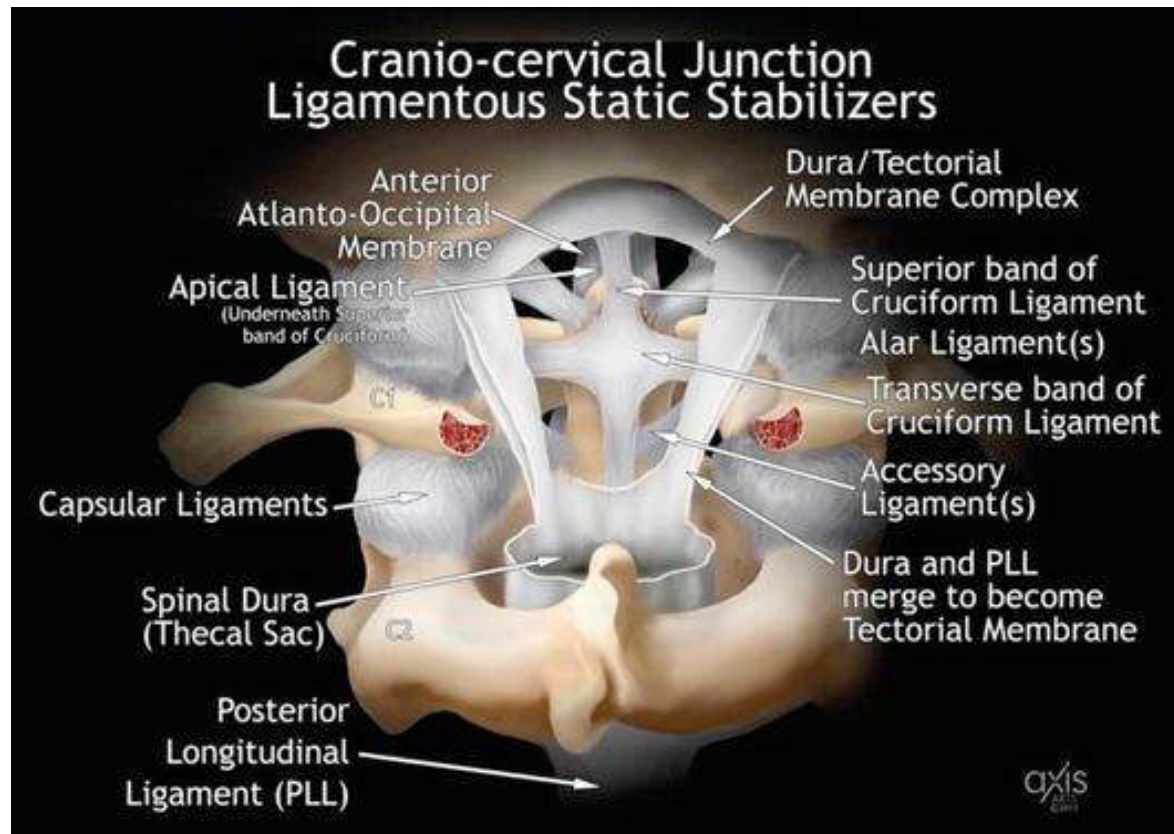


The Craniocervical Junction (CCJ)

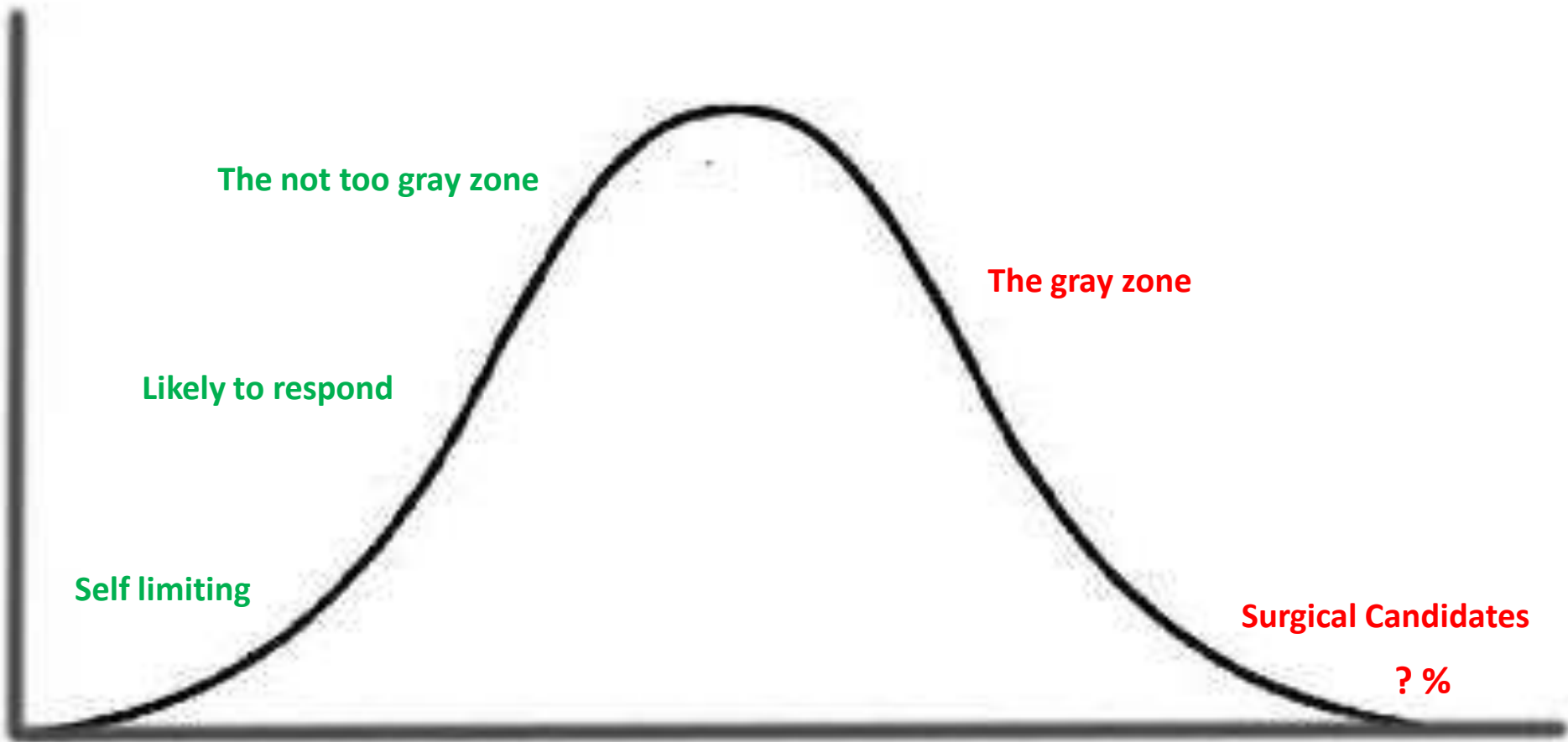
“Hyperextension is limited by tectorial membrane and lateral flexion and Rotation by alar ligaments. Excessive flexion is limited by Anterior arch C1 contacting the basion and Anterior translation is limited by transverse ligament.”



