Promoting Philosophy, Art & Science of Osteopathic Medicine

Osteopathy Conference
— Joints & Manipulation

Cervical OMT: Focus on the Facet

Lecture

Michael L. Kuchera, DO, FAAO, FNAOME

Clinical Professor, Marian University College of Osteopathic Medicine

ATStill21@hotmail.com

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CERVICAL OMT: FOCUS ON THE FACET LECTURE ABSTRACT

This lecture identifies key cervical diagnostic & therapeutic applications of the **open and closed cervical facet model**. OMT modifications which focus positioning on the cervical facets may be useful in **creating safer, more comfortable, and increasingly effective direct and indirect treatment techniques.**

An **innovative fingertip application of cervical High-Velocity, Low-Amplitude (HVLA) OMT** will be introduced during this lecture. The emphasis will be to apply a sidebending activation through the fingertip to close an open facet on one side of a cervical somatic dysfunction and/or to apply a rotational activation to open a closed facet at the same somatic dysfunction.

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PURPOSE OF CONTINUING OSTEOPATHIC EDUCATION

"The regimen I adopt shall be for the benefit of my patients according to my ability and judgement …"

-- Hippocrates

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Digging On: Hands-on Skills

Fully Use Your Feeling, Seeing, Thinking Fingers!

Understand Impact & Positioning of Open &/or Closed Cervical Facets

Visualize/Respect Cervical Facet Anatomy & Barriers

Provides an Approach to Cultivate Safe / Effective AND Focused Cervical OMT at your Fingertips

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OVERVIEW/REVIEW OF CERVICAL FUNCTIONAL ANATOMY IN DIAGNOSIS & TREATMENT OF SOMATIC DYSFUNCTION

TART or STAR

Tenderness or Sensitivity

Asymmetry

Restricted Motion

Tissue **T**exture Abnormality

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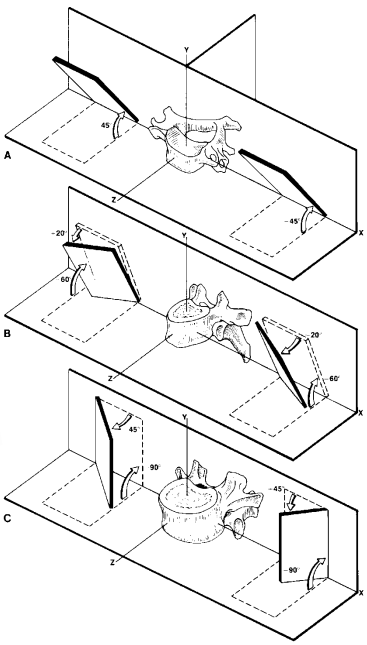
Visualize Orientation of Facet Plane

Facets

Shape of typical cervical vertebrae → SB & Rotation in same direction

Use in Dx/OMT



Typical Cervical

Thoracic

Lumbar (But "tropism")

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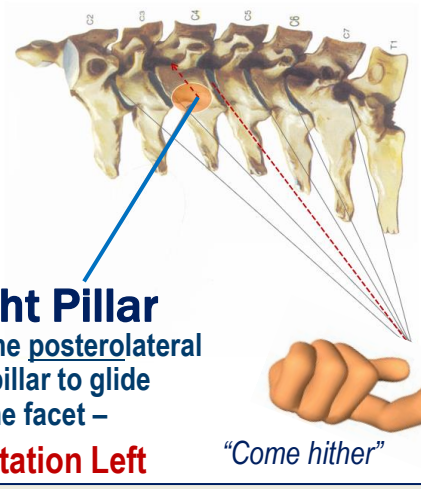
MOTION CHECKING IN SOMATIC DYSFUNCTION:
Quality of Cervical Barriers' End-Feeling

In Sidebending Left
- Translational palpation left-to-right = freedom (opens right facet)
- Translational palpation right-to-left = barrier (closes right facet)



Palpation @ Right Pillar

Fingerpad contact on the posterolateral aspect of the articular pillar to glide superoanterior along the facet –

Glide facet open → Rotation Left

"Come hither"

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CERVICAL PATTERNS & RANGE-OF-MOTION
(Individualized Normals (Including Age) … So Compare!)

C0 = Occipitoatlantal (OA)
- **Flex or Extend** *(27-45 degrees)*
- **S_LR_R or S_RR_L** *(only **2-3 degrees each** in SB and in Rotation)*

C1 = Atlantoaxial (AA)
- Essentially **R_R or R_L** *(38-43 degrees rotation)*

C2-7 = Typical Cervicals
- **Flex or Extend** *(10-20 degrees each)*
- **S_LR_L or S_RR_R** *(only **4-10 degrees each in** SB & in Rotation)*

Review Patterns with Facet R-O-M Focus

https://www.anatomystandard.com/biomechanics/spine/rom-of-vertebrae.html

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(Tender/Tissue Texture Abnormality)

OPEN CERVICAL FACET = FEELS FULL, HARD & TENDER

Finding a posterior, resistant thoracic or lumbar transverse process usually means rotation TOWARDS that side.

