8. Treatment Side Effects and Management

Different drugs and treatments have different side effects. When starting treatment, don’t be afraid of the side effects. Your doctors and nurses will discuss them with you and help you to deal with them. Always tell your medical team about the side effects you experience so that they can support and manage them. In most cases, they can prescribe drugs to make the side effects less severe.

Most chemotherapy drugs can cause side effects, with the most common including nausea, fatigue, hair loss and skin rashes. Chemotherapy specific side-effects are addressed on page 38. The side effects will depend on what kinds of drugs you’re given.

The side effects of radiotherapy include localised burning where the radiotherapy was applied, scarring and shortness of breath. Radiotherapy specific side effects are addressed on page 37. The side effects will depend on the part of the body being treated, and the radiation dosage.

With targeted therapies, you can experience side effects on the blood and immune system and skin as well as fatigue and diarrhoea. Targeted therapies specific side effects are addressed on page 39.

Duration of side effects
After treatment ends, most side effects will gradually disappear as the healthy cells quickly recover.

The time it takes to get over some side effects and regain energy varies from person-to-person. It depends on many factors, including the type of therapy you received and your overall health.

Patients often become discouraged about the length of treatments and side effects. This can make it difficult to continue treatment. If you have this feeling, talk to your doctor who will evaluate whether to adopt measures to counter the side effects and whether to change your medication or treatment schedule.

Side effects common to all treatments

Effects on the blood and immune system
Radiation as well as some chemotherapy and targeted therapy drugs can affect the bone marrow (the soft, spongy material inside the bones).

The bone marrow makes three types of blood cells:
- red blood cells that carry oxygen throughout the body and help prevent anaemia;
- white blood cells that fight infection; and
- platelets that helps blood clot and prevents bruising.

The bone marrow maintains normal levels of blood cells (your blood count) to keep you fit and healthy. When treatment affects the bone marrow, your blood count falls. The count may decline with each treatment. This can cause some problems, depending on the type of blood cells affected.

Anaemia
Having anaemia (being anaemic) can make you look pale, feel weak and tired, and possibly breathless. You may need a blood transfusion to build up your red blood cells and to treat the anaemia. You can also manage anaemia by eating a diet with adequate amounts of nutrients, including iron and B vitamins; and eating wholegrain breads and cereals, lean meat and green leafy vegetables.
Infections
White blood cell numbers may drop during treatment. This can make colds and the flu harder to shake off, and scratches and cuts may become infected easily or take longer to heal.

See your doctor if you’re unwell and don’t wait out a cold when you’re having chemotherapy. Doctors sometimes recommend taking antibiotics as a precaution against infection. If you’re having treatment – particularly chemotherapy – in winter, check with your doctor about having the flu and H1N1 (swine flu) vaccines.

Managing infection
- Wash your hands with soap and water before preparing food, eating and after using the toilet.
- Keep a thermometer at home to check your temperature if you feel unwell. If your temperature is over 38°C call your treating team immediately as you have a fever (a healthy body temperature falls in the range of 36.5 to 37°C).
- Try to avoid sick people. Some people having chemotherapy prefer not to go to crowded places such as shopping centres, to minimise the risk. This is not always practical, so use common sense.
- Let your doctor know if you’re in contact with a person who has chickenpox. You may need an injection to prevent chickenpox or shingles.

Bleeding problems
A fall in the number of platelets can cause you to bleed for longer than normal after minor cuts or scrapes, or to bruise more easily. You may need a platelet transfusion if they are low.

Managing bleeding problems
- Be careful not to cut or nick yourself when using scissors, needles, knives or razors. Small cuts can be a site for an infection to start.
- Clean your teeth with a soft toothbrush to avoid scratching your gums and making them bleed.
- Use an electric razor to minimise the chance of nicking yourself.
- When gardening, wear thick gloves to avoid injury and prevent infection from soil, which contains bacteria.
- If you bleed, apply pressure for about 10 minutes and bandage, if appropriate.

