

Total body irradiation

This information booklet is about total body irradiation. If you have any questions, or would like more advice, please ask a member of your treatment team. The team consists of radiographers, doctors and nurses who will help and support you throughout your treatment.

Radiotherapy

Radiotherapy is the use of radiation (high energy x-rays or similar rays) to prepare your body for a bone marrow transplant. Harvested or donated bone marrow or stem cells are used for the transplant. Radiation is used to treat the whole of the body. This is called total body irradiation (TBI).

First visit and consent form

Approximately two weeks before treatment, you will visit the radiotherapy department at the Cancer Centre at Guy's, where you will meet a consultant oncologist (cancer specialist) and a radiographer.

The radiographer will explain how the treatment is set up and given, and the possible side effects. To plan your treatment, we will take some measurements of your waist and hips. If you would like to see a treatment machine, please ask the radiographer.

The consultant will make sure that you understand the treatment and the possible side effects. You will be asked to sign a consent form to confirm that you agree to have treatment. You will be able to ask questions and if you feel that you need more information, please ask before you sign the form.

Before treatment

Please remove all make up, nail varnish and jewellery. For your treatment you will need to remove all clothing except your underwear. Women should not wear an underwired bra – a cropped top or vest without any metal fastenings should be worn instead.

Your course of treatment

Treatment is given in the radiotherapy department at the Cancer Centre at Guy's.

If you are having eight or six treatments, then this will start either on a Monday or Tuesday morning. You will be given radiotherapy twice a day – once early in the morning and then again late in the afternoon. You will need to be admitted to a ward at Guy's Hospital the day before and stay in hospital during your TBI treatment.

If you are receiving your transplant from cord blood you will only have one treatment on any day of the week.

Treatment

If you have any questions about your treatment please ask the radiographers when they ask you to verbally confirm your consent to radiotherapy.

After you have undressed, the radiographers will help you on to the trolley and into the treatment position. Small measuring devices (TLDs) will be taped at various points on your body. You will have some TLDs on you for each treatment but the amount and number will vary each time.

Bags of Vaseline (known as a bolus) will be put between your legs, under your knees, around your neck and across your chest. This helps to ensure an even dose of radiation throughout your body.

A large perspex screen will then be put beside you. A square piece of lead will be positioned on this screen to make sure that your head receives an even dose of radiation.

The radiographers leave the room during the treatment, but will be watching you via closed circuit television. You may hear some noises from the machine, but you will not feel anything. If you need assistance wave your hand and the radiographers can switch off the machine and return to the room.

After the first part of your treatment, the radiographers will return to the room and rotate you and the trolley around to treat your opposite side. Each side takes between seven and 14 minutes to treat and you will have both sides treated each time. You will be in the treatment room for up to one hour.

It is important that you keep as still as possible during your treatment, and continue to breathe normally. If you do move during treatment, the radiographers will come back into the treatment room to move you back into position.

There is a CD/ MP3 player in the treatment room, and a selection of music. If you have some music that you would like to listen to, please bring it with you.

General advice during radiotherapy

Washing

It is important to keep the treatment area clean. Shower/bath using lukewarm water and use your usual soap or shower gel. Aqueous cream may be used as a soap substitute but not as a leave-on moisturiser. Use a soft towel to gently pat the skin dry – do not rub.

Moisturising

Moisturising in the treatment area will help your skin to cope better. You may continue to use your usual moisturiser or if you need to buy one, we recommend one without the additive, sodium lauryl sulphate (SLS). Start moisturising your skin two days before your treatment starts. During treatment; apply the moisturiser sparingly twice a day or more often if your skin is very itchy.

Fluid intake

Try to drink plenty of fluids as you can become dehydrated (six to eight cups a day).

Side effects of radiotherapy

You may not experience all of these side effects. If you do not, this does not mean the radiotherapy is not working. People react individually to the treatment.

Short-term side effects

Nausea and vomiting

Anti-sickness drugs will be given to you before treatment. However, if you do vomit or feel sick, tell the ward staff and they can increase your medication.

Diarrhoea

If you have diarrhoea, inform the staff on the ward and they can give you some medication. Drink plenty of fluids to prevent dehydration (six to eight cups a day).

Skin reaction

This is when your skin becomes dry and red. A skin reaction may occur seven to 10 days after radiotherapy has finished. Look after your skin and always use sun block during the summer months (April – October).

Hair loss (alopecia)

It is likely you will lose the hair on your head and possibly body. Hair loss occurs about 10 to 14 days after your radiotherapy ends. Your hair should re-grow in a few months.

Mucositis

This is inflammation of the inside of the mouth, tongue and throat. Good mouth care during and after the treatment will help to reduce this. Change to a soft food diet, and use a gentle toothbrush and mouthwash. Do not eat spicy food and let hot food and drinks cool down before you eat or drink them.