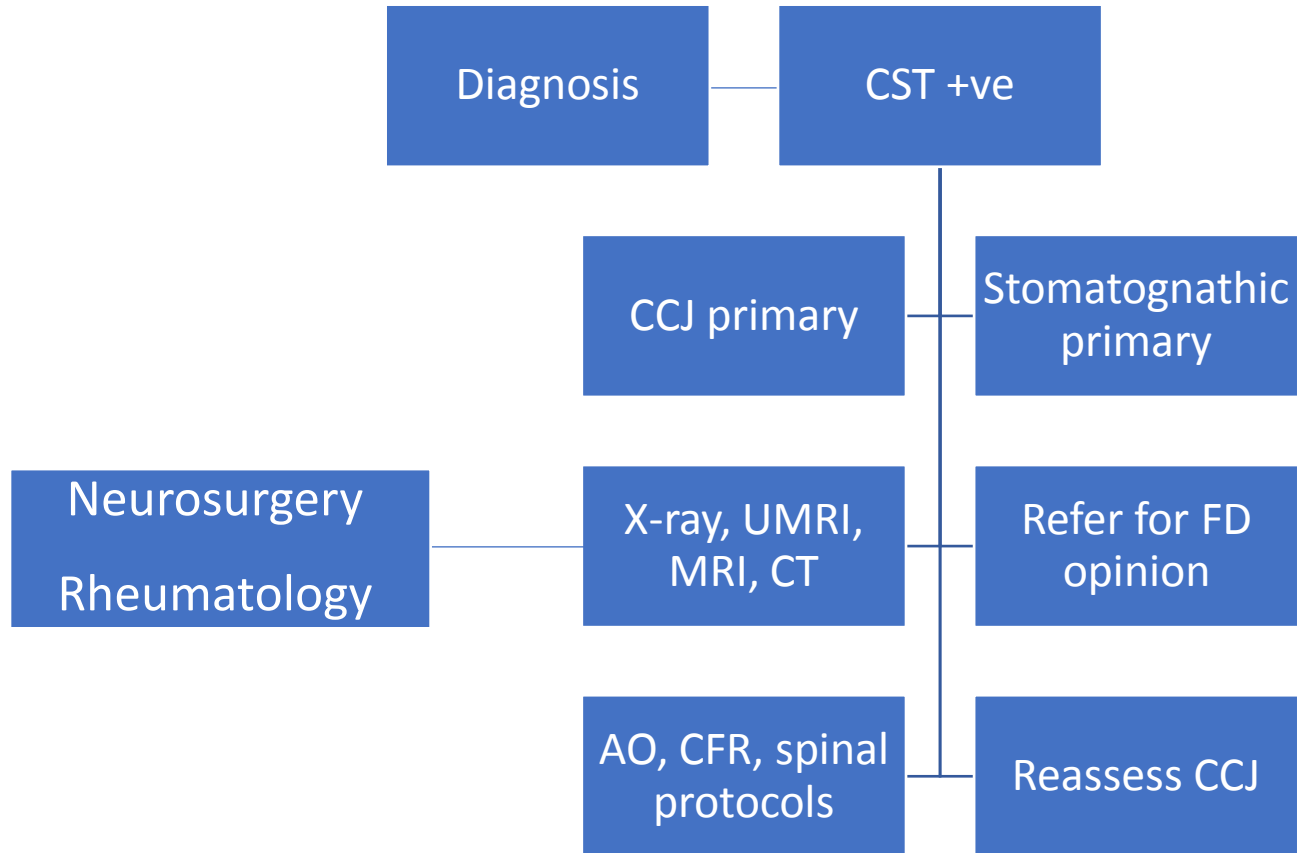
Saxena A (2017) **Craneo-Cervical Trauma Epidemiology, Classification, Diagnosis and Management**. *J Spine Neurosurg* 6:5. doi: 10.4172/2325-9701.1000284

Hypermobility/CCI/AAI/CCJ misalignment...?

The importance of diagnosis and staging in management



Management CCS



Atlas Orthogonal Procedure

Image guided, upper cervical specific technique utilizing a non-manipulative compression wave (average 25N) from a calibrated, floor mounted instrument to correct misalignments of the CCJ.

Patient is side lying, in a relaxed neutral position, with no neck rotation.

