

A Patient's Guide to
HIVEC™ Treatment



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1. Understanding Bladder Cancer

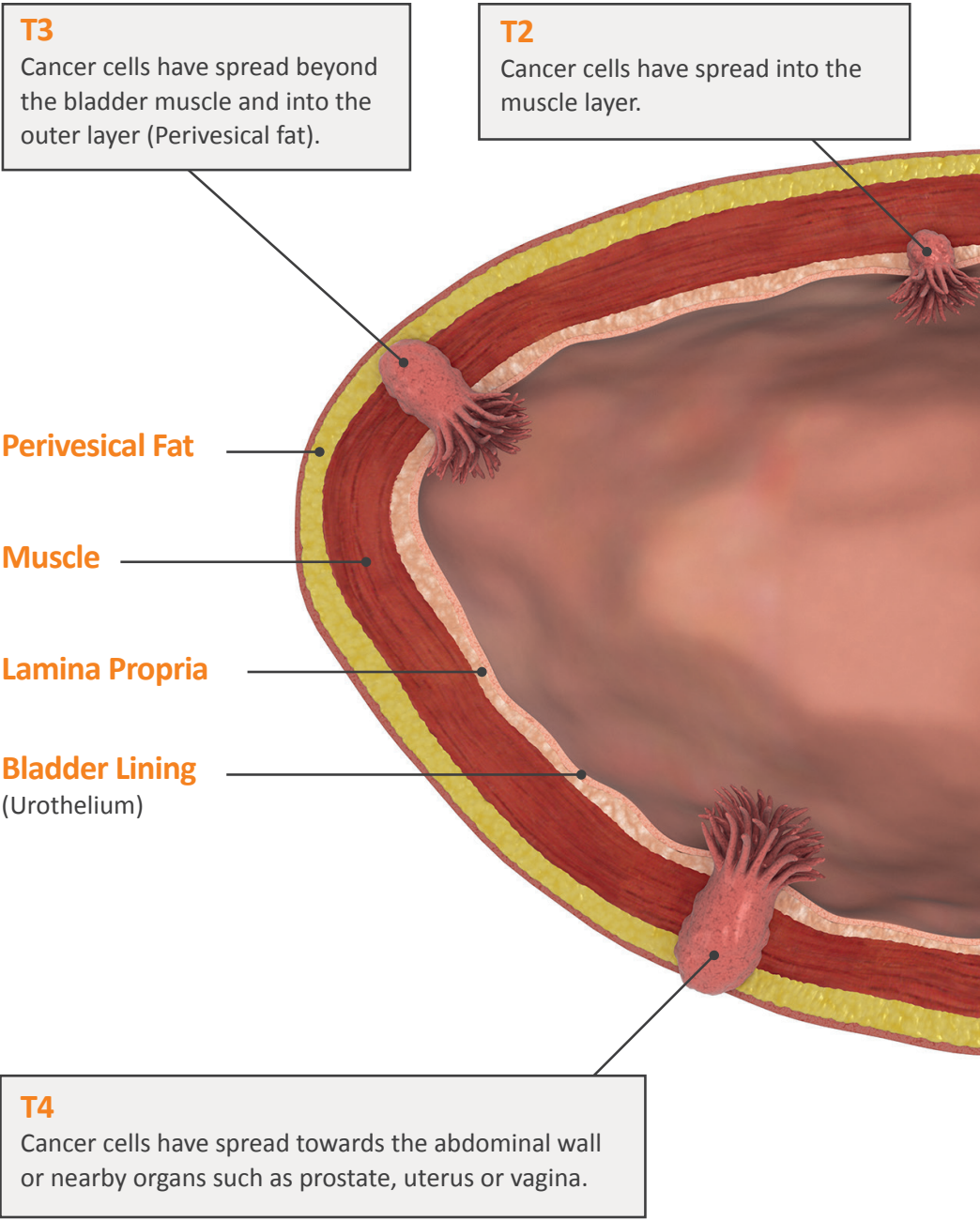
This leaflet has been produced to help explain the treatment that your Urologist has recommended to treat your bladder cancer.

You have been diagnosed with Non Muscle Invasive Bladder Cancer – NMIBC which means that you had one or several small tumours that were growing inside your bladder.

Your Urologist will have performed an operation called a TURBT (Trans Urethral Resection of Bladder Tumour) in which the tumour(s) were removed from your bladder. Although the visible tumour is removed during this operation, sometimes cancer cells that cannot be seen are left behind, if they are not treated then they have the potential to re-grow and form more tumours, this is called tumour recurrence.

