

# CHEMOTHERAPY

All revenue from services treat needy cancer patients.

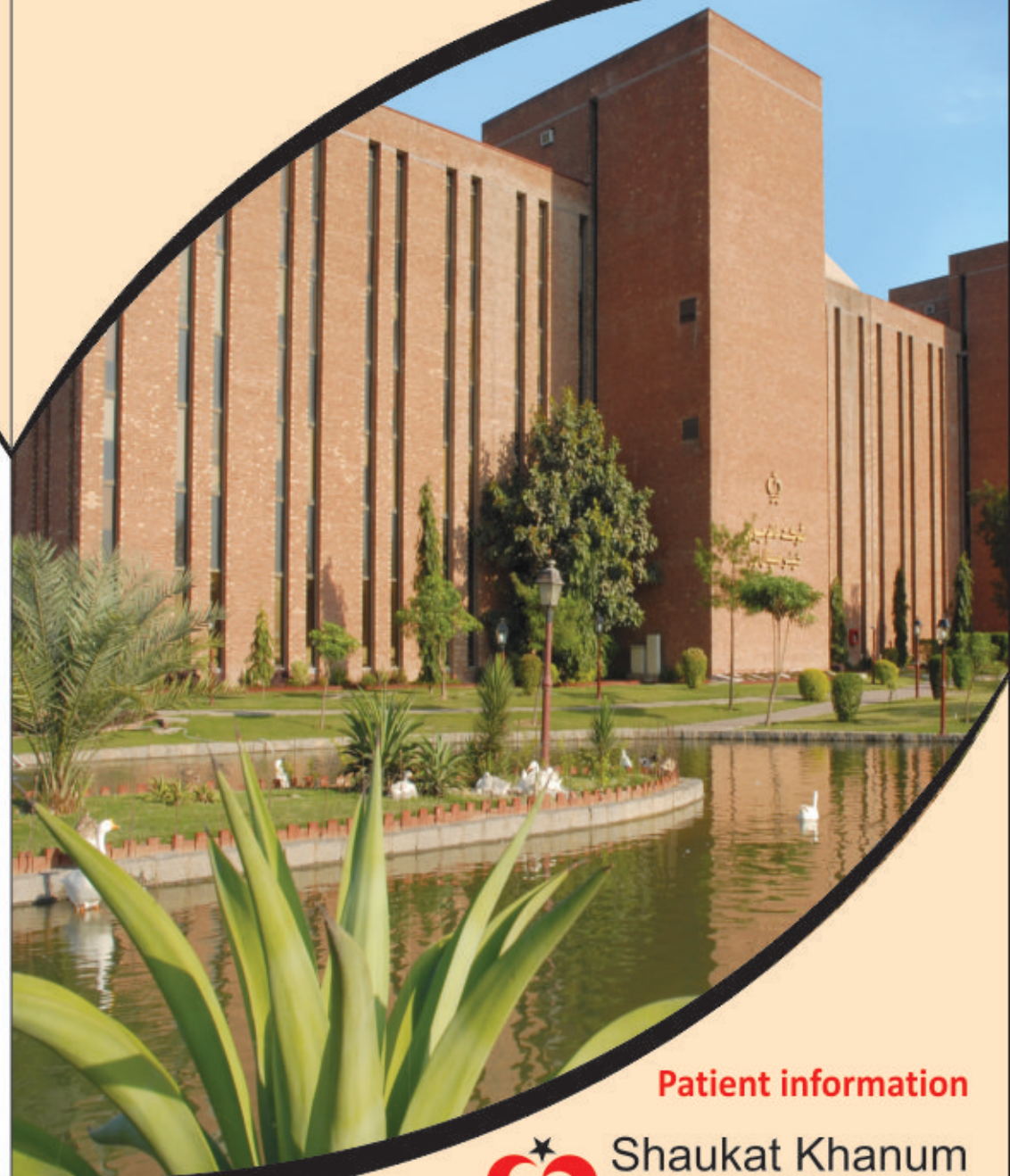


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**Patient information**



**Shaukat Khanum  
Memorial Cancer Hospital  
and Research Centre**



## What is Cancer?

Cancer is a general term for many diseases, all of which are characterized by uncontrolled growth and spread of abnormal cells. These abnormal (cancer) cells do not act or behave as normal cells do. Normal cells grow and multiply to replace old or dead cells: cancer cells multiply uncontrollably. They keep reproducing regardless of the need for new cells.

