Urban Legends in Bariatric Nutrition Webinar Q&A

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- Any thoughts on marijuana edibles, more patients are asking?
    - There isn't enough research to say whether marijuana has a positive or negative effect on post-op outcomes. Some programs have created their own guidelines on marijuana use. From a nutrition perspective, we can remind patients to be mindful about calories and added sugars in edibles and can open a discussion about whether that aligns with their health goals.
- What is the purpose of decreasing liver volume?
    - The left lobe of the liver blocks the surgeon's ability to access the upper portion of the stomach. Decreasing liver volume makes it safer and easier for the surgeon to retract the liver (pull it out of the way) so they can access the stomach to perform surgery.
- Aren't 700-1000 calories too low / concern about malnutrition?
    - These calorie amounts align with very low-calorie diets (VLCDs) and low calorie diets (LCDs) that are prescribed for weight loss without surgery. To prevent malnutrition, we focus on meeting protein needs, meeting micronutrient needs through supplementation, meeting essential fatty acid needs, and meeting hydration needs. It is not physically possible for most patients to achieve higher calorie amounts in the early months after surgery unless they are grazing or consuming high-calorie liquids.
- Have you had surgeons mention that they discourage any weight loss prior to surgery because of metabolic adaption? (a negative effect on a decreasing BMR from weight loss but no adjustment that leads to weight gain?)
    - Metabolic adaptation can happen with both surgical and non-surgical weight loss. It typically occurs once someone has lost a minimum of 10-15% of their body weight. It is nearly impossible for someone to lose a significant amount of weight and not experience some degree of metabolic adaptation. Bariatric surgery seems to have a slight protective effect against metabolic adaptation when compared to non-surgical weight loss of the same amount. We can also limit the severity of metabolic adaptation by helping patients to maintain lean muscle mass (through meeting protein needs and encouraging resistance forms of physical activity). However, it's more important that we work to manage metabolic adaptation as opposed to discouraging weight loss to prevent it.
- With carbonated beverages, could the temporary expanding of stomach (not permanent stretch of pouch) lead to overeating for patients?
    - It's possible. It has never been researched but some clinicians suspect it based on anecdotal evidence from patients. Definitely an interesting topic to research!
- You mentioned carbonation has limited evidence long-term, what about the association of carbonation and "undesirable" food choices or eating behaviors?
    - Carbonated beverages that are caloric would be discouraged not just due to carbonation but for the added calories and the knowledge that we have regarding sugar-sweetened beverages and weight/health. However, we also

have carbonated water that is unflavored and unsweetened so not all carbonated beverages fall into a category of "undesirable" from that perspective.

- Does your pre-operative diet approach change according to length of lead time to the surgical date?
    - Our liver-shrinking diet is 2 weeks for all patients. We also encourage losing up to 5% weight loss in the months leading up to surgery, which may be 2 to 6 months depending upon the patient's insurance requirements. I think the ideal situation is a combination of losing some weight in the months leading up to surgery (visceral adipose tissue in liver & abdomen in general) plus a short-term, low-carb diet (liver glycogen stores). Knowing that our patients come to us because weight loss is a challenge, in our program we don't want to deny them the opportunity to have surgery just because they struggle to lose weight. We know that even if their weight is stable leading up to surgery, we can still have an impact on liver size with the short-term pre-op diet.
- Any long-term outcomes 2, 5, 10, 15 years + with metabolic surgery showing the best long-term success and sustainability?
    - We have the most research for bypass but are getting more for sleeve.
    - Specifically for diabetes but includes weight outcomes: https://www.nejm.org/doi/full/10.1056/nejmoa1600869
    - 10 to 20 year data for gastric bypass (also band & vertical banded gastroplasty which aren't commonly performed now) https://www.ncbi.nlm.nih.gov/pubmed/23163728
    - 4 to 10 year data for bypass, sleeve, band https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5112115/
    - 10 year data sleeve; also talks about GERD prevalence
    - https://www.ncbi.nlm.nih.gov/pubmed/30047101
- How does the diet change for patients who gets pregnant post bariatric surgery?
    - That is a presentation of its own! Ideally, patients are encouraged to wait 12-24 months before becoming pregnant so they have better capacity to meet nutrition needs for both themselves and the baby. Here is a review article with some specific guidelines: https://www.hindawi.com/journals/jobe/2018/4587064/ . Meeting both macronutrient and micronutrient needs requires a lot of effort from the mother and we see our pregnant patients several times over the course of their pregnancy to help them stay nourished and support a healthy baby.
- My biggest challenge is having post op patients follow up with me. Any recommendations?
    - It's a common challenge in this field. Some programs provide incentives for coming to post-op appts, like a gift at the 1 year appt (cookbook, coupon for health-related product/service). Helping patients to understand that this journey requires lifelong support can help as well. Some patients don't realize they are expected to have lifelong follow-up. They get most excited to see their surgeon so if you can pair your appt with the surgeon's appt that might help. Engaging

