

Antibiotic prophylaxis for Ortho Spine surgery



Surgical site infections (SSI) after spine surgery are associated with significant morbidity and can be prevented by appropriate antibiotic prophylaxis within a complete bundle of preventative care (glycemic control, smoking cessation, skin preparation, etc.). No specific antibiotic agent has been shown to have significant advantages over others, but coverage against endogenous skin flora (mainly *S. aureus*) and optimal timing of administration of the antibiotic to enable optimal distribution in operative tissues during the procedure are critical. At the MUHC, *S. aureus* are isolated from 60% of SSIs in orthopedic surgeries (surveillance data from 2018), therefore the use of a first-generation cephalosporin (cefazolin) is appropriate in most cases. There is no clear benefit to prolonging prophylactic antibiotics beyond 24h. These recommendations may change with evolving data

Spine surgery	Recommended prophylaxis
<p>Cervical and Thoracic spine</p> <p><i>Staphylococcus sp</i></p>	<p>Cefazolin¹ 2 g IV x 1: 60min pre-incision then 2 g IV q8h x 2 doses post-op</p> <p><i>If known MRSA carrier or previous MRSA infection:</i> Cefazolin¹ 2 g IV x 1: 60min pre-incision then 2 g IV q8h x 2 doses post-op AND Vancomycin² 15 mg/kg IV (max 2 g) x 1: 120min pre-incision then 2nd dose after 12h</p> <p><i>If severe hypersensitivity reaction to cephalosporins:</i> Vancomycin² 15 mg/kg IV (max 2 g) x 1: 120min pre-incision then 2nd dose after 12h</p>
<p>Lumbar spine</p> <p><i>Staphylococcus sp</i> Gram-negative rods</p>	<p>Cefazolin¹ 2 g IV x 1: 60min pre-incision then 2 g IV q8h x 24h AND Tobramycin³ 5 mg/kg IV (max 400mg) x 1: 60min pre-incision</p> <p><i>If known MRSA carrier or previous MRSA infection:</i> Cefazolin¹ 2 g IV x 1: 60min pre-incision then 2 g IV q8h x 24h AND Tobramycin³ 5 mg/kg IV (max 400 mg) x 1: 60min pre-incision AND Vancomycin² 15 mg/kg IV (max 2 g) x 1: 120min pre-incision then 2nd dose after 12h</p> <p><i>If severe hypersensitivity reaction to cephalosporins:</i> Vancomycin² 15 mg/kg IV (max 2 g) x 1: 120min pre-incision then 2nd dose after 12h AND Tobramycin³ 5 mg/kg IV (max 400 mg) x 1: 60min pre-incision</p>

¹Cefazolin: If weight > 120 kg, increase dose to 3 g IV; cefazolin can be safely given if allergy only to penicillins; if CrCl 10-30 mL/min, give q12h instead of q8h; if CrCl <10 mL/min: 1 g IV q24h; ²Vancomycin: If CrCl < 30 mL/min, give q24h instead of q12h; therapeutic drug monitoring not needed if only given x 24h; ³Tobramycin: If CrCl < 60 mL/min, decrease dose to 2 mg/kg IV; therapeutic drug monitoring not needed if only given x 24h

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