TUBERCULOSIS

FROM 18 to 80

In the prime of life

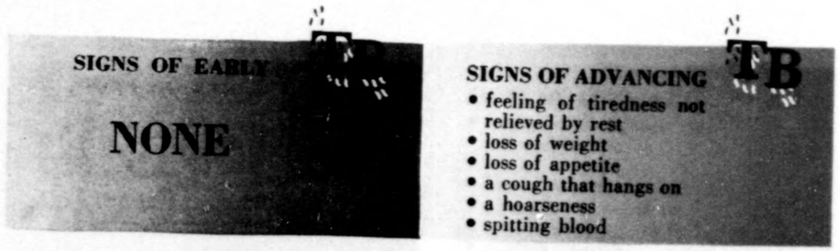
How long do you expect to live? Sixty . . . eighty . . . a hundred years? You know life doesn't last forever. Yet there is no sense in shortening it.

Some people think they are safe from TB because they have passed the age of 30. No age is safe.

TB kills about 55,000 people in the United States each year and 40,000 are 30 years of age or over. Right now at least half a million persons are sick with TB—as many people as live in a city the size of Cincinnati or New Orleans or Seattle.

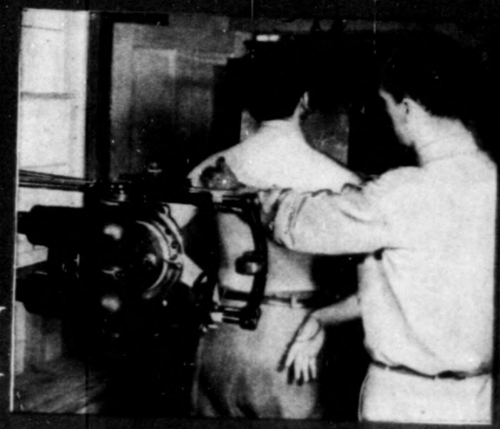
Early TB has no signs or symptoms

Early TB gives no warning. Coughing, losing weight and spitting blood are danger signs of serious advancing disease. When these signs appear, you have had TB for some time The best time to look for TB is *before* you see any signs or symptoms.



THESE SIGNS MAY OR MAY NOT MEAN TB.
A GOOD DOCTOR SHOULD INVESTIGATE

Early discovery • Early recovery



X-RAY EARLY

Take a deep breath—
hold it—that's all.

Most people found with advanced TB have a slim chance for recovery. If TB is discovered early and if you get proper treatment at once, you have a fine chance of getting back your health.

TB can be cured, if it is discovered and treated in time.

How can you find out?

The best way to find out if you have TB is to have your chest X-rayed.

An X-ray is a picture of your chest. It takes only a few seconds. It doesn't hurt. You take a deep breath—hold it—and that is all. The picture is then developed like a snapshot. The doctor looks at it to see if TB germs have done any harm in your chest.

The best time to have an X-ray picture taken of your chest is *before* you feel sick. The way to find TB early is to X-ray people who *seem* to be healthy. When 1,000 people are X-rayed, about 990 show healthy chests and 10 have TB. Of these 10, many need medical care.

Probably you are one of the 990 healthy ones. If you are among the 10, do not be frightened. Remember that early TB, when treated right away, can *almost always* be checked.

What about your job?

Every year many thousands of TB patients return to work. They are either cured or so much better that they can go back to their old jobs. The fact that you have had tuberculosis need not keep you from earning a living.

Why fool yourself?

You can fool yourself about TB by pretending that you are all right. You can fool your doctor by not telling him everything. But you must not fool with TB. TB may strike at any age. Be on the safe side. Get your chest X-rayed NOW.

If I had only known . . .

"I once thought that TB had to run in the family. There was no TB in my family so I never gave it a thought. If I had only known . . ."

"I always believed that as long as I felt well nothing could be the matter with me. If I had only known . . ."

"I never lost a day of work. I just would not believe that TB might hit me. If I had only known . . ."

"I believed in letting well enough alone. It upset me to find out unpleasant things. Now I am in real trouble. If I had only known . . ."

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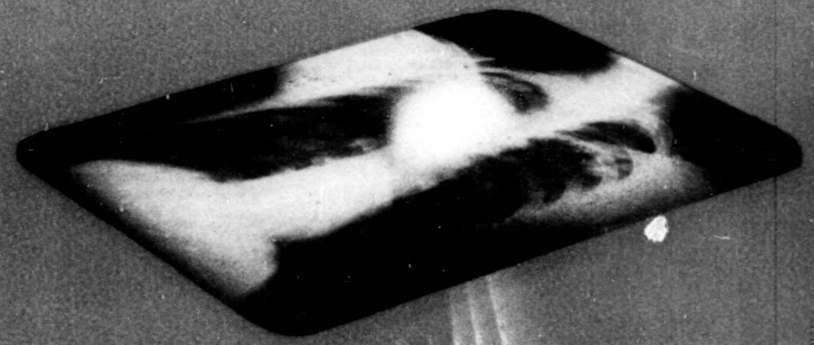
X-RAY



will show

tuberculosis

long before

you feel sick

FROHLICH

TB

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

TB 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.

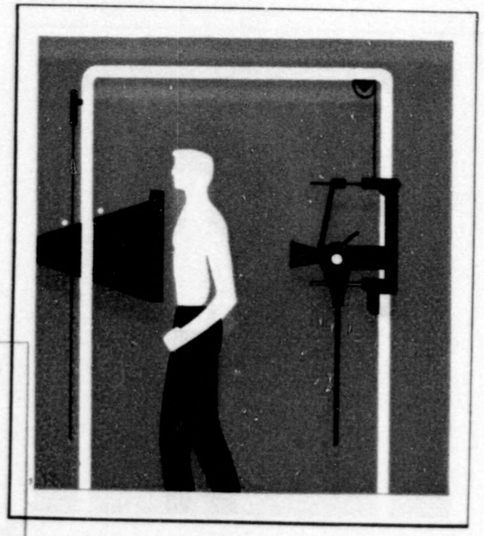
WHY X-RAY? . . .
Very often an X-ray picture shows scars of old battles.

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

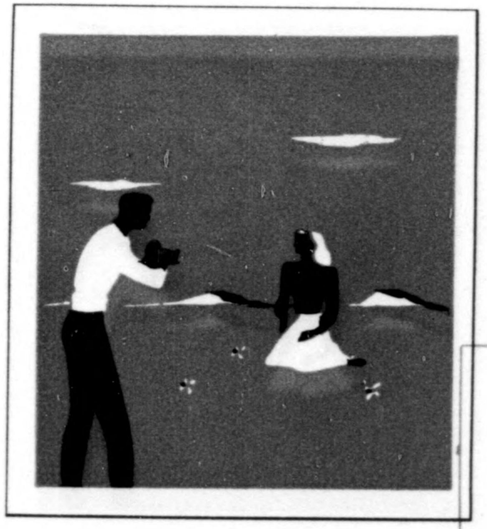
WHY X-RAY? . . .
A chest X-ray can tell the doctor that a battle is in progress. To keep an eye on how the battle is going the doctor will want to have more X-rays and careful examinations and tests.

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.



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



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

Christmas Seals fight TUBERCULOSIS

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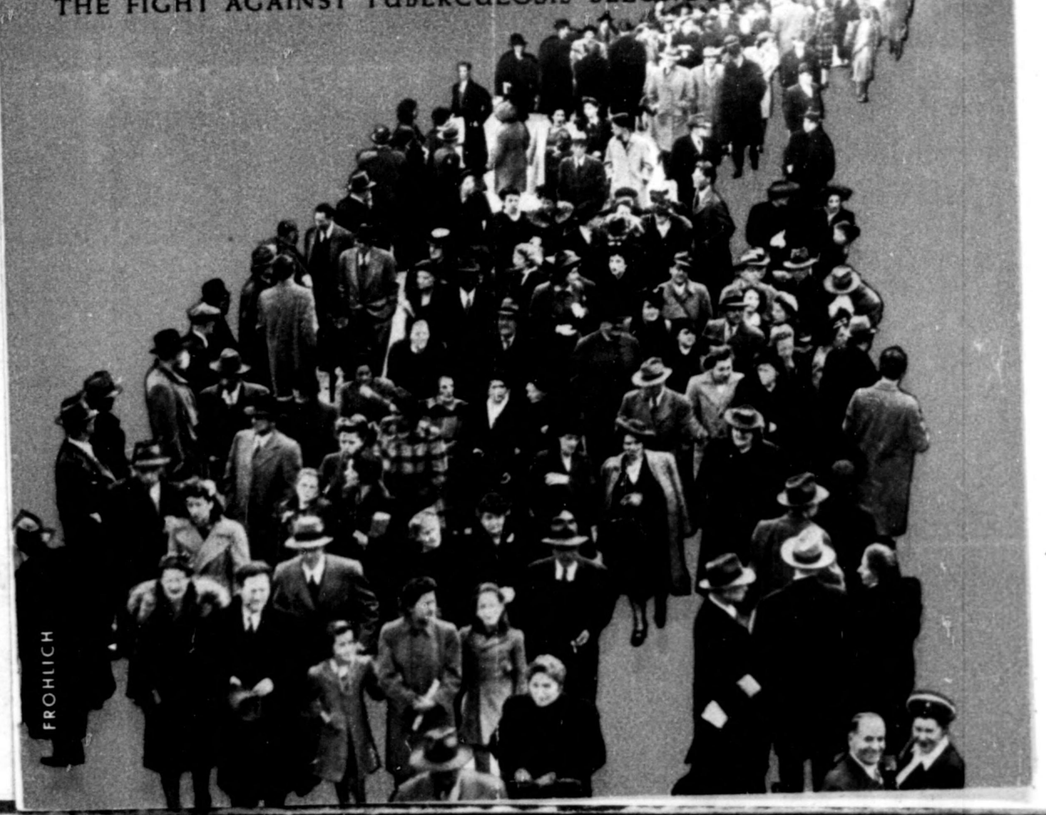
WE THE PEOPLE

FIGHT TB

THE FIGHT AGAINST TUBERCULOSIS BELONGS TO THE NATION



FROHLICH

ADULT HEALTH EDUCATION

Teaching the individual to solve his health problems in relation to himself, his family, his community.

CHILD HEALTH EDUCATION

Protecting, maintaining and improving child health in preparation for adult responsibilities.

CASE FINDING

Searching for TB in apparently healthy population groups where the disease is prevalent.

DIAGNOSTIC CLINICS

Providing time and place for people to come for diagnosis.

PROFESSIONAL EDUCATION

Campaigning for adequate health instruction in schools of medicine, nursing, teaching and other allied professions.

INDUSTRIAL HEALTH

Enlisting labor, management and government in the fight against tuberculosis in industrial workers.

LABORATORY SERVICES AND CONSULTATION

Making available sputum examinations, blood counts, sedimentation tests and the like.

HOSPITAL CARE

Insisting on sufficient beds for the treatment of tuberculosis patients in sanatoria or hospitals.

PUBLIC HEALTH NURSING

Supporting the nurse in her home service and educational activities.

JOB PLACEMENT

Educating key persons to provide safe employment for the discharged, rehabilitated patient.

VOCATIONAL GUIDANCE AND JOB TRAINING

Preparing the patient for a job in which he can earn a living and retain his health and self-respect.

POST-SANATORIUM CARE

Making certain that the ex-patient is kept under medical supervision.

"THE battle against tuberculosis is not a doctor's affair; it belongs to the entire public."

SIR WILLIAM OSLER
(One of the world's greatest teachers of medicine.)

In a good community tuberculosis program, members work together like a team. Tuberculosis associations and health officials know how to initiate and organize action. But they need *your* help and *your* cooperation to carry out the program effectively.

THE balanced TB program is carried out by four groups in the community:

the medical profession;

the tax-supported official agencies;

volunteer agencies;

the tuberculosis association.

These four groups must cooperate. No one group can do all the work.

THE TUBERCULOSIS ASSOCIATION

The Tuberculosis Association is a partnership between doctors and community members. They work together to teach the public how TB can be *prevented, recognized* and *cured.*

A SUCCESSFUL PROGRAM DEPENDS ON THESE THINGS:

1. Hard work by community members.
2. The skill and energy of professional health leaders.
3. Adequate funds.
4. A well-informed and cooperative public.

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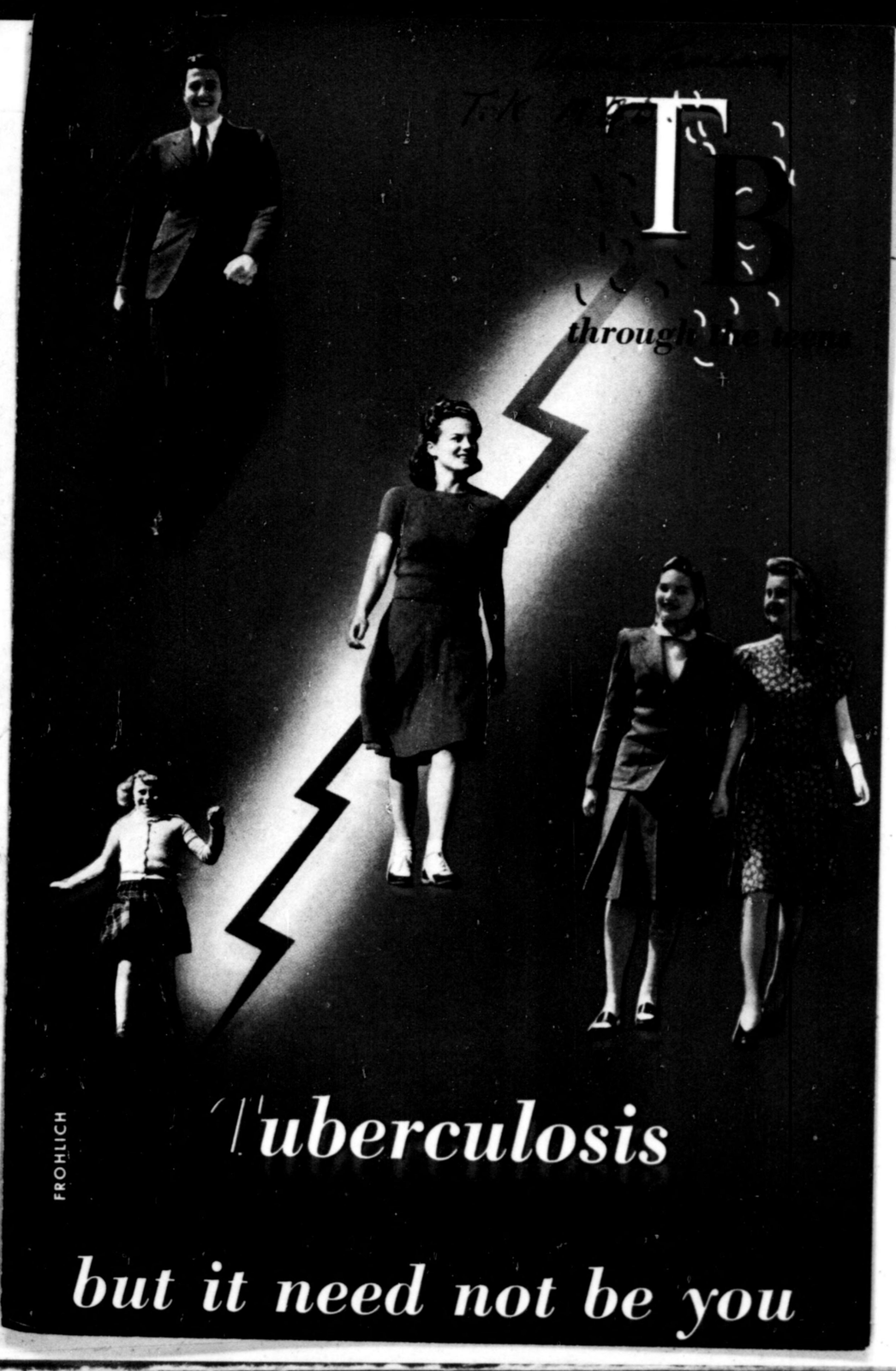

TB
THROUGH THE TEENS

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.

Tuberculin Test

Chest X-ray

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 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

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.

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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D9

WHAT *You*

SHOULD KNOW ABOUT TUBERCULOSIS

WHAT YOU *Should Know About* TUBERCULOSIS

by

CHARLES E. LYGHT, M.D.

Director Health Education, National Tuberculosis Association

The Patient's Questions Answered

The Patient's Questions . . . . . .

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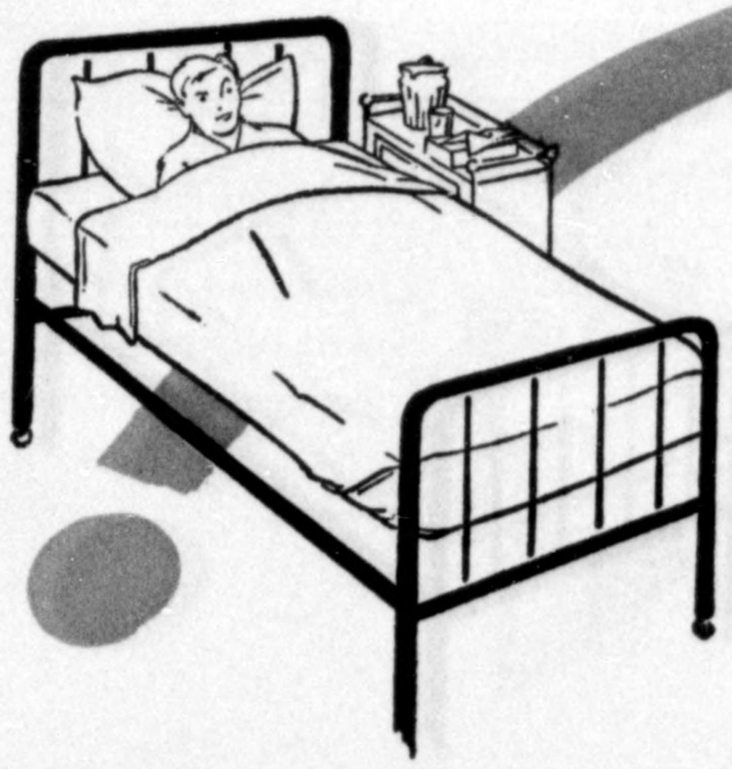
..... Answered:

WHAT IS MY OUTLOOK?

You have tuberculosis, which many people call "TB." Perhaps you've known about your case for some time. Perhaps the news has just been broken to you. But no matter when you found it out, the shock was not pleasant. Your life, it seemed, suddenly ran off the track.

When a train runs off the track, railroad men don't stop to growl about their hard luck. Instead, they pitch in with their best equipment and methods to get the trains back on schedule. This book supplies you with facts that will help you to get your life back on the rails and running safely once more.