Your medical team will do regular blood tests to make sure your blood cells return to normal before your next treatment.

Fatigue
Fatigue includes feeling exhausted, tired, sleepy, drowsy, confused or impatient. Fatigue can appear suddenly and may not be relieved by rest. After a treatment cycle ends, you may continue feeling tired for weeks or months. Fatigue can be disabling as it can prevent you performing daily activities.

Symptoms of fatigue can include:
- feelings of powerlessness,
- irritability and sadness,
- drowsiness,
- reduced care in your appearance, and
- a decline in sexual desire.

Fatigue can last for a short time if it’s related to the treatment. It may improve or disappear if your doctor reduces or discontinues the treatment.

During radiotherapy, your body uses a lot of energy dealing with the effects of radiation on normal cells. Your weakness and weariness may build up slowly during the course of treatment, but should go away gradually after treatment is over.
8. Treatment Side Effects and Management

Managing fatigue, tiredness and lack of energy

- Arrange activities across the whole day, rather than for just part of it.
- Try to eat a healthy, well balanced diet and don’t skip meals. If you have nausea, be flexible about your meals.
- Drink 1.5 litres of liquid during the day.
- Let people help you. Family, friends and neighbours may offer practical help with tasks such as shopping, childcare, housework and driving.
- Take a few weeks off work during and/or after having treatment, or work fewer hours. You may be able to work at home.
- Do light exercise, such as walking, and keep up your normal exercise routine if approved by your doctor. Don’t start any new exercise regimens until you have fully recovered from treatment.
- Do relaxation techniques and relax with music or read a book.
- Be careful with caffeine. Caffeinated drinks like tea, coffee and soft drink may boost your energy and mental alertness but caffeine can make you feel jittery, irritable, anxious and can cause insomnia.
- Try to get more sleep at night and if you can, take naps during the day.
- If you’re not sleeping well, tell your health care team. Don't take any pills or medication unless they are prescribed as they may react badly with your chemotherapy treatment.

Loss of appetite, nausea or vomiting

It’s common for your appetite to change while going through treatment. Sometimes you may not feel hungry, or you may not enjoy foods that you used to like.

Not everyone feels sick (nauseous). However, if you do experience nausea it may kick in a few hours after treatment begins and could last for many hours. Sometimes, nausea doesn't occur until several days after chemotherapy.

Nausea may be accompanied by vomiting or retching. If you have vomited a lot, try to keep your fluids up so that you don't get dehydrated. If you can't keep fluid down, call the hospital.

Anti-nausea medication can help. This medicine can be taken before, during or after chemotherapy treatment. It may be available as tablets or wafers (which dissolve under the tongue), in liquid form, or as a suppository (which is placed in the rectum where they dissolve). Check with your doctor or nurse whether it’s safe to use this type of medication. You may be given anti-nausea tablets to take at home. Some tablets you take regularly after chemotherapy treatment to prevent nausea, others you can take any time you feel ill.

If the standard anti-nausea medications don't work for you, there are others available. Let your nurse or doctor know early on if your symptoms aren't being relieved. If you still feel nauseous after a few days, or are vomiting for more than 24 hours, contact your doctor as you may become dehydrated.

During radiotherapy, you may have an upset stomach, develop a metallic taste in the mouth, lose interest in food and there may be days when you don't feel like eating much.

Managing loss of appetite and nausea

- Eat a light meal before your treatment (e.g. soup and dry biscuits) and drink as much fluid as possible.
- After treatment, drink small amounts more often rather than large drinks. Try soda water, dry ginger ale or weak tea. Ice cubes, ice-blocks or jellies can help increase your fluid intake.
• Avoid foods that usually upset your stomach.
• Eat small, frequent snacks instead of large meals. Try to eat when you’re hungry. Not eating can make the nausea worse.
• Eat slowly and chew well to help you digest your food better.
• Eating dry toast or crackers often helps.
• You may find you can drink a lot, even if you don't feel like eating solid foods. If so, try enriching your drinks with powdered milk, yoghurt, eggs, and honey or weight-gain supplements.
• Take it easy after eating a meal.
• Try breathing deeply through your mouth if you feel like you’re going to vomit.
• Prepare meals between treatments and freeze them to use on the days you don’t feel like cooking.
• Try to catch up by eating extra on days when you have an appetite.
• Try to avoid odours that bother you or put you off eating, such as cooking smells, perfume or smoke.
• Ask your doctor for medication to stop you feeling sick.
• Talk to the hospital dietitian for advice about the best diet during treatment and recovery.

