

## *Mobilization of the Nervous System*

Neural Dynamic Tension Testing and treatment with neural mobilization are very important in physical therapy. Neural mobilization can decrease adhesions of a nerve in surrounding tissue, decrease intraneural edema, restore normal mechanics of connective tissue in and around nerves, and improve blood supply to the nerve. Neural mobilization can possibly increase elasticity of a nerve via retrograde massage from target tissue, mobilize cerebral spinal fluid which supplies proximal portions of nerves, and facilitate regeneration of a nerve through stimulation of nerve growth factor.



There are many tests and treatments that Physical Therapists use to help assess and treat patients with dysfunction. Some of the special tests include: The Straight Leg Raise (SLR), Passive Neck Flexion, Prone Knee Bend, and Slump tests. There are also Upper Limb Tension Tests that are commonly used for the median, ulnar and radial nerves. Clinically, a positive test is documented when the patient reports reproduction of his/her symptoms which could include pain, paresthesia or anesthesia. Following identification of provocative tests, treatment will commonly include utilizing the testing positions and incorporating gliding or flossing techniques to improve neural mobility and blood flow to assist with symptom reduction.

The SLR is usually indicated for lower lumbar or leg symptoms, but can also be used for upper spinal

symptoms. There are 4 different biases: the Tibial nerve bias where the ankle is dorsiflexed and everted with a SLR; the Peroneal nerve bias where the ankle is Plantarflexed and inverted with a SLR; the Sural nerve bias where the ankle is dorsiflexed and inverted with a SLR; and the proximal sciatic nerve bias where the hip is adducted and internally rotated, lumbar side bends away from the painful side and the cervical spine is flexed with a SLR. This test can also identify potentially where the symptoms are originating. A positive SLR at 30° can be indicative of disc herniation, whereas increased angles are more commonly associated with neural tension.

The Prone Knee Bend is indicated for knee, anterior thigh and hip symptoms and/or upper lumbar symptoms. The patient lies prone with the knee flexed. Hip extension and adduction can be added to test the lateral femoral cutaneous nerve.

The Passive Neck Flexion Test is indicated for any spinal disorder from a headache to leg pain, but is especially helpful for thoracic symptoms. The patient lies supine and the physical therapist flexes the patient's upper to lower neck.

The Slump Test is indicated for chronic non-irritable disorders, old non-resolving hamstring injury, and complaint of pain with similar positioning. The Slump Test can also bias certain nerves. The Sympathetic Slump Test is used to test/mobilize the sympathetic nervous system. The patient actively slumps in a seated position while the Clinician passively extends one knee at a time. Additional overpressure towards dorsiflexion at the ankle and/or cervical flexion help to distinguish where along the neural path the adhesions lie.

The Upper Limb Tension Tests (ULTT) are indicated for neural symptoms in the upper extremities. ULTT 1 - The Median nerve bias is indicated for arm, neck and head pain, carpal tunnel syndrome symptoms, radicular symptoms, and if pt was injured in the position of a median nerve stretch. ULTT 2- The



### **About the Author: Jennifer Bachtel, MPT**

Jennifer Bachtel, MPT has been with KPT since 2003. She earned her MPT from Clarkson University in Potsdam, NY. She has extensive experience in outpatient orthopedics and sports rehabilitation. Jen is an avid runner who has an interest in prevention and treatment of all types of physical injuries. She lives in Maryland with her three children and husband.



Radial Nerve bias is indicated for lateral epicondylitis, DeQuerveins and radicular symptoms. ULTT 3- The ulnar nerve bias is indicated for medial epicondylitis, C8-T1 radiculopathy, Thoracic Outlet Syndrome, and radicular symptoms.

With all the tests, and with treatment using neural mobilization, the Therapist notes pain that reproduces the patient's chief complaint, paresthesias, other symptom changes, and available movement. The Physical Therapist then uses different mobilization treatment techniques with each patient as indicated, and will begin and end each treatment with a

quantitative assessment of the patient status. The final component to a comprehensive treatment plan is encouraging compliance with a home program of self-mobilization or nerve glides. The patient will be instructed on how to appropriately "floss" the nerve through tissues and what symptoms are appropriate to experience. Through incorporating manual mobilization and passive stretching from the Therapist, specific therapeutic exercises and home exercise compliance, a patient will be able to have a reduction/resolution in symptoms and reach his/her maximal rehabilitation potential.

## KPT News Flash:

### PATIENT SATISFACTION AT KPT

Here at Kassimir Physical Therapy, we recognize that you have many choices when recommending Physical Therapy for your patients. We truly value the trust you place in us when you refer your patients to KPT for Ultimate Rehab. The complete satisfaction of our mutual patients is at the top of our priority list. In an effort to constantly improve, we solicit anonymous feedback from all patients at discharge. Here are some recent responses that we hope you will keep in mind when making future Physical Therapy referrals:

#### What would you tell your Physician about your experience at KPT?

- Helpful and positive experience
- Staff was very attentive, polite and friendly
- KPT is a great place to regain your strength, mobility and confidence
- Thanks for recommending KPT; they were a great help
- Very, very, very gratifying experience!
- I had an excellent experience at KPT!
- KPT helped me erase my pain
- I recently recommended KPT to a friend and she is talking to her Doctor now
- Keep the recommendations coming! KPT is awesome!

### RECENT KPT NEWS

#### Community Support

KPT is sponsoring the Arthritis Foundation's "Jingle Bell Run/Walk for Arthritis."

KPT recently sponsored the Race for Our Kids.

#### Updated Website

Take a look at our new website: [www.kptrehab.com](http://www.kptrehab.com)! You'll get to see our clinic, meet our staff and have your most pressing PT questions answered. Our newly designed website is compatible with smartphones so it's easy to view from any device. Check it out today!

### Social Media

Like the Kassimir Physical Therapy Facebook page and see current events and the goings-on at KPT! The month of October is National Physical Therapy Month and we have featured interesting articles about the benefits of PT.

### Patient Appreciation Days

As part of our National Physical Therapy Month celebration, KPT held Patient Appreciation Days on October 20th and 21st. We invited past and current patients to drop in for some yummy treats and say hello! We are always happy to see our "graduates" and love letting all of our patients know how much we appreciate them choosing KPT for their Ultimate Rehab!

### WELCOME TO OUR NEWEST THERAPIST!

KPT announces the addition **Adam Gershowitz, DPT, CSCS**, a recent graduate of the University of Maryland, to our group of talented clinicians. Adam's energy, skills and sincere interest in improving the functionality and wellness of each and every patient, are making him very popular with the patients. We're very happy to welcome Adam to KPT's Ultimate Rehab team!



*"Ultimate Rehab . . . through personal committed care"*

#### OFFICE HOURS

Monday	7:30 a.m.	–	8:30 p.m.
Tuesday	8:00 a.m.	–	8:30 p.m.
Wednesday	7:30 a.m.	–	8:30 p.m.
Thursday	8:00 a.m.	–	8:30 p.m.
Friday	7:30 a.m.	–	6:00 p.m.
Saturday	8:00 a.m.	–	12:30 p.m.

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**KPT HANDPRINT Newsletter**  
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