MEDICINE INFORMATION

Bacillus Calmette-Guérin (BCG)

Information for patients and caregivers about BCG (intravesical): treatment, monitoring, side effects and everyday care.

BCG at a glance

BCG is a treatment containing weakened live bacteria, placed directly into the bladder through a catheter. This route is called intravesical treatment. Products include TICE BCG and BCG-medac; their preparation and product-specific instructions differ. The bladder treatment is not interchangeable with the BCG vaccine used for tuberculosis prevention.

The main practical tasks are preparing for each instillation, holding the medicine for the prescribed time, following toilet precautions afterwards and reporting symptoms that may indicate infection. Most treatment is given as an outpatient, but serious complications need prompt assessment.

What is BCG, and how does it work?

BCG stimulates an immune response in the bladder lining. Immune cells are drawn to the area and can act against abnormal cells. It is a local immunotherapy rather than an ordinary chemotherapy drug. The bacteria are weakened, but they are still alive and must be handled carefully.

Local inflammation helps explain burning, frequency and discomfort after treatment. However, severe or prolonged symptoms must not be dismissed as proof that the treatment is working. Rarely, BCG can cause infection beyond the bladder, including a serious illness affecting several organs.

How your team decides whether it is suitable

The urology team checks the stage and other findings from your bladder biopsy or surgery. The uses below refer to products given into the bladder to treat selected non-muscle-invasive bladder cancers.

Because it is placed in the bladder, the team needs to assess the bladder lining, recent procedures, urine symptoms and whether the treatment can be retained safely. The pathology result and bladder examinations guide the plan. BCG is not suitable for every bladder condition, and a previous vaccination does not determine whether bladder treatment will be useful.

Approved uses by country

FDA (United States), EMA (European Union) and CDSCO (India).

Each treatment use is listed once. Eligibility can differ by country.

Approved by FDA, Ireland (BCG medac) and CDSCO

- **Bladder carcinoma in situ.** BCG is placed in the bladder to treat this flat cancer of the bladder lining and help prevent its return.

Ta or T1 papillary bladder cancer

- **US (FDA).** Ta or T1 papillary bladder cancer. TICE BCG is used after removal through a telescope passed into the bladder (TURBT), to reduce the chance that a new or returning tumour grows back.
- **Ireland (BCG medac).** Ta or T1 bladder cancer after removal. To help prevent recurrence of Ta grade 1 or 2 tumours that are multifocal or recurrent, Ta grade 3 tumours, and T1 tumours that have not reached the bladder muscle.
- **India (CDSCO).** Ta or T1 papillary bladder cancer. SII-ONCO-BCG is used after TURBT for a new or returning superficial papillary bladder tumour.

Before treatment starts

Tell the team about fever, urinary infection, visible blood in the urine, previous tuberculosis, immune-system disorders and medicines that suppress immunity. This includes systemic steroids and other cancer treatment. Intravesical BCG must not be used with significant immune suppression or active tuberculosis. BCG-medac also excludes patients with previous bladder radiotherapy or a perforated bladder; tell your team about either before treatment. Do not stop those medicines yourself; the treatment plan needs specialist review.

A urine sample may be checked before each treatment. Report burning or frequency that has not returned to your usual level, even if the urine looks clear. Recent bladder surgery, biopsy or traumatic catheterisation can leave a route for bacteria to enter the bloodstream. Treatment waits until the lining has healed and the team considers it safe. TICE BCG specifies an interval of 7-14 days after relevant procedures, while BCG-medac specifies at least 2-3 weeks. The bladder lining must also have healed; a calendar date alone is not enough.

You may be asked to limit drinks for several hours before the appointment so your bladder does not fill too quickly. The exact period is set by the unit. Discuss diuretics, diabetes medicines, heart or kidney disease and any difficulty restricting fluids in advance. Do not become deliberately dehydrated or omit essential medicine without advice.

Ask for written toilet and sexual-contact precautions and make sure you have the supplies needed at home. If you use a urinary catheter, pads, a stoma or an unusual toilet arrangement, tell the nurse before treatment so they can give an appropriate handling plan.

How treatment is given

An initial course commonly consists of one bladder instillation each week for six weeks. This is called induction. Some patients then receive maintenance courses over a longer period. The maintenance calendar depends on the clinical plan, tolerance and product; it is not the same for everyone.

