

This instruction is intended for our patients who are in a care relationship.

**The wellbeing services county of Satakunta | The Wellbeing Services County of Ostrobothnia|
The wellbeing services county of Southwest Finland**

CHEMOTHERAPY



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The purpose of this guide is to provide information about chemotherapy, the side effects it may cause and how to alleviate them at home.

Chemotherapy

Chemotherapy means using cytostatic agents (drugs) for cancer treatment. They prevent the growth and division of cancer cells. Chemotherapy can be given before or after an operation or to boost radiotherapy. If the cancer has spread, cytostatic agents are used to stop or slow down the progression of the cancer.

The physician plans the chemotherapy on your first visit, and the treatment is given on one or several days, 1–4 weeks part, depending on the treatment cycle. The purpose of the treatment, the treatment plan and possible adverse effects will be explained to you. During the appointment, the physician writes the necessary prescriptions, sick leave certificates and other necessary certificates. Afterwards, you'll see a physician according to a planned schedule.

Cytostatic drugs are transported to different parts of the body via the circulation. They may also affect the functioning of healthy cells, causing side effects. The effect of the drugs is targeted especially at rapidly dividing cells, such as blood-forming cells in the bone marrow (white and red blood cells and platelets) and mucosal cells. Not all patients get side effects. **It is important to tell the health care personnel if you have any side effects and any changes in your health status after the treatment.**

The treatment is planned individually. Chemotherapy drugs can be given alone or two or more drugs can be given together (combination chemotherapy). Chemotherapy may be given as an intravenous infusion or taken orally. If it is infused, a cannula will be inserted to a vein in your hand and removed when the treatment has been completed. You can sit on a chair or lie in bed during the treatment. You can also move during the treatment and go to the toilet, for example.

You can bring something to eat during the treatment. Little snacks are also available in the chemotherapy room. Chemotherapy is given as outpatient treatment, and you can go home after the treatment.

Monitoring of blood values

Your blood values will be checked before every treatment or treatment cycle, usually on the day before. You can go to your own health centre or the hospital laboratory for the blood tests. The blood tests are taken in the morning. Most laboratories have an appointment system where you can make an appointment by phone or online. You can eat breakfast before the blood tests, unless otherwise instructed.

If any of the test results are abnormal and the treatment needs to be postponed we will inform you by phone, usually on the day before your treatment. The call may come from an unknown number.

The most common side effects of chemotherapy

The side effects of the treatment vary depending on the medicines used. Development of side effects and their intensity vary individually. It is impossible to predict if you will have side effects or not and what they will be like. Usually the side effects get better before a new treatment cycle begins.

Changes in blood values

White blood cells are an important part of the body's normal defence system against infections. Cytostatic drugs affect the functioning of the bone marrow by decreasing the number of white

blood cells (leucocytes and neutrophils). The risk of infection increases as the number of white blood cells decreases. The number of cells is at its lowest 1–2 weeks after the treatment. Because of the infection risk, good hand hygiene is important.

Low haemoglobin level impairs the transportation of oxygen to different parts of the body, which may result in shortness of breath and fatigue. Iron medication doesn't usually help. A strong reduction in the amount of platelets may increase the risk of bleeding. Possible symptoms may include epistaxis (bleeding from the nose), bleeding of the gums, haematuria (blood in the urine) and bruising.

Fever

If you develop a **fever of 38 °C or higher** or if your temperature is slightly elevated for a few days or your general condition gets worse, **you must go to the emergency department**. If the Oncology Outpatient Clinic is open you can call the oncology outpatient clinic nurse first.

At the emergency department, you should tell the staff when you have received chemotherapy. If you are prescribed antibiotics for an infection, you should contact the Oncology Outpatient Clinic nurse, preferably before your next doctor's appointment and/or scheduled treatment. The treatment may have to be postponed because of the antibiotics. If you become ill (e.g. with a stomach flu or flu) a few days before or on the day you are scheduled to receive treatment, call the Oncology Outpatient Clinic. They will assess whether it is possible to go ahead with the treatment.

Vomiting and nausea

The most common side effect of cytostatic drugs is nausea. It can be very mild or severe, depending on the treatment. The amount of antiemetic medication administered before and after the treatment varies greatly depending on the treatment programme. You will receive written instructions for the use of antiemetic medication, and the physician will write the necessary prescriptions when planning the treatment.

- Tell the physician or nurse if you experience strong nausea despite the antiemetic medication.
- If you experience severe vomiting despite the antiemetic medication and the intake of nutrition and fluid is inadequate, call the nurse or go to the emergency department.

Nutrition

The treatments may cause loss of appetite. It is important for your health to remember to eat and drink even when it feels unpleasant.

