Taking the Steps Towards Recovery

Patient receives groundbreaking surgery for bilateral foot drop

In 2010, Sebastian Prospero underwent surgery to remove a 4-inch cyst from his spine. As a result, nerve damage occurred and Sebastian developed bilateral foot drop. Doctors told Sebastian that if nerve regeneration were to occur, it would happen within 18 months. Two years passed, and the Vestal, New York resident was convinced that he would have to live the rest of his life with foot drop. Sebastian contacted a friend who previously suffered from foot drop. During the conversation, Sebastian’s friend mentioned that he received a successful tendon transfer to treat his foot drop by Andrew Elkwood, M.D., at Jersey Shore University Medical Center. Encouraged, Sebastian scheduled a consultation with Dr. Elkwood at Jersey Shore. Here, he learned that he was a candidate for both a tendon transfer and nerve autotransplantation to treat his foot drop.

In April 2013, Dr. Elkwood performed surgery on Sebastian’s left leg. After a successful procedure, he gradually began a physical therapy regimen that included light stretching and leg lifting. This therapy quickly progressed, and after two months, Sebastian was able to remove his leg braces, work on an elliptical machine and perform leg presses.

Since then, Sebastian underwent the identical surgery on his right leg with Dr. Elkwood in October of 2013. He is continuing to rehab on his own at home and is able to do things he has not done since his spine surgery in 2010. “I’m back to doing things around the house and able to get back in the boat, I love fishing!” says Sebastian.

Providing some of the most advanced surgical treatments in the world for paralysis and nerve injuries

Our surgeons and specialists are dedicated to enhancing nerve function, and are pioneering life-altering treatment approaches to help regain nerve function for certain patients who have suffered from stroke, neuropathy, brachial plexus injuries, diaphragm paralysis and many other conditions.

Services/Treatments:
- Diaphragm Pacemaker for Ventilator Dependency
- Brachial Plexus Reconstruction
- Nerve Transplantation
- Nerve Reconstruction for Phrenic Nerve Injury
- Nerve Decompression Reconstructive Surgery for Peripheral Neuropathy
- Nerve Grafting for Pressure Sores
- Nerve Reconstruction Treatment for Swallowing Disorders
- Facial Reanimation for Paralysis from Bell’s Palsy
- Nerve Transfers to Treat Foot Drop
- Nerve Transplants for Arm Paralysis
- Orbital Decompression for Graves’ Ophthalmopathy

Multifaceted Treatment Options for Foot Drop

Foot drop, sometimes called drop foot, is a condition most commonly caused by compression of the peroneal nerve often associated with long-term nerve damage in diabetics. Other causes include muscle or nerve disorders, and brain and spinal injuries. With Foot Drop, there is difficulty in lifting the front part of the foot resulting in a steppage gait. In patients affected for less than a year, nerve autotransplantation or nerve grafting may be an option. This procedure creates a bypass of the damaged nerve, returning function to the foot. As a second option, dorsiflexion is created by transferring tendons and muscles from the functioning leg to the affected leg.

The Center for Treatment of Paralysis and Reconstructive Nerve Surgery at Jersey Shore University Medical Center is one of the few centers in the country with the capability to perform nerve related surgery, tendon surgery, or a combination of both in order to personalize foot drop treatment.
Clinical Research Trials

Medical breakthroughs are made possible through clinical research. With the combination of our surgeons’ expertise and the Center’s state-of-the-art facilities, they are able to conduct various clinical trials, bringing them closer to discovering the next groundbreaking treatment option. Because of their heavy involvement in clinical research, they are able to provide patients with the best possible care.


   To improve the quality of life for paraplegic and tetraplegic patients with paralysis due to stroke or spinal cord injuries. Nerve transfer, with or without nerve grafting, is a technique that has been successfully applied to treat brachial plexus injuries.

3. Intercostal Nerve Transfer to Restore Protective Sensibility In SCI Patients (11/2011)
   To improve the quality of life for paraplegic patients with chronic decubitus ulcers (pressure sores) and prevent wound recurrence by restoring protective sensibility (feeling to the buttocks area).

   To improve the quality of life for patients with uncontrollable bladders that was caused by complete spinal cord injury.

5. HUD Study: Diaphragm Reinnervation For Ventilator Dependent Patients – Diaphragm Pacemaker (Active) (10/2011)

6. Diaphragm Reinnervation for Ventilator Dependent Patients-Diaphragm Pacemaker with Spinal Accessory Neurotization (Active)
   Phrenic nerve pacing has been performed previously on hundreds of ventilator dependent patients worldwide with success rates of greater than 80%.

   To improve the quality of the standard hernia repair and attempt to decrease the rate of recurrence and reoperation by using a synthetic mesh to reinforce the entire abdominal wall.

8. Phrenic Nerve Surgery
   To improve the quality of life in patients suffering from unilateral (one sided) diaphragm paralysis. We use well established peripheral nerve surgery techniques on the phrenic nerve to restore function to the diaphragm.

9. Tendon Transfer for Foot Drop Correction
   To improve the function of the ankle and toe in patients who suffer from footdrop syndrome. The surgery retasks tendons of the lower leg to the nonfunctional tendons of the ankle, allowing the patient to voluntarily flex the ankle and improve ability to walk.

10. Trapezius to Deltoid Tendon Transfer
    To improve the function of the shoulder in patients who have suffer brachial plexus injury. The surgery involves transfer of the shrugging muscles of the trapezius to the deltoid of the shoulder to restore arm abduction to reduce risk of dislocation and associated pain.

11. Surgical Treatment of Compression Neuropathy
    To improve the quality of life in patients suffering from lower leg compression neuropathy by using nerve decompression techniques to reduce pain and restore both function and feeling

If you are interested in learning more about clinical trials at the Center, please contact 732.776.3893.