A thorough workup can more accurately identify which patients should be considered for bariatric surgical procedures as part of a weight loss and management program. Although no outcome can be predetermined, morbidly obese patients who elect to have surgery generally fare better than their counterparts who undertake more traditional weight loss and management methods. Yet currently, a small minority of the eligible patients is referred for surgery.

To determine which patients are likely to experience success with surgery, physicians should consider the patient’s individual eligibility for bariatric surgery, the issues that may affect the risk of surgery, and the factors that influence the probability of long-term success. Criteria include physiologic, psychological, and behavioral characteristics. An accurate assessment typically includes a care team including the primary care physician, mental health professionals, nutritionists, and the bariatric surgeon.

The primary care physician is in the best position to identify patients who may be eligible for bariatric surgery since much of the initial criteria are uncovered during a workup. In addition to taking a history, getting lab tests, and performing a physical, the evaluation should identify comorbidities, uncover secondary causes, and reveal contraindications. The data can then be used to develop an accurate risk-to-benefit ratio and appropriate treatment plan.

A psychological assessment of the patient is often undertaken to identify those with psychopathology severe enough to interfere with surgical success or those who may experience greater success. The clinician may use an existing tool, such as the semi-structured interview for pre-surgical gastric bypass evaluation, developed by the Medical Psychology Service at the VA Boston Healthcare System, or the structured Weight and Lifestyle Inventory (WALI) from the University of Pennsylvania School of Medicine. However, few patients are refused bariatric surgery based solely on psychological reasons.

The tool on the following pages is intended for the collection of relevant data, though it is general and should be approached on an individual level. Each patient will display unique characteristics and require tailored treatment. The information may indicate bariatric surgery as a viable option for the patient, rule it out entirely, or provide treatment guidance—particularly if patients need to improve their current health condition before undergoing the procedure.

Third-party payers may require additional data specific to their insurance programs. The physician will need to address these to obtain payer approval for coverage.
# Physiologic Assessment For Bariatric Surgery

**PATIENT NAME:** __________________________  **ASSESSMENT DATE:** ____ / ____ / ____  **SEX:** ☐ Female  ☐ Male

## Body Mass Index

\[
\text{Body Mass Index} = \left( \frac{\text{weight in pounds} \times 703}{\text{height in inches}^2} \right) = \text{BMI}
\]

### Patient's BMI classification

<table>
<thead>
<tr>
<th>BMI Class</th>
<th>Bariatric Surgery Candidate?</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 18.5</td>
<td>No</td>
</tr>
<tr>
<td>18.5 to 24.9</td>
<td>No</td>
</tr>
<tr>
<td>25.0 to 29.9</td>
<td>No</td>
</tr>
<tr>
<td>30.0 to 39.9</td>
<td>Yes, when BMI &gt;35 and 1 or more significant comorbid conditions are present, less invasive methods of weight loss have failed, and the patient is at high risk for obesity-associated morbidity and mortality; start discussion with patient. Clinical trials are underway to explore the surgical option for patients with a BMI between 30-35 and co-morbid conditions like diabetes.</td>
</tr>
<tr>
<td>&gt; 40</td>
<td>Yes, pending additional assessment; start discussion with patient.</td>
</tr>
</tbody>
</table>

### Waist circumference for patients with BMI 30 and over

<table>
<thead>
<tr>
<th>Patient Gender</th>
<th>Waist Circumference</th>
<th>Bariatric Surgery Candidate?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Female</td>
<td>&gt; 88 cm or 35 in</td>
<td>Yes, if additional risk factors are present</td>
</tr>
<tr>
<td>☐ Male</td>
<td>&gt; 102 cm or 40 in</td>
<td>Yes, if additional risk factors are present</td>
</tr>
</tbody>
</table>

## Relevant history

- Parental overweight/obesity: ☐ Paternal  ☐ Maternal
- Age of obesity onset (early onset is a strong indicator for adult obesity): __________
- Other preexisting conditions for obesity: __________
- Preexisting conditions for increased surgical risk: __________
- Weight-management history (these efforts should not be associated with a lack of motivation or will power):
  - ☐ Documented failure of nonsurgical weight-loss treatments (enter specifics to the right) **OR**
  - ☐ High probability of failure of nonsurgical weight-loss treatments

## Notes

______________________________
______________________________
______________________________
______________________________
______________________________
______________________________
______________________________
Laboratory tests
To assess eligibility for bariatric surgery, order the following tests.

- CBC, RBC, WBC, platelets, hemoglobin, hematocrit
- Fasting blood glucose
- Lipid profile: total cholesterol, high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol, triglycerides
- Serum chemistries: bicarbonate (or total CO₂), chloride, potassium, sodium, basic metabolic panel, comprehensive metabolic panel, ferritin, kidney function, liver function
- Thyroid test: thyroid-stimulating hormone (TSH), full thyroid function tests

Secondary causes of obesity
Rule out any of the following, which may require treatment before—or in conjunction with—a weight loss program (if one is prescribed).