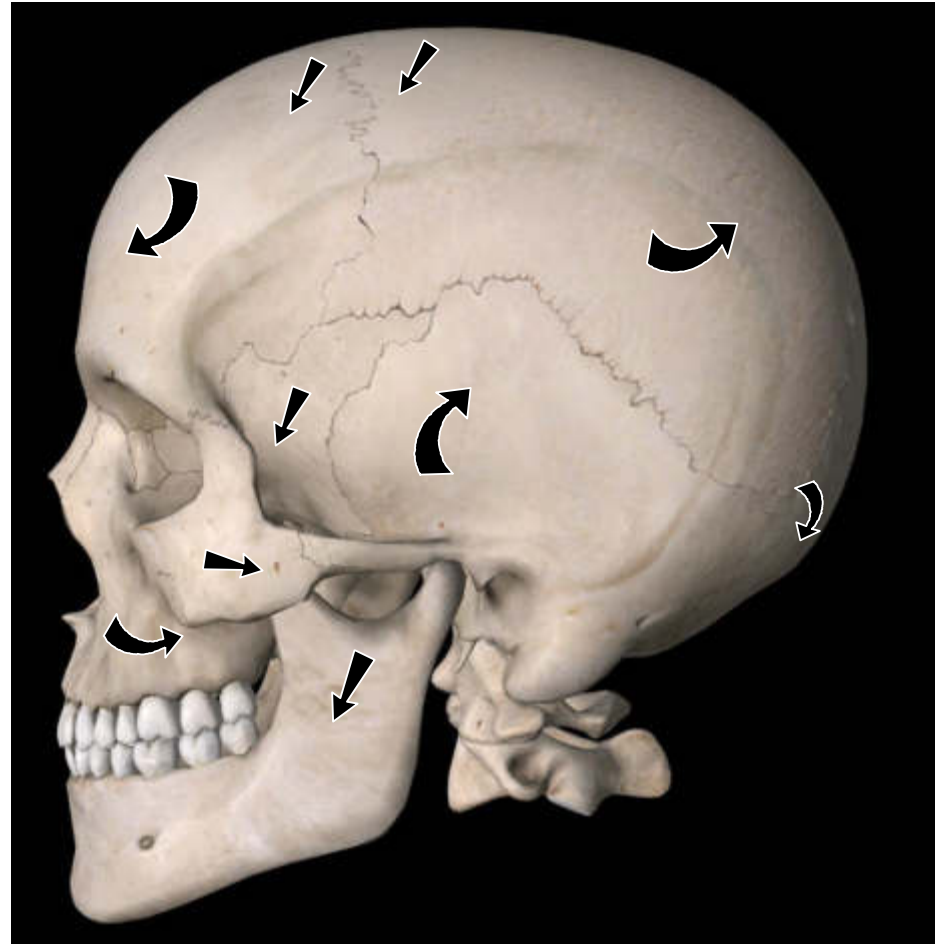


Atlas Orthogonal Procedure



Craniofascial Release (CFR)

- **Inter / intra cranial bone motion:** cranial bone motion has been demonstrated by several studies over the last 40 + years. (Inter bone movement being shown to be of greater amplitude than intra bone).

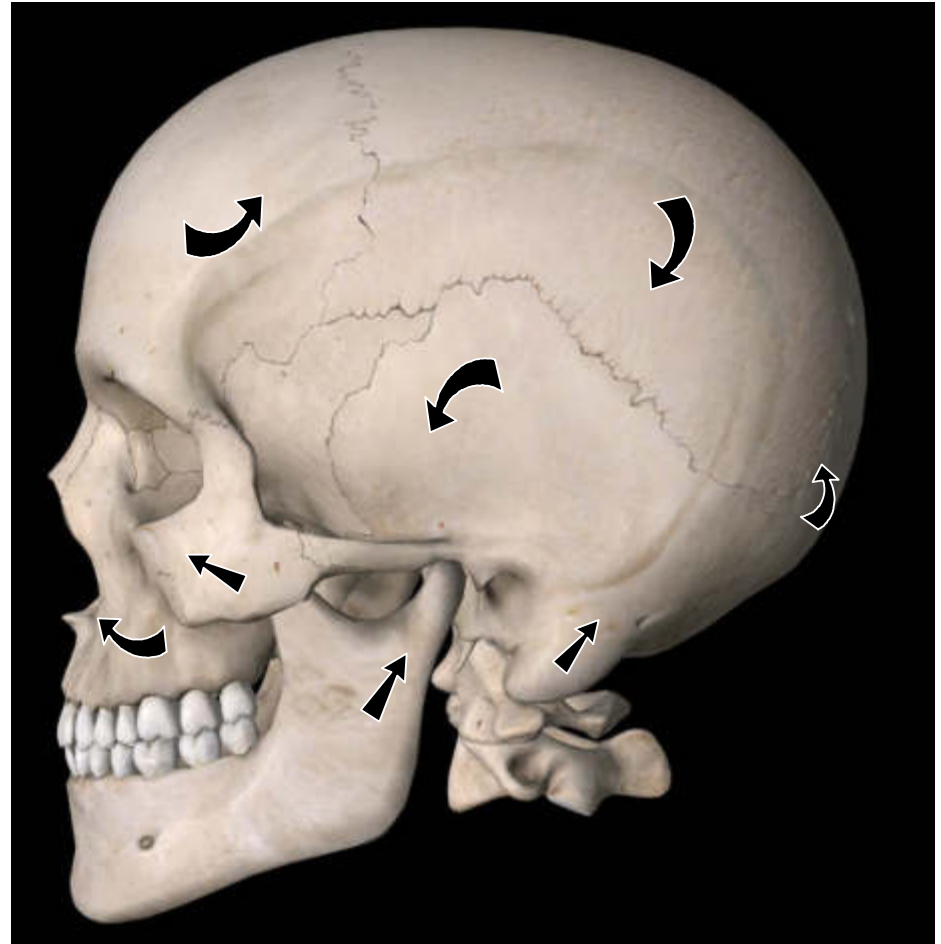


Cranial Flexion

Craniofascial Release (CFR)

Craniopathy:

- focuses on enhancing the movement of CSF around the brain and spinal cord
- facilitating the venous return pathway
- Influences the reciprocal tension membranes
- Influences the cranial fascia