At the visit, staff review symptoms and any urine results. You empty your bladder and a small catheter is passed through the urethra. BCG is introduced into the bladder through the catheter. Report significant pain during catheter insertion; a traumatic insertion can make it unsafe to proceed. The catheter may then be removed or managed according to the unit’s protocol.

You usually hold the treatment in the bladder for about two hours if able. Follow the nurse's instructions on activity or positioning; do not assume you must repeatedly turn over unless your unit asks you to. Tell staff if pain or urgency makes retention impossible. Do not force yourself to endure severe pain just to achieve the full time.

Passing urine and toilet precautions

At the end of the prescribed time, empty your bladder as instructed. Sit to pass urine to reduce splashing. Wash your hands and any skin exposed to urine carefully. For the initial hours, the urine contains live BCG, so follow the exact disinfection instructions for your product and toilet arrangement.

TICE BCG instructions specify that urine passed during the first six hours after treatment should be mixed in the toilet with an equal volume of household bleach, left for 15 minutes and then flushed. Other units may give a locally adapted instruction. Never mix bleach with toilet cleaner, acid, ammonia or another cleaning chemical. If the toilet already contains cleaner, or you cannot safely follow the instructions, ask the unit for an alternative before treatment. Keep disinfectants away from children and avoid splashes.

After the retention period, drink as advised to help flush the bladder. People without a fluid restriction may be encouraged to drink more for a short period, but a fixed high fluid target is not safe for everyone. Follow your heart or kidney fluid limit if applicable and ask the team how to reconcile it with aftercare.

Delayed or missed appointments

Contact the unit if you develop infection symptoms or cannot attend. A delay may be necessary for healing or treatment of infection. Do not try to obtain an extra instillation or shorten the interval yourself. The team decides whether to continue, modify or repeat part of a course.

Monitoring and checking whether treatment is working

The team reviews urinary symptoms and tolerance before further doses. Urine tests help investigate infection when indicated. Bladder inspection with a cystoscope and other tests, including urine cytology or biopsy where appropriate, assess response and detect changes that need further treatment.

Symptoms alone cannot show whether BCG is working. Less burning does not mean less benefit, and severe burning does not prove a stronger effect. Keep surveillance appointments even if you feel completely well. The follow-up plan remains important after the final instillation.

Common side effects and how to manage them

Burning, urgency and frequent urination

Temporary irritation is common, often during the first day or two. Use the drinking plan and any prescribed symptom relief. Note whether symptoms are improving and whether you can pass urine normally. Contact the unit if burning is severe, worsening, lasts longer than expected or is accompanied by fever. A bacterial urinary infection and a treatment reaction may require different care.

Small amounts of blood in the urine

Mild bleeding can occur after treatment or catheterisation. Report visible blood before the next instillation. Heavy bleeding, clots or inability to pass urine needs urgent assessment. Do not assume that all blood is an expected side effect, particularly if it appears later or does not settle.

Tiredness, aches and a flu-like feeling

A short-lived flu-like reaction can occur. Rest and use only the symptom medicines approved by the team. Check your temperature and follow the urgent-care instructions. Fever that persists, worsens or comes with shaking chills or marked illness may indicate a serious reaction or infection.

Bladder discomfort affecting sleep or activity

Plan access to a toilet and a less demanding day after early treatments until you know your pattern. Avoid drinks or foods that clearly worsen your own bladder symptoms. There is no need for a rigid special diet. Ask about prescribed treatment for troublesome spasms rather than taking several over-the-counter remedies.

Less common but important side effects

BCG infection beyond the bladder

Live BCG can rarely spread and cause serious infection, including infection of the lungs, liver or other sites. Warning signs include persistent fever, shaking chills, worsening weakness, breathlessness, cough or jaundice. Severe illness can occur soon after treatment, but delayed infections are also possible. Tell clinicians about previous bladder BCG even months or years later if an unexplained infection is being investigated.

Suspected systemic BCG infection requires stopping further instillations and urgent specialist assessment. It needs an appropriate combination of anti-mycobacterial medicines; pyrazinamide does not treat BCG. Negative routine tests do not rule it out. A severe inflammatory condition called haemophagocytic lymphohistiocytosis (HLH) has also been reported. Persistent fever with marked deterioration, unusual bruising or organ problems needs urgent assessment. It is not treated simply by taking leftover antibiotics, and routine infection tests may not immediately identify it. Do not wait for a planned cystoscopy if you feel systemically unwell.

