

# **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
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    - 2.4.2. Level Atlas – Axis
    - 2.4.3. Craniocervical Junction Abnormalities
    - 2.4.4. Level C<sub>2-7</sub>
    - 2.4.5. The Cervicothoracic Junction
  - 2.5. Normal Biomechanics
    - 2.5.1. The Occiput-Atlas-Axis Complex (OAA)
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      - 2.5.1.2. Sidebending
      - 2.5.1.3. Rotation
    - 2.5.2. C<sub>2-7</sub>
      - 2.5.2.1. Flexion
      - 2.5.2.2. Extension
      - 2.5.2.3. Sidebending
      - 2.5.2.4. C<sub>2-3</sub>

## 2.6. The Cervical Spine in Children

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- 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<sub>r</sub>
- 3.5. Occiput lesion in fs<sub>r</sub>
- 3.6. Occiput lesion in right shift (or atlas in left shift versus the occiput)
- 3.7. Atlas lesion in r<sub>i</sub>
- 3.8. C<sub>3-7</sub> lesion in ers<sub>r</sub>
- 3.9. C<sub>3-7</sub> lesion in frs<sub>r</sub>
- 3.10. Lesion c<sub>2</sub> in s<sub>r</sub>

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- 4.2. Possible Causes of Cervical Pain
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    - 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
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  - 4.2.8. Cervical Radiculopathy
  - 4.2.9. Cervicobrachial Neuralgia
  - 4.2.10. Cervical Rib Syndrome
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  - 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
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  - 4.2.19. Atlantoaxial Rotatory Subluxation

- 4.2.20. Torticollis
- 4.2.21. Adult-Onset Idiopathic Torticollis (Cervical Dystonia)
- 4.2.22. KISS Syndrome
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- 4.2.31. Spinal Cord Compression and Tension
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      - 7.2.1.9.1. Manubrium Mobilization in the Frontal Plane
      - 7.2.1.9.2. Manubrium Mobilization in the Horizontal Plane

- 7.2.1.9.3. Manubrium Mobilization in the Sagittal Plane
- 7.2.1.9.4. Sternum Mobilization in the Frontal Plane
- 7.2.1.9.5. Sternum Mobilization in the Horizontal Plane
- 7.2.1.9.6. Sternum Mobilization in the Sagittal Plane
- 7.2.1.9.7. Sternum Mobilization in Craniocaudal Direction
- 7.2.1.9.8. Recoil Technique on the Manubrium
- 7.2.1.9.9. Recoil Technique on the Chondrosternal Joints
- 7.2.1.9.10. Recoil on the Manubriosternal Junction

## 7.2.2. Osteopathic Manipulative Techniques - O.M.T.

- 7.2.2.1. Hand Position
- 7.2.2.2. Lesion of a Left Rib in Inhalation
- 7.2.2.3. Lesion of a Right Rib
- 7.2.2.4. Lesion of the 1<sup>st</sup> Rib
- 7.2.2.5. Rib Lesion in Inhalation
- 7.2.2.6. Lesion of the 11<sup>th</sup> or 12<sup>th</sup> Rib
- 7.2.3. Muscle Energy Techniques (M.E.T.)
  - 7.2.3.1. Lesion of the 1<sup>st</sup> Rib in Exhalation
  - 7.2.3.2. Lesion of the 2<sup>nd</sup> Rib in Exhalation
  - 7.2.3.3. Lesion of 3<sup>rd</sup> to 5<sup>th</sup> Ribs in Exhalation
  - 7.2.3.4. Lesion of the 12<sup>th</sup> Rib in Exhalation
  - 7.2.3.5. Lesion of 7<sup>th</sup> to 10<sup>th</sup> Ribs in Exhalation
  - 7.2.3.6. Lesion of the Lower Ribs in Exhalation
  - 7.2.3.7. Lesion of the 1<sup>st</sup> Rib in Inhalation
  - 7.2.3.8. Lesion of the 2<sup>nd</sup> Rib in Inhalation
  - 7.2.3.9. Lesion of the 3<sup>rd</sup> to 6<sup>th</sup> Ribs in Inhalation
  - 7.2.3.10. Lesion of the 3<sup>rd</sup> to 6<sup>th</sup> Ribs in Inhalation
  - 7.2.3.11. Lesion of the 3<sup>rd</sup> to 6<sup>th</sup> Ribs in Inhalation
  - 7.2.3.12. Lesion of the 11<sup>th</sup> and 12<sup>th</sup> Ribs in Inhalation
  - 7.2.3.13. Lesion of the Lower Ribs in Inhalation
- 7.2.4. 'Strain and Counterstrain' Techniques
  - 7.2.4.1. 1<sup>st</sup> Rib in Exhalation
  - 7.2.4.2. 2<sup>nd</sup> Rib in Exhalation
  - 7.2.4.3. 3<sup>rd</sup> to 6<sup>th</sup> Ribs in Exhalation
  - 7.2.4.4. First Rib in Inhalation
  - 7.2.4.5. 2<sup>nd</sup> to 6<sup>th</sup> Ribs in Inhalation