patients through social media or apps (like Baritastic which send push notifications) is another method. Nobody in this field has the perfect answer to this question but you might get other ideas from these sources: https://www.ncbi.nlm.nih.gov/pubmed/26802225 https://psycnet.apa.org/record/2017-02984-001

- Can you share names of indirect calorimetry manufacturers for outpatients?
    - The most common ones are the Microlife MedGem and the Korr ReeVue.
- What weight do you use to calculate fluid needs initially?
    - We recommend minimum of 64 ounces for patients and adjust up as needed based on what we are hearing from patients and seeing in labs
- What are your thoughts about waiting 30 minutes before/after eating for fluids?
    - There is no reason to wait to drink before eating. Fluid moves through the stomach pretty quickly. The rationale for waiting to drink 30 minutes after eating is to prevent rapid stomach emptying which can lead to dumping syndrome, reactive hypoglycemia, and/or diarrhea. Patients will also report anecdotally feeling discomfort from trying to drink too soon after eating.
- Could drinking with meals contribute to dumping syndrome by increasing the rate of food entering the duodenum and ileum?
    - Yep! See above
- Is dumping syndrome from carbs?
    - Dumping syndrome occurs from simple carbohydrates, most commonly added sugars in foods & beverages, passing from the stomach to the intestine too quickly. Some people get similar gastrointestinal distress from high-fat foods although it doesn't always cause the same vasomotor response so isn't considered true dumping. Not that the patient really cares what it is called though if it makes them feel crummy… :/
- I work with many patients who have had bypass surgery and get an eating disorder afterwards. Is it best to treat them as I do other ED patients in terms of food variety/non-judgement or should I still encourage certain limitations?
    - I am not an eating disorder expert. If I suspect an eating disorder, I refer to our behavioral health specialist and an RD who specializes in eating disorders. My understanding is that imposing limitations would not align with the treatment approach unless the foods/beverages are causing nutrition complications and need to be avoided for that reason.
- Between the 24-hour period and post op day 10, when to start solids?
    - In my experience, most patients do fine with semi-solids (cottage cheese, yogurt, ricotta cheese) about 10 days after surgery. Softer solids (flaky fish, refried beans, canned chicken, soft-cooked egg) are tolerated about 14 days after surgery. In our program, our surgeons are a bit more conservative so we have compromised on 14 days of liquids (protein shakes, smooth soups) and we start soft solids (all of the foods listed above) on day 15.
- How do you address sources of fat with patients? Is there a minimum amount of healthful fats a patient can have?

