CURRICULUM / CONTENT

Scientific Osteopathic Approach To Patients With Cervical Pain

General Approach To Patients With Cervical Pain

1. Introduction and first differentiation

2. Pain generators

3. This first differentiation is done by

4. Osteopathic principles

5. Clinical and osteopathic reasoning

6. Case history

7. Acute or chronic

8. Specific tests

9. Somatic dysfunction

Chapter 1: The Cervical Spine

1. First differentiation

2. Biomechanics

2.1. Normal Position of the Cervical Spine
2.2. General Bony Anatomy and Joints
2.3. Normal Motion
2.4. Different Levels and Joints
- 2.4.1. Level Occiput – Atlas
- 2.4.2. Level Atlas – Axis
- 2.4.3. Craniocervical Junction Abnormalities
- 2.4.4. Level C_{2-7}
- 2.4.5. The Cervicothoracic Junction

2.5. Normal Biomechanics
- 2.5.1. The Occiput-Atlas-Axis Complex (OAA)
  - 2.5.1.1. Flexion and Extension
  - 2.5.1.2. Sidebending
  - 2.5.1.3. Rotation
- 2.5.2. C_{2-7}
  - 2.5.2.1. Flexion
  - 2.5.2.2. Extension
  - 2.5.2.3. Sidebending
  - 2.5.2.4. C_{2-3}

2.6. The Cervical Spine in Children

3. Lesional Mechanics

3.1. Compression lesion of the occiput-atlas-axis complex (oaa)
3.2. Occiput lesion in flexion
3.3. Occiput lesion in extension
3.4. Occiput lesion in es_lr_r
3.5. Occiput lesion in fs_lr_r
3.6. Occiput lesion in right shift (or atlas in left shift versus the occiput)
3.7. Atlas lesion in r_l
3.8. $C_{3\text{-}7}$ lesion in ers_r
3.9. $C_{3\text{-}7}$ lesion in frs_r
3.10. Lesion c_2 in s_lr_r

4. Cervical Pain

4.1. General
4.2. Possible Causes of Cervical Pain
- 4.2.1. Degenerative Diseases
  - 4.2.1.1. Cervical Canal Stenosis
  - 4.2.1.2. Rheumatoid Arthritis (RA)
  - 4.2.1.3. Cervical Arthritis
  - 4.2.1.4. Esophageal Compression in Osteoarthritis
  - 4.2.1.5. Cranial or Upward Odontoid Migration
- 4.2.2. Vertebral Artery Pathology
- 4.2.3. Lymph Nodes
- 4.2.4. Brachial Plexus Overstretch or Compression
- 4.2.5. Cervical Herpes Zoster
- 4.2.6. Occipital Neuralgia
- 4.2.7. Glossopharyngeal Neuralgia
- 4.2.8. Cervical Radiculopathy
- 4.2.9. Cervicobrachial Neuralgia
- 4.2.10. Cervical Rib Syndrome
- 4.2.11. Whiplash
- 4.2.12. Atlantoaxial Instability
- 4.2.13. Pseudo Subluxation of the Cervical Spine
- 4.2.14. Spinal Cord Injury Without Radiographic Abnormality (SCIWORA)
- 4.2.15. Cervical Posture
- 4.2.16. Upper Cross Syndrome
- 4.2.17. Cervical Extension Syndrome
- 4.2.18. Cervical Spine in Children
- 4.2.19. Atlantoaxial Rotatory Subluxation

5.1.9.1. Nerves
5.1.9.2. Reflexes
5.1.9.3. Angiotomes
5.1.9.4. Viscerotomes
5.1.10. Fascia
5.1.10.1. Superficial Cervical Fascia
5.1.10.2. Deep Cervical Fascia (Myofascia)
5.1.10.3. Deep Cervical Fascia (Middle Layer)
5.1.10.4. Deep Cervical Fascia (Visceral and Pharyngeal)
5.1.10.5. Deep Cervical Fascia (Vertebral Layer)
5.1.10.6. Deep Cervical Fascia (Alar)
5.1.10.7. Spaces In Between the Cervical Fascia
5.1.11. Triangles of the Neck
5.2. Provocation and Safety Tests
5.2.1. Neurological
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5.2.1.2. Test of Hautant
5.2.1.3. Nystagmus Test
5.2.1.4. Provocation of the Superior Cervical Ganglion
5.2.1.5. Provocation of the Stellate Ganglion
5.2.1.6. Observation of a Horner's Syndrome
5.2.1.7. Nerve Root Syndromes
5.2.1.8. Sensibility Testing Upper Extremity
5.2.1.9. Muscle Force Testing
5.2.1.10. O'Donoghue Maneuver
5.2.1.11. Doorbell Sign
5.2.1.12. Rust's Sign
5.2.1.13. Shoulder Depression Test
5.2.1.14. Soto-Hall Test
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5.2.1.16. Radicular Compression Test
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5.2.1.19. Cervical Flexion Test
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5.2.1.20.2. Biceps Reflex Test (C_6)

