

Bariatric Surgery in 2018
BC Digestive Diseases Weekend
May 12, 2018

Classification of Obesity:

Body Mass Index (BMI) = Weight (kg)/height (m)²

Class	BMI (kg/m ²)
Underweight	<18.5
Normal weight	18.5-24.9
Overweight	25.0-29.9
Obesity:	
• Obesity class I	30.0-34.9
• Obesity class II	35.0-39.9
• Obesity class III (severe/extreme)	≥40

Vancouver Island Health Authority (VIHA) Bariatric Program

Website: http://www.viha.ca/surgery/surgery_types/bariatric.htm

Eligibility:

- British Columbia Resident covered by MSP with referral from family physician/specialist
- Adults ≤65 years of age
- **BMI ≥40 kg/m² without comorbid illness OR**
- **BMI 35.0-39.9 kg/m² with at least one obesity related comorbidity**

Exclusion criteria:

- Unable to provide self-care and participate in prolonged medical follow-up
- Non-stabilized psychiatric/eating disorders
- Alcohol abuse and/or drug dependencies
- Unable to physically/financially travel to Victoria

Program Process:

Preoperative:

- Referral from family physician or specialist
 - www.viha.ca/surgery/surgery_types/bariatric.htm
- Compulsory orientation session
 - Information session re: program, process, expectations (90 mins)
- Multidisciplinary medical and psychosocial assessment
 - Internal medicine
 - Medical review and optimization

- Screen/test for OSA
 - Dietitian
 - Bariatric CNL navigator
 - Specialist referrals as indicated i.e. psychiatry, endocrinology
- Preconditioning program
 - Optimize medical status and reduce surgical risk
 - Provide education and tools for success
 - Establish/maintain expectations for patients
 - Food diary
 - Regular exercise
 - Work on emotional eating issues
 - Counselling
 - Group behavior change programs
 - i.e. Craving change, Changeways, Weight Wise
 - Recognition that lifestyle management is essential for long term success
- Referral to surgeon if appropriate
 - Surgical assessment and procedure selection
 - Patient placed on surgical waitlist if approved by surgeon
 - Preoperative liquid diet (Optifast x3 weeks)
 - Anesthesia consult
- Referral to local support resources and clinic follow-ups q3 months leading to surgery

Types of Bariatric Surgery:

1. Laparoscopic vertical sleeve gastrectomy (VSG)
2. Laparoscopic roux-en-Y gastric bypass (RNYGB)
3. Laparoscopic biliopancreatic diversion/duodenal switch (BPD/DS) – not currently performed in British Columbia

Inpatient:

- Bariatric pathway
- Multidisciplinary involvement as needed:
 - Endocrine
 - Internal medicine
 - Gastroenterology
- Discharge home POD#1 or 2

Postoperative:

- Diet
 - Weeks 1-2: fluids
 - Weeks 3-4: puree
 - Weeks 5-7: soft solids
 - Week 8 onwards: regular bariatric diet
 - High protein, low fat, low sugar

- Sip fluids throughout day, eat slowly, chew thoroughly
- Avoid caffeine x1 month postoperatively
- Eliminate carbonated beverages lifelong
- Avoid alcohol x1 year postoperatively and minimize in long term
- Medication
 - Extended DVT prophylaxis x1 week
 - Proton pump inhibitor x3 months
 - Stool softener (constipation common postoperatively)
 - Pain medication (liquid acetaminophen and codeine)
- Postoperative follow-up
 - q3 months x1 year via VIHA bariatric surgery clinic then q6-12 months long term follow-up
 - Annual labs: LFT's, CBC, ferritin, folate, calcium, 25-OH vitamin D3, PTH, B12
 - Plus zinc and copper for gastric bypass

Complications:

- General – Early
 - Leak
 - Bleeding
 - Wound infection
 - Nausea
 - DVT/PE
 - Mortality (30-day postoperative mortality rate: <1%)
- General – Late
 - Gallstones
 - Nephrolithiasis
 - Ventral hernia
 - Stricture/stenosis
 - Nutritional and vitamin deficiency
- Procedure specific: Roux-en-y gastric bypass
 - Dumping syndrome
 - Marginal ulcer
 - Internal hernia
- Procedure specific: Vertical sleeve gastrectomy
 - Reflux
- Management of complications – specialized and multidisciplinary → refer back to surgeon if any concerns arise

Weight regain/recidivism:

