Patient Information

Before Your Rectal Cancer Surgery:
Neoadjuvant Radiotherapy and Chemotherapy
What is Rectal Cancer?
Rectal cancer occurs because some cells lining the rectum undergo a genetic change. The reasons for these changes are not fully understood, but are likely to be a combination of individual genetic and environmental factors.

Normally cells in the body divide in an orderly fashion. However, when cancer develops the cells grow and divide in an abnormal uncontrolled way.

Rectal cancer initially grows in the internal lining of the bowel, from there it will grow through the bowel wall and potentially spread to local and regional lymph nodes and other organ sites.

There are many options for treating rectal cancer including radiotherapy, chemotherapy and surgery. Your treatment may involve one of these options; a combination of two treatments or all three.

The information in this brochure aims to explain what radiotherapy and chemotherapy treatments involve prior to surgery.

**Neoadjuvant radiotherapy and chemotherapy**

Neoadjuvant therapy refers to chemotherapy and radiation therapy, given before the primary or main treatment (in this instance surgery) to reduce the size of a tumour or to make the surgery less complicated.
Radiotherapy

What is it?
Radiation therapy uses high energy x-ray beams to kill cancer cells. These beams are produced by machines called linear accelerators.

Normal cells can also be affected by radiation therapy; however, the risk is minimised by delivering small doses of radiation daily and much care is taken to shield normal cells from the radiation.

Commonly chemotherapy is given with the radiation therapy. The chemotherapy makes the cancer cells more sensitive to the radiation therapy, therefore enhancing the effect.

How is radiotherapy administered?
You will meet a radiation oncologist who is the medical specialist responsible for managing your radiotherapy treatment. You will see one of your radiation team doctors on a regular basis throughout your treatment.

The delivery of radiation therapy requires a specialist team of people who are highly skilled and trained to ensure that the treatment is tailored to your specific needs.

Radiation therapy involves quite a bit of planning and you will be required to have a planning (simulation) appointment prior to starting. At this appointment you will be placed in the treatment position, further measurements and x-rays will be taken. You may need to have another CT scan whilst in the treatment position. The radiation therapist will mark you with tiny semi-permanent ink spots (tattoos) which will ensure treatment is given to the same area each time.

You will be required to attend the radiation oncology department daily for approximately 15 to 30 minutes Monday to Friday for a period of five to six weeks to receive treatment.
Side effects – short term

**Fatigue/tiredness**
This usually starts to take effect two to three weeks into treatment. You may find that you need a rest during the day. Moderate exercise and a healthy diet may help to reduce this.

**Reduced appetite**
This is usually temporary and you should notice improvement within the first few weeks after completing treatment.

**Skin irritation**
The skin in the area of the radiation field can often become irritated. You may experience itchiness and discomfort and redness like sunburn. On occasions small areas of skin can break down; however, this will heal once the radiotherapy has finished. If you experience any of these side effects make sure you let the radiotherapy nurses know and they can provide you with information to help manage this.

**Bowel changes**
Diarrhoea is common and is usually noticed approximately two weeks in to treatment. It is important to let your doctor or nurse know if you are experiencing diarrhoea. This can usually be managed with dietary changes and/or medication.

**Bladder irritation**
Frequency of urination and sometimes discomfort when urinating can be a side effect of radiotherapy. This should start to ease two to three weeks after finishing treatment.

Side effects – long term

**Skin changes**
The skin around your back passage will become smooth and hairless.
**Narrowing of the back passage**
This can occur occasionally following radiotherapy. Please inform your radiation oncologist if you experience this.

**Adhesions**
These are fibrous scars that can occur after radiotherapy or surgery. They can cause a bowel obstruction. It is very important to inform your doctor if this develops.

**Small bowel enteritis**
This is very rare. However, it can produce a narrowing of the small bowel and this can cause problems with absorbing food.

**Sexual dysfunction**
Erectile problems can occur in men. Women can experience narrowing of the vagina (vaginal stenosis). Please consult your nurse or doctor if you experience this.

*It is important to let your doctor or nurse know if you are experiencing any of the above side effects or any other symptom that hasn’t been mentioned above.*

**Chemotherapy**
**What is it?**
Chemotherapy is treatment for cancer that uses special drugs that destroy or control cancer cells.

There are many different types of chemotherapy and the type you will have is used to treat bowel cancer.

**Why have chemotherapy?**
It has been recommended that you have chemotherapy in combination with radiotherapy. The chemotherapy is given to enhance the effect of the radiotherapy.
How is it delivered?
Chemotherapy can be delivered in many different ways. The two common methods used are either by injection into the vein or orally in tablet form. This section describes chemotherapy when given intravenously.

The chemotherapy is administered as a continuous infusion using a special line in your arm known as a PICC line (peripherally inserted central catheter) or alternatively using an infusaport. This infusaport (also called a port) is inserted under the skin just below your collar bone and can stay there for many months to years.

Your chemotherapy will be delivered by a small portable pump known as a CADD pump (continuous ambulatory delivery device) which you will carry with you.

The chemotherapy will be delivered 24 hours a day 7 days per week for the duration of your radiotherapy treatment (i.e. five to six weeks).

Caring for your CADD pump
There are a few things you need to know about caring for your PICC line and CADD pump.

If you have a PICC line you will have an adhesive dressing over the top of it which will be changed on a weekly basis to ensure it remains clean. When caring for your PICC line there are a few things you need to know:

- You cannot get it wet.
- When showering you will need to cover your PICC. The easiest way to do this is with a plastic bag wrapped around your arm and taped to your skin.
- It is important to not carry anything heavier than two kilograms.
- Avoid stretching your arm up in the air too much.
- You will receive verbal instructions on how to care for your PICC from the nurses in radiology where you will have your PICC inserted.
Your CADD pump can be carried in a bag (supplied for you) that can either go over your shoulder or around your waist depending on what you feel most comfortable with. It also cannot get wet, so you will need to leave it outside the shower. Don’t worry though, as you will have enough length on your line to be able to do this comfortably.