Parotitis

This is an inflammation of the parotid salivary glands, which are in the cheeks just in front of the ears. This inflammation can last a couple of days and cause some stiffness in the jaw. Nurses on the ward can give you medication to relieve the symptoms. This is an uncommon side effect. These glands produce saliva to keep your mouth lubricated. After TBI treatment the glands will not work for a period of days or weeks. It is important that you drink plenty of fluids regularly, especially when eating. This will help prevent your mouth from becoming too dry and uncomfortable.

Long-term side effects

Cataracts

A cataract is when the lens of the eye becomes white. It causes blurred vision and eventual blindness. It is a common condition in older people due to the natural ageing process. TBI treatment speeds up the ageing process of the lens of the eye.

There is a high risk of developing cataracts about two years (or longer) after treatment. If cataracts develop, the lens of the eye can be replaced in day surgery.

Pneumonitis

This is inflammation of the lungs, which can cause breathlessness and a dry cough. Symptoms usually appear about one month after your treatment is complete and usually last for about two months.

Hypothyroidism

Some patients may have decreased thyroid hormone levels after treatment. This can be diagnosed with a blood test and corrected with oral medication.

Early menopause

If you are a pre-menopausal woman, you may experience early menopause due to the combination of chemotherapy and radiotherapy. You may experience symptoms such as hot flushes, dry skin and dryness of the vagina. This can happen a few months after treatment has been completed; if necessary you can be referred to a specialist.

Infertility and pregnancy

The combination of chemotherapy and radiotherapy can make you infertile. However, do not rely on this as a suitable method of contraception. Continue to use your usual contraception.

You may have had sperm banking or egg/embryo preservation before starting chemotherapy. However, it is advisable not to consider trying for a baby for at least one year after you have completed treatment or until your doctor advises you that it is safe to do so.

Liver and kidney damage

The combination of chemotherapy, radiotherapy and transplant may cause this, however it is not common.

Secondary malignancy

The combination of chemotherapy and radiotherapy treatment will increase the risk of developing another cancer in the future.

After radiotherapy is complete

Once you have completed your course of radiotherapy, you will begin your next stage of treatment at King's College Hospital.

Follow-up

You will be reviewed regularly after your transplant and monitored for long-term side effects.

Coping with treatment

Many people feel unable to cope with what is happening to them and feel anxious or depressed. It can be helpful to know that most people find these feelings ease with time.

Discuss your concerns with any of the staff that are involved in your treatment, as well as your family and friends. You may find that you are asking yourself lots of questions. Talking to other people can help you to find the answers.

Further support

There is a monthly support group for people who have had a stem cell transplant and their carers. **For more information please contact Dimbleby Cancer Care (contact details are on page 5).**

Macmillan Information & Support Centre

Cicely Saunders Institute

Kings College Hospital

Denmark Hill

London SE5 9RS

t: 020 3299 5229

Leukaemia Care

w: www.leukaemiacare.org.uk

t: 080 88 010 444 (freephone)

Lymphoma Association

w: www.lymphomas.org.uk

t: 0808 808 5555 (freephone)

Bloodwise

w: www.bloodwise.org.uk

t: 0808 2080 888

Macmillan Cancer Support

t: 0808 808 0000

w: www.macmillan.org.uk

Contact us

If you have any questions, please call the radiotherapy reception on **020 7188 7188** (enter **extension 57542 or 57569**)

Guy's and St Thomas' hospitals offer a range of cancer-related information leaflets for patients and carers, available at www.guysandstthomas.nhs.uk/cancer-leaflets. For information leaflets on other conditions, procedures, treatments and services offered at our hospitals, please visit www.guysandstthomas.nhs.uk/leaflets



Dimbleby Cancer Care provides cancer support services for Guy's and St Thomas'. We have a drop-in information area staffed by specialist nurses and offer complementary therapies, psychological support and benefits advice for patients and carers.

Dimbleby Cancer Care is located in the Welcome Village of the Cancer Centre at Guy's. **t:** 020 7188 5918 **e:** DimblebyCancerCare@gstt.nhs.uk

Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the clinical nurse specialist or other member of staff caring for you or call our helpline.

t: 020 7188 8748 9am to 5pm, Monday to Friday

Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

t: 020 7188 8801 (PALS) **e:** pals@gstt.nhs.uk

t: 020 7188 3514 (complaints) **e:** complaints2@gstt.nhs.uk

Language and Accessible Support Services

If you need an interpreter or information about your care in a different language or format, please get in touch:

t: 020 7188 8815 **e:** languagesupport@gstt.nhs.uk

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

Get involved and have your say: become a member of the Trust

Members of Guy's and St Thomas' NHS Foundation Trust contribute to the organisation on a voluntary basis. We count on them for feedback, local knowledge and support. Membership is free and it is up to you how much you get involved. To find out more, and to become a member:

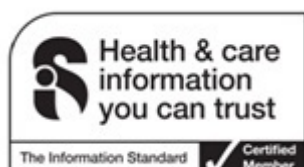
t: 0800 731 0319 **e:** members@gstt.nhs.uk **w:** www.guysandstthomas.nhs.uk/membership

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