- On the day of the treatment (+ 1–2 days) it is important to drink plenty of fluids (1 ½– 2 litres/day). You can drink what you prefer, for example water, juice or mineral water (beverages containing grapefruit are not recommended).
- Eating easily digestible food after the treatment usually alleviates nausea and accelerates recovery.
- You can prevent nausea by eating several small meals a day, eating slowly and chewing the food carefully. Eating a normal varied and healthy diet is recommended during chemotherapy treatment. You may eat what you prefer, unless you have been told to avoid certain foods.
- Cultured milk products, such as Asidofilus and Gefilus products, may help.
- Acidic foods, such as pickles, lemons and soft drinks may help reduce nausea.
- Your sense of taste and smell may be temporarily altered.
- Nutritional supplements available from pharmacies, such as FortiCare or Nutridrink, may be helpful. Ask the nurse for more information, if necessary.
- The use of natural health products is not recommended during the treatment. You should discuss the use of natural health products with your physician.

- Vitamin supplements that are allowed during chemotherapy are Calcium +D products and Multi-tabs multivitamin supplements

Problems related to the skin and mucous membranes

After the chemotherapy, you may experience dry skin, rash, sore and dry mouth, eye irritation and dry nasal mucosa. Mucosal side effects usually manifest as pain, redness and, in some cases, sores. Fungal infections or activation of herpesvirus may sometimes cause symptoms of infection, which should be treated with the appropriate medication.

Treatment of oral mucosa

- Dry mouth is one of the most common side effect of chemotherapy. Drinking small amounts of fluids at regular intervals helps to keep the mouth moist. If necessary, secretion of saliva can be increased with products available from the pharmacy.
- Rinsing your mouth with saline solution between meals at least 4–5 times a day helps to maintain good oral hygiene. How to prepare the saline solution: Dissolve 1 teaspoon of salt in 1 litre of water, or use ¼ teaspoon of baking soda and ¼ teaspoon of salt in 1 glass of water. Chamomile tea may help soothe the oral mucosa.
- If chewing is painful, use a blender to puree foods.
- Mild dishes, such as soup, egg dishes, porridge or gruel are recommended.
- Eating cold foods, such as ice cream, or sucking on ice cubes, soothes the mucosa.
- Avoid hot and spicy or acidic foods.
- Brush your teeth with a soft toothbrush and a mild toothpaste, such as OralBalance®, which is sold in pharmacies.
- Pharmacies also sell lozenges for sore mucosa, such as Bepanthen®.
- It is not recommended to use oral care products that contain alcohol.
- If you have severe problems with your oral mucosa, ask the nurse for some oral treatment gel prepared in the pharmacy.
- If the oral mucosa has a white coat, medication is necessary.

Your teeth should be examined before the start of chemotherapy. If you have any problems with your teeth during your treatments, contact the Outpatient Clinic nurse before making a dentist appointment. You should also tell your dentist that you're in chemotherapy. It might be necessary to re-schedule the planned chemotherapy treatments because of dental care.

Dry eyes are the most common reason for **eye** irritation, causing itching, burning, feeling of sand in your eyes and/or watering of the eyes. You can try to alleviate the symptoms with moistening eye drops.

Dry **nasal** mucosa may cause symptoms, such as stuffiness of the nose, mild bleeding or pain in the nose. You can try using nasal drops containing Vitamin A or oil-based nasal sprays.

You can apply Ceridal oil® or other hormone-free products locally on dry **vaginal** mucosa. Products for mucosal care are available from the pharmacy without prescription.

Smoking cessation is an important part of cancer treatment. Smoking reduces the effect of chemotherapy. Quitting smoking improves the prognosis of several cancers. You can get help for quitting from a nurse who is specialised in smoking cessation. Ask the nurse for contact information, when necessary.

Diarrhoea

Damage to intestinal mucosal cells may cause diarrhoea that can last for a few days. If the medication given to you is known to frequently cause diarrhoea, you will be informed at the onset of the treatment.

General treatment of diarrhoea

- It is important to drink plenty of fluids to prevent dehydration. You can drink, for example, water, fruit juice, tea, bouillon or blueberry soup.
- Rice, mashed potatoes, banana or apple purée, toast and biscuits often help to calm down your stomach.
- It is recommended to avoid foods that cause gas, such as coffee, peas, dark bread, cabbage, beans, sweets and spicy food.
- Avoid milk products if they irritate your stomach.
- Brown grated apple can alleviate diarrhoea. Peel and grate the apple and let it turn brown before eating.
- If your diarrhoea doesn't stop in one day, go to a pharmacy and buy diarrhoea medicine that contains loperamide (Imocur®, Imodium® or Lopex®). Use it according to the package instructions or a separate instruction provided by a nurse.
- If the diarrhoea doesn't stop in a couple of days despite the medication, call the nurse or go to the emergency department.

Constipation

Cytostatic drugs, pain medication and antiemetic medication can slow down the bowel movements and cause constipation. Constipation may also be caused by a lack of exercise or eating foods that contain less fibre than normally.

Constipation means having problems passing stools, having bowel movements less than three times a week, and having hard stools. Constant bloating, stomach pains, flatulence, nausea or a feeling of pressure in the abdomen may also be symptoms of constipation.

