Care After Weight Loss Surgery

Obesity Update 2020

Royal Alexandra HOSPITAL FOUNDATION

CASES
Centre for Advancement of Surgical Education & Simulation

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Faculty: Sarah Chapelsky, MD, FRCPC

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- Consulting Fees: Bausch Health, Novo Nordisk, Enhance Health
- Other: N/A

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Learning objectives.

1. Employ and sustain standard recommendations post-bariatric surgery including nutrition requirements, supplements and routine blood work.
2. Observe and employ medications post-bariatric surgery including medications for birth control, diabetes, lipids, blood pressure, thyroid management and anticoagulation.
3. Recognize weight recidivism after bariatric surgery and implement an appropriate action plan based on definition, causes and assessment.

Jen, 33
• laparoscopic sleeve gastrectomy in Mexico 2 years ago
• total body weight loss 30%, current BMI 29
• previously had prediabetes
• no medications, occasionally takes a multivitamin

Which of the following statements is true?

A. Jen needs less frequent nutritional screening because she had sleeve gastrectomy, rather than roux-en-Y gastric bypass.

B. Jen needs more frequent nutritional screening because she is female.

C. Vitamin A, D, E, and K monitoring is recommended after roux-en-Y gastric bypass, but not after sleeve gastectomy.

D. None of the above.

JEN, 33

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B. Jen needs more frequent nutritional screening because she is female.

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D. None of the above.

JEN, 33

Shiau J, Bierto L. Canadian Obesity Clinical Practice Guidelines: Bariatric Surgery: Postoperative Management. Downloaded from https://obesitycanada.ca/guidelines/postop. Accessed 11Feb2021.

Screening after weight loss surgery.

Routine screening at 6 months, 12 months, and annually thereafter:

CBC and differential
electrolytes
creatinine

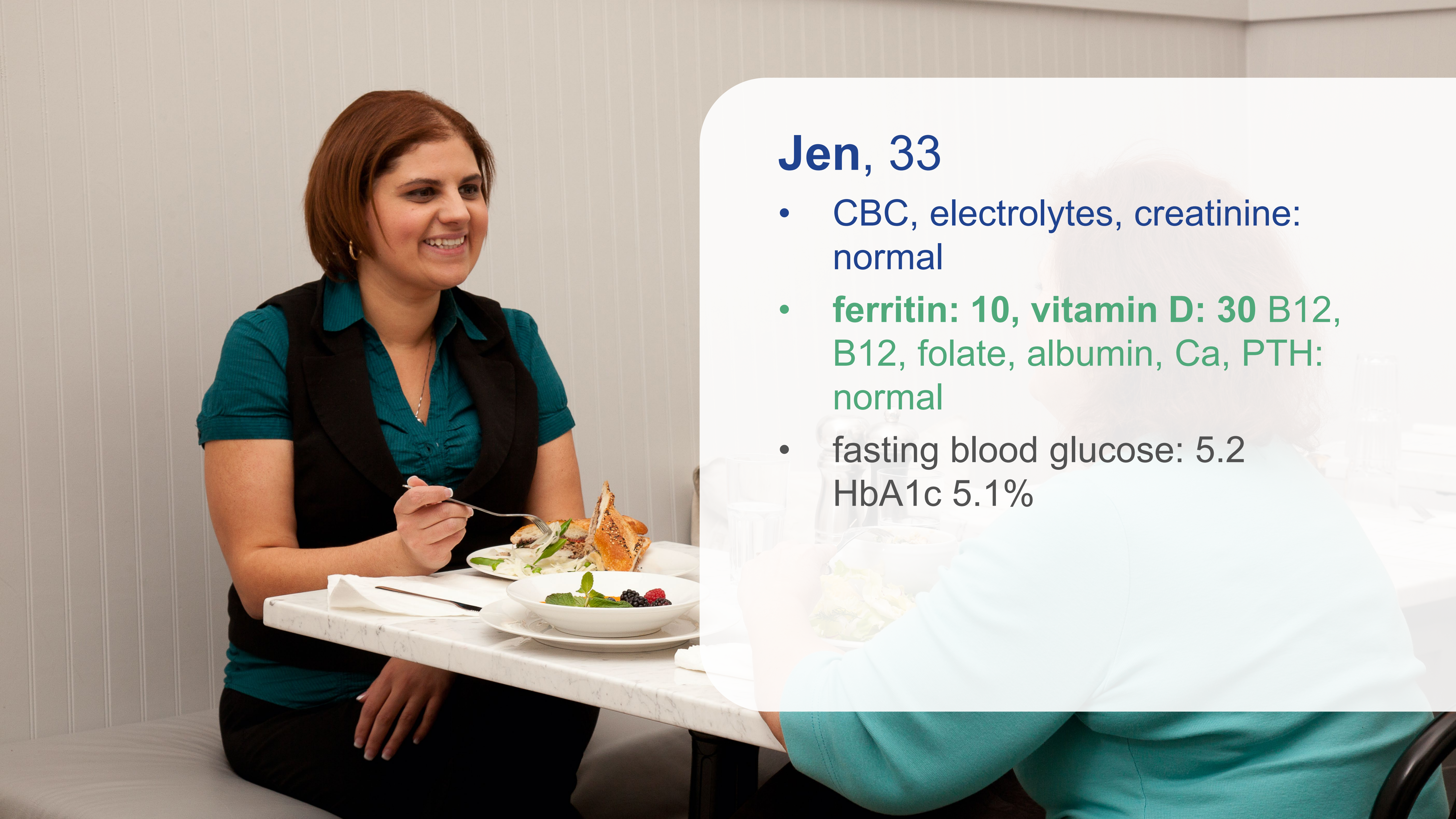
ferritin, B12, folate
albumin, Ca, vitamin D level, PTH