Managing vomiting
After vomiting, treat your empty, irritated stomach gently to help get it back to normal. You can do this in stages.

• **Stage 1 – Small Sips.** If you have persistent vomiting, don’t try to force food down. Sip small amounts of liquid as often as possible, for example dry ginger ale, cold flat lemonade and soda water; suck a hard lolly, flavoured crushed ice-cubes or ice blocks.
• **Stage 2 – Introduce drinks slowly.** Once your vomiting has stopped you may still feel nauseated and full. Hunger can aggravate or prolong nausea so it's important to eat small, frequent meals.

8. Treatment Side Effects and Management

Start by drinking cold or iced drinks. Make up drinks that are half milk (or skim milk) and half water (or soda water). These mixtures are surprisingly settling and soothing. Try a spoonful of ice cream in a glass of lemonade or diluted fruit drinks if you like sweet drinks. Jellies can be satisfying and gentle on the stomach too.

• **Stage 3 – Introduce solid foods.** When you feel you can drink without discomfort, eat small amounts of solid foods, such as plain dry biscuits, toast or bread with condiments. Try jelly or cooked rice or sago, and then try stewed fruit such as apples, pears or peaches. Start drinking milk products gradually and in small amounts. Yoghurt is an easily digested milk product. When eating, don’t drink more than a few sips of liquid in order to leave enough space for food.

• **Stage 4 – Return to normal diet.** As soon as you can, increase your food intake until you’re eating a normal well-balanced diet. Your doctor or dietitian may advise you to take additional supplements on your good days to make up for the days when you can’t eat properly. Foods your sensitive stomach may not be able to tolerate include fatty or fried foods, creamy or rich foods, starch foods such as potatoes, and spicy or oily sauces. It’s best to limit these where possible.

**Constipation**
Some chemotherapy drugs, pain relief medicines and anti-nausea drugs can cause constipation. If you have constipation for more than a couple of days, let your doctor or nurse know. Your medication may need to be changed or other medication given to relieve it.

**Managing constipation**
• Eat more high-fibre foods, such as wholegrain bread and pasta, bran, fruit and vegetables.
• Drinking fruit juice can help ease constipation. Try prune, apple or pear juice.
• Drink plenty of fluids, both warm and cold to help loosen the bowels.
• Exercise lightly.
• Eat small, frequent snacks instead of big meals.
8. Treatment Side Effects and Management

Diarrhoea
Diarrhoea may be caused by some chemotherapy drugs, targeted therapies, pain relief medicines, anti-nausea drugs and/or anxiety, or bacterial infection.

If you have diarrhoea, it’s generally treated with medication at home. However, if the diarrhoea becomes severe, it may cause dehydration and you may need to be admitted to hospital. Tell your doctor or nurse before your next treatment session if you have had diarrhoea.

Since most targeted therapies are taken by mouth, diarrhoea may occur immediately after starting the treatment or after several days. Usually you return to normal a few days after the drug is stopped. In some cases, diarrhoea can interrupt the course of your targeted therapies and/or result in a smaller dose. Your doctor will assess the scale of this side effect and decide what measures to adopt.

