

# Impact of Nutrition Deficiencies on Swallowing Disorders

Part 1

By Dysphagia Duo

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# Objectives

- **Understand the Impact of Nutrient Deficiencies on Swallowing:** Examine how deficiencies in key nutrients (such as macronutrients plus vitamins and minerals) can exacerbate swallowing disorders.
- **Explore Nutrition's Role in Healing:** Analyze how proper nutrition supports healing and recovery in individuals with swallowing disorders.
- **Evaluate Dietary Modifications for Swallowing Disorders:** Assess various dietary modifications and texture modifications that can be employed to accommodate different levels of swallowing difficulty. Discuss how these modifications can improve safety and comfort during eating.

# Who is Dysphagia Duo?

An RD SLP team who understand that swallowing disorders are complex and often misunderstood.

We met in 2016, moved to Indiana in 2017 and worked together in LTC until 2019.

In 2022, Dysphagia Duo was formed after realizing a significant gap in meeting the needs of people with Dysphagia who do not fit the traditional criteria for swallowing disorders.



# What is Dysphagia?

- Difficulty swallowing
- As of 2021 - affects 8% of the world's population\* (636,080,000 people)
- Any age, race, gender can be affected
- Typical causes include neurological or muscular disorders like stroke, Parkinson's, ALS, MS, etc.
- Causes we see include GERD, EOE, allergies & sensitivities, side effects of gastric bypass, achalasia, autoimmune conditions, viral, fungal, and bacterial infection, and functional dysphagia
  - Dysphagia is not always an upstream problem. The microbiome can have a significant effect on swallowing function
  - Gut Health is key

# The Malnutrition/Difficulty Swallowing Cycle

It is reported that 39.2% of dysphagia patients are at risk for malnutrition and that 13.6% of individuals at risk for malnutrition have dysphagia [8]

Malnutrition: (or undernutrition) is the result of an imbalance of nutrients in the body which causes measurable effects on body form, function and clinical outcomes.[1]

Increased difficulty swallowing leads to poor intake

- Fluids
- Foods

Poor intake contributes to weakness and increased risk of illness, which in turn contributes to further poor intake - what we call the malnutrition cycle

- Where did it start?

# Nutrient deficiencies

- Calories - weight loss - through muscle and fat
- Protein - loss of muscle strength and mass
  - Infection
  - Hair, skin, nail issues
  - Fatigue, irritability, lethargy
  - Difficulty with digestion - poor enzyme production, diarrhea, inflammation
  - Edema
- Healthy Fat - increased inflammation, cognitive function, decreased body fat, etc
- Fiber/prebiotics - poor GI health, increased risk of cardiovascular disease
- B vitamins - low energy, headaches, SOB, weakness, fatigue
- Iron - low energy, headaches, SOB, weakness, fatigue
- Magnesium - loss of appetite, nausea, vomiting, fatigue, and weakness
- Many more micronutrients

All these can affect how well the gut works.

# Impact on Swallowing

For many young people, Dysphagia started with poor intake or an event that contributed to fear and/or anxiety

- More than 50 muscles are involved in swallowing and must work together to complete a swallow safely
  - Oral, Pharyngeal, Esophageal - saliva, muscles, nerves, and peristalsis

Nutrition deficiencies if not addressed and corrected:

- Brain and nervous system function
- Strength and coordination, muscle tension
- GI complications

# The Role of Nutrition in Managing Swallowing Disorders

1. Improve protein intake → muscle, digestion, cognitive function
  - a. Hardest food to consume with a swallowing difficulty
  - b. Supplements are necessary most of the time
2. Improve fiber intake → support overall GI health
  - a. Vegetables
  - b. Fruits can be difficult due to seeds/skins
  - c. Supplements
  - d. Probiotics
3. Healthy fats
4. Supplements
  - a. Multivitamins
  - b. Iron
  - c. Enzymes



# Dietary Modifications for Swallowing Disorders

## Foods (Solids)

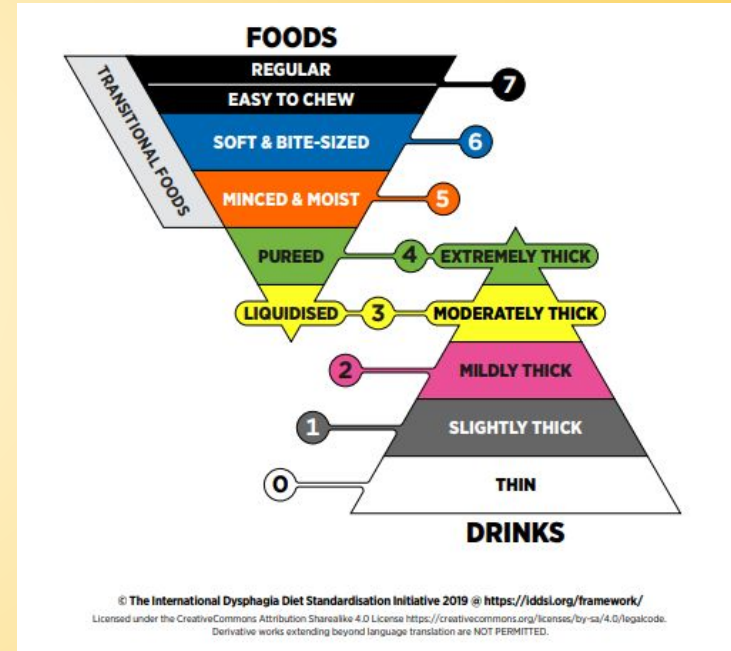
### IDDSI levels 3-7

- 3 - Liquidized
- 4 - Pureed
- 5 - Minced and Moist
- 6 - Soft and bite sized
  - Pureed bread or regular bread
- 7a - Regular but Easy to chew
- 7b - Regular

## Drinks (Liquids)

### IDDSI levels 0-3

- 0 - Thin liquids
- 1 - Slightly thick
- 2 - Mildly thick
- 3 - Moderately thick
- 4 - Extremely thick



# Case Study

Late 60 year old female

- IEM (ineffective esophageal motility)
  - Unknown cause
  - Started in 2017
  - Seen by Mayo clinic, all specialists in home state
- Started at minced and moist, downgraded self to level 4, then level 3
  - Liquids at level 2 or 3
- SIBO
  - Managed typically through rounds of antibiotics
- Esophageal weakness led to pharyngeal weakness over time

Dysphagia Duo plan

- Prioritize protein
- Decrease simple carb intake
- Determine correct IDDSI level
- Address weakness through Swallowing strategies and exercises
  - Liquid wash per SLP
- Implement enzymes to assist with digestion as needed