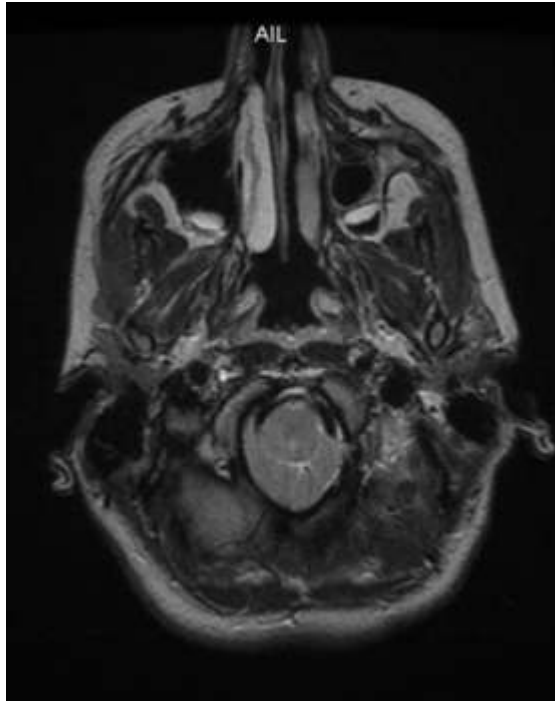


Cranial Extension

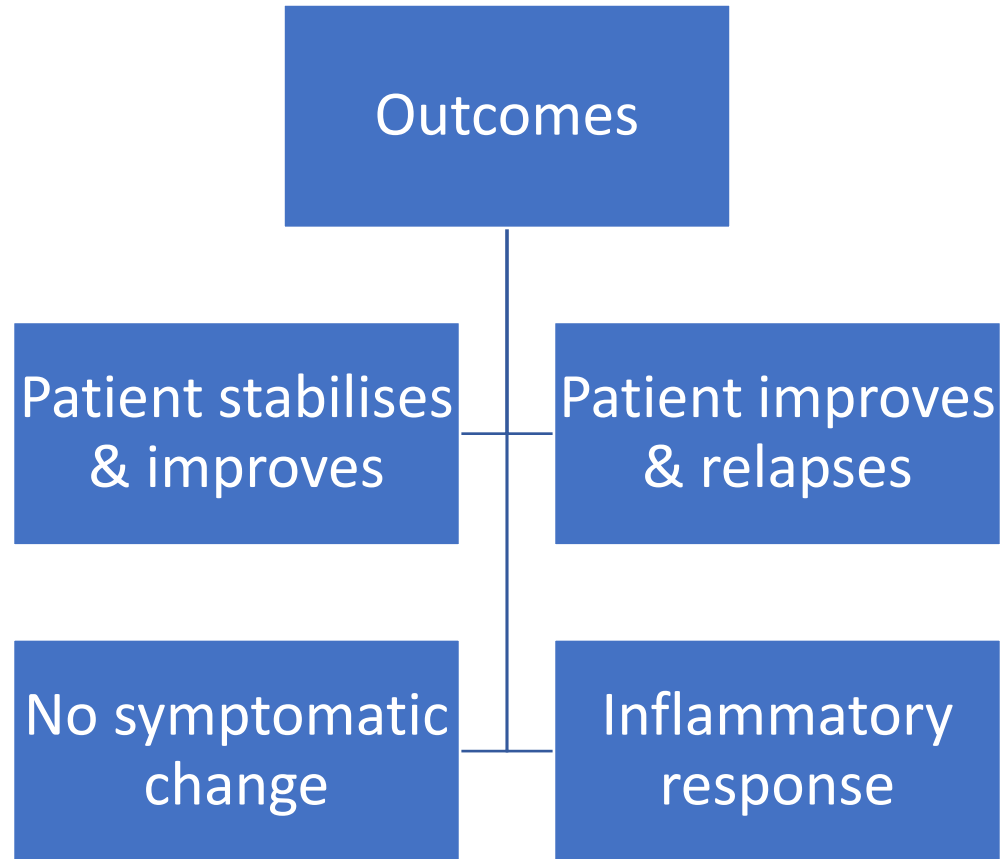
Craniofascial Release (CFR)

500ml produced per day

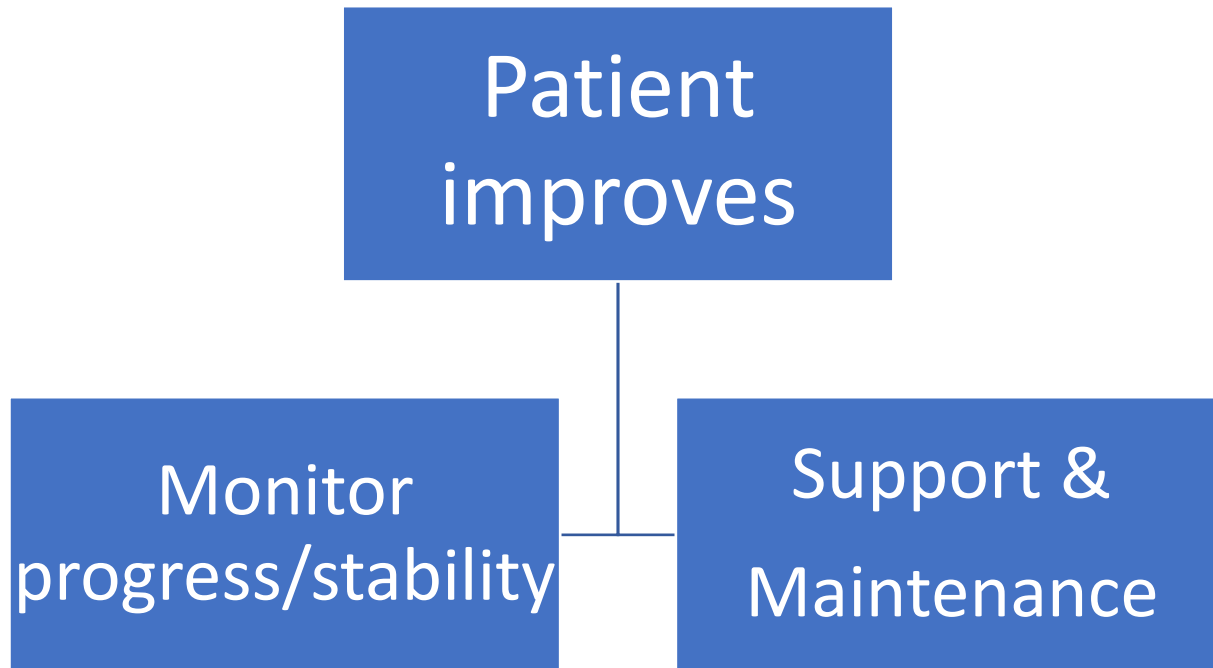
Approx. 150ml constant
volume (brain, cord, lumbar
cistern)