Managing diarrhoea
• Eat smaller amounts of food and eat more often.
• Try snacking on clear broth and toast, biscuits or cooked rice.
• Consume food and drink at room temperature (neither hot nor cold).
• To replace fluids lost through diarrhoea drink six to eight glasses of non-carbonated drinks (water, apple juice, peach juice, apricot juice, clear broths, green tea, ginger ale, Gatorade, or similar).
• Eat foods rich in potassium, such as bananas, apricots, peaches or potatoes.
• Choose simple foods (rice, vegetable soups, fruits and vegetables without skin, fish, chicken and turkey, eggs and yoghurt).
• Avoid coffee (or drinks with caffeine), tea and alcoholic beverages.
• Avoid spicy, fried or greasy foods.
• Avoid rich gravies and sauces.
• Avoid milk and milk products.
• Avoid high-fibre foods, i.e. wholegrain products, broccoli, cabbage, cauliflower, beans, bread, cereals, bran, raw fruits and/or vegetables with skin.
• Avoid citrus (e.g. orange juice).
• Avoid chocolate.

Skin conditions
Even moderate cases of itchy or dry skin can be annoying. Drugs can relieve itching but it is important that you seek advice from your doctor.

Radiotherapy may make your skin dry and itchy in the treatment area, and may temporarily look red, tanned or sunburnt. If you’re having radiotherapy, it is not advisable to use sunscreen so you must protect the treatment area from the sun. Stay out of the sun when possible and before going outdoors cover your treated skin with light, close-weave clothing.

When having chemotherapy, your skin may darken, peel or become dry and itchy. It also may be more sensitive to the sun. Therefore, it is particularly important for people having chemotherapy to protect their skin from the sun (especially between 10am and 3pm) by wearing high-protection sunscreen (SPF30+), a hat and protective clothing.

Dry skin and itchiness is also a common side effect with targeted therapies.
Managing skin conditions

For dry skin:
• Use a moisturising lotion that contains urea or sorbolene cream, to stop the dryness.
• Avoid hot baths and long showers.
• Use a neutral detergent and add oil to your bath.
• Use a colloidal oatmeal wash, rather than soap, to wash the affected area.
• Pat your skin dry with a soft towel.
• Use a baby shampoo. Avoid dandruff shampoos (they contain more chemicals).
• After your bath (and regularly during the day) apply a mild, alcohol-free moisturising cream. You might find it useful to use oatmeal, colloidal lotions, aloe, or glycerine.
• Avoid prolonged sun exposure. Always use a sunscreen of SPF15 or higher (preferably containing zinc oxide or titanium dioxide) on exposed areas of your body (face, neck and extremities), unless you’re having radiotherapy.
• Wear loose, comfortable clothes. Wear soft fabrics like cotton next to your skin. Avoid rough fabrics.
• Protect your skin from cold and wind.
• Maintain good hydration by drinking at least 1.5 litres of liquid during the day.

For itchiness:
• Apply cold compresses (i.e. ice in a plastic bag wrapped in a towel).
• Keep nails short and well treated (to avoid scratches). Don’t push the nail cuticles back or file the sides of the nails into the skin.
• Try to wipe or dab the skin rather than scratch.
• Change your bed sheets regularly. Don’t have too many blankets on your bed.
• Menthol talc on your arms, legs, stomach and back may also give you relief.

Radiotherapy – managing side effects

Side effects from radiotherapy vary considerably. People having the same treatment may react differently while reactions can vary from one period of radiotherapy to the next. The type and severity of your side effects have nothing to do with the success of your treatment.

Before your treatment begins, talk to your radiation oncologist about possible side effects. These usually start around the second or third week of treatment and are at their worst two-thirds of the way through a course of treatment.

During treatment, tell your radiation oncologist, radiation therapist or nurse if you have any side effects. There are ways to reduce any discomfort you experience. For example, your doctor may prescribe medications to help you feel better. If you have a particularly severe side effect, your doctor may suggest a break in your treatment or a change in your treatment, but this is rare.

Some side effects of radiotherapy may occur weeks or months after treatment has finished. Always consider the possibility that any new symptoms you experience may be related to treatment and mention them to your doctor. Delayed but temporary radiation side effects can include:
• inflammation of the lung resulting in a cough and shortness of breath; and
• irritation of the spinal nerves causing electric shock like sensations in the legs.

