# Urology Surgery - Antibiotic Prophylaxis

Reference no.: CG-ANTI/2018/047

- Check previous culture results first. In patients where organisms resistant to the recommended prophylaxis have previously been isolated, please contact the microbiologist for advice on prophylaxis
- Elective procedures should be deferred in the presence of symptoms consistent with an active infection until an antimicrobial course is complete and associated symptoms have improved.
- Antimicrobial prophylaxis should be stopped after wound closure and case completion, even in the presence of a drain. If there is a suspected infection, a treatment course should be given.
- Prophylactic doses should be given within the 60 minutes prior to incision.
- All antibiotic doses are for adults of average size with normal hepatic and renal function.
- IV Doses of gentamicin ≤ 160mg can be given as a bolus over 3-5 minutes. Doses larger than this should ideally be given as a 30 minute infusion.
- Antifungal prophylaxis may be indicated in certain situations. See the information on the next page.

**In patients who have previously been positive for MRSA (from any site) and who are undergoing a percutaneous procedure, ADD a stat dose of teicoplanin 400mg IV to the prophylactic regime.**

| Procedure | Standard prophylaxis | Note |
|---|---|---|
| **Flexible/rigid cystoscopy** | Prophylaxis not routinely recommended | |
| **Urodynamic studies** | Prophylaxis not routinely recommended | |
| **TURP, TURBT, urethrotomy, urethral dilatation** | Gentamicin 2-3 mg/kg IV/IM Usual max 240mg. | For TURB, only give prophylaxis to patients at high risk of post-procedural sepsis/large tumours |
| **Ureteroscopy** rigid and flexible(including diagnostic and operative) | Gentamicin 2 - 3mg/kg IV/IM stat Usual max 240mg. | |
| **PCNL** (percutaneous nephrolithotomy) | Gentamicin 2 - 3mg/kg IV/IM stat Usual max 240mg. | |
| **ESWL** (extracorporeal shockwave lithotripsy) | Prophylaxis not routinely recommended | |
| **Transrectal prostate biopsy** | **RDH regime**; Ciprofloxacin 500mg PO BD (2 doses). First dose 2hrs before procedure and second dose 12 hours after 1st dose **plus** metronidazole PR 1g stat **plus** Gentamicin 2-3mg/kg (usual max 240 mg) IV or IM | IMPORTANT NOTE: At RDH, the gentamicin and metronidazole will be **prescribed and given** in the radiology department |
| | **QHB regime : Ciprofloxacin** 500 mg PO BD for 2 days, with the first dose given two hours prior to the procedure. | |

**In patients who have previously been positive for MRSA (from any site) and who are undergoing a percutaneous procedure, ADD a stat dose of teicoplanin 400mg IV to the prophylactic regime.**

| Procedure | Standard prophylaxis | Notes |
|---|---|---|
| **Nephroureterectomy, Pyeloplasty** (laparoscopic or open) | Cefuroxime 1.5G stat IV | If severe penicillin allergy<br>Gentamicin 2-3mg/kg IV/IM stat. Usual max 240mg. |
| **Nephrectomy** | No prophylaxis | |
| **Radical prostatectomy** (robotic or open) | Cefuroxime 1.5G stat IV | If severe penicillin allergy<br>Gentamicin 2-3mg/kg IV/IM stat Usual max 240mg. |
| **Radical cystectomy** | Cefuroxime 1.5G stat IV | If severe penicillin allergy<br>Gentamicin 2-3 mg/kg IV/IM stat (usual max 240mg) |
| **Ureteric stent change** | Gentamicin 2 - 3mg/kg IV/IM stat. Usual max 240mg. | |
| **Nephrostomy change** | 1st Choice: Gentamicin 2 - 3mg/kg IV/IM stat (usual max 240mg)<br>OR<br>Ciprofloxacin 500mg PO stat | |
| **Circumcision**<br>**hydrocele repair**<br>**excision of epididymal cyst**<br>**vasectomy** | Prophylaxis not recommended | |
| **Orchidectomy with testicular implant** | Cefuroxime 1.5G stat IV | If severe penicillin allergy<br>Gentamicin IV/IM 2-3mg/kg (usual max 240mg) **plus** Teicoplanin IV 400mg |

**Antifungal prophylaxis for urological procedures with asymptomatic persistent candiduria**

Persistent candiduria defined as **c**ulture of Candida species ≥ $10^5$ cfu/ml from ≥ 2 urines in ≤ 3 months.

| Procedure | Anti-fungal prophylaxis |
|---|---|
| Catheter insertion or removal, nephrostomy or stent placement or exchange | No prophylaxis unless neutropenic or other severe immunosuppression – see below. |
| Resective, enucleative, or ablative outlet procedures; transurethral resection of bladder tumor; ureteroscopy; PCNL; all endoscopic procedures; procedures in which high pressure irrigants are used; and in those cases where surgical entry into the urinary tract is planned. | Candida albicans - fluconazole 400mg oral 60 -90 minutes prior to the procedure<br><br>Candida species other than albicans discuss with a consultant microbiologist. |
| All procedures in patients with persistent candiduria **and** neutropenia or other severe immunosuppression | These patients may already be on anti-fungal prophylaxis. If not, then;<br>Candida albicans - fluconazole 400mg oral 60 -90 minutes prior to the procedure<br>Candida species other than albicans - discuss with a consultant microbiologist.<br>A longer course may be indicated in neutropenic patients with a fungal ball or obstruction of the urinary tract. Discuss with a consultant microbiologist. |

## Document Control

| **Development of Guidelines:** | Antimicrobial Stewardship Group |
|---|---|
| **Consultation With:** | Consultant Microbiologists<br>Antimicrobial Pharmacist<br>Consultant Urologists |
| **Approval Date:** | Antimicrobial Stewardship Group [08/11/2021]<br>Surgical division [11/11/2021] |
| **Changes made since previous version** | Single dose for prophylaxis for all procedures<br>Change from co-amoxiclav to cefuroxime due to resistance rates with co-amoxiclav.<br>Removal of metronidazole for radical cystectomy.<br>Change in gentamicin dose from 2mg /kg (max 160mg) to 2-3mg/kg (max 240mg).<br>Inclusion of recommendations for antifungal prophylaxis<br>Change to no prophylaxis for non-infected nephrectomy. |
| **Next review date** | November 2024 |
| **Key Contact:** | Dr Milind Khare consultant microbiologist<br>Kayleigh Lehal Antimicrobial Pharmacist<br>kayleigh.lehal@nhs.net |

## References


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