The Role of the Speech Language Pathologist & Spinal Cord Injury
Facts

- According to the National Spinal Cord Injury Statistical Center (NSCISC) there are approximately 12,000 new spinal cord injuries (SCI) each year in the United States.

- In 2009 there was an estimated 262,000 persons in the United States living with a SCI.
When is the Speech – Language Pathologist (SLP) consulted?

- Indication of swallowing problem (i.e. coughing or choking with meals, wet/gurgly vocal quality)
- Poor secretion management
- A pt. with tracheostomy may be appropriate for speaking valve
- Cognitive-linguistic deficits
Assessment

- **Dysphagia**:
  - 1. Bedside swallow evaluation: performed by SLP
  - 2. Modified Barium Swallow Study (MBSS): performed by SLP in conjunction with a radiologist

- **Speech/Language/Cognition**
  - A comprehensive assessment of all areas is performed if indicated
Dysphagia

- After a cervical spinal cord injury the patient may have difficulty swallowing. Often following a anterior/posterior cervical fusion. The speech language pathologist assesses the individual by looking at the following:
  a. Oral phase of swallowing: assessing the movement and strength of the lips, tongue, cheeks and jaw. Also assessing how the person manages their saliva and food/liquid as well as the timeliness of those movements.
  b. Pharyngeal phase of swallow: assessing the timeliness and strength of the pharyngeal swallow.
  c. Esophageal phase: it should be noted if the person has a history of reflux or has had an esophageal dilation.
Dysphagia

- As appropriate, the speech pathologist assesses the person at bedside. The person is assessed with various liquid and solid consistencies. If more information is needed the speech therapist will recommend a modified barium swallow study.

- **Modified Barium Swallow Study:** this involves taking the person to radiology and giving them various liquid and solid consistencies to get a better picture of the person's swallowing mechanism. In both the bedside swallow study and modified barium swallow study the SLP is looking to see how well the person is able to manipulate the food/liquid and they look to see if the person is at risk for aspiration.
Dysphagia

- **Aspiration**: occurs when food or liquid enters the person's airway rather than their esophagus. If sensation is intact the person may exhibit a cough.
- **Silent Aspiration**: occurs when the person's sensation is reduced and they do not feel the food/liquid entering their airway.
- **Signs and symptoms of aspiration** may include: coughing, throat clearing, wet vocal quality, temperature spikes, chest pain, watery eyes, and runny nose.
Dysphagia

- Dysphagia Diets: Solids
  - Level I: Liquid diet
  - Level II: Puree diet: all foods are pureed
  - Level III: Mechanical Soft/Puree diet: Soft chopped solids/ puree meats
  - Level IV: Mechanical soft: all foods are chopped and soft
Dysphagia

- Liquids
  - Thin liquids
  - Nectar liquids: Nectar consistency
  - Honey liquids: Honey consistency
Treatment for Dysphagia

- The speech language pathologist works on compensatory strategies and strengthening to increase swallowing safety and to advance the diet as appropriate.

- VitalStim® Therapy: dysphagia treatment through external electrical stimulation.
Tracheostomy

- A tracheostomy is a surgically created opening in the neck leading directly to the trachea (the breathing tube). It is maintained open with a hollow tube called a tracheostomy tube.
- The speech language pathologist works in conjunction with nursing, respiratory and the pulmonologist with trach management.
- Cervical spinal cord injury patients may require a tracheostomy.
• Completed **tracheotomy**:
  1 - Vocal folds
  2 - Thyroid cartilage
  3 - Cricoid cartilage
  4 - Tracheal rings
  5 - Balloon cuff
Speaking Valves

- The speech language pathologist, respiratory therapist and pulmonologist work together to determine when a person with a trach may be able to tolerate a speaking valve or capping of the trach.

- Speaking Valves (i.e. Passy-Muir Valve), are one-way valves that are placed on the end of a cuffless, deflated tracheostomy tube.
Speaking valves
Benefits of Speaking Valves

- Permits natural voicing
- Reduces secretions and makes it easier to manage
- Facilitates cough
- Facilitates swallowing
- Restores sense of smell and taste
- Allows patient to use assistive technology with voice activation
- Quality of life
- Increases directing of care
Goals of Speech Therapy in SCI

- Ensure that the patients always have an appropriate means of communication (i.e. communication board, soft touch call light)
- Provide assessment and intervention for verbal communication and safe swallowing
- Educate patients on the importance of using communication to direct their care
References

