

# Letterkenny University Hospital - LUH Antimicrobial Prescribing Policy/Guidelines: Orthopaedic and Trauma Surgery

Antibiotics for Orthopaedic and Trauma Surgery					
Type of Surgery	Procedure	1 <sup>st</sup> Line Antibiotic	Penicillin allergy: delayed onset non-severe reaction	Penicillin allergy: immediate or severe delayed reaction	Number & Timing of Doses
			See <a href="#">penicillin hypersensitivity section</a> for further information		
<b>Prophylaxis in Orthopaedic and Trauma Surgery</b>  See <a href="#">Note Regarding Risk Factors for MRSA</a>  See Note Regarding Multi-drug Resistant Organisms ( <a href="#">MDRO</a> )	Closed clean orthopaedic procedures without implant of foreign material (e.g. arthroscopy)	Antimicrobial prophylaxis NOT required			
	Minor metalwork insertion (e.g. K-wires, screws, small orthopaedic plates)	Co-amoxiclav IV 1.2g (one dose only)	CefUROXime IV 1.5g (one dose only)	Teicoplanin IV 10mg/kg (Max 800mg*) (one dose only)	One dose within 60 minutes before incision. Give antibiotic prophylaxis at least 15 minutes prior to tourniquet inflation.
	Minor metalwork extraction	Where infection is not suspected surgical antimicrobial prophylaxis is <b>not</b> indicated.			
	Orthopaedic implant surgery (total joint replacement or revision)	Co-amoxiclav IV 1.2g every 8 hours for a total of 3 doses (24 hour cover)	CefUROXime IV 1.5g every 8 hours for a total of 3 doses (24 hour cover)	Teicoplanin IV 10mg/kg (Max 800mg*) every 12 hours for a total of 2 doses (24 hour cover)	1 <sup>st</sup> dose within 60 minutes before incision & <b>continued for 24 hours.</b>
	Open reduction with internal fixation of closed fractures	If risk factors for or colonised with <a href="#">MRSA</a> <b>Add:</b> Teicoplanin IV 10mg/kg (Max 800mg*) every 12 hours for a total of 2 doses (24 hour cover)	If risk factors for or colonised with <a href="#">MRSA</a> <b>Add:</b> Teicoplanin IV 10mg/kg (Max 800mg*) every 12 hours for a total of 2 doses (24 hour cover)	+ <a href="#">Gentamicin</a> IV one dose only, dose per GAPP App calculator	Give antibiotic prophylaxis at least 15 minutes prior to tourniquet inflation.
	Debridement surgery/patients with chronic bone infection	Prophylactic antibiotic depends on infecting organism(s). Check results of previous cultures if available. Discuss with Microbiology if necessary.			
	Open fracture intervention +/- insertion of nail/screw (includes acute trauma with contaminated wounds).	<i>Note if farmyard/faecal contamination please discuss with consultant microbiologist.</i>			
<b>Open fracture - Type I &amp; II</b>  (based on the <a href="#">Gustilo-Anderson Classification</a> )	Co-amoxiclav IV 1.2g every 8 hours	CefUROXime IV 1.5g every 8 hours	Clindamycin IV 900mg every 8 hours	1 <sup>st</sup> dose within 60 minutes before incision.	
	<b>See comment re duration</b>	+ Metronidazole IV 500mg every 8 hours <b>See comment re duration</b>	+ <a href="#">Gentamicin</a> IV dose per GAPP App calculator every 24 hours <b>See comment re duration</b>	<b>Duration maximum 24 hours post final wound closure.</b>  <b>It is vital that any patient with an open fracture be closely observed for signs of sepsis.</b> Please discuss with Microbiology if necessary and if treatment with gentamicin is extended beyond 3 days.	
<b>Open fracture - Type III (A, B, C)</b>  (based on the <a href="#">Gustilo-Anderson Classification</a> )	Co-amoxiclav IV 1.2g every 8 hours	CefUROXime IV 1.5g every 8 hours	Clindamycin IV 900mg every 8 hours		
	+ <a href="#">Gentamicin</a> IV dose per LAPP App calculator every 24 hours <b>See comment re duration</b>	+ Metronidazole IV 500mg every 8 hours + <a href="#">Gentamicin</a> IV dose per LAPP App calculator every 24 hours <b>See comment re duration</b>	+ <a href="#">Gentamicin</a> IV dose per LAPP App calculator every 24 hours <b>See comment re duration</b>		
Discuss dosing in obese patients with Microbiology or Pharmacy.					

**Reference:**

Kim P.H., Leopald S.S. Gustilo-Anderson Classification. Clin Orthop Relat Res (2012) 470:3270–3274 DOI 10.1007/s11999-012-2376-6. Accessed via: [11999\\_2012\\_Article\\_2376.pdf](#)