

Gastrointestinal Health of People with Down Syndrome From a Primary Care Perspective: Part 1

Brian Chicoine, MD

Medical Director, Advocate Medical Group Adult Down Syndrome Center
Faculty, Family Medicine Residency, Advocate Lutheran General Hospital

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Reminders



- This webinar is being recorded.
 - The link to the recording and slides will be emailed to attendees within 1 week.



- Q&A
 - Please submit questions using the Q&A option.

Please note:

- This presentation is intended for families, caregivers, health care professionals, and service providers of individuals with Down syndrome.
- The information in this presentation is provided for educational purposes only and is not intended to serve as a substitute for a medical, psychiatric, mental health, or behavioral evaluation, diagnosis, or treatment plan by a qualified professional.
- We recommend that you bring specific questions about an individual with Down syndrome to their medical and/or therapy providers.



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Outline

Part 1

- Introduction
- Differences in the GI tract of people with Down syndrome
- How to optimize GI health
- Common GI symptoms
- GI testing

Part 2

- A trip through the GI tract
 - Swallowing dysfunction
 - Celiac
 - Inflammatory bowel disease
 - Constipation
 - And several others

Gastrointestinal (GI) System and Differences in People with Down Syndrome

GI system

- Includes the parts of the body involved in digestion

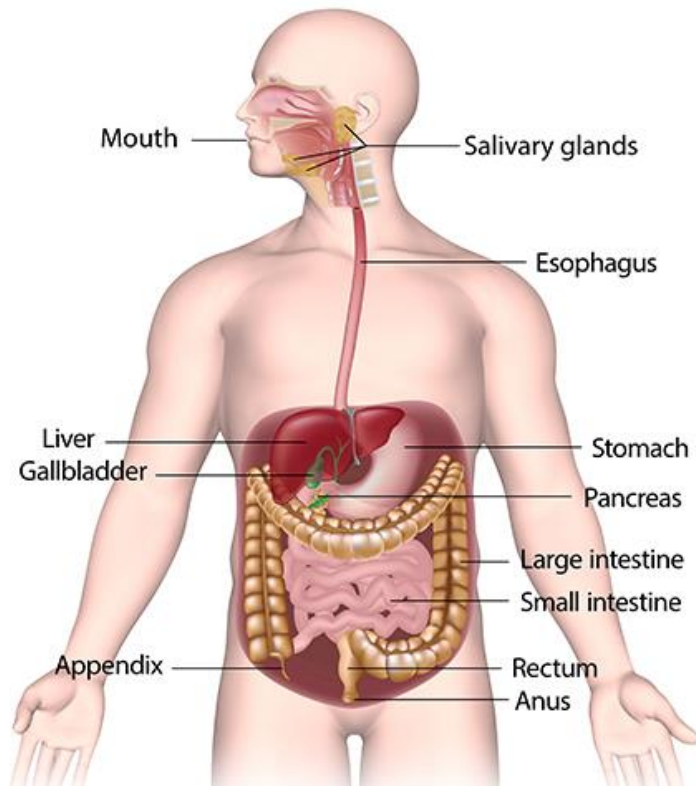


Image from the [National Institute of Diabetes and Digestive and Kidney Diseases](#)

GI system

- People with Down syndrome have several differences in their GI organs and tissues compared to people without Down syndrome.
 - Skeletal muscle and somatic nervous system
 - Smooth muscle and autonomic nervous system; innervation
 - Connective tissue
 - Cell function
 - Flora

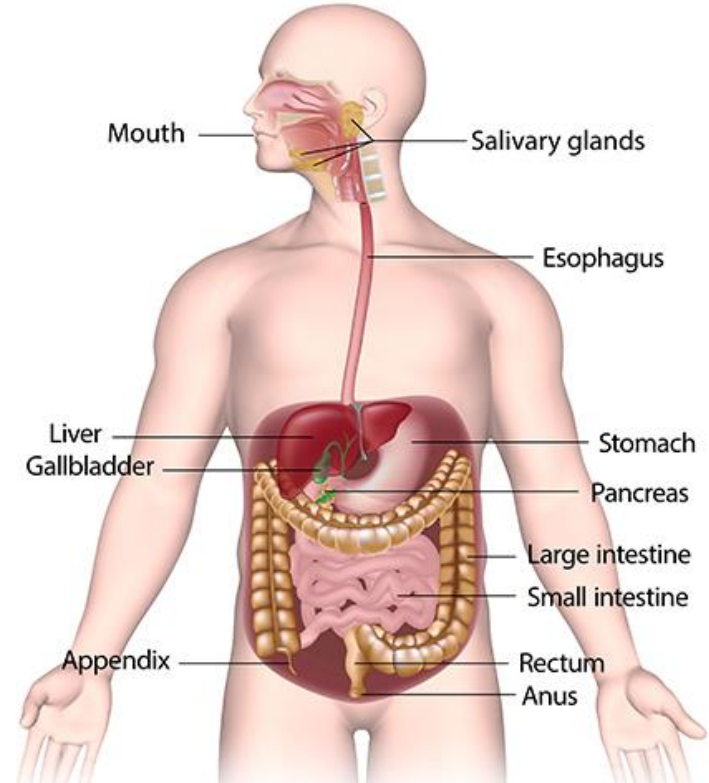
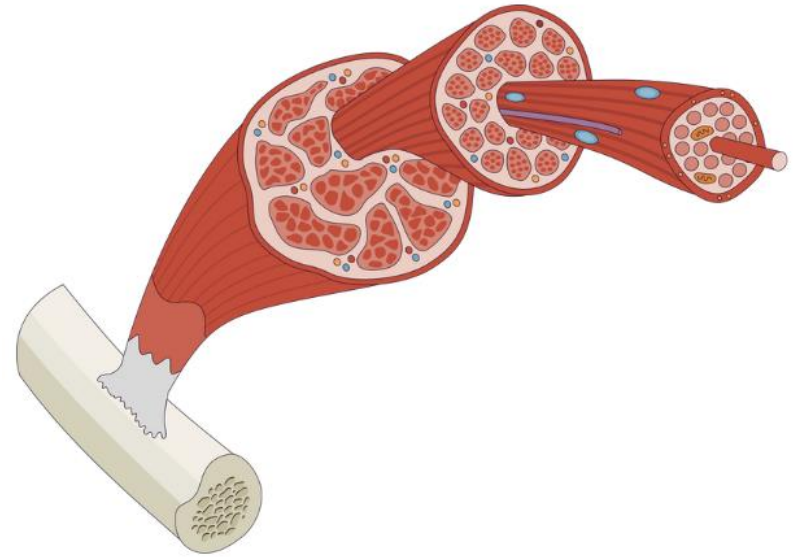


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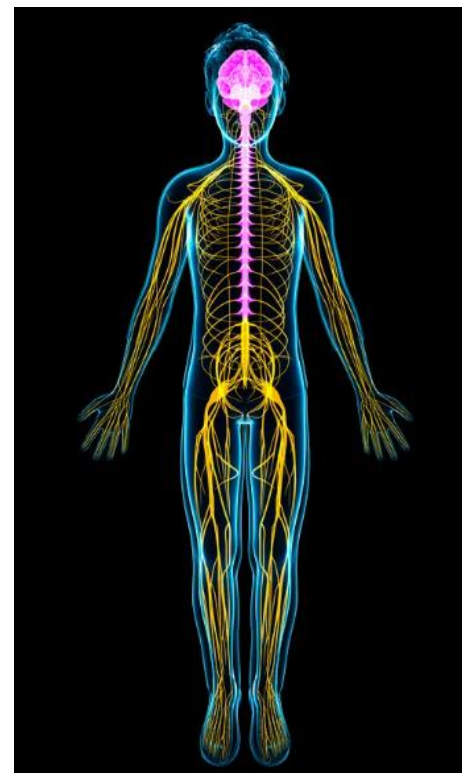
Skeletal muscle and somatic nervous system

- Voluntary
- Hypotonia, reduced control
- Mouth-chewing
- Abdominal/core muscles (increase abdominal pressure)



Smooth muscle and autonomic nervous system

- Difference in autonomic nervous system
- Reduced muscle tone
 - Constipation
- Innervation
 - Achalasia – autoimmune
 - Colon



Connective tissue

- Differences in collagen
- Decreased strength of connective tissue
 - Constipation
- Ligamentous laxity

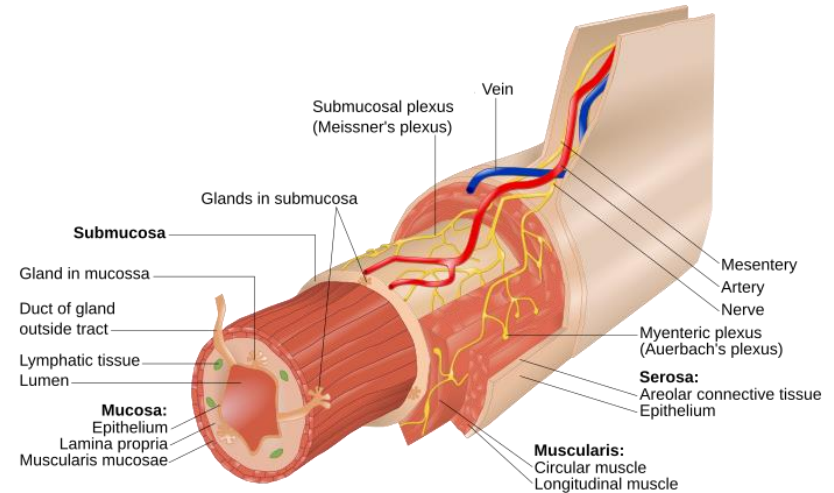
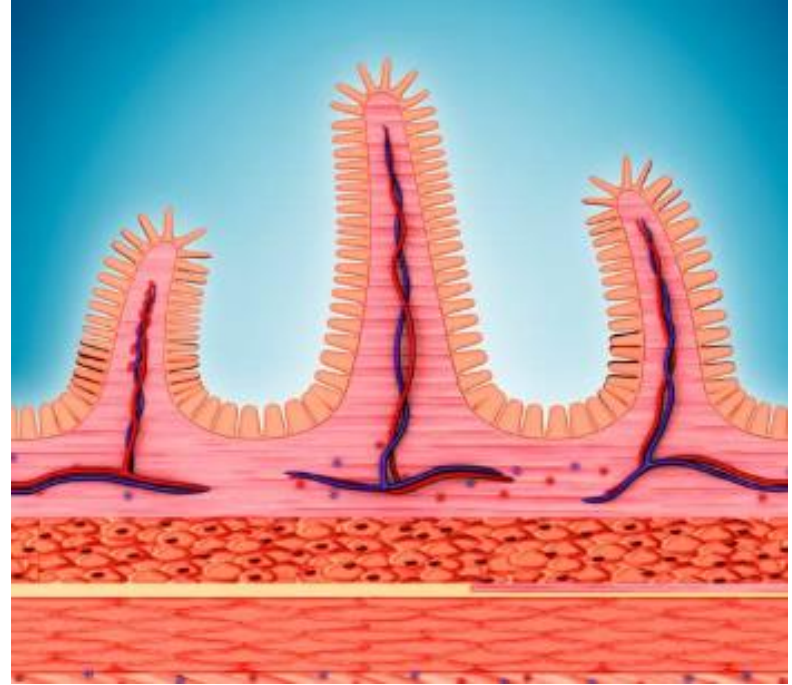


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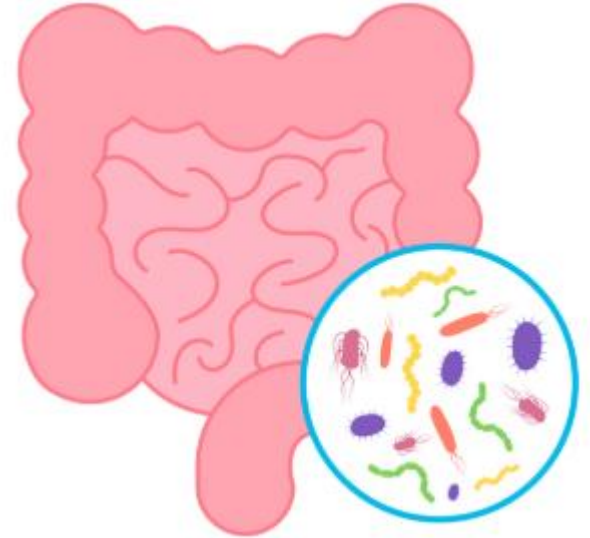
Cell function

- Secretory
- Absorption
- Endocrine



Flora

- Bacteria and other organisms
- Affects digestion
- Immune function
- Mental health
- Dental health
- Inflammation
- Aging?



Case example

Joe, 24-year-old man with Down syndrome

- Long history of constipation.
- At previous appointments, we discussed diet, hydration, and exercise as possible beneficial factors but he has had difficulty changing his habits.
- He periodically takes Metamucil (fiber) which has helped.
- He follows up stating he just doesn't feel like he is as well as he could be and has an interest in reviewing non-medicinal factors that may benefit him.

Optimizing GI Health

Considerations

- Reduce inflammation
- Improve gut flora
- Improve motility
- Cognitive health
- Mental health
- Food as medicine
- Lifestyle medicine
- Diets
 - Examples: Mediterranean diet, anti-inflammatory diet
 - Diets for some individuals: gluten-free, FODMAP

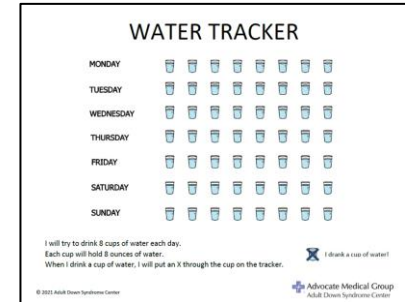
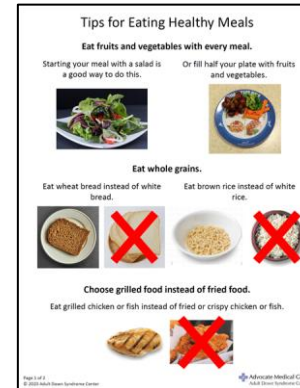


Foods to include

- **Fruits and vegetables** – rich in fiber, prebiotics, and antioxidants
- **Whole grains** – provide fiber and resistant starch which feed beneficial bacteria
- **Fermented foods** – such as yogurt, sauerkraut, and kimchi; contain probiotics that promote gut health
- **Nuts and seeds** – contain healthy fats and fiber
- **Lean protein** – plant sources; sources like chicken, fish, and eggs; essential for gut repair and immune function
- **Prebiotic-rich foods** – such as onions, garlic, asparagus, and bananas
- **Water**-Hydrate adequately – drink plenty of water throughout the day

Foods to limit

- **Processed foods** – high in unhealthy fats, sugar, and additives
- **Sugary drinks** – can disrupt balance of bacteria in the gut
- **Refined carbohydrates** – white bread, pasta, and rice; can contribute to inflammation
- **Excessive alcohol** – can damage gut lining and interfere with gut bacteria
- **Red meat**-overconsumption of red meat can be detrimental to gut health



Other considerations

- **Probiotics**
- **Exercise** – aim for 30 minutes, 5 days per week
- **Eating habits**
 - Eat more slowly
 - Chew well
 - Put utensil down between bites
 - Take a sip of fluid between bites



Common GI Symptoms

Common symptoms of GI conditions

Physical

- Pain
- Change in bowel movements
- Dizziness, fainting
- Nausea, vomiting
- Bloating
- Weakness
- Change in sleep
- Weight loss
- Neurologic or other symptoms due to vitamin deficiencies

Common symptoms of GI conditions

Psychological

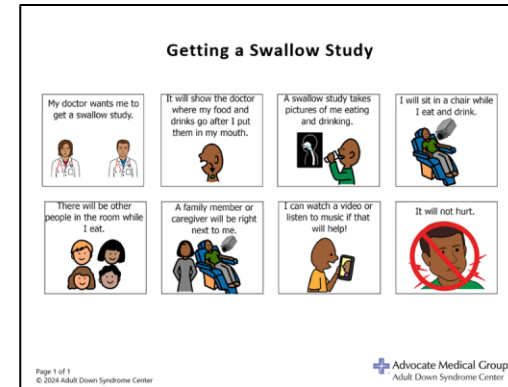
- Mood change
- Anxiety
- Getting upset or frustrated more easily
- Anger
- Difficulty concentrating
- Psychological symptoms due to vitamin deficiencies