The title of this book is *What You Should Know About Tuberculosis*. Another good name for it would be *What You Must Do About Tuberculosis*. For knowing isn't enough to get you well again. Doing is the other half of the job. After you've learned the facts you have to use them.



family. Pasteurization kills not only TB germs but all other dangerous germs that may get into milk.

From cuts and scratches?

Once in a while a cut or scratch will let TB germs into the body. But butchers, laboratory workers, doctors and nurses are about the only ones to whom this is likely to happen, and even among these workers this is rare.

From handling infected objects?

Things touched by a thoughtless patient may become peppered with TB germs. These germs can be passed on from person to person when people whose hands have touched such objects put their fingers to their mouths. In this way the TB germs are carried into their digestive systems or into their breathing systems.

The bed coverings of a patient ill with TB are especially likely to harbor germs. You will be kind to your visitors if you see to it that they don't sit upon or lean against your bed.

From kissing?

Kissing is one of the more common means of direct spread of TB.

From coughing, sneezing, spitting?

Here we have the main route for spreading TB germs. Often people who have TB of the lungs (they may not know it themselves) cough, sneeze, or spit carelessly. Tiny drops of spray can carry TB germs several feet through the air so that they are breathed in by other persons. It is this unseen, deadly spray from the uncovered cough of an infectious case of lung TB that does most damage. Few people suspect how this spray spreads germs. And yet it causes most of the new cases. Spit containing TB germs may load floors, sidewalks and dust particles with danger for the small child as well as for the unsuspecting adult.

Persons who are around patients with tuberculous conditions that discharge pus or other infected material openly, as in a draining TB of a bone, usually know they are in danger. They take care not to get infected. But people seldom can protect themselves against somebody's uncovered cough.

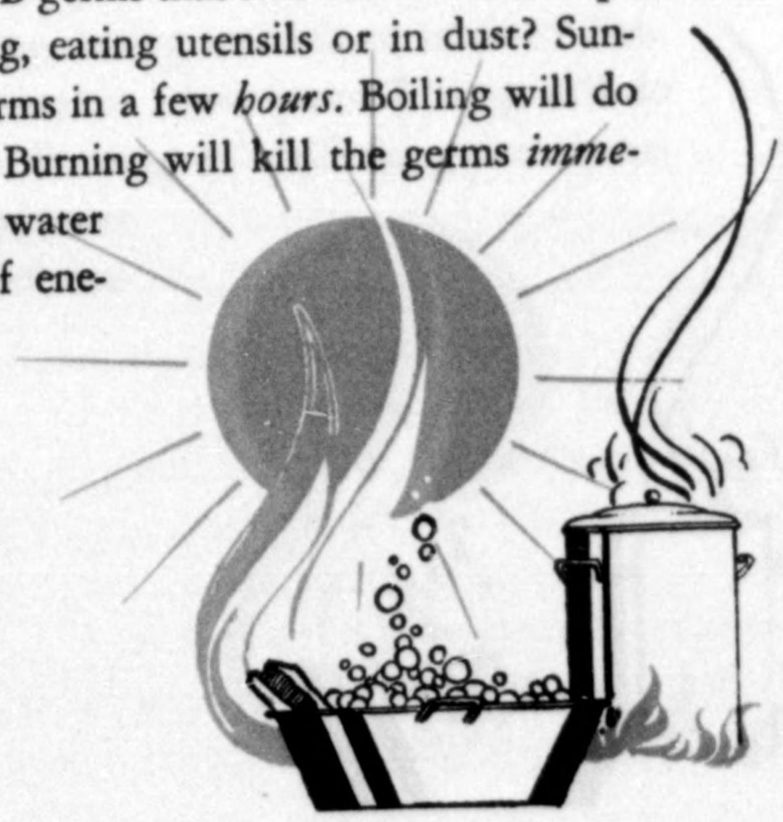
It so happens that you *know* you have TB. So it is up to you to do everything possible to keep from spreading your germs to others. Don't sow the seeds of more TB.

WHERE DO TB GERMS LIVE?

Inside the body TB germs find ideal living conditions. They can live and grow, multiply and spread inside the body because the body gives them warmth, moisture, food and a dark place to hide in.

Away from the body TB germs may stay alive for a long time, in spite of moderate heat, drying or freezing. But away from the body they have no way of increasing in number. And it is fairly easy to get rid of them.

How can we kill TB germs that live unseen in the open — on soiled books, clothing, eating utensils or in dust? Sunlight will kill TB germs in a few *hours*. Boiling will do it in a few *minutes*. Burning will kill the germs *immediately*. Soap and hot water are among the chief enemies of TB germs.



HOW DO TB GERMS BEHAVE INSIDE MY BODY?

We are born without TB. With present day safety measures many people will never get TB. A great many other people will breathe in and swallow a few TB germs but will not come down with the disease. Why? Because their resistance is good, stays good, and the germs never get the upper hand.

Doctors seem to agree that the very first time the TB germs get into the body nothing serious happens, usually, unless the person is so run down or so heavily bombarded with germs that the body is swamped and can't fight back.

The first infection, then, generally goes unnoticed. Very often it takes place in childhood and there are hardly ever any feelings or signs of sickness. The healthy body surrounds the germs with a wall of cells, fibers and lime-like material. Inside this tiny lump, or "tubercle," the germs may die, or they may live quietly for years, held in check by strong body defenses. In the vast majority of cases this is as far as the affair goes. Body resistance keeps this first infection well under control.

In the remaining cases, however, this does not end the story. The day comes when the body is, for the time being, weakened by illness, or overwork, or too hard play. The body cells no longer can hold the germs in check. After breaking the weakened walls of the tubercle, the germs spread within the patient, sometimes slowly, sometimes like lightning. It may happen that more TB germs have come into the body from the outside and have upset the balance between body fighting power and germ strength, tipping the scales in favor of the germs. Whenever the body's defenses are weakened, or more showers of germs enter from outside, a flare-up of TB is possible.

Such a re-infection with TB can mean real trouble, serious disease. Again the tissues of the body begin to fight the germs.

But the tissues are now "sensitive," due to the first infection of months or years before. They may react so violently that actual tissue destruction will occur faster than healing can take place. That is why re-infection TB calls for good treatment, treatment right away, treatment that is kept up without interruption until your body can regain control and stop the advance of TB.

WILL TB ATTACK ANYTHING BESIDES THE LUNGS?

TB is by far most common in the lungs. But it has been found less often in almost every part of the body. The bones, joints, glands or bowel may be attacked. So may the eye, skin, kidneys, genital organs or the moist coverings of the lung, heart, abdominal organs or brain.

TB germs may spread in the body by direct growth. They may pass through lymph channels, or use natural passage-ways such as the breathing, digestive or urinary tubes in order to get to new places. Sometimes germs make their way into a blood vessel and are carried to other parts of the body by the fast-flowing blood-stream.

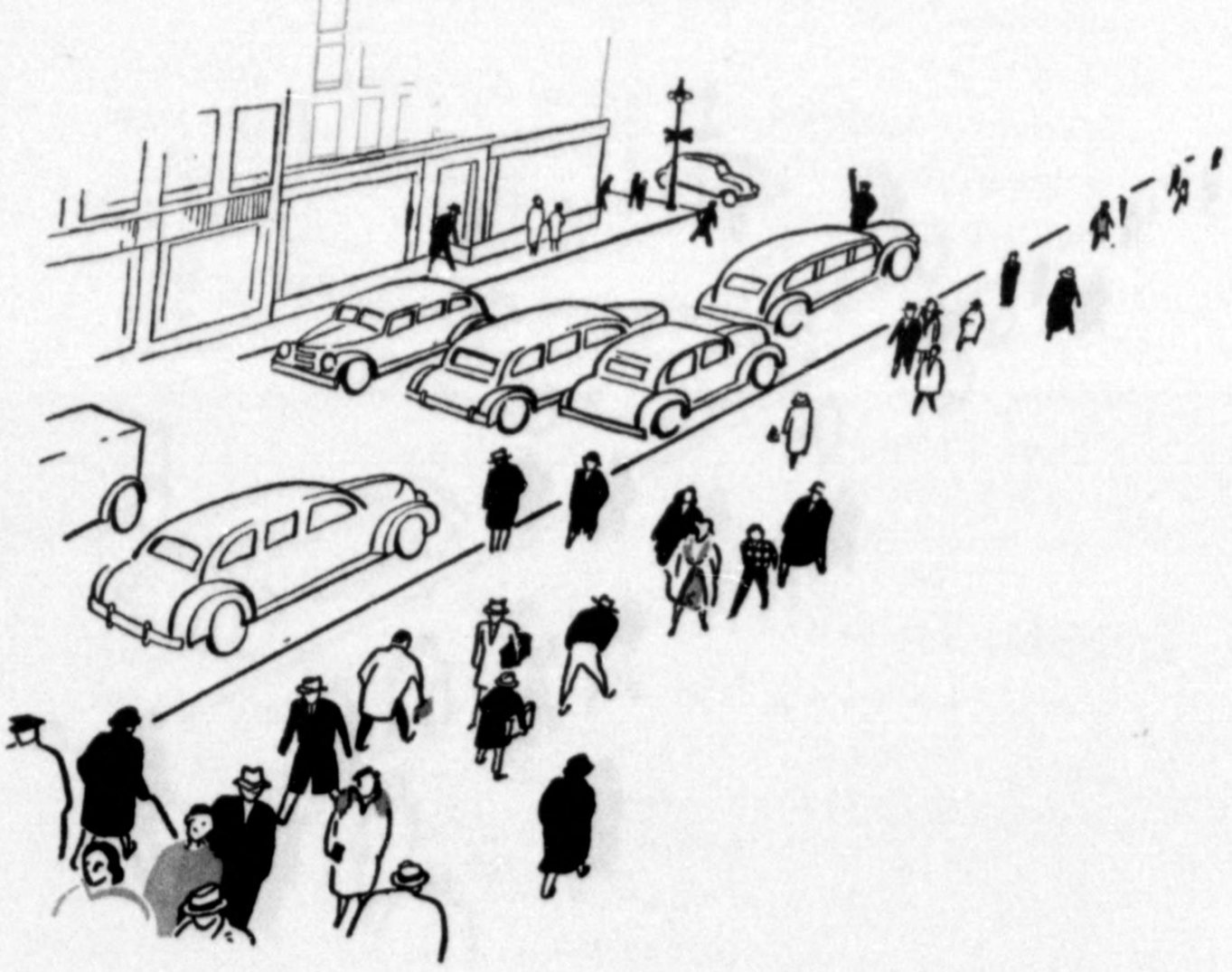
These are not common happenings, luckily. Prompt treatment and careful living make them very rare indeed.

DOES TB GIVE ANY EARLY WARNING?

When you were a child and had been exposed to measles, mumps, chickenpox, scarlet fever, or other "catching" diseases at school or in the town, it was only a few days before you either did or did not come down with the illness. If you "caught" the disease, you soon knew you were sick, you were put to bed and before long you were well again.

TB is not so simple. Your first infection with TB germs probably slid by without anyone's being any the wiser. Later, when trouble really began, you may have passed through months or years while the disease was working away inside you. Yet you felt perfectly healthy and did not dream there was anything wrong with you. That's the sneaky way that TB works.

Early TB has no symptoms of any kind. By the time a person goes to the doctor because of alarming warnings such as chronic cough, hoarseness, indigestion, loss of weight, pain in the chest, night sweats, afternoon fever, blood spitting, or everlasting tiredness, his TB is past its early stages. These much-talked-of symptoms appear only after TB is well under way.



How can people find out about TB *early* if early TB gives no warning? X-ray is the biggest part of the answer. Today millions of seemingly healthy people have had chest X-rays because they were in the armed services during the war. Others received them at school or where they work. Still others were X-rayed because their doctor has made a chest X-ray part of every complete physical examination he gives his patients. More people every day are having these chest X-rays that discover TB in its early stages, long before there are any symptoms.

These people are more than fortunate, because they make sure they are as healthy as they look and feel. Or, if it turns out that they have early TB, they save many precious months when the disease might have been advancing unnoticed. Those months can then be used for proper treatment to restore them sooner and more surely to good health.

Be sure your family and friends hear about this modern protection offered by a simple, quick, inexpensive chest X-ray. Be sure they take advantage of it. Prevention pays!

WHAT DOES THE TUBERCULIN TEST TELL US?

A few weeks after TB germs have been taken into our bodies for the first time our tissues, including our skin, become sensitive to certain products that the germs manufacture as they grow. If a small amount of tuberculin is applied to the skin in one of various ways — through a tiny needle, by means of a patch test, and so forth — in two or three days the skin at that point will show a red, raised area. This is called a *positive* reaction.

Tuberculin is a germ-free liquid made from TB germs that have been grown in the laboratory, killed and filtered. The tuberculin test — harmless and painless — tells who has TB germs in his body. This test goes no farther. It does not say *who* has TB

as a disease. It does not say *how much* TB anyone has. It does not say *where* the TB may be located in the body. All the test does is to show which people, and how many people, in a family, a school, or a community have become infected with TB germs.

If there is no red, raised reaction, the result of the test is called *negative*. If the result is negative, and stays that way from year to year, there is no cause for worry.

A person who has a positive reaction, however, needs further examinations to find out what has been going on inside his body. He shouldn't worry either. But he should make sure. The next step in that direction is a chest X-ray.

WHAT DO CHEST X-RAYS TELL US?

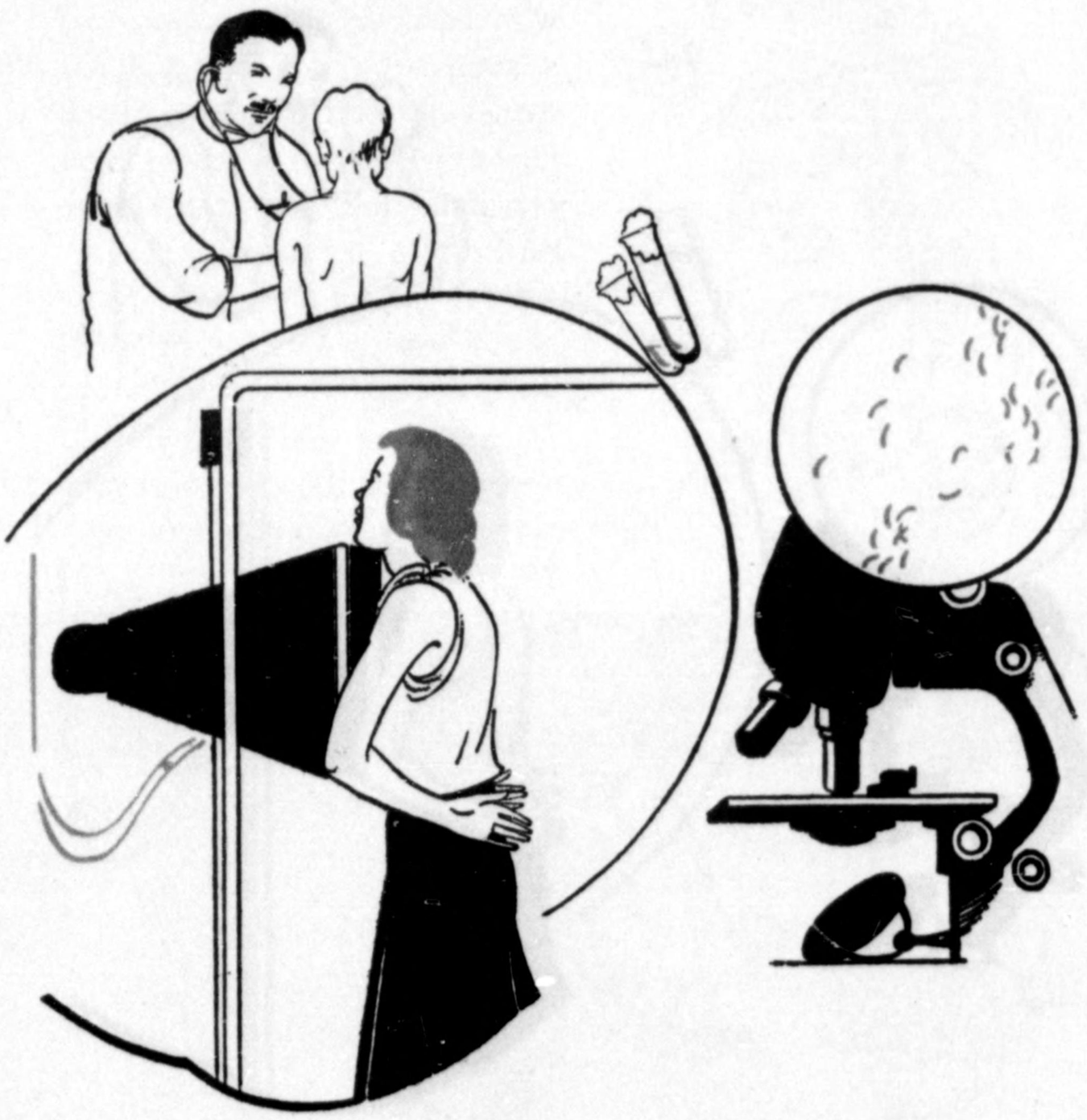
It has been figured that about half the people in the United States have a positive tuberculin reaction. Every one of these people needs a chest X-ray to help the doctor find out if there is anything in the lungs that needs attention.

More and more, however, especially where large groups of people must be examined quickly, a chest X-ray comes first. Then the doctor can give the tuberculin test to anyone whose X-ray shows shadows that might mean TB.

No matter which plan is followed, only an X-ray will show the true condition of the lungs. In the great majority of apparently healthy people X-rayed, nothing out-of-the-way will show up on the film. In quite a number of cases there will be shadows of old TB, now healed. In a smaller number there will be shadows due to TB like yours —TB that needs treatment —TB that very likely was not suspected before. And the X-ray helps to keep track of the progress patients make as their TB is being treated, or afterward.

When a chest X-ray shows suspicious shadows, a skillful doctor must study the case to make sure the shadows are really due to TB. He will listen to the chest, watch the weight and temperature, have specimens of sputum examined for TB germs. There are many other tests and examinations to help him reach a decision. And there is the X-ray with which to check and double-check the first picture that was taken.

A diagnosis of TB is never a matter of guesswork. It takes patience, skill and modern equipment.



WHO GETS TB?

TB is as old as history, probably as old as mankind. It has been described accurately by writers who lived hundreds of years before Christ. Men digging in the ruins of ancient civilization have found absolute proof that TB has been a disease known for thousands of years. History is filled with the names of famous men and women who fought personal battles against TB. Millions of less famous people, whose names never got into print, fought the same battle.

Does TB attack only the poor? No! Wealth, education, or social position cannot guarantee safety. TB germs can attack a well-to-do family in the same way that they can spread among people of modest income.

