The ROYAL MARSDEN
NHS Foundation Trust

Patient information

Radiotherapy treatment of upper abdominal gastrointestinal cancer

Upper gastrointestinal organs include the **pancreas**, **duodenum**, **gall bladder**, **bile ducts** and **liver**. The choice of treatment for your cancer is based on evidence, research and experience. This includes individual factors such as the size and position of the tumour, as well as your general personal fitness.

Your case, including any scans you have had, has already been discussed in a meeting with the specialist doctors and surgeons responsible for your care. Your doctors have recommended that you have radiotherapy treatment (which may be combined with chemotherapy) and you may or may not have surgery later on.

Please note - some patients will be advised to have this treatment **after** they have had surgery. This factsheet is about your radiotherapy treatment, what the treatment involves and the possible side effects.

What is radiotherapy?

Radiotherapy is a type of radiation treatment using x-rays. The treatment is given using a machine called a linear accelerator and treatment delivery is completely painless. It takes about 10 minutes to deliver the treatment.

How does radiotherapy work?

Radiation damages cells that grow and divide rapidly. Only the cells in the area of the body receiving treatment are affected and modern treatment methods mean that we can avoid treating normal cells as much as possible. The healthy, normal cells can repair themselves while the abnormal, cancer cells cannot recover. Radiotherapy treatment can cure some cancers and can also reduce the chance of cancer coming back after surgery.

What happens now?

We will ask you to sign a consent form which confirms that you wish to receive this treatment. You can change your mind at any time, however, we strongly recommend that you complete a course of treatment once you have started, as you would risk the radiotherapy failing unless the full course is completed. If you have agreed to take part in a study, you will also be asked to sign a consent form specific to that study.

As the treatment area is likely to be near, or include some part of one kidney, it will be important to check how well your kidneys are working before your treatment is planned and started. This

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involves a blood test and a scan (DMSA scan), which is carried out in the nuclear medicine department at either The Royal Marsden or The Royal Brompton Hospital.

You may also need to have an MRI scan. This type of imaging will give a detailed picture of your upper abdomen, which can give us additional useful information.

Planning your radiotherapy treatment (pre-treatment)

Before starting the radiotherapy, we will need to carry out a CT scan while you lie in the treatment position, so that we can design the radiotherapy according to your individual needs. Please see The Royal Marsden factsheet *Having a CT scan for radiotherapy planning* for further information and to check what time you need to arrive before your scheduled appointment. Once you arrive, we can explain about the scan and make any other preparations needed.

The treatment will be planned specifically for you, to make sure that the cancer is accurately targeted with the least amount of normal tissues included. This planning can sometimes take up to four weeks to complete and involves physicists, radiographers and doctors. Your treatment start date will be scheduled to fit with your chemotherapy schedule, or if chemotherapy is not included, it will be the earliest time that we can safely have the planning completed.

The CT planning session will usually take about 30 minutes. After your planning session, we will confirm a time and date to start the radiotherapy treatment.

Radiotherapy treatment

You will need to report to the receptionist in the Radiotherapy Department every day when you arrive. The receptionist will let the radiographers working on your machine know that you have arrived. On your first visit, the radiographers will set aside some time to talk you through the treatment and answer any extra questions you may have, so please arrive 20 minutes before your treatment time on that day.

You will receive your radiotherapy treatment every day, Monday to Friday. A course of treatment usually lasts about three to five weeks. Treatment is not usually given on bank holidays, although sometimes special arrangements are made.

At each visit, the radiographers will position you on the treatment couch as you were for the planning scan. The radiographers will explain what they need to do or ask you to make small movements so that the marks that were put on your skin during the planning stage line up with laser lights in the treatment room. When they are happy with the position, the staff will leave the room to deliver the treatment.

The radiographers can see and hear you at all times when you are in the treatment room. If you have any problems, they will advise you to call out or raise your hand for attention and they will come in to help you. Some treatment machines have background music playing to help you feel more comfortable. The radiotherapy machine will move around you in different positions, but it will not touch you and although you can hear a buzzing noise when the treatment is being delivered, you will not be able to feel anything happening.

Please see our policy on monitoring in radiotherapy in The Royal Marsden booklet *Radiotherapy; your questions answered.*

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Care during your course of treatment

The radiographers who you see each day can give you advice if you have any problems. They can also contact someone from the radiotherapy team who can come and see you for specialist advice. Other members of the team include the clinical nurse specialists for gastro-intestinal (GI) tumours, dietitians and the radiotherapy nurses. Each week we will test your blood and weigh you. We will see you in the clinic to discuss how you are managing your treatment and address any side effects which you may be having.

