

Radiotherapy department

# Information for bladder cancer patients receiving carbogen and nicotinamide

This information sheet is to tell you about a treatment you will be having as part of your bladder cancer treatment.

You have cancer in the bladder which requires a course of radiotherapy. We know from experience that in some patients radiotherapy alone does not completely remove the cancer. Cancer cells which have low levels of oxygen are less sensitive to radiation than those with normal or high levels of oxygen. As a result, our current standard radiotherapy treatment involves measures that help to increase the levels of oxygen in the tumour. This treatment is made up of two components:

1. Carbogen - this is a gas made up of 98% oxygen and 2% carbon dioxide which is given through a breathing mask while you are lying on the radiotherapy couch receiving treatment. For patients who feel uncomfortable wearing a mask they are able to receive the gas through a mouth piece. The mixture of gases (carbogen) is usually managed well with few recognised side effects. Other than the mild discomfort of wearing a mask, some patients feel a little short of breath which lasts for a few minutes. With practice and experience most patients overcome this and no longer notice any side effects after a few treatments.

2. Nicotinamide tablets (also known as Niacinamide or nicotinic acid) - this is a vitamin which helps increase blood flow in the tumour. The tablets will need to be taken 1½ - 2 hours before the radiotherapy treatment. Nicotinamide has a few side effects associated with it. The most common side effects are nausea and less commonly headaches, dizziness and flushing. These effects may be reduced by taking the tablets with food. If you suffer from any of these side effects please let us know, we may suggest either reducing the dose or stopping the tablets. However, if you have no problems you will be asked to take the tablets before each radiotherapy treatment throughout the course of your treatment. The tablets only need to be taken on days when you receive treatment usually this is Mondays to Fridays and not at weekends.

Both nicotinamide and carbogen have been used widely across the world during the development of this form of treatment

The main side effects of having radiotherapy to the bladder are discomfort in your bowels, loosening of bowel motions, an increased frequency and urgency of urination, stinging during urination and fatigue. You will be asked to empty your bladder before treatment each day.



During your treatment you will be seen weekly by your clinical team (doctor, specialist radiographer or nurse clinician) to assess for any side effects of the treatment. The radiographers on the treatment machines will also perform routine checks daily and ask about any issues you may have and ensure you are managing to take the tablets every day.

For more information about the radiotherapy treatment, please refer to the 'Radiotherapy to the bladder' booklet which should be given to you prior to consenting to the treatment. This can also be accessed at [www.christie.nhs.uk](http://www.christie.nhs.uk) or via the information centres at The Christie in Withington, Oldham or Salford.

You can also contact your team on the following numbers;

Urology specialist radiographer  
Hannah Nightingale - **0161 918 2096**

Nurse clinicians  
Jeanette Lyons and Kamlesh Patel - **0161 446 8594**

Review team at The Christie at Oldham - **0161 918 7700**

Review team at The Christie at Salford - **0161 918 7811**

For queries about symptoms or side effects out of hours  
The Christie Hotline - **0161 446 3658** (24 hours a day, 7 days a week)

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard. If you would like to have details about the sources used please contact [\*\*patient.information@christie.nhs.uk\*\*](mailto:patient.information@christie.nhs.uk)

For information and advice visit the cancer information centres at Withington, Oldham or Salford. Opening times can vary, please check before making a special journey.



Contact The Christie Hotline for  
urgent support and specialist advice  
**The Christie Hotline: 0161 446 3658**  
Open 24 hours a day, 7 days a week