مجلس الضمان الصحي
Council of Health Insurance

Hip and Knee replacement surgery

CHI Formulary Treatment algorithm

Treatment algorithm

Supporting treatment algorithms for the clinical management of hip and knee replacement surgery

The tables outline a comprehensive treatment algorithm on **the management of hip and knee replacement surgery** aimed at addressing the different lines of treatment after thorough review of medical and economic evidence by CHI committees.

For further evidence, please refer to CHI **Hip and knee replacement surgery** full report. You can stay updated on the upcoming changes to our formulary by visiting our website at https://chi.gov.sa/AboutCCHI/CCHIprograms/Pages/IDF.aspx

Medication	Dosing	Appendix
Preoperative		
Cefazoline	Parenteral dose of: - 1.0 g for people who weigh <80 kg, - 2.0 g for those who weigh >80 kg. - 3.0 g for adults weighing 120 kg or greater.	The cephalosporins (specifically, cefazolin and cefuroxime) have been the antibiotics of choice for both the prophylaxis and the treatment of orthopedic infections. Recommend that prophylactic antibiotics be completely infused within one hour before the surgical incision. Recommended that postoperative administration of prophylactic antibiotics should not exceed twenty-four hours regardless of the use of catheters or drains.
Cefuroxime	Parenteral dose of: - 1.5 g. - To be readministered every three to four hours for extended operative time.	The cephalosporins (specifically, cefazolin and cefuroxime) have been the antibiotics of choice for both the prophylaxis and the treatment of orthopedic infections. - Recommend that prophylactic antibiotics be completely infused within one hour before the surgical incision. - Recommended that postoperative administration of prophylactic antibiotics should not exceed twenty-four hours regardless of the use of catheters or drains.

Clindamycin	The recommended Parenteral dose of clindamycin is 600 - 900 mg.	Clindamycin is currently the preferred alternative antibiotic for persons with an established allergy to a beta-lactam or with a contraindication to its use and <u>at institutions</u> with low rates of methicillin-resistant Staphylococcus aureus infection. - Recommend that prophylactic antibiotics be completely infused within one hour before the surgical incision. - Recommended that postoperative administration of prophylactic antibiotics should not exceed twenty-four hours regardless of the use of catheters or drains
Vancomycin	1 g of vancomycin given one hour before surgery as a single dose - Note: Dose being calculated based on 15 mg/kg	Vancomycin is currently the preferred alternative antibiotic for persons with an established allergy to a beta-lactam or with a contraindication to its use and may be used in patients with known colonization with methicillin resistant Staphylococcus aureus (MRSA) and in institutions with high rates of methicillin-resistant Staphylococcus aureus infection" - Recommend that prophylactic antibiotics be completely infused within one hour before the surgical incision. - Recommended that postoperative administration of prophylactic antibiotics should not exceed twenty-four hours regardless of the use of catheters or drains.

Nasal Mupirocin	A single dose or a regimen of 4 times daily for 2 days before surgery and 3 days after	In the absence of reliable evidence for screening and nasal decolonization, preoperative nasal mupirocin decolonization is a low-risk, reasonable option prior to hip and knee arthroplasty in patients who are MRSA carriers
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Pre and Postoperative Medications		
Enoxaparin -	- Standard dose: 30 mg S/C q 12 hours, initiated 12-24 hours after surgery OR 40 mg S/C q 24 hours initiated 10-12 hours before surgery - Post surgery for 10 days For Knee replacement Surgery: - Standard dose: 30 mg S/C q 12 hours, initiated 12-24 hours after surgery. - Continue for at least 10 to 14 days. OR - Initiate 12 hours or more before surgery or 12 hours or more after surgery - Continue for at least 10 to 14 days. - For obese patient BM1≥ 40 kg/m8 consider 40 mg every 12 hours	followed by aspirin (75 mg or 150 mg) for a further 28 days.

Dalteparin	For hip replacement surgery - Standard dose 2500 units S/C q 6-8 hours after surgery on postoperative day one - Then 5000units q 24 hours, for 5 to 10 days (up to 14 days has been well tolerated) OR - Administer 5000 international units 10 to 14 hours before surgery - 5000 international units 4 - 8 hours after surgery on postoperative day one, - Then 5000 international units once a day for 5 to 10 days (up to 14 days has been well tolerated). For Knee replacement Surgery: - Standard dose 2500 units S/C q 6-8 hours after surgery - Then 5000units q 24 hours - For obese patient BM1≥ 40 kg/m8 consider 7500 units daily	**followed by aspirin (75 mg or 150 mg) for a further 28 days.**

Dabigatran etexilate,	For knee replacement surgery: (off-label use) 110 mg initiated 1-4 hours after surgery then 200 mg once daily for 10 days For Hip replacement surgery: 110 mg initiated 1-4 hours after surgery then 200 mg once daily for 28–35 days	
warfarin	Initial dosage: 2 to 5 mg orally once a day; adjust based on INR Maintenance dosage: 2 to 10 mg orally once a day	Warfarin is recommended in hip and knee replacement surgeries if enoxaparin or direct oral anticoagulants are contraindicated. - A thera¬peutic INR range of 2.0 to 3.0 with a target INR of 2.5 is recommended rather than a lower or higher range.
Unfractionated heparin	Venous thromboembolism; Prophylaxis: **Low-dose postoperative prophylaxis:** 5000 units deep sub-Q injection 2 hours before surgery and 5000	Duration in major orthopedic surgery: Continue for at least 10 to 14 days and up to 35 days from the day of surgery in the outpatient period For obese patient BM1≥ 40 kg/m8

	units sub-Q every 8 to 12 hours for 7 days thereafter or until fully ambulatory, whichever is longer	Consider 7500units S/C every 8 hours
Heparin	**5000 units deep sub-Q injection 2 hours before surgery** **5000 units sub-Q every 8 to 12 hours for 7 days thereafter or until fully ambulatory, whichever is longer** **For obese patient BM1≥ 40 kg/m Consider 7500units S/C every 8 hours**	-

Postoperative Medications		
Fondaparinux	For hip and knee replacement: - Initiated 6-8 hours after surgery - Then 2.5mg S/C q 24 hours daily For obese patient BM1≥ 40 kg/m Consider 5 mg S/C daily	Fondaparinux has the same dosing schedule for both total hip and knee replacement surgery
Rivaroxaban	**For Hip or Knee replacement Surgery:** **10 mg once daily initiated 6-10 hours after surgery**	followed by aspirin (75 mg or 150 mg) for a further 28 days.
Apixaban	**For total knee replacement:** **2.5 mg twice daily initiated 12-24 after surgery for 12 days** **For Hip replacement:** **2.5 mg twice daily initiated 12-24 after surgery for 35 days**	**Apixaban** is recommended as an option for the prevention of venous thromboembolism in adults after **elective hip or knee replacement surgery.**
Aspirin Off-label use	**75 mg or 150 mg for a further 28 days after LMWH**	**All patients on Aspirin should concurrently be prescribed a PPI e.g. Pantoprazole**

Pantoprazole	Pantoprazole 40mg od are equivalent to the following: 30 mg lansoprazole 20 mg esomeprazole 20 mg rabeprazole 20 mg omeprazole	For patients on Aspirin , and PPI are interchangeable