

Surgical antibiotic prophylaxis: urological surgery

This table summarises information in *Therapeutic Guidelines* about the indications and first-line regimens for surgical antibiotic prophylaxis. See [Therapeutic Guidelines](#) for detailed and up-to-date information, including adjustment of antibiotic choice, dosing and timing based on specific patient factors.

Infective endocarditis prophylaxis may be required for patients with specific cardiac conditions who are undergoing a procedure for which surgical antibiotic prophylaxis is not required—see [Therapeutic Guidelines](#) for indications and regimens.

If surgical antibiotic prophylaxis is indicated, a single preoperative dose of antibiotic(s) is sufficient for the significant majority of procedures. In specific circumstances, a repeat intraoperative dose may also be necessary—see [Therapeutic Guidelines](#) for discussion.

For a small minority of procedures (see Notes column), there are inadequate data to show that a single dose of surgical antibiotic prophylaxis is as effective as 24 hours of prophylaxis. For these procedures, postoperative doses can be considered but prophylaxis should not continue beyond 24 hours.

This table should be used in conjunction with **clinical judgement**. Prescribers should consider the **harm–benefit profile** of a drug in each patient (eg consider potential drug interactions).

Procedures	Is surgical antibiotic prophylaxis indicated?	Surgical antibiotic prophylaxis regimens	Notes
endoscopic intrarenal and ureteric stone procedures	YES	gentamicin (adult and child) 2 mg/kg intravenously over 3 to 5 minutes, within the 120 minutes before the procedure	Examples of these types of procedures are percutaneous nephrolithotomy and pyeloscopy for ureteric or kidney stones. If the patient is obese, use adjusted body weight to calculate the gentamicin dose.
extracorporeal shock-wave lithotripsy	NO		
open or laparoscopic urological procedures in which the urinary tract is entered, or where prosthetic material is implanted	YES	<p>If entry into the bowel lumen is not expected, use:</p> <p>cefazolin 2 g (child: 30 mg/kg up to 2 g) intravenously, within the 60 minutes before surgical incision</p> <p>PLUS</p> <p>gentamicin (adult and child) 2 mg/kg intravenously over 3 to 5 minutes, within the 120 minutes before surgical incision</p> <p>In cases of inadvertent rectal injury, add immediately to the above regimen:</p> <p>metronidazole 500 mg (child: 12.5 mg/kg up to 500 mg) intravenously, as a single dose</p> <p>If entry into the bowel lumen is expected, use:</p> <p>cefazolin 2 g (child: 30 mg/kg up to 2 g) intravenously, within the 60 minutes before surgical incision</p> <p>PLUS</p> <p>metronidazole 500 mg (child: 12.5 mg/kg up to 500 mg) intravenously, within the 120 minutes before surgical incision</p>	Examples of prosthetic material are penile prostheses, artificial urinary sphincters and mesh. If gentamicin is used and the patient is obese, use adjusted body weight to calculate the dose.

Procedures	Is surgical antibiotic prophylaxis indicated?	Surgical antibiotic prophylaxis regimens	Notes
open or laparoscopic urological procedures in which the urinary tract is not entered and prosthetic material is not implanted	NO		Examples of open or laparoscopic urological procedures in which the urinary tract is not entered are vasectomy, scrotal surgery and varicocele ligation.
prostate biopsy	YES	For the transperineal route , use: cefazolin 2 g intravenously, within the 60 minutes before the procedure For the transrectal route , use: ciprofloxacin 500 mg orally, 120 minutes before the procedure	
prostate fiducial marker insertion	YES	If placed via the transperineal route , use: cefazolin 2 g intravenously, within the 60 minutes before the procedure If placed via the transrectal route , use: ciprofloxacin 500 mg orally, 120 minutes before the procedure	
transurethral resection of the prostate	YES	gentamicin (adult and child) 2 mg/kg intravenously over 3 to 5 minutes, within the 120 minutes before the procedure	If the patient is obese, use adjusted body weight to calculate the gentamicin dose.
uncomplicated cystoscopic diagnostic procedures	ONLY if there are risk factors for postoperative infection	gentamicin (adult and child) 2 mg/kg intravenously over 3 to 5 minutes, within the 120 minutes before the procedure	Risk factors for postoperative infection include urinary tract obstruction or abnormalities, urinary stones, and indwelling or externalised catheters. If the patient is obese, use adjusted body weight to calculate the gentamicin dose.
ureteroscopy procedures	YES	gentamicin (adult and child) 2 mg/kg intravenously over 3 to 5 minutes, within the 120 minutes before the procedure	If the patient is obese, use adjusted body weight to calculate the gentamicin dose.
urodynamic studies	NO		
endoscopic procedures other than those listed above	ONLY if there are risk factors for postoperative infection	gentamicin (adult and child) 2 mg/kg intravenously over 3 to 5 minutes, within the 120 minutes before the procedure	Risk factors for postoperative infection include urinary tract obstruction or abnormalities, urinary stones, and indwelling or externalised catheters.