Yes, anyone can get TB. But it is also true that people of low income or limited education often live crowded together, work

long hours, do not always eat the proper food in the right amounts and may not know or practice the rules of health. So, an undiscovered, germ-spreading case of TB in the midst of overcrowding and all that goes with it, is most likely to pass on TB to others. That is why:

1. The laboring man is more likely to die of TB than is the professional worker;
2. There is more TB among city dwellers than among farmers;
3. The death rate from TB is much higher among Negroes, Indians and Spanish-speaking Americans than among the rest of the population.

WHO RECOVERS FROM TB?

TB can be cured. That is a fact. Luckily, the majority of people who get TB manage to win their fight against it. But some don't. And that is a fact too. That's why you are going to play safe and do exactly what the doctors say you must in order to get well.

It would be fine if we could get through this whole book without ever mentioning deaths caused by TB. Nobody, especially yourself, is interested in the black side of the picture. You want to think about living, being healthy and happy, enjoying a pleasant and useful future. But you would be very blind and foolish if you forgot that there can be a dark side to TB. What you want to do is make sure you stay on the bright, hopeful side.

When people do lose their battles with TB it's because they don't know the facts, because they shut their eyes to the facts, or because they wait too long before they put the facts to work for them.

Looking at the brighter side we see that mankind as a whole is winning its fight against TB. In the early 1900's TB used to lead

all causes of death. By 1944, the death rate due to TB was only one-fifth of what it was in 1900. A great improvement, but still a long way to go!

How can the toll of unnecessary illness and death be stopped? First, by earlier diagnosis. Second, by prompt, thorough treatment.

TB used to be called the disease of youth. Fewer young people are dying of TB nowadays than before, but TB still causes more deaths than any other disease between the ages of 15 and 45. So it is still the disease that is the greatest threat during our most promising, productive years.

And no age seems to be safe. TB goes right on claiming victims into old age. Middle-aged workmen are especially hard hit. Many elderly people who have TB, and don't know it, cause thousands of new cases. They blame their cough and constant throat-clearing on what they call their "bronchitis" or some other seemingly innocent sickness. But all the time they have TB. Every day they spread TB germs. There are more old people with TB now than ever before because more people nowadays are living to reach older ages.

WHAT MUST I DO TO GET BACK MY HEALTH?

The modern, well-equipped sanatorium or tuberculosis hospital is the best place for you to get over your TB.

There you can keep faithfully to your program of complete rest. You can eat the well-balanced meals that are planned to build up your body and your fighting powers. The sanatorium is a refuge where everything is provided for your comfort and safety and aimed at your recovery.

You will have specially trained doctors and nurses. You won't have to worry that you will spread TB to your family, friends and fellow workers. You will be with others who are making the same journey back to health. You will be protected against the well-meaning but thoughtless visitors who, if you were in bed at home, might interrupt and spoil the rest that is your chief ally against TB. You will be protected from those who might give you colds or other illnesses to complicate your condition.

At the sanatorium you will learn many important things:

How to live so that your TB will not return to bother you with future lay-ups;

How to act so that when you leave the sanatorium those about you will be safe;

How to carry on your old job or perhaps a new one suited to your medical condition.

Remember that curing your TB is a full-time job. Part-time will not do! This is no time to take chances. Those who do, gamble their future, throw away their dollars, and endanger their family as well as the general public.

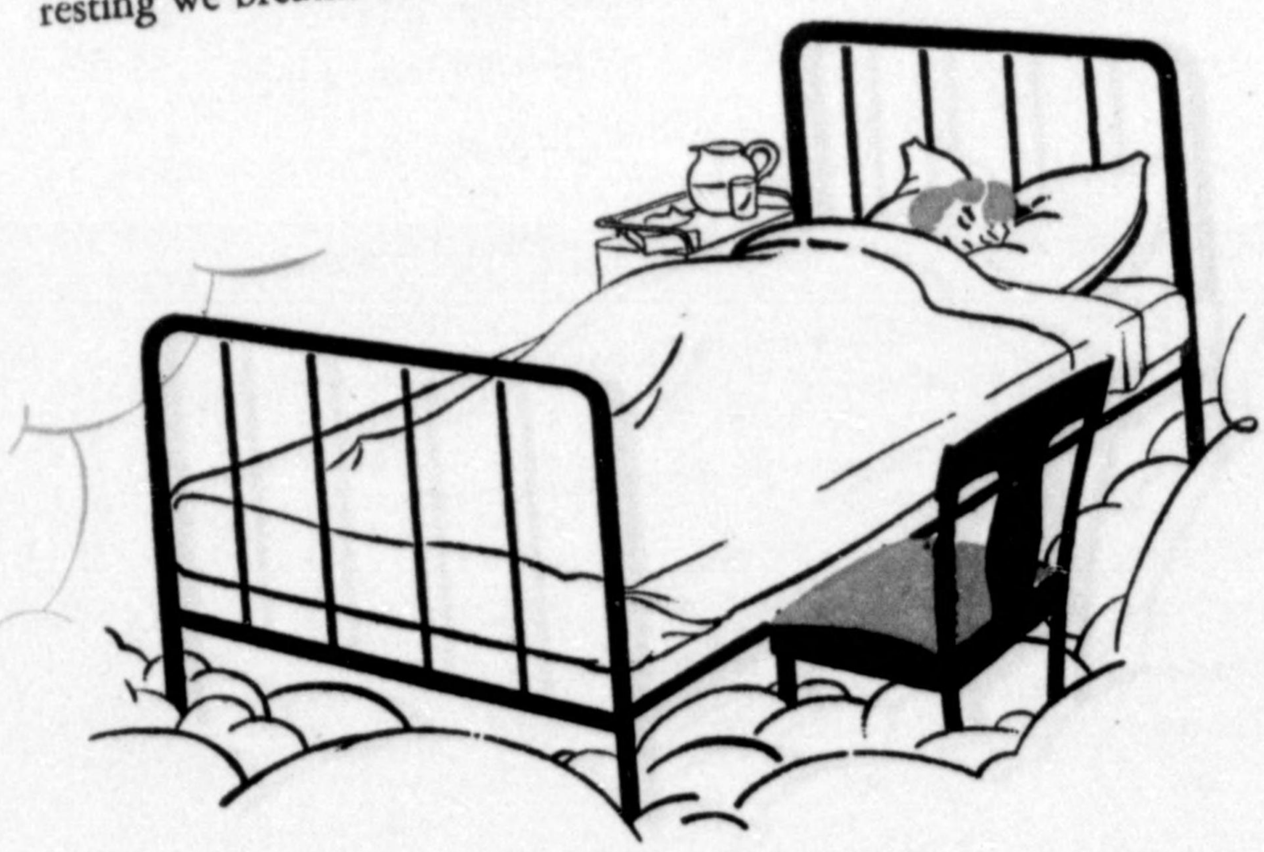
WHY SO MUCH TALK ABOUT REST?

Remember that TB works 24 hours a day every day. To beat this disease is a large-size, full-time job on your part.

The best way to overcome TB is to rest body and mind completely. Working, for the time being, is absolutely out. You must keep calm and hopeful. You must stop worrying. You must follow the doctor's orders to the letter. Try not to fret. Don't keep your troubles bottled up inside you. Ask questions. Talk over your problems freely with the people who are best able to help you solve them.

A broken bone or a cut finger heals faster if it can be kept at rest. A sprained wrist can be carried in a sling while its owner goes on about his business.

But when you have TB, the only thing to do is to put your whole self at rest. That means GO TO BED at once and stay there until the doctor says it's safe for you to get up. When we are resting we breathe fewer times per minutes and less deeply per

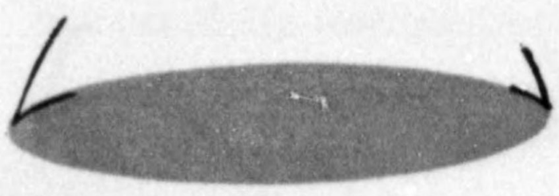


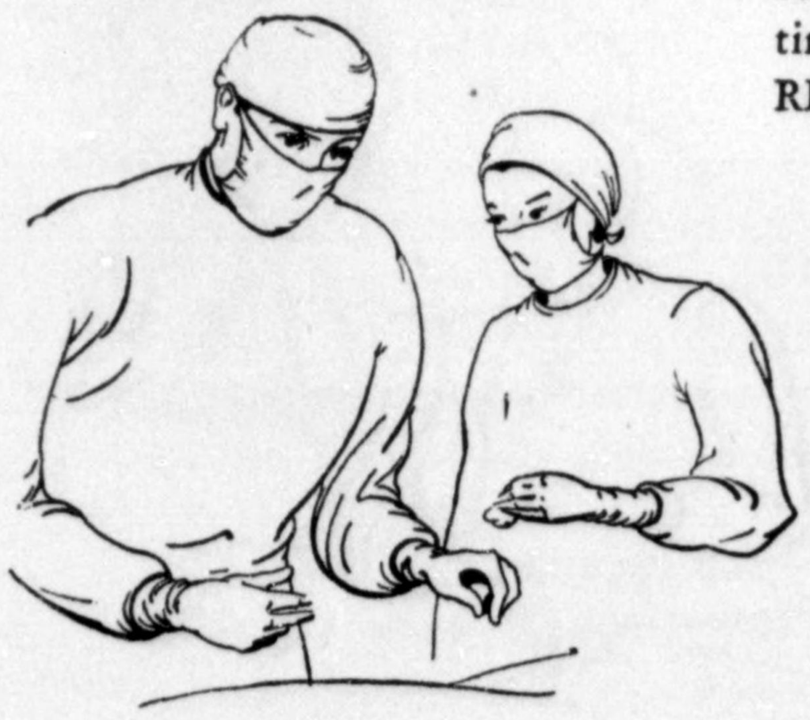
breath than when we are working, playing, laughing, talking, or coughing. The more rest the lung has, the better its chance to heal.

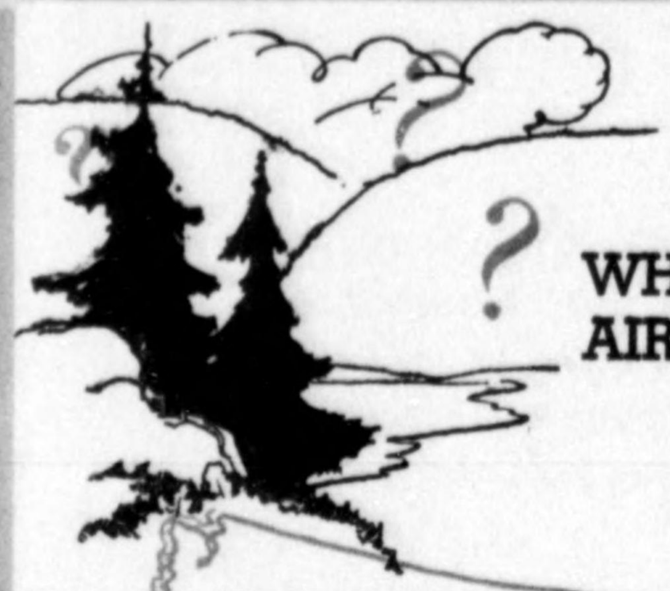
Scientists are trying to find a drug, a serum, or anything new that will help to cure TB. Some day the search will succeed. So far no short-cut has been found. But doctors know that rest really works. There is no substitute for rest.

Sometimes resting in bed is not enough. In certain cases doctors use methods that rest the lung by letting it relax and stopping its breathing movement for a time. Occasionally a lung has to be kept collapsed permanently. No doubt you have heard of pneumothorax, phrenic nerve operations, pneumonolysis, thoracoplasty and other scientific jaw-breaking names for surgical treatments that have saved many lives. These methods are not necessary for every case of TB. In fact, only a certain percentage of cases need surgery, and it is up to a competent doctor to decide.

So, you see, whether your treatment is bed rest alone or bed rest plus surgical rest, the main aid in getting you well again is REST.





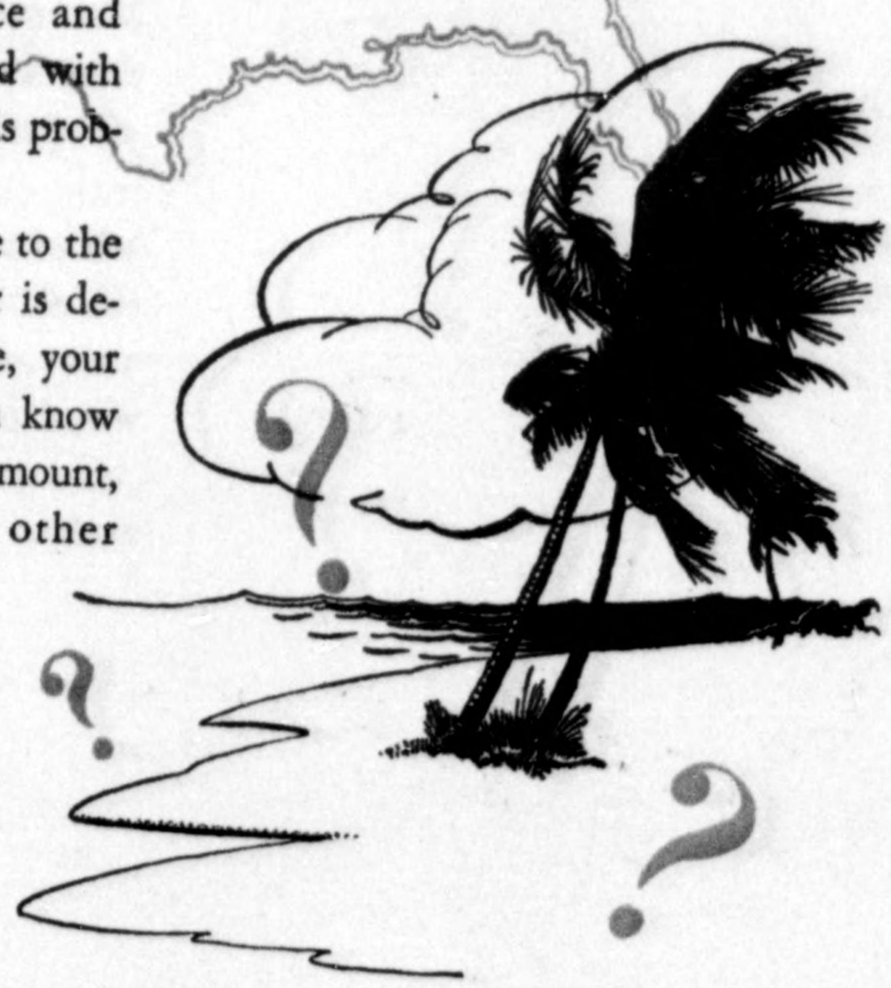


WHERE IS THE FRESHEST AIR IN THE U. S. A.?

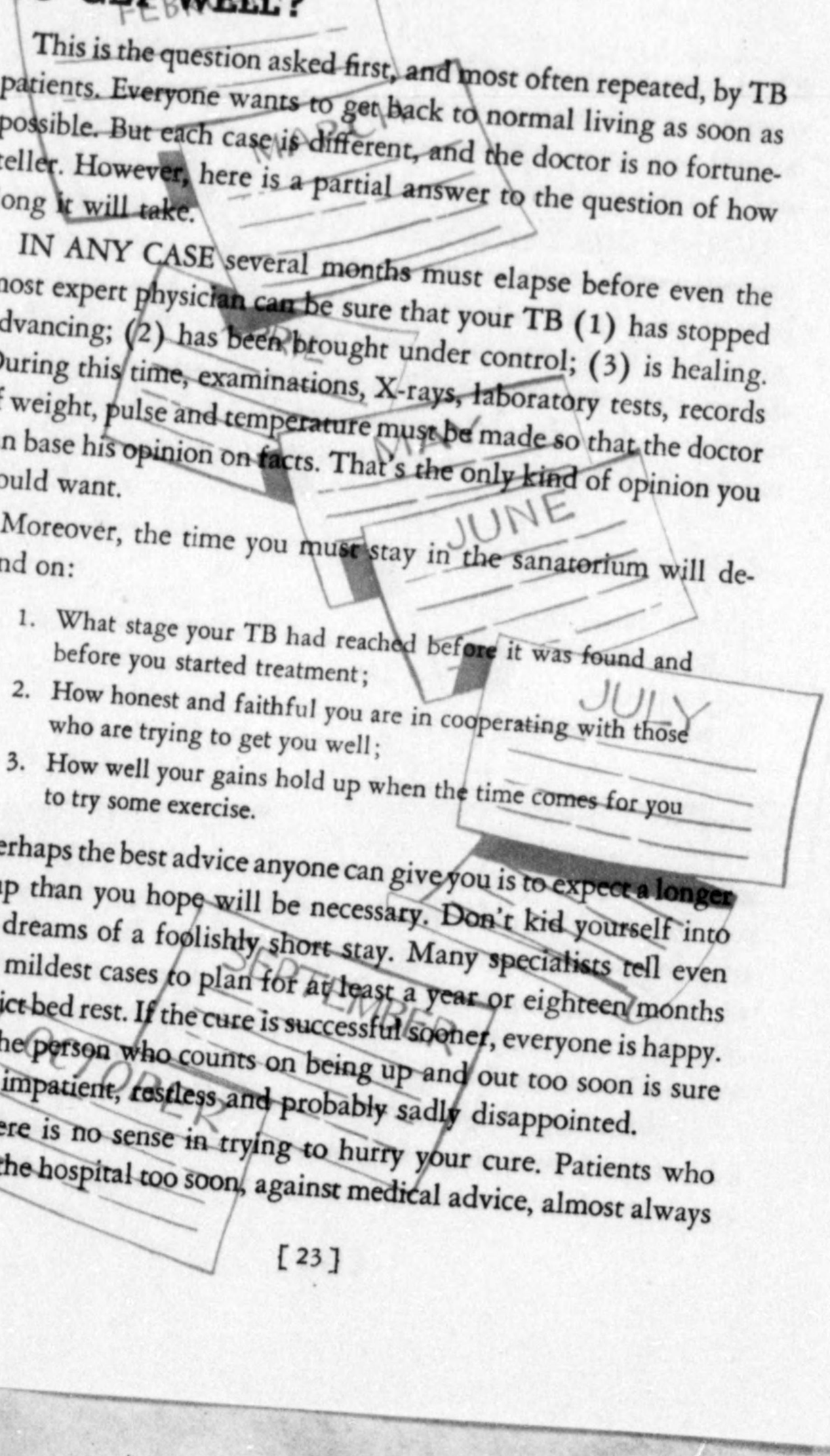
You don't have to spend a lot of time and money looking for an ideal climate for curing TB. Fresh air *is* very important, but the sanatorium in your own community has been built where there is plenty of good, fresh air.

Not so long ago patients in tuberculosis hospitals were exposed to lots of sun and cold air. Today you will find that doctors do not believe in freezing you with too much cold air. You will be protected from drafts and you will not be allowed sun-bathing of the body if you have TB of the lungs. Direct sunlight helps heal TB of the bones and joints, but it can be very harmful to patients whose trouble is in their lungs. For such patients a little sunning with only the face and hands exposed, and with the eyes protected, is probably enough.