5.2.1.20.3. Triceps Reflex Test (C_7)
5.2.1.20.4. Radius Reflex Test (C_5)
5.2.1.20.5. Finger Flexion Reflex Test (C_{6-8})
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5.2.1.20.7. Pronation Reflex Test (C_7-T_1)
5.2.1.20.8. Hoffmann-Trömmerreflex Test
5.2.1.21. Neurological Provocation Tests
5.2.1.21.1. Test of Kemp
5.2.1.21.2. Provocation Median Nerve
5.2.1.21.3. Provocation Median Nerve – Alternative
5.2.1.21.4. Provocation Radial Nerve
5.2.1.21.5. Provocation Ulnar Nerve
5.2.2. Vascular Tests
5.2.2.1. De Kleyn-Nieuwenhuyse Test
5.2.2.2. Vertebral Artery Test
5.2.2.3. Traction Test of Occiput
5.2.2.4. Palpation of the Carotid Artery Pulse
5.2.2.5. Observation of the External and Internal Jugular Veins
5.2.2.5.1. Observation of the External Jugular Vein
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5.2.2.5. Valsalva Maneuver
5.2.2.6. Adson’s Test
5.2.2.7. Swallowing Test
5.2.3. Mechanical Tests
5.2.3.1. Test of the Transverse Ligament
5.2.3.2. Hypermobility Test
5.2.3.3. Sharp Purser Test
5.2.3.4. Cervical Compression Test (Spurling Test)
5.2.3.5. Stair Step Test
5.2.3.6. Alar Ligaments Stress Test in Sidebending
5.2.3.7. Alar Ligaments Stress Test in Rotation
5.3. Differential Test Musculoskeletal – Dura
5.4. Mobility Tests
5.4.1. Active Test: Flexion and Extension (All Levels)
5.4.2. Passive Test in Flexion and Extension (Sitting) (All Levels)
5.4.3. Passive Test in Flexion and Extension (Supine) (All Levels)
5.4.4. Passive Rotation Test (All Levels)
5.4.5. Passive Sidebending Test (All Levels)

5.4.6. Passive Flexion/Extension Test of the Occiput
5.4.7. Passive Sidebending Test of the Occiput
5.4.8. Passive Translation Test of the Occiput via the Atlas
5.4.9. Passive Rotation Test of the Atlas (Supine)
5.4.10. Passive Rotation Test of the Atlas (Sitting)
5.4.11. Passive Translation Test of the Atlas
5.4.12. Test for Orthostatic Intolerance

6. Techniques

6.1. Mobilizations
6.1.1. General
6.1.2. Lesion in Extension (All Cervical Levels)
6.1.3. Lesion in Flexion (All Cervical Levels)
6.1.4. Lesion in Rotation (All Cervical Levels)
6.1.5. Lesion in Sidebending (All Cervical Levels)
6.1.6. Mobilization of the Ventral Soft Tissues
6.1.7. Mobilization of the Cervicothoracic Junction
6.1.8. Passive Stretch of the Posterior Neck Muscles
6.1.9. Massage and Relaxation of the Suboccipital Muscles
6.1.10. Sustained Natural Apophyseal Glide – SNAG

6.2. 'Osteopathic Manipulative Techniques - OMT'
6.2.1. General
6.2.2. Occiput Lesion in FS_LR_R
6.2.3. Occiput Lesion in FS_LR_R – Manipulation via the Atlas
6.2.4. Occiput Lesion in ES_LR_R
6.2.5. Occiput Lesion in Left Shift
6.2.6. Atlas Lesion in Right Rotation
6.2.7. Atlas Lesion in Left Shift
6.2.8. C_2-C_7 Lesion in FRS_R
6.2.9. C_2-C_7 Lesion in ERS_R
6.2.10. C_2-C_7 Lesion in FRS_R (Patient Sitting)
6.2.11. Atlas Lesion in right Rotation (Patient Sitting)
6.2.12. C_2-C_7 Lesion in ERS_R (Patient Sitting)
6.2.13. Decompression of an Uncovertebral Joint (Patient Sitting)

6.3. 'Muscle Energy Techniques' (MET)
6.3.1. General
6.3.2. Occiput Lesion in ES_LR_R
6.3.3. Occiput Lesion Bilateral in Flexion

Chapter 1: The Thoracic Spine with Visceral Component

3. Lesion Mechanics Thoracic Spine and Ribs

3.1. Thoracic Spine
- 3.1.1. Lesion in Bilateral Extension
- 3.1.2. Lesion in Bilateral Flexion
- 3.1.3. Group Lesion $T_{1\text{-}5}$ in NRS $_R$
- 3.1.4. Group Lesion $T_{1\text{-}5}$ in ERS $_R$
- 3.1.5. Group Lesion $T_{1\text{-}5}$ in FRS $_R$
- 3.1.6. Group Lesion $T_{6\text{-}11}$ in NS_RR_L
- 3.1.7. Monolithic Lesion ERS_R
- 3.1.8. Monolithic Lesion FRS_R
- 3.1.9. Shift Lesion