If your bowel function slows down, you should immediately start treatment for constipation. You should have bowel movements at least every other day.

Treatment of constipation

- Drinking plenty of fluids promotes bowel movements.
- Vegetables, fruit, whole-grain bread, wheat and oat bran as well as flaxseed are good sources of fibre.
- Outdoor activities and exercise are allowed if you feel up to it.
- If the constipation is not relieved in a couple of days with diet and exercise, you should start using one of the stool softeners sold in pharmacies, such as Levolac®, Duphalac® or Laxoberon®, Pegorion® and Movicol®. The dosage varies individually. Start with a small dose several times a day.
- If constipation persists despite medication or if you experience sudden severe stomach pains, you must see a doctor.

Hair loss

Some cytostatic drugs cause hair loss. Also eyelashes and eyebrows, may become thinner. The hair loss starts approximately two or three weeks after the first treatment, but this varies between individuals. In some, hair falls out quickly in clumps, while in others this happens gradually. If your treatment causes hair loss, you will receive a service voucher for a wig. A wig should be fitted and ordered before your hair starts to fall out. The hair will grow back after the treatment is completed.

Fatigue and exhaustion

You may feel tired and exhausted during chemotherapy. The illness itself may be associated with fatigue, and the treatments stress your body. Mood swings are common, and your sleep rhythm may be disturbed. The tiredness may also be caused by anaemia or a bacterial infection, both of which are treatable. In some cases, no obvious cause of the fatigue and exhaustion can be found. The experience of fatigue and exhaustion is very individual, and they do not occur in all patients who receive chemotherapy.

Hormonal activity

Chemotherapy can disturb hormonal activity. In women, the interval between periods may become longer or menstruation may cease, either temporarily or permanently. Symptoms of menopause, such as sweating, insomnia and dryness of mucosa, may occur. Tell a nurse or a doctor about any symptoms that bother you.

Sexuality

Chemotherapy may cause changes in your sex life, such as lack of sexual desire, mucosal irritation and erectile dysfunction. The use of a condom is recommended on the day you receive chemotherapy and for a week afterwards. If you wish, you can discuss any problems related to sexuality with the doctor or nurse. You should use birth control during chemotherapy.

Other side effects

Some cytostatic drugs affect nail growth and cause brittleness and discolouration of nails. Some cytostatic drugs may affect the function of sensory nerves in the arms and legs, causing prickling and numbness in the extremities. If the medication is known to cause these or other side effects, you will be informed at the start of the treatment.

Living with the illness

Mood swings and worrying about the future are natural reactions to the illness and the treatment. At home, you should ask your family and friends for help if you are feeling too tired. You can talk about your worries with a doctor or a nurse. An appointment with a social worker, rehabilitation counsellor or psychiatric nurse, etc. may be scheduled when necessary.

In a hospital, social work is part of the patient's comprehensive care and rehabilitation. An illness can affect your family life, income and coping at home and work in many ways.

Services:

- Guidance, instructions and information about social benefits and services
- Help with filling application forms
- Mapping the patient's situation as a whole
- Planning follow-up care with the patient, health care personnel and family
- Discussion support for the patient and family members

A rehabilitation counsellor provides information about different aids, rehabilitation courses and issues related to training and education, work and the choice of profession as well as applying for various benefits, helps to contact different authorities and provides guidance to the family and the health care personnel.

You can live a normal life during the treatment. You can engage in outdoor activities and hobbies if you feel up to it. A varied and healthy diet, plenty of fluids and getting enough rest and sleep help to maintain general good health and to recover from the treatment. Going to the sauna is not recommended on the day of treatment. The use of alcohol is not recommended during chemotherapy.

Handling of secretions after chemotherapy

Cytostatic drugs are excreted in the urine, faeces, sweat, saliva, vomit and semen **for a maximum of 7 days after chemotherapy.**

Direct skin contact with secretions should be avoided. Wash your hands with water and soap if you have touched any secretions. After going to the toilet, close the lid and flush twice. Men should urinate sitting down. Wash your hands after going to the toilet. Wash clothes soiled with secretions separately from other laundry. Place protective pads (e.g. nappies) soiled with secretions in a plastic bag, tie the bag and discard with normal household waste.

When to contact the Oncology Outpatient Clinic or an emergency department?

- If you have a fever of 38 °C or higher
- If you have any bleeding symptoms: large bruises, bleeding of the gums, persistent bleeding of the nose, gynaecological bleeding, coughing up blood, vomiting of blood, black stools or blood in the urine
- If you have abdominal pain, prolonged constipation or diarrhea
- If you experience profuse nausea/vomiting that lasts over 2 days, despite medication
- If you have a rash
- If you have chest pain
- If you have flu symptoms, fever, abdominal pain, etc. before the next appointment

If you have any questions, please contact the Oncology Outpatient Clinic nurse. Our social worker provides assistance for issues related to social security. A rehabilitation counsellor provides assistance for issues related to different aids, adaptation courses and return to work.