    - We encourage healthful fats (low in saturated & trans fats). Patients tend to get queasy with greasy, fried, or oily foods which don't really align with a healthful meal plan anyway. We suggest using fats as a condiment to moisten and/or flavor food, such as mixing tuna with avocado or light mayo. We don't give a minimum daily amount.
- How would you get the patient back on track that gain weight back after surgery?
    - Start with lifestyle. I ask them when they were at their lowest post-op weight and what was different in their life at that time compared to their current lifestyle. That usually brings to light several areas on which we can focus. Obesity is a chronic disease that needs lifelong treatment. Surgery is not a cure. They may need additional treatment beyond lifestyle such as anti-obesity medications.
- What are your thoughts on alcohol consumption post-op?
    - There is not a universal recommendation on this but we encourage patients to avoid alcohol for the first year post-op. We also want them to be open to talking about it with us so we don't want to act like the alcohol police. We explain that alcohol has several risks after surgery and no benefits so we want to mitigate the risks. Risks include the ability to become intoxicated more quickly as the stomach is not intact and patients have lost weight, potential for alcohol dependency, risk of ulcers, and added calories.
- Any thoughts on frequency of eating in the early post-op stages?
    - Most patients need to eat about 4 to 6 times daily in the early months to meet their protein needs. We consider a protein shake to count as an eating time. In the long-term, I have patients who do well with 3 eating times daily and others who prefer up to 6 so I am flexible with what works for them as long as it aligns with their health goals.
- Can you share your approach on micronutrient supplementation in the post-bariatric patient?
    - These are the micronutrient standards: https://asmbs.org/app/uploads/2008/09/ASMBS-Nutritional-Guidelines-2016-Update.pdf We encourage bariatric supplements that are designed to meet these guidelines as they tend to simply the regimen as opposed to piecing together 4 to 5 different nutrients.
- Can you discuss efficacy of MVI/Mineral patches vs PO?
    - Research doesn't support the claim that all of those micronutrients can be absorbed transdermally.
- What are your thoughts on gummy vitamins? Should patients avoid or is it okay to take them 6 months after surgery?
    - It's not a texture issue with gummy vitamins. The issue is that they are lacking most of the nutrients that patients need after surgery. If you compare a gummy to the ASMBS guidelines posted above, you'll find that they are not going to help a patient meet their needs efficiently. Several bariatric brands make 'soft chews'

that have better alignment the guidelines. Typically soft chews don't contain iron so that needs to be added separately.

- Do micronutrient supplements need to be continued if surgery is reversed?
    - If a patient has their GI tract intact and is eating a balanced diet, they typically wouldn't need supplementation.
- What are your thoughts on ideal protein supplements/nutritional composition for pre, post and maintenance bariatric patients?
    - In general, I look for protein supplements with 20 to 30 grams protein per serving that are low in added sugars. Protein sources that contain all essential amino acids, such as whey or have a mix of sources if it is plant-based. Since everyone's taste buds are different, I recommend a variety of options so patients can find one that they enjoy.
- Any suggestions for meal replacements that don't have artificial sweeteners?
    - Unflavored whey protein powders tend to mix well and have no sweeteners. If the patient is okay with monk fruit & stevia (some people don't consider them artificial) then Orgain has many options. There are also some products from Jay Robb, Isopure, Unjury, and Bariatric Advantage that meet those criteria.
- Do you calculate protein provision based on actual weight or IBW?
    - We use a general range of 60-90 grams protein with the lower end of the range for women and the higher end of the range for men. There aren't good guidelines in the field of obesity for calculating needs based on actual weight, ideal weight, adjusted weight, etc. Most bariatric societies agree on a minimum of 60 grams protein.
- Can Orgain be given via a G-tube for patients who had bariatric surgery years ago?
    - Nutrition support in the bariatric surgery population can be a little tricky due to the unique anatomy of the GI tract. If you've already secured the G-tube and the patient is tolerating bolus feeds then Orgain could be used in the same way that any liquid nutrition product can be used. But enteral access & feeding routes depends upon the type of surgery & anatomy so I would need more information to better understand this situation.
- Any thoughts on appropriateness of keto diets or intermittent fasting with bariatric patients?
    - I try to always meet my patients where they are at. While I don't recommend keto, I have some patients who are doing it and I support them to do it safely and effectively as long as they are further out from surgery and tolerating regular textures. For post-op patients, it is important to go on the higher end of protein range and lower end of fat. Also, encourage healthful fats as greasy/fried/oily foods wouldn't be well-tolerated. For the majority of my patients who ask about keto, when I explain what it is and the need to track macronutrients, they aren't that interested and just want to follow a lower-carb diet which is pretty easy.
    - With intermittent fasting, I do think there is some compelling research that it might be an effective for some people. The most sustainable approach is working