If direct exposure to the sun or the open air is desirable in your case, your doctor will let you know the exact time and amount, just as for any other medicine.



HOW LONG WILL IT TAKE ME TO GET WELL?



This is the question asked first, and most often repeated, by TB patients. Everyone wants to get back to normal living as soon as possible. But each case is different, and the doctor is no fortune-teller. However, here is a partial answer to the question of how long it will take.

IN ANY CASE several months must elapse before even the most expert physician can be sure that your TB (1) has stopped advancing; (2) has been brought under control; (3) is healing. During this time, examinations, X-rays, laboratory tests, records of weight, pulse and temperature must be made so that the doctor can base his opinion on facts. That's the only kind of opinion you would want.

Moreover, the time you must stay in the sanatorium will depend on:

1. What stage your TB had reached before it was found and before you started treatment;
2. How honest and faithful you are in cooperating with those who are trying to get you well;
3. How well your gains hold up when the time comes for you to try some exercise.

Perhaps the best advice anyone can give you is to expect a longer lay-up than you hope will be necessary. Don't kid yourself into rosy dreams of a foolishly short stay. Many specialists tell even their mildest cases to plan for at least a year or eighteen months of strict bed rest. If the cure is successful sooner, everyone is happy. But the person who counts on being up and out too soon is sure to be impatient, restless and probably sadly disappointed.

There is no sense in trying to hurry your cure. Patients who leave the hospital too soon, against medical advice, almost always

have a breakdown which leads to a longer, more serious, more costly illness.

"Make haste slowly" is the best motto for you. The wisest and happiest patient is the one who lives one day at a time. He doesn't fret about the slowness of the cure if it means that his body is making itself truly well, really strong, and able to stay that way.

WHEN MAY I BEGIN TO DO THINGS AGAIN?

Once more, here is a question whose answer depends on the individual case and the doctor's good judgment.

If you have been kept lying flat, the day will come when you will be allowed to sit up in bed with your back properly supported. If all goes well, these periods will lengthen slowly, always stopping short of getting you tired. Finally, you can try sitting in a chair. Next will come trips to the bathroom; later to meals; later yet, short walks or rides in a car. At last will come the day when you will be allowed to do some light work out of bed. From this time on, if all goes as it should, steady progress should continue until you are well enough to leave for home.

What keeps your interest up during these slow months of waiting and hoping? Most sanatoriums have trained workers who instruct patients not only in pleasant pastimes but also in worthwhile handiwork. They supply both entertaining and instructive books. Their goal is to train you for something useful as well as diverting, something you will enjoy and make use of long after you have left the hospital.

Most TB patients feel "perfectly well" long before they are fit to try any exercise. Doctors are often scolded by patients for being too fussy, too careful. But doctors have learned by bitter experience that they dare not take risks with patients who boast that they "feel fine" and who look plump and healthy.

We have pointed out that people may have TB for a long time before they feel at all ill or show any outward signs of the disease. In the very same way, these same patients may feel *better* long before they are really *well*. Very often they look blooming and healthy to their friends and in their mirrors soon after they begin bed rest. But it is usually a much longer time before the X-ray pictures of their lungs show definite improvement to the physician's trained eyes. And that's the only "picture of health" that counts, isn't it?

So, you must exercise patience before you can hope to exercise muscles. You must trust your doctor and not your hunches or the flattery of your friends.

WHAT ABOUT CARE IN MY OWN HOME?

Treatment in a good sanatorium is best. Home care is a second-rate substitute. A home works best as a *home*, not as a makeshift hospital.

Once in a while home treatment may be necessary while a sanatorium bed is awaited. In such a case your local Tuberculosis Association has copies of two free booklets that should be helpful to you and those who are looking after you. These are: "Hints for the Patient" and "A Guide for the Family" in the *Home Care of Tuberculosis* series.

Home care becomes important again when the patient returns home. Remember that this long awaited day brings dangers as well as joys. The sanatorium protected you from breaks in your rest and sleep schedules. Now, watch out! Well-meaning friends and relatives are likely to tempt you to go without your regular rest periods, or to eat irregularly, perhaps to drink, to smoke too much, or to stay up late. They may even nag at you for not tackling a full-sized job before your doctor says you may work full time.

Danger to your loved ones is quite as important as danger to yourself. The strict rules about kissing, coughing, safe disposal of sputum, frequent hand-washing, and not letting others use your belongings must be followed:

Be sure to have your separate toilet articles and other items of personal use.

Keep your own set of dishes and eating utensils. See that they are boiled or washed in hot, soapy water after each meal.

Sleep alone, in a separate room, if possible.

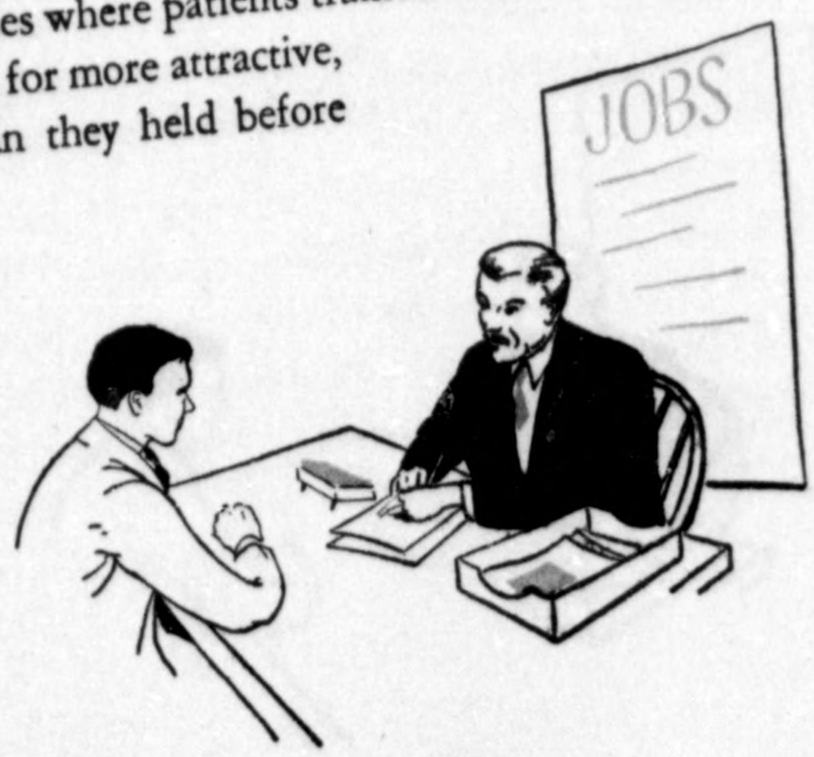
Be too careful rather than not careful enough when you are with children.

Know whether your doctor will permit you to use tobacco or alcohol in any form. Use them moderately if he does allow you to indulge.

IS THERE A JOB I CAN FILL?

Many ex-patients are faced with the need of finding a job different from the one they held before their illness. The old job may have been too hard for one who must now live at a slower pace. Or maybe the former occupation kept the person in close contact with young children, or involved the handling of food, or called for working close to people as in the case of a barber or a beautician.

For many patients TB has proved a blessing in disguise. The records are full of cases where patients trained themselves during their enforced lay-up for more attractive, better paid jobs than they held before they took sick.



The states and the Federal Security Agency have services for workers who are physically handicapped. For skilled workers, the U. S. Employment Service runs selective placement based on the physical requirements of various jobs. The state vocational rehabilitation bureaus serve those who need training in new skills or need a brush-up in old skills.

Your doctor and the sanatorium staff members supervising this type of work will know how to put you in touch with these authorities. They will know of employers who have learned that sanatorium ex-patients make valuable, conscientious job-holders. They can suggest the most promising fields and favorable types of work for you.

WHAT ABOUT HOMEMAKERS?

One large and very important group of ex-patients is made up of wives and mothers who punch no time clock. They work seven days a week preparing meals for the family, looking after youngsters and running the household. Too often these women are overlooked by those who make careful work-plans for other kinds of patients. The homemaker herself may neglect her regained health in taking extra good care of her family. If this causes her to break down again, it leaves them worse off than before. In such a case, it will be a miracle if she has not spread TB to others in the home.

A husband and wife should get expert advice as to whether they should have children and how soon pregnancy and child-rearing can be allowed safely after a case of TB is returned home.

Find the best advice you can get. Then follow it for your own good and for everybody's sake.

WILL MY TB STAY HEALED?

The best way to avoid needing to enter a sanatorium again in search of your health is to follow these rules:

Cooperate and keep in close touch with your doctor.
Take enough time for a thorough cure.
Live at a slow and careful pace.

You must realize that from now on you need more rest and less strenuous exercise than a person who has never battled TB.

Here are a few cautions:

Your job must not expose you unduly to bad weather conditions.

You must avoid such trades as quarrying, rock-drilling, sand-blasting or other jobs which may aggravate TB conditions.

You must be on guard against colds and 'flu. If you feel such an illness coming on, *go to bed at once*. Stay in bed until you are completely recovered. You can't afford to take any chances.

You always need the advice of a good doctor. You should report to him at regular scheduled times, even though you may feel perfectly well. Tell your doctor at once if you notice or suspect anything to be wrong. Let him know without delay: if you are overtired; if you are losing weight; if you don't want to eat; if your meals don't digest properly; if you have a nagging cough; if you have pain in your chest; or if you have blood-streaked sputum. The idea is not to imagine trouble, of course. But neither must you overlook things your doctor needs to know about.

From time to time your doctor will want to X-ray your lungs, even when you seem fine and fit. This is his surest way of checking on the state of affairs inside your body.

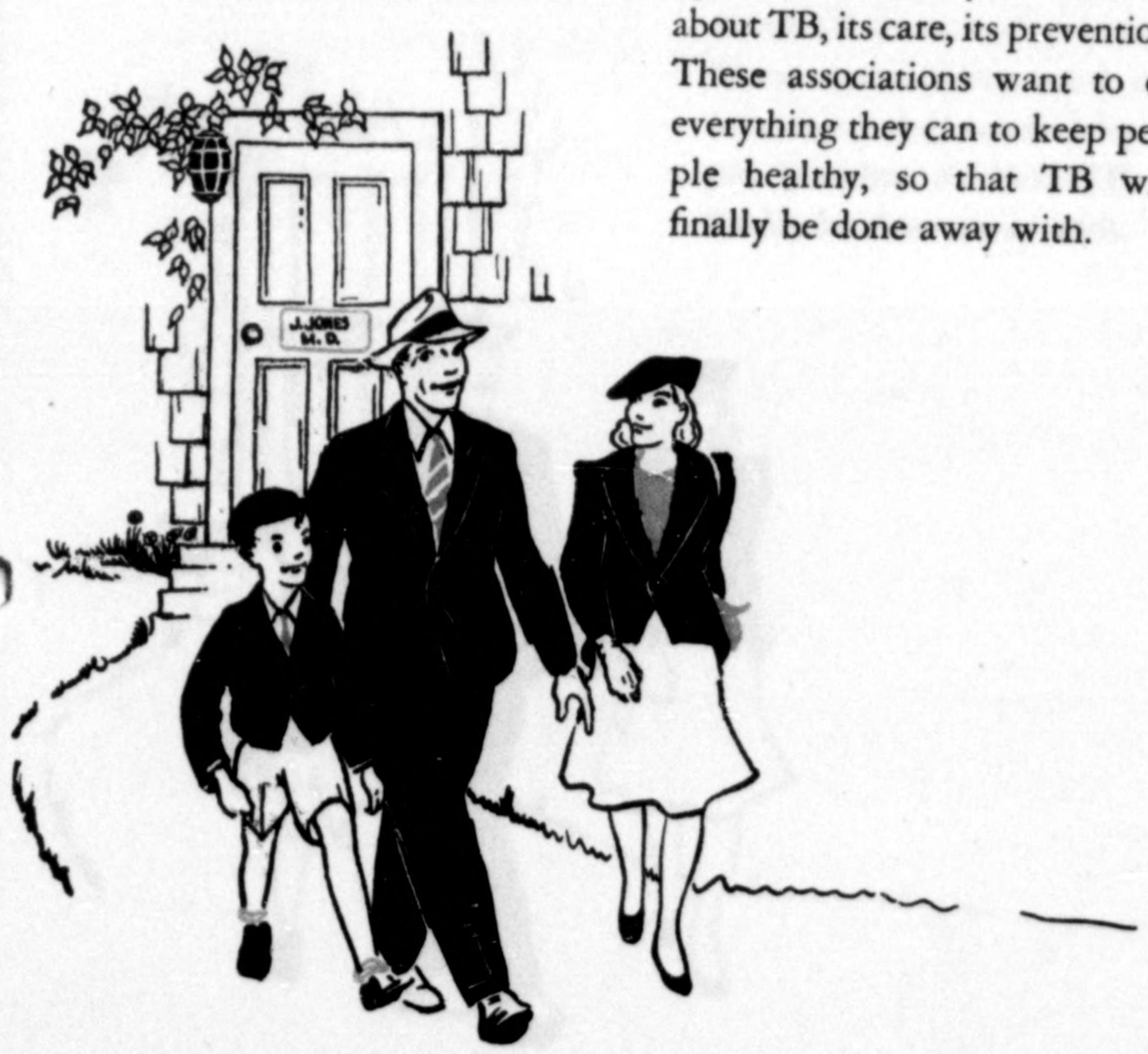
If, in spite of all these cautions, you get a recurrence of your TB, remember that close cooperation with your doctor is even more important than it was the first time. Finding out about it early and treating your TB at once will be more necessary than ever.

WHERE CAN I GET FURTHER ADVICE?

Your doctor — whether he is a private physician or one who works with the health department or at a clinic — is the person best able to tell you what to do. Sometimes you want printed information or other help in addition to what he can give you. Whether you live in a large city, a small town, or on a farm, there is always a helpful organization within reach of a telephone call or a penny postal card.

Every state has a tuberculosis association. Most cities, towns and counties have local associations. These groups make up the National Tuberculosis Association. Your doctor, public health nurse or health department will be glad to give you, free, the latest literature about TB or to answer your questions.

Christmas Seals support the work of TB associations. The money from the Seals makes it possible for everyone to learn about TB, its care, its prevention. These associations want to do everything they can to keep people healthy, so that TB will finally be done away with.



Your career, for the time being, has got off the track because of TB. It should encourage you to know that your TB association, your sanatorium, your doctor and many assisting community agencies are working shoulder-to-shoulder to help you get back on the mainline again.

SUGGESTED READING, IF YOUR DOCTOR APPROVES:

The Business of Getting Well—MARSHALL SPRAGUE, 1943. Thomas Y. Crowell Co., New York, N. Y. Price, $1.75.

A Mirror for Cure-Takers—Edited by HAROLD HOLAND. 1946. Wisconsin Anti-Tuberculosis Association, Milwaukee, Wisc. Price, $2.00.

1000 Questions and Answers on T.B.—FRED H. HEISE, M.D. 2nd revised ed., 1941. National Tuberculosis Association, New York 19, N. Y. Price, $1.00.

Huber the Tuber—HARRY A. WILMER, M.D. 2nd ed. 1943. National Tuberculosis Association, New York 19, N. Y. Price, $1.00.

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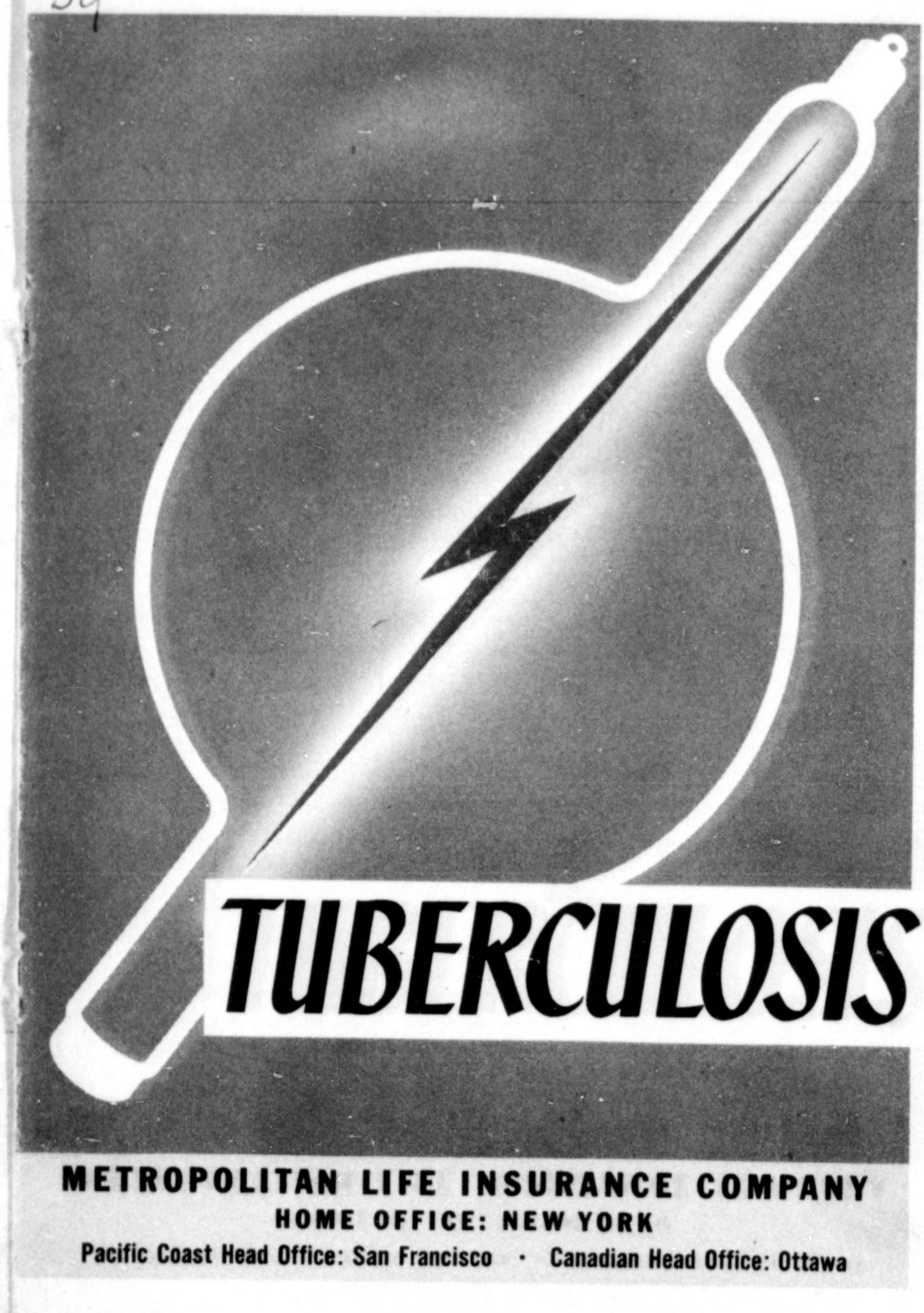
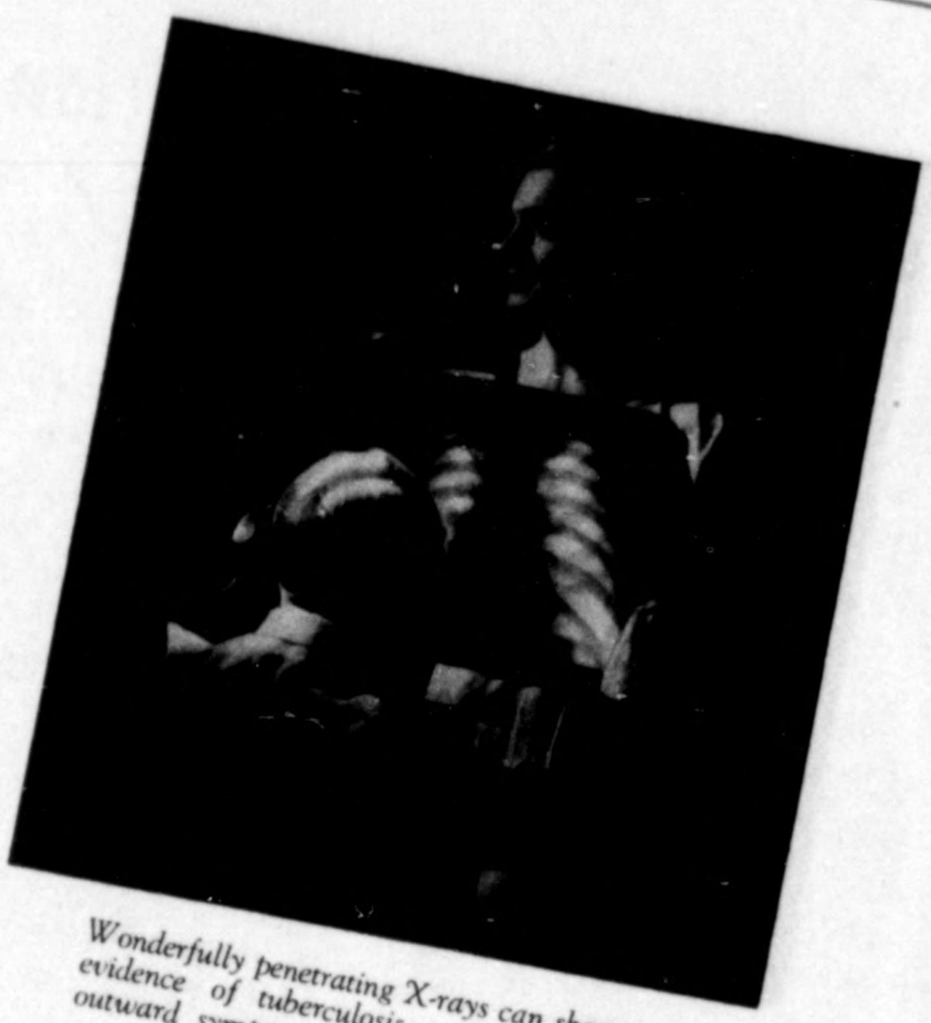




