



“Today the NeuRx Diaphragm Pacing System (DPS)[™] exists as an alternative to lifelong ventilator dependency,” according to Steve Annunziato, Senior Vice-President, Marketing and Sales for Synapse Biomedical. “In 2009, 75 people living with spinal cord injury (SCI) were treated with NeuRx DPS[™] for respiratory insufficiency. Today 31 centers in the U.S. and 6 centers outside the U.S. have established a treatment program for SCI.” (For a list of the centers, visit www.synapsebiomedical.com/news and click on “US Centers” or “European Centers.”)

The NeuRx DPS[™] is implanted through a minimally invasive outpatient procedure and provides electrical stimulation to the diaphragm muscle and nerves. When the muscle is stimulated, the diaphragm contracts and fills the upper and lower parts of the lungs with air. When this contraction eases, the air is expelled from the lungs – essentially the same as regular breathing. The NeuRx DPS[™] pulse generator is slightly larger than a TV remote and provides approximately 500 hours of continuous operation between battery changes.

After the procedure, the pulse generator is programmed to allow an effective yet comfortable breath. If a person has been using a ventilator for an extended period, the diaphragm is initially weak, and a person may only breathe with the pulse generator for a short period of time. A person will need time to re-strengthen their diaphragm to increase the amount of ventilator-free time. Many people have successfully progressed to full-time use of the diaphragm pacing system, and although they may no longer need the ventilator, they do need to maintain a tracheostomy.

Synapse Biomedical continues to seek FDA approval for additional indications for the NeuRx DPS[™] technology beyond SCI. In October 2009, Synapse filed for approval with the FDA to treat ALS, also known as Lou Gehrig's disease. ▲

*Humanitarian Use Device:
Authorized by Federal Law for use in the treatment of respiratory insufficiency for high-level spinal cord injured patients. The effectiveness of this device for this use has not been demonstrated. Caution: Federal law (USA) restricts this device to sale by or on the order of a physician. A brief statement of intended use, contraindications, warnings, precautions and adverse events can be found at: www.synapsebiomedical.com/fdaapproval/IntendedUse.shtml.*

MORE on www.ventusers.org

For additional information on diaphragmatic pacing systems in past issues of *Ventilator-Assisted Living*, go to www.ventusers.org/edu/valnews/topic1.html, and scroll down to “Diaphragmatic pacing.”

Visit www.synapsebiomedical.com/news for personal accounts.