Because of this reproduction, cancer cells form malignant tumors. These tumors can invade other tissues and organs and may destroy normal cells. Cancer may grow slowly or rapidly. Eventually many tumors grow into nearby organs or tissue, or spread to other parts of the body. This spread is called metastasis, usually occurs through the bloodstream or lymph vessels. Benign tumors are made up of cells that are not cancerous: they usually do not grow and spread in the same way as malignant tumors. They usually are not dangerous.

There are more than 100 types of cancer. The name of various kinds of cancer refers to the type of body tissue from which the cancer cell developed. For instance, adenocarcinoma is a kind of cancer that involves cells that line the walls of some organs, such as the lung or breast. Sarcoma refers to a cancer that involves connective tissue such as bone or cartilage.

Cancer develops when a cell becomes abnormal. What causes the cell to become abnormal is often not rare. Many factors have been found to be cancer-producing. These include the use of tobacco products, exposure to some chemicals, and excessive exposure to sunlight. Cancer is not contagious: you cannot catch it from another person.

## What is Chemotherapy?

Chemotherapy is one of the treatment modalities of cancer. Chemotherapy means treatments with anti-cancer drugs. Some of these are called cytotoxic drugs (cyto=cell, toxic=poison) and they are given to destroy or control cancer cells. Many drugs are used in chemotherapy, all of which attack cancer cells in different ways. To increase the effectiveness of treatment, often several drugs are given in combination. These drugs are often used to treat or control obvious disease which may be causing symptoms.

Chemotherapy may also be given when we know there is a high chance of cancer cells being present in your body. It may not be possible to detect these cells but it is important to destroy them.

Cytotoxic drugs are often used as part of a treatment plan, for example before or after an operation or a course of radiotherapy. This is called adjuvant therapy. The aim is to reduce the likelihood of your disease returning in the future.

## How do the drugs work?

The drugs enter your bloodstream and therefore reach all parts of your body. Cytotoxic drugs destroy cancer cells by damaging them so they can't divide and grow.

Unfortunately, these medications are usually not cancer specific and affect all (particularly cells which are growing and dividing rapidly) normal cells of the body resulting in adverse effects and complications. These are usually temporary because healthy cells quickly grow back to normal. However, sometimes there may be permanent damage. If this is likely, your doctor will discuss it with you before the start of treatment.

## How is chemotherapy given?

Chemotherapy is usually given in the following ways:

- By mouth
- By injection into a vein using a syringe, in an infusion ("drip") or via a small pump
- IT-Intrathecal- in spinal cord

Occasionally, a drug may be injected into a muscle or under the skin. Sometimes it can be injected into your spine, lungs or bladder, if that is where treatment is needed. You may have one drug, several drugs or different drugs given at different times. You may have tablets or injections or both. Your doctor or nurse will explain your personal drug treatment to you. If you want more details or have any questions, please ask the staff caring for you.

## Consenting for treatment

The Doctor and Nurse will explain the treatment regime and side effects to you and you will be then asked to sign a consent form.

## How often will I have chemotherapy?

Chemotherapy is given according to a protocol (plan) and how often you have treatment will depend on this.

Usually you will have a course of treatment followed by a 'rest' period. The rest periods are often longer than the treatment periods so most of the time you're not actually having chemotherapy. The rest periods allow your body to recover from any unwanted effects of the drug.

## How long will my treatment last?

The length of your treatment will depend on how well your disease responds to the drugs, for example when your cancer starts to shrink. Your doctor may choose to give you treatment for several weeks and then check on your progress.



If you have no obvious disease, the doctor may plan your treatment for a certain length of time known to be effective for people with similar tumors, for example six months.

Different drugs may need to be tried to find out which ones are best for you.

### **Will I have to be admitted to hospital?**

Most patients receive their chemotherapy as outpatients or day patients that are just visiting the hospital on the day of treatment.

Sometimes you might need to stay in hospital overnight when treatment is started or if several drugs and fluid infusions are to be given. There are special treatments which require a longer admission and if necessary, this will be explained to you.

### **When should I take my tablets?**

All bottles of tablets given from the pharmacy Department carry instructions about how and when to take them.

Please follow these instructions carefully and if they are not clear, ask your doctor, nurse or pharmacist. You may be given an extra information sheet with some medicines.

Often you will only be provided with enough tablets for one course of therapy. If your supply is low and you are unsure if you should continue, contact your hospital doctor for advice.

### **What if I am taking other medicines?**

Tell your doctor about any other tablets, injections or medicines you are taking including medicines you have bought from a chemist or any homeopathic preparations. The way some drugs work may affect others and your doctor may need to prescribe a different drug.

If you are admitted to hospital, please bring all your current medicines with you. Show them to the doctor or ward nurse so they know what you are taking. Please ask your hospital doctor before taking any medicines.

### **Will having chemotherapy hurt?**

Chemotherapy is usually no more painful than any other injection or blood test. However occasionally veins become hardened or sore. Please tell your chemotherapy nurse or doctor if this happens, so that they can avoid the sore area.

You should also tell the nurse or doctor if you feel any aching, tingling or pain at the site of the needle during the injection.

You may be given your chemotherapy through a "central venous catheter". If this is planned, your doctor and chemotherapy nurse will explain it to you.

### **Will chemotherapy affect my everyday activities?**

Many people continue with their usual activities while having chemotherapy, for example working between injections or courses of tablets.

However, some people do find they have to take life more slowly during treatment, working part-time or cutting down on social activities. Take care not to overtire yourself, get enough rest and accept offers of help with everyday tasks.

The drugs, among other things, may cause you to feel a little 'down'. It's quite normal for this to happen at various times during your treatment. If you'd like to chat about this, contact your nurse or doctor or talk it over at your next appointment.

### **Are there any side effects?**

Yes, but these side effects will depend on the type of chemotherapy you are given. Also everyone reacts differently to chemotherapy. Some people may have no side effects at all.

We can offer help for most side effects, so please tell your doctor or nurse if you feel any different from normal. We want to maintain your confidence and well-being as much as possible during treatment. Some more common side effects which occur are discussed below with measures to help you deal with them. We hope it will be helpful for you at home and during your stay in the hospital.

### **Bone marrow suppression**

Your bone marrow makes the cells in your blood; red blood cells, white blood cells and platelets. Anti-cancer drugs can lower the number of blood cells by affecting the bone marrow. You will be asked to have a blood test to count the number of cells that are being produced.

### **How often must I have blood tests?**

A blood test will be taken at the beginning of therapy and before each course of treatment. This is to make sure that your 'blood count' is satisfactory before you have your chemotherapy.

Your doctor may also request a 'blood count' between treatments to measure the following;

- Red blood cells
- White blood cells
- Platelets



### Are there any other test?

There are several tests which may be repeated during your treatment. They include scans, x-ray, kidney function test, liver function test and other test. All the tests check on your health and the way chemotherapy is affecting you.

They will vary from person to person so if you're not sure why you're having a particular test, ask your doctor or nurse.

### Anemia

The red blood cells contain a protein called hemoglobin (hb) which carries oxygen around the body. If the hemoglobin is low, you may begin to feel very tired and may look pale. When your hemoglobin is low you are suffering from anemia.

Anemia may lead to breathlessness when you exert yourself more than usual, such as when climbing stairs or doing housework. If during your treatment you begin to feel more tired than normal or become breathless, tell your doctor. If your hemoglobin is low, you may need to be admitted for the day, or overnight, to receive a blood transfusion.

Eating a diet rich in iron for example liver, red meat, fish, eggs and cooked leafy vegetables, may help to keep your hemoglobin up to its level.

### Neutropenia/Infection

In blood there are many types of white blood cells which are up the total white cell count. There are certain types of white cells responsible for fight against infection and to prevent diseases called neutrophils.

Chemotherapy affects bone marrow and white blood cells (especially the neutrophils) produced by the bone marrow are reduced. Ideally, neutrophil count of 2000-8000/ul is considered to be normal. When neutrophil count is less than 2000/ul, it is called neutropenia. It causes weakness in the immune system with greatly increased risk of infection especially if the neutrophil count is less than 500/ul.

The neutrophils decrease approximately 5-7 days after the chemotherapy and usually recover in the next 7-10 days. Sometimes the next dose of chemotherapy may be delayed to allow recovery.

