



ÚMIT

INTERNATIONAL
ONCOLOGICAL
CENTER OF TOMOTHERAPY

TOMOTHERAPY

Patient information leaflet





What is tomotherapy?



Tomotherapy is a radiation therapy method, representing a non-invasive procedure that destroys cancer cells to stop their growth and one of the most effective cancer treatment methods.

Tomotherapy process

1.

Preparation for the treatment

Additional examinations are performed during this period in order to clarify the localization and assess the state of healthy tissues surrounding the abnormal focus.

Before starting a tomotherapy course, it is necessary to carefully calculate doses of radiation and determine its methods that will help to achieve maximum destruction of tumor cells and protection of healthy tissues.

Doctor decides what radiation dose patient needs, the frequency of sessions and the treatment duration.

The calculation of a dosimetric plan is performed by a team of highly qualified specialists – medical physicists. Calculating the plan and making a decision can take several days. This procedure is called radiotherapy planning.

2.

How the CT-simulation is performed

You will be asked to lie still and calmly on the examination table of the CT scanner. Special marks or lines will be made on the skin for the correct and accurate positioning of the body inside the machine. This marking should remain on the skin until the end of the treatment. Therefore, while taking a shower, try not to wash it off. If lines and dots begin to fade, tell your doctor. Do not draw the dots on your own.



During the pre-irradiation period do not use iodine tinctures and other irritant agents on the skin areas which will be exposed to the radiation. Do not sunbathe. If there are intertrigo or rashes it is necessary to show them to your attending doctor. The doctor will assign proper treatment (dusting powder, ointment, mist).

If the radiation therapy will be performed to treat tumor of maxillo-facial area, preliminary oral cavity sanitation (treatment or removal of decayed teeth) is necessary. It is the most important action to prevent radiation therapy side effects in the oral cavity.



How is the **tomotherapy** treatment performed?

1.

Selection of a treatment regimen using tomotherapy method

On average, the treatment course lasts from 1 to 7 weeks and depends on the location, volume and type of cancer. In some cases, when radiation therapy is performed before surgery in order to reduce the size of tumor or to alleviate patient's condition, the duration of a course is 2-3 weeks. Usually radiation therapy sessions are performed 5 times a week. A two-day break at the end of a week allows healthy tissues to recover.

Radiation therapy is prescribed after a Multidisciplinary Team meeting. The decision about the total dose of radiation and the number of sessions is made by the radiation oncologist, based on the size and location of the tumor, its type, your general condition and other types of treatment being conducted.

2.

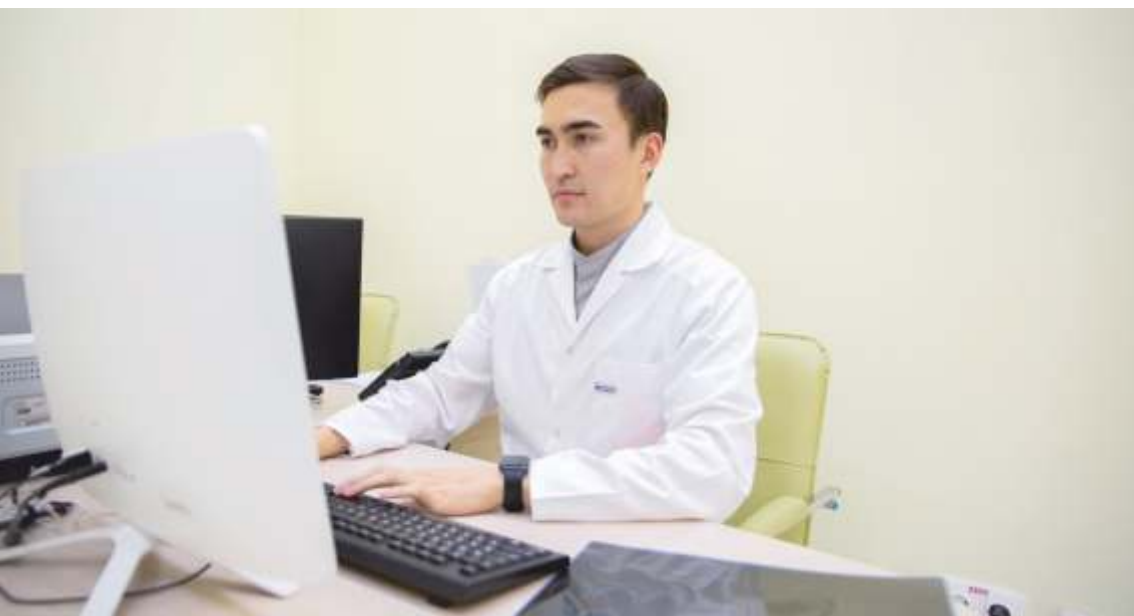
How is the treatment session performed?

