BCG

BCG is a vaccine treatment for bladder cancer. The vaccine is Bacillus Calmette-Guérin (BCG), which is used as a vaccine against TB.

BCG is used to treat high risk non-muscle invasive bladder cancer, that is cancer which has not yet spread into the muscle coat of the bladder. It has been shown to reduce the risk of this kind of cancer recurring and progressing.

Treatment summary

- BCG treatment usually takes place after TURBT - surgery to remove the tumour from your bladder.
- We usually start the treatment three to six weeks after this surgery.
- This is an outpatient treatment. You will need to come to clinic 4a once a week for six weeks for your treatment, but will not need to stay in hospital.
- This initial six week treatment is called 'induction treatment'.
- Following your induction treatment, you will have a further cystoscopy to check that the bladder is clear of cancer.
- About 70 - 80% of patients become clear of cancer after their induction BCG treatment.
- If the bladder is clear after induction BCG, we usually recommend further doses of BCG, so-called maintenance treatment.
- This maintenance treatment usually lasts for up to three years, and consists of sets of three weekly treatments at 3 months, 6 months and then 6 monthly for a total of eight sets of three doses of BCG.
- Depending on your personal circumstances, this may help prevent the cancer from returning.
Preparing for treatment

Before you have BCG treatment, you should let your doctor know if you have:

- an artificial heart valve
- a coronary artery stent
- a heart pacemaker or defibrillator
- an artificial joint
- an artificial blood vessel graft
- a neurosurgical shunt
- any other implanted foreign body
- a prescription for Warfarin, Aspirin or Clopidogrel (Plavix®)
- a previous or current MRSA infection
- high risk of variant CJD (if you have received a corneal transplant, a neurosurgical dural transplant or previous injections of human-derived growth hormone)

There is also some evidence that BCG can interact with flu vaccine. For this reason, we ask that you do not have a flu vaccination for 6 weeks after having BCG treatment, and vice versa.
Undergoing treatment

Each BCG treatment will begin with one of our specialist nurses inserting a catheter into your bladder. We will use this to pass around half a cup of liquid BCG into your bladder. We will usually remove the catheter immediately afterwards. The vaccine then needs to remain in your bladder to work.

You will need to try to hold your urine and not go to pass urine for two hours after each treatment, if possible.

When you have your first treatment, we will ask you to stay in clinic for two hours and empty your bladder in the clinic before you go home.

After the following appointments, you may not need to wait in clinic after the treatment. Particularly if you live close to the hospital and have your own transport, we are often happy for you to go home. However you will still need to try to wait for two hours before emptying your bladder.

Precautions

BCG vaccine contains live bacteria, so you will need to take the following precautions:

- be very careful not to get urine on your hands for six hours after the treatment
- if you are a man, sit down when you pass urine, for the first time after treatment, so that there is less chance of splashing urine containing bacteria
- wash your hands and the area around where your water pipe (urethra) opens out thoroughly after passing urine - you may find it helpful to bring a wash bag into hospital with you for your first appointment so that you can have a wash before you go home
- after you have passed urine, pour about half a pint of neat bleach into the bowl and leave it for 15 minute before flushing - this will prevent live bacteria being flushed into the sewer system
- drink plenty of water for the few days after the treatment
- if you have pain when passing urine, a glass of cranberry juice may help to ease this - please don’t drink cranberry juice if you are taking Warfarin as it may affect the safety of the drug
- we recommend that you avoid sex for at least 24 hours after treatment as it can cause discomfort
- for the duration of your treatment, and for one week afterwards, a condom should be used if you have sex, to reduce the very small risk of passing BCG bacteria to your partner

We will discuss all of this with you in clinic before your first treatment. Please feel free to ask
us if you have any questions or concerns.
Side effects

Most people will have some side effects after BCG treatment, but these tend to become less noticeable over a few days after each dose of BCG. As the vaccine is put directly into your bladder rather than your bloodstream, the more severe side effects that may be associated with chemotherapy treatments for cancer are unlikely.

Common side effects

Between 50 - 80% of patients who have BCG treatment develop one of these side effects:

- urinary tract infections
- bladder discomfort
- flu-like symptoms which can last for two to three days
- an urgent and more frequent need to pass urine, which can last for two to three days
- blood in the urine

Drinking plenty of water and taking simple painkillers, such as paracetamol, may help. Please let your doctor or specialist nurse know if you have any particular problems as they can discuss additional treatments.

Occasional side effects

- a high temperature
- pain in the joints, or other parts of the body - these may be caused by an inflammatory reaction elsewhere in the body (eg, the liver and joints), likely to result from the immune reaction that BCG vaccine produces

Please contact your specialist nurse or your GP straight away if you develop such symptoms.

Rare side effects

There is a very small chance (less than 1 in 200) that a generalised infection with the BCG bacteria could develop. If this does happen, it can produce the following symptoms:

- fever and chills
- joint pain
- feeling sick or vomiting
- cough
- skin rash
- feeling extremely tired
- high temperature for more than 48 hours

This is very rare, and happens in less than 1% of all patients. If you get any of these symptoms during BCG treatment, you should contact your doctor straight away and make sure that the s/he knows that you are having BCG treatment.
Success rates - BCG

The chance that BCG treatment will be successful for you depends on which type, grade and stage of cancer you have had. When we discuss treatment options with you, we will take this into account, when considering BCG.

The success rate of BCG depends on

- the kind of cancer present
- whether there was carcinoma in situ, either on its own, or along with another tumour

BCG alone will result in cure in

- around 40 to 50 out of 100 patients with any single form of high risk non-muscle invasive bladder cancer
- around 20 to 30 out of 100 patients with any form of high risk non-muscle invasive bladder cancer
- around 20 to 30 out of 100 patients with carcinoma in situ

If your cancer recurs or progresses despite treatment with BCG, you will be reassessed, in collaboration with the specialist MDT, to see whether the cancer is confined to your bladder:

- If the cancer is confined to the bladder, then surgery to remove the bladder should offer a chance of a cure
- If the cancer has spread into the muscle wall of the bladder, then you may also be offered chemotherapy or radiotherapy

Of all people treated with BCG, around 60 to 70 out of 100 will be cured with BCG, and with either surgery to remove the bladder, or radiotherapy.