Surgical antibiotic prophylaxis: neurosurgery

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
craniotomy	YES	**cefazolin** 2 g (child: 30 mg/kg up to 2 g) intravenously, within the 60 minutes before surgical incision PLUS if patient known to be or at increased risk of being colonised or infected with MRSA **vancomycin** (adult and child) 15 mg/kg intravenously, started within the 120 minutes before surgical incision (recommended infusion rate 10 mg/minute)	For risk factors for MRSA infection, see *Therapeutic Guidelines*.
external ventricular drain insertion	YES	**cefazolin** 2 g (child: 30 mg/kg up to 2 g) intravenously, within the 60 minutes before surgical incision PLUS if patient known to be or at increased risk of being colonised or infected with MRSA **vancomycin** (adult and child) 15 mg/kg intravenously, started within the 120 minutes before surgical incision (recommended infusion rate 10 mg/minute)	For risk factors for MRSA infection, see *Therapeutic Guidelines*.
intracranial shunt insertion	YES	**cefazolin** 2 g (child: 30 mg/kg up to 2 g) intravenously, within the 60 minutes before surgical incision PLUS if patient known to be or at increased risk of being colonised or infected with MRSA **vancomycin** (adult and child) 15 mg/kg intravenously, started within the 120 minutes before surgical incision (recommended infusion rate 10 mg/minute)	For risk factors for MRSA infection, see *Therapeutic Guidelines*. Vaccinate patients against *Streptococcus pneumoniae*, ideally before the procedure—see the *Australian Immunisation Handbook* for further information.
microsurgery	YES	**cefazolin** 2 g (child: 30 mg/kg up to 2 g) intravenously, within the 60 minutes before surgical incision PLUS if patient known to be or at increased risk of being colonised or infected with MRSA **vancomycin** (adult and child) 15 mg/kg intravenously, started within the 120 minutes before surgical incision (recommended infusion rate 10 mg/minute)	For risk factors for MRSA infection, see *Therapeutic Guidelines*.

Procedures	Is surgical antibiotic prophylaxis indicated?	Surgical antibiotic prophylaxis regimens	Notes
pressure monitor insertion	YES	**cefazolin** 2 g (child: 30 mg/kg up to 2 g) intravenously, within the 60 minutes before surgical incision PLUS if patient known to be or at increased risk of being colonised or infected with MRSA **vancomycin** (adult and child) 15 mg/kg intravenously, started within the 120 minutes before surgical incision (recommended infusion rate 10 mg/minute)	For risk factors for MRSA infection, see *Therapeutic Guidelines*.
procedures involving insertion of prosthetic material	YES	**cefazolin** 2 g (child: 30 mg/kg up to 2 g) intravenously, within the 60 minutes before surgical incision PLUS if patient known to be or at increased risk of being colonised or infected with MRSA **vancomycin** (adult and child) 15 mg/kg intravenously, started within the 120 minutes before surgical incision (recommended infusion rate 10 mg/minute)	For risk factors for MRSA infection, see *Therapeutic Guidelines*.
re-exploration procedures	YES	**cefazolin** 2 g (child: 30 mg/kg up to 2 g) intravenously, within the 60 minutes before surgical incision PLUS if patient known to be or at increased risk of being colonised or infected with MRSA **vancomycin** (adult and child) 15 mg/kg intravenously, started within the 120 minutes before surgical incision (recommended infusion rate 10 mg/minute)	For risk factors for MRSA infection, see *Therapeutic Guidelines*.

MRSA = methicillin-resistant *Staphylococcus aureus*