If your blood count shows that you have too few red blood cells (anaemia) then you may need a blood transfusion. This will usually take place during the day, and you will not need to stay overnight. If you are losing weight, you may need to see a dietitian who will advise you about appropriate supplements.

Research has shown that radiotherapy is less effective if you smoke. Smoking will also increase the side effects of radiotherapy. Please ask if you want help to give up smoking during your treatment.

Side effects

Side effects can occur during the treatment or can appear several months and years after the treatment.

Early side effects

- **Fatigue** (tiredness) - is common and can often be made worse by having to travel to hospital each day. The tiredness will slowly improve after your treatment has finished, however scheduled surgery or continued chemotherapy and general worries you have may contribute to your need for extra rest.
- **Skin reaction -** the skin in the treatment area may become pink or, if you have more pigmented skin, it will become darker. Skin dryness is common. You can use a light moisturiser on the skin in the treatment area. Avoid using thick creams and those with a high content of paraffin or petroleum jelly.
- **Loss of appetite, nausea, vomiting, indigestion, weight loss, a sensation of fullness in the abdomen or diarrhoea** – your stomach and small bowel may become inflamed during the course of radiotherapy. This can cause any of these symptoms, most of which can be controlled with medicines, and all should settle within a few weeks of finishing treatment. We will prescribe some anti-sickness medication to take before each radiotherapy treatment.
- **Fertility** – this treatment is unlikely to make you infertile, so you are strongly advised to use a reliable form of contraceptive. If you or your partner becomes pregnant during or shortly after radiotherapy, there may be a possibility of damage to the baby.

Late side effects (after three months)

These depend on which organs are close to the area being treated and can occur despite our efforts to minimise the radiation dose that they receive. Your doctor will discuss with you which side affects you may experience.

- **Pancreas** – you may not absorb fat (from digested food) from your bowel, and this can cause loose bowel motions. This is treated by medication that helps you to absorb food normally. Also, your pancreas may not produce enough insulin, the hormone responsible for lowering

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your blood sugar level, so you may have to cut down carbohydrates and sugars from your diet or take tablets to lower your blood sugar.

- **Kidney** – it is uncommon for a kidney to be affected, as your doctors will ensure that the dose to the kidneys is as low as possible.
- **Liver** – it is not common to experience problems with your liver because it is able to regenerate if small areas are damaged. If the cancer we are treating is in the liver, there is a risk of liver injury. This is called radiation induced liver disease which can result in swelling of the abdomen (due to fluid gathering), an enlarged liver and changes in blood test results. This may occur two weeks to three months following irradiation. Sometimes fluid has to be drained to reduce discomfort, but in most cases, this can be managed with medication alone.
- **Small bowel (duodenum)** – this may become scarred following treatment. This can lead to long-term change in bowel habit – either constipation or diarrhoea. If this were to happen, surgery may be necessary.
- **Stomach** – occasionally the stomach can develop an ulcer (peptic ulcer) and there is a risk that an ulcer may perforate (tear).
- **Spinal cord** – this can be affected and this may cause shooting 'electric like' pain, although this is extremely unusual.

Remember these are possible side effects, and you may not experience any of them.

Follow up after your treatment

We will see you in clinic four weeks after the end of your treatment. We will then see you at three, six, nine, 12, 18 and 24 months; and then yearly. We will organise a CT scan for three months after your treatment is finished.

Contact details

Please make sure you ask any questions you need to and that you feel comfortable with what you have been told. If you would like any explanation repeated the radiotherapy team is happy to do this – there is a great deal to take in during one session.

If you have any questions or concerns about this treatment, you can contact the switchboard: 020 7352 8171 and ask for your consultant's secretary (Monday to Friday, 9am–5pm).

Your consultant is_____

We can arrange for one of the team to speak with you.
If you need to change your radiotherapy appointments, please contact either:
The Sutton Radiotherapy Bookings team: 020 8915 6018 (Monday to Friday, 9am – 5pm)
The Chelsea Radiotherapy Bookings team: 0207 811 8172 (Monday to Friday, 9am – 5pm)

Alternatively, please call:

The Royal Marsden Hotline: 020 8915 6899

(available 24 hours a day, 7 days a week).

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