Wonderfully penetrating X-rays can show up evidence of tuberculosis even before any outward symptoms of the disease appear.

* * *

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.

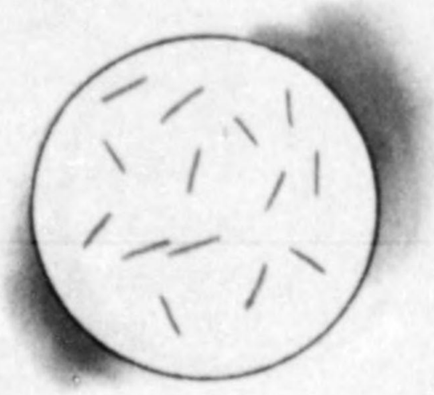
Unlike most catching diseases, tuberculosis takes some time to develop and may depend on repeated or prolonged exposure.

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).

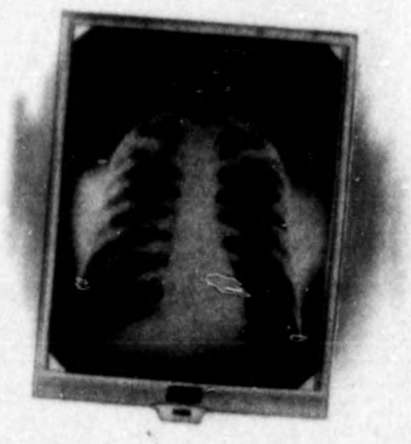
Early Danger Signals

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.

3 JOIN ACTIVELY IN THE WAR AGAINST TUBERCULOSIS

This war can be won if all the forces in the thick of the fight against tuberculosis—citizens, physicians, public health nurses, voluntary tuberculosis associations, and official health agencies—keep on the alert and work together. Already the death rate from tuberculosis has dropped to less than one fourth of what it was in 1900. A generation ago it was the leading cause of death. Another generation may see it wiped out if everyone helps to find cases early and to give them the benefit of modern treatment methods.

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D 9

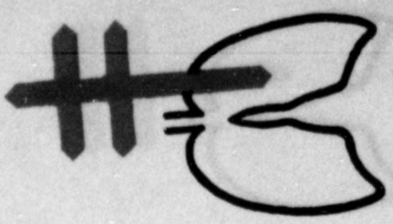
Make Sure
You're Healthy

Fight Tuberculosis

Get an
X-RAY

North Dakota State Department of Health
Bismarck, North Dakota

BISMARCK TRIBUNE 60879



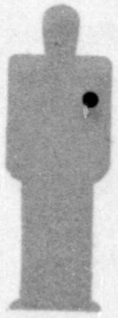
Tuberculosis

Basic Facts in Basic English

presented by the
National Tuberculosis Association

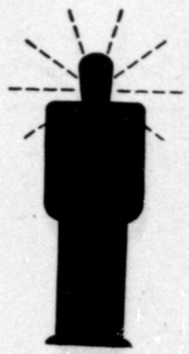
with the help of the
International Foundation for Visual Education
and the
Orthological Institute.

A healthy person.



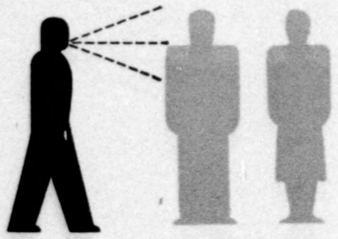
A person who has had tuberculosis of the lung. The lung is well again now. As long as it is well he will not give the disease to others.

A person with tuberculosis germs (seeds of tuberculosis) in his body. He is not ill, so far. Later the germs may be the cause of disease.



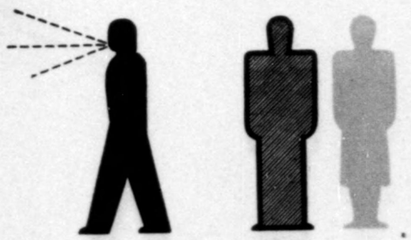
A person with tuberculosis who may give the disease to others.

Tuberculosis Comes From Other Persons



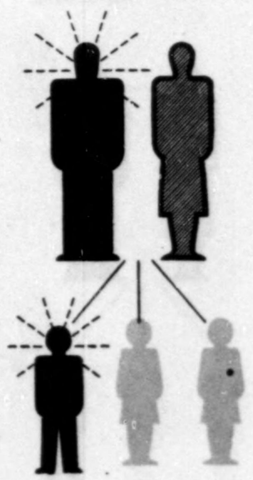
Someone who has tuberculosis is living in the house of this healthy man and woman. They will probably get the disease from him.

Later



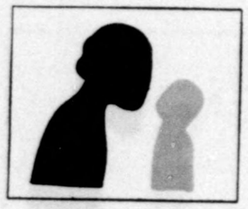
He goes away. The man now has the germs in him. He is not ill so far.

Still later.

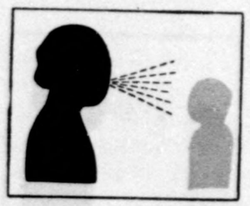


Here you see the development of the disease in the family. The man is ill with tuberculosis. The woman has the germs but is not ill. The oldest boy has tuberculosis. One of the girls is free from it. The other (with the black mark) has had tuberculosis in her lung but is now well again.

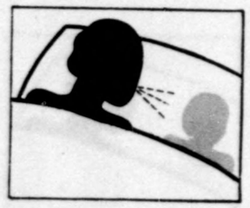
Germs Given in One Step



A mother may put the germs straight on her baby's lips with her kisses.

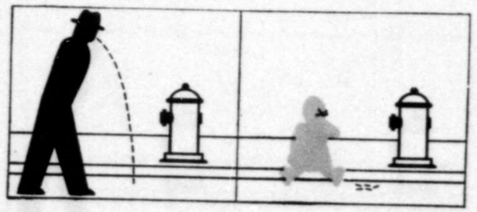


A cough, a sneeze or quick talking may send the germs to another person's lips in little drops of liquid.

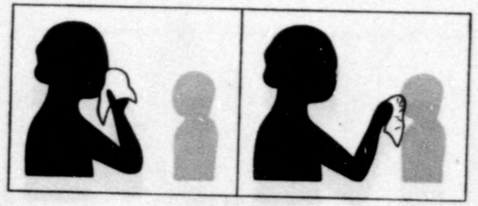


Sleeping in the same bed with a diseased person, breathing near to one another, is full of danger.

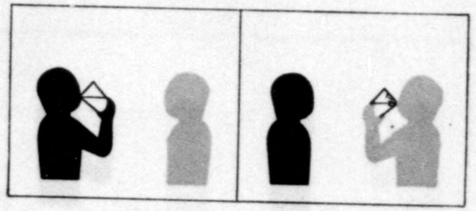
Germs Given in Two Steps



Sputum sometimes gets on things. A baby may then get the germs on his fingers — and in his mouth.

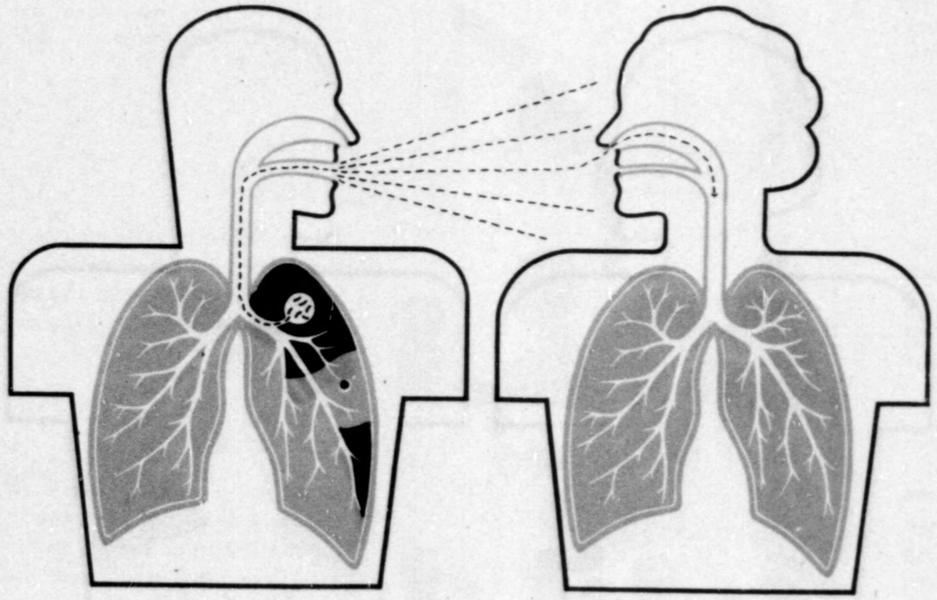


Things like washcloths may take the germs from one person to another. Keep them for the use of one person only.



Anything — a glass, a cup, a spoon — which has been touching the lips of a diseased person may give the germs to the healthy.

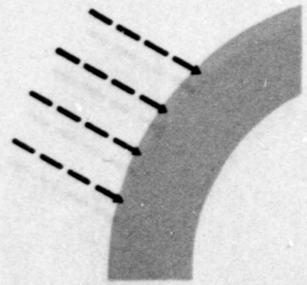
Tuberculosis Germs Come From Diseased Persons



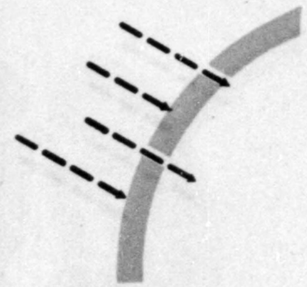
The germs causing tuberculosis are in the lung of the person who has the disease. These germs are very small. In one cough a diseased person may send out thousands of germs. They may be coughed into the air. A sneeze may send them right across the room. They are in the mouth and on the lips. Whoever comes near the mouth of a person who has tuberculosis will probably get some of the germs. Things touching his lips may get germs on them. When the germs are in the mouth of a healthy person they readily get into the lung. This is how the seed of tuberculosis is planted. Danger comes chiefly when great quantities of germs are taken in again and again week after week.

Fighting off Attacks

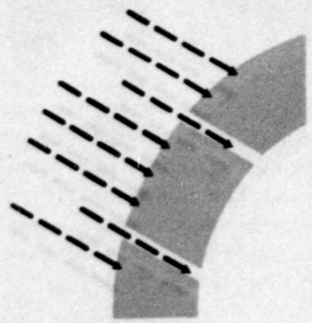
When attacked by tuberculosis germs, the body has certain natural forces which give fight. These forces are its power of resistance.



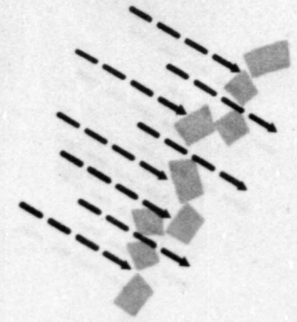
Strong resistance keeps off the attack of a small number of germs. The body keeps well.



Feeble resistance may give way to the attack of a small number of germs. Disease may be started.



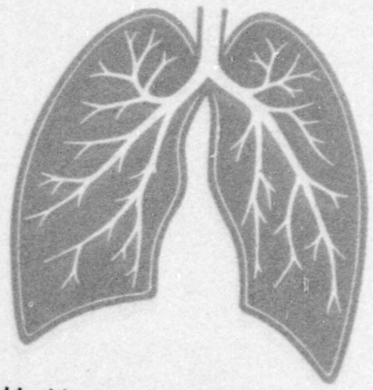
If attacked by enough germs, even a person with strong resistance may not keep off tuberculosis.



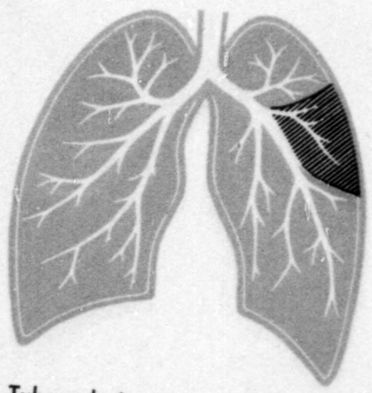
When resistance is feeble and the attack is strong, resistance is completely overcome and serious disease is the almost certain outcome.

A strong body and healthy common-sense ways of living make resistance strong. Keeping away from persons who have tuberculosis makes the danger of a mass attack of the germs less.

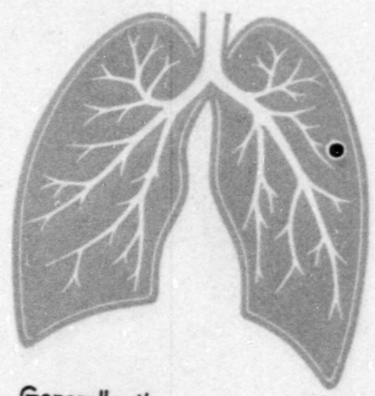
The Development of Tuberculosis in the Lung



Healthy lungs — made up of thousands of very small air spaces.

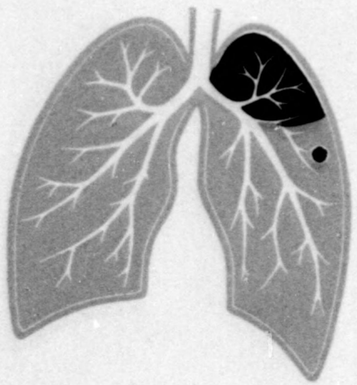


Tuberculosis germs have come into one lung for the first time. Disease is seen in a wide part of it.

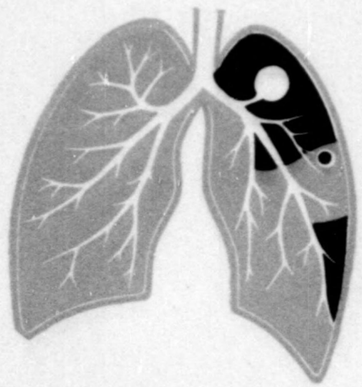


Generally the person who has this first stage of the disease gets well again in a short time. The only outcome is a small mark where the disease was. The person may not even have been conscious of the attack.

Later



The lung may be attacked by tuberculosis germs again. This second attack is generally serious if it is not taken care of quickly.



The disease has now gone into much of one lung. There is a hole now in the upper part.

No two examples of tuberculosis are the same completely. These pictures give only a general view of the development of the disease.

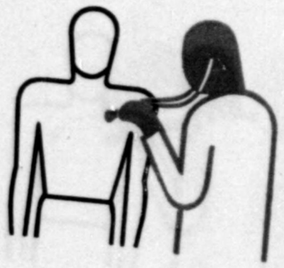
Which of These Have Tuberculosis?

Signs of the Disease

	Tired	Loss of weight	Coughing	Bad digestion	Blood in sputum	Chest pain	Rough throat
							
							
							
							
							
							

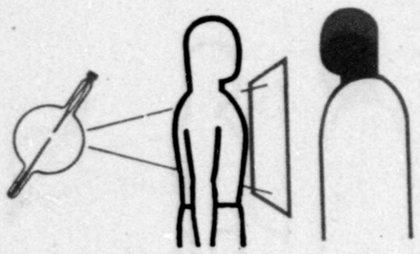
Only the Doctor Is Able to Say Who Has Tuberculosis

His questions are about the person's living conditions, past history and any signs of disease which may be present.

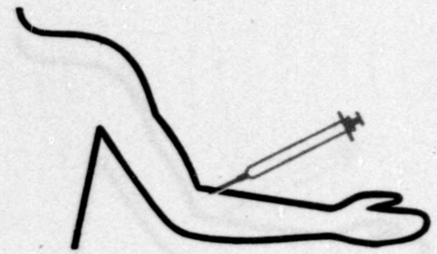


He sees if the heat of the body is normal. The sounds given back by the chest under his fingers and in breathing are signs which say much to his experienced ear.