Severe bladder inflammation and difficulty passing urine

Marked inflammation can occasionally cause prolonged pain, reduced bladder capacity or other urinary problems. Severe urgency, inability to pass urine, worsening pelvic pain or clots requires assessment. Further BCG may need to be withheld while the cause is investigated.

Genital, joint and eye symptoms

Pain or swelling in the testicles, persistent pelvic discomfort, new joint pain or swelling, and red or painful eyes should be reported. These can reflect infection or an inflammatory reaction. Sudden visual change, severe eye pain or significant genital swelling requires urgent advice.

When to seek urgent medical help

Call local emergency services or go to the nearest emergency department for collapse, confusion, severe breathlessness, severe weakness with rapid deterioration, or heavy bleeding with inability to pass urine. Do not wait for a callback or drive yourself.

Contact your own treating urology or oncology team promptly for fever, shaking chills, worsening urinary symptoms, persistent flu-like illness, jaundice, new cough or unusual pain or swelling. Tell them that you received live BCG in the bladder and when the last treatment was given.

Use the temperature and duration thresholds supplied by your unit. Product information describes particular persistent-fever patterns, but those are not instructions to wait while feeling severely ill. If no plan was supplied, seek urgent advice for 37.5°C (99.5°F) or above, below 36°C (96.8°F), shaking chills or acute deterioration. A severe reaction needs assessment regardless of the temperature.

Other medicines, supplements and vaccinations

Tell the team about antibiotics, anti-tuberculosis medicines, immune-suppressing drugs and all other cancer treatment. Antibiotics can affect live BCG and an active infection may require postponement. Do not stop a necessary antibiotic to preserve BCG activity; the treating teams must coordinate the plan.

Check pain relief and urinary remedies with the nurse or pharmacist. Do not start an immune-boosting supplement or herbal product on the assumption it improves response. Let any clinician arranging tests or vaccines know about bladder BCG. Vaccination decisions depend on your overall health and other treatment, and bladder BCG is not a replacement for routine vaccination.

Everyday life during treatment

Many people continue everyday activities between treatments, with adjustments for fatigue, frequency and appointments. Plan toilet access for the journey home. Avoid strenuous activities if they worsen urinary discomfort or bleeding and resume gradually when symptoms settle.

Ordinary social contact is generally possible. The main exposure precautions concern urine and direct contact with contaminated materials in the period specified by the unit. Keep children and pets away from contaminated materials and wash hands carefully. Ask for specific advice if a pregnant or immune-suppressed person shares your home or helps with personal care.

Sex may be uncomfortable shortly after treatment. Macmillan advises avoiding sex for at least 48 hours and using barrier precautions for about a week after each instillation when advised, to reduce partner exposure. Your product and unit instructions take priority, especially with ongoing symptoms. Barriers for exposure protection and contraception are related but not identical issues.

Discuss travel before booking around maintenance treatment. Carry a record stating that you have received intravesical live BCG. If you need urgent care away from your centre, that detail can change the investigation and treatment of fever or unexplained infection.

Fertility, contraception, pregnancy and breastfeeding

BCG should not be given during pregnancy under the relevant product instructions. Tell the team before treatment if pregnancy is possible or planned, and use effective contraception as advised. No single post-treatment contraception interval applies to every product or situation; follow your specialist's written advice.

Breastfeeding is not recommended or is contraindicated under relevant intravesical product instructions; agree an alternative feeding and restart plan before treatment. Barrier precautions after each instillation protect a partner from exposure and should be followed even when pregnancy is not possible.

BCG-medac information reports that treatment can reduce sperm production, sometimes to very low or absent sperm counts. Men who may want children should discuss sperm preservation before starting. The full effect on fertility is not established, and other cancer treatment may also matter. Contact the treating team promptly if pregnancy occurs or a partner is exposed to urine or body fluids contrary to the aftercare instructions.

After treatment finishes

Continue the bladder surveillance schedule. Recurrence assessment depends on examinations and tests rather than whether urinary symptoms have gone. Keep a treatment summary including the BCG product if known, dates and any major reaction.