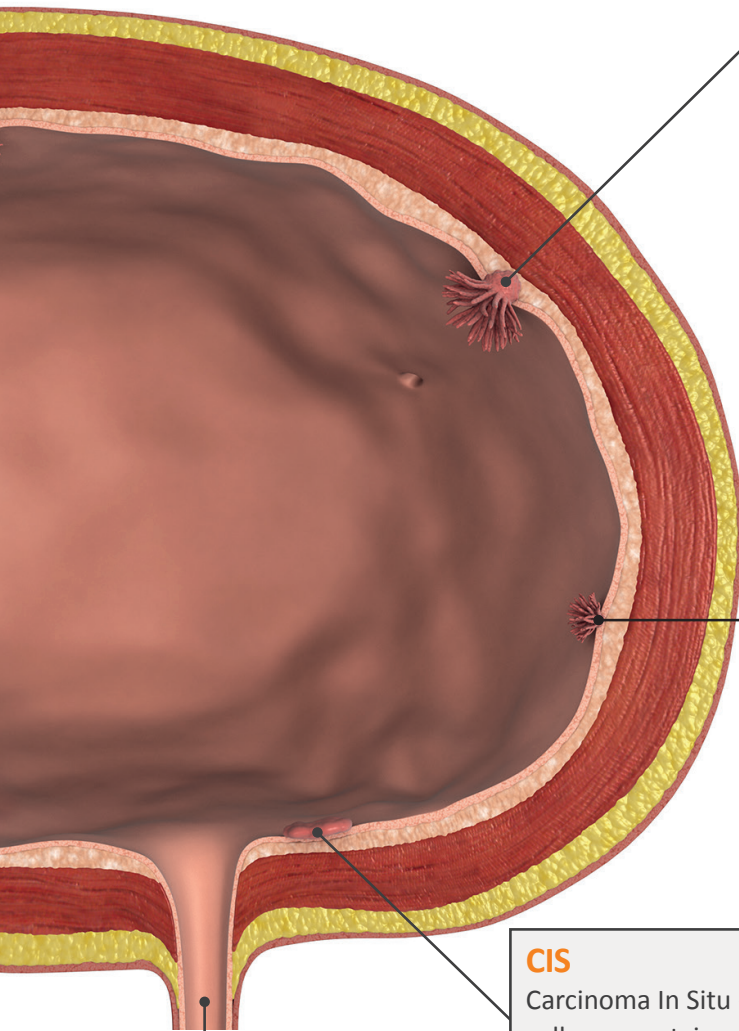
The following diagram shows the different tumour stages of bladder cancer. Your tumours are non muscle invasive and will be stage Ta, T1 or CIS which are illustrated on the right hand side of the diagram.

2. Tumour Stages - Cross sectional view of the bladder



T1

Cancer cells have penetrated the inner layer of the bladder (Lamina Propria) but not the muscle.



Ta

Cancer cells found on the inner surface of the bladder (Urothelium).

CIS

Carcinoma In Situ (flat tumour). Cancer cells are contained within the inner surface of the bladder but can grow quickly into deeper layers if not treated effectively.

Urethra

3. Bladder Cancer Treatment

To help stop bladder tumours from regrowing (recurring) your Urologist has recommended further treatment. Commonly this involves chemotherapy drugs that are given directly into the bladder (Intravesically). The most commonly used chemotherapy for the treatment of Non Muscle Invasive Bladder Cancer (NMIBC) is a drug called Mitomycin-C (although sometimes other chemotherapy drugs such as Epirubicin or Gemcitabine are used).

Mitomycin-C and other chemotherapy drugs work by killing cancer cells and therefore help prevent the tumours from recurring. Usually these are given just after you have had your operation to remove your bladder tumour(s) (TURBT) and then afterwards as a course of treatment that can last from 4-8 weeks and then monthly up to a year.

When chemotherapy is used to treat NMIBC it is given directly into your bladder via the urethra (the pipe which urine passes through when leaving the bladder). As the treatment is given into the bladder and NOT the bloodstream it does not cause the side effects that people often associate with chemotherapy such as hair loss and nausea (feeling sick).

Treatment is instilled into your bladder, through a small tube (called a catheter) that is passed through the urethra, where it is usually left for one hour. Chemotherapy is an effective treatment in reducing tumour recurrences. However, recent practice has shown that heating the chemotherapy drug while it is inside your bladder makes the treatment even more effective.

The process of combining chemotherapy drugs with heat is called thermo-chemotherapy. This leaflet aims to explain to you how this treatment is carried out and what to expect.

4. What is HIVEC Treatment?

HIVEC stands for **H**yperthermic **I**ntra-**V**esical **C**hemotherapy (thermo-chemotherapy for short) this means that a warm drug is placed inside your bladder. Recent evidence has shown that heating the chemotherapy drug when it is inside your bladder can help to increase its ability to kill cancer cells.