But sometimes the changes in the lungs are very small and the sounds are not clear signs.



The X-ray is a help here. It makes a picture of the lung in which we may see where the trouble is.



A tuberculin test makes clear if there are tuberculosis germs in the body or not.

The doctor takes some of the sputum, to be tested to see if there are germs in it.

After going over all the facts he is able to say if the person has tuberculosis or not.

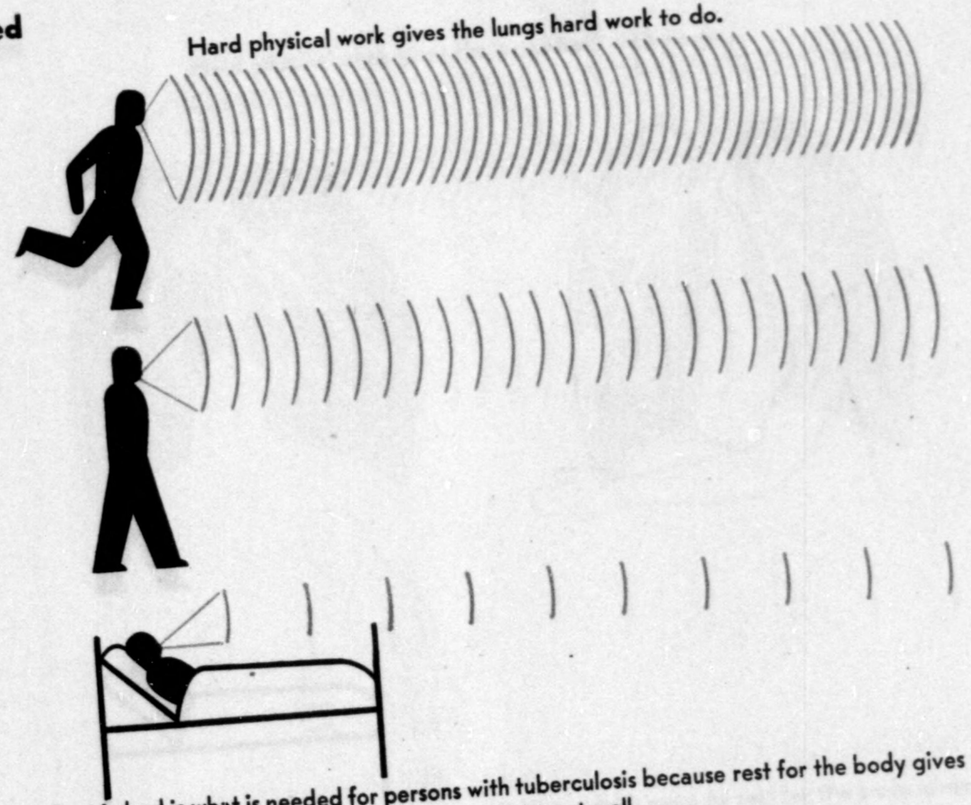
Why the Lung Has to be Rested

Any damaged part of the body gets well more quickly if it is kept at rest.

Running — 50 deep breaths every minute

Walking — 25 breaths every minute

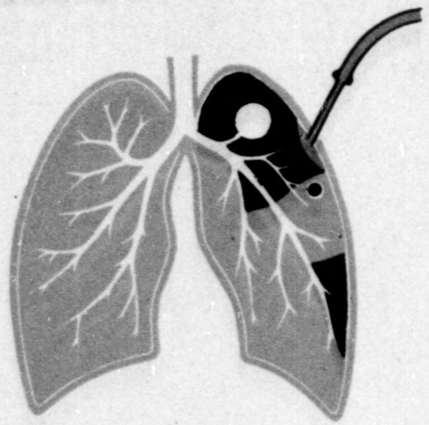
Rest in bed — 10 breaths every minute



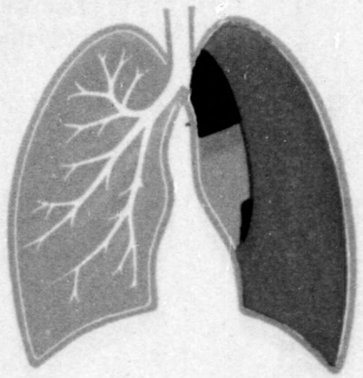
Rest in bed is what is needed for persons with tuberculosis because rest for the body gives the lung less work to do and the best chance to get well.

Complete Rest for the Lung

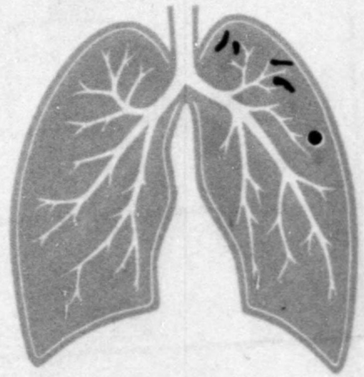
One lung may be put at rest for a time by a small operation named pneumothorax. The other lung does all the necessary breathing.



A hollow needle is put through the chest wall. It does not go into the lung, however. No pain is caused.

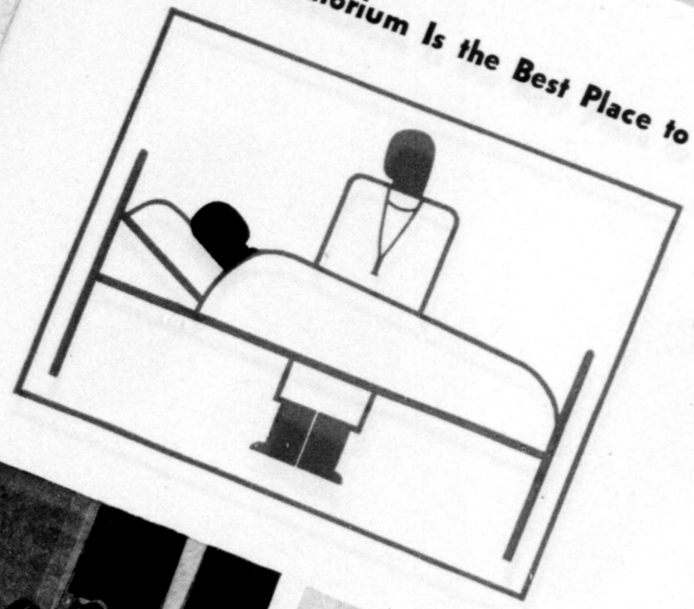


Air is let in and the lung does no more work.



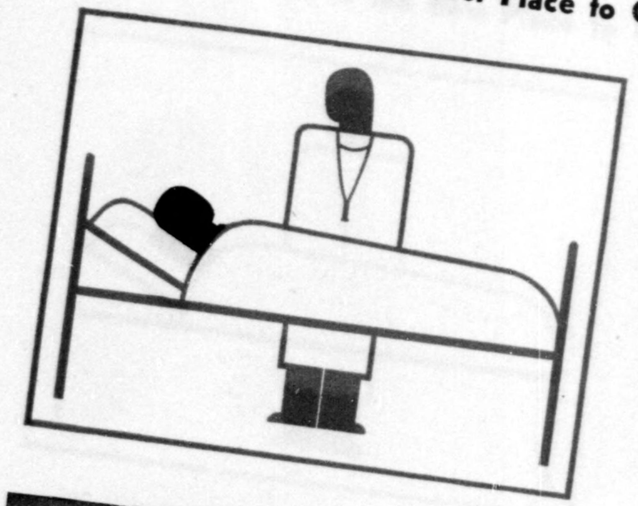
When the lung is well it is put to work again.

The Sanatorium Is the Best Place to Get Well



Everything at the sanatorium is designed as a help to getting well. There is rest, good food, clean air, and sunlight. The doctor is at hand when he is needed. Everything is done for the comfort of those who have the disease, and while at the sanatorium they are not a danger to others.

The Sanatorium Is the Best Place to Get Well



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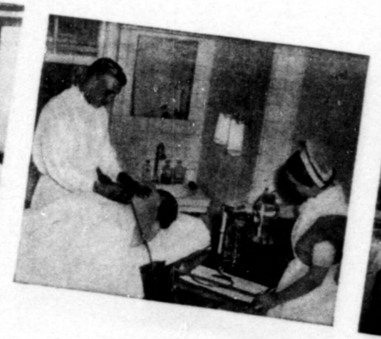
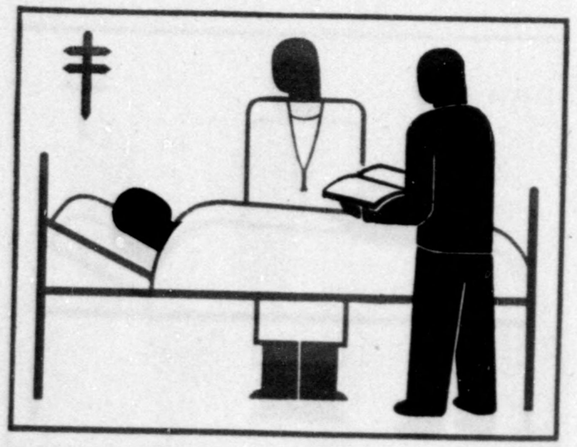
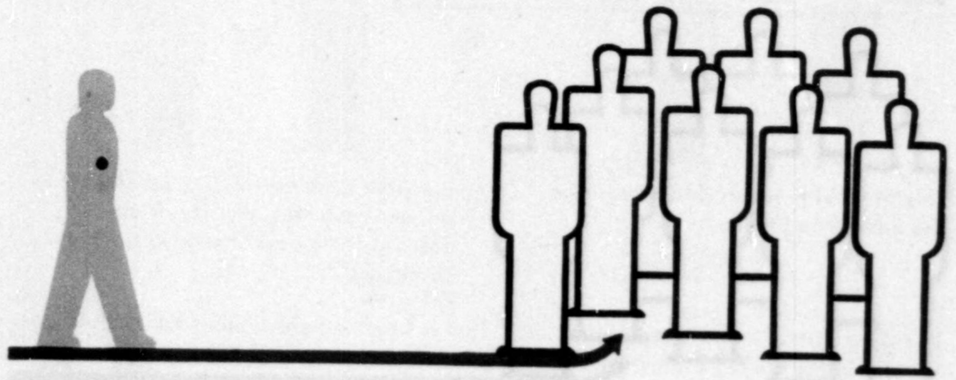




A New Start

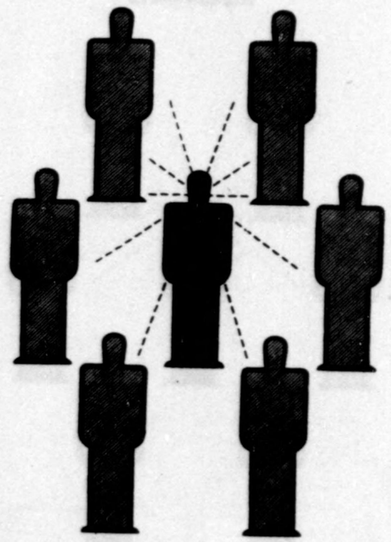
The lung is given the best of medical attention and care. But that is not enough. When the person goes back into society from the sanatorium he has to be ready to take up new and healthy ways of making his living. Special teachers in the sanatorium give him the necessary training for this. He makes a new start.



He Makes A New Start

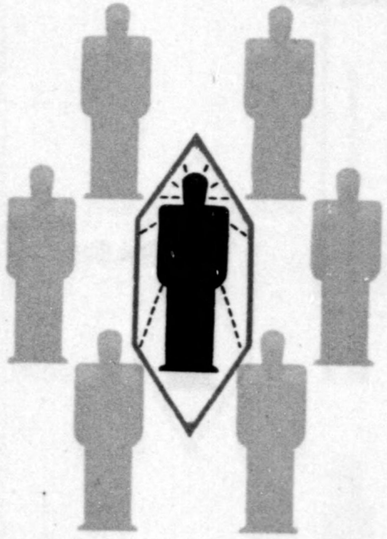
How Tuberculosis May Be Stopped

DANGER

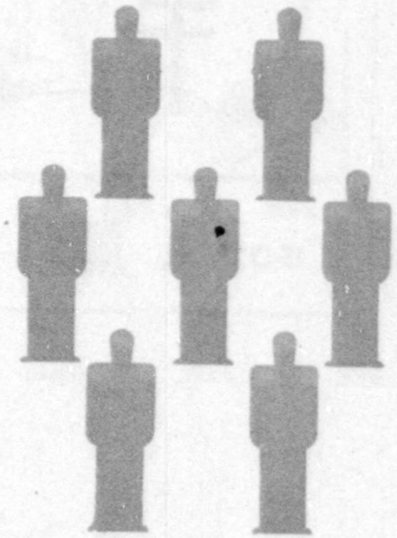


This man with tuberculosis may give the disease to others.

NO DANGER



But if he is cared for in a sanatorium no one gets the disease from him. There are new ways of helping his lungs to get well.



His lungs are well again. His cough has gone. He no longer gives out germs. It is quite safe for others to be living with him.

By taking care of one, we keep others safe. That is why the fight against tuberculosis goes on so well. But there are still about 500,000 persons in the United States with tuberculosis.

THE NATIONAL TUBERCULOSIS ASSOCIATION is an organization of medical men and other interested persons working together through 2,900 tuberculosis associations in the United States. Its purpose is to put an end to tuberculosis with the help of science and education. It is supported by money given freely by Americans every year in exchange for Christmas Seals.

ISOTYPE, the picture language used in this book, was designed by Dr. Otto Neurath of the International Foundation for Visual Education, The Hague, Holland, with an American office at 130 East 22 St., New York 10, N. Y. Its signs are kept the same throughout, so that by uniting them in different ways, different ideas, complex as well as simple, may be given clear and interesting statement.

BASIC, the language used throughout is Basic English — the invention of C. K. Ogden, of the Orthological Institute, London. It makes use of only 850 common English words and any special names — *tuberculosis,* for example — which may be desired, giving their sense in Basic when necessary. This book has been put into Basic English by the Orthological Institute Inc., 13 Kirkland Street, Cambridge, Massachusets.

NATIONAL TUBERCULOSIS ASSOCIATION
1790 Broadway, New York 19, N. Y.

COMPLIMENTS OF

YOUR TUBERCULOSIS ASSOCIATION

Publication made possible by the sale of Christmas Seals

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D9

TUBERCULOSIS

Information

and

Facilities in Virginia

for

Prevention, Diagnosis and Treatment

Virginia State Department of Health, Richmond, Virginia

1945

TUBERCULOSIS

The Cause of Tuberculosis

It has been definitely known for over fifty years that all tuberculosis is caused by an organism called the tubercle bacillus. These germs are present in the sputum of the tuberculous and may be transferred directly from the sick to the well by careless coughing and spitting or indirectly through contaminated articles. These germs do not grow or multiply outside the human body but if introduced into it they live, multiply, and produce the disease called tuberculosis.

How Tuberculosis Germs Spread and Enter the Body

The tuberculosis germ is extremely hardy; it can survive drying and freezing, and it can be spread without direct person-to-person contact. These germs either must be breathed into the body or carried into it. Living tuberculosis germs may be inhaled by a person who is in direct contact with the tiny droplets from the uncovered cough or sneeze of a tuberculous patient, or who breathes dust mixed with tuberculosis germs from dried sputum or other body discharges. The germs may be carried into the mouth on dishes and fingers which have been soiled with the discharges of a tuberculous patient, or in food which has been so infected. Milk from cows which have tuberculosis also may be a source of infection. The last named danger may be avoided by having the milk properly pasteurized or boiled before giving it to babies and young children.

Tuberculosis germs very rarely enter a baby's body before birth. When tuberculosis seems to "run in families" it is because the close contacts of home life have made it possible for one member of the family with the disease to pass the germs on to other members. We know that many people, at some time during childhood or adolescence get tuberculosis germs into their bodies and that some of those who do so, develop tuberculosis. The presence of these germs in the body before the disease develops may be determined by a simple check known as the tuberculin test.

What Happens When Tuberculosis Germs Enter The Body

When tuberculosis germs first gain entrance to the body it does its best to destroy them before they can find a lodging place. If the body is unable to do this, the organisms lodge usually in the lungs, but sometimes in the bones, the glands of the neck, the throat, intestines, the kidneys, or other organs. Tiny body cells then move to the place where the germs have gained a foothold and start at once to build a shell around them. This shell with its contents is called a tubercle because it looks like a small tuber or bulb. The germs in this tubercle can do no harm except to destroy the body tissue enclosed with them. When calcium (lime) takes the place of the destroyed tissue and the shell becomes hard and stony, the body has won the victory at least

for a time. A physician who sees in the x-ray picture of a person's lungs one or more of these lime-filled areas will say, "You once had tuberculosis and it healed."

If tuberculosis germs enter a body which has lost its fighting power through lack of proper food and rest or for any other reason, or if the germs multiply too rapidly, it is then that the body begins to show signs of tuberculosis. A physician who examines an x-ray picture of the part of the body attacked will say, "This patient has tuberculosis."

People Who Particularly Need To Be On Guard Against Tuberculosis

Boys and girls in their 'teens and young adults are the chief victims of tuberculosis. Although we think of youth as the time when the body is strongest, it is during this period also that bodily energy is usually spent most freely. Adolescent boys and girls and young men and women who do not eat sufficient nourishing food, who work and play too long and too hard, and rest too little are apt to have bodies which cannot deal successfully with the germs of tuberculosis.

The Symptoms of Tuberculosis

Only a physician can diagnose tuberculosis. Danger signals which should be brought immediately to a physician's attention are:

1. Spitting of blood-streaked sputum.
2. A cough or hoarseness that lasts longer than an ordinary cold.
3. A daily afternoon rise in temperature.
4. Steady unexplained loss of weight.
5. A feeling of tiredness for which there seems to be no particular reason.
6. Poor appetite.
7. Chronic indigestion.
8. Persistent or recurring pain in the chest.

Any one of the these symptoms may mean that a person has tuberculosis. However, a physician is the only one who can decide. The early discovery of tuberculosis is essential to early recovery.

How The Physician Discovers Whether Or Not A Person Has Tuberculosis

In addition to the health history of the patient and a thorough physical examination, the physician, nowadays, has even more definite means of diagnosing tuberculosis. If certain signs seem to point to tuberculosis infection, he will have an x-ray picture taken. The x-ray is a tremendous help in detecting tuberculosis early, and may show disease before any symptoms whatever are noticed. The physician also may take a sample of the patient's sputum for laboratory examination to see if the tuberculosis germs can be found.

The Tuberculin Test and X-ray

The first infection by tuberculosis germs may occur at any age but is likely to occur in childhood or adolescence. If there is but a slight infection and the child is in good health, the body may win an easy victory without showing even mild symptoms of tuberculosis. And yet it is important to discover whether a child has had a first infection, valuable means of detection is a harmless skin test called the tuberculin especially when it is known that he has been exposed to tuberculosis. A test. By this check the doctor can tell whether tuberculosis germs have invaded the body. Given to many thousands of people the country over, this test reveals that among those tested, from twenty-five to fifty percent of the population have been infected by tuberculosis germs at sometime during their lives. The rate is much higher in cities than in rural areas.