### Precautions after chemotherapy to prevent infection

- Wash your hand thoroughly before meals and after using the toilet.
- The person who is looking after the patient should wash hand before serving the food.
- Pay special attention to personal hygiene. Keep your house clean and dust free.

- Clean your teeth with soft tooth brush.
- Use moisturizer to keep the skin soft
- Wear soft-shoes to prevent any cuts and injuries to the feet.
- Minimize your visitors. Stay away from those people who have got cough, cold, infection or those who smoke cigarettes and avoid crowded places like cinema halls, parks, shops, public transport etc.
- Avoid swimming pools, rivers, and canal for bathing.
- Take extra care to prevent any cut or injury while using anything sharp if you get a cut , use an antiseptic cream and cover with a sterile dressing e.g. saniplast.
- Trim your nails with great care
- Check with your oncologist before having any vaccination
- Avoid tooth extraction until approved by your oncologist.

### Dietary Instructions to prevent Infection

- Drink boiled water
- Use only packaged (pasteurized) milk and yogurt
- Use fresh, well-cooked, home prepared food only. Avoid eating any food from bazaar.
- Eat thick peel fruit and vegetables after cleaning them with water. Peel fruits like apple, banana and musammi. Avoid eating raw vegetables.

### Method of boiling water

Use a clean utensil for boiling water. Boil the water for at least 10 minutes after it has started bubbling. Keep the water in clean place. It should then be left to cool before storing in a clean and covered container.

### Signs and symptoms of infection

Sometimes even with these precautions, infection can occur. Symptoms to recognize are:

- Fever (38.5 C) or (101 F) after 5-7 days of chemotherapy. You should check your temperature 2-3 times per day.
- Shaking chills
- Burning urination
- Cough
- Sore throat
- Thrush (Ulcers in mouth)
- New abdominal pain
- Flu like symptoms
- Pain, redness and warmth at the site of an injury



- Loose bowels for more than two days

Note: Buy a thermometer and ask a doctor or nurse to teach you how to take your temperature.

### Remember what to do

If these symptoms occur, consult your Medical Oncology and Paediatric Oncology doctor on call by calling at:

Chemotherapy Department of Shaukat Khanum Memorial Cancer Hospital & Research Centre

Chemotherapy Department: **24 Hours Service**

Phone: **0092-42-35905000**

Extension (Adult): **5016**

Extension (Pediatrics): **5014**

- Take Paracetamol/Calpol (DO NOT USE ASPIRIN) after calling your doctor.
- Keep the patient comfortable according to weather.
- Take antibiotics if advised by your doctor.
- You may be advised to go to your nearest hospital or come to Shaukat Khanum Memorial Cancer Hospital for immediate medical care.

### Thrombocytopenia

Platelets help your blood to clot and prevent you from bleeding and bruising. During chemotherapy you may notice that you bruise more easily or that you have a tendency to bleed from your nose or gums. Rarely, small groups of red-purple spots may appear on your skin. All these are signs of a low platelet count called thrombocytopenia and you should contact your hospital doctor straight away.

Do not take drugs which could affect your platelets such as aspirin. Ask your doctor if you're not sure what to avoid.

- Use a soft toothbrush and an electric razor to prevent damage to your gums and skin
- Take care not to cut yourself when using knives or sharps
- Also take extra care if you are gardening or playing sports

You may need to receive a platelet transfusion. Your platelet count can also be corrected by making the rest period between your courses of drugs longer or by adjusting the doses of the drugs.

### Nausea and vomiting

Nausea and vomiting are side effects of certain chemotherapy drugs. Chemotherapy drugs affect the gastrointestinal tract and part of the brain that controls nausea and vomiting. Some drugs or protocols cause a greater reaction than others. Also everyone is an individual-a similar drug combination may cause nausea in one person but not in another.

However if nausea and vomiting do occur, there are many anti-emetics (drugs which prevent or control nausea and vomiting) and other ways to reduce or prevent these side effects.

### Classification of Nausea and Vomiting

#### 1.Acute:

Nausea and vomiting during and 1 to 2 hours after chemotherapy

#### 2.Delayed

Nausea and vomiting develops 24-120 hours after chemotherapy. Delayed nausea and vomiting are particularly common with drugs like Cisplatin and High Dose Cyclophosphamide.

