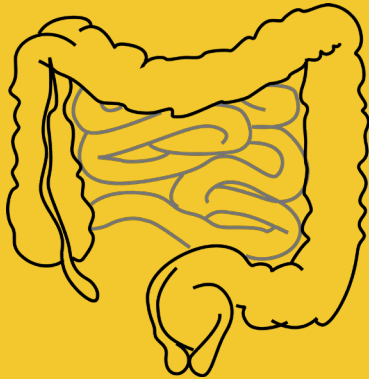


HYDRATION FOR OSTOMATES



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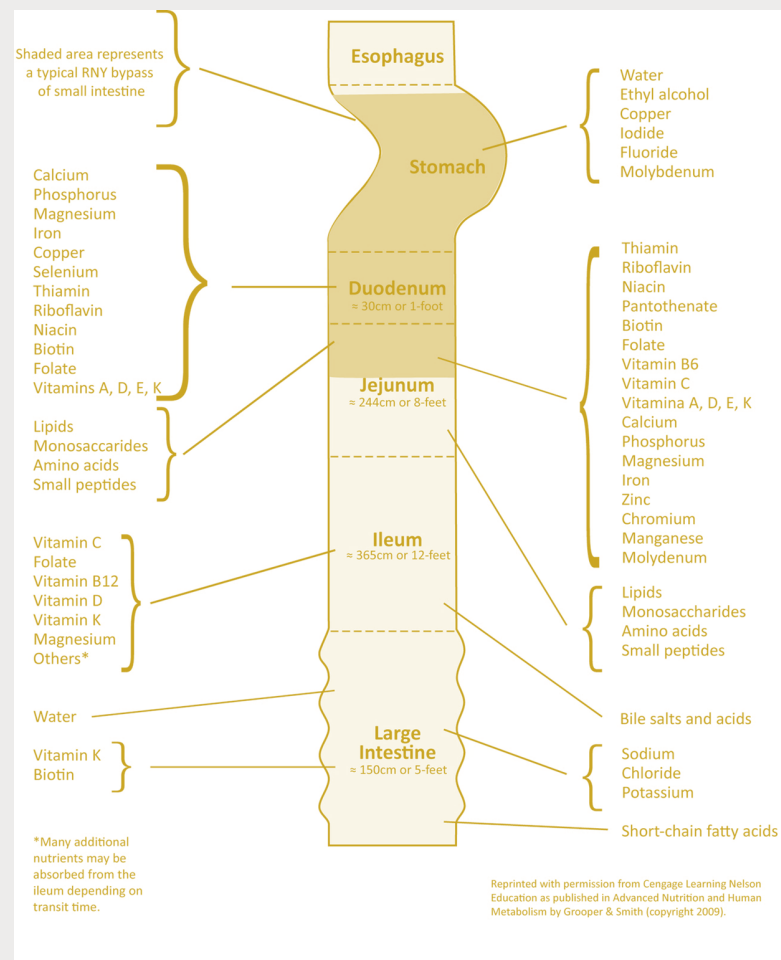
April 2019

Overview

- Ostomy Diversions & Their Impact on Nutrition/Hydration
- Remember: Nutrition for Ostomates
- Hydration for Ostomates
- Online Resources
- References
- Questions

Ostomy Diversions & Their Impact on Nutrition/Hydration

- **Colostomy**
 - Portion of large intestine is bypassed.
- **Ileostomy**
 - Entire colon, rectum and anus are removed or bypassed.
- **Continent Ileostomy**
- **Abdominal Pouch/K-Pouch**
- **Ileoanal Reservoir/Pelvic Pouch**
- **J-Pouch**



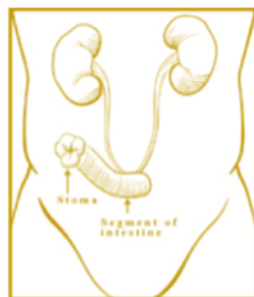
Ostomy Diversions & Their Impact on Nutrition/Hydration

■ Urostomy

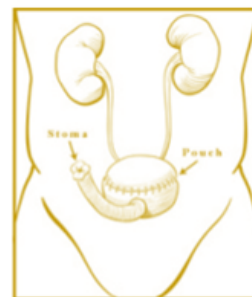
- Bladder removed/bypassed and conduit is built from small intestine.
- Ureters implanted into conduit which is brought through abdominal.

■ Continent Urinary Reservoir

- Bladder removed/bypassed and an internal reservoir is created from a section of the small and large intestine.
- Ureters are implanted, a stoma is brought through abdominal wall and attached to catheter to empty pouch.



**ILEAL CONDUIT
(incontinent
diversion to
skin)**



**CONTINENT
CUTANEOUS
RESERVOIR
(continent
diversion to
skin)**

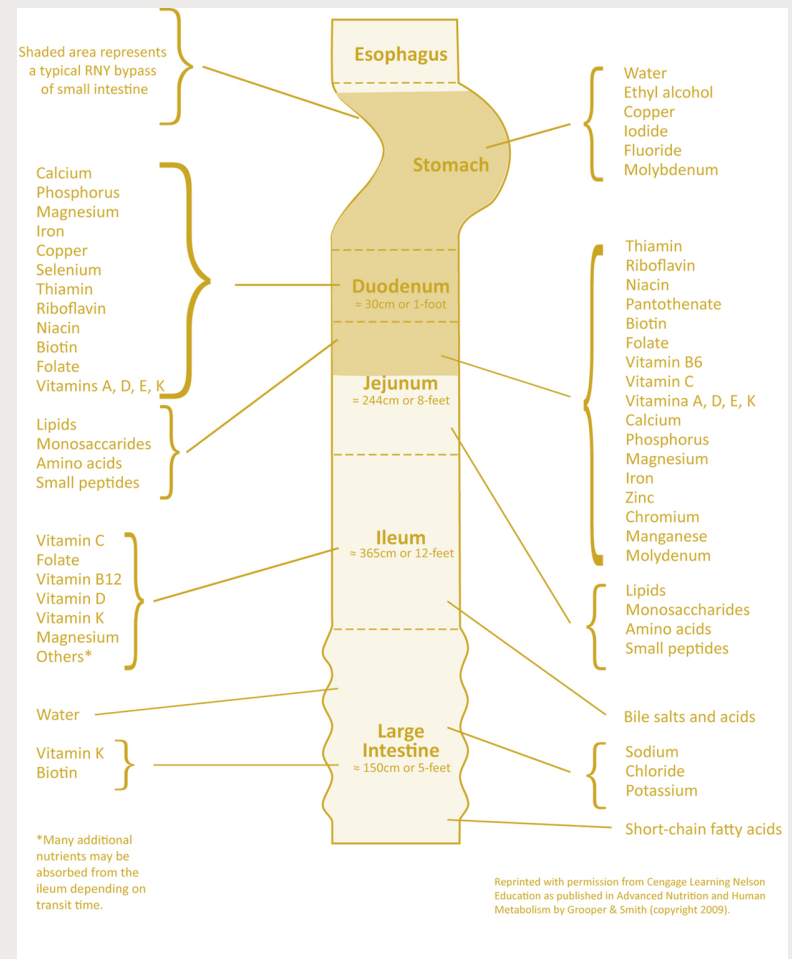
Nutrition for Ostomates

■ Digestion

- Mechanical digestion: chewing.
- Chemical digestion: digestive enzymes, gastric juices and bile.

■ Absorption

- Mostly occurs small intestine
- Water & electrolyte reabsorption occurs in the large intestine



Remember...

■ MyPlate: Healthy and Balanced Diet for Everyone

- Make half your plate fruits and vegetables.
 - Focus on whole fruits.
 - Vary your veggies.
- Make half your grains whole grains.



- Move to low-fat and fat-free milk or yogurt.
- Vary your protein routine.
- Drink and eat less sodium, saturated fat, and added sugars.

Make healthier beverage choices



Remember...

The first 8-12 weeks after bowel diversion surgery

- Begin with clear liquids and advance to fiber-restricted diet
- Small, frequent meals with a schedule
- Eat the largest meal in the middle of the day
- Choose lactose-free products if you are lactose intolerant
- Avoid acidic, spicy, greasy and sugary foods
- Be cautious with foods that may cause blockages, produce gas/odor, discolor stool or produce diarrhea
- Avoid drinking fluids with your meals
- Stay hydrated!

Remember...

Urostomy

- No restrictions (unless renal complications)
- Goal is to maintain an acidic urine

Acidic Ash Foods	Alkaline Ash Foods	Neutral Foods
<ul style="list-style-type: none">▪ Most meats, fish & poultry▪ Breads, cereals & crackers▪ Cheese▪ Corn▪ Cranberries▪ Eggs▪ Macaroni▪ Nuts▪ Pasta, rice▪ Prunes, plums	<ul style="list-style-type: none">▪ Most fruits (including citrus fruits)▪ Most vegetables▪ Milk▪ Beans	<ul style="list-style-type: none">▪ Butter▪ Coffee▪ Cream▪ Honey▪ Salad oils▪ Syrups▪ Tapioca▪ Tea

Hydration for Ostomates

Water

- Largest single component of the body
- About 60% of adult body weight
- Integral to cellular function
- It is found in fluids and foods



Hydration for Ostomates

Water

- Most fluids containing water help to meet daily requirements
- Caffeinated and alcoholic beverages contribute to dehydration
- Water alone may not be the best option as a sole source of hydration



Hydration for Ostomates

- Optimal health is dependent on the maintenance of adequate hydration, tissue perfusion, and electrolyte balance.
- Alterations in fluid balance can be affected by:
 - *Insensible losses*
 - *Heat Exposure*
 - *Exercise*
 - *Fever*
 - *Trauma*
 - *Disorders of digestion and absorption*
 - *Diarrhea*



Hydration for Ostomates

How much fluids do we need daily?

- Average healthy adult: 30-35 ml per kilogram
- Adult 55-65: 30 ml per kilogram
- Adult 65 & over: 25 ml per kilogram

Rule of Thumb: Aim for at least 8-10 glasses of fluids (64-80 ounces daily)



Hydration for Ostomates

- Fluid losses via the ostomy must be replaced to prevent dehydration
- Oral rehydration solutions may be helpful
- Intravenous fluids may be required to replace high ostomy losses
- Losses of 2-3 liters of ostomy output daily can contribute to losses of:
 - Sodium
 - Potassium
 - Chloride
 - Magnesium



Hydration for Ostomates

Colostomy

Output

- Normal output
 - About 500 ml/day
 - May vary 200-700 ml/day
- **Look out for signs of obstruction:** minimal output or spurts of watery stool combined with cramping

Hydration for Ostomates

Ileostomy

Output

- **Normal output**
 - About 500 ml/day
 - May vary 1200-1500 ml/day
 - Pouch emptying 5-8 times/day
- Output consistently > 1.5 – 2 liters/day may lead to complications
- Look out for signs of obstruction!
- **Output consistency:** liquid to semi-liquid with undigested food particles



Hydration for Ostomates

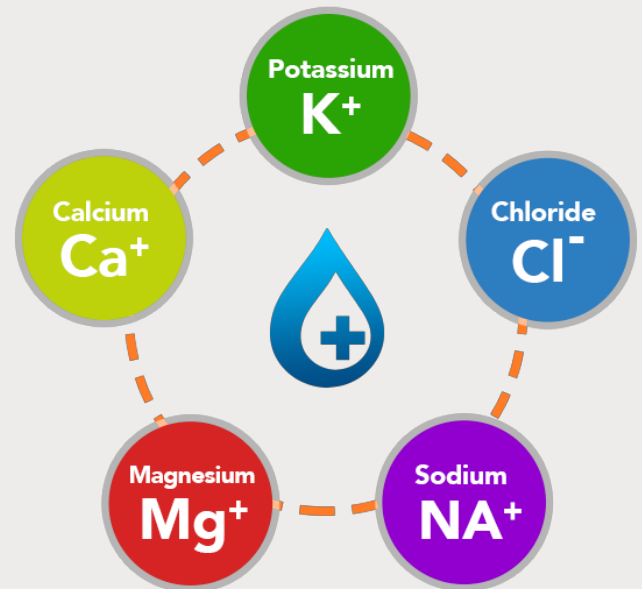
Fluid needs for Ostomates

- Fluid intake should exceed ostomy output
- Over-consumption of water can wash away electrolytes
- Drink a combination of water and electrolyte-rich beverages
 - Glucose in beverages aid absorption of electrolytes
 - High sugar beverages can contribute to dehydration

Hydration for Ostomates

Electrolytes

- Normal chemicals within body fluids
- Sodium and potassium are especially important
- Bowel diversions can impair electrolyte absorption
- Electrolyte imbalances can occur



Hydration for Ostomates

Signs of Dehydration

- Increased thirst, dry mouth, dry skin, decreased urine output, fatigue, shortness of breath, headaches, dry eyes and abdominal cramping.

Signs of Sodium Depletion

- Loss of appetite, drowsiness, headaches, abdominal and leg cramping, feelings of faintness, particularly when standing, cold sensation in arms and/or legs.

Signs of Potassium Depletion

- Fatigue, muscle weakness, gas, bloating, shortness of breath, decreased sensation in arms and legs.



Hydration for Ostomates

Water content of food...

Food Item	Serving size	Water content/serving
Cooked oatmeal	1 cup	100 ml
Gelatin	3.5 oz snack size	83 ml
Juice	1 cup	215 ml
Oral Rehydration Solution	1 cup	227 ml
Sherbet	1 cup	127 ml
Milk, 2%	1 cup	217 ml
Yogurt	6 oz snack size	126 ml
Fruit cocktail, raw	1 cup	95 ml
Grapes, raw	1 cup	120 ml
Banana, raw	1 medium	90 ml
Berries, raw	1 cup	130 ml
Watermelon, raw	1 cup	140 ml
Lettuce, raw	1 cup	52 ml
Broccoli, cooked	1 cup	170 ml
Chicken, lean, cooked	4 ounces	70 ml
Beef, lean, cooked	4 ounces	55 ml
Pork, lean, cooked	4 ounces	70 ml
Tuna, lean, cooked	1 cup, drained	115 ml

Hydration for Ostomates

A basic salad of:

- 4 cups of lettuce (208 ml)
- ½ cup broccoli (85 ml)
- 1 cup berries (130 ml)
- 4 ounces of chicken (70 ml)



Over 2 cups of water + nutrients!

Hydration for Ostomates

Electrolytes in food...

Foods High in Sodium

- Broth
- Buttermilk
- Canned soups
- Canned vegetables
- Cheese
- Soy sauce
- Table salt
- Tomato juice
- Commercially prepared foods and bread



Hydration for Ostomates

Electrolytes in food...

Foods High in Potassium

- Black-eyed peas
- Bananas
- Bouillon
- Chicken
- Fish
- Oranges
- Pinto beans
- Potatoes
- Raisins and prunes
- Tomato or vegetable soup veal
- Watermelon
- Yogurt



Hydration for Ostomates

Special Considerations for Colostomates

- Hydration helps relieve constipation
- Combine good hydration with gradual increase of insoluble fiber in the diet
- Being active helps gut motility
- Replace fluid losses for ostomy output, draining wounds, perspiration, etc.

Hydration for Ostomates

Special Considerations for Ileostomates

- The colon reabsorbs fluids and electrolytes
- Measure your input and output
- Adjust fluid needs for high output
- Excessive fluid loss of > 1 - 1.5 liters of liquid stool in 24 hours can cause dehydration and may require medical attention

Hydration for Ostomates

Special Considerations for Ileostomates

Promoting absorption and decreasing output

- Soluble fiber: thickens and binds stool
- Small, frequent meals
- Avoid drinking fluids with your meals
- Don't forget to chew your foods

What If dietary changes don't help...?

- Soluble fiber supplements (ask your doctor first)
- Consult your doctor for anti-diarrheals
- Consult your doctor to rule out other causes

Hydration for Ostomates

Special Considerations for Urostomates

- Adequate hydration is key for adequate urine output
- Pay attention to the color and volume of your urine
- Alkaline water can make your urine less acidic



Hydration for Ostomates

Drink the Right Fluid: Colostomates & Urostomates

- Normal Output
 - *Water*

- Consider electrolyte-rich drinks especially if:
 - *Output > 1+ liter*
 - *Sick days*
 - *Strenuous exercise*



Hydration for Ostomates

Drink the Right Fluid: Ileostomates

- Water and flavored water
- Coconut water
- DIY rehydration solutions
- V8 vegetable juice
- Vegetable broths
- Sports drinks*
- Pedialyte*
- Caffeine-free herbal teas
- Less caffeinated beverages and alcohol

* Dilute with water

Hydration for Ostomates

DIY Oral Rehydration Solutions

Water + Electrolytes (primarily sodium & potassium) + Glucose

Homemade Electrolyte Drink 1	Homemade Electrolyte Drink 2	WHO Recipe	Diluted Sports Drink
<ul style="list-style-type: none">▪ 1 tsp salt▪ 1 tsp baking soda▪ 1 tsp white corn syrup▪ 1 can (6 oz) frozen orange juice▪ Add water to make 1 quart	<ul style="list-style-type: none">▪ 1 quart water▪ 2/3 tsp table salt▪ 2 tbsp sugar▪ Sugar-free Kool-Aid or Crystal Light to taste	<ul style="list-style-type: none">▪ 1 quart water▪ 1/2 tsp salt▪ 6 tsp sugar	<ul style="list-style-type: none">▪ 2 cups electrolyte drinks▪ 2 cups water▪ 1/2 tsp salt or 1 tsp potassium chloride