Cervical rotational misdiagnosis is common because think that a "hard, tender" articular pillar (facet) is a posterior cervical transverse process. We DON'T typically palpate cervical transverse processes; we palpate the cervical facets on the articular pillars.

- **A hard, tender, open/stretched cervical posterolateral facet indicates sidebending & rotation of that typical cervical unit AWAY from that side**
- ***One reason that in counterstrain (indirect OMT), you sidebend & rotate AWAY from the tender (open facet) side (Eg: PC6 = E $S_A R_A$)***

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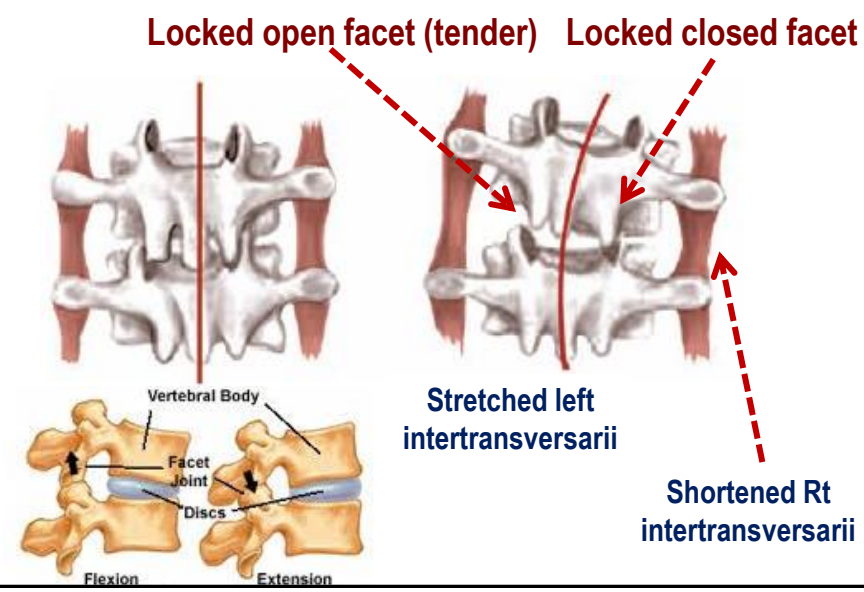
Open vs Closed Facet Concept
Implementation: Which is the Problem Facet?



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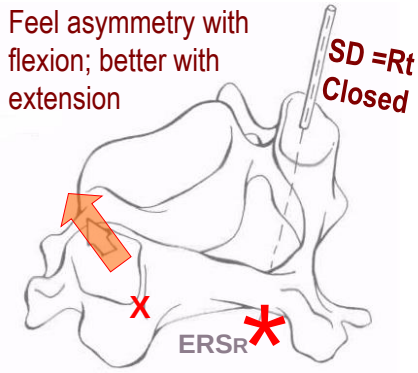
Check Motion in Flexion & Extension … When Extension is More Symmetric

Feel asymmetry with flexion; better with extension



Moves into RR SR with flexion
More symmetry with extension

Tender on OPEN facet side but Problem is the CLOSED facet side

IF E R_R S_R because the right facet joint is stuck closed (extended) & can't open.

- Extension freedom means both facets can close → More symmetry.
- When flexing, you will feel the normal left side glide open anterior). The stuck right side then serves as a pivot to cause R_R S_R.
- Asymmetry barrier felt by trying to translate right (sidebend left) or rotate left when flexed (because right facet can't open.)

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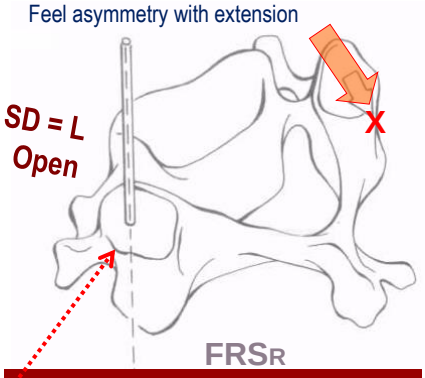
Check Motion in Flexion & Extension … When Flexion is More Symmetrical

Feel asymmetry with extension



Tender over OPEN facet & is problem side

Moves into R_R S_R with extension
More symmetry with flexion
Mitchell, Vol. I, p.195

If F R_R S_R because the left facet is stuck open (flexed) & can't close.

- Flexion freedom means both facets can open → More symmetry.
- When extending, you will feel the normal right side close (glide posterior). The stuck left side then serves as a pivot to cause R_R S_R.
- Asymmetry (barrier) is also felt trying to translate right (sidebend left) or rotate left when extended because left facet can't close.