#### 3.Anticipatory

This means nausea and vomiting at the thought, sight or smell of chemotherapy, even before you have it. This is a conditioned response which may be experienced after a few sessions of chemotherapy especially if this side effect was not properly prevented or controlled on previous occasions.

### Tips to control nausea and vomiting:

- Eat light meals on the day of your chemotherapy
- Avoid eating for one or two hours beforehand and afterwards
- Make sure you are given anti-emetics before starting chemotherapy
- After chemotherapy, make sure that your doctor has prescribed an adequate anti-emetic medicine. Same medicine may be given to you on regular basis.
- Keep anti-emetics at home and have information on how to take them.
- Take anti-emetic medications half an hour before eating. Eat small meals. You may wish to increase the number of meals.
- Do not force yourself to eat when you are feeling nauseated, have meal whenever and whatever you like to eat.
- Eat slowly and chew your food well. Avoid sweet, fried, fatty and foods with strong smell



- Urge friends or relatives to help prepare and serve food when you feel nauseated.
- Drink plenty of liquids, daily 10-12 glasses of liquid recommended. Try sipping clear, cold fluids such as water and soft drinks slowly through a straw.
- Carbonated drinks like soda water and 7-Up help nausea by reducing gastric acidity.
- Ginger and peppermint tea also helps some patients for nausea and vomiting
- Some people find sucking lemon flavored sweets or mints reduce nausea.
- After a meal do not go to the bed directly, take a little walk or sit on the chair for one to two hours. Relaxation and breathing exercises can be very useful.

If medication and other ways do not control nausea and vomiting, call Medical / Pediatric Oncology for further advice.

### **Mucositis/Stomatitis**

During chemotherapy the lining of your mouth and throat is affected and may that cause ulceration. These may become sore and prone to infection.

You must take good care of your mouth and keep it clean and healthy.

Following suggestions may help:

- Drink plenty of fluids to keep your mouth moist and fresh
- Clean your teeth regularly with soft toothbrush. If someone needs to clean your teeth for you, they may find a child's toothbrush easier to use
- Don't use commercial mouthwashes
- Gargle with the drugs (provided by your doctor), apply "d2magic mouth wash" d3 as advised by your doctor.
- Keep your lips moist using a commercially available lip slave
- Avoid sour, sweet and spicy foods
- Avoid too cold and too hot things
- Do not try to eat rough dry foods, eat soft moist foods i.e; scrambled eggs, omelette, soups, custard, fish, chicken and milk shakes.
- If you have difficulty in chewing and swallowing, choose soft and finely chopped food and moisten it with gravy
- Soft and liquid diets can be very filling, have something to eat or drink 5-6 times a day.
- Take nourishing drinks Complan, Ensure etc quick and easy to prepare.
- Use of straws may be helpful if your lips are sore as well as your mouth.

- Tell your doctor or nurse if your mouth becomes sorer. It may be possible to prescribe some medications to prevent this in future.

During chemotherapy, you may be more prone to infection and bleeding. Always consult your doctor before having any dental work done.

### **Loss of appetite**

Chemotherapy drugs affect mouth, stomach and intestinal cells that cause loss of appetite, this is a temporary problem and it is necessary that while you are not feeling hungry, you should eat well.

Some people experience a change in their sense of taste or smell. This is only temporary. Normal taste and smell usually returns after the end of treatment. If an unpleasant taste occurs during an injection, it can be disguised by a strong-flavored sweet. If food starts to taste different, you might like to try some of the following suggestions aimed at making it more appetizing.

### **Suggestions for loss of appetite**

- Take small quantity of food; eat 4-5 times a day.
- While taking meal calm yourself, make mealtimes as relaxed as possible and do not rush your food.
- Do not drink water in between the meal, have half an hour before or after your meal rather than with your food.
- Try poultry fish, eggs, pulses or dairy products instead of red meat.
- Use more and stronger seasonings to bring out the flavors of taste. Herbs, garlic and curry powder or soya sauce are good for this. Eat food at room temperature; it is more enjoyable than hot food.

The flow of saliva which keeps your mouth moist and protects against infection, may be reduced as a side effect of cancer treatment. If loss of saliva is severe, tell your nurse or doctor. Try these tips:

- Keep your mouth moist by sipping drinks frequently.
- Sucking ice cubes helps to fresh your mouth, if convenient flavor it with juice.
- Fruit drops may stimulate saliva flow.
- Sucking of lemon or pineapple piece may increase your saliva flow.