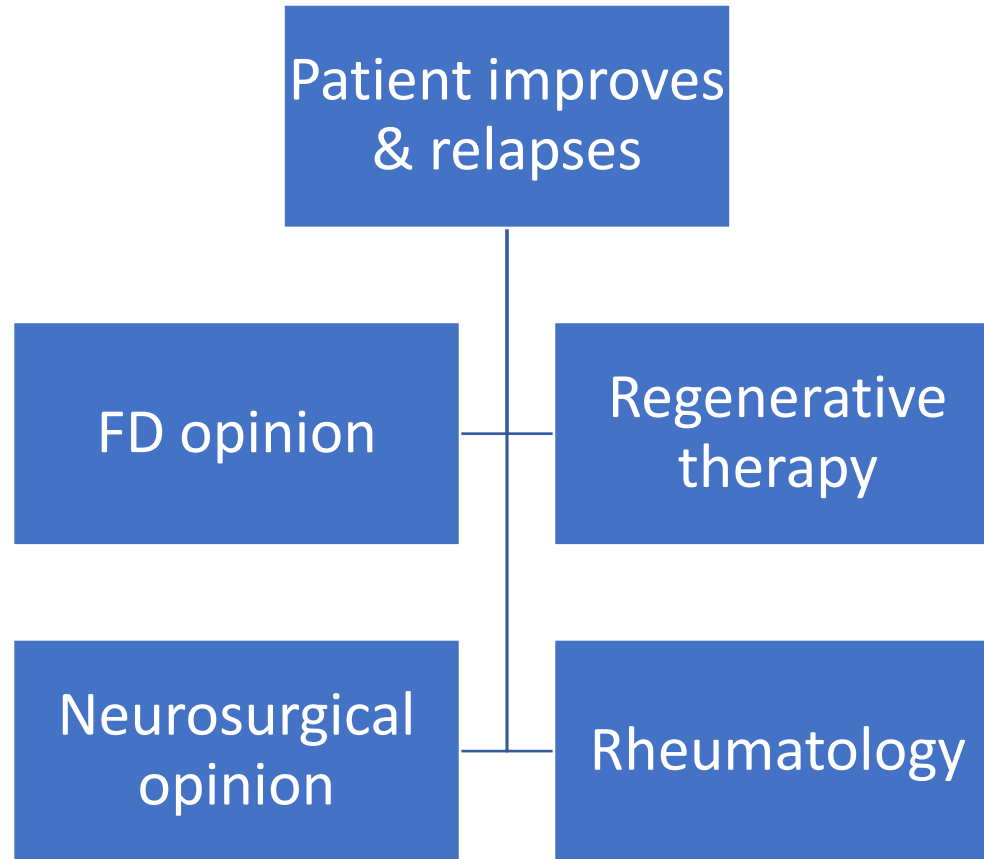
Cranio-Cervical Syndrome



Cranio-Cervical Syndrome

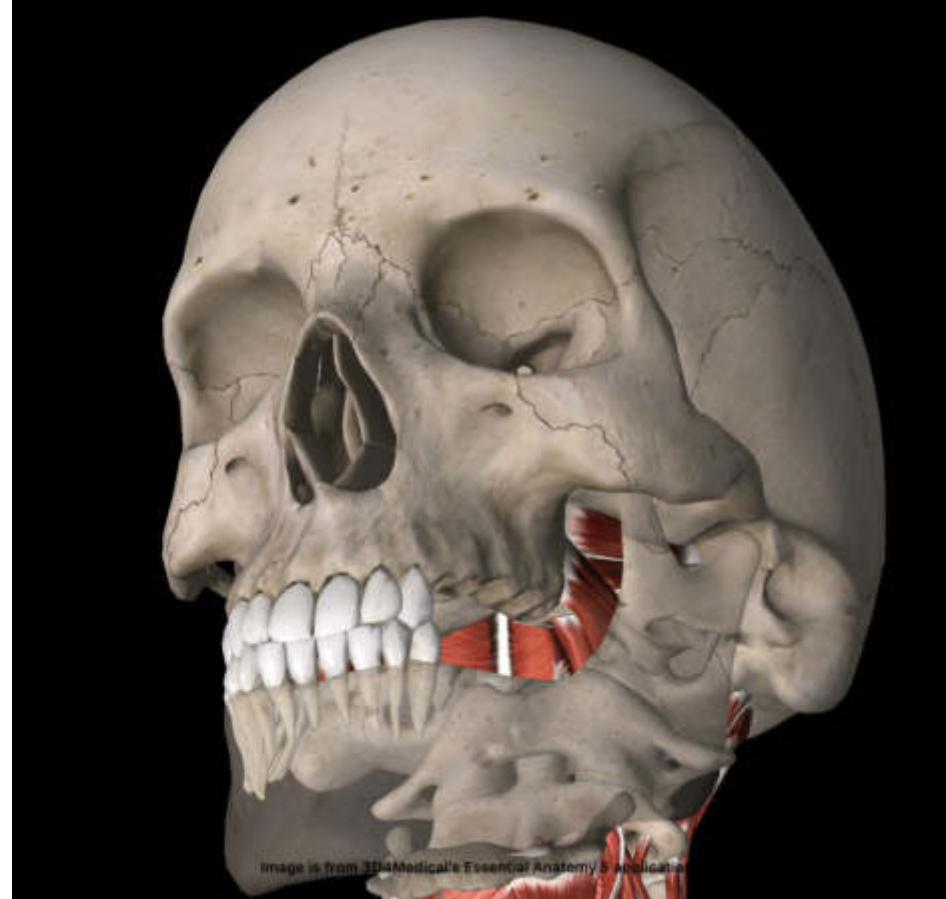


Cranio-Cervical Syndrome



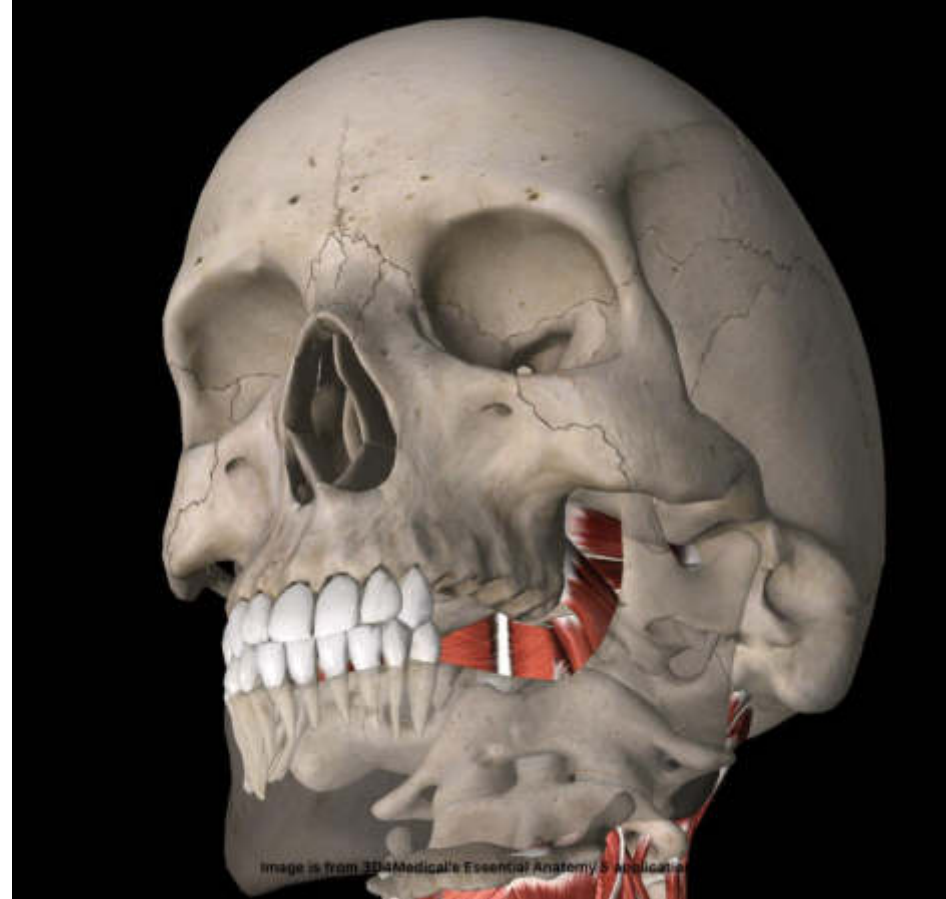
Stomatognathic / Occlusal Dysfunction

- The functional occlusal relationship plays a major role in the normal head on neck reflexes
- As does the mechanism of swallowing

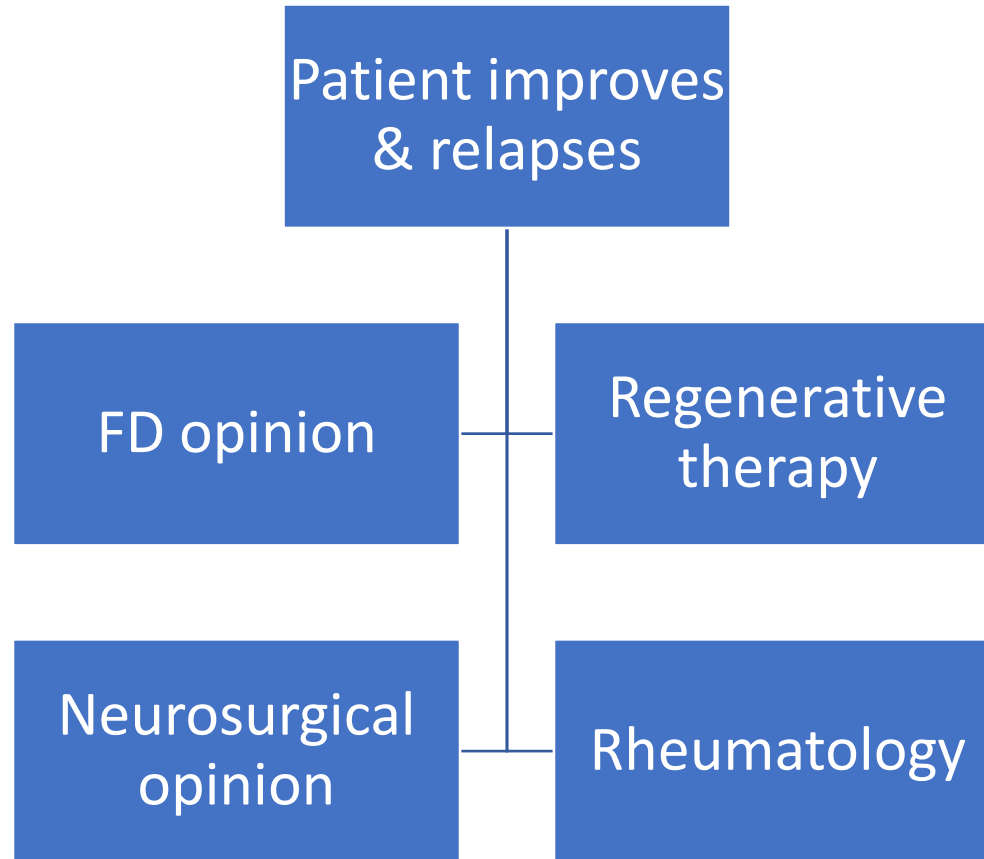


Stomatognathic / Occlusal Dysfunction

- Splint therapy i.e.,
Tanner Mandibular
Appliance (TMA)
- Occlusal balancing
- Bite restoration
- Craniopathy
- Swallow reflex
exercises