## **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

- 9.1.6.1. Risk Factors
- 9.1.6.2. Coronary Heart Disease (CHD)
- 9.1.6.3. Heart Attack
- 9.1.6.4. Congestive Heart Failure (CHF)
- 9.1.6.5. Arrhythmia
- 9.1.6.6. The Athletic Heart Syndrome
- 9.1.6.7. Congenital Heart Disease (CHD)
- 9.1.6.8. Tetralogy of Fallot (TOF)
- 9.1.6.9. Endocarditis
- 9.1.6.10. Pericarditis
- 9.1.6.11. Pathology of the Valves
- 9.1.6.12. High Blood Pressure (HBP)
- 9.1.6.13. Low Blood Pressure

#### 9.1.7. Clinical Assessment

- 9.1.7.1. Observation
  - 9.1.7.1.1. Tongue Vascularization
  - 9.1.7.1.2. Internal Jugular Vein
  - 9.1.7.1.3. External Jugular Vein
  - 9.1.7.1.4. Coloration of Skin and Lips
- 9.1.7.2. Palpation
  - 9.1.7.2.1. Palpation of the Carotid Pulse
  - 9.1.7.2.2. Palpation of the Radial Pulse
  - 9.1.7.2.3. Palpation of the Pulse at the Apex of the Heart
- 9.1.7.3. Auscultation of the Heart Sounds
- 9.1.7.4. Percussion
- 9.1.7.5. Body Mass Index (BMI)
- 9.1.7.6. Specific Tests Related to the Heart Mobility
  - 9.1.7.6.1. Mobility Test of the Lower Ribs in the Frontal Plane
  - 9.1.7.6.2. Mobility Test of the Lower Ribs in the Sagittal Plane
  - 9.1.7.6.3. Mobility Test of the Lower Ribs in the Horizontal Plane
  - 9.1.7.6.4. General Mobility Test of the Heart Region
  - 9.1.7.6.5. Elasticity Test in Anteroposterior Direction
  - 9.1.7.6.6. Test of the Intrathoracic Fascia
  - 9.1.7.6.7. Test of the Diaphragm
- 9.1.8. Osteopathic Techniques
  - 9.1.8.1. Stretch of the Intrathoracic Fascia
  - 9.1.8.2. Stretch of the Left Intrathoracic Fascia

- 9.1.8.3. Thorax Recoil
- 9.1.8.4. Diaphragm Recoil
- 9.1.8.5. Mobilisation of the Intrathoracic Fascia
- 9.1.8.6. Relaxation of the Cardiac Plexus
- 9.1.8.7. Doming Technique
- 9.1.8.8. Doming Technique with Rib Lifting
- 9.1.8.9. Additional Osteopathic Techniques
- 9.1.8.10. Neurolymphatic Reflex Points

## 9.2. The Lungs

- 9.2.1. Introduction Lungs
- 9.2.2. Basic Anatomy and Physiology of the Lungs
  - 9.2.2.1. General
  - 9.2.2.2. Lobes and Segments
  - 9.2.2.3. Bronchopulmonary Segments
  - 9.2.2.4. Hilus
  - 9.2.2.5. Pleura
  - 9.2.2.6. Specific Ligaments
  - 9.2.2.7. Topography
  - 9.2.2.8. Pressure Gradients
  - 9.2.2.9. Blood and Oxygen Supply of the Lungs
  - 9.2.2.10. Innervation of the Lungs
  - 9.2.2.11. Pain
  - 9.2.2.12. Lung Volume and Capacity
  - 9.2.2.13. Gaseous Exchange
  - 9.2.2.14. Relationship Between Ventilation and Perfusion
  - 9.2.2.15. The Influence of Gravity
  - 9.2.2.16. Endocrine Function
  - 9.2.2.17. Microbiota of the Lungs
- 9.2.3. Mobility of the Lungs
- 9.2.4. Pathology of the Lungs
  - 9.2.4.1. Pulmonary Embolism
  - 9.2.4.2. Pneumothorax
  - 9.2.4.3. Asthma
  - 9.2.4.4. Exercise Induced Bronchoconstriction – EIB (Exercise-induced Asthma)
  - 9.2.4.5. Pulmonary Edema
  - 9.2.4.6. Pneumonia
  - 9.2.4.7. Emphysema

- 9.2.4.8. Atelectasis
  - 9.2.4.9. Hyperventilation
  - 9.2.4.10. Respiratory Acidosis
  - 9.2.4.11. Asbestosis
  - 9.2.4.12. Pulmonary Hypertension
  - 9.2.4.13. Cystic Fibrosis – CF or Mucoviscidosis
  - 9.2.4.14. Bronchitis
  - 9.2.4.15. Chronic Obstructive Pulmonary Disease (COPD)
  - 9.2.4.16. Tuberculosis (TBC)
  - 9.2.4.17. Lung Cancer
  - 9.2.4.18. Hypertrophic Pulmonary Osteoarthropathy (HPOA)
  - 9.2.4.19. Adhesions
  - 9.2.4.20. Median Arcuate Ligament Syndrome (MALS)
  - 9.2.4.21. Medication
- 9.2.5. Patient History and Physical Assessment
- 9.2.5.1. Observation
  - 9.2.5.2. Abnormal Respiration Patterns
  - 9.2.5.3. Palpation for Lymph Nodes
  - 9.2.5.4. Tactile (Vocal) Fremitus
  - 9.2.5.5. Percussion
  - 9.2.5.6. Auscultation
  - 9.2.5.7. Osteopathic Assessment
    - 9.2.5.7.1. Test of the Diaphragm
    - 9.2.5.7.2. Test of the Intrathoracic Fascia
    - 9.2.5.7.3. General Elasticity Test of the Thorax
    - 9.2.5.7.4. General Mobility Tests of the Ribs
    - 9.2.5.7.5. Test for Congestion of the Surrounding Organs
    - 9.2.5.7.6. Test of the Respiration – Patient Prone
    - 9.2.5.7.7. Test of the Lung Stability in the Frontal Plane
    - 9.2.5.7.8. Test of the Lung Stability in the Horizontal Plane
    - 9.2.5.7.9. Test of the Lung Stability in the Sagittal Plane and in Craniocaudal Direction
    - 9.2.5.7.10. Palpation of the Lung Apex
    - 9.2.5.7.11. Mobility Test of the Lung Apex
    - 9.2.5.7.12. Test of the Cervicopleural Ligament, Patient Sitting
    - 9.2.5.7.13. Test of the Cervicopleural Ligament (Suspensory Ligament), Patient Supine
    - 9.2.5.7.14. General Mobility Test of the Upper Ribs in the Frontal Plane

- 9.2.5.7.15. General Mobility Tests of the Upper Ribs in the Sagittal Plane
- 9.2.5.7.16. General Mobility Test of the Upper Ribs in the Horizontal Plane
- 9.2.5.7.17. General Elasticity Test of the Thorax
- 9.2.5.7.18. General Mobility Test of the Lower Ribs in the Frontal Plane
- 9.2.5.7.19. General Mobility Tests of the lower Ribs in the Sagittal Plane
- 9.2.5.7.20. General Mobility Test of the Lower Ribs in the Horizontal Plane
- 9.2.5.7.21. Test of the Mobility of the Horizontal Fissure
- 9.2.5.7.22. Test of the Mobility of the Oblique Fissure

## 9.2.6. Osteopathic Techniques

### 9.2.6.1. General Advice

- 9.2.6.1.1. Oral Hygiene

- 9.2.6.1.2. Nutrition

### 9.2.6.2. General Techniques

- 9.2.6.2.1. Exhalation with Pursed Lips

- 9.2.6.2.2. Abdominal Respiration

- 9.2.6.2.3. Deep Inhalation and Coughing

- 9.2.6.2.4. Postural Drainage, Vibration and Percussion

### 9.2.6.3. Osteopathic Techniques

- 9.2.6.3.1. Stretch of the Pleural Dome, the Upper Pleura and the Cervicopleural (Suspensory) Ligament

- 9.2.6.3.2. Stretch of the Cervicopleural (Suspensory) Ligament

- 9.2.6.3.3. Stretch of the Pleural Dome, the Cervicopleural Ligament and the Upper Fascia

- 9.2.6.3.4. Stretch of the Cervicopleural Ligament, Sitting

- 8.2.6.3.5. Stretch of the Intrathoracic Fascia

- 9.2.6.3.6. Mobilization of the Horizontal Fissure

- 9.2.6.3.7. Mobilization of the Oblique Fissure

- 9.2.6.3.8. Mobilization of the Intrathoracic Fascia

- 9.2.6.3.9. Stretch of the Intrathoracic Fascia and the Pulmonary Ligaments

- 9.2.6.3.10. Mobilization of the Upper Ribs in the Frontal Plane

- 9.2.6.3.11. Mobilization of the Upper Ribs in the Sagittal Plane

- 9.2.6.3.12. Mobilization of the Upper Ribs in the Horizontal Plane

- 9.2.6.3.13. Mobilization of the Lower Ribs in the Frontal Plane

- 9.2.6.3.14. Mobilization of the Lower Ribs in the Sagittal Plane

- 9.2.6.3.15. Mobilization of the Lower Ribs in the Horizontal Plane

- 9.2.6.3.16. Neurolymphatic Reflex Points

## 9.3. The Diaphragm

### 9.3.1. Introduction

9.3.2. Anatomy

9.3.3. Innervation

9.3.4. Attachments of the Diaphragm

9.3.5. Blood Supply

    9.3.5.1. Arterial

    9.3.5.2. Venous

    9.3.5.3. Lymphatics

9.3.6. Functions

    9.3.6.1. Respiration

    9.3.6.2. Core Stability

    9.3.6.3. Diaphragm and Posture

9.3.7. Pathology

    9.3.7.1. Breathing Pattern Disorders (BPD)

    9.3.7.2. Diaphragmic Paralysis (Palsy)

    9.3.7.3. Eventration

    9.3.7.4. Hyperventilation

    9.3.7.5. Hernias

    9.3.7.6. Diaphragmic Tears (Ruptures)

    9.3.7.7. Median Arcuate Ligament Syndrome (MALS)

    9.3.7.8. Referred Pain from the Diaphragmic Region

    9.3.7.9. Hiccup

    9.3.7.10. Side Stitches

    9.3.7.11. Diaphragmic Variations

9.3.8. Patient History and Physical Assessment

    9.3.8.1. Patient History

    9.3.8.2. Observation of the Breathing Pattern

    9.3.8.3. Observation of the Chest Wall and the Abdomen

    9.3.8.4. Palpation of the Diaphragm Attachments, Supine

    9.3.8.5. Palpation of the Crura

    9.3.8.6. Palpation of the Ventral Muscular Attachments of the Diaphragm

    9.3.8.7. Test for Diaphragm Expansion

    9.3.8.8. Percussion of the Diaphragmic Border

    9.3.8.9. General Test of the Diaphragm

    9.3.8.10. Diaphragm Test with Lower Rib Expansion - Sitting

    9.3.8.11. Diaphragm Observation and Test Supine

    9.3.8.12. Diaphragm Test Supine

    9.3.8.13. Intra-Abdominal Pressure Test Supine

- 9.3.8.14. Intra-Abdominal Pressure Test Sitting
  - 9.3.8.15. Intra-Abdominal Pressure while Performing Normal Respiration
  - 9.3.8.16. Trunk and Neck Flexion Test Supine
  - 9.3.8.17. Arm Lifting Test Supine
  - 9.3.8.18. Leg Lifting Supine
  - 9.3.8.19. Sitting Hip Flexion Test
  - 9.3.8.20. Sitting Hip Flexion Test
  - 9.3.8.21. Test for the Force of the Diaphragm
  - 9.3.8.22. General Test for Resistance and Force of the Diaphragm
  - 9.3.8.23. Test of the Respiration, Patient Prone
  - 9.3.8.24. Test for Congestion of the Surrounding Organs
  - 9.3.8.25. Test of the Intrathoracic Fascia
  - 9.3.8.26. Subdiaphragmal Provocation
  - 9.3.8.27. General Elasticity Test of the Thorax
  - 9.3.8.28. General Mobility Test of the Lower Ribs in the Frontal Plane
  - 9.3.8.29. General Mobility Tests of the Lower Ribs in the Sagittal Plane
  - 9.3.8.30. General Mobility Test of the Lower Ribs in the Horizontal Plane
- 9.3.9. Osteopathic Techniques
- 9.3.9.1. Exhalation with Pursed Lips
  - 9.3.9.2. Deep Inhalation and Coughing
  - 9.3.9.3. Abdominal Respiration
  - 9.3.9.4. Postural Drainage, Vibration and Percussion
  - 9.3.9.5. Stretch of the Intrathoracic Fascia
  - 9.3.9.6. Mobilisation of the Lower Ribs in the Frontal Plane
  - 9.3.9.7. Mobilisation of the Lower Ribs in the Sagittal Plane
  - 9.3.9.8. Mobilisation of the Lower Ribs in the Horizontal Plane
  - 9.3.9.9. Strengthening of the Diaphragm
  - 9.3.9.10. Frictions on the Attachments of the Diaphragm
  - 9.3.9.11. Recoil Technique for the Diaphragm
  - 9.3.9.12. Strengthening of the Diaphragm
  - 9.3.9.13. Doming Technique
  - 9.3.9.14. Doming Technique with Rib Lift
  - 9.3.9.15. Relaxation of the Diaphragm
  - 9.3.9.16. General Subdiaphragmal Drainage

#### 9.4. THE THYROID

##### 9.4.1. Introduction

##### 9.4.2. Anatomy of the Thyroid Gland

- 9.4.2.1. Position and Important Anatomical Data
- 9.4.2.2. Vascularization
  - 9.4.2.2.1. Arterial
  - 9.4.2.2.2. Venous
- 9.4.2.3. Anatomical Fixations of the Thyroid
- 9.4.3. Histology
- 9.4.4. Neurology
- 9.4.5. Physiology and Function
- 9.4.6. Mobility of the Thyroid Gland
- 9.4.7. Pathology
  - 9.4.7.1. Hypothyroidism
  - 9.4.7.2. Hyperthyroidism
  - 9.4.7.3. Mild Forms of Thyroid Conditions
  - 9.4.7.4. Hyperparathyroidism
  - 9.4.7.5. Hypoparathyroidism
- 9.4.8. Symptoms Related to Thyroid Dysfunction
  - 9.4.8.1. Superior Caval Vein Syndrome
  - 9.4.8.2. Psychiatric Disorders
  - 9.4.8.3. Gluten Intolerance (Coeliac Disease)
  - 9.4.8.4. Muscle and Joint Pain
- 9.4.9. Clinical Assessment
  - 9.4.9.1. General Assessment
  - 9.4.9.2. Observation of the Hands
  - 9.4.9.3. Eye Examination
  - 9.4.9.4. Observation of the Anterior Neck
  - 9.4.9.5. Palpation of the Thyroid
  - 9.4.9.6. Auscultation
  - 9.4.9.7. Observation of the Legs
  - 9.4.9.8. Temperature Test
  - 9.4.9.9. Osteopathic Assessment
    - 9.4.9.9.1. The Upper Thoracics
    - 9.4.9.9.2. The Upper Cervical Region
    - 9.4.9.9.3. The Thoracic Outlet
    - 9.4.9.9.4. Hypothalamus and Pituitary Gland
    - 9.4.9.9.5. The Cervical Fascial System
    - 9.4.9.9.6. The Muscular Balance of the Neck
    - 9.4.9.9.7. The Right Atrium

- 9.4.9.9.8. The Liver
- 9.4.9.9.9. The Small Intestines
- 9.4.9.9.10. Local Mobility Tests of the Thyroid Gland
- 9.4.9.9.11. The Adrenal Segment
- 9.4.9.9.12. Mobility Test of the Hyoid Bone, Patient Supine
- 9.4.9.9.13. Mobility Test of the Hyoid Bone, Patient Sitting
- 9.4.9.9.14. Test of the Suspensory Ligament of Berry
- 9.4.9.9.15. Test of the Levator Thyroideus Muscle
- 9.4.9.9.16. Laterolateral Mobility Test of the Anterior Neck Structures
- 9.4.9.9.17. Tests of the Cervical Fascia
- 9.4.9.9.18. General Mobility Test in the Cervical Spine Under Traction

#### 9.4.10. Techniques

- 9.4.10.1. Mobilization and Stretching of the Suspensory Ligament of Berry
- 9.4.10.2. Stretching of the Levator Thyroideus Muscle
- 9.4.10.3. Stretching of the Cervical Fascia in the Sagittal Plane
- 9.4.10.4. Stretching of the Cervical Fascia in the Frontal Plane
- 9.4.10.5. Stretching of the Cervical Fascia in the Horizontal Plane
- 9.4.10.6. Mobilization of the Neck Organs, Inferior Part
- 9.4.10.7. Mobilization of the Neck Organs, Medial Part
- 9.4.10.8. Mobilization of the Neck Organs, Superior Part
- 9.4.10.9. Stretch between the Thyroid Cartilage and Cricoid Cartilage
- 9.4.10.10. Neurolymphatic Reflex Points

