

Radium 223 (Ra²²³) for the treatment of bone metastases from prostate cancer

Information for patients
and relatives

Nuclear Medicine contact details:

Tel: **0118 322 7355**

Email: **rbb-tr.physics@nhs.net**

This leaflet explains what happens when you have been referred for Radium 223 treatment – an effective treatment for bone pain in patients with bone metastases from prostate cancer. It outlines treatment, possible side effects and aftercare advice.

You have been referred to the Nuclear Medicine Department at the Royal Berkshire NHS Foundation Trust for treatment of your bone metastases with a radioactive substance called Radium 223. Once you have decided to go ahead, a member of the team will ring you to discuss the treatment with you.

What is Radium 223?

Some men with prostate cancer may develop bone metastases (when the cancer spreads to bones), which can become painful. If the treatment that has been used to control your disease so far becomes less effective, your doctor may decide to treat you with Radium 223 which is a radioactive therapy. Radium 223 is in liquid form and is injected into the bloodstream where it behaves like the calcium in your body and is absorbed by the bones where it delivers radiation directly to the affected areas and should help to give relief from pain.

Treatment schedule

Treatment is given as an outpatient, with appointments taking around 30-60 minutes. Treatment is given every 4 weeks and, depending on how you tolerate and respond to the Radium 223, a maximum of 6 treatments will be given. You will need a blood test in between treatments to make sure it is safe for you to have your next one.

On the day of treatment

You may bring a relative or friend with you to the treatment appointments. On arrival at the Nuclear Medicine Department, you will be seen by a member of the team and you will be weighed. After checking that you are happy to proceed with treatment, a cannula (small plastic tube) will be placed in the back of your hand and the treatment will be given to you by a slow injection (around 5 minutes). The cannula will be removed from your hand before you leave. You can leave the hospital straight after the injection has been given.

You will be given a yellow card to carry at all times for 1 week after treatment. The card contains information about your treatment and our contact details, should you need to contact us.

What are the side effects of Radium 223?

- Radium 223 can cause diarrhoea, nausea and vomiting, but these are usually mild. **However, if you notice black, tarry stools, or blood in your stools, you should tell your GP straight away.**
- This treatment can sometimes affect your blood cells, which may lead to symptoms such as fatigue, unusual bruising, or more bleeding than usual after an injury. You may have an increased risk of infection, so try to avoid crowds or close contact with people who are unwell. **You must report a temperature of 38°C or higher immediately** to the Chemotherapy Unit on telephone number 0118 322 7464 or Nuclear Medicine on 0118 322 7355.
- In rare cases, Radium 223 can cause bone pain to worsen at 24 to 36 hours following the injection. This can last for about 36 to 48 hours. It is important that you increase your painkillers to cover this period, if required. Your pain should then improve, but it is important that you reduce your painkillers carefully.
- An injection site reaction (e.g. reddening, pain and swelling). If this should occur, **you should tell the Nuclear Medicine department straight away.**

- Although an uncommon side effect, you may experience pain, swelling, numbness of the jaw, a 'heavy jaw feeling', or loosening of a tooth (osteonecrosis of the jaw). You are more likely to experience this if you have received bisphosphonate (bone strengthening medication) treatment in the past.

The treatment will have no effect on your ability to drive or to use machinery. You can eat normally. Please drink plenty of fluids for 48 hours after the injection.

Are there any radiation protection restrictions?

Radium 223 is absorbed into the bones and emits radiation as it decays. During the first week after treatment, there will be some radioactivity in your body fluids, particularly your urine and stools, so there are a few precautions that we would like you to follow for 1 week following treatment:

- There are no restrictions on normal contact with other people immediately after treatment.
- When passing urine, we would like you to sit on the toilet rather than using a urinal, and flush the toilet twice. Always wash your hands very thoroughly with warm water and soap.
- If any body fluids need to be handled, particularly urine or stools, please use medical gloves (we can provide these if necessary) to clean up, using tissues, and flush the tissues away.
- Immediately wash any stained or soiled bedding or clothes separately from other items, and rinse them thoroughly.
- Avoid having any tests or samples taken of your stools for the first week after treatment, unless considered necessary. Contact the unit for advice if necessary.
- If you use a urinary catheter, please let the nurse know **before** you attend for treatment, as they will give you further advice about this.
- If you are sexually active, please use a condom for the first week after each injection even if you or your partner also use other contraception, as small amounts of radioactivity may be present in

bodily fluids. You should also avoid conceiving a child for 6 months after treatment.

