مجلس الضمان الصحي
Council of Health Insurance

# Bariatric Surgery

CHI Formulary Treatment algorithm

**Treatment algorithm**

**Supporting treatment algorithms for the clinical management of bariatric surgery**

The tables outline a comprehensive treatment algorithm on **the management of bariatric 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 **Bariatric 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

Our treatment algorithm offers a robust framework for enhancing patient care and optimizing treatment outcomes across a range of treatment options, holding great promise for improving healthcare delivery.

## A- Pre- Operative Medications:

| Medication | Dosing | Notes |
|---|---|---|
| **Unfractionated Heparin (UFH)** | UFH 5000 U prior to surgery (12 h before the surgery)<br>**OR**<br>upon induction of anesthesia on the day of admission | |
| **Enoxaparin**<br><br>**Dalteparin** | 40 mg S/C prior to surgery (12 hours before surgery),<br><br>**OR**<br>upon induction of anesthesia on the day of admission | |
| **Fondaparinux** | 5mg S/C q 24 hours | |
| **levofloxacin** | 20 mg | - May be suggested to be prescribed preoperatively based on treating physician own opinion or experience<br><br>No information obtained but Saudi guideline recommended on admission day |

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| **Liraglutide** | SUBQ: Initial: 0.6 mg once daily for 1 week; increase by 0.6 mg daily at weekly intervals to a target dose of 3 mg once daily. | Can be used for the management of Class I and Class II obesity and is also effective in downgrading morbidly obese patients preoperatively and weight regain in post-bariatric surgeries. If the patient cannot tolerate an increased dose during dose escalation, consider delaying dose escalation for 1 additional week |
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**B- <u>Post- Operative Medications:</u>**

1- Antibiotics

| Medication | Dosing | Notes |
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| **Cefazolin** | - 1 g IM 30 minutes to 1 hour prior to the start of surgery followed by 500 mg to 1 g IM every 6 to 8 hours for 24 hours postoperatively.<br><br>- For BMI ≥30 to ≤50 kg/m2: 2 g<br><br>- For BMI >50 kg/m2: 3 g | For bariatric surgeries above or including the duodenum, cefazolin is the drug of choice,<br><br>For bariatric procedures below the duodenum, cefazolin in combination with metronidazole can be used. |
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| **Clindamycin ( off label )** | 900 mg IV, Re-dosing Interval (time from initiation of preoperative dose) every 6 hours | Alternative Agents in Patients with B-Lactam Allergy |
| **Vancomycin ( off label )** | Standard 15 mg/kg (1g IV)<br><br>OR<br>25 mg/kg (total body weigt)<br>Maximum initial dose: 2.5<br>Maximum re-dose: 1.5 g | Alternative Agents in Patients with B-Lactam Allergy and high susceptibility of MRSA |
| **Gentamycin ( off label )** | 5 mg/kg/day- in equally divided doses every 8 hours<br><br>**OR**<br>- 1.5 mg/kg/dose every 8 hours<br>- Redosing 3-6 hours | - If the patient's weight is 30% above their ideal body weight, dosing weight can be determined as follows:<br>DW = IBW + 0.4 (TBW – IBW)<br>- Aminoglycosides are not recommended for patients with renal insufficiency as less toxic alternative prophylactic agents exist. |
| **Tobramycin ( off label )** | 1.5 mg/kg redosing 3-6 hours | an aminoglycoside (such as gentamicin, tobramycin or amikacin can be chosen depending on local Gram-negative susceptibility |
| **ciprofloxacin ( off label )** | 400 mg IV redosing 4-10 hours | For patients with IgE-mediated hypersensitivity to penicillin or cephalosporin. |
| **levofloxacin ( off label )** | 500 mg IV no need for redosing | For patients with IgE-mediated hypersensitivity to penicillin or cephalosporin. |

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| **moxifloxacin ( off label )** | 400 mg IV redosing for 24 hours | For patients with IgE-mediated hypersensitivity to penicillin or cephalosporin, |
| **cefoxitin** | 2 g IV 60 minutes prior to surgery; may repeat after 2 hours during surgery, then every 6 to 8 hours<br><br>for BMI ≥30 to ≤50 kg/m2: 2 g<br><br>for BMI >50 kg/m2: 3 g | - For bariatric procedures below the duodenum, agent(s) with anaerobic activity are preferred.<br>- Cefoxitin is the preferred drug. |
| **metronidazole ( off label )** | 500 mg IV no need for redosing | For bariatric procedures below the duodenum cefazolin in combination with metronidazole is preferred. |

**Note:**

**Antimicrobial prophylaxis: agent selection for bariatric surgery**

Antimicrobial prophylaxis is delivered by the intravenous route

**Antimicrobial prophylaxis: timing of administration**

Infusion of the first dose of most prophylactic antimicrobials should begin within 30 min to 1 h before incision.
for fluoroquinolones, the infusion should begin within 1–2 h prior to incision.
For vancomycin, the infusion time should generally be 1 h per gram of drug prior to the operation. Re-dosing of antimicrobials during surgery should occur if the procedure exceeds two half-lives of the drug.