- Relapse of dietary habits
- Intake of refined sugar, candy, processed foods/snack foods particularly liquid sugar (i.e. cola/pop, juice, sports beverages, tea/coffee with added sugar) strongly predict recurrence of obesity

Vitamin and Mineral Supplementation after Surgery:

Supplement	Daily Dosage	Schedule
Prenatal Multivitamin and Mineral with iron •Centrum prenatal multivitamin/mineral •Kirkland Prenatal multivitamin	1	Bedtime
Calcium citrate •Kirkland Signature Calcium Plus with Vitamin D3 & minerals •Jamieson Mega Cal Calcium Mini-Tab •Equate Calcium Citrate + D	500-600 mg twice daily	1 at breakfast and 1 at lunch (do not take both at the same time- your body can only absorb so much at once)
Vitamin D (drops, chewable, or tablets)	2000 IU	Lunch or dinner
Vitamin B12 (sublingual or tablet)	500 mcg	Breakfast
Iron- May be required for women of child bearing age with history of deficiency	Speak with RD	Bedtime

Common micronutrient deficiencies post bariatric surgery:

	Vitamins							Minerals		
	A	B1	B9	B12	D*	E	K	Ca	Fe	Zn/Cu
RNY		X	X	X	X			X	X	
Sleeve		X	X	X	X				X	
LAGB		X			X					
BPD	X	X	X	X	X	X	X	X	X	X

Reference: Obesity Algorithm 2017-2018 Obesity Medicine Association
<https://obesitymedicine.org/obesity-algorithm/>

Signs/Symptoms of micronutrient deficiency:

- Vitamin A: night blindness
- Vitamin B1 (Thiamine):
 - Beriberi: weakness

- Dry beriberi: Wernicke-Korsakoff encephalopathy (e.g. ophthalmoplegia, dementia, ataxia, amnesia)
 - Wet beriberi: congestive heart failure
- Vitamin B9 (Folate): megaloblastic anemia, appetite loss, weight loss
- Vitamin B12 (Cyanocobalamin): megaloblastic anemia, contribute to central nervous system disorders
- Vitamin D: decreased bone mineralization, osteopenia, secondary hyperparathyroidism, hypocalcemia
- Vitamin E: neuropathy, ataxia
- Vitamin K: bruising, increased risk for bleeding



Referral for Bariatric Surgery Program

Bariatric Program | Memorial Pavilion | Homer 120 | Royal Jubilee Hospital 1952 Bay St Victoria V8R 1J8

Fax: 250-370-8661 | Phone: 250-370-8641

Has your patient had previous weight loss surgery? Yes / No	
Patient Name:	Weight:
PHN:	
Date of Birth:	Height:
Phone: (H)	
Phone: (C)	BMI:
Address:	
Family Doctor:	Smoker: Yes / No

MANDATORY REQUIRMENTS (PLEASE CHECK THE ONE THAT APPLIES)

BMI>40 **OR** BMI>35 plus medical co-morbidities

RISK FACTORS – Please check ALL that apply

<input type="checkbox"/> Type 2 diabetes	<input type="checkbox"/> Fatty Liver
<input type="checkbox"/> Depression	<input type="checkbox"/> GERD
<input type="checkbox"/> Other Psychiatric history	<input type="checkbox"/> Pseudotumor Cerebri
<input type="checkbox"/> Obstructive Sleep Apnea	<input type="checkbox"/> Cardiovascular Disease
<input type="checkbox"/> Hypertension	<input type="checkbox"/> Severe Immobility
<input type="checkbox"/> Hyperlipidemia	<input type="checkbox"/> Venous Stasis/recurrent cellulitis
<input type="checkbox"/> Chronic Pain	<input type="checkbox"/> Asthma
<input type="checkbox"/> Osteoarthritis	

PAST MEDICAL HISTORY (SUMMARY/LIST):

CURRENT MEDICATIONS:

PSYCHOLOGICAL CONCERNS/ CONSIDERATIONS: PHQ9 score if done: _____

PLEASE INCLUDE COPIES OF MOST RECENT:

1. Blood work	4. Medication List
2. ECG	5. SLEEP STUDY RESULTS (REQUIRED)
3. Cardiac work up (If applicable)	

Referral source / Authorized name and signature:

Title (Profession):	Date Signed:
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FOR OFFICE USE ONLY
PRIORITY:
DATE RECEIVED: