

A Complete Clinician's Approach to Musculoskeletal Management of Cervical Pain

CERVICAL CASE STUDY

HISTORY

WHO:

Patient is a 62 year old male dentist

WHAT:

Pain, paresthesia, and headaches

WHERE:

Pain in the right cervical region, right upper thoracic/scapular region. Paresthesia in the right arm to include thumb and index finger, C6 dermatome. Numbness in the tip of the right thumb. Headaches start in the suboccipital region on the right and when severe will refer to the right side of the face and jaw.

WHEN:

Long held positions of the neck during dentistry, at a social event or the movies if the head is in a rotated position. Neck and upper thoracic pain come on within 10 minutes, and headaches are experienced when he is unable to move out of the position. At times he wakes in the morning with a headache; headaches are consistently on the right side.

WHY: These symptoms came on about 4 years ago, gradually. He had right carpal tunnel surgery 5 years ago that resolved entire thumb numbness

TO WHAT EXTENT:

Is able to his dentist duties but symptoms are bothersome. Pain is 0/10 at best to 6/10 at worst for the cervical pain and 0 to 4/10 for the headaches.

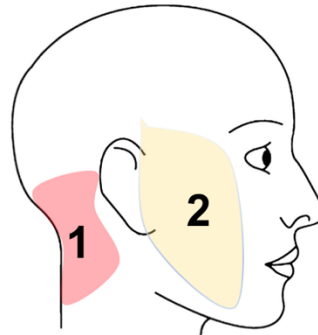
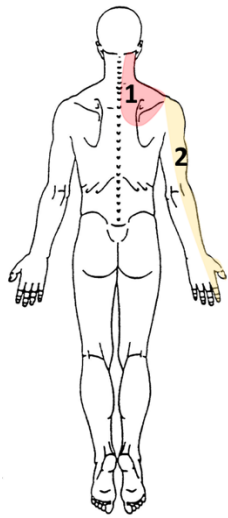
Past Medical History:

Patient is in otherwise good health. He exercises by biking, walking and hiking about 30 to 60 minutes 3 times per week.



Pain Diagram:

1. Primary reported symptoms
2. Secondary reported symptoms



CERVICAL SPINE CLINICAL EXAMINATION

Inspection / Palpation: forward head on neck, protracted shoulders and full supraclavicular fossae

Active Motions

	Degree	Pain Level	Location
Flexion	WNL	Moderate	R Neck, R Scapula
Extension	WNL	Minimal	R Neck
Retraction/Extension	Slight limitation	Moderate	R neck and scapula
Right Axial Rotation	20 deg. limitation	Minimal	R Neck
Left Axial Rotation	10 deg. limitation	Very Minimal	R Neck
Right Sidebend	30 deg. limitation	Moderate	R Neck, R Scapula
Left Sidebend	WNL	None	
Active Bilateral Arm Elevation	20 deg. limitation	None	

Resisted Testing

	Left	Right
Resisted Rotation (C1,2)	Strong-Painless	Strong-Painless
Resisted Shoulder Girdle Elevation (C2,3,4)	Strong-Painless	Strong-Painless
Resisted Shoulder Abduction (C5)	Strong-Painless	Strong-Painless
Resisted Shoulder Adduction (C7)	Strong-Painless	Strong-Painless
Resisted Shoulder Internal Rotation (C5,6)	Strong-Painless	Strong-Painless
Resisted Shoulder External Rotation (C5,6)	Strong-Painless	Strong-Painless
Resisted Elbow Flexion (C5,6)	Strong-Painless	Strong-Painless
Resisted Elbow Extension (C7)	Strong-Painless	Strong-Painless
Resisted Wrist Extension (C6)	Strong-Painless	Strong-Painless
Resisted Wrist Flexion (C7)	Strong-Painless	Strong-Painless
Resisted Thumb Extension (C8)	Strong-Painless	Strong-Painless
Resisted Little Finger Adduction (T1)	Strong-Painless	Strong-Painless