Cranio-Cervical Syndrome



Regenerative Therapy

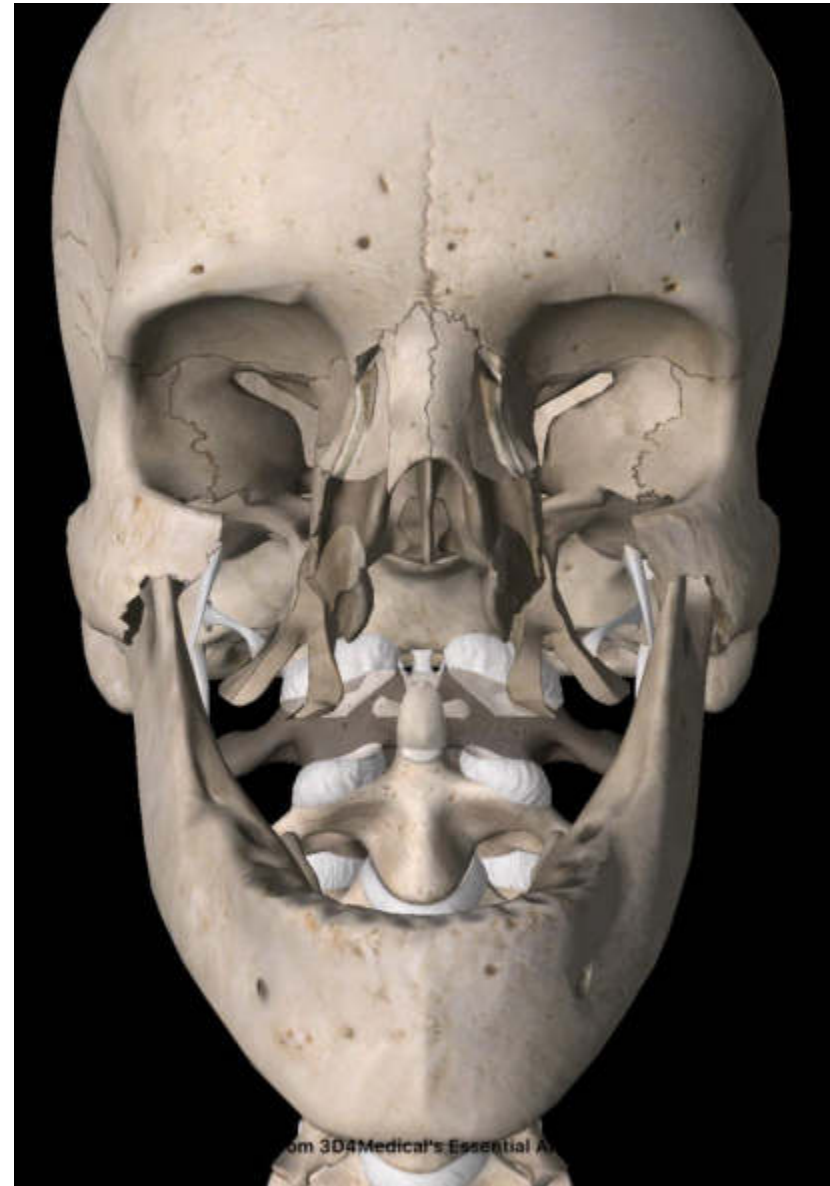
- Platelet Rich Plasma (PRP) injections are initially administered to the posterior facets



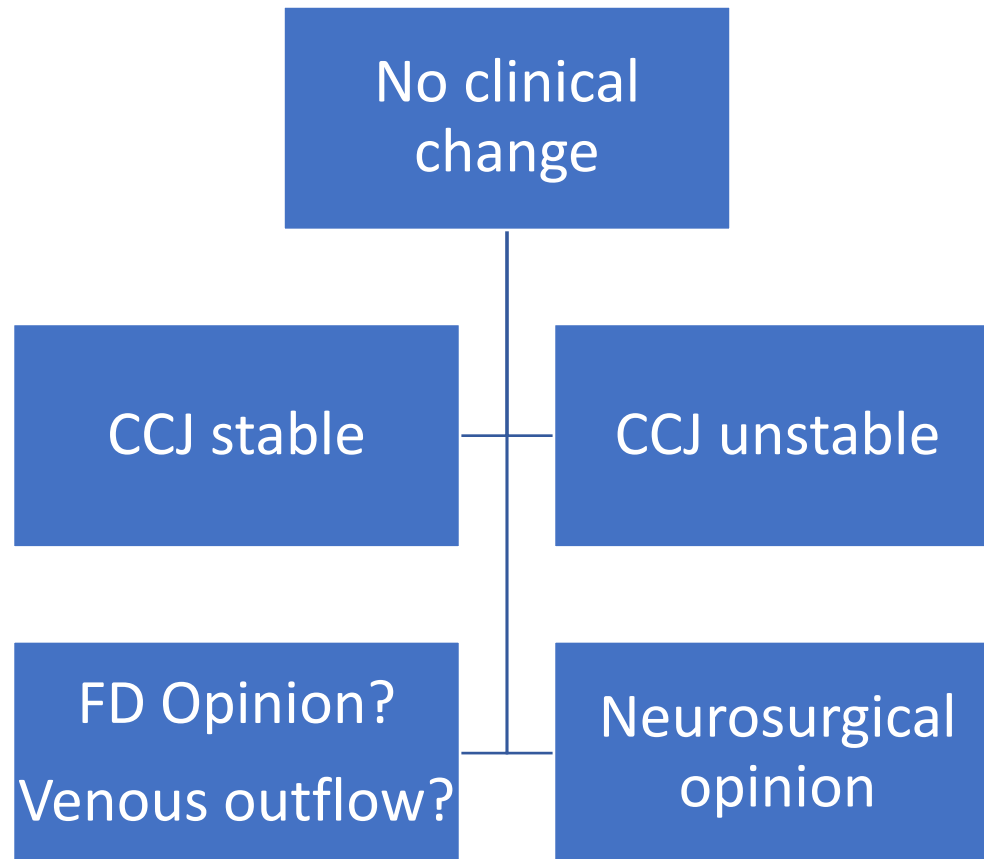
Image is from 3D4Medical's Essential Anatomy 5 application.

