

## Introduction to OMM for MDs and DOs

- May 20, 2024 – May 23, 2024 Kirksville, MO
- NCOPPE & KCOM



# ATSU

National Center for Osteopathic  
Principles and Practice Education

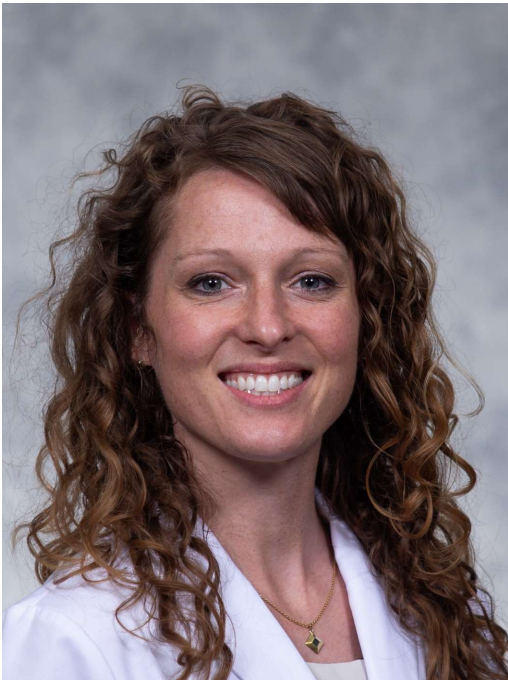
## Counterstrain: Anterior & Posterior Cervical Spine

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Karen Snider, DO, FAAO, FNAOME  
— Presentation Preparation

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# Anna Esparham, MD FAAP, D-ABP, D-ABMA, D-ABOIM



Anna Esparham, MD, is an associate professor at A.T. Still University's Kirksville College of Osteopathic Medicine (ATSU-KCOM). She is a triple-board certified physician in Integrative Medicine, Pediatrics, and Medical Acupuncture. She also has received additional certifications in clinic hypnosis and aromatherapy, and training in headaches and integrative pain management. She recently completed an ONMM3 resident year here at Northeast Regional Medical Center/Still OPTI and is board eligible in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. She has several investigator-initiated research publications and has been featured in The New York Times, Shape Magazine, Doctor Radio, Pediatrics On Call Podcast, and more.

# Karen Snider, DO, FAAO, FNAOME



Karen Snider, DO, FAAO, FNAOME, is a professor at A.T. Still University's Kirksville College of Osteopathic Medicine (ATSU-KCOM). Dr. Snider is board certified in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. She earned her Doctor of Osteopathic Medicine from West Virginia School of Osteopathic Medicine, and she completed her residency at Northeast Regional Medical Center. Dr. Snider has earned fellowship awards from the American Academy of Osteopathy and the National Academy of Osteopathic Medical Educators.

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# Counterstrain

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## **Counterstrain,**

1. **A system of** diagnosis and treatment that considers the dysfunction to be a continuing, inappropriate strain reflex, which is inhibited by applying a position of mild strain in the direction exactly opposite to that of the reflex; this is accomplished by specific directed positioning about the point of tenderness to achieve the desired therapeutic response.
2. Australian and French use: Jones technique, (correction spontaneous by position), spontaneous release by position.
3. Developed by Lawrence Jones, DO.



# Counterstrain

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Dr. Jones experimented with different positions for different problems

Found that if he just positioned the affected areas of the body he only needed to maintain the position for 90 seconds

Found discrete tender points associated with different problems

Found both anterior and posterior tender points



## ***Objectives***

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- ❑ Describe the anatomic landmarks associated with anterior and posterior cervical counterstrain tender points
- ❑ Identify positive cervical tender points using palpation
- ❑ Describe the initial positioning and steps involved in counterstrain treatment of cervical tender points
- ❑ Demonstrate effective treatment of cervical tender points using counterstrain technique
- ❑ Describe the alternate treatment positions that may be required for effective treatment of AC3 and PC3



# Anterior Cervical Counterstrain

## AC1

- 1) Posterior surface of ramus of mandible  
- *push posterior to anterior*
- 2) Midway between ramus and mastoid process on the transverse process of C1 - *push lateral to medial*

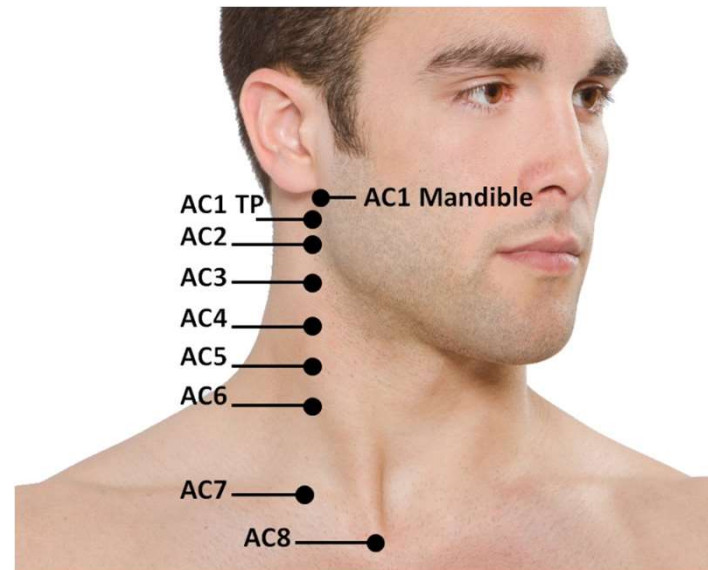
**AC2-6** Anterior surface of the transverse processes

## AC7

2cm lateral to the medial end of the clavicle (clavicular head of SCM)

## AC8

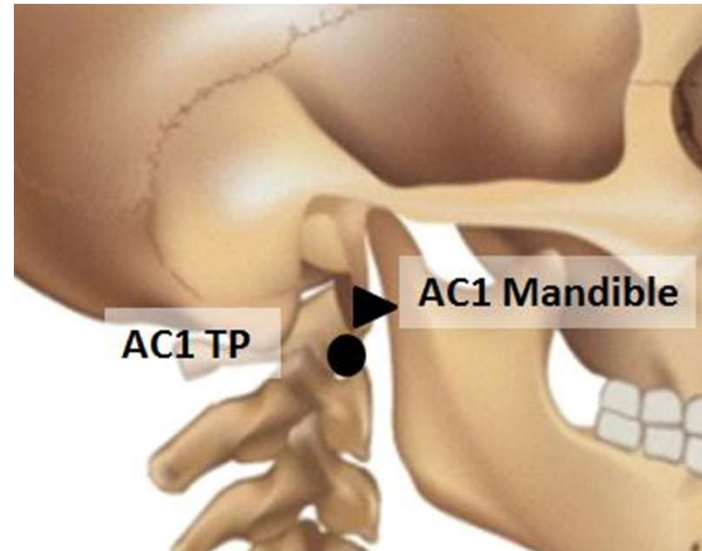
medial end of the clavicle (sternal head of the SCM at sternal notch)



# Anterior Cervical Counterstrain

## ACI