This pump has a lock on it so you can’t change the settings. The nurses in the chemotherapy unit will go through changing the batteries with you.

You will need to visit the medical oncology department once a week where you will see your medical oncologist, have your pump changed and get your PICC line dressed.

You will also be required to have a blood test half an hour prior to your appointment time.

**Side effects – PICC line**
Two common side effects of having a PICC line inserted are:
- blood clot/DVT (Deep Vein Trombosis)
- infection.

Both of these can be managed with medications. In some cases it is necessary to remove the PICC line.

**Side effects – chemotherapy**
Each person’s reaction to chemotherapy is different. Some people have very few side effects, while others may experience more.

The chemotherapy drug you will most likely receive in combination with your radiotherapy is called 5 Fluorouracil or 5FU.

Please note that chemotherapy regimens can be changed or modified.
5FU

Sore mouth and ulcers
You may experience a sore mouth or even ulcers. It is important to maintain good mouth care. Brush your teeth after each meal using a soft toothbrush. Do not use mouth washes that contain alcohol. Instead we recommend rinsing your mouth with a mixed solution of half a teaspoon of salt and half a teaspoon of bi-carbonate of soda in warm water.

*It is really important to report any changes in your mouth to your nurse or doctor.*

Diarrhoea
This can usually be controlled with medication, and it is important to keep hydrated by drinking plenty of water. If your diarrhoea is continuous or severe it is really important to inform your doctor.

Gritty eyes or blurred vision
Let your doctor know if you experience this, as they can prescribe you eye drops.

Taste changes
Some foods may taste differently to what they usually do. This should pass once treatment is finished.

Skin changes
You may notice changes to your skin, particularly of the hands and feet, darkening of the pigment, dryness or peeling. Keep your skin well moisturised and use a non-soap based body/hand wash.

Lowered resistance to infection (low number of white cells or neutrophils)
This is not common; however, it can be potentially very serious and it is important to be aware of this.
You must contact your doctor immediately if:
- your temperature is 38 degrees Celsius or higher
- you suddenly feel unwell even if your temperature is normal
- you experience unexplained shivers and shakes.

Your regular blood test will also tell us if you are having problems with low white cells or neutrophils.

**Anaemia (low number of red blood cells)**
If your red blood cells are low you may feel tired and weak. It is important to let your doctor or nurse know if you are experiencing this.

Your regular blood tests will also tell us if you are having problems with anaemia.

**Self care**

**Work**
You may or may not be able to work through your chemotherapy and radiotherapy treatment. This is very dependent on how you tolerate treatment and what type of work you do.

You should discuss this with your doctor or nurse.

If you are unable to work you can be referred to a social worker/welfare officer to help with Centrelink benefits.

**Skin care**
It is vitally important to protect yourself from the sun while having chemotherapy and radiotherapy; you will become more susceptible to sun burn. Wear a hat, SPF 30+ sunscreen and cover up as much as possible with clothing.

As mentioned earlier you should use body/hand washes that do not contain soap and keep your skin well moisturised with a non-perfumed moisturiser.
Diet
It is recommended whilst undergoing radiotherapy to follow a low residue diet. This means avoiding foods that can increase the frequency and volume of your bowel motions.

It is advised to:
- drink plenty of fluids
- eat high protein foods
- reduce your fibre intake
- avoid large amounts of cow’s milk
- avoid high fat foods
- monitor your weight throughout treatment.

For more advice, please ask to speak to a dietician.

Alcohol
Generally most people having chemotherapy and radiotherapy can drink the occasional glass of alcohol but you should check with your doctor first.

Physical activity
It is important to keep active. Gentle exercise for short durations can help to fight fatigue/tiredness, improve circulation and elevate your mood.
Support
There is a large team of health care professionals available to support you through your journey.

These include:
- Cancer Nurse Coordinator
- Cancer Nurse Specialist / Clinical Nurse Specialist
- Social Worker
- Dietician
- Stomal Therapy Nurse
- Occupational Therapist
- Physiotherapist
- Psychologist
- Welfare Assistant
- Voluntary transport team.

When you attend your appointments please let the staff know if you would like to be referred to any of these health care professionals.

What happens next?
Once you have completed your chemotherapy and radiotherapy you will have an appointment with the surgical team. This appointment is to discuss the planned surgery, with detailed explanation about the procedure, including information about the anticipated length of hospital stay and recovery.

At this appointment please take the opportunity to ask any questions you may have relating to your upcoming surgery.

Before the appointment, it is a good idea to take the time to write any questions you have down on paper so that you don’t forget to ask them.
Follow-up and surveillance

Once you have recovered from surgery you will have further appointments with the surgical and medical oncology and radiation oncology teams. Your surgeon will explain the pathology results and also monitor your recovery from the operation.

Your medical oncologist will discuss the need for any further chemotherapy, including the timeframe for any further treatments and when this would commence.

You will require long term surveillance and this will be coordinated by the oncology physicians and the surgical team, in conjunction with your GP.

The aim of these visits is to ensure you remain well and to detect, at the earliest possible moment, any recurrent disease.
Summary of the treatment plan:

1. combined chemotherapy and radiotherapy for five to six weeks
2. a break from any treatment for six to ten weeks
3. surgery (you will receive a separate brochure specific to your surgery)
4. another break from treatment to recover from surgery, this is usually about four to six weeks
5. further chemotherapy
6. follow-up and surveillance.
Acknowledgements:

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