Selected labs after bariatric surgery:

TSH
fasting glucose, HbA1c
lipid panel, urine ACR

in RYGB:
vitamin A, copper, zinc

*weight loss surgery = adjustable gastric band, sleeve gastrectomy, roux-en-Y gastric bypass
Shiau J, Bierto L. Canadian Obesity Clinical Practice Guidelines: Bariatric Surgery: Postoperative Management. Downloaded from https://obesitycanada.ca/guidelines/postop. Accessed 11Feb2021.


Jen, 33
CBC, electrolytes, creatinine: normal
ferritin: 10, vitamin D: 30 B12, B12, folate, albumin, Ca, PTH: normal
fasting blood glucose: 5.2
HbA1c 5.1%

Which of the following treatments for iron deficiency anemia is <u>not</u> appropriate in patients that have had weight loss surgery?

A. oral ferrous gluconate, sulfate, or fumarate
B. iron polysaccharide complex
C. intravenous iron infusion
D. all of the above treatments can be considered

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Mechanick JI et al. *Endocr Pract* 2019;25,1346-59.

Vitamin and mineral supplementation after weight loss surgery.

Multivitamin	2 tablets daily Prenatal vitamin or bariatric multivitamin Gummies not appropriate; carefully check formulations
Vitamin B12	350 - 500 mcg daily sublingually
Vitamin D	3000 IU daily, all sources increase if needed to achieve normal serum value
Calcium	1200 - 1500 mg daily
Iron	18 mg; 45 – 60 mg in menstruating women

Shiau J, Bierto L. Canadian Obesity Clinical Practice Guidelines: Bariatric Surgery: Postoperative Management. Downloaded from https://obesitycanada.ca/guidelines/postop. Accessed 11Feb2021.

Eating after weight loss surgery.

DO

- ✓ Prioritize proteins and nutrients
- ✓ Choose small portions (1 – 1.5 cups per sitting)
- ✓ Eat slowly, chew well, be mindful
- ✓ Separate solids and liquids – after food, wait 30 minutes before drinking

AVOID

- ⓧ High-sugar foods and beverages
- ⓧ Challenging textures – sticky, doughy, stringy, dry, touch
- ⓧ Carbonated beverages

Nutrition Practice Guideline: Adult Bariatric Care; 2010, revised draft 2018. Alberta Health Services, Edmonton, Canada; Shiau J, Bierto L. Canadian Obesity Clinical Practice Guidelines: Bariatric Surgery: Postoperative Management. Downloaded from https://obesitycanada.ca/guidelines/postop. Accessed 11Feb2021.

