

# **Bariatric and metabolic surgery during and after the COVID-19 pandemic: DSS recommendations for management of surgical candidates and postoperative patients and prioritization of access to surgery**

## **Summary**

- Delay in access to surgery
  - Procedure related risks: Aerosol-generating procedures involved in laparoscopy and need for preoperative endoscopy provide rationale to postpone non-emergent surgery
  - Major surgery is also associated with increased risk of infection, SIRS and sepsis
  - When elective surgery resumes, laparoscopy must be preferred over open due to substantially lower mortality and morbidity
  
- COVID-19 in obesity:
  - Increased risk of disease severity and mortality. Proposed mechanisms include low-grade chronic inflammation and immune responses. Chronic hyperglycemia in diabetes, downregulates the expression of angiotensin converting-enzyme 2 (ACE2), augmenting the reduction in ACE2 caused by the virus leading to hyperinflammation and respiratory failure. Other risk factors such as hypoventilation, cardiovascular disease, heart failure and so on are also common in obese populations
  - As the virus will still be present during the declining phase of the pandemic, and given the increased morbidity and mortality in obese patients, routine testing is mandatory
  
- Risk of disease progression from delayed operations:
  - Prognostic factors in diabetes: Most important is hyperglycemia, a number of other factors such as age, sex, comorbid conditions can influence prognosis
  - Prognostic factors in obesity: Obesity class 2,3 show increased mortality, most commonly associated with obesity hypoventilation syndrome and obesity related heart failure. Prognosis also depends on comorbid conditions along with BMI and can be assessed using staging systems such as King's Obesity Criteria and Edmonton Obesity Staging System (EOSS). NAFLD/ NASH can substantially increase microvascular and macrovascular complications, and cardiovascular mortality in patients with obesity and type 2 diabetes
  - Understanding the prognosis in untreated patients with obesity and type 2 diabetes helps in prioritization for surgery, which is recommended for appropriate candidates (including those with only class 1 obesity), who do not achieve adequate glycemic control with medical therapy
  - Effect of delay in surgery on health care costs: Delay leads of progression of disease specially diabetes. It is seen the remission of diabetes is best achieved with early surgery

So the chances of remission reduce with delay in surgery. Costs of medical management specially when multiple drugs are required increase with delay in surgery.

- Management of surgical candidates preoperatively in times of COVID-19
  - Pharmacological anti-diabetic medications that promote weight loss include GLP 1 receptor agonists or sodium/glucose cotransporter 2 (SGLT-2) inhibitors, the later might be contraindicated because of concerns about potential subclinical vascular congestion and risk of acute metabolic decompensation associated with these drugs. Patients on weight loss medications should continue the same till surgery is feasible.
  - Dietary interventions such as higher protein content and lower glycemic index should be considered
  
- Priorities in resuming elective bariatric and metabolic procedures
  - Avoid solely BMI based criteria
  - Urgent access: surgery within 30 days  
Patient's condition is associated with one of the following:
    - Conditions with potential to deteriorate quickly
    - Severe symptoms or dysfunction
    - Examples include severe dysphagia or vomiting from anastomotic stenosis, symptomatic internal hernia, severe nutritional deficiencies, or acute band-related complications
  - Expedited access: surgery within 90 days  
Patient's conditions are not likely to deteriorate quickly but are associated with one of the following:
    - Substantial risk of morbidity or mortality
    - Reasonable risk of harm or reduced efficacy of treatment if surgery is delayed beyond 90 days
    - Complex medical regimens or insulin requirement
    - Weight loss, metabolic improvement, or both, are required to allow other time-sensitive treatments (eg, organ transplants or orthopaedic surgery)
  - Standard access: surgery after 90 days
    - Patient's conditions are unlikely to deteriorate within 6 months
    - Only mild dysfunction or symptoms
    - Delaying surgical treatment beyond 90 days is unlikely to significantly reduce effectiveness of surgery
  
- Management of patients in post-op follow-up
  - Telemedicine strategies supervised by specialist bariatric team
  - Treatment of recurrent/ persistent diabetes after surgery include GLP 1 receptor agonists or sodium/glucose cotransporter 2 (SGLT-2) inhibitors
  - To minimize risk of nutrition-related complications, providers should engage with patients at regular intervals

- Clinical signs (eg. weight, visual changes, rash, weakness, edema or anasarca, and neuropsychiatric signs) and symptoms (eg. nausea, tingling, bowel-habit changes, and fatigue) of nutritional deficiency must be assessed during virtual clinic sessions
- Routine laboratory tests should not be deferred particularly for patients who had operations with greater risk of nutrient malabsorption
- Urgent face-to-face meetings and laboratory tests are mandated when symptoms suggest severe biochemical deficiencies or surgical complications (eg, intestinal obstruction or acute cholecystitis)