This is because the heat allows the chemotherapy drug to be more easily absorbed into the bladder lining, allowing for deeper penetration into the bladder wall.

The heat generated inside the bladder can also help to directly kill any remaining cancer cells, as well as

increasing your own body's natural immune response – which will also target the cancer cells and kill them.

5. How Does it Work?

HIVEC™ treatment requires the use of a small machine that is called The COMBAT BRS system. The system sits next to your treatment couch during your one-hour treatment and is connected to your catheter via a closed circuit of small tubes.

The Combat BRS system warms up the chemotherapy drug before it then enters your bladder through a special catheter. The chemotherapy drug is heated to a temperature of 43°C which is a similar temperature to that of a warm bath.



It is then gently re-circulated around your bladder and back through the system up to four times a minute. This is to make sure that the inside of your bladder is kept at a constant target temperature of 43°C and that the chemotherapy drug is well distributed so the whole area is treated.

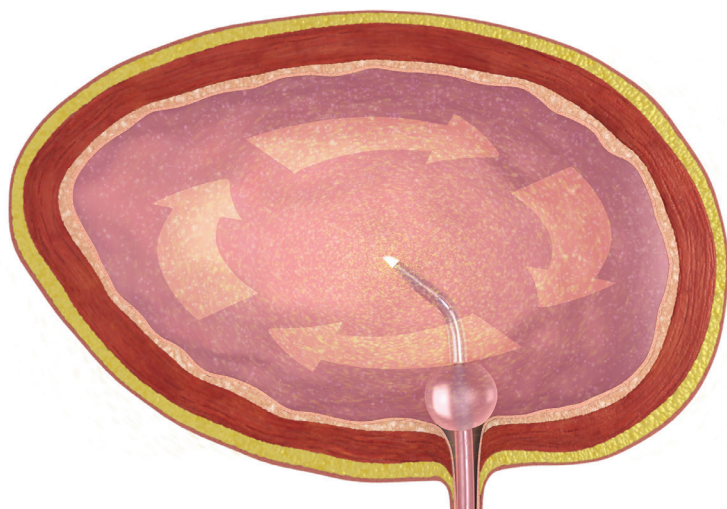
When the COMBAT BRS system is switched on it will gently start to pump the warm chemotherapy drug around your bladder. The normal temperature inside your bladder is around 37°C and the HIVEC treatment will only increase the temperature by a few degrees to 43°C.

Therefore you may or may not notice a sensation of warmth during this time, not everyone does.

Those patients who do report a feeling of warmth say that it is not uncomfortable, perhaps feeling like a warm bath or a warm hot water bottle placed on the abdomen.

All of the heated chemotherapy drug stays entirely within your bladder and the tubes connected to the system. After one hour the system will gently drain the chemotherapy drug out of your bladder through your catheter and into a special bag to dispose of safely.

The next section will help to explain how the treatment is carried out and what to expect.



6. Before Your Treatment

Your HIVEC™ treatment will be carried out as a day procedure which means that you will not need to stay in the hospital and can go home after your treatment has finished.

You will be asked **not to drink** any fluids for **4-6 hours before** your appointment. This is very important, as it will make you more comfortable during the treatment and reduces the amount of urine that your body produces so that the chemotherapy isn't diluted. It is okay to have a small drink such as half a cup of tea in the morning but nothing more than this. Your Urology Nurse Specialist will ask that you arrive for your appointment with a comfortably full bladder, so please avoid using the toilet when you arrive at the hospital.

Please remember to bring a urine sample with you; it is best if you do this first thing when you wake in the morning. This sample will be tested before treatment to make sure there is no infection.

If you suffer from constipation then you may wish to discuss this with your Nurse Specialist as it can sometimes make treatment more uncomfortable. It is important to tell your Urology Nurse Specialist before your treatment if you are taking diuretic medicines (water tablets) as you may be asked to take them at a different time on the day of your treatment.

If you feel unwell or are unable to attend your appointment for any reason then please contact the hospital and let them know as soon as possible.

7. At Your Appointment

A Urology Nurse Specialist will normally discuss with you what will happen before, during and after your treatment and you will be given the opportunity to ask any questions that you may have. When everything has been explained to you, you may be asked to sign a consent form to say you are happy for the treatment to go ahead.

Before your first treatment you may be asked about any previous illnesses, drug allergies, operations or medications that you are taking, so it's important to have this information ready with you at the time of your first appointment.

8. During Your Treatment

After making yourself comfortable on a treatment couch, the genital area will be cleaned with some antiseptic solution and an anaesthetic gel will be applied into your urethra before a catheter is passed through your urethra and into your bladder.

Once your catheter is in place it will be connected to the COMBAT BRS system and the chemotherapy drug will be slowly instilled into your bladder through the catheter. The system will then be switched on and will start to heat the drug and recirculate it around your bladder.

When the COMBAT BRS system is switched on during the first few minutes you may notice a

gentle warming sensation in your bladder area as the drug reaches its target temperature. You may at this time feel the urge to urinate, this is completely normal, and as you are catheterised you can relax and not worry about holding anything in.

The treatment will last for 60 minutes and during this time you will be asked to remain in a reclined position on a bed, you may like to take along a book, some magazines, crosswords or an electronic device to help you relax and pass the time.

After 60 minutes the COMBAT BRS system will make a bleeping sound to signal that the treatment is complete. At this time, the chemotherapy drug will be slowly drained out of your bladder before the catheter is gently removed.

Although your bladder is now completely empty, you may feel like you need to urinate again at this point, this is normal as it is just your bladder readjusting to having the catheter removed.

9. After Your Treatment

You will be able to go home after your treatment when you feel ready. You will then be booked in for your next appointments so that you can complete your course of HIVEC™ treatments. There is a section at the back of this booklet for you to record your appointments.

You will be advised to drink plenty of fluids (1-2 litres per day) in the first couple of days following your treatment and also to avoid caffeinated drinks such as coffee and cola. This helps to keep your urine diluted and makes recovery more comfortable. It also reduces the chances of developing a urinary tract infection.

Your urine may contain traces of chemotherapy for up to six hours following treatment, so it's important to take some precautions. It is recommended that both men and women sit down to use the toilet as this reduces the risk of spillage or splashing onto the skin. It is also recommended that you thoroughly

wash your hands and genital area with soap and water after going to the toilet, as this reduces the risk of skin irritation.

Sexually active patients should either refrain from intercourse or use a condom for 48 hours following each treatment.

Pregnant women should not receive chemotherapy. If you or your partner are planning to become pregnant then please consult your doctor.

Your doctor or nurse will advise on returning to work and resuming 'normal' activities.

10. Side Effects Explained

Like all medication, HIVEC™ treatment may cause side effects. The side effects will usually be related to the chemotherapy drug that has been used, which with HIVEC™ is most commonly Mitomycin-C.

Side effects usually start within three to four hours after treatment and last up to 24 hours. If you experience

severe pain during or immediately after your treatment then please tell your doctor or nurse.

Common side effects:

Some patients experience cystitis like symptoms such as pain or burning when passing urine. You may also notice some blood in your urine, don't worry as this is normal, but it is best to mention it to your Urology Nurse Specialist. Drinking plenty of fluids will help with these symptoms. If symptoms persist for longer than three days then you should contact your GP.

Very occasionally some patients may experience rashes on their hands, feet or genital area. Washing thoroughly with soap and water after passing urine will help to prevent this from happening but you should tell your Urology Nurse Specialist if you develop these symptoms.

On very rare occasions some patients may develop a body rash, please tell your doctor or nurse if you notice any type of rash on your body.

Tell your doctor or nurse straight away if you develop any of the following symptoms:

Severe abdominal (tummy) pain.
Problems passing urine or cannot pass urine at all.

If you develop any of the following symptoms then you must contact the hospital immediately:

Shortness of breath or difficulty breathing.
Facial swelling.

11. What Happens Next

After your course of treatment is completed, arrangements will be made for you to have a further cystoscopy to see how your treatment is working. If you have any concerns during this time you should contact your Urology Nurse Specialist.

12. Important Contacts

Urology Nurse Specialist

Name

Address

Phone

Urologist

Name

GP

Name

Address

Phone

13. Appointments

Date:.....

Time:.....

Date:.....

Time:.....

Date:.....

Time:.....

Date:.....

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Useful Contacts

Macmillan Cancer Support

www.macmillan.org.uk

Tel: 0808 808 00 00

Action on Bladder Cancer (ABC-UK)

www.actionbladdercancer.org

ABC is a UK based charity made up of healthcare professionals and patients who are dedicated purely to improving the lives of people with bladder cancer and raising awareness of the disease.

Fight Bladder Cancer

www.fightbladdercancer.co.uk

Fight Bladder Cancer is a UK based bladder cancer charity founded and run by bladder cancer survivors and their families.

The British Association of Urological Surgeons (BAUS)

www.baus.org.uk

BAUS is a registered charity which promotes the highest standards of practice in urology for the benefit of patients.

The British Association of Urological Nurses (BAUN)

www.baun.co.uk

BAUN is a registered charity which aims to promote and maintain the highest standards in the practice and development of urological nursing and urological patient care.



www.combat-medical.com



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