Jen asks you about birth control options. Which of the following statements is true?

A. Oral contraception is unreliable after roux-en-Y gastric bypass.

B. Oral contraception is unreliable after sleeve gastrectomy and roux-en-Y gastric bypass.

C. Women should not become pregnant until at least 6 months after weight loss surgery.

D. Women who have had weight loss surgery should never get pregnant.

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Jen has a levonorgestrel-releasing IUD inserted.

JEN, 33

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Scott, 42

- type 2 diabetes mellitus x 10 years insulin 100 units daily, metformin, empagliflozin, semaglutide HbA1c 7.1%
- LDL 1.85 on rosuvastatin 40 mg
- hypertension on rampril-HCTZ
- TSH 0.5 on levothyroxine 200 mcg
- undergoes laparoscopic roux-en-Y gastric bypass

Which if the following is true about lipid-lowering medications after roux-en-Y gastric bypass?

A. Ezetimibe (but not statins) has limited benefit.
B. Ezetimibe and statins have limited benefit.
C. Statin dose may need to be increased to achieve target LDL.
D. If diabetes goes into remission, statins prescribed for primary prevention should be discontinued.

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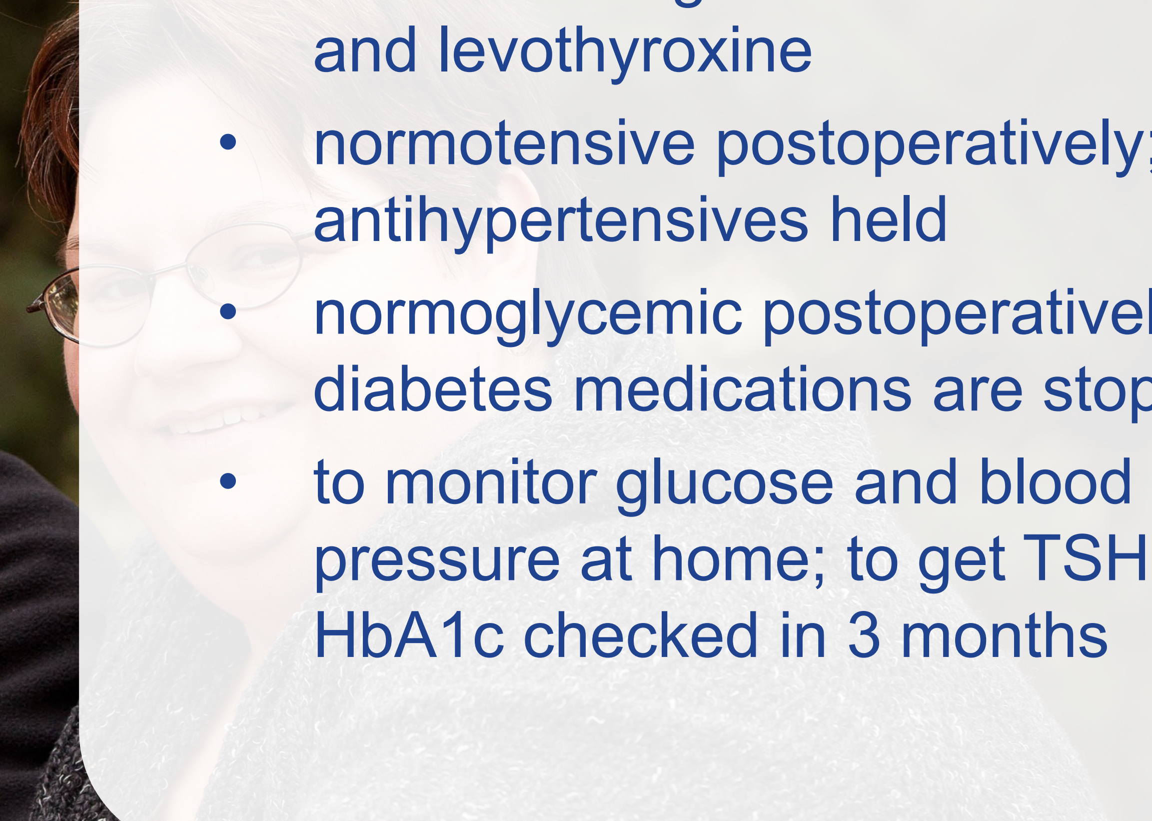
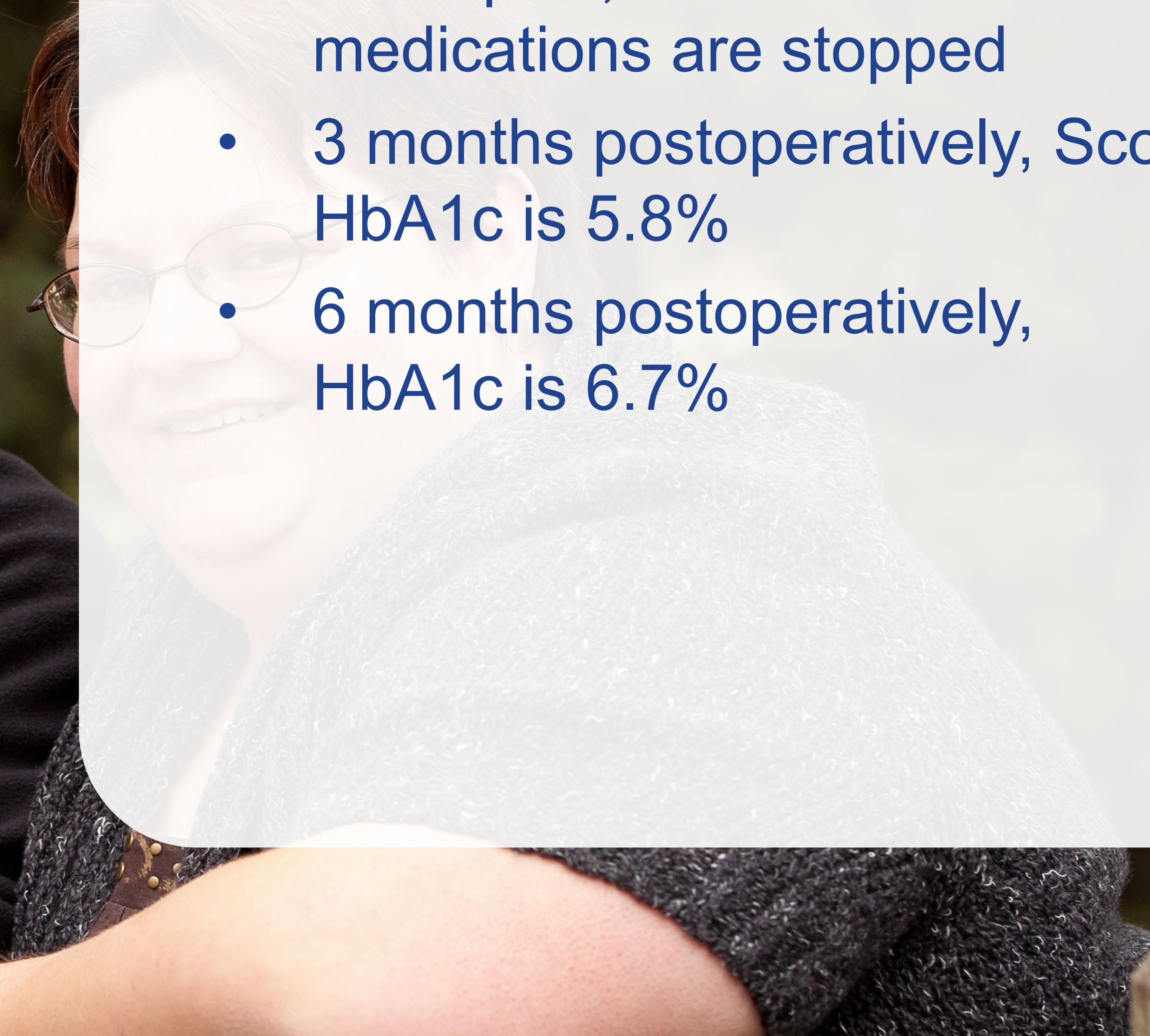