If the tuberculin test is positive, the doctor usually has an x-ray picture taken to supplement the thorough physical examination he will give the child. The picture, with other evidence, may show that the child does not have active tuberculosis. This means that the defenses of the body have succeeded in arresting the infection. However, the individual must be protected against close contact with active tuberculosis cases. He also must be helped and encouraged to build up and maintain health above the average. In this manner the body defenses remain strong enough to keep the infection from breaking loose again and to resist a fresh germ invasion. Reinfection, or relapse from the old infection, is most likely to occur among adolescents and young adults.

THE TREATMENT OF TUBERCULOSIS

Sanatorium Care

Cooperation on the part of the patient is essential if the disease is to be arrested or cured. Treatment may be carried out at home. However, a special hospital, called a sanatorium, is the best place for the patient. There, everything is planned with the one object of helping the patients to get well, to instruct them how the disease is spread, and train them in the precautions they must follow to avoid infecting others. *It is not necessary to go to a sanatorium far away from home in order to get the benefit of a special climate. We now know that tuberculosis can be successfully treated in any climate in the United States.*

The Commonwealth of Virginia, under the supervision of the State Department of Health, has three excellent sanatoria for the treatment of tuberculosis; two for the treatment of white patients—Catawba Sanatorium (near Roanoke, Va.,) with a bed capacity for 400 patients, and Blue Ridge Sanatorium, Charlottesville, Va., with a capacity for 370 patients (including a 40 bed preventorium for children between the ages of 5 and 15 years inclusive, who have the childhood types of the disease), and Piedmont Sanatorium, Burkeville, Va., with a capacity of 269 beds for the treatment of Negroes. The charge for treating patients at the two institutions for white people is $1.00 per day, and at the institution for colored patients 50 cents per day.

Virginia also provides clinics where free chest examinations are given; tuberculin tests are made on children also; and, when indicated, x-ray pictures are taken. Nurses are employed by the State, counties and towns, who visit homes for the purpose of instructing patients and their families in methods of prevention and treatment of tuberculosis. Thus, an active educational campaign against this disease is waged.

Rest

Rest is the first and most important remedy in the treatment of tuberculosis. This does not mean simply "taking it easy," but rest flat in bed under a doctor's care. Rest gives the lungs their best chance to heal.

If the mind is upset from worry, the body cannot rest. At the beginning, it is necessary to face the fact that the treatment will take a long time. The patient should be encouraged to meet real troubles squarely without too much worry, to forget the less important ones, and to REST.

Rest is so important that in late years ways have been found to rest the sick lung itself. Even when a person is asleep the lungs through breathing constantly are in motion. To relieve the diseased lung from this work it may be necessary to use surgery. Not all people with tuberculosis are suitable for this form of treatment. The selection of the cases on which it is to be employed must be made by a physician who is especially trained in the treatment of tuberculosis. The most common method used is called artificial pneumothorax. Its object is to introduce air through a hollow needle into the space between the diseased lung and the chest wall. This causes the lung to collapse so that it cannot breathe. In this state the lung is at rest and the diseased part has a chance to heal. The work of breathing is carried on by the healthy lung. From time to time the air in the chest needs to be replaced, and this is called a "refill."

Another operation for resting the lung is performed on one of the nerves of the neck (phrenic). This paralyzes the diaphragm, the big breathing muscle between the chest and the abdomen, and the lung cannot move as freely as before; thus it is given a better chance to heal.

Still another method is to shorten the ribs so that the chest wall caves in and compresses the sick lung. This operation, which causes permanent lung collapse is usually not done until pneumothorax has been tried and failed to compress the diseased part.

Food, Sunlight, Fresh Air

Next to rest of body and mind, the most important measure in dealing with tuberculosis is to build up the body. This depends largely upon nourishing food. Fresh air and sunshine also play a vital part in the process of getting well.

No special food combinations are used in treating tuberculosis. The patient each day should have a variety of well balanced nourishing foods in amounts that his body can use. Milk should be included in the diet; two pints daily is enough for the average individual. Over feeding the patient no longer is recommended, as it may do more harm than good.

There are no pills, tonics, or other medicines known which will cure tuberculosis. The body itself must deal with the germs. It can do so successfully, only when it can begin quickly to rest from many of its ordinary labors and when it is given nourishing food, sunlight and fresh air, thus strengthening its fighting power. The process of recovery is usually a long, slow affair, and requires patience, and good sportsmanship. Above all, it requires the hope which a tuberculous patient in our day has every right to cherish—that of returning to a normal, useful life.

Taking the Treatment at Home

It has been proven that the best results from treatment are obtained when patients go to a sanatorium, but it so happens that some cases will not, or cannot do so, and have to be cared for at home by the family physician. Under these conditions two objectives must be kept constantly in view—the welfare of the patient and the protection against infection of other members of the family. The detailed plan for the patient's care must be worked out by the physician. If the patient is an adult, perhaps the hardest thing to do, is to keep from him the worries and disturbances that are apt to arise 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 thoroughly with a vacuum cleaner and damp mops and cloths.

It is surprising how quickly most people improve after a few weeks of bed rest. The fever goes down, the cough may stop, the appetite improves, and the lost weight is regained. This improvement often deceives the patient into thinking that he has recovered. Consequently, he may feel that it is all right to get up and resume his regular activities. But the physician knows better. He is not fooled by the bloom in the cheeks or by the patient's rising spirits. When he makes another examination, including an x-ray, he usually finds that the fight in the lungs is far from won. At this point victory can easily be lost by disregarding the physician's advice.

Protecting the Family

The person who cares for the patient should wash hands often and thoroughly with soap and water. It is particularly important to do this before eating and preparing food for others.

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 soapy water, and boiled for at least ten minutes. The patient's sheets, pillow cases, and body linen also should be boiled after use and kept separate from those used by the rest of the family.

Disposal of the sputum is most important. Tin sputum cap holders with removable waxed paper fillers should be used. Burn the fillers after using, and sterilize the tin cup holder daily by boiling ten minutes.

While coughing and sneezing, the mouth and nose should be covered with a cheesecloth handkerchief which has been folded into a neat five-inch square, then folded in half. The soiled surfaces of the gauze which have covered the mouth and nose should be folded in and not touched with the fingers, thus preventing contamination. If the gauze is not available, paper napkins may be substituted if they are properly folded and carefully used. These also should be burned daily.

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.

Every member of the family of a tuberculosis patient should be examined as often as the physician thinks advisable. No child below the age of 16 should be allowed to enter the patient's room. A child who lives daily 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 under weight or sickly or in a run-down condition, they should be removed from the home if possible. In homes where this cannot be done or it is very difficult to give the sole use of one room to a patient who can spread tuberculosis, the best plan is to arrange for sanatorium care.

How to Keep from Having Tuberculosis

The first requirement is to live the sort of life that will keep the body at its best. The health of each of us depends upon the health of all of us. You may have the germs of tuberculosis in your body and yet not develop the disease if you have good bodily resistance. Here are some of the rules for healthful living:

1. Try to get at least eight or nine hours sleep each night, in a properly ventilated room.
2. Spend some time each day in exercise out of doors.
3. Eat a variety of nourishing foods.
4. Avoid overwork, late hours, and all excesses which weaken the body.
5. Keep cheerful.
6. Go to the doctor or a clinic once a year for a thorough physical examination (Go every six months if there has been a case of tuberculosis in your home.)

The second requirement is to take all reasonable precautions to prevent tuberculosis germs from entering the body. Important rules to follow are:

1. Always wash the hands with soap and water before eating and preparing food.
2. Use pasteurized milk from a reliable dairy.
3. Avoid, as much as possible, contact with those who cough and spit carelessly. Be especially careful to keep children away from such people. Elderly people frequently have coughs which do not seem serious but which actually may be a form of tuberculosis.
4. Keep fingers, pencils, and other objects which do not belong there, out of the mouth.

Winning the Fight Against Tuberculosis

Tuberculosis is on the decrease. By way of comparison the total number of deaths from all forms of tuberculosis as recorded in Virginia in 1915 was 4,003, whereas, in 1944 only 1,287 people lost their lives from this disease in this State. Yet, it is still the chief cause of death by disease among young people in our country. We owe the success already won to our present-day knowledge of tuberculosis, and its application. It is only by helping to spread this knowledge and by using it to protect our own lives, and the lives of our children and our neighbors, that we will ever get the best of this ancient enemy.

7-45—50M.

DG

HOME CARE OF TUBERCULOSIS PATIENTS

DEPARTMENT OF PUBLIC HEALTH

THE COMMONWEALTH OF MASSACHUSETTS

HOME CARE OF TUBERCULOSIS PATIENTS

Nearly all persons with active tuberculosis should be in a sanatorium. If for some special reason this is impossible, the following precautions should be observed at home.

PRECAUTIONS

Separate room

Whenever possible the patient should have a separate, sunny room; he must always have a separate bed.

Care of sputum

Spit into paper handkerchiefs which can be placed in a paper bag pinned to the bed; or spit into a cardboard sputum box.

Burn the sputum cup and contents every day. If it is not possible to burn it, collect in a metal or glass container and disinfect by adding a strong germicide such as cresol or lysol and allowing to stand, then disposing of it in the toilet.

Sputum should not be swallowed.

Control cough

Cover the mouth and nose when coughing or sneezing. It is best to use a paper handkerchief for this and dispose of it as described above.

Avoid kissing anyone

Do not allow young children in the patient's room

Wash hands frequently

Both the patient and those who care for him should wash their hands often with soap and water, especially before meals.

Care of dishes

Boil all dishes and silver used by the patient, and keep separate. Burn any food left on the plate, if possible.

Care of bed linen

Patient's linen should be boiled before sending to the laundry.

Cleaning of room

Sweeping and dusting of patient's room should be done with damp broom or cloth, to avoid raising dust.

The room and its contents should be kept clean. Fresh air and direct sunlight should be let in as much as possible.

Final cleaning

When the patient no longer uses the room, the pillows, blankets, and mattresses should be exposed to the direct rays of the sun (not through glass) for at least a day on each side. If they are badly soiled, they should be disposed of, by burning if possible. Windows should be opened for a week to let in direct sunlight. The floor and washable walls and furniture should be washed with soap, hot water and a disinfectant. Fumigation is not necessary.

Treatment

All treatment should be under a doctor's supervision.

Rest

This is the most important part of treatment and the hardest to carry out at home.

Visitors must be limited and regular quiet hours provided.

Diet

Follow the doctor's orders. Give the patient a good generous diet but do not "stuff" him. Avoid indigestable foods. Have meals at regular hours. For further information, read nutrition pamphlets published by the Massachusetts Department of Public Health.

Exposure to sun

Do not take sun treatment unless ordered by the doctor.

All members of the household should have an x-ray of the chest. This should be done as soon as the diagnosis is made. Your doctor or board of health will arrange for it.

PUBLICATION OF THIS DOCUMENT APPROVED BY THE COMMISSION ON ADMINISTRATION AND FINANCE

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D9

TUBERCULOSIS

RULES OF THE STATE BOARD OF HEALTH
LAW REGARDING COMMITMENT TO SANATORIUM

WARNING!

Tuberculosis is easily spread from the sick to the well. The laws of Wisconsin prohibit the sick from exposing the well and provide fines and penalties for failure to observe the law. The State Board of Health is required by law to make and enforce whatever rules are necessary to carry out this protection.

WISCONSIN STATE BOARD OF HEALTH
Madison, Wis.
1945

RULES OF THE STATE BOARD OF HEALTH

TUBERCULOSIS (OF ANY ORGAN)

No placard required

A. All individuals afflicted with tuberculosis of the lungs in the communicable form or reasonably suspected of being so afflicted shall exercise all reasonable precautions so as to prevent the infection of others with whom they may come in contact. The principal reasonable precautions are declared to be:

1. Depositing sputum in a special receptacle and disposing of material by burning or thorough disinfecting.
2. Preventing spraying when coughing by coughing into a container or paper napkin held to the mouth or nose.
3. Using individual eating utensils sterilized by boiling after each use.
4. Using separate towels.
5. Sleeping alone.
6. Avoiding coming in contact with other persons on all possible occasions.
7. Refraining from handling liquids or foodstuffs to be consumed by others or the utensils connected with such handling.

B. Any individual afflicted with tuberculosis of the lungs in the communicable form, diagnosed as such by a licensed physician or as shown by X-Ray or the presence of tubercle bacilli in the sputum, in order to protect others from becoming infected, may be quarantined on his premises by the local board of health or the health officer on the direction of the State Board of Health or State Health Officer, or by the full-time Medical Health Officer of any city or county with a population of 250,000 or more within his jurisdiction.

C. A placard shall be posted in a conspicuous position on the premises quarantined, with the word "Quarantine" in letters not less than two inches high and containing the following: "All persons except the health officer or his representative, attending physicians and nurses and clergymen, are forbidden to enter or leave these premises without a special written permit from the health officer, and all persons are forbidden to remove, obscure or mutilate this card or to interfere in any way with this quarantine without written orders from said health officer, under penalty of fine or imprisonment.

D. The local board of health or health officer may employ as many persons as are necessary to execute its orders and properly guard any quarantined place if quarantine is violated or intent to violate quarantine is manifested. Such persons shall be sworn in as quarantine guards, shall have police powers, and may use all necessary means to enforce the state laws for the prevention and control of communicable diseases, or for the enforcement of these rules and regulations.

E. The expense of maintaining quarantine including examinations and tests to determine the presence or communicability of the disease, and the enforcement of isolation on the premises shall be paid by the city, incorporated village or town upon order of the local board of health. The expenses for necessary nurses, medical attention, food and other articles needed for the comfort of the afflicted person shall be charged against him or whoever is liable for his support. Indigent cases shall be cared for at public expense.

F. Any individual who has been quarantined on the premises under provision of these rules shall be released from such quarantine by the local board of health or health officer on direction of the State Board of Health or State Health Officer or by the full-time Medical Health Officer of any city or county with a population of 250,000 or more within his jurisdiction when in the opinion of said Health Officer the quarantine is no longer necessary to protect others from becoming infected.

G. No person with tuberculosis of the lung or other part of the respiratory tract in the communicable form, or reasonably believed to be suffering from such disease, shall be permitted to attend or frequent any school except open-air schools especially equipped for the purpose until the health officer of the municipality where the school is situated furnishes a written certificate stating that the individual is free from a communicable form of tuberculosis. Such certificate shall only be issued after thorough examination by a licensed physician in a manner satisfactory to the State Board of Health.

H. If an individual afflicted with tuberculosis in a communicable form shall leave the sanatorium against the advice of the medical superintendent or medical supervisor, such an individual shall be reported to the local board of health and may be quarantined upon his premises as provided in Section B if in the opinion of the State Board of Health or the State Health Officer or of the full-time Medical Health Officer of cities or counties with a population of 250,000 or more, agree that quarantine is necessary in order to protect others from becoming infected.

I. The local health officer or an individual delegated by him shall visit all individuals quarantined for tuberculosis at least once every 15 days to ascertain that the quarantine is being maintained and to ascertain whether to make recommendations for release from quarantine or for admission to a tuberculosis sanatorium.

J. Any individual quarantined for tuberculosis may obtain release from such quarantine by being admitted to a tuberculosis sanatorium.

K. Individuals afflicted with tuberculosis in any form and diagnosed as such by a competent physician shall exercise every care and precaution for the protection of others.

L. **Disinfection.** All handkerchiefs, towels, cloths, eating utensils and other contaminated material used by a person with tuberculosis shall receive appropriate disinfection before coming in contact with others. Upon the death or removal of a person with tuberculosis the health officer shall require disinfection of the premises occupied by the patient by a thorough washing of the woodwork by soap and water or a disinfectant, boiling of the dishes and contaminated fabrics, and a thorough sunning of material which can not be subjected to other disinfection.

It is the intent of these rules and regulations to give reasonable protection to the public from exposure to an individual afflicted with pulmonary tuberculosis in the communicable form.

(Note). Wisconsin Statutes 143.02, Subsection (6). Any person who shall fail to obey the rules and regulations hereunder, or who shall wilfully obstruct or hinder the execution thereof, for each offense shall be fined not less than twenty-five nor more than five hundred dollars, or imprisoned not more than six months, or both.

COMMITMENT TO A SANATORIUM

Extracts from Section 143.06 of the Wisconsin Statutes, 1945:

"(2) Every person sick with tuberculosis, or in attendance, and the authorities of such places, shall observe and enforce the rules and regulations of the health board for preventing spread.

"(4) If any person afflicted with tuberculosis, diagnosis of which is made by a medical examination, laboratory or X-ray examination or as shown by the examinations made in the state laboratory of hygiene, in any branch and co-operative laboratory or in any municipal laboratory accredited by the state board of health or in any federal governmental laboratory, fails to comply with this section, or the tuberculosis rules of the state board of health, he may be committed to a county tuberculosis hospital or other place or institution where proper care will be provided and where the necessary precautions will be taken, by any judge of a court of record upon proof that such person has so offended. Such person shall, upon verified petition setting forth the facts by any health officer or any resident of the municipality where the alleged offense was committed, be summoned by such judge to appear at the time and place stated in the summons, which time shall not be less than 48 hours after service. The court may make such order for payment for care and treatment as may be authorized by law. Such person may be discharged when the court thinks proper. If the superintendent has good cause to believe that any person so committed may leave the institution he may restrain him from leaving. Whenever the superintendent deems it necessary he may segregate any person so committed. If any person so committed shall escape, the superintendent may take such lawful steps as he may deem necessary to secure his return. * * *"

The best place for any person sick with tuberculosis is in a sanatorium. Under modern treatment methods and care as provided by a sanatorium the disease may be arrested far quicker than is possible in the ordinary home.

If you have tuberculosis, for your own sake seek sanatorium treatment. Wisconsin will pay for your care while in the sanatorium.