- Chewing gum may also help keep your mouth moist.
- Avoid tea and coffee, they may make you thirsty. Choose drinks such as fruit juices.
- Always keep your mouth clean and healthy.

### **Alopecia (Loss of Hair)**

Hair loss is a common problem with chemotherapy; it may be only thinning or complete hair loss (including facial hair, pubic hair, eyebrows and eyelashes). Not all chemotherapy drugs cause hair loss. It will be temporary and usually hair starts to grow back approximately two months after treatment has finished.

Most doctors tell their patients about this problem before starting chemotherapy. Patients may feel better if they decide how to handle hair loss before starting treatment. Hair may fall out dramatically in large clumps which can be very upsetting for some patients and some patients may prefer to have their head shaved prior to chemotherapy.

### **During chemotherapy you should:**

- Cut your hair short. Use gentle shampoo (baby shampoo) for hair washing.
- Use soft hairbrush or wide toothed comb for combing to avoid pulling at your hair and hair roots.
- Use any good oil for hair and scalp massage.
- Avoid using hair dyes, dryers and styles as they cause further damage.
- Scarves, wigs and hats may be used to conceal the loss. These will also protect the head from exposure to sunlight in summers and keep it warm during winters.

### **Skin problems**

Skin problems are minor and temporary, sometimes they go early or sometimes they go little late.

Certain drugs may discolor the skin causing dark lines along the veins or where there is friction, for example due to tight clothing. If your hands and feet nails become black, do not get upset. After chemotherapy they will become normal.

Others may cause a local red reaction at the injection site or along the vein. This fades a short time after treatment. Some patients have pimples on their face; wash your face thoroughly 3-4 times a day they will go after 3-4 weeks. Any rash

should always be reported to your nurse or doctor. Some drugs may cause patches of red skin, particularly on the palms of your hands and soles of your feet.

### **Suggestions for skin care:**

- Use good moisturizers to prevent skin dryness and cracks.
- Take extra care in strong sunlight as the skin all over the body can become very sensitive.
- Use high factor sun cream or sun block whenever you spend any length of time in sunlight.
- Try to stay in the shade and wear a cap, loose clothing and sunglasses.

Some drugs can cause damage if they leak out of the vein while they are being injected. If you feel any rash, burning, swelling or pain when you are receiving the drug, tell your nurse or doctor straight away. If your arm or head is sore or painful following the injection, please contact your chemotherapy nurse or doctor.

### **Diarrhea**

Diarrhea may occur with few drugs or it may be due to your illness. Diarrhea in chemotherapy is a common and temporary problem. Your doctor will give you proper medication and advice about change of diet to manage the problem. If you experience diarrhea, the following instructions are useful.

- You must drink plenty of fluids, at least 10-12 glasses each day.
- Eat light, soft and low in fibre (roughage) diet such as; white bread, biscuits, corn flakes, rice, banana, potatoes, meat, fish, eggs, milk, yogurt and custard.
- Avoid highly spiced and fatty foods.
- Reduce the foods you eat high in fibre such as whole meal, bread, pulses, nuts, beans, chickpeas and dried fruits.
- Reduce your portions of fresh fruit and vegetables.

If you follow this advice for more than one week and your diarrhea persists, contact the doctor. You may need medicine to relieve the problem.

### **Constipation**

Constipation may be due to your illness, chemotherapy or other drugs for example painkillers. Whatever the cause follow these instructions:

- You should drink plenty of fluids at least 10 glasses each day. These can include;



milk, fruit juice, soup and water. A warm drink as a first thing in the morning may help.

- A change in diet may also help relieve constipation but you should check with your doctor that it is all right to do this.
- There are no foods you should avoid but do try to increase the amount of foods which are high in fibre (roughage) such as; whole meal bread, whole wheat biscuits, brown rice, nuts, pulses, fresh fruits and vegetables.
- Take some gentle exercise each day.

If your constipation persists, check with your doctor or nurse who will be able to advise you on the correct laxatives to take.

### Fertility and Sexuality

Chemotherapy may affect sexual organs or functions in various ways. You may experience changes in your desires or desired level of activity or you may notice no difference. Loss of libido (sex drive) is not uncommon in both women and men.