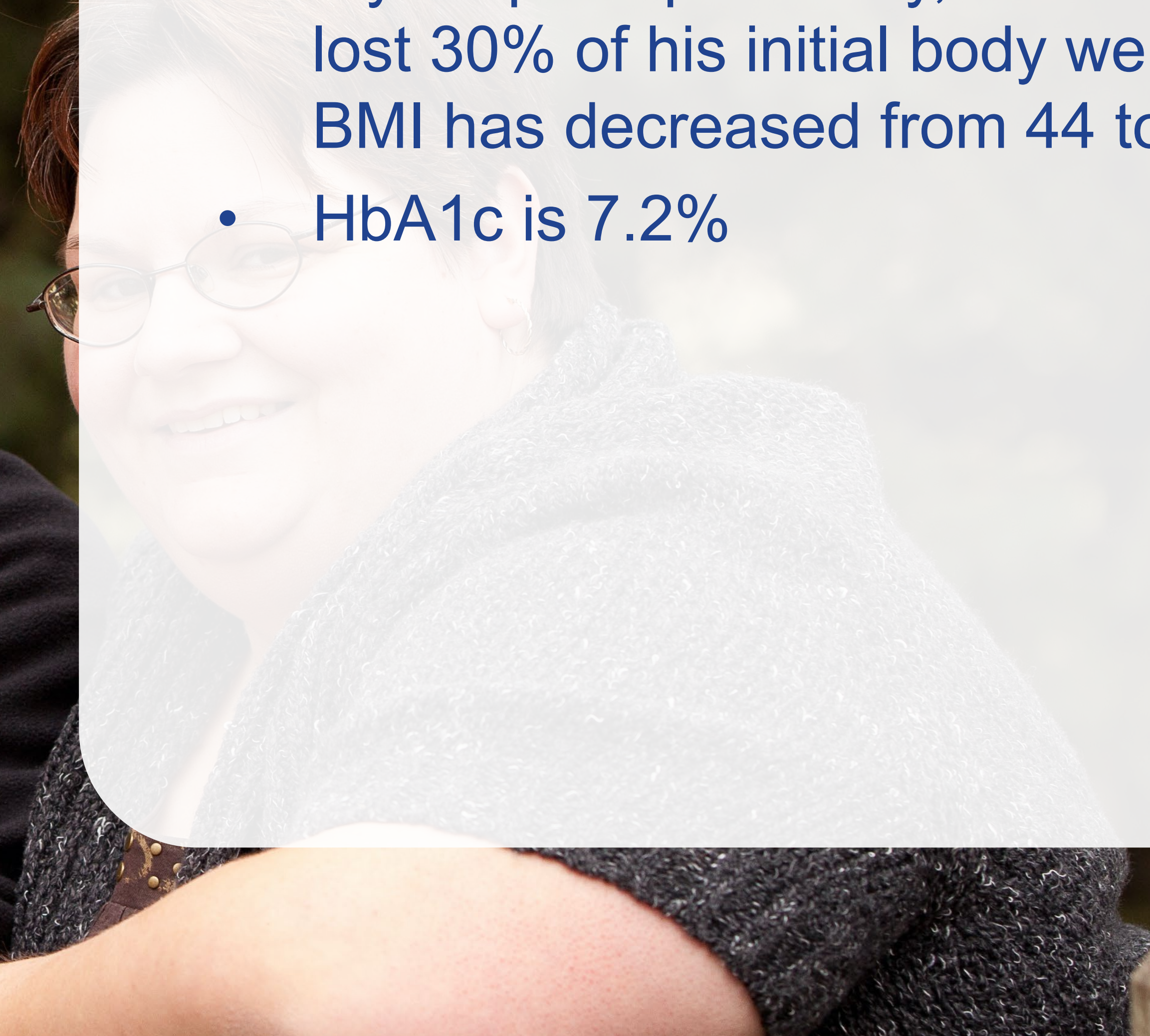
Scott, 42

- he is discharged on rosuvastatin and levothyroxine
- normotensive postoperatively; antihypertensives held
- normoglycemic postoperatively; diabetes medications are stopped
- to monitor glucose and blood pressure at home; to get TSH and HbA1c checked in 3 months



Scott, 42

- in hospital, all of Scott's diabetes medications are stopped
- 3 months postoperatively, Scott's HbA1c is 5.8%
- 6 months postoperatively, HbA1c is 6.7%



Scott, 43

- 1 year postoperatively, Scott has lost 30% of his initial body weight; BMI has decreased from 44 to 31
- HbA1c is 7.2%

Which of the following diabetes medications should not be resumed after weight loss surgery?