****Any and all behavior change should be considered a possible form of communication.**

GI Testing

Gastrointestinal testing

- Blood testing
- Imaging
 - Video swallow study (VSS)
 - X-rays
 - CT scan
 - MRI
 - Nuclear medicine
 - Contrast or “dye” may be added to imaging studies depending on reason for the test
 - Sedation/anesthesia
- Endoscopy
 - Laryngoscope
 - Upper endoscopy
 - Colonoscopy



Takeaways

- There are differences in the gastrointestinal systems of people with Down syndrome compared to those without Down syndrome.
- There are a variety of lifestyle changes that can be made that have or may have significant benefit for the health of people with Down syndrome.
 - Diet, exercise, hydration, eating habits
- GI conditions can present with a variety of GI and non-GI symptoms.
- There are many diagnostic tests available to assess GI symptoms.

Resources



Articles

[Autonomic Nervous System](#)

[Celiac Disease](#)

[Connective Tissue](#)

[Constipation](#)

[Gallstones](#)

[Gastroesophageal Reflux Disease](#)

[Healthy Snacking](#)

[Hernias](#)

[Irritable Bowel Syndrome](#)

[Swallowing Problems \(Dysphagia\)](#)

[Tips for Staying Hydrated](#)

[Use of Probiotics](#)

[Vitamin B12 and Folate](#)

[Weight Management in Adults with Down Syndrome](#)



Videos and visuals

[Celiac Disease Visuals](#)

[Getting a Swallow Study](#)

[Guides to Healthy Eating and Drinking](#)

[Healthy Eating at Buffets Video and Visual](#)

[Healthy Lifestyle Activity Book](#)

[Healthy Pace for Eating Video and Visuals](#)

[Hydration Video and Visuals](#)

[Tips for Being Physically Active Video](#)

[Tips for Eating Health Meals Visual](#)

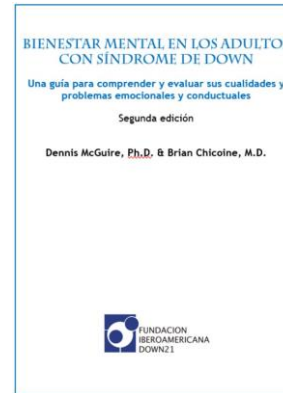
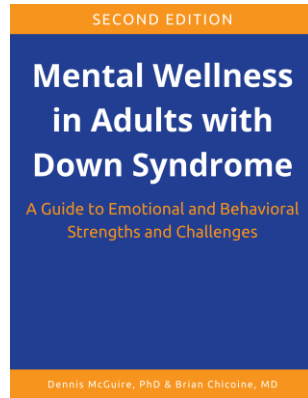
[Using the Toilet Visual](#)

[Visuals and Videos About the Food Groups](#)

[What to Drink Instead of Pop/Soda Visual](#)

Resources

- [Mental Wellness in Adults with Down Syndrome: A Guide to Emotional and Behavioral Strengths and Challenges](#)
 - Available as a free PDF in English and Spanish



Resources for health professionals

- [Down Syndrome Medical Interest Group \(DSMIG-USA\)](#)
 - Project ECHO
 - Webinars
 - Resources
 - Membership

Welcoming Participants to the Down Syndrome Medical Interest Group-USA Project ECHO

All health care professionals and trainees are invited to participate in the Down Syndrome Medical Interest Group-USA (DSMIG) Project ECHO.

This is a case-based opportunity for health care professionals to:

- Learn about health care for children and adults with Down syndrome.
- Earn FREE continuing education credits.
- Present a de-identified case and learn with a panel of experts.

Health care professionals from any discipline welcome.



Non-DSMIG members welcome!

Find out more here: dsmig-usa.org or contact us at info@dsmig-usa.org

 **DSMIG-USA**
Down Syndrome Medical Interest Group

Resources



References

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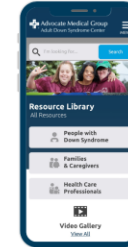
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for people with Down syndrome, families and caregivers, and professionals



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