

The Dural Slump: Test and Treatment

Adverse Mechanical Neuromeningeal Tension is the concept of nervous system tissue involvement in the generation of symptoms.

The Slump test is designed to assess abnormal mobility of tissues within the vertebral canal and intervertebral foramen. These pain sensitive structures include the spinal cord, spinal meninges and dura, nerve root sleeves, the ventral nerve roots, posterior ligaments, posterior discs, and the blood vessels of the epidural space. Conditions that cause inflammation in the spine may cause irritation and fibrotic adhesions in the dura that prevent normal mechanical movement of these tissues.

A neural dynamic test assesses two things:

- Mechanical function
- Sensitivity to those mechanical functions

Mechanosensitivity is the ease at which a nerve becomes active when mechanical force is applied. The more mechanosensitive the nerve, the less force required and the more intense the response. An example is the Tinel's sign. Where in the mechanosensitive nerve a gentle tapping will produce an impulse, while little happens with a normal nerve.

Dural symptoms are typically diffuse, poorly localized and non-radicular in distribution. Patients may have headaches, and autonomic symptoms. Pain and paresthesias are usually worse with prolonged sitting or flexed spinal positions.

The Dural Slump Test procedure.

1. In sitting establish baseline symptoms
2. Slump the shoulders and lower back by slouching without flexing the neck
3. Maintaining the slouch tuck the chin to chest. Overpressure may be applied gently. Question about symptom change



The Dural Slump Test procedure.

4. Keep step 3, extend the knee. Question symptom change
5. Keep step 4, dorsiflex the ankle. Question symptom change
6. Instruct the client to release the neck (look ahead). Question symptom change



*The Slump test is considered positive if any symptoms were produced in step 4 or 5 and reduced with the cervical extension in step 6. *

Aside from the skin, the only continuous structure from the neck to the toes is the nervous system.

Dural Slump as a Treatment

A recent study on the Slump was done using the Slump stretch for clients with mechanical back pain. After 3 weeks of a Physiotherapy program +/- slump stretching, the slumping group had 19.4% greater improvements over those that did not slump, as measured on the Oswestry Disability Index.

Two studies have suggested correlations between adverse neural tension and hamstring strains. Treatment of grade 1 hamstring strains was found to be more beneficial in rehabilitating injured Australian Rules Football players when slump stretching was added to regular physiotherapy treatments.

References:

- Cleland JA, Childs JD, Palmer JA, Eberhart S. Slump stretching in the management of non-radicular low back pain: a pilot clinical trial. *Man Ther.* 2006 Nov; 11(4):279-86
- Maitland G. The slump test: examination and treatment. *Aus J Phys* 1985; 31: 215-9
- Walsh MT. Upper limb neural tension testing and mobilization fact, fiction and a practical approach. *J Hand Ther* 2005;18:241-58
- Shacklock M. Advances in diagnosis with neurodynamic (neural tension) tests. *Ortho Div Review* Nov/Dec 2005;34-40