

# Compensation and Decompensation of Swallowing Function in Adults with Neurogenic Dysphagia

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This discussion is intended to explain the difference between adaptation, compensation, and decompensation, and to demonstrate how patterns of compensation and decompensation can impact a patient's swallowing function. Clinicians who deal with patients with neurogenic dysphagia need to be aware of these patterns in order to effectively monitor and treat their clients.

Swallowing is a physiological process, but eating is a social activity, and compensatory processes facilitate the social aspect of eating as much as they facilitate safe swallowing.

The **Normal Swallow** is a highly integrated and complex set of behaviors usually divided into three phases:

1. Oral phase
2. Pharyngeal phase
3. Esophageal phase

**Neurogenic Dysphagia** = Swallowing dysfunction resulting from neurologic disease. It is much more common for neurologic disease to impair the oral and pharyngeal phases of swallowing than the esophageal phase.

## Adaptation vs. Compensation:

**Adaptation** = The ability in unimpaired individuals to adjust the normal swallow to accommodate constantly changing demands and conditions.

**Compensation** = The adjustment or alteration of an impaired swallow. It differs from adaptation in that extraordinary adjustment is necessary to overcome some deficiency in the swallowing process. Can be one of two types:

1. **Voluntary compensation** = conscious choices made by patients to make swallowing easier and safer, such as:
  - a. Restricted diet choices/textures
  - b. Smaller bites/bolus sizes
  - c. Swallowing strategies such as head tilt/turn, multiple swallows, or neck pressure
2. **Involuntary compensations** = adjustments to the swallowing process made without conscious choice by the patient. These often cannot be readily observed by the patient, physician, or caregivers without radiologic evaluation. They may include:
  - a. Altered muscle movement, such as
    - i. Increased downward displacement of the palate
    - ii. Increased convergence of the pharyngeal constrictor muscles
  - b. Neuroplastic changes in brain activation during swallowing.

## Decompensation:

When compensation is no longer sufficient to overcome the deficiency in the swallowing process, **decompensation** occurs. This can occur suddenly, and without warning, and can be both frightening and dangerous for the patient.

## Some Examples of Disorders/Factors that May Lead to a Pattern of Compensation and Decompensation:

1. Postpolio Syndrome
2. Progressive diseases such as:
  - a. Parkinson's disease
  - b. Amyotrophic Lateral Sclerosis (ALS)
3. Stroke/CVA
4. Changes associated with aging
5. Multifactorial causes (e.g. a patient who suffers a CVA on top of mild Parkinson's disease)

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