3.2. Ribs
- 3.2.1. Lesion in Inhalation, as a Group or Monolithic
- 3.2.2. Lesion in Exhalation, as Group or Monolithic

4. Neurology of the Thoracic Spine

4.1. Spinal Root Topography in the Thoracic Spine
4.2. Dermatomes
- 4.2.1. Area Nervina

4.3. Sclerotomes
4.4. Myotomes
4.5. Reflexes
4.6. General Neurology
4.8. Angiotome

5. Thoracic Pain

5.1. General
5.2. Ankylosing Spondylitis (AS)
5.3. Scheuermann's Disease
5.4. Osteoarthritis
5.5. The Aging Spine
5.6. Degenerative Disc Disease
5.7. Herniated Thoracic Disc
5.8. Facet Joint Arthropathy
5.9. Scoliosis
5.10. Fractures
5.11. Osteomyelitis
5.12. Herpes Zoster or Shingles

5.13. Thoracic Neurofibroma
5.14. Malignant Tumors
5.15. Extradural Hematoma
5.16. Thoracic Spinal Canal Stenosis

5.17. Thoracic Postural Pain Syndrome
5.18. Hypersensitivity of the Intercostal Nerves Following Injury
5.19. Dural Pain
5.20. Costochondritis
5.21. Slipping Rib Syndrome
5.22. Xiphoidalgia Syndrome
5.23. Sternalis Syndrome
5.24. Bone Pain

6. Assessment of the Thoracic Spine and Ribs

6.1. Observation of the Spine and Thorax
  6.1.1. Observation in a Standing Position
6.2. Palpation of the Thoracic Spine and Ribs
  6.2.1. Topography of the Spinal and Transverse Processes
  6.2.2. Topography of the Ribs
6.3. Active Tests
  6.3.1. The Thoracic Spine
    6.3.1.1. Active Flexion Test
    6.3.1.2. Active Extension Test
    6.3.1.3. Active Flexion Test in the Upper Thoracics (with the Head as Lever)
    6.3.1.4. Active Extension Test in the Upper Thoracics (with the Head as Lever)
    6.3.1.5. Active Sidebending
    6.3.1.6. Active Sidebending of the Upper Thoracis (with the Head as Lever)
    6.3.1.7. Oscillation Test Sitting
    6.3.1.8. Oscillation Test for the Upper Thoracics (with the Head as Lever)
    6.3.1.9. Oscillation Test with the Patient Prone
    6.3.1.10. Flexion Test
    6.3.1.11. Flexion Test for the Upper Thoracics (with the Cervical Spine as the Lever)
    6.3.1.12. Extension Test
    6.3.1.13. Extension Test for the Upper Thoracics
    6.3.1.14. Sidebending Test
    6.3.1.15. Sidebending Test for the Upper Thoracics (Lever is the Cervical Spine)
    6.3.1.16. Test in Rotation
  6.3.2. The Ribs
    6.3.2.1. Rotation Test Rib 1 to 10
    6.3.2.2. Flexion Test for the First Rib
    6.3.2.3. Test of the First Rib in Rotation
    6.3.2.4. Test of the First Rib with Respiration

8. Visceral Osteopathy

8.1. History and Concept
8.2. Visceral Mobility
8.3. What Influence can Osteopathy have on the Health of Organs?
8.4. Limitations
8.5. Safety
8.6. Scientific Proof

9. Thoracic Organs

9.1. The Heart
- 9.1.1. General Introduction
- 9.1.2. ANATOMY
  - 9.1.2.1. Topography
  - 9.1.2.2. Fascial and Suspension System
- 9.1.3. Physiology of the Heart
  - 9.1.3.1. General
  - 9.1.3.2. The Valves
  - 9.1.3.3. Innervation of the Heart
    - 9.1.3.3.2. Autonomic Regulation of the Heart
  - 9.1.3.4. The Electrocardiogram (ECG)
  - 9.1.3.5. Reflexes
    - 9.1.3.5.1. The Bainbridge Reflex
    - 9.1.3.5.2. The Vagal Cardiopulmonary Reflexes
    - 9.1.3.5.3. The Bezold-Jarisch Reflex
    - 9.1.3.5.4. The Trigeminocardiac Reflex
    - 9.1.3.5.5. The Occulocardiac Reflex (Aschner Reflex)
    - 9.1.3.5.6. The Baroreceptor Reflex
    - 9.1.3.5.7. The Chemoreceptor Reflexes
    - 9.1.3.5.8. After a Myocardial Heart Infarct
    - 9.1.3.5.9. The Exercise Pressor Reflex
    - 9.1.3.5.10. Carotid Sinus Reflex
    - 9.1.3.5.11. Cervical Manipulation
    - 9.1.3.5.12. Spinal Lesions
  - 9.1.3.6. Pain
  - 9.1.3.7. Blood Pressure
    - 9.1.3.7.1. General
- 9.1.4. Mobility of the Heart
- 9.1.5. Transport of Oxygen and Carbon Dioxide in Blood
- 9.1.6. Patient History and Physical Assessment