

*excerpt from eMedicine.com*

The most commonly observed cervical condition is chronic degenerative spondylosis that affects the vertebral bodies and the intervertebral disks of the neck (e.g. disk herniation, spur formation), as well as the contents of the spinal canal (nerve roots and/or spinal cord). Common clinical syndromes resulting in functional limitations include:

- Chronic sub occipital headache may be present.
- Pain can be perceived locally, or it may radiate to the occiput, shoulder, scapula, or arm.
- The pain, which is worse when the patient is in certain positions, can interfere with sleep.
- The C6 root is most commonly affected because of the predominant degeneration at the C5-C6 interspace; the next most common sites are at C7 and C5.

Findings at physical examination may include the following:

- Spurling sign: Radicular pain is exacerbated by extension and lateral bending of the neck toward the side of the lesion, which results in further foraminal compromise.
- Lhermitte sign: This generalized electrical shock sensation is associated with neck extension.
- Hoffman sign: Reflex contraction of the thumb and index finger occurs in response to nipping of the middle finger. This sign is evidence of an upper motor neuron lesion. A Hoffman sign may be insignificant if present bilaterally.
- Distal weakness; Hand clumsiness; Loss of sensation
- Decreased ROM in the cervical spine, with neck extension and rotation
- Increased reflexes in the extremities below the level of the lesion
- Gait characteristically broad-based, stooped, and spastic

### *Integrated Treatment Plan (Chronic)*

**Frequency: 2-3 visits/week**

Treatment approach is driven by the area of complaint and associated symptoms of pain and functional limitations. Therapists determine diagnosis and overall treatment plan based upon patient observation and clinical judgment. Cervical complaints are most often chronic and the recommended frequency of treatment is 2-3 visits/week until function improves. Standard functional activities should be included. Perform activities while 5002 electrode or Flexible Array is attached to the patient.

**CPT Codes:** 97110/97530-Therapeutic procedure/activities; 97112-Neuromuscular reeducation; 97535-Self-care/home management; 97032- Attended Interactive neurostimulation

Refer to *InterX Training Guides* for further treatment frequency, duration and stimulation setting guidelines. Treatment approach will be modified for acute conditions such as post-MVA type whiplash.

### *Interactive Therapy BASICS*

- Record patient history relating to the complaint, specifically seeking complicating and/or related chronic factors
- Stimulation intensity should remain **COMFORTABLY** strong
- **Vary the stimulation setting** throughout the Treatment Plan
- Pain AND **AS** will present in different locations throughout treatment and visits --- **follow the patient and body responses**

**AS** Low impedance  
"Active Sites"

**SCAN → TARGET → DYNAMIC**

### *Functional Measurement Tools*

The following measurement tools can be used to objectively demonstrate functional improvements in patient status and will enhance documentation requirements to support communication and reimbursement efforts.

Oswestry Neck Disability  
SF-36 or Short form

OPTIMAL (APTA)  
Brief Pain Questionnaire w/ Function


### *Similar or Related Conditions*

Cervical Disk Disorders  
Chronic Whiplash Syndrome

Cervical Dystonia



## InterX 5002 Protocol

**Setting:**  60  $\mu$  <OR> 240\*  $\mu$   
**Duration:** 20 minutes


- 1 10 min** Slowly **SCAN** cervico-thoracic region related to complaint of pain and/or dysfunction. Notice the **SCAN** area is larger than the area of complaint, it is important to **SCAN** a large enough area to identify significant "Active" sites. (AR  $\mu$  value, drag, sound, patient sensation, redness)



Cervico-thoracic Region

**SCAN Options**  
 Vary **SCAN** area based upon treatment response and patient report at each visit

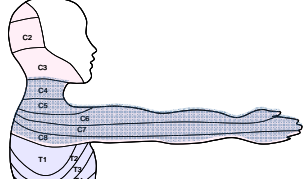
**a)**



Spinal Root

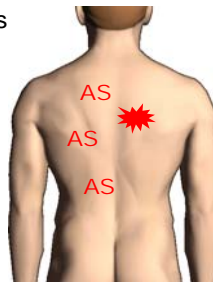
*Note: InterX stimulation can be applied directly over the spine*

**b)**

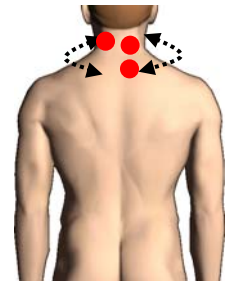


Nerve pathway (dermatome)


- 2 5 min** **TARGET** "Active" Sites  
 Typically body will respond more strongly to 3-5 sites  
 Focus on areas with greatest response.  
 Point-stim and paint in 4 directions.



- 3 5 min** **DYNAMIC**  
**Setting:**  $\mu$  90-360 <OR>  $\mu$  30-120  
 Direct patient through **range of motion and functional activities** observing the nerve and kinesthetic pathway(s), which elicit pain and or dysfunction.  
 Treat any elicited points of discomfort (●) for 30 seconds and then re-test. Continue for a total of 5 minutes.



## Flexible Array Protocol

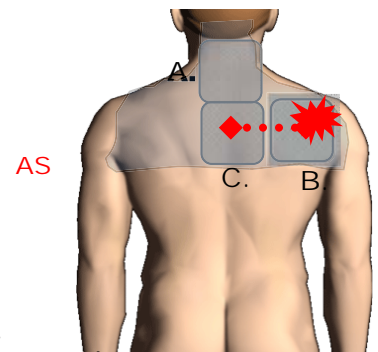
**Scan setting:**  60  $\mu$  <OR> 240\*  $\mu$   
**Flex Array :**  Cyc 2 <OR>  Cyc3  
**Duration:** 20-30 minutes



- 1 5 min** **SCAN** cervico-thoracic region as described in Protocol A. Identify primary 'Active' sites for further treatment based upon greatest complaint or response to stimulation at rest or movement.

- 2 20 min** InterX with the Flexible Array provides the ability to complete **TARGET & DYNAMIC** at the same time. Select one or two Flexible Array placements based upon therapy activities to be completed. Flexible Array can be used while performing exercise or therapist guided activities and/or interventions per the treatment plan.  
 Recommended Flexible Array placements:

- A. Primary "Active" Sites identified during **SCAN**
- B. Primary **point of pain** at rest or functional activities
- C. Spinal root related to primary pain

*Note: Secondary sites within the **SCAN** area that are related to the pain or limitation of function may also be treated.*



- 3 5 min** **Finish** treated area(s) in **Setting:**  $\mu$  30-120. Slide the InterX 5002 electrodes in four directions  over the area treated under the Flexible Array. Finish  other key points where the patient reports continued pain or limitations.

**SCAN → TARGET → DYNAMIC**