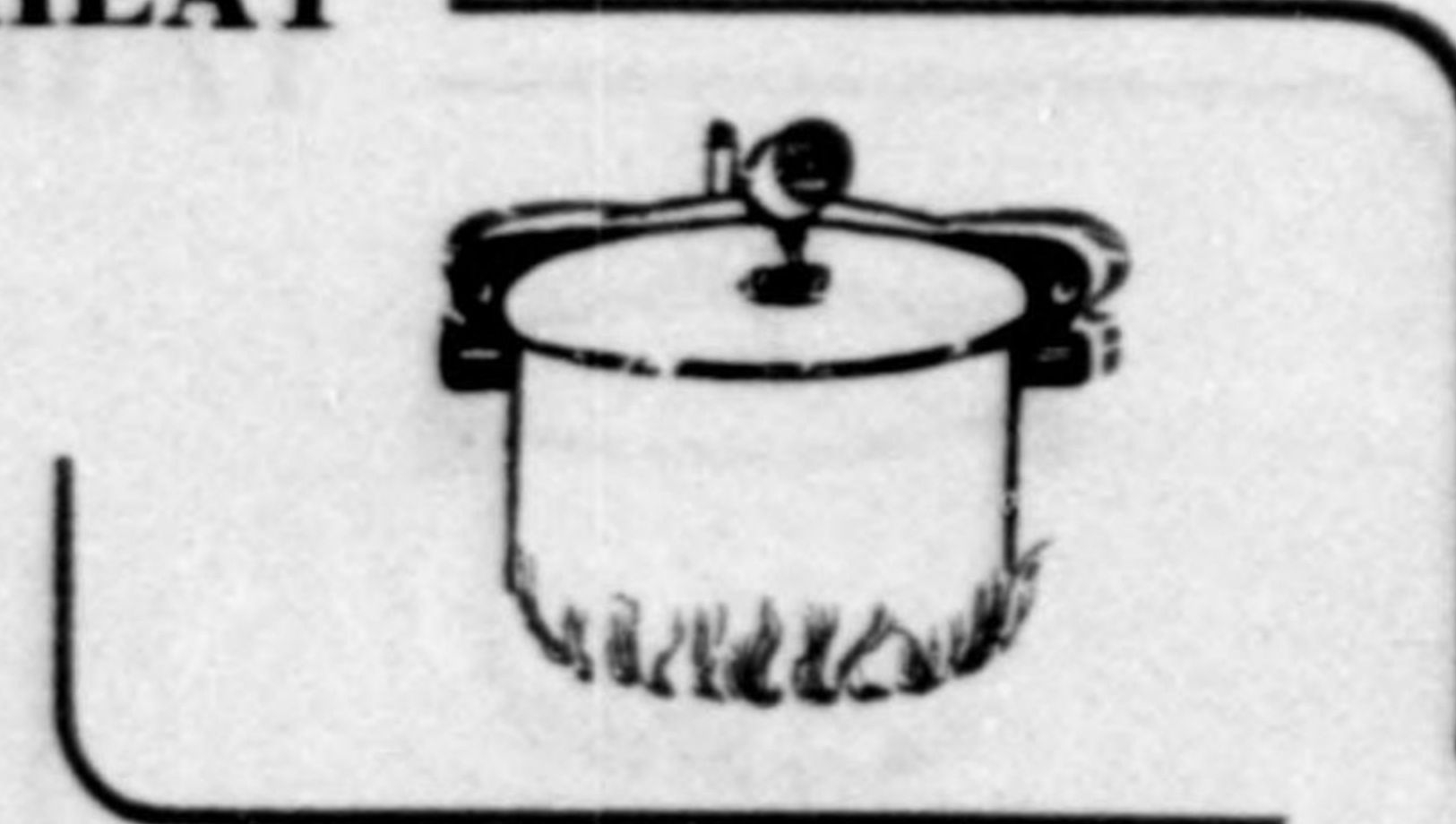
Fire kills TB germs. Germ-soiled things which are no longer useful should be burned.