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DIRECT OMT ENGAGES DYSFUNCTIONAL BARRIER

UNIQUE HVLA FINGERTIP APPROACH

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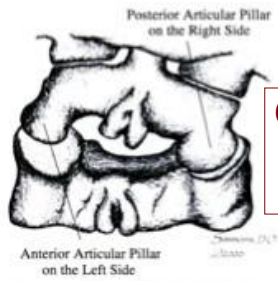
Positioning to Open &/or Close Facets

POSITIONING

Opens Left Facet

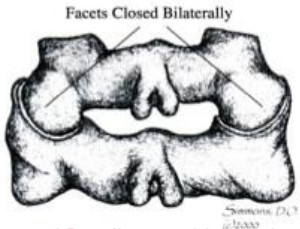


Closes Right Facet

Rotated & SB Right

Both Facets Close

Backward Bending



So Forward Bending would open both

Backward-bending or Sidebend-Rotate toward: **Closes a facet**

Forward-bending or Sidebend-Rotate away: **Opens a facet**

Generality: Upper cervical SD more often closed; lower more often open

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Kuchera's "Fingertip" Cervical OMT

Proximal Phalanx (Index) –or–
Use Fingerpad (Index / Middle)

- **Early experiences with cervical HVLA** (… my neck)
- **Fingertip Variation Benefits:**
  - Reduce discomfort & risk with greater localization
  - Focus forces to the articular pillar
  - Gain specificity in "opening" or "closing" the cervical facet
  - Minimize activation forces

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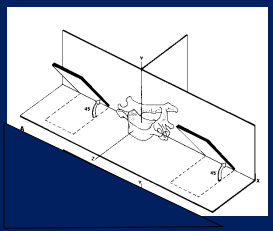
HVLA: Overview Cervical Activation



Sidebending Activation
Muscle Energy or HVLA

Rotation Activation
Muscle Energy or HVLA

Choice: To Close Right or Open Left Facet (May Need to Perform Both)

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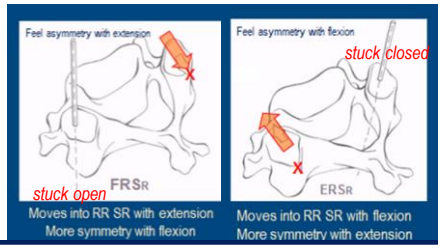
HVLA Typical Cervicals



Safe-Effective "Fingertip" Correction with HVLA

- Choose Sidebending Activation (to "close" a facet)
- Choose Rotation Activation (to "open" a facet)

Other Pragmatic Tips

- If fail with HVLA sidebending, then try rotation
- If fail with HVLA Rotation, then try sidebending
- If fail with HVLA, then try your OMT choice (safe & effective)

When activate with Sidebending OR Rotation; BOTH motions will take place at target site through the barrier

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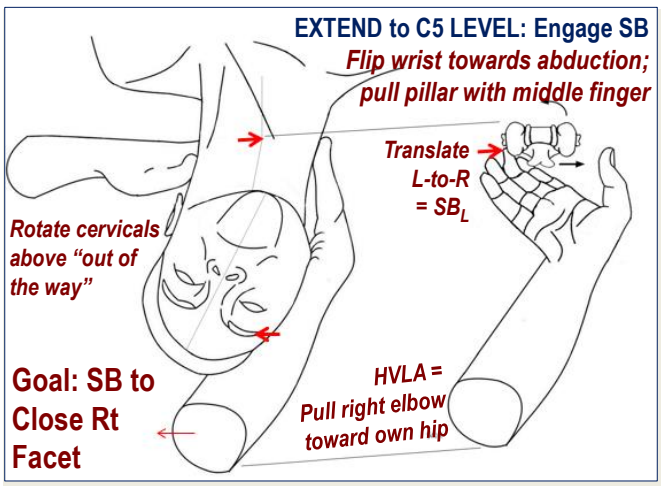
Typical Cervical: Sidebending HVLA

(Eg: SB Activation of C5 F S_R R_R via Right Middle Fingertip)



"Fingertip Thrust" is initiated by pulling Rt elbow towards own hip & "flipping" wrist into abduction

Creates an HV LA pull on articular pillar through Rt middle finger

Slight counter force through Rt forearm on head

Choice *push* with left MCP &/or *pull* with right fingertip into facet

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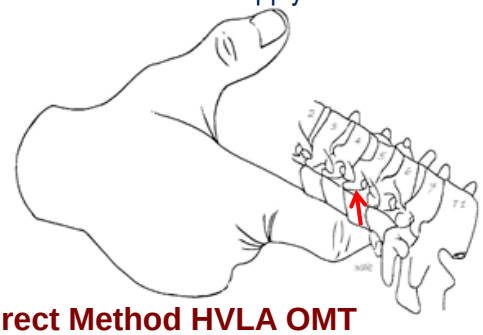
Typical Cervical: Rotational HVLA
(Below, Rotation Activation of F S_R R_R via Right Index Fingertip)

C5 FS_RR_R (Right facet locked closed)

HVLA OMT = ENGAGE ROTATIONAL BARRIER

Lift C5-6 facets bilaterally to open facets; Use right fingertip to add extra lift along facet towards left eye to rotational barrier. Apply HVLA toward L eye.



