



**Medical Task Force  
Peri-Operative Recommendations**

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Review Year	Complete	Approved
2015	February 17, 2015	February 27, 2015 – OBN Advisory Board
2016		
2017		
2018		
2019		
2020		

**1. Blood Work Guidelines (See Appendix)**

It is a requirement that patients in the Surgical Program be fasting for 12 hours for blood work at time levels indicated in Appendix.

The blood work guidelines highlight the task force clinical recommendations and also highlight laboratory investigations that are to be collected and recorded at key time intervals in the Bariatric Surgical Registry.

**2. Vitamin and Mineral Monitoring (See Appendix A for Mandatory Guidelines)**

Bariatric surgical candidates should have no untreated active medical issues prior to this elective surgery.

Establishment of baseline nutrient levels are vital for all bariatric surgery candidates.

Patients must be regularly monitored following bariatric surgery to ensure that they are appropriately nutritionally replenished and more importantly to decrease the risks of developing nutritional deficiencies as a result of the surgical procedure.

Patients that are unable to commit to the long term monitoring necessary post bariatric surgery should have their surgery delayed until such a time that they can commit to the monitoring schedule.

The type and frequency of monitoring should parallel the bariatric procedure, but also the clinical presentation of individual patients. Thus, there is a need to individualise nutritional monitoring. Example: Patients with Anaemia that are not responsive to Fe, B12 or folate, should be tested for Zn, Copper, Selenium and Vitamin E, etc.

Higher risk patients who may need more frequent or intense monitoring include the following:

- 1) Documented preoperative malnutrition (e.g. Vitamin D, Iron)
- 2) Decreased food intake (due to reduced hunger and increased satiety, food intolerances, frequent vomiting)
- 3) Inadequate nutrient supplementation (due to poor compliance with multivitamin/multi-mineral regimen, insufficient amounts of vitamins and/or minerals in supplements)

- 4) Nutrient malabsorption
- 5) Inadequate nutritional support (due to lack of follow-up, insufficient monitoring, difficulty in recognizing symptoms of deficiency)
- 6) Small intestinal bacterial overgrowth can promote micronutrient deficiencies, especially in patients with diabetes mellitus

### **3. Vitamin and Mineral Supplementation Protocols (Pending 15/16)**

Although it is widely accepted that lifelong multivitamin supplementation is required after bariatric surgery, no controlled trials are available to support the type and dosage of vitamin supplements for patients who have undergone bariatric surgery.

OBN Supplementation protocols are currently under review.

### **4. Diagnostic Tests**

The Medical Task Force is in support of the recommendations from the Surgical Task Force (Approved February 27, 2015/Released March 25, 2015) that the only mandatory test, in addition to the screening chemistry, for patients prior to surgery is H. Pylori Serology testing.

Other diagnostic testing is not essential and should be ordered only if clinically indicated.

### **5. Pre-Surgical Screening Protocols**

- Screening for pregnancy is recommended pre-operatively in women of reproductive age
- Screening for Obstructive Sleep Apnea is recommended utilizing standardized screening questionnaires
- Patients with unexplained anemia should be evaluated and underlying treatable causes should be resolved prior to bariatric surgery
- H. pylori may increase the risk for postoperative ulceration and other abnormalities of the stomach if left untreated. Baseline testing for H. pylori prior to bariatric surgery is a standard laboratory test requirement. However, if the patient has been positive in the past for H. pylori, repeat serology testing is of no clinical use.

### **6. Pre-Surgical Management Protocols**

#### **Management of HbA1c levels prior to surgery**

There is rationale for optimizing diabetes control in these patients including lower complication risk and mortality. This is particularly important since bariatric surgery is elective. The bariatric patient is prone to volume depletion after surgery, and uncontrolled hyperglycemia would further add to the risk of volume depletion from osmotic diuresis.

There are no good studies that breakdown the cut-off point for the A1c and elective surgery. There are many studies, mostly in cardiac surgery patients, showing better outcomes with the lower A1c. A level of 10 or higher is considered unstable and elective surgery should be deferred until control is better. At what level the comfort for proceeding is subjective. It is recommended that patients being referred for bariatric surgery have an A1c no higher than 8.5 and preferably lower. There should be active management of a patients DM to get the control better, and consideration to start patients on insulin if necessary. The MRP at the bariatric centre who is clearing the patient for surgery should have the final say as to when the patient is optimal and ready for the surgery with respect to the DM control. A useful guide would be an A1c of 8.5% or less, for most patients.