### 9.5. The Esophagus

#### 9.5.1. Introduction

#### 9.5.2. Relevant Anatomy of the Esophagus

#### 9.5.3. Physiology

- 9.5.3.1. Swallowing (Deglutition)
- 9.5.3.2. Peristalsis
- 9.5.3.3. The Lower Esophageal Sphincter – LES

#### 9.5.4. Neurology

#### 9.5.5. Pathology

- 9.5.5.1. Congenital Anomalies
- 9.5.5.2. Esophageal Varices
- 9.5.5.3. Esophageal Strictures
- 9.5.5.4. Achalasia Cardia
- 9.5.5.5. Dysphagia
- 9.5.5.6. Gastro-Esophageal Reflux Disease (GERD)

- 9.5.5.7. Esophageal Ulcer
  - 9.5.5.8. Esophagitis
  - 9.5.5.9. Diffuse Esophageal Spasm
  - 9.5.5.10. Esophageal Diverticule
  - 9.5.5.11. Barrett's Esophagus or Barrett Syndrome
  - 9.5.5.12. Esophageal Carcinoma
  - 9.5.5.13. Mallory-Weiss Tear
  - 9.5.5.14. Functional Esophageal Disorders
  - 9.5.5.15. Esophageal Hypomotility
  - 9.5.5.16. Nutcracker Esophagus
  - 9.5.5.17. Candidiasis
  - 9.5.5.18. Hiatus Hernia
- 9.5.6. Clinical Assessment
- 9.5.6.1. Palpation
  - 9.5.6.2. Mobility Test of the Cardia
  - 9.5.6.3. Rebound Test on the Cardia
  - 9.5.6.4. Mobility Test of the Cardia
- 9.5.7. Osteopathic Techniques
- 9.5.7.1. Mobilization of the Cardia
  - 9.5.7.2. Mobilization of the Cardia
  - 9.5.7.3. Neurolymphatic Reflex Points

## **10. Osteopathic Treatment**

- 10.1. Strategy
- 10.1.1. First Differentiation
  - 10.1.2. Case History
  - 10.1.3. Somatic Dysfunction
  - 10.1.4. Relation Diaphragm and Cervical Complaints
    - 10.1.4.1. Mechanical
    - 10.1.4.2. Vascular
    - 10.1.4.3. Neurological
    - 10.1.4.4. Metabolic
  - 10.1.5. Relation Lungs and Cervical Complaints
    - 10.1.5.1. Mechanical
    - 10.1.5.2. Vascular
    - 10.1.5.3. Neurological
  - 10.1.6. Relation Heart and Cervical Complaints

- 10.1.6.1. Mechanical
- 10.1.6.2. Vascular
- 10.1.6.3. Neurological
- 10.1.7. Relation Thyroid Gland and Cervical Complaints
  - 10.1.7.1. Mechanical
  - 10.1.7.2. Vascular
  - 10.1.7.3. Neurological
  - 10.1.7.4. Metabolic
- 10.1.8. Relation Esophagus and Cervical Complaints
  - 10.1.8.1. Mechanical
  - 10.1.8.2. Neurological
- 10.1.9. Relation Thoracic Spine/Ribs and Cervical Complaints
  - 10.1.9.1. Mechanical
  - 10.1.9.2. Neurological
  - 10.1.9.3. Treatment Strategy Upper Thoracics Flexion Tendency
    - Treatment of a flexion tendency
  - 10.1.9.4. Treatment Strategy Upper Thoracics, Extension Tendency
  - 10.1.9.5. Treatment Strategy of the Intra Thoracic Retractions
  - 10.1.9.6. Treatment Strategy Thoracic Outlet (TOS)
  - 10.1.9.7. Treatment Strategy to Open the Thoracic Outlet
  - 10.1.9.8. Treatment Strategy Stabilizing the Upper Thoracics and Cervical Spine
  - 10.1.9.9. Treatment Strategy Increasing the O<sub>2</sub>-CO<sub>2</sub> Exchange

## **Bibliography**

## **Interesting Articles**

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