A. Metformin – the pill is too large to swallow.
B. GLP-1 agonists (e.g. dulaglutide, semaglutide) – they may cause too much weight loss.
C. SGLT2 inhibitors (e.g. canagliflozin, empagliflozin) – they can cause normoglycemic ketoacidosis.
D. All of these medications may be used after weight loss surgery.

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SCOTT, 43

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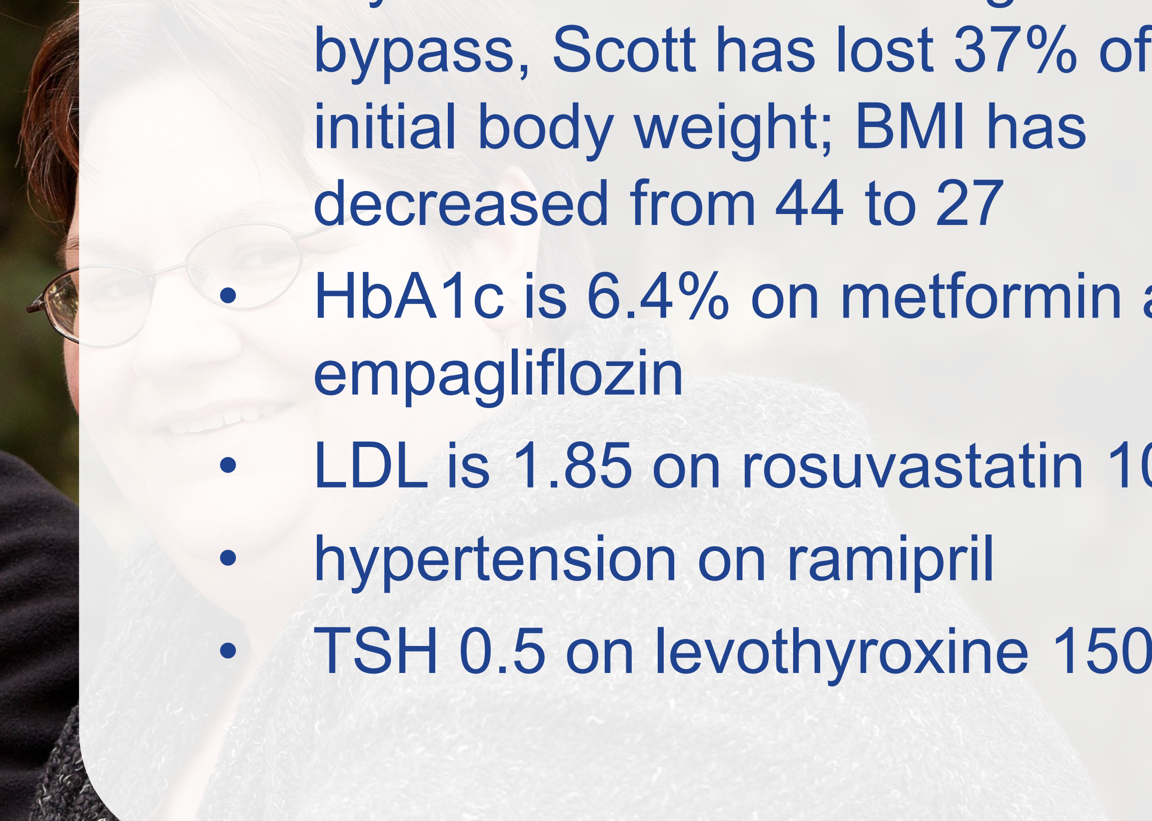
Scott's HbA1c is 7.2% 1 year after roux-en-Y gastric bypass. What treatment would you recommend?