#### Management of Positive H. Pylori Serology

Patients with newly diagnosed H. pylori should be treated according to the standard treatment protocol. Confirmation of eradication of the infection should be determined with a C-14/C-13 urea breath test.

Previously positive patients who have been treated in the past for H. pylori should have confirmation of eradication of the infection with a C-14/C-13 urea breath test.

If the C-14/C-13 urea breath test returns positive or indeterminate, re-treatment and a repeat C-14/C-13 urea breath test would be required.

If despite treatment, 2 positive C-14/C-13 urea breath tests are obtained, a referral to a gastroenterologist should be coordinated.

If C-14/C-13 urea breath test is not available, endoscopy with biopsy would be recommended.

#### Management of Obstructive Sleep Apnea

All patients undergoing bariatric surgery should be screened using standardized screening questionnaires and/or other screening modalities including overnight sleep oximetry testing (Oxygen Desaturation Index). All patients with positive screen results should proceed with polysomnographic testing. Patients with a diagnosis of obstructive sleep apnea who are prescribed CPAP or bi-level therapy should be encouraged to be compliant with the therapy. However patients who refuse to undergo polysomnographic testing or patients who refuse to comply with CPAP/bi-level therapy may be permitted to proceed with bariatric surgery after being informed of the risks and consequences to their decision. Compliance documentation for treatment of sleep disordered breathing is not a requirement for proceeding with bariatric surgery.

## **7. Post-Surgical Management Protocols**

#### Management of Protracted Vomiting

Bariatric patients with protracted vomiting should receive thiamine prior to glucose infusion.

## Management of Obstructive Sleep Apnea

Patients with a diagnosis of obstructive sleep apnea should have mandatory oxygen saturation monitoring. The presence of OSA is not an indication for ICU admission post-operatively. Select higher risk patients, including males, BMI >60, severe OSA, and age >50 may be monitored in an ICU setting at the discretion of the physicians involved.

For those patients who have been treated with Continuous Positive Airway Pressure (CPAP), adjustment of their CPAP pressures may be necessary during their reduction of weight. When the patient's weight loss has plateaued, their CPAP requirements may be re-evaluated to assess whether clinically significant obstructive sleep apnea persists and whether CPAP therapy is still indicated. This may involve a detailed clinical evaluation as well as a repeat polysomnography (PSG) if clinically indicated. Bariatric surgical patients with OSA not requiring CPAP therapy should be followed clinically for resolution of their sleep disordered breathing symptoms.

Bariatric surgical patients who were diagnosed with significant OSA and had improvement or resolution of their OSA, should be followed closely over time as the re-emergence of clinically significant OSA has been documented independent of weight regain several years after bariatric surgery.

## **8. Statement of Care**

### Patients on Methadone

The administration of methadone is not a contraindication for bariatric surgery. Patients participating in a methadone program should be closely monitored peri-operatively. Consideration should be given to communicating with the patient's prescribing physician to become aware of the individual patient's management program. Patients on methadone with prolonged hospitalizations may require consultation with a pain management team or physician authorized to administer methadone.

### Patients on Medicinal Marijuana (THC)

Patients who are participating in a medically supervised program for medicinal THC are not contraindicated for bariatric surgery. Documentation may be requested at the discretion of the attending physician. Consideration should be given to communicating with the patient's prescribing physician to become aware of the individual patient's management program.

Recreational THC should be discouraged for bariatric surgical candidates due to central effects on satiety and hunger.

### Patients who are Pre-Transplant

Patients who are pre-kidney transplant and need bariatric surgery can be evaluated and treated in a designated Bariatric Centre of Excellence.

Patients who are pre-cardiac or lung transplant are considered vulnerable candidates due to their potential for higher morbidity and mortality. These patients are considered very high risk and would need to be evaluated on a case by case basis in a designated Bariatric Centres of Excellence with the appropriate requirements i.e. ICU and expertise dealing with transplant patients. Interested centres are to provide a proposal to address this cohort of patients.