Report persistent bladder discomfort, recurrent infections or difficulty passing urine. Tell clinicians about past BCG if unexplained fever or inflammation develops later. A delay in symptoms does not completely exclude a BCG-related complication.

Frequently asked questions

Is bladder BCG the same as the tuberculosis vaccine?

The preparations, dose and route are different. Intravesical BCG is placed in the bladder for a local immune effect. A vaccination product must not be substituted, and bladder treatment is not given as a routine vaccine injection.

Does previous BCG vaccination prevent me having treatment?

Not automatically. The specialist considers your bladder findings, infection history, immunity and current health. Tell them about vaccination and tuberculosis history, but neither alone establishes suitability or the expected response.

Why must I reduce drinks before the appointment?

An emptier bladder makes it easier to retain treatment for the prescribed time. Your unit sets the fluid instructions. Heart, kidney or diabetes issues and diuretic medicines may require adjustments, so raise these before the first appointment.

What if I cannot hold BCG for two hours?

Tell the nurse. Severe pain or uncontrollable urgency should not be endured silently. The team records what happened and considers whether symptoms, retention time or the future plan need adjustment.

Can I stand to urinate after treatment?

Sitting reduces splashing and exposure. Follow this and the unit's disinfection instructions during the specified period. Wash exposed skin and hands carefully, and ask for adapted advice if mobility or toilet arrangements make the standard instructions difficult.

Can bleach be mixed with toilet cleaner?

No. Mixing cleaning chemicals can release dangerous gases. Follow a safe product-specific toilet plan and ask the unit for an alternative if cleaner is already in the bowl or household circumstances prevent safe disinfection.

Is burning proof that BCG is working?

No. Irritation does not measure cancer response. Severe or persistent symptoms need assessment, while mild symptoms do not imply ineffective treatment. Cystoscopy and other planned tests provide the relevant follow-up information.

Should I attend if I am taking antibiotics?

Contact the unit first. The infection being treated and the antibiotic may affect the timing of BCG. Do not stop necessary antibiotics or hide symptoms to keep an appointment; the teams should coordinate treatment safely.

Why was treatment postponed after catheter insertion?

A traumatic insertion can injure the lining and increase the risk of BCG entering the bloodstream. Postponement allows a safer reassessment. It does not mean the treatment has failed or that you caused the problem.

Can I have sex the next day?

It may be uncomfortable and may expose a partner to BCG. Follow the advised abstinence and barrier periods, commonly at least 48 hours without sex and additional barrier precautions afterwards. Persistent symptoms can require a longer pause.

Can family members share the toilet?

Usually yes when the prescribed cleaning and exposure precautions are followed. Tell the team if someone pregnant or immune-suppressed shares the home, or if you need help with toileting, so the plan can be adapted safely.

Can a serious BCG infection occur later?

Yes, delayed complications are possible. Keep a record and mention prior intravesical BCG when an unexplained infection is assessed, even after treatment has ended. This history helps clinicians choose appropriate investigations.

Will maintenance treatment be the same as the first six weeks?

Not necessarily. Maintenance commonly uses shorter groups of instillations at planned intervals. Your specialist sets the duration and may alter it for tolerance or clinical findings. Use your own calendar rather than another patient's schedule.

What if a treatment appointment is missed?

Call the unit to arrange the next step. The reason for the gap and where you are in the course determine whether the calendar changes. Do not try to compensate with extra or closer-spaced doses.

Can I stop surveillance when urinary symptoms disappear?

No. Symptoms do not reliably detect recurrence or establish response. Continue the planned bladder examinations and tests. If the schedule is unclear, obtain it before the treatment course ends.

Sources and review information

Sources checked: 2 October 2026. Follow the exact product leaflet and your unit's written aftercare instructions.

- Macmillan Cancer Support - intravesical BCG
- US TICE BCG prescribing information
- BCG-medac UK product information
- Netherlands medicines regulator - BCG-medac product record

Additional sources

Summary of Product Characteristics (SmPC)

- OncoTICE (BCG, Tice strain): Summary of Product Characteristics - emc

Regulatory references

- US prescribing information for TICE BCG
- Irish medicines regulator product information for BCG medac
- CDSCO Summary of Product Characteristics for SII-ONCO-BCG

Patient information and practical support

- Cancer Research UK patient guide to BCG into the bladder

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Review record updated: 2 October 2026 · Medical Review Policy