- Corticosteroid use
- Cushing syndrome
- Eating disorders (eg, binge-eating disorder, bulimia nervosa, night-eating disorder)
- Genetic syndromes (eg, Albright's hereditary osteodystrophy, Alström syndrome, Angelman syndrome, Bardet-Biedl syndrome, Börjeson-Forasman-Lehmann syndrome, Cohen syndrome, Fröhlich syndrome, Prader-Willi syndrome, Turner syndrome)
- Growth hormone deficiency
- Hypogonadism
- Hypothalamic obesity
- Hypothyroidism
- Insulinoma
- Lipodystrophy syndromes (familial partial lipodystrophy, acquired partial lipodystrophy)
- Medication-related (eg, adrenergic antagonists, carbamazepine, glucocorticoids, insulin, lithium, megestrol acetate, phenothiazines, sodium valproate, sulphonyleurases, serotonin antagonists, thiazolidinediones, tricyclic antidepressants)
- Oral contraceptive use
- Polycystic ovary syndrome
- Pseudohypoparathyroidism
Risk Assessment For Bariatric Surgery

Age-related risk

<table>
<thead>
<tr>
<th>PATIENT GENDER</th>
<th>AGE</th>
<th>RISK PROFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>≥ 55 years or postmenopausal</td>
<td>Greater risk associated with obesity</td>
</tr>
<tr>
<td>Male</td>
<td>≥ 45 years</td>
<td>Greater risk associated with obesity</td>
</tr>
<tr>
<td>Either</td>
<td>&gt; 65 years</td>
<td>Assess for surgical risk, although age alone is not typically a deterrent</td>
</tr>
<tr>
<td>Either</td>
<td>&lt; 18 years</td>
<td>Undergo additional assessment</td>
</tr>
</tbody>
</table>

Absolute risk

Currently, in patients with a BMI greater than 35, an advanced stage of any one of these comorbidities may call for referral for bariatric surgery.

- Atherosclerotic disease (eg, peripheral arterial disease, abdominal aortic aneurysm, symptomatic carotid artery disease)
- Chronic obstructive pulmonary disease
- Coronary heart disease
- Sleep apnea
- Type 2 diabetes
- Cholesterol

Relative risk

Although their presence alone may not indicate surgical treatment for obesity, in conjunction with other symptoms, the following conditions may affect overall health and quality of life.

- Gallstones and related complications
- Gynecologic abnormalities (e.g. amenorrhea, menorrhagia)
- Osteoarthritis
- Stress incontinence

Cardiovascular risk factors

Three or more of the following indicate a greater need for weight reduction and suggest the patient is a possible candidate for bariatric surgery.

- Cigarette smoking
- Hypertension or on antihypertensive agents
- High-risk LDL cholesterol (≥160 mg/dL)
- Low HDL cholesterol (<35 mg/dL)
- High serum triglycerides (>200 mg/dL)
- Family history of premature coronary heart disease (defined as definite myocardial infarction or sudden death at or before age 55 in patient's father or other male first-degree relative, or age 65 in mother or other female first-degree relative)
**Morbidity and mortality**

The following may be risk factors for postoperative complications or may worsen postoperatively; risks must be carefully weighed against the benefits. If surgery is not contraindicated, the patient will likely require additional monitoring.

- Age >45 years
- Heavy alcohol use
- Blood clots; pulmonary embolus
- BMI >50
- Cancer, with poor prognosis for 5-year survival
- Type 2 diabetes
- Current illicit drug use
- Gallstones
- Heart problems (patients with known coronary artery disease can safely undergo bariatric procedures without increased morbidity or mortality, but high blood pressure should be evaluated)

- Kidney stones
- Nutritional deficiencies
- Liver disease (cirrhosis); advanced liver disease with portal hypertension
- Obstructive sleep apnea
- Pregnancy, lactation
- Severe mental retardation (IQ <50)
- Active, uncontrolled schizophrenia

### Obesity Surgery Mortality Risk (OS-MRS)

Identify patients who have a greater risk of 90-day mortality associated with bariatric surgery by assigning one point to each relevant preoperative variable and checking to total against the score below.

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI ≥50</td>
<td>+1</td>
<td>0</td>
</tr>
<tr>
<td>Male gender</td>
<td>+1</td>
<td>0</td>
</tr>
<tr>
<td>Hypertension</td>
<td>+1</td>
<td>0</td>
</tr>
<tr>
<td>Pulmonary risk factors</td>
<td>+1</td>
<td>0</td>
</tr>
<tr>
<td>(previous thromboembolism, preoperative vena cava filter, hypoventilation, pulmonary hypertension)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥ 45 years</td>
<td>+1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Patient Total=**

<table>
<thead>
<tr>
<th>Score</th>
<th>Risk Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>C High</td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>B Intermediate</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>A Lowest</td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Psychological Assessment For Bariatric Surgery

Consider referring the patient for one or more of the following evaluations

- **Behavioral**: Review of the patient’s weight management history and related behaviors (e.g., overeating, physical inactivity) and disorders (including bulimia and depression).

  NOTES:

- **Cognitive/emotional**: Educate the patient about the procedure, including preoperative and postoperative instructions, though a lack of knowledge should not preclude surgery as an option. Expectations should also be managed; patients should not anticipate an overnight transformation.

  NOTES:

- **Developmental history**: Evaluate the patient’s stability and attachment style.

  NOTES:

- **Current life situation**: Ensure that the patient has adequate resources to support recovery and subsequent weight loss. Work, finances, friends, and family play a role here.

  NOTES:

- **Motivation/compliance**: Evaluate the patient’s ability to commitment to the process, one that is likely to be lifelong. This may involve presurgery weight loss.

  NOTES:

**Third-party payer requirements**

NAME OF THIRD PARTY PAYER: ________________________________

- Likely to be approved
- Likely to be denied