A. Intensification of dietary and exercise efforts
B. Metformin
C. Empagliflozin
D. Semaglutide

SCOTT, 43



Scott, 44

- 2 years after roux-en-Y gastric bypass, Scott has lost 37% of his initial body weight; BMI has decreased from 44 to 27
- HbA1c is 6.4% on metformin and empagliflozin
- LDL is 1.85 on rosuvastatin 10 mg
- hypertension on ramipril
- TSH 0.5 on levothyroxine 150 mcg

Scott, 44
• upon returning home from a work trip to Toronto, Scott is diagnosed with a DVT
• in the emergency department, he is prescribed rivaroxaban
• he visits his family physician a week later

Which of the following is true of VTE treatment in patients that have had weight loss surgery?

A. Direct oral anticoagulants are preferred over warfarin, due to INR lability.
B. LMWH should be avoided due to increased bleeding risk.
C. Rivaroxaban absorption may be affected.
D. Thrombosis Canada guidelines can be applied.

SCOTT, 43

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C. Rivaroxaban absorption may be affected.
D. Thrombosis Canada guidelines can be applied.

Specialist consultation is sought regarding choice of anticoagulant.

SCOTT, 43

Wang T and Carrier M. *Blood* 2020 Jan 24. pii: blood.2019003528. doi: 10.1182/blood.2019003528. [Epub ahead of print].

Jen, 41

- laparoscopic sleeve gastrectomy 10 years ago
- lowest postoperative BMI 29, total body weight loss 30%
- gaining weight in the last 2 years; BMI 35, total body weight loss 15%

10 years after weight loss surgery, how many patients <u>fail</u> to maintain a 20% weight loss?

A. 10%
B. 25%
C. 50%
D. 75%

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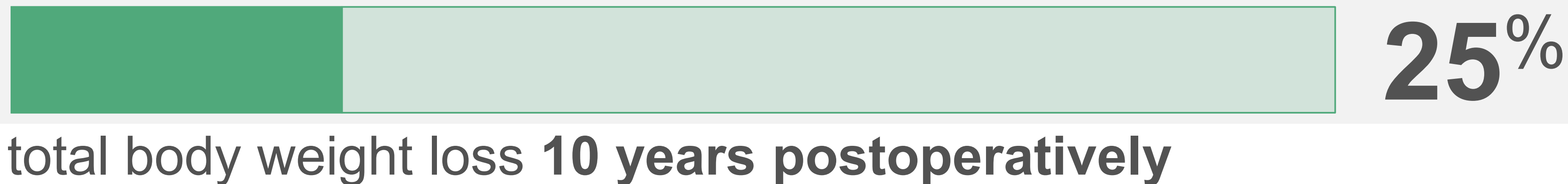
Sjostrom L et al. *N Engl J Med* 2004;351:2683-93.

Weight gain is **expected** after weight loss surgery.

total body weight loss **1 year postoperatively**



total body weight loss **10 years postoperatively**

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Sjostrom L et al. *N Engl J Med* 2004;351:2683-93.

What are potential causes for Jen's weight gain?

SCOTT, 43

BEHAVIOURAL	MEDICAL	MENTAL HEALTH
grazing high-calorie foods liquid calories	weight-gaining medications	mood disorder
inadequate physical activity	anatomical factors	binge eating
excessive postoperative restriction	progression of a chronic disease	sleep disruption

Obeid NR et al. Weight recidivism after bariatric surgery: evaluation and implications. *The SAGES Manual of Bariatric Surgery*, 2018.

Jen, 41

- history reveals depression and poor sleep
- lab work reveals iron deficiency anemia
- upper GI series show expected postoperative anatomy

Jen, 41

- starts SSRI
- gets a levonorgestrel IUD and resumes supplements
- adopts sleep hygiene behaviors
- resumes food journal
- introduces walking
- starts a medication for chronic weight management

Jen, 41

- combined intervention results in 25% weight loss, BMI 26

1

Obesity is chronic, progressive disease that requires lifelong management.

2

Effective obesity treatments make health behavior changes easier to sustain.

3

Multimodal therapy is required for long-term success in weight management.

Photos provided courtesy of Obesity Canada