WHAT IS TUBERCULOSIS?

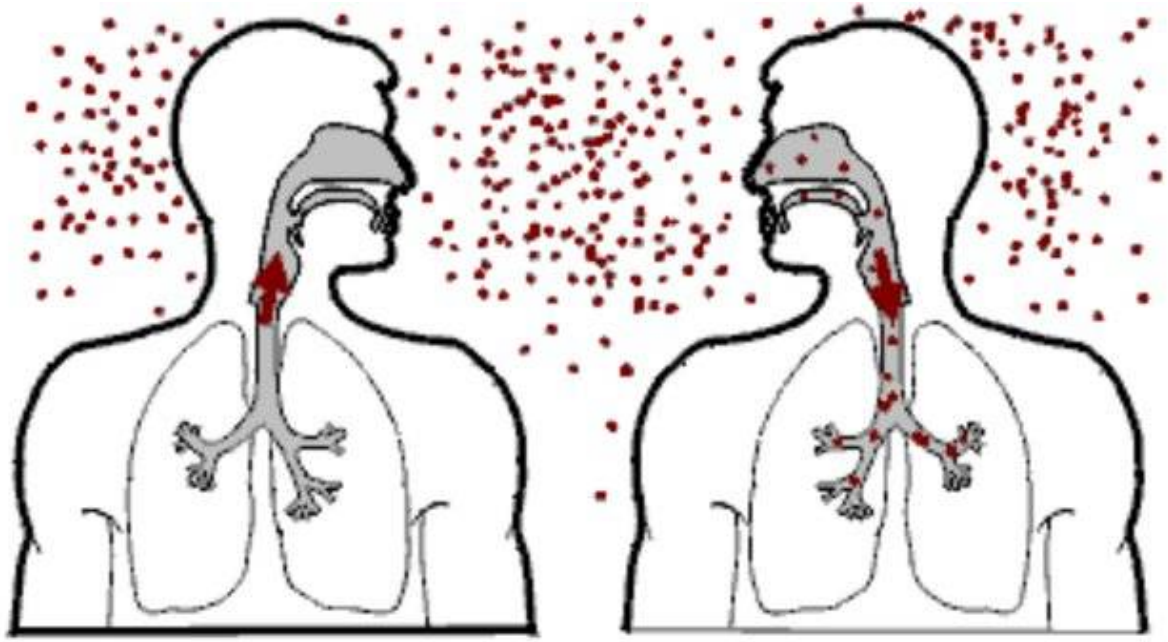
MÉDICOS SEM FRONTEIRAS


MÉDICOS
SEM FRONTEIRAS

WHAT IS TB?

- Show the picture and ask – Could you tell me about TB? – Listen to the answer – Give additional information
- TB is an infectious disease and is caused by TB bacteria.
- TB bacteria infect the lungs and this form of TB is infectious. TB bacteria can also affect other parts of the body such as brain, skin, stomach, lymph nodes and kidneys. This form of TB is not infectious.
- TB is curable if you are given the right treatment
- Side effects for TB drugs can appear, but most people can cope with them.
- TB drugs are free of charge

How is TB of the lungs spread?



MÉDICOS SEM FRONTEIRAS

How is TB of the lungs spread?

- TB is spread through the air by coughing, sneezing, talking, laughing or spitting.
- When a person with TB of the lungs is e g coughing many TB bacteria will be spread through the air
- These bacteria can stay many hours floating around in the air
- The TB bacteria can then be breathed in by another person who can be infected by TB
- TB can be spread from adults to babies or very young children through the air, but not from babies and very young children to adults
- **Tuberculosis is not transmitted through** - hand shaking – using common dishes or sharing food – hugging or sharing bed (except if the person with TB is coughing, sneezing or spitting) – sharing tooth brush – sharing cigarettes.

Common symptoms of TB

Common symptoms of TB - if they stay for more than two weeks

- Coughing
- Weakness
- Appetite loss
- Fever
- Sweating at night
- Spitting up blood
- Pain in the chest

If TB affects other parts of the body (like stomach or bone) there will also be other symptoms from that body part

Young children or babies who are infected by TB in the lungs usually do not have so much
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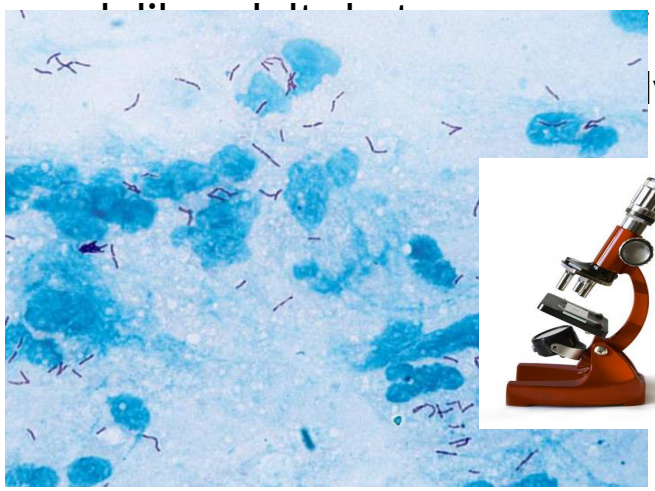
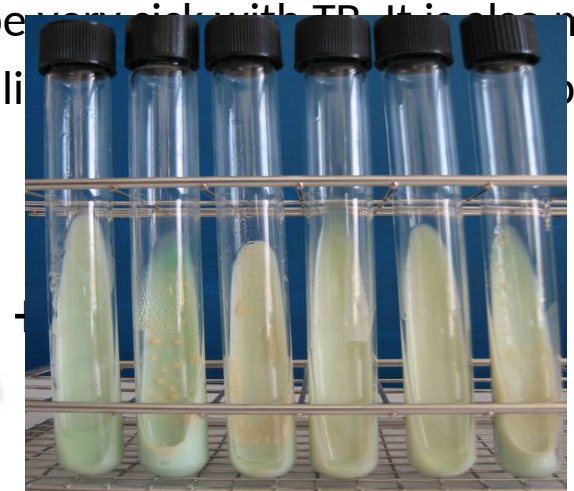




HOW IS TB DETECTED

TB is detected by

- Sputum, which is pus coming deep down from your lungs
- X-ray

The sputum is analyzed in two different ways- smear and culture?

- **Smear** is a simple laboratory test that can decide if there are a lot of TB bacteria in your sputum or not. Smear means that the laboratory first colours your sputum and then looks at it under a microscope. Through the microscope TB bacteria can be seen. The whole process takes one day.

- **Culture** is a more complicated test that can decide if there are any alive TB bacteria in your sputum or not. The sputum is put in a special mixture with nutrients that will help TB bacteria to grow. The bacteria usually grow very slowly and it takes about 3-8 weeks for the result to come back.
- If TB bacteria are found, the result is called **"positive".** If there is no TB bacteria, the result is called **"negative"**

What is Drug Sensitivity Testing (DST)?

DST describes what drugs are effective, and what drugs are not effective on TB bacteria in your lungs (or body). This means that the laboratory can tell to which drugs your TB bacteria are resistant to and which drugs they are sensitive to. Depending on the DST result, doctors prescribe the treatment regimen most suitable for you. Therefore, your treatment can be different from the treatment of other patients. DST is done before you start treatment so the correct regimen can be chosen. Some DST tests the doctor will receive in about 1 week (GeneXpert and Hain) while others the doctor will receive in 3 months (MGIT and LJ).

How do analysis of sputum and blood help in the diagnosis and treatment of tuberculosis?

- Sputum tests help the doctor to diagnose tuberculosis, to follow up effectiveness of the treatment.
- Blood tests help the doctor to follow up side effects of the TB drugs by checking the function of organs like kidney, liver and thyroid.

- It is very important that you do the tests in time

WHAT IS DRUG SENSITIVE AND DRUG RESISTANT TB?

Drug sensitive TB (6-9 months)

Poly resistant TB (9-18 months)

Multi drug resistant TB (9-11 months)

Multii drug resistant TB (20-24 months)

XDR TB (24 months and maybe longer)

WHAT IS DRUG SENSITIVE AND DRUG RESISTANT TB?

The basic difference is that Drug Sensitive TB is not resistant to TB drugs and TB can be treated by first-line drugs within 6-9 months. The treatment includes only tablets and there are not many side effects. In drug resistant TB, the TB bacteria are resistant to one or more of the main first line drugs but also other important drugs used to treat TB. This means that these drugs will not work effectively because they can no longer kill the TB bacteria. The treatment is more challenging and difficult.

Drug Sensitive TB – Tuberculosis is caused by TB bacteria which are sensitive to all TB drugs. Drug sensitive TB can be effectively treated by first-line TB drugs such as Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol. You will take a combination of these drugs. The treatment lasts 6-9 months.

Poly Drug-resistant TB (PDR) – TB bacteria are resistant to one of two main TB drugs- Isoniazid **or** Rifampicin. The treatment lasts 9-18 months. You will take a combination of many different drugs including usually an injection.