However chemotherapy in itself doesn't usually affect sexual performance or cause impotence. The stress of your illness or the treatment schedule may make you feel more tired than usual. If fatigue is a problem, you may want to set aside time for physical intimacy after a period of rest.

Although your sexual needs and desires are highly individual, the following advice may be helpful:

- Try to find out as much as possible about how your treatment may affect you
- Share your worries and feelings with people who care for you
- Explore new forms of expression
- Recognize that you're not alone

Feel free to discuss any concerns you may have with your doctor or nurse. Even if they are unable to help you, they can refer you to someone who can.

**For Women:** Women having certain chemotherapy protocols may notice changes in their menstrual cycle. Periods may become irregular or may cease during the course of treatment. If you are approaching the menopause, they may not return.

Hormonal changes may cause hot flushes. If you suffer from any menopausal symptoms, talk to your doctor who may prescribe something to help relieve them.

It is possible to become pregnant during the time you are having chemotherapy but it is not advisable to do so. During treatment and for about one year afterwards, sperm and eggs may not be formed normally, if they are produced at all. There are many different methods of contraception, check with your doctor whether your chosen method is appropriate.

Some chemotherapy can cause infertility which may be temporary or permanent depending on your age and your treatment. Once again, please discuss this with your doctor.

**For Men:** In men, sterility (failure of sperm production) can occur but it is not associated with many drugs. However chemotherapy may reduce the number of sperms or their motility (movement). After treatment, some men remain infertile while in others the sperm count returns to normal.

### Fatigue

During your chemotherapy, you may start to feel tired and restless. This may be general fatigue or it may be that you become tired more easily after normal activities. This is quite normal and usually occurs with all types of chemotherapy.

Once you know what makes you more tired and when this happens, you can plan ahead. Try to plan your day so that light activities are spaced between more energetic activities. Do get enough rest.

Ask your family and friends to help with household chores, cooking and so on. Work part-time or see if you can work more flexible hours. Conserve your energy for the important events in your life.

Tiredness can also be a sign of anemia so do tell the nurse or the doctor if you are worried about how you feel.

### Other effects

Some drugs may cause discoloration of your urine after chemotherapy. Your chemotherapy nurse will warn you if this is likely to happen. If you think you



notice blood in your urine, you should report this to your nurse or doctor. Please report any other effects to your doctor or chemotherapy nurse such as:

- Discomfort on passing urine, headaches
- Tingling or numbness in your fingers or feet

If there is anything which concerns you or is unusual for you, contact your hospital for advice. You may worry needlessly if you do not and there could be a delay in your treatment.

### How will I feel during my chemotherapy?

The fact that you need to have chemotherapy and the effect it has on your life can prompt a range of feelings. Fear, anxiety and depression are common to many people with cancer.

Some people find it helps to gather information about their disease and treatment because this lessens the fear of the unknown. Find out as much as you want to know and don't be afraid to ask questions. Your emotional well-being is as important as your physical health.

Loss of concentration may be a side effect of chemotherapy. This can affect your ability to listen and remember things which are explained about your treatment.

Do not feel embarrassed to ask for information to be repeated as often as you need it.

Talking with an understanding friend, relative, another patient or nurse may be helpful.

Many people do not understand about cancer or its treatment and may avoid you because they are not sure what to say or how to help. Try to be open in talking with others about your illness, treatment, needs and feelings.

People will often be willing to lend their support. If you get tired easily, limit your activities and do only the things that mean the most to you. You might like to try new methods to help you cope with treatment and its side effects such as meditation, relaxation exercises, distraction or visualization (imagery).

Remember everyone needs some support during difficult times. You should not hesitate to ask for help from your doctor or chemotherapy nurse during or after your treatment.

### Your chemotherapy protocol

New drugs or different combinations of drugs are constantly being tested to develop more effective treatments or ones with fewer side effects. You may be asked to take part in a research project and doctor will discuss this with you.

### Where can I get help?

If you have any queries, please contact any of the below mentioned team member:

- Medical Oncologists
- Nurses
- Nutritionist

Chemotherapy Department of Shaukat Khanum Memorial Cancer Hospital & Research Centre

Chemotherapy Department: **24 Hours Service**

Phone: **0092-42-35905000**

Extension (Adult): **5016**

Extension (Pediatrics): **5014**

Reference: Royal Marsden Hospital NHS Foundation Trust, London (2002)