with patients to create a 12+ hour 'fasting' period, such as not eating after a certain time of night until the next morning. Again, they would need to be further out of surgery and tolerating a variety of foods. Hydration is still important.
    - Ultimately any diet can work for someone as long as an energy deficit is created and they can stick with it. The sustainability piece is essential. RDs are awesome at figuring out what patients are looking for in a nutrition intervention, what they can stick with for life, and how to help them implement it safely and effectively. I'd rather meet my patients where they're at than turn them away so that if they can't stick with an extreme regimen (which most can't) I'm there to support them in a transition to a more sustainable approach.
- What do you see regarding volume tolerance after 12 months?
    - It depends on the texture & density of food and the person. In general, most people can eat about 3 ounces of cooked protein, ½ cup of vegetables, and potentially a 1-2 tbsp of a starch (starchy veg, whole grain, etc.).
- What do you say to patients who ask about "pouch re-sets" or "pouch test" diets?
    - I tell patients that it is more of a "brain reset" than a "pouch reset" and I support them in it if it's something that excites them. I used to be a naysayer about these but I've learned over the years that if a patient is excited about following a more strict nutrition plan for 1-2 weeks and they feel re-engaged and more in touch with their sense of fullness and hunger cues, then I might as well support it. It builds rapport & trust and then I can then help them to transition into a long-term sustainable plan when it's done. Another example of meeting patients where they're at.
- How much caffeine do you suggest?
    - We ask patients to limit to one caffeinated beverage daily for the first month to prevent irritating the stomach. We're not sticklers about the mg. Once they are through the initial month of healing, we don't limit caffeine.
- What do you recommend for constipation for bariatric patients?
    - Stool softeners & laxatives for short-term relief. Some programs discharge patients with 1 serving milk of magnesia daily. Encourage hydration & movement. Long-term plan is to increase fiber through foods (which takes a while) and supplements. Some surgeons are nervous about fiber supplements in the first week or two so talk with them before you recommend. Morning cup of coffee or smooth move tea is helpful for a lot of patients.
- How do you deal with patients that have weight plateaus?
    - Weight plateaus are normal during the process of weight loss, especially once someone has lost greater than 10% weight. See question on metabolic adaptation. I don't consider it to be a plateau until they have been weight stable for 2-3 months. Some patients think they are at a plateau if they don't lose weight every week. So part 1 is managing expectations. Part 2 is figuring out if they need to decrease their overall intake because they now have a lower RMR from weight loss or if they may have increased their intake with extra

snacks/beverages/nibbles for which they aren't accounting. Also see question on weight gain.

- I have a peritoneal dialysis patient who had the sleeve 10 month ago, and cannot get her albumin above 3.5, CMS goal is > 4.0. Is this the best it will be?
    - That's tough… Obesity is an independent risk factor for hypoalbuminemia so we don't really use it in bariatric surgery patients. Also, weight loss is a catabolic state. You might have to wait until she is weight stable to see if it changes
- Thoughts on chewing gum after surgery? I've always been told to avoid it to prevent gas.
    - It can cause gas from inhaling air & sugar alcohols. There is also a concern about someone accidentally swallowing it when their digestive tract is still swollen/inflamed. We discourage it during the early weeks when digestive tract is healing but it's fine when they are further out. If they are having gas, then they can stop. It doesn't cause gas for everyone. Sugar-free is better for the teeth.
- Is there a specific amount of time Roux en Y patients should wait before eating steamed vegetables? We have a patient who was 2 months s/p Roux en Y, was doing great, until she developed severe abdominal pain which was caused by a blockage (vegetable matter) of her JJ junction which also caused perforation.
    - Wow, that's awful. I've never had that happen and our patients start cooked vegetables when they are about 3-4 weeks out from surgery. I wonder if the patient ate past the point of comfort, so it was too much plant matter? Or if it was a super fibrous vegetable? It almost sounds like a bezoar. Those situations are rare so it makes me think it was something unique with that specific case.
- I have heard that many starchy foods swell in the pouch causing discomfort. Is this true?
    - Yes, bread, rice, pasta tend to swell in the stomach and cause discomfort. I tell patients to imagine they are throwing bread in the water to feed ducks. The bread gets soggy and swells up and that's more or less what happens in their stomach. Those foods aren't tolerated well by most patients unless they are eating in very small quantities.
- Was there a difference in weight regain between those who lost rapid weight in 2 weeks vs slower weight?
    - No, there hasn't been a body of literature to confirm that the rate of weight loss affects long-term weight loss outcomes.