Multi Drug-resistant tuberculosis (MDR)- TB bacteria are resistant to both two main drugs (Isoniazid and Rifampicin). There are two different kinds of treatment and I will soon explain about the difference. The treatment lasts 9-24 months (20-24 months). You will take a combination of many different drugs including an injection.

XDR TB –TB bacteria are resistant to the two main TB drugs (Isoniazid and Rifampicin) used in treating drug sensitive TB. It is also resistant to the drugs from two main groups used in treating multidrug resistant TB. The treatment last a minimum of 24 months. You will take a combination of many different drugs including an injection. Treatment is challenging and could be difficult·

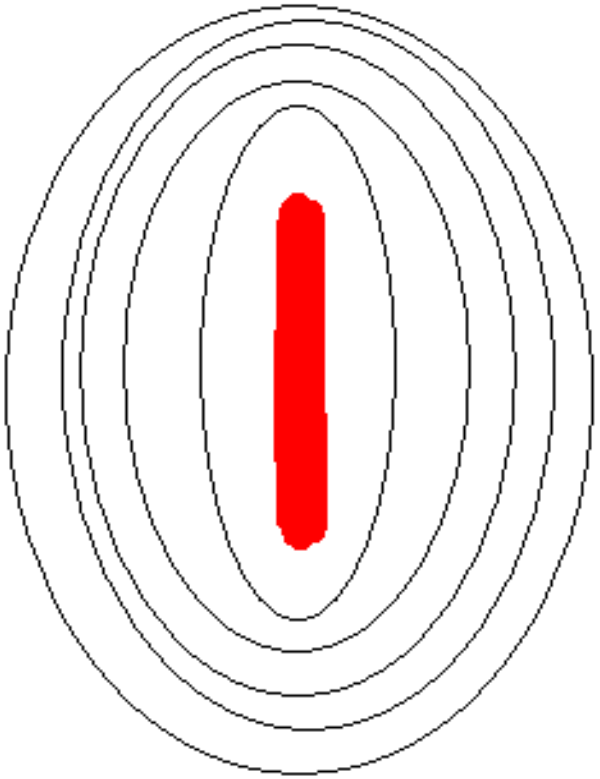
HOW WILL I TAKE MY TREATMENT

During treatment, all medications should be taken as prescribed by your doctor (the combination of drugs, their number and how often). Every day a nurse will observe you taking your medications. If there are any side effects, your GP doctor and your TB doctor will support you and give you treatment for them. You will also have an adherence support nurse (counselor) who will support you to continue taking medications during the time of treatment. It is true that it is difficult to take medication for many months, but it is worth it, because it helps to recover from tuberculosis and in the future to be healthy and live a full life.

Your doctor will decide about your treatment together will other doctors in special meetings called consiliums. Other changes to your treatment like stopping your injection or changing doses will also be decided in a consilium. Your regimen will be given so it best suits your health status.

Multidrug resistant tuberculosis is treated with many different medications (tablets, capsules and granules) every day. It also includes receiving one injection (in your buttock) every day for several months.

WHY IS IT IMPORTANT TO TAKE MEDICATIONS IN COMBINATION?



Pyrazinamide

Levofloxacin

Injection

Protionamide

Cycloserine

Paser

Standard MDR regimen

WHY IS IT IMPORTANT TO TAKE TB DRUGS IN COMBINATION?

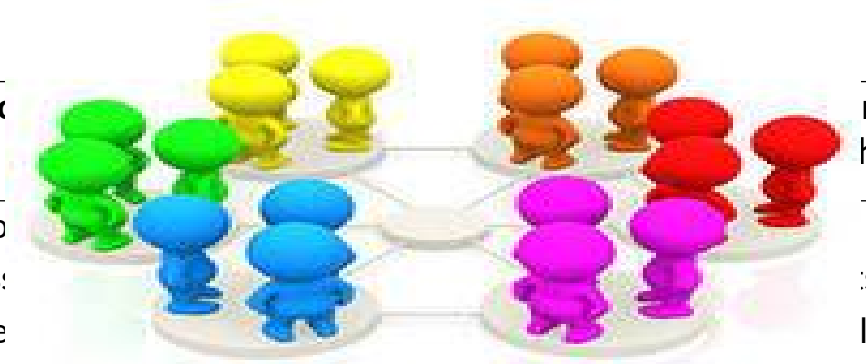
- Taking TB drugs in combination help TB bacteria to become weakened
- Every TB drug has its own effect to the TB bacteria. If TB drugs are taken in combination they can have effect as they attack the TB bacteria from different angles
- If only a few TB drugs are taken, TB bacteria have a good chance to get adapted to the drugs and grow stronger
- If TB drugs are not taken in the correct doses the concentration of drugs in the blood will be too low and TB bacteria have a chance to grow
- If TB drugs are not taken at the same time they have less effect

FOLLOWING PART IS ONLY FOR PATIENTS ELIGIBLE FOR SHORT COURSE REGIMEN- CONSULT THE DOCTOR!