Hydration for Ostomates

DIY Oral Rehydration Solutions

Water + Electrolytes (primarily sodium & potassium) + Glucose

Homemade Electrolyte Drink 3	Homemade Electrolyte Drink 4	Homemade Electrolyte Drink 5	Quick Fix
<ul style="list-style-type: none">▪ 3 cups water▪ 1 cup orange juice▪ $\frac{3}{4}$ tsp salt▪ $\frac{1}{2}$ tsp baking soda	<ul style="list-style-type: none">▪ $\frac{1}{2}$ cup grape or cranberry juice▪ $3\frac{1}{2}$ cups water▪ $\frac{1}{2}$ tsp salt	<ul style="list-style-type: none">▪ 1 cup apple juice▪ 3 cups water▪ $\frac{1}{2}$ tsp salt	<ul style="list-style-type: none">▪ $\frac{1}{2}$ cup orange juice▪ $\frac{1}{2}$ cup water▪ Pinch of salt

Hydration for Ostomates

Electrolytes

Dietary Reference Intake (DRIs)

Sodium: 1,500 mg/day up to 50
1,300 mg/day 51-70
1,200 mg/day > 70

Potassium: 4,700 mg/day

Hydration for Ostomates

Commercial Drinks

Use percent Daily Values (DV)

- Based on 2,000 calories/day
- 5 percent or less is low
- 20 percent or more is high

Nutrition Facts			
About 3 servings per container			
Serving size		12 fl oz (360 mL)	
	Per serving	Per container	
Calories	25	70	
	% DV*	% DV*	
Total Fat	0g 0%	0g	0%
Sodium	370mg 16%	1030mg	45%
Total Carbohydrate	6g 2%	16g	6%
Total Sugars	6g	16g	
Incl. Added Sugars	6g 12%	16g	32%
Protein	0g	0g	
Potassium	280mg 6%	780mg	15%
Zinc	2.8mg 25%	7.8mg	70%
Chloride	440mg 20%	1240mg	50%

Not a significant source of saturated fat, trans fat, cholesterol, dietary fiber, vitamin D, calcium and iron.
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet.
2,000 calories a day is used for general nutrition advice.



Hydration for Ostomates

Hydration Tips

- Have a large pitcher of fluids available at all time
- Set a goal to consume (E.g.: two pitchers per day)
- Carry a water bottle everywhere you go
- Get a bottle or pitcher that has measuring lines on the side
- Use an app to keep track of your intake or to give you reminders
- Keep a glass of water by the bed so you can drink it when you first wake up

Hydration for Ostomates

Final Key Points

Increased Stool Output

- Increase soluble fiber intake
- Increase fluid intake

Decreased Stool Output

- Increase insoluble fiber intake
- Increase fluid intake

Hydration for Ostomates

Final Key Points

Maintain adequate hydration & electrolyte balance

- Consume fluids and foods rich in water and electrolytes

Things to factor in:

- Exercising
- Summer time A.K.A. Miami Year Round
- Draining wounds
- Sick times (fevers, diarrhea, vomiting, cold sweats)

Before you go... Remember this!

- Balanced & complete nutrition is achievable
- Good hydration goes a long, long way
- Ask your doctor about vitamins & other supplements
- If diet/home hydration doesn't work, call your doctor!

Online Resources for Ostomates

Food log/calorie tracking

- Cron-O-meter: App & Website
- My Fitness Pal: App & Website
- Nutrients: App

Hydration

- Drink Water Reminder N Tracker App
- Hydro Coach: App (Android)

References

- Academy of Nutrition and Dietetics. Pediatric Nutrition Care Manual. <http://www.nutritioncaremanual.org>. Accessed [16 February 2019].
- United Ostomy Associations of America. <https://www.ostomy.org>. Accessed [16 February 2019].
- *Dietary Reference Intakes for Calcium, Phosphorous, Magnesium, Vitamin D, and Fluoride (1997); Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline (1998); Dietary Reference Intakes for Vitamin C, Vitamin E, Selenium, and Carotenoids (2000); Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc (2001); Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate (2005); and Dietary Reference Intakes for Calcium and Vitamin D (2011)*. These reports may be accessed via www.nap.edu.

Questions?