Sensory Testing

	Left Light Touch & Pinprick	Right Light Touch & Pinprick	Notes
Upper Trapezius (C4)	Normal	Normal	
Deltoid (C5)	Normal	Normal	
Thumb (C6)	Normal	Normal	Except small area of numbness to light touch and pinprick at the tip of the right thumb
Middle Finger (C7)	Normal	Normal	
Little Finger (C8)	Normal	Normal	
Medial Forearm (T1)	Normal	Normal	
Medial Upper Arm (T2)	Normal	Normal	

Reflexes

	Left	Right
Biceps (C5,6)	1+: slight, but definitely present	1+: slight, but definitely present
Brachioradialis (C5)	1+: slight, but definitely present	1+: slight, but definitely present
Triceps (C7)	1+: slight, but definitely present	1+: slight, but definitely present
Achilles Tendon (L5,S1,2)	1+: slight, but definitely present	1+: slight, but definitely present
Patellar Tendon	1+: slight, but definitely present	1+: slight, but definitely present

Extra Tests

	Right	Left
Alar Ligament Laxity Test	Negative	Negative
Transverse Ligament Laxity Test	Negative	Negative
Vertebral Artery Test, sustained rotation	Negative	Negative

Jaw Clinical Examination

Mouth Assessment	mm	Pain Level	Pain Location
Mouth opening before pain	35	Minimal	R facial muscles
Mouth opening (full)	45 with slight deviation to R but returns to midline	Moderate	R facial muscles
Lateral excursion to R	12	None	
Lateral excursion to L	7	minimal	R facial muscles
Protrusion	WNL	None	
Retrusion	WNL	None	
Joint play	Limited on R anterior / inferior		
Mouth opening pattern	S opening pattern	See above	
Parafunctional habits	Clenching and bruxism		
Strength testing	WNL all movements except lateral excursion. Decreased strength noted with L lateral excursion	(++) Pain with L lateral excursion	R facial pain

Extra Tests

	Test Name	Notes
1	Local cervical testing	C0-2 provocation test Right suboccipital pain with retraction and right rotation C2-7 Sidebending end feel test Hypomobile C2-3-4 right side Cervical Pain C5-6 right and left side
2	Thoracic	Upper rib elevation, 1 to 4 on the right, with associated myofascial trigger points
3	Spurling	Positive for right scapular pain and right arm tingling with cervical extension, right sidebending and right rotation
4	Cervical Flexion with Rotation test	Limited mobility noted with Right rotation (10 deg)
5	Cotton Roll Test	(+) for pain on R with loading on R, (-) for pain on R with loading on L
6	Facial Palpation	(+) for patient's facial pain with 2 seconds of palpation: Masseter ms (Superficial & Deep) on R, Medial Pterygoid on R *No radiating pain with 5 seconds of palpation

Clinical Impression: The patient presents with signs and symptoms of lower cervical discogenic pain and nerve root compression syndrome likely due to foraminal stenosis at C5-6. In addition upper thoracic dysfunction, primarily involving the ribs, has led to a double crush phenomenon with contributions from narrowed costoclavicular and thoracocoracopectoral spaces. Upper cervical segmental limitations further perpetuates the problem by increasing lower cervical loads during neck movements.

Differential diagnosis: Thoracic outlet syndrome, T4 Syndrome

Problem list:

- 1) Lower cervical foraminal stenosis with nerve root compression syndrome involving C6
- 2) Upper cervical hypomobility - severe
- 3) Upper rib hypomobility, right - moderate to severe
- 4) Myofascial trigger points in cervical and upper thoracic regions.
- 5) TMD local myalgia pain

Plan of Care:

- Education and reassurance
- Manual therapy to restore kinetic chain mobility and pain relieving techniques for the cervical spine and TMJ
 - Soft tissue mobilization, Joint/segmental techniques, Dry needling
- Stability skills to control motion and load for cervical spine and TMJ
- Exercises to address deficits, Neural flossing, Pain management as indicated, Other....