Neck and chest problems
After about two weeks of treatment, your mouth or throat may become dry and sore, and your voice may become hoarse. You also may have some phlegm in your throat, or a lump-like feeling that makes it hard to swallow. This is due to a sunburn-like reaction in the gullet (food tube).

Managing neck and chest problems
• Suck ice chips and sip cool, refreshing drinks.
• Try to have more liquids if swallowing is painful.
• Avoid hot or acidic drinks.
8. Treatment Side Effects and Management

- If eating is uncomfortable or difficult, ask for something to relieve the pain. Good pain relief will help you eat well and feel better.
- If you have difficulty swallowing, speak to your treating team. They may recommend you see a speech pathologist or dietitian.
- You may need to tailor what you eat to ease the ‘sun burning effect’ on your swallowing tube. Try soups and smoothies for comfort and nutrition.

Radiotherapy side effects that are common to all treatments are addressed on pages 32 to 37.

Chemotherapy – managing side effects

Chemotherapy kills cancer cells. However, the treatment can also affect normal cells and this may cause side effects.

Side effects vary greatly. Some people will have no side effects and others will experience many. Reactions vary from person-to-person, according to the type of drugs used, and from one treatment period to the next. Side effects usually start during the first few weeks of treatment. Fortunately, most are temporary and can be managed.

The type and severity of any side effects is not a sign of the treatment’s success. Before your treatment begins, it’s best to talk to your doctor or nurse about the side effects you should watch out for or report. They can also tell you whom to contact out of hours if you have any immediate concerns.

It’s important to tell your doctor if you plan to take any over-the-counter medications, home remedies or complementary therapies. Some of these medicines may worsen your side effects or affect how the chemotherapy works in your body. For example, the herb St John’s Wort can reduce the effectiveness of some chemotherapy drugs.

Mouth sores

Some chemotherapy drugs can cause mouth sores such as ulcers or infections. If you notice any change in your mouth or throat, such as sores, ulcers or thickened saliva, or if you find it hard to swallow, contact your doctor.

Managing mouth sores

- Use a soft toothbrush to clean your teeth twice a day.
- Don’t use commercial mouthwashes that contain alcohol. They may dry your mouth out or irritate it. Your doctor will give you a special mouthwash to prevent mouth infections.
- At least four times a day, rinse your mouth with a teaspoon of bicarbonate soda or salt in a glass of warm water. Bicarbonate mouthwash helps keep the mouth clean and salt mouthwash helps heal mouth sores.
- Sucking on ice while an infusion (drip) is being given can help minimise mouth ulcers.

When to contact your doctor

Contact your doctor urgently if any of the following occur:

- chills or sweats;
- a temperature higher than 38°C;
- persistent or severe vomiting more than 24 hours after treatment;
- severe abdominal pain, constipation or diarrhoea;
- unusual bleeding;
- tenderness, redness or swelling around an injection site; and
- any serious unexpected side effects or sudden deterioration in health.

Also contact your GP or treating specialist if you experience:

- sweating, especially at night;
- sore throat;
- mouth ulcers;
- burning or stinging on passing urine; and
- easy bruising,
• Sip fluids, especially water, and eat moist foods such as casseroles if you have a dry mouth. Moisten foods with butter or sauces. It may help to suck on frozen pineapple or chew gum.
• Blend foods to make them easier to eat.
• Eat soups and ice creams.
• Avoid spicy or acidic foods as they can aggravate mouth sores.

Chemotherapy side effects that are common to all treatments are addressed on pages 32 to 37.

Hair loss and scalp problems
Many people having chemotherapy worry about losing their hair. Some people lose all their hair very quickly, others lose it after several treatments, and others may lose only a little or no hair at all. Hair loss can vary depending on the chemotherapy. Your treating team will advise you if hair loss will occur.