D9

Kula

HEALTH WANTED

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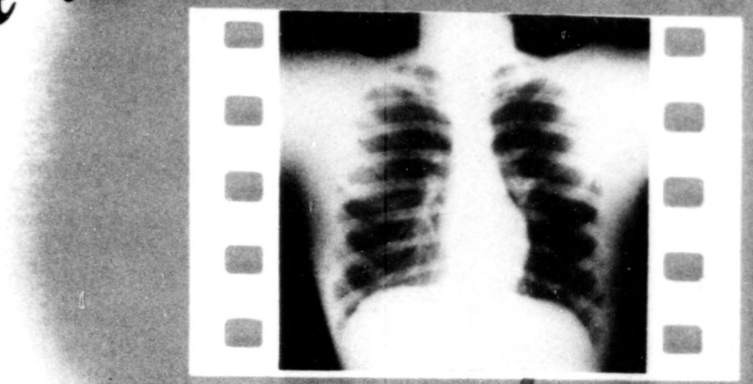
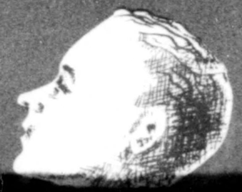
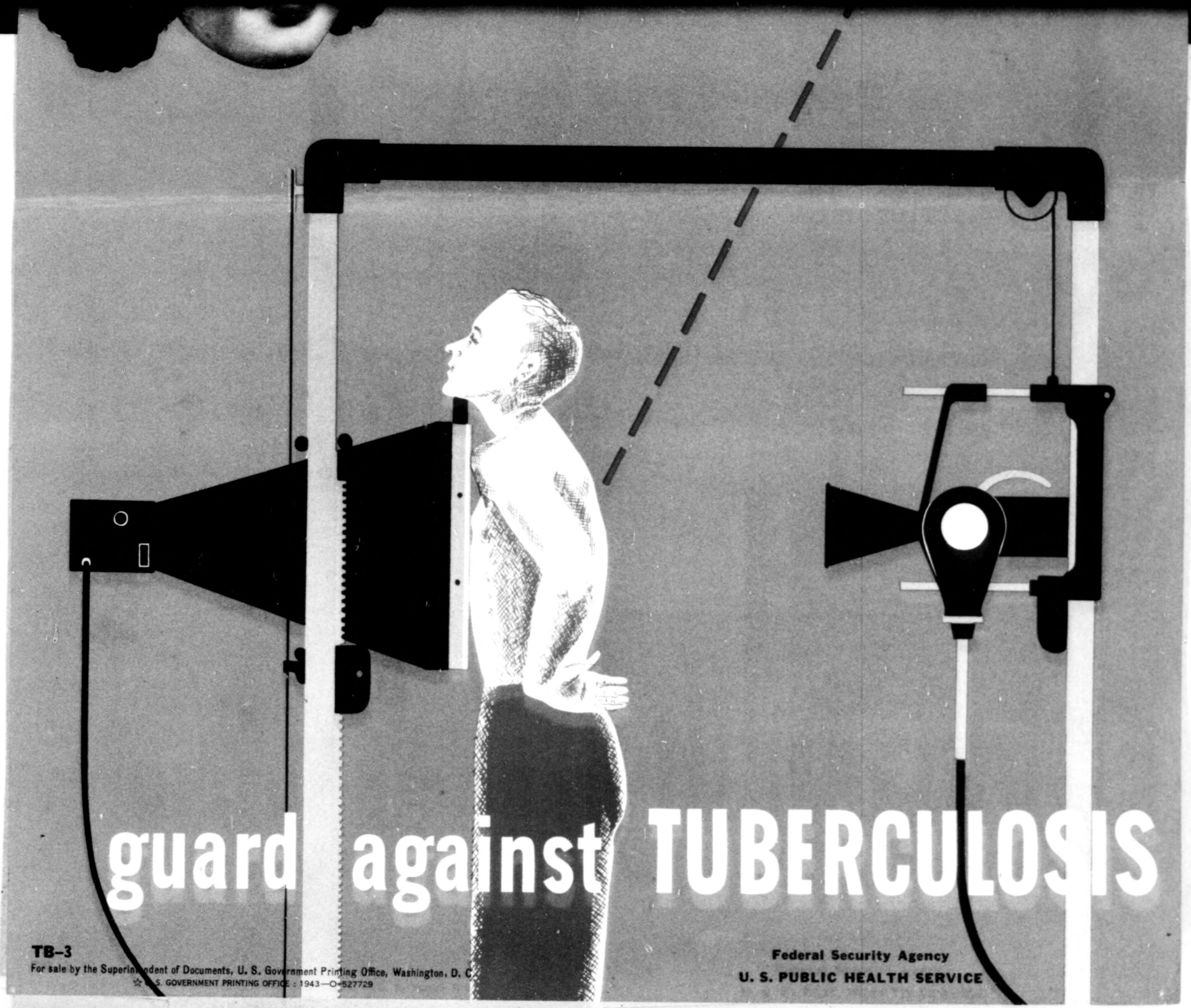
Kula-Robbins

D9

have your picture taken







guard against TUBERCULOSIS

TB–3
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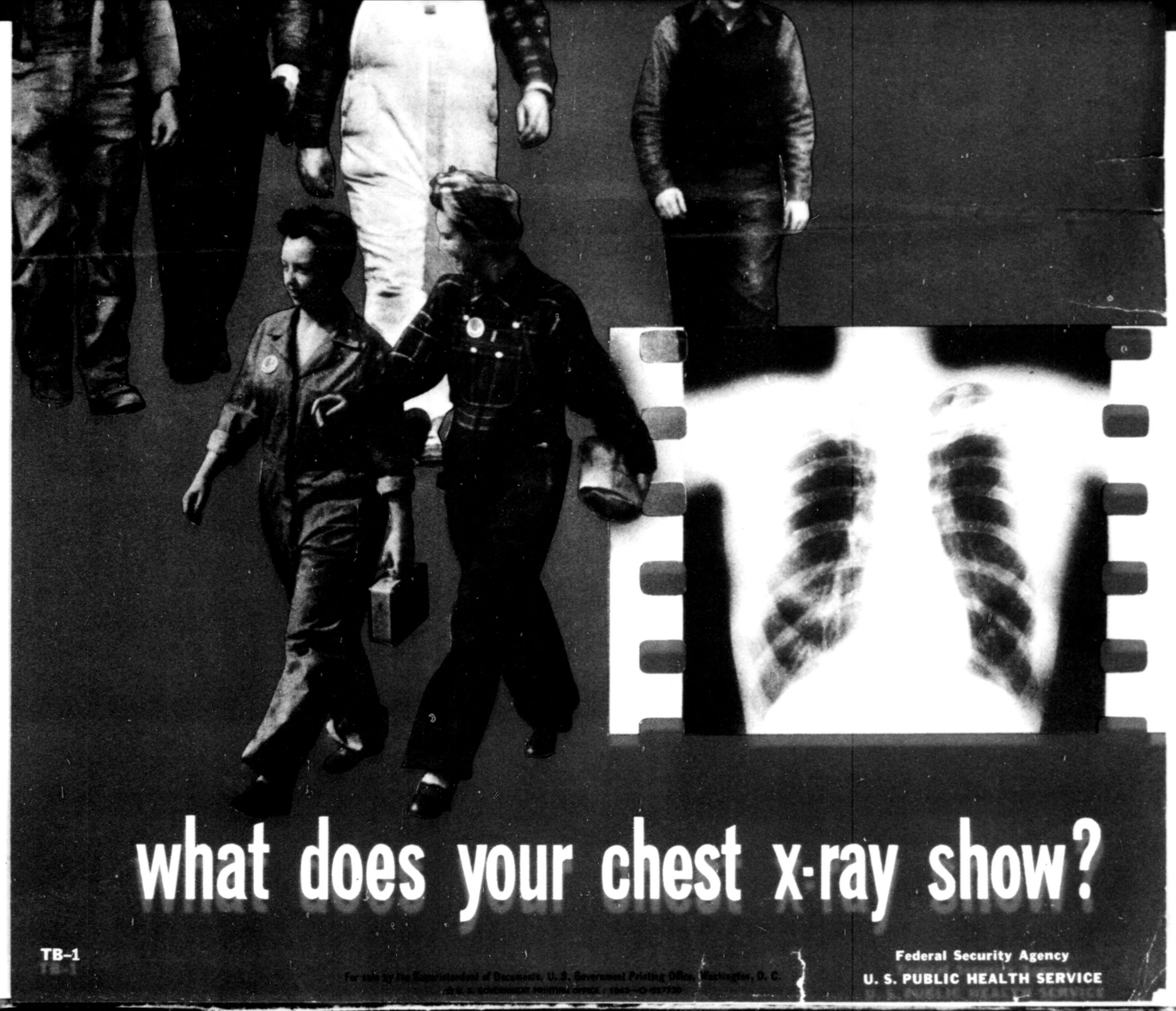
Federal Security Agency
U. S. PUBLIC HEALTH SERVICE

D9

YOU MAY LOOK HEALTHY

but -



what does your chest x-ray show?

TB–1

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Federal Security Agency
U. S. PUBLIC HEALTH SERVICE

THE HIGH SCHOOL'S SHARE

IN

Solving the Community's Tuberculosis Problem

A Plan of Action

and

An Outline for Teaching

THIS UNIT PRESENTS . . . .

In Part One ..... **pp. 5-8**

A GENERAL PLAN for the organization of the tuberculosis case-finding program in the high school through mobilizing the resources of the community. This part includes the

Function of the school ..... p. 5
Distribution of responsibilities ..... p. 5
Functions of educational direction ..... p. 5
Functions of medical direction ..... p. 5
Educational methods ..... p. 5

In Part Two ..... **pp. 8-11**

MATERIALS OF INSTRUCTION. This part includes

Information for the teacher ..... p. 8
Local community tuberculosis problem ..... p. 10
National tuberculosis problem ..... p. 10

In Part Three ..... **pp. 12-16**

EDUCATIONAL TECHNIQUES. This part includes

Special methods of instruction ..... p. 12
Classroom instruction in health courses ..... p. 13
Classroom instruction as part of courses in Biology, Social Studies, Home Economics, Physical Education, English, and others ..... p. 14

A Bibliography ..... **p. 16**

REFERENCES to books, pamphlets, posters, charts, movies, radio scripts, transcriptions.

A Unit on Tuberculosis Control

PART ONE: ORGANIZATION AND GENERAL PLAN

I. FUNCTION OF THE SCHOOL

Community control of tuberculosis depends upon the cooperation of the citizens, public health officials, and other health agencies.

Too often citizens feel that the control of communicable disease is the responsibility only of the health department and do not know or practice the personal methods of control, or participate in the public health measures, necessary for actual control of any disease.

Too many adult citizens do not know the personal and public health measures necessary for the prevention and control of communicable disease. The public schools, therefore, may serve the community: (1) by planning a well organized program of instruction in the prevention and control of tuberculosis for all high school students, and (2) by mobilizing community resources or by cooperating with established agencies for the purpose of working out case-finding procedures for the students and school community that shall be an integral part of the community-wide program for the prevention and control of tuberculosis.

II. DISTRIBUTION OF RESPONSIBILITIES

A. *Educational phases*

The educational direction of a school tuberculosis program is the responsibility of the board of education through the school administrator and his health committee. However, the instructional activities should be planned with the following:

1. City, county or district health department
2. County medical society
3. Sanatorium staff
4. Tuberculosis association
5. Public health nursing association

B. *Medical phases*

The school tuberculosis survey or case-finding program should be under the direction of the school physician or such medical service as is authorized by the board of education. In the latter situation, this may be one or a combination of the following agencies:

1. City, county or district health department physician
2. Physicians in private practice
3. Sanatorium medical officer
4. Physicians employed by the tuberculosis association

C. *Advisory and contributory services*

The school tuberculosis program is an integral part of the whole community program. While the school program is primarily educational and the latter is fundamentally diagnostic in purpose, their common goal is the ultimate eradication of tuberculosis. In order that the program may function effectively, school personnel should be familiar with and utilize the services of the official and the private health, welfare and youth agencies, council and unit chairmen of parent-teacher associations, and interested civic and service clubs.

III. FUNCTIONS OF EDUCATIONAL DIRECTION

The functions of educational direction are threefold: first, to present to high school youth the problem of tuberculosis as it applies to them specifically; second, to present to them the part they may play in meeting the community tuberculosis problem, and third, to make them aware of tuberculosis as a world problem.

IV. FUNCTIONS OF MEDICAL DIRECTION

It is the task of the medical service, after due counsel with the school administrator and his health committee, to determine the extent of the survey and the kind of diagnostic procedures to be used with high school students.

V. EDUCATIONAL METHODS

The educational program presented here may be adapted to meet the needs and facilities of the community:

A. *School health committee*

1. Organization

To establish mutual understanding and the close coordination of health services, a school health committee is necessary. Suggestion of such a committee may come from a number of sources, but its actual organization is the responsibility of the principal of the school. Its membership will differ in various communities.

(3) Publicity in
  (a) School newspapers
  (b) Local newspapers
  (c) Labor organs
  (d) Industrial plant papers

(4) Conference of schoo nurse with
  (a) Parents failing to cooperate by refusing to have students participate in tuberculin-testing or X-ray activity
  (b) Parents of students having positive tuculin tests

(5) Reports of result of tuberculosis examination—test or X-ray—including interpretation of results and indication for future follow-up.

D. *Collaboration with community agencies*

A program of tuberculosis education in our schools is not complete unless the school utilizes the services available from community agencies and acquaints the students with the function of each.

Many schools provide excellent health programs without assistance from other agencies. However, the student spends only part of his life in school. Other community agencies also contribute to the maintenance and protection of his health. As a student, he should have experience in evaluating, supporting and utilizing such agencies. The school's collaboration with such community agencies may include the following:

1. Joint planning by the coordinating committee (representing the local agencies contributing to the solution of the problem)
2. Use of personnel and services of other agencies in the development of the school program
3. Classroom instruction leading to
   a. Student knowledge of the various health agencies and their functions
   b. Student activities contributing to the programs of other agencies, as for example:
      (1) Preparation of exhibits
      (2) Talks to women's clubs, service clubs, etc.
      (3) Radio dramatizations
4. Use of facilities of other community agencies in the development of the instructional program*
   a. To obtain information relating to the local problem of tuberculosis
   b. To enlarge the scope of the students' interest and understanding through educational experiences; for example, carefully supervised visits of student committees to
      (1) Health department
      (2) Tuberculosis clinic
      (3) Sanatorium

      } No contact with infectious cases will be permitted.

*See suggestions included in *Tuberculosis Fact-Finding in Your Community*. (Listed under Miscellaneous aids for the teacher, p. 16.)

PART TWO: MATERIALS OF INSTRUCTION

I. INFORMATION FOR THE TEACHER

The following authoritative information is essential to a knowledge of tuberculosis.

Tuberculosis is caused by a germ—the tubercle bacillus.

Tuberculosis germs are so small that they can be seen only with the aid of a high-powered microscope.

Tuberculosis is a communicable or "catching disease."

A healthy person may become infected as a result of close contact with a person who has tuberculosis in a communicable form, i.e., one who is giving off germs.

He may breathe in or swallow some of the germs which the sick person exhales or precipitates into the air by his cough or sneeze.

He may catch germs from handkerchiefs, toilet articles, drinking cups, and other utensils, or from food which has been handled or prepared by a person sick with tuberculosis.

Whoever comes close to the mouth of a person who has active or open tuberculosis is likely to catch some of the germs. Children are very susceptible and all too frequently are subjected to fondling and kissing.

Children may inhale dust which contains the germs of the careless spitter

As far as possible, it may include the following:

a. The principal
b. The school physician
c. The school nurse
d. The dean of boys
e. The dean of girls
f. A physical education teacher
g. A science teacher
h. A social science teacher
i. A household arts teacher
j. A representative of the parent group
k. A representative of the student body
l. The attendance officer
m. The vocational counsellor
n. The visiting teacher
o. The custodian

2. Functions

The main function of the school health committee is to provide a central clearing house where health problems can be discussed and duplication of activities eliminated.

Other functions are:

a. To survey the health needs and problems of
   (1) The community as a whole
   (2) The neighborhood which the school serves
   (3) The particular school
b. To survey the existing health, welfare and youth agencies whose services may be utilized
c. To plan a program for health and safety education
   (1) Taught as a separate subject
   (2) Integrated into other parts of the curriculum
d. To plan for the coordination of health instruction and health services
e. To plan for special surveys and case-finding programs
f. To plan for wholesome school living
g. To plan a health publicity program informing the faculty, the press, the parents, and others concerning the school health program
h. To foster and encourage active participation in the school health program by parents and students

B. *School health instruction*

1. Education of individual pupils by medical department

a. Physical examinations

Physical examination of the high school student offers one of the most effective means of individualizing classroom instruction. It provides an excellent opportunity for the individual to learn about his health status, to plan for its improvement, and to understand the value of health in successful living. How valuable an experience the physical examination may be to the high school student depends largely upon the personality and educational skill of the physician and the nurse. For the purpose of discussion with the student, the experience may be divided into three parts:

(1) History-taking

The reason for taking a history of past illnesses, operations, and the health of the family should be explained carefully to the student. It is in this part of the interview that the physician and the nurse have the best opportunity of making the student realize their real personal interest in his health.

(2) Examination

The physical examination should be as complete as possible. The physician should explain to the student what constitutes a complete examination and should help him to obtain it. The relationship of present health to the future of the student should be stressed.

(3) Correction of defects

The correction of defects should be discussed in terms of what the individual himself can do to correct them and the effect their neglect will have upon his future health.

b. **Case-finding**

In the case-finding program, the technique of health instruction is much the same as with the physical examination, with increased emphasis upon the value of the tuberculin test, the X-ray, and the interpretation of findings.

(1) Tuberculin-testing

The purpose of the tuberculin test and the interpretation of the test should be presented to

(a) Students who are receiving the test

(b) Students who have refused the test

(2) X-ray

The purpose of the X-ray and the interpretation of X-ray findings should be presented to

(a) Students who are being X-rayed

(b) Students who have refused to be X-rayed

(3) Interpretation of findings

(a) Those with negative findings should be advised of the need for periodic re-examination.

(b) Those with doubtful or positive findings should be advised that some or all of the following steps may be necessary for their future health: Examination of all members of the family and others in close contact; improvement in food habits; provision for more rest; change in school schedule; careful medical supervision; hospitalization.

2. Education of all students by teaching staff

The method of individual instruction, while highly desirable and primarily the one used by the medical staff as indicated above, must be accompanied by the more common group educational techniques of the public school, if every student is to participate in the tuberculosis control program. These group educational techniques fall into three classes: special methods of instruction during a tuberculosis case-finding program; regular classroom instruction in specific health courses; regular classroom instruction as part of courses in biology, home economics, social studies, physical education or other courses. (See Part Two: pp. 8-11.)

C. ***Parent education and participation***

1. Opportunities offered by the school program for parent education

2. Need for parent understanding and cooperation for success of the school program

3. Suggested methods:

a. Participation of parents in the planning of the program (representation on school health committee)

b. Sharing with parents the summary of results of testing of the group, and with individual parents the significance of the test to their child or children

c. Development of plans by the school health committee, directed at the education of all parents through

(1) Programs on tuberculosis for PTA or other parent groups featuring

(a) Talks by physicians

(b) Motion pictures

(c) Demonstrations of tuberculin test (if test is included as part of the school program)

(d) Question periods

(e) Exhibits

(f) Literature (e.g., *Tuberculosis from 5 to 20; Why X-ray?*)

(2) Letters to parents

(a) Describing school program

(b) Indicating purpose and values

(c) Including educational literature on tuberculosis

(d) Stating results of school case-finding program