Regenerative Therapy

- Stem cell injections to the CCJ ligaments (Alar and Transverse)
- PICL (Percutaneous Implantation CCJ Ligaments)
- Under GA and VF guided

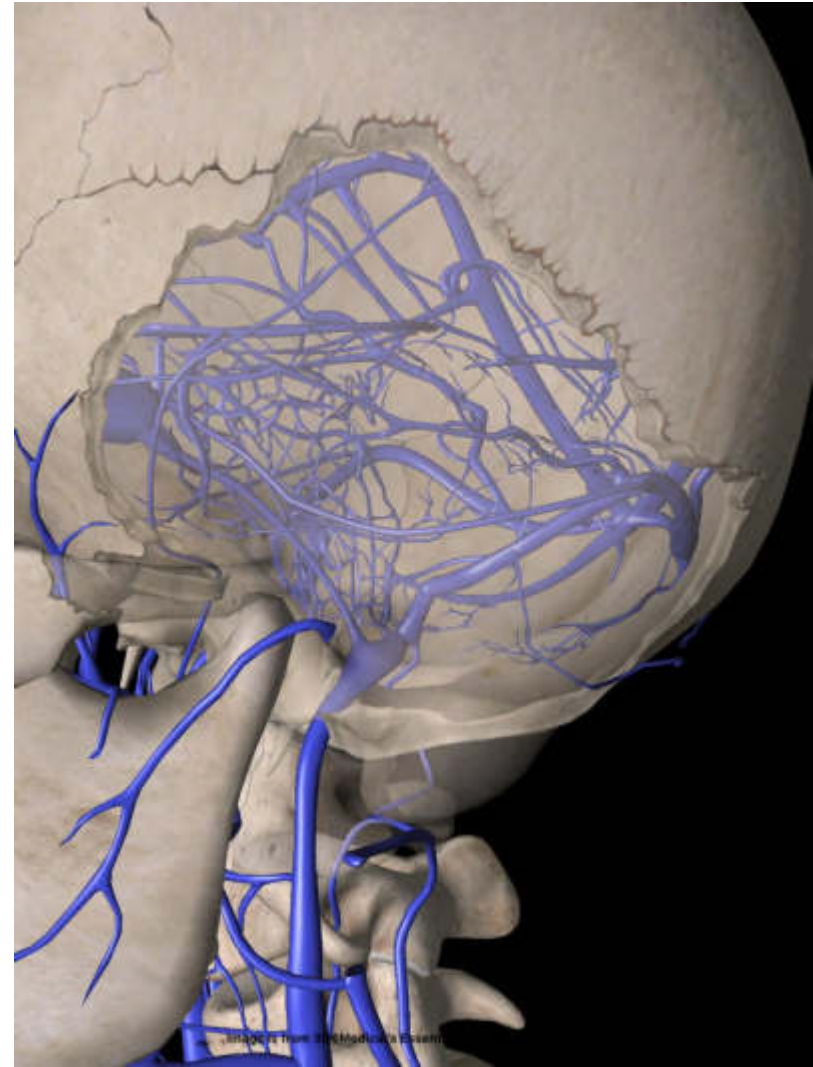


Cranio-Cervical Syndrome

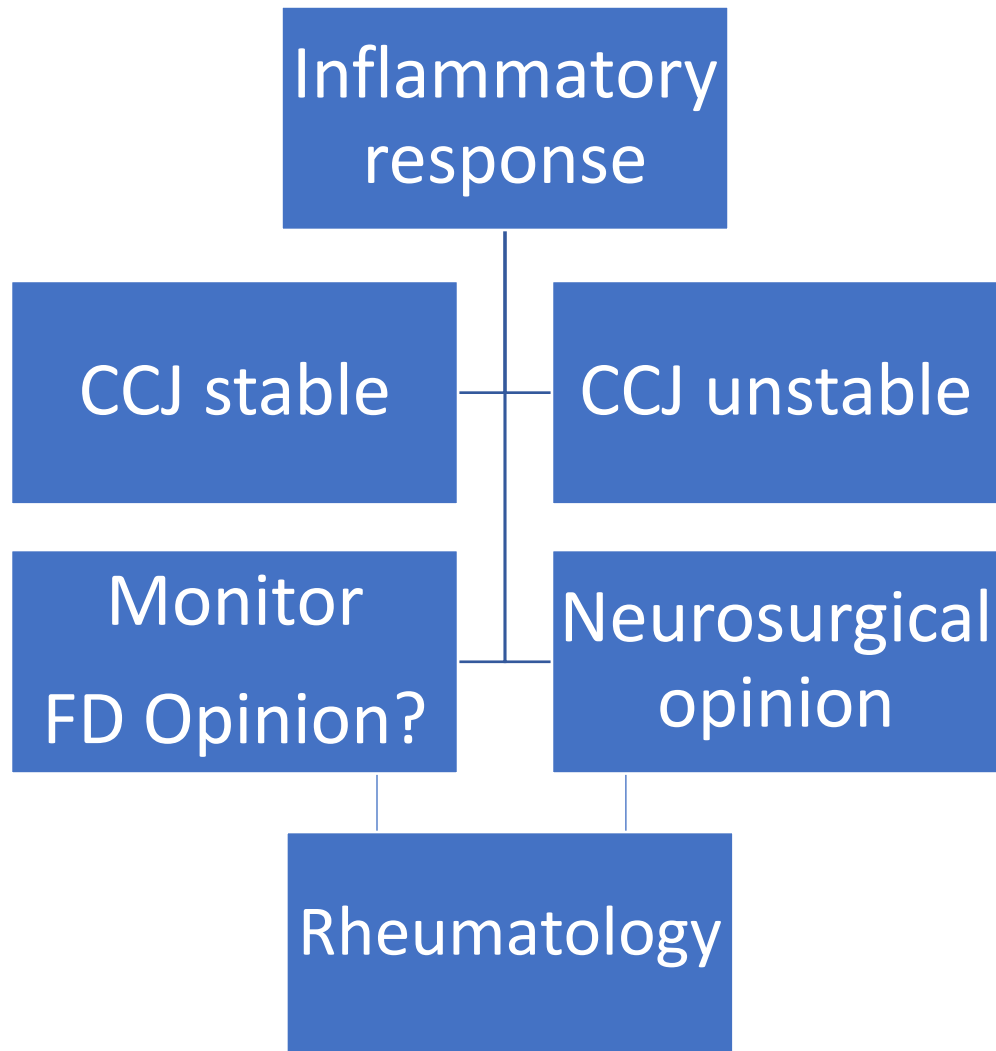


Venous Outflow Insufficiency

- Dural venous sinus stents
- Internal Jugular Vein (IJV) stents



Cranio-Cervical Syndrome



Spinal Fusion/Decompression Surgery

- Patient improved initially but fails to stabilise despite exhausting conservative options
- Patient has inflammatory response and shows no signs of stabilising or is deteriorating
- Presents with significant CII deformity/instability/progressive s/s of cervicomedullary syndrome
- C1-C2 ? ; C0-C2 ? ; C0-T1 ?

THE END