Hair loss usually starts two to three weeks after the first treatment and grows back when chemotherapy is completed. Your scalp may feel hot or itchy. In addition, it also may feel tender just before and when your hair starts to fall out. Although head hair is the most common form of hair loss, some people also may lose hair from their eyebrows, eyelashes, arms, legs, chest and pubic area.

It takes four to 12 months to grow back a full head of hair. When your hair first grows back, it may be a different colour or it may be curly (even if you have always had straight hair). In time, your hair will return to its normal condition.

Managing hair loss and scalp problems
• Keep your hair and scalp very clean.
• Use a mild shampoo like baby shampoo.
• Wear a light cotton turban or beanie to bed if you’re cold at night.
• Use a cotton, polyester or satin pillowcase (nylon can irritate your scalp).
• Make an appointment with a hairdresser to make your hair look as good as possible, even if it’s thin or patchy. Avoid perms and dyes, and limit the use of hair dryers, rollers and harsh products.
• If your eyelashes fall out, wear glasses or sunglasses to protect your eyes from the sun and dust while outside.
• Combs or brush your hair gently using a large comb or a hairbrush with soft bristles.
• If you prefer to leave your head bare, protect it against sunburn and the cold.
• If you plan to buy a wig, choose it early in your therapy so you can match the colour and style of your own hair.
• See Changing Body Image section on page 49, for more information.

Nerve and muscle effects
Some drugs can cause tingling and loss of sensation in the fingers and/or toes, and muscle weakness in the legs. If this happens, tell your doctor or nurse before your next treatment. Your treatment may need to be changed or the problem carefully monitored.

Change in hearing
Some chemotherapy drugs can affect your hearing. They may cause a loss in the ability to hear high-pitched sound, and can cause a continuous ringing noise in the ears, known as tinnitus. If you notice any change in your hearing, tell your doctor.

Skin rash/pain
If your skin becomes red or sore in the area where an intravenous device was used, tell your doctor or nurse immediately.

Chemotherapy side effects that are common to all treatments are addressed on pages 32 to 37.

Targeted therapies – managing side effects
Targeted therapies interfere with cancer cell growth and reproduction in different ways. The drug is distributed throughout the body and despite its selective mechanism of action it can interfere with normal cells as well. This is the cause of possible side effects. If you experience severe targeted therapy side effects it is important you tell your doctor so the treatment can be stopped until settled. A dose reduction can then be considered.
Skin toxicity/rashes
Skin toxicity from targeted therapies is most likely to occur in the early days of treatment. It can appear as initially redness, with slight flaking skin around the eyebrows and hairline; on your face, upper chest and back; and then develop into a pinhead-sized white raised sore.

Tell your doctor about changes in your skin such as cracks, blisters, moist areas, rashes, infections or peeling, and any changes to your nails.

Some chemotherapy drugs, such as cetuximab and erlotinib, target the epidermal growth factor receptor (EGFR). A side effect of targeting this receptor is inflammation of the skin causing an acne-like rash that is temporary and will go away once treatment stops.

If you have a serious reaction to the EGFR treatment, talk with your doctor. They can prescribe an antihistamine to reduce the inflammation or suggest you use a corticosteroid cream. You may also be given a course of antibiotics.

Managing skin rashes:
- Use the same measures as for dry skin (listed on page 37).
- Don’t shave every day. Use an electric shaver instead of a blade where possible. Don’t use a razor blade on the treatment area.
- If you continue to use make-up, ensure it is dermatologist-approved.
- Remove make-up with a gentle liquid cleanser.
- Although it may seem like acne, it is not. Avoid all over-the-counter acne-related treatments.

Nail toxicity
Targeted therapies may cause nail toxicity. This is experienced as inflammation, pain and redness of the nail bed.

Managing nail toxicity
- Cut your nails carefully and evenly.
- Do not wear tight shoes and, where appropriate, wear cotton socks.
- There are many creams for this particular side effect. In some cases, your doctor may prescribe an antibiotic medication. It’s important to discuss these side effects and possible solutions with your doctor.

Targeted therapy side effects that are common to all treatments are addressed on pages 32 to 37.