**Antimicrobial prophylaxis: duration**

As is the case for most procedures, the duration of antimicrobial prophylaxis for bariatric surgery should not exceed 24 h after surgery is completed, but Antibiotics may be continued until discharge.

| 2- VTE Prophylaxis | | |
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| **Unfractionated Heparin (UFH)** | UFH 5000 TID after 8 hours of surgery. | |
| **Enoxaparin ( off-label)** | | |

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| | **BMI 30 to 39 kg/m2:** Use standard prophylaxis dosing (ie, 30 mg every 12 hours or 40 mg once daily). for obese patients with a lower risk of VTE<br><br>**BMI ≥40 kg/m2:** increase standard prophylaxis dose by 30% (ie, to 40 mg every 12 hours)<br><br>**High VTE-risk bariatric surgery with BMI ≤50 kg/m2:** 40 mg every 12 hours.<br><br>**High VTE-risk bariatric surgery with BMI >50 kg/m2:** 60 mg every 12 hours. | Recommended extended prophylaxis for patients with a high risk of VTE during the post-discharge period for 10 to 15 days |
| **Fondaparinux** | 2.5 mg SUBQ once daily after hemostasis has been established (give initial dose 6 to 8 hours post-op); usual duration, 5 to 9 days; | |
| **Dalteparin ( not registered in KSA)** | **BMI 30 to 39 kg/m2:**<br><br>Use standard prophylaxis dosing (ie, 2500 or 5000 units once daily, for 5 to 10 days<br><br>**BMI ≥40 kg/m2:** Empirically increase standard prophylaxis dose by 30% (ie, increase to 3250 or 6500 units once daily for 5 to 10 days | |

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| **BEMIPARIN** | **2,500 IU daily** | |
| **Tinzaparin** | SUBQ: Initial: 75 anti-Xa units/kg once daily starting on postoperative day 1 (minimum dose: 4,500 anti-Xa units once daily and maximum dose: 14,000 anti-Xa units once daily) round dose to the closest possible syringe size | duration of therapy is typically 10 days postoperatively<br>Note: Optimal duration of prophylaxis is unknown, but is usually continued until hospital discharge and may be extended for up to 6 weeks postoperatively depending upon venous thromboembolism (VTE) risk. |

3- Other medications

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| **Calcium** | 1200 to 1500 mg daily | |
| **Vitamin D** | D3 3000 - 6000 IU/day or D2 50,000 IU 1-3 times per week, or more if needed to achieve and maintain 25-hydroxyvitamin D >30 ng/mL | |
| **Ferrous sulfate daily** | 150-200 mg elemental iron/day, up to 300 mg 2-3 times daily | |
| **Multivitamin tab daily** | Multivitamin with minerals 1 to 2 tablets daily (minimal requirement) | |
| **Omeprazole** | 20 mg orally once daily | Typically, sleeve gastrectomy patients |

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| | | use a PPI for 6 weeks and gastric bypass patients use a PPI for 6 months |
| **Esomeprazole** | 20 to 40 mg orally once daily | Typically, sleeve gastrectomy patients use a PPI for 6 weeks and gastric bypass patients use a PPI for 6 months |
| **Pantoprazole** | 20 mg once daily orally, can increase to 40 mg once daily. | Typically, sleeve gastrectomy patients use a PPI for 6 weeks and gastric bypass patients use a PPI for 6 months |
| **Thiamine** | Oral: 100 mg 2-3 times daily<br><br>IM: 250 mg daily for 3-5 days or 100-250 mg monthly<br><br>IV: 200 mg 2-3 times daily to 500 mg 1-2 times daily for 3-5 days, followed by 250 mg/day for 3-5 days | |
| **Vitamin B12 (cobalamin)** | Oral: 1000 mcg/day<br>IM: 1000 mcg/month to 1000-3000 mcg/6-12 months | |
| **Ursodeoxycholic acid** | 300 mg twice daily for the 6 months following surgery. | |