

## SHS 310 Case Study #1

Jill is a 21 year old woman who suffered a complete spinal cord injury at the C1 level following a diving accident at age 19. She has been on 24-hour mechanical ventilation through a tracheostomy tube since the accident. She wishes to become more mobile in her wheelchair, and her physician is considering implanting a phrenic nerve pacer. Jill's cousin, who does not know much about paralysis and communication, is visiting her and would like some more information from you about the phrenic nerve pacer.

- Explain why Jill cannot breathe on her own at present. Be sure to give some information about normal respiratory anatomy and physiology and how Jill's accident affected respiratory function.
- Explain how impaired breathing affects Jill's ability to speak.
- Describe how the phrenic nerve pacer works.
- List some advantages of phrenic nerve pacing over mechanical ventilation.
- Explain how speech with the phrenic nerve pacer might not be completely normal and suggest a method for improving speech with phrenic nerve pacing.

Resources for the case study – you are free to find other resources on your own

- [Spinal Cord 101](#)
- [Spinal Cord Injury and How to Live With It](#)
  - Pay attention to the “Ventilator” and “Pacer” sections under “Breathing”
- [Simple Adjustments Can Improve Ventilator-Supported Speech](#)
  - Use the introduction section of this article to learn how mechanical ventilation adversely affects speech production
- [Speech Production and Speech With a Phrenic Nerve Pacer](#)
- [Binding the Abdomen Can Improve Speech in Men With Phrenic Nerve Pacers](#)
  - Use these two articles to learn about speech production with phrenic nerve pacers