WHY A SHORT COURSE TREATMENT?

WHAT IS THE DIFFERENCE BETWEEN 9-11 MONTHS AND 20-24 MONTHS OF TREATMENT?

HOW DO I KNOW WHICH TREATMENT IS APPROPRIATE FOR ME?



Short c	**regimen 20-24 hs**
- Sho - Less - Inje - Treatment 7 days per week - In other countries patients have been cured more often than with the 20-24 months regimen.	:s least eight months - Treatment 6 days per week - Combination of drugs has been used for a long time

Who can receive the 9-11 months treatment?

- Patients with MDR-TB
- Children less than 14 years with complaints of TB and with one relative who has MDR-TB
- Only patients who agree to get the 9-11 month treatment

Who cannot receive the 9-11 months treatment?

- Patients who are resistant to injections (Km and Cm) and/or other specific tablets before (e g Ciprofloxacin)
- Patients who were treated with injections or other specific tablets/capsules in the past for longer than one month
- Patients with known allergy and contra-indications to any of drug used in this regimen

WHY A SHORT COURSE TREATMENT?

Since a long time multidrug resistant TB is treated with a combination of many drugs that you have to take for 20-24 months.

Because it is important that as many patients as possible finish their treatment and can be cured, it might help a lot to shorten the treatment of TB. Unfortunately it is not possible to just shorten the standard treatment, because in many cases the TB will become active again after a few months. A lot of research has been done in other countries to use a different combination of drugs so that one can be sure that all TB bacteria are killed during the time the drugs are given.

WHAT IS THE DIFFERENCE BETWEEN 9-11 MONTHS AND 20-24 MONTHS OF TREATMENT?

For MDR TB there are two different kinds of treatment

Look in the table: The differences are as you can see in the table (picture side)

9-11 month regimen

You will take the treatment during a shorter time compared with the normal treatment and the treatment will have less side effects. The injections will be given for 4-6 months. You will need to take all drugs for 7 days per week. When this combination of drugs was given to patients in other countries more patients got cured compared to the normal treatment. All the drugs in this new combination have been

used for a long time already and have proven to be safe. So, the drugs are not new, it is just a different combination of drugs that other patients have taking already.

20-24 month regimen

This regimen takes longer time to treat and has more side effects compared to 9-11 months of treatment. You will take injection for at least 8 months. This treatment is given 6 times per week. The treatment has been given in Karakalpakstan and in other parts of the world for many years.

Both regimens have been used in several countries and when patients took the 9-11 month treatment they had less side-effects. More patients were also cured in these countries, 85%-90% of all patients. Because of this, the World Health Organization (WHO) who is controlling the treatment of TB in the world is now recommending to use this new combination of drugs, though it should be used in a controlled way.

Some people are afraid that this is an experiment. We call it a pilot project because the truth is that the combination of drugs has already been used before in other countries, but just not in Karakalpakstan.

The effectiveness of the regimen will be analyzed after removal of any personal data.

HOW DO I KNOW WHICH TREATMENT IS APPROPRIATE FOR ME?

It depends on a few things

1) DST results (which drugs your TB bacteria are resistant to)
2) TB of lungs or other parts of the body
3) Other diseases (eg kidney disease or liver disease)
4) Allergy to any of the TB drugs
5) Any treatment with specific TB drugs (not first line) for more than 1 month

Because it seems that the new combination of drugs can cure more patients with multidrug resistant TB, the MoH, together with MSF, has decided to start this regimen in Karakalpakstan.

You will only get one chance to start the shorter treatment

THE FOLLOWING PART IS FOR ALL DR PATIENTS:

THE IMPORTANCE OF DOT

THE IMPORTANCE OF DIRECTLY OBSERVED TREATMENT

Directly observed treatment

DOT – is the TB treatment method that is recommended by World Health Organization. DOT means that patients take all theirs TB drugs under the observation of a medical worker. The reason is to prevent the development of more resistance to TB drugs. This will mean that you will need to go every day during the whole treatment to your SVP or policlinic to receive your treatment. There you will meet a nurse who will support you and also other patients on treatment.