### DRYING



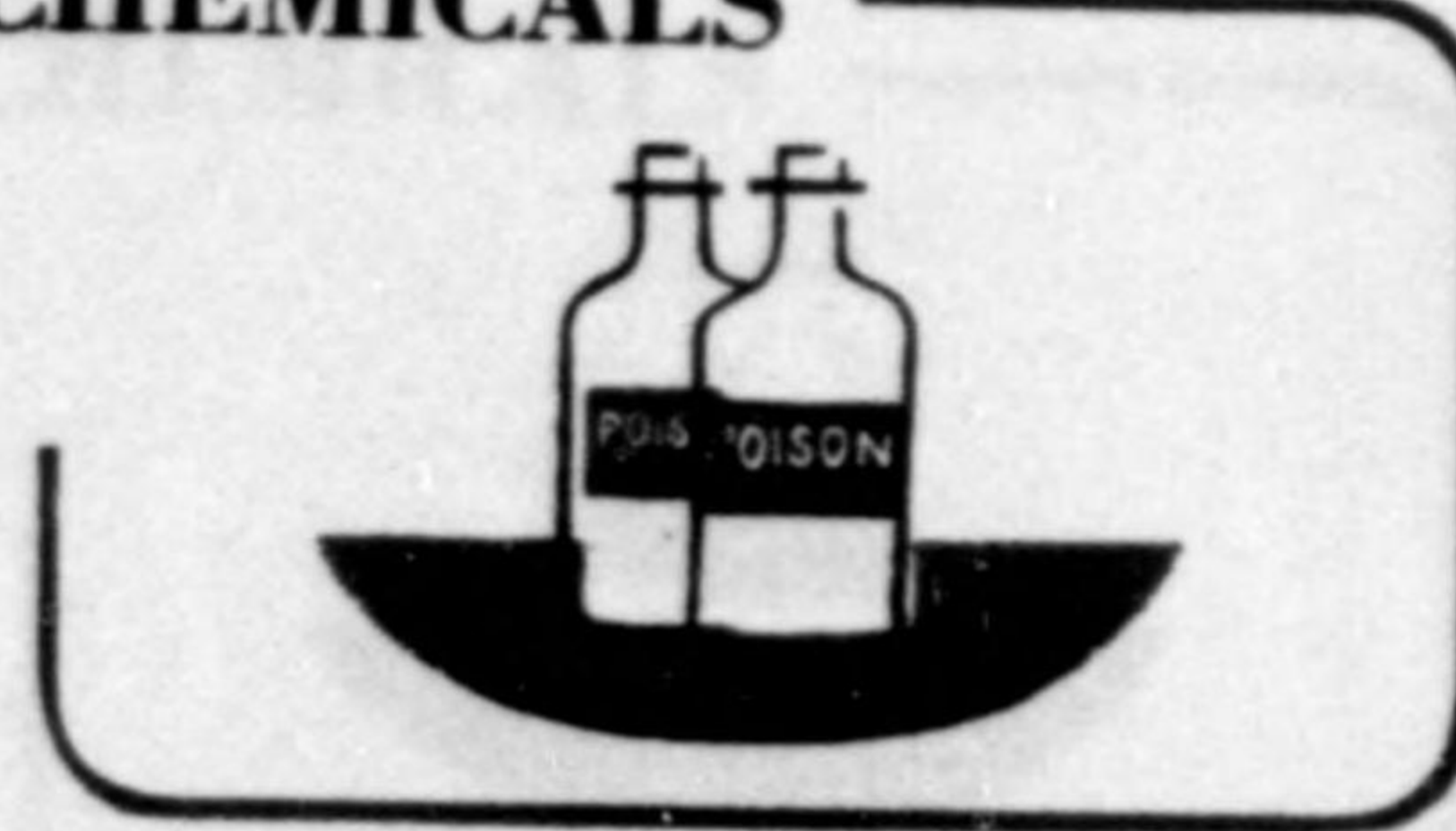
To kill germs by drying takes a long time. To be on the safe side, let things dry out in a light, airy place for 6 weeks.

### HEAT



Heat can be used to kill TB germs:  
1. By heating in an oven for one hour;  
2. By using fifteen pounds of steam in a pressure cooker for 20 minutes;  
3. By boiling in water for 10 minutes.  
Boiled eggs hatch no chicks. Boiled germs hatch no TB.

### CHEMICALS



#### WARNING:

Many disinfectants sold as germ killers do not kill germs. They often ruin valuable articles long before they kill the germs on them.

Tuberculosis germs can be found in what a sick person coughs up. This stuff is called *sputum*. These germs can spread TB to other people.

## THE RIGHT WAY TO GET RID OF SPUTUM



Tuberculosis germs do not crawl, walk, or fly. To get around they must hitchhike.

The quickest way to pass germs is from mouth to mouth. From mouth to hand is another way. Germ-soiled hands can spread germs to other things. Germs also ride like parachute troops in the fine drops of moisture shot into the air when people cough.

## STOP THE TRAVEL OF TB GERMS AND YOU STOP THE SPREAD OF TB

PEOPLE WHO MAY BE SPREADING TB GERMS MUST FOLLOW THESE RULES:

1. Don't kiss.
2. Don't let others use your things.
3. Don't use other people's things.
4. Be careful to cover up every cough or sneeze.
5. Keep clean.



Cover Up Your Cough



Beware of Soiled Things

# *How to deal with germ-soiled THINGS*

## **SPUTUM**

The most important thing is to get rid of the sputum in the right way. The sick person should spit in paper tissues and place the used tissues in a paper bag. The filled bags should be burned.

## **EATING UTENSILS, DISHES, TABLEWARE**

The next important thing to do is to clean all things the patient has touched with his lips. Burn any food left on the patient's plate. The patient should have his own set of dishes. Do not mix them with the family dishes. Wash them well in hot water and soapsuds, scald with boiling water and allow to drain dry.

## **LINEN, COTTON GOODS**

Keep the patient's laundry apart from the family laundry. Boil the patient's laundry for 10 minutes. Dry it in the sun.

## **CLOTHES, SUITS, DRESSES**

Hang them out-of-doors in the sunlight for several days, or send them to be dry cleaned.

## **MATTRESSES, PILLOWS, RUGS**

Put them out-of-doors in the sunlight for several days. If they are badly soiled, burn them.

## **FURS, WOOLENS**

Hang them out-of-doors in the sunlight for several days.

## **BOOKS**

Stand the books on edge and fan out the pages so that light and air can get in. Store them in a light, airy place. Don't use them for 6 weeks.

## **ROOMS, FURNITURE**

Air them thoroughly and scrub with hot soapsuds.

**SOAP AND WATER ARE CHEAP**

**USE THEM TO HELP PROTECT AGAINST TUBERCULOSIS**



PUBLISHED BY THE NATIONAL TUBERCULOSIS ASSOCIATION

TB

TUBERCULOSIS

FROM

18 TO  
80



FROHLICH