You will be asked to lie still and quietly on the treatment table of the Tomotherapy machine. According to the previously outlined "marks" on the skin, the radiation zones will be precisely determined. Therefore, you should not move during irradiation. It is necessary to lie quietly, without strain, breathing should be natural and smooth. You will be in the treatment room during 15-30 minutes.



Before turning on the machine, the medical staff goes out to another room and watches you through video surveillance. You can communicate with them on the loudspeaker.

Some parts of Tomotherapy machines may move and generate noise during operation. Don't worry - the whole process is controlled. The radiation itself is painless. If you feel unwell during irradiation, immediately inform the doctor about it, without taking any actions. The machine can be turned off at any time.



Probably, already in the beginning of the treatment you will feel reduction in pain (if you have had them). However, as a rule, the maximum therapeutic effect of tomotherapy comes after the completion of a treatment course.

To get a good therapeutic effect, it is extremely important to have all prescribed treatment sessions.

How to behave during tomotherapy treatment

Body response to radiation therapy is individual. However, in any case, the tomotherapy process represents a substantial burden on the body. Therefore, a fatigue feeling may develop during treatment. In connection with this, you should have more rest. Go to bed if you feel the need. The feeling usually goes away 4-6 weeks after the treatment completion.

However, you should not completely avoid physical activity, which increases body defenses and tolerance to negative effects. Recommendations on choosing and dosing of physical activity can be obtained from your doctor or a physical therapy instructor.



During the treatment you should **keep some rules**

1.

Eat well

Try to keep to a balanced diet (1:1:4 proportions of proteins, fats and carbohydrates). Along with the food, it is necessary to take 2,5-3l of fluid (fruit juices, mineral water, tea with milk).

2.

Unhealthy habits

Refuse from bad habits (smoking, alcohol) at least for the treatment period

3.

Comfort clothing

Do not wear clothing tightly fitting the irradiated body areas. Synthetic and wool clothing is highly undesirable. Loose cotton clothing is preferable. The irradiated skin areas should be not covered if possible.

4.

Walks

Have fresh air walks more often.

5.

Skin protection

Carefully monitor the skin condition. When going outside, protect the irradiated skin area from the sun (light clothing, broad-brimmed hat). Irradiated skin looks sometimes sunburnt and darkened. In some cases, to the end of treatment, some body areas can excessively become wet (especially in bends). It mainly depends on your individual sensitiveness to radiation.

Notify the doctor or nurse if noticed any changes. They will give appropriate recommendations.

6.

Cosmetic products

Do not use soap, lotions, deodorants, ointment, cosmetics, perfume, powder or other products on the irradiated body area without consulting a doctor.

7.

Mechanical actions

Do not rub or scratch the irradiated skin area. Do not put warm or cold subjects on it (heating pad, ice).



What will patient feel after radiation?



Side effects of radiation.

Radiation therapy, like any other treatment method, can be accompanied by general and local (in the irradiated area) side effects. These events can be acute (short-term, appear during treatment) and chronic (develop several weeks and even years after treatment).

Tomotherapy side effects more often appear in the tissues and organs exposed to a direct radiation.

The majority of side effects developing during treatment is comparatively light and treated with medication. As a rule, they pass within 3 weeks after radiation therapy is completed. Many patients do not have any side effects at all. During treatment the doctor monitors your condition and effect of radiation on the body functions.

If during treatment you have some unusual symptoms (cough, excessive sweat, fever, unusual pain), immediately inform your doctor or nurse about it.

General side effect of tomotherapy

EMOTIONAL STATE

Almost all patients, undergoing cancer treatment, experience emotional stress to one extent or another. The most frequent are feelings of depression, fear, sorrow, isolation, sometimes aggression. Communicate more with family members, relatives, and friends. Do not self-isolate. Try to take part in the life of surrounding people, help them and do not refuse from their help.

Consult psychotherapist, who may recommend some useful methods for stress relief.

FATIGUE

The fatigue feeling usually becomes to feel several weeks after treatment started. It is connected with a substantial physical load on the body due to radiation therapy and stress. Therefore, you should slightly reduce general activity for the radiation therapy period, especially if you used to work in intensive pace. However, you should not completely escape from a daily routine, take part in the family life. More frequently do what you like, read, watch TV, listen to music. But only until you feel tiredness.

If you do not want third persons know about your treatment, you can take a leave for the treatment period. If you continue working, talk with your employer, maybe he will change your working schedule. Do not be afraid to seek help from your relatives and friends. They will certainly understand your condition and give necessary support. When the treatment is completed, the fatigue feeling is gradually passing away.

BLOOD CHANGES

During irradiation of sizeable body areas, number of leucocytes, thrombocytes and erythrocytes in blood can decrease. Doctor controls the blood formation functions according to the blood tests. Sometimes if there are significant changes, a week break for treatment is made. In rare cases medications are prescribed.