Direct Method HVLA OMT
Goal: Open Right Facet with Rotation

Anterosuperior traction along facets bilaterally to feather-edge of tension (opens/engages facets)

Add few degrees of left cervical rotation into the SD barrier with pressure over right facet (towards opposite eye = open Rt)

HVLA into left rotational barrier in direction toward opposite eye

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Diagnosis + HVLA: C4 F R_LS_L

Diagnosis of Barriers

Thrust

OMT Set-Up

NOTE: Diagnostic barriers & set-up pressures are same (1-1.5 kg each)
Total of all barriers → ≈ 3.5 kg loading @ "sweet spot"
(Short HVLA Thrust @ "Feather-Edge" of Direct Barriers < 0.4 kg)

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REMINDER:
INDIRECT OMT RECREATES DYSFUNCTIONAL POSITION (DIRECTION OF FREEDOM)

MINOR FACET FOCUS TIPS

If Time … Otherwise Consider the Facet Application on your Own

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INDIRECT TECHNIQUES REPLICATE POSITION OF DYSFUNCTION (BLT)

BLT Example: C4 E $S_R R_R$

- Monitor & position C4-5 **articular facets** bilaterally
- **Extend** C4 on C5 further (maybe 10-20º to balance point)
- **Translate right-to-left** to close right facet & open left facet (to balance point … only 4-10º)
- **Rotate to right** by pressing on left C5 articular pillar (toward right eye to balance point … only 4-10º)
- Hold inhalation/exhalation phase of ease (usually **exhalation**) to air-hunger … adjust as release

Instead of significant sidebending and rotation of head & neck, put pressure through the articular pillars to reduce tenderness 10 → 0-3

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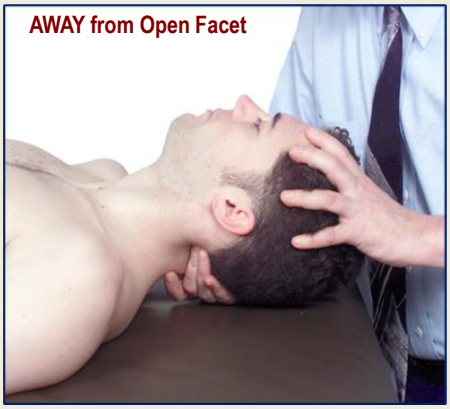
INDIRECT TECHNIQUES REPLICATE POSITION OF DYSFUNCTION (FPR)

Example: C4 E $S_R R_R$ Facilitated Positional Release (FPR)

- **F**latten C-curve
- **F**latten Patient (Compress down to target segment C4-5)
- Find **F**reedom (Same as BLT with extension, right-to-left translation & pressure toward opposite eye)
- Hold **F**ive Seconds
- **F**ind Way Home before removing compression



If small hands, use both (like BLT) to monitor articular pillars bilaterally;
Compress: Use belly/chest as 3rd hand

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INDIRECT POSTERIOR CERVICAL POINT TYPICAL COUNTERSTRAIN POSITIONING

Posterior C3-7

Locations:
Found at midline or inferolateral aspect of C2-6 spinous processes of named vertebra above or just lateral to spinous processes

Position:
Cervical ***extension*** with sidebending and rotation of head and neck away from point

Extend SaRa

- Note: Midline points may require pure extension
- Note: PC3 may require cervical flexion

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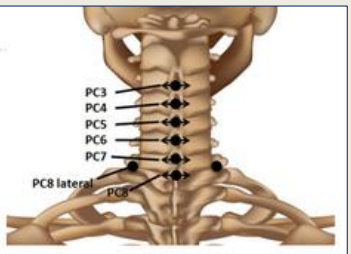

- Tender (**open left facet**)
- Extend to involved segment
- Closes both
- **ESaRa**
- Opens

AWAY from Open Facet

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MILD OSTEOARTHRITIS OR EXTENDED C'S
Gentle Longitudinal Traction Tug HVLA

Grasp superior part of cervical spinal unit & under chin (Traction without flexion)

Cervical Curve
Neutral to Flattened
Prepare Cervical Tissues with:
- Compression
- Traction
- Repeat up to X3

Longitudinal HVLA Impulse (Both Hands)
- No F / E Introduced

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