- Get plenty of rest and eat well.
- We will give you a yellow card to carry for 1 week after each treatment, detailing the treatment that you have received. You should show this card to any medical staff you have contact with, so that they know that you have received treatment with radioactivity.
- In the unlikely event that you die within 4 weeks of treatment, there may need to be a delay before your body can undergo a post-mortem examination or be cremated, due to residual levels of radioactivity. In some cases this delay might need to be as long as 3-4 weeks. It is important that your family are aware of this so that they can share this information with the people caring for your body.

Contacting us

If you have any queries, please contact Nuclear Medicine on 0118 322 7355. If no one is available, please leave a message and we will return your call as soon as we can. Alternatively, you can email us at rbb-tr.physics@nhs.net

If you need help out-of-hours, please call the 24/7 helpline 0118 322 7762.

Further information

- www.macmillan.org.uk <https://www.macmillan.org.uk/information-and-support/treating/radiotherapy/internal-radiotherapy-explained/radioisotopes.html#14162>
- www.cancerresearchuk.org
<http://www.cancerresearchuk.org/about-cancer/cancer-in-general/treatment/radiotherapy/internal/radioactive-liquid-treatment/radium-223>
- www.prostatecanceruk.org <https://prostatecanceruk.org/prostate-information/treatments/new-treatments#what-is-radium-223>

Your appointments

Radium treatment	Blood test	Clinic appointment	Treatment date
Cycle 1			
Cycle 2			
Cycle 3			
Cycle 4			
Cycle 5			
Cycle 6			

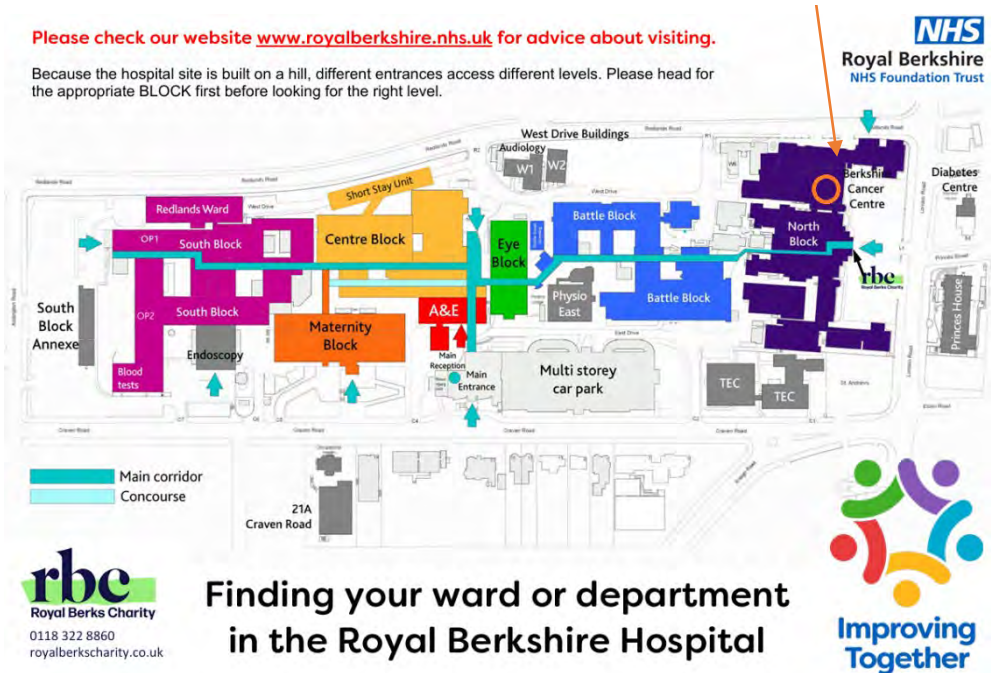
Where to find us

The Nuclear Medicine Department is located in North Block, Level 1.
We are next to the Berkshire Cancer Centre.
The nearest car park is: London Road car park

Nuclear Medicine

Please check our website www.royalberkshire.nhs.uk for advice about visiting.

Because the hospital site is built on a hill, different entrances access different levels. Please head for the appropriate BLOCK first before looking for the right level.



Patient, Friends & Family Feedback

We value your feedback. Please scan the below QR code to let the team know your thoughts about your care.



To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

RBFT Nuclear Medicine, July 2026

Next review due: July 2028