LOSS OF APPETITE

Usually the radiotherapy does not cause nausea and vomiting (depending on the irradiation area). However there may be loss of appetite. You have to understand, that to restore damaged tissues, it is necessary to take sufficient quantity of food. Even if you do not feel hungry, it is necessary to make efforts and have high-protein nutrient food. It will help to better cope with side effects and increase the results of cancer treatment.



Suggestions on nutrition during tomotherapy:

1. Have diversified meals, frequently but in small portions. Eat when you want, regardless the daily regimen.
2. Increase the caloric value of meals – add more butter if you like its taste and aroma.
3. Use different sauces to increase the appetite.
4. Take kefir, milk with butter and sugar, yogurt between meals.

5. Drink more fluid.



6. Always have some food that you like and eat it when you want.

7. During meals try to create conditions increasing your mood (turn on TV, radio, listen to favorite music).

8. If you have any diseases requiring a certain diet, consult your doctor on how to diversify your food ration.

How to behave after tomotherapy treatment

After completion of the radiotherapy course it is extremely important to regularly check the results of your treatment. The date of the first follow-up examination will be appointed by your doctor at discharge. You should to undergo follow-up examinations at the place of residence.

You should consult a doctor without waiting for the next follow-up examination in case of the following symptoms:

1. Pain that does not go away within several days;
2. Nausea, vomiting, loss of appetite;
3. High body temperature, cough;
4. Swelling, inflammation, unusual rashes on the skin;
5. Limb swelling on the side of radiation.



Side effect on the skin

Radiation response of the skin appears as redness in the exposure area. Mainly, development of this event is identified by the individual sensitiveness to radiation. Usually redness appears on the 2-3 week of treatment. When radiation therapy is completed, the skin in these areas becomes slightly darkened, like sunburnt.

To prevent a strong skin reaction, after consultation with the doctor, you can use vegetable and animal oils, which should be applied on the skin after a radiation therapy session.

Before the session, it is necessary to wash off the remains of cream using water. However, you should use ointments and creams not on the first days of radiation, but later, when the skin becomes to redden. Sometimes, in case of a strong radiation response of the skin, a break in the treatment can be made.

You can obtain more detailed information about the skin care from you doctor.

IRRADIATED SKIN CARE

At least one year protection of the irradiated skin from injuries and sunlight is necessary after the treatment. It is obligatory to apply a nourishing cream 2-3 times a day on the irradiated skin areas, even when it healed up after the treatment. Do not use irritant products on the skin.

Consult your doctor what cream is better to use. Do not try to wipe off the markings remained after radiation, they will gradually go away on their own. It is preferably to take a shower, not a bath. Do not use cold or hot water. When taking a shower, do not rub the irradiated skin areas using a washcloth. If you have an irritation of the irradiated skin for a long time, consult your doctor. He will prescribe an appropriate treatment for you.

Remember: a slight pain in the irradiated area is a usual and quite widespread thing. In this case you can take a weak pain reliever. If you have a significant pain it is necessary to consult a doctor.

RELATIONS WITH RELATIVES AND FRIENDS

During radiation therapy your body is not radioactive. You should also learn that cancer is not a contagious disease. That is why, do not be afraid to communicate with other people, friends and relatives during and after the treatment. If it is necessary, you can invite the closest people for a joint conversation with your doctor.



LEISURE

Pay more attention to the rest. Over time you will recover your strength, therefore do not come back to a full physical activity at once. Visit theatres and exhibitions. It will help to take your mind off unpleasant cares. Make it a rule to have daily fresh-air walks (park, forest). Communicate more with friends and relatives. With the consent of your doctor, consult a physical therapy instructor and psychotherapist. They will help to choose an adequate physical exercise (recreative gymnastics) and suggest the methods of coping with the stress.

SEXUAL INTIMACY

In many cases the radiation therapy does not affect significantly on the sexual activity. Decrease of the interest to sexual relationship is caused mainly by general physical weakness appearing during treatment and stress. That is why you should not avoid sexual intimacy that is the most important part of full-quality life.

PROFESSIONAL ACTIVITY

During radiation therapy on out-patient basis some patients do not stop working at all. If you did not work during treatment, then you can return to the professional activity once you feel that your condition allows it.

If your work is connected with a hard physical activity or occupational hazard, you should think about changing work or profession.

CONCLUSION

We hope that this information will help you to get rid of excessive nervous strain, to easier pass the radiation therapy course, and to understand what is waiting for you after it. All of this contributes to your cure.

More detailed information concerning your health state can be obtained from your doctor.

WE WORK TO MEET YOUR HOPES FOR CURE!



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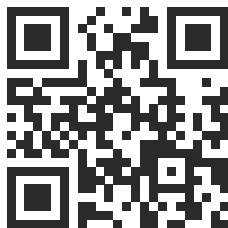




42/1, Abylai Khan ave.,
Nur-Sultan, Kazakhstan



Call-center:
+7 (7172) 954 484
+7 (777) 201 4444
+7 (702) 201 9444



tomo.kz



info@tomo.kz



tomocenter.kz



Томоцентр Үміт