## **9. Other**

Bariatric Registry: Definitions of Complications (both Medical and Surgical) under review in partnership with the Surgical Task Force.

## References

AACE/TOS/ASMBS Bariatric Surgery Clinical Practice Guidelines (2013). *Endocr Pract*; 19 (No. 2)

BOMSS Guidelines on perioperative and postoperative biochemical monitoring and micronutrient replacement for patients undergoing bariatric surgery (September 2014) (<http://www.bomss.org.uk/wp-content/uploads/2014/09/BOMSS-guidelines-Final-version1Oct14.pdf>)

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**Appendix**  
**Surgical Program Patient Blood work**  
**Minimum Clinical Requirements (Fasting 12 hours)**

Laboratory Investigation	Baseline	3 months	6 months	12 months	Annually up to 5 years
<b>CBC</b>	yes	yes	yes	yes	yes
<b>FBS</b>	yes	yes	yes	yes	yes
<b>HbA1c</b>	yes	only if DM/IFG	only if DM/IFG	yes	yes
<b>Electrolytes</b>	yes	yes	yes	yes	yes
<b>Creatinine</b>	yes	yes	yes	yes	yes
<b>ALT</b>	yes	yes	yes	yes	yes
<b>Alk phos, AST, Billirubin</b>	yes	yes	yes	yes	yes
<b>Albumin</b>	yes	no	yes	yes	yes
<b>Lipid profile</b>	yes	no	yes	yes	yes
<b>Calcium</b>	yes	no	yes	yes	yes
<b>Phosphate</b>	Yes	no	yes	yes	yes
<b>PTH</b>	yes	no	yes	yes	yes
<b>TSH</b>	yes	no	no	no	no
<b>25-OH D</b>	yes	yes	yes	yes	yes
<b>Zn</b>	no	no	yes	yes	yes
<b>Ferritin</b>	yes	yes	yes	yes	yes
<b>RBC Folate</b>	no	no	yes	yes	yes
<b>Vitamin A</b>	no	no	yes	yes	yes
<b>B12</b>	yes	no	yes	yes	yes
<b>H. Pylori Serology</b>	yes	no	no	no	no
<b>Urine Microalbumin</b>	only if DM/IFG	no	no	only if DM/IFG	only if DM/IFG
<b>Pregnancy Test</b>	Preoperatively in women of reproductive age.				
<b>Note: The laboratory investigations highlighted above including hemoglobin (CBC) are collected and recorded at the key time intervals noted within the Bariatric Surgical Registry.</b>					

This taskforce will not deal with other ultrasound tasks as echocardiography and abdominal ultrasound. Whenever the use of ultrasound is required for the detection of complication related to the perioperative procedures, this will be included in the guideline. Composition. Chairperson. Massimo Lamperti. Members. Emmanuel Boselli. Nicola Disma. Perioperative medication management. Perioperative temperature management. Plasma derivatives and recombinant DNA-produced coagulation factors. Our approach is largely consistent with recommendations from the 2018 Frankfurt consensus conference, although we generally do not use preoperative EPO in orthopedic surgical patients who have iron deficiency alone; rather, we reserve EPO therapy for those with anemia of chronic disease/inflammation [43]. American Society of Anesthesiologists Task Force on Perioperative Blood Management. Practice guidelines for perioperative blood management: an updated report by the American Society of Anesthesiologists Task Force on Perioperative Blood Management\*. Anesthesiology 2015; 122:241. Definition of Perioperative Blood Management Perioperative blood management refers to perioperative blood transfusion and adjuvant therapies. The Task Force recognizes that the physiology of bleeding may be influenced by the vasodilatory effects of anesthetics; therefore, for some clinical presentations or surgical situations, the recommendations in these Guidelines may not apply. Practitioners will need to use their judgment of the clinical situation in applying the more generalized recommendations contained in these Guidelines. Recommendations for Patient Evaluation • Review previous medical records and interview the patient. or family to identify: • Previous blood transfusion • History of drug-induced coagulopathy (e.g., warfarin