

## **General Order of Scan:**

- 1) Posterior Quadrant (occiput)
- 2) Temporals
- 3) Frontal Quadrant (sphenoid)
- 4) Face

## **I. POSTERIOR QUADRANT:**

- A. Begin by identifying restrictions in flexion or extension
  1. There may also be a restriction in extension or internal rotation
  2. *Most concerned with flexion and external rotation restrictions never treat the cranium into extension or internal rotation.*
- B. If the occiput has a flexion restriction begin by decompressing the occiput
  1. Curl fingers under the occiput. Make sure you are on the occipital bone and not compressing the vertebral artery.
  2. Gently pull cephalad, hold while having the patient takes deep breaths in and out
  3. Slowly release
- C. Follow the decompression by rechecking the motion of the occiput
- D. If the occiput is still restricted, perform the following methods, rechecking the motion after each to determine when treatment is complete:
  1. **OCCIPITO- MASTOID SUTURE:**
    - a. The MOST COMMON articular restrictor in the posterior quadrant secondary to SCM tightness and is why we treat this suture first when there is an occipital restriction
    - b. A vertical and horizontal limb with a bevel change at the junction.
    - c. Frequently related to occipital condylar compression and occipito-atlantal joint dysfunction.
    - d. Treatment:
      - i. Begin with the contralateral hand medial to the occipito-mastoid suture while placing the ipsilateral hand on the temporal bone using the five finger hold.
      - ii. Flex the occiput and externally rotate the temporal bone.
      - iii. Have the patient take deep breaths in and out
  2. **PARIETAL PIVOT** (Parietal-mastoid articulation/Parietal Notch):
    - a. This is the person who was *hit on the top of the head*
    - b. Usually associated with occipito-mastoid dysfunction. NEVER seen without. Perform this maneuver if restriction is still present from treating the occipito-mastoid suture.
    - c. Diagnosis by bilateral medial compression on parietal notch, sensing for give and resiliency. Always remember to compare side to side. You are “feeling for the woody notch.”
    - d. Goal of treatment is to LIFT the parietal from the horizontal portion of the mastoid process.
    - e. Treatment:
      - i. Position body posterior lateral to the supine patients head



- iv. Lift the sphenoid while pressing medially on the mastoid portion of the temporal bone. Do it until you are getting some lift.

- 3. **PETROBASILAR & PETROSPHENOID LIGAMENT** (“Drawer Test”)
  - a. In line with petro-sphenoid ligamentous articulation. (Get two for one).
  - b. Diagnosis by assessing antero-medial and postero-lateral joint play.
  - c. Can either tug on the ear or grab the temporal bones and pull back
  - d. The direction of the drawer test is posterior and lateral
  - e. The temporal bone that does not move is the one we will treat.
  - f. Goal of treatment is to restore symmetry to postero-lateral glide.
  - g. Treatment:
    - i. Same as the test. Have the patient inhale and pull back on the temporal during exhalation.
    - ii. Repeat and slowly release.

### III. FRONTAL QUADRANT

- A. If someone has a lot of temporal restriction and the sphenoid is not going into flexion, then the problem is the S-S pivot.
- B. If the sphenoid still will not flex after S-S pivot maneuver, the palatine is the problem
- C. Perform these maneuvers, rechecking after each to determine when treatment is complete:

#### 1. SPHENO-PALANTINE

- a. You NEVER want to push the palatine straight up
- b. *vertex pain, post-dental trauma*
- c. Treatment:
  - i. To treat the L. stand on the R side of the patient and vice versa
  - ii. With the right index finger, follow along the medial portion of the back teeth to find the hole (feels like a drop) of the palatine bone and push it laterally; this will bring the palatine into external rotation
  - iii. At the same time grasp the greater wings of the sphenoid with the left thumb and index fingers and move it into flexion.
  - iv. Maintain external rotation of the palatine and flexion of the sphenoid during three breaths, release and recheck.
  - v. Have the patient take a deep breath in and rotate the frontal bone off the sphenoid. Wait for a tissue change.

### IV. FACE

- A. If the temporal is not going into external rotation and the sphenoid is moving into flexion, then the maxilla is the problem.

#### B. MAXILLA RESTRICTION

- 1. The goal with the maxilla is to externally rotate with flexion.
- 2. The maxilla articulates with the frontal bone
- 3. *The classic story is a patient who has been complaining of sinus headaches for years and they were most prominent after their braces have been off and*

*progressively getting worse. Braces restrict the maxilla from its normal motion.*

**4. Treatment:**

- a. The contralateral hand will be placed onto the fronto-maxillary suture.
- b. The ipsilateral gloved index finger is placed inside the lingual surface of the maxilla near the last molar.
- c. The ipsilateral thumb is placed on the outside of the mouth at the anterior surface of the maxilla.
- d. Externally rotate the maxilla while drawing it downward; distracting it from its frontal bone attachment.

**C. Zygomatico-maxillary and Zygomatico-temporal Sutures**

1. *Each of these sutures can become restricted with a blow to the face.*
2. Monitor the face; determine if both zygoma move equally into external rotation during cranial flexion.
3. Treatment
  - a. The contralateral gloved ring finger is placed inside the mouth under the inferior arch of the zygoma. The thumb and index fingers are placed outside the mouth over the anterior surface of the zygoma.
  - b. Move the zygoma into external rotation by lifting the ring finger up and out.
  - c. Hold this while pulling or distracting the zygomatic arch of the temporal bone out laterally
  - d. then hold the zygoma in external rotation while pulling or distracting the zygoma away from the maxilla
  - e. Wait for a release of each.

