

Antibiotic prophylaxis for closed fractures and joint replacement



Surgical site infections (SSI) in patients with closed fractures or who have undergone total joint replacement (TJR) surgery are associated with significant morbidity and mortality. Administration of appropriate antibiotic prophylaxis timed for optimal distribution in operative tissues during the procedure, is critical to reduce SSI risk. As no single agent has been shown to have significant advantages over others for reduction of SSI, 1st generation cephalosporins which are well tolerated and provide adequate coverage against skin organisms are preferred.

Short duration (<24h) of prophylactic antibiotics post-surgery is non-inferior to prolonged duration prophylactic antibiotics in decreasing the overall risk of SSI, though some small retrospective cohort studies have shown that 7 days of PO antibiotics post-primary TJR was associated with lower SSI rates in at high baseline risk of SSI (obesity, immunosuppression, diabetes).

We recommend prophylactic antibiotics **for 24 hours** post-procedure for closed fractures and TJR. This recommendation may change based on evolving data.

	Recommended Prophylaxis
<p>Closed fracture; Total Joint Replacement</p> <p><i>Likely pathogens: Staphylococcus sp Streptococcus sp</i></p>	<p>Cefazolin¹ 2 g IV: 60min before incision then q8h x 24h</p> <p><i>If known MRSA carrier or previous MRSA infection:</i></p> <p>Vancomycin² 15 mg/kg (max 2g) IV: 120min before incision then q12h x 24h AND Cefazolin¹ 2 g IV to administer 60min before incision then q8h x24h</p> <p><i>If severe allergy to cephalosporins</i></p> <p>Vancomycin² 15 mg/kg (max 2 g) IV: 120min before incision then q12h x 24h</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

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