Benefits and difficulties of treatment

Benefits of treatment:

- First of all you save your life and restore your health
- By taking the correct treatment you will no longer infect your family, relatives, friends and other
- When you finish treatment, you will be healthy and ready to continue your work or further education.
- During treatment the symptoms of tuberculosis gradually disappear, and you will begin to feel better. For many patients this means less breathlessness, getting more strength, gaining weight again and having less pain.

Difficulties of treatment:

- The treatment will take a lot of time and requires your participation and great patience.
- Every day, you need to go to a medical facility and take lots of pills and in the beginning also injections.
- Sometimes during treatment side effects can appear.
- TB treatment will change your life for a while, but this will save your life and health in the long run

Myths about TB?

WRONG information

- TB cannot be cured
- Camel's milk can cure TB
- Dog fat can cure TB
- TB is transmitted by inheritance in families
- TB is spread by sexual ways
- Mothers with TB should not breastfeed
- All who have TB are infectious
- It is necessary to drink urine for treatment of TB
- Vodka can help to fight TB
- ASD (drug for veterinarian purpose) can cure TB

WHAT SIDE EFFECTS CAN THE TB TREATMENT CAUSE?

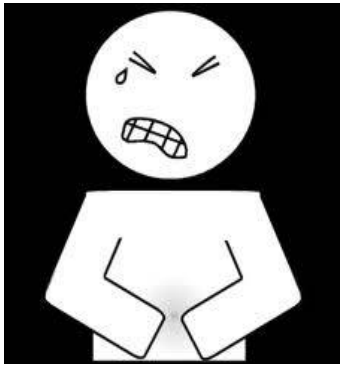
Diarrhoea

Nausea and vomiting

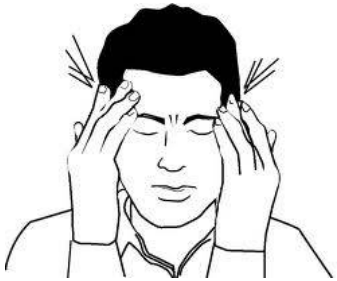
Rash and itchiness of the skin

Orange urine

Low mood



Stomach pain



Headache

Pain in the joints

WHAT SIDE EFFECTS CAN THE TB TREATMENT CAUSE?

What are Side effects?

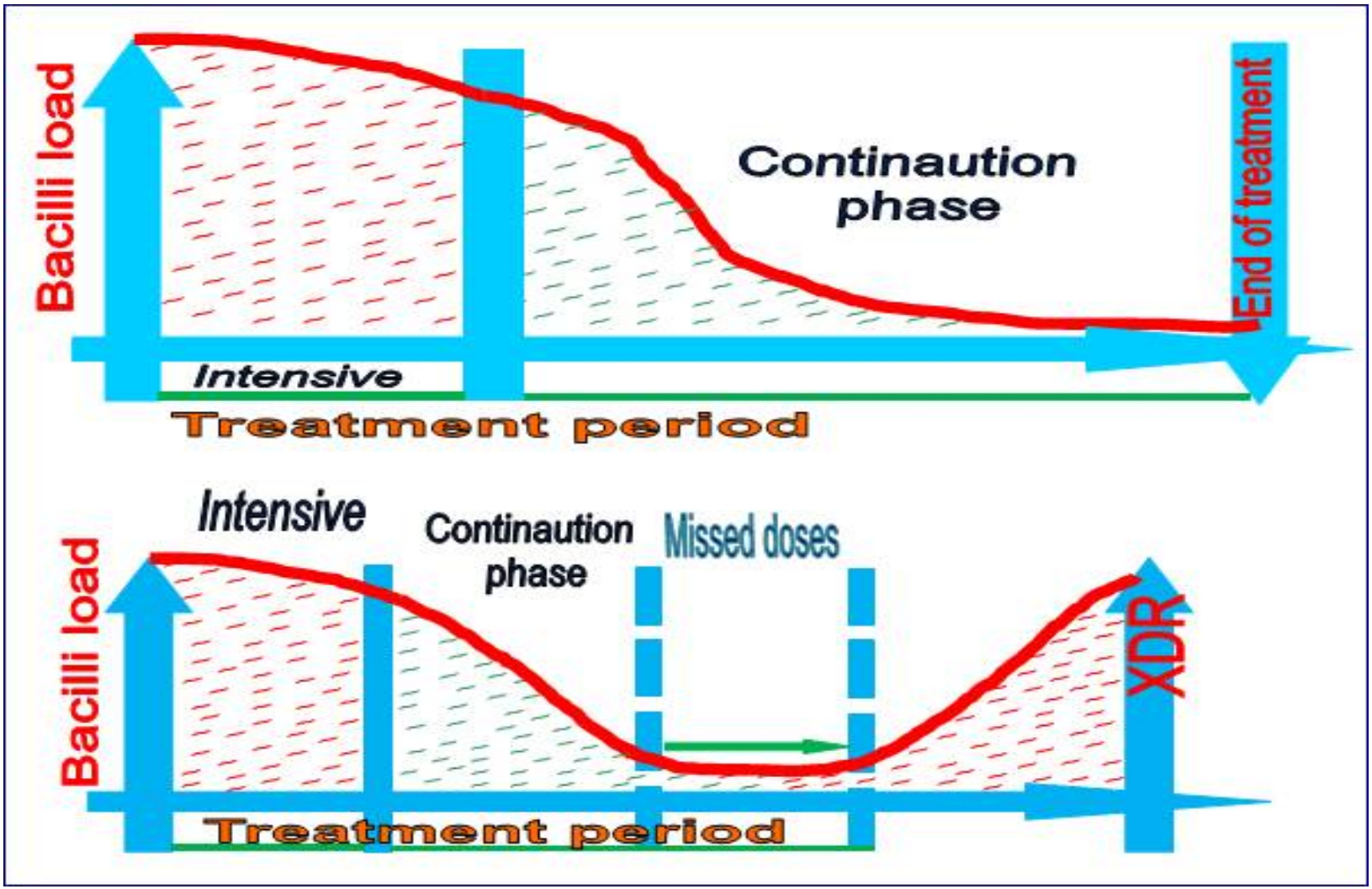
Side effects are unwanted effects that happen when you are taking your TB drugs

Side effects include: headache, nausea, vomiting, diarrhea, rash and itchiness of the skin, orange urine, bronze colour of the skin, pain in the joints, numbness of the legs, low mood.

If a side effect occur – it is important that you directly tell your nurse or doctor. They will help you to deal with the side effect. Never stop taking your TB drugs without talking to your doctor. Most side-effects disappear after a few days or weeks when your body becomes used to the treatment. The doctors can prescribe drugs to prevent most of the side-effects. Sometimes the doctor will recommend you to take your TB drugs twice per day instead of one to avoid side effects. In some cases you have to take side-effect drugs during the whole TB treatment. Some TB drugs can also affect the liver and the kidneys, therefore blood will be checked every month in the beginning to make sure the tests are normal. Sometimes the doctors will decide to change your treatment or even stop the medications temporarily.

It is important to know that not all side effects will affect everybody and that a lot of patients tolerate the TB drugs well.

WHY IS ADHERENCE TO TREATMENT IMPORTANT?



WHY IS ADHERENCE TO TREATMENT IMPORTANT?

Adherence is the correct intake of medications. This means that you take the exact treatment prescribed by your doctor, taking all the drugs in a certain period of time. For the treatment of TB it is very important.

Adherence is the following:

- Taking all the different medicines - tablets, capsules, granules and injections
- Taking the number of tablets – which depends on your body weight
- Taking the medicines at the correct time
- Taking the medicines in the correct way – Most TB drugs should be taken on an empty stomach to make them more effective. Some drugs should be taken with food.

- Drugs for side effects are taken at different times depending on the symptoms you want to help. Some are taken 30 minutes before taking TB drugs, while others should be taken in the evening.

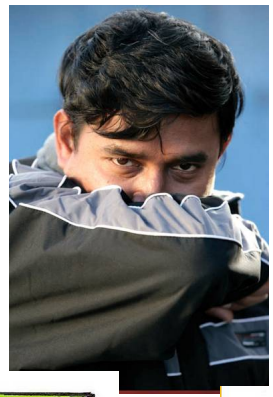
What will happen if I do not take all of the TB drugs?

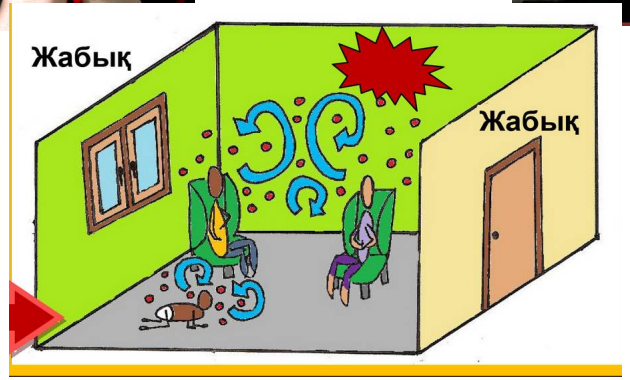
- The TB treatment loses its strength
- The amount of drug in your blood decreases
- The TB drug has no effect against the TB bacteria
- Your medical condition may worsen
- Your chance of cure will be less
- The TB bacteria become stronger and more dangerous because you get more resistant TB bacteria
- More resistant bacteria make it more difficult to treat TB and you will have to follow a longer treatment and take more drugs. Sometimes there will be no option to treat a person's TB.
- You can transmit resistant TB to other people
- You can die

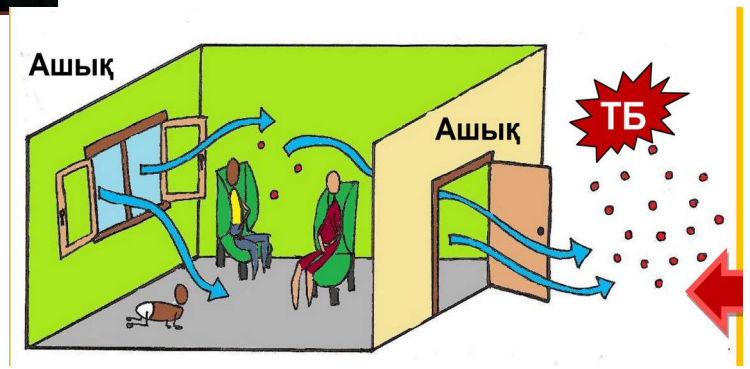
What influences adherence?

- Together with the counselor/ASN you will try to solve the problems that makes it difficult to take your drugs every day
- Other patients who has gone through the treatment or who is currently on treatment can be really helpful to talk to

INFECTION CONTROL







INFFECTION CONTROL

How is TB spread?

TB bacteria are transmitted from person to person through the air.

How to prevent spread of TB inside the house?

- Take all your TB drugs. This is the most important thing since only the TB drugs will help you to not be infectious anymore.
- Always cover your mouth with a handkerchief or disposable tissue when you cough, sneeze or laugh. Used handkerchiefs and napkins should be burned.
- Put your bed in a separate room from your family members. Try to meet your friends outside instead of inside a house.
- Have good ventilation in the room where you are staying. Always keep a window open as this will make the TB bacteria disappear outside. In winter opening a window for the whole day might be difficult, so then you can try to open it now and then during the day.
- If the weather is allowing, take a walk even in winter time.
- Don't spit and especially not inside. Use handkerchief or a napkin if you need to spit.
- Use a sputum container if you are coughing up a lot of sputum. This container is provided by your nurse and should be closed after each time you spit in it. The container will be burnt after it is used. It is not allowed to use the container again.

How to prevent spread of TB in DOT corner and hospitals

- Your nurse will explain the rules of the DOT corner or hospital to prevent the spread of TB to others**.** Sometimes this can include only coming at certain times or only staying in certain rooms. Your nurse will explain more in detail as it differs from place to place.

PART FOR MDR STANDARD (24 MONTH) REGIMEN ONLY:

HOW DO I TAKE PASER?

How do I take PASER?

- For the best effect of PASER it should be taken with sour drinks like juice or kefir. Other options are lemon acid powder that is mixed with water.
- Open the packet and sprinkle your dose onto the acidic food. Mix well. Mix regularly while you are drinking so it stays mixed.
- Do not take this medication if the packet is swollen or the granules have turned dark brown or purple. This may be a sign that the medication has no effect anymore.

SPUTUM SAMPLE

How often do I need to collect sputum?

During treatment sputum needs to be taken;

- Every month – when you are receiving injections
- Every other month – when your injections have been stopped

Your doctor may prescribe some extra tests if necessary.

Each time you need to give two samples. One sample can be collected at home immediately after waking up and before the meal. The other sample you have to give in the DOT corner under observation of a nurse. The sample should be not less than 2 ml (half small spoonful) of sputum and it should not be saliva.

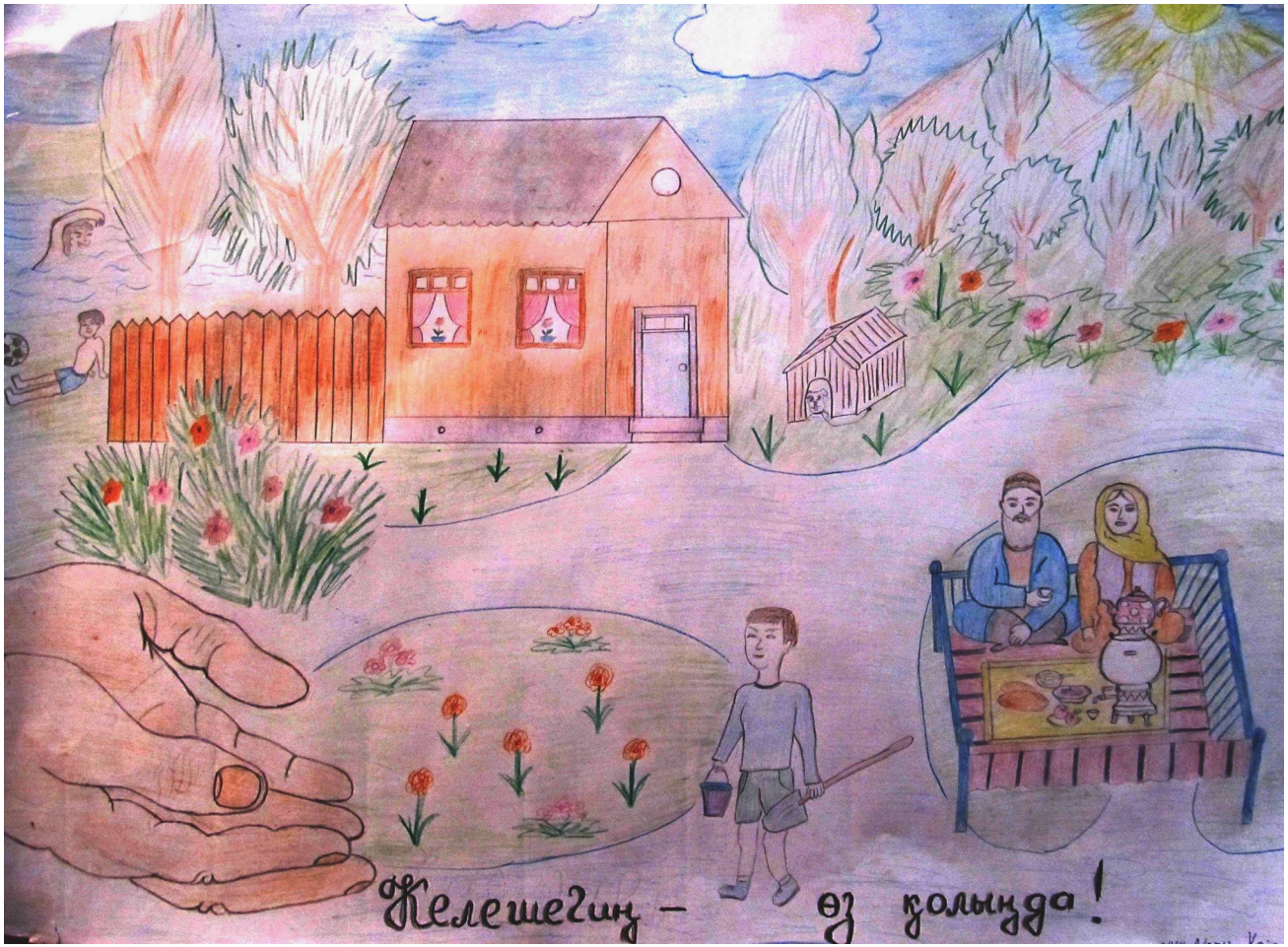
How to produce sputum for analysis?

- First rinse your mouth with plain water. This will keep the sample free of food particles.
- Take two deep breaths – hold each breath for a few seconds after inhalation – exhale slowly.
- Take a third deep breath – stand up and blow out the air hard and cough
- Hold the sputum container close to your lips and spit into the container
- Close the lid of the container tightly so that it does not leak

If the sputum is less than 2 ml or if it is mostly saliva, repeat the whole procedure again until there is enough sputum

What can help in getting a good sample of sputum?

- **Drink plenty of water the night before sputum collection.** This can make your lungs produce more sputum and it will be easier to cough up
- **Do exercises or walk around, if possible.** This will help you to breathe deeply and cough from deep down your lungs
- **Tapping on your back.** Ask the nurse or a relative to tap your back with short strokes around the shoulders and upper back. This will make it easier to cough up sputum.
- **Breath in steam.** Cut a plastic bottle from the top end. Put the bottle over the "spout" of a teapot (see picture). Add first hot water and then one teaspoon of baking soda to the tea pot. Breathe in the humid air from the teapot through the plastic bottle.
- **Collect sputum as early in the day as possible.** To give sputum in the morning is not only easier, but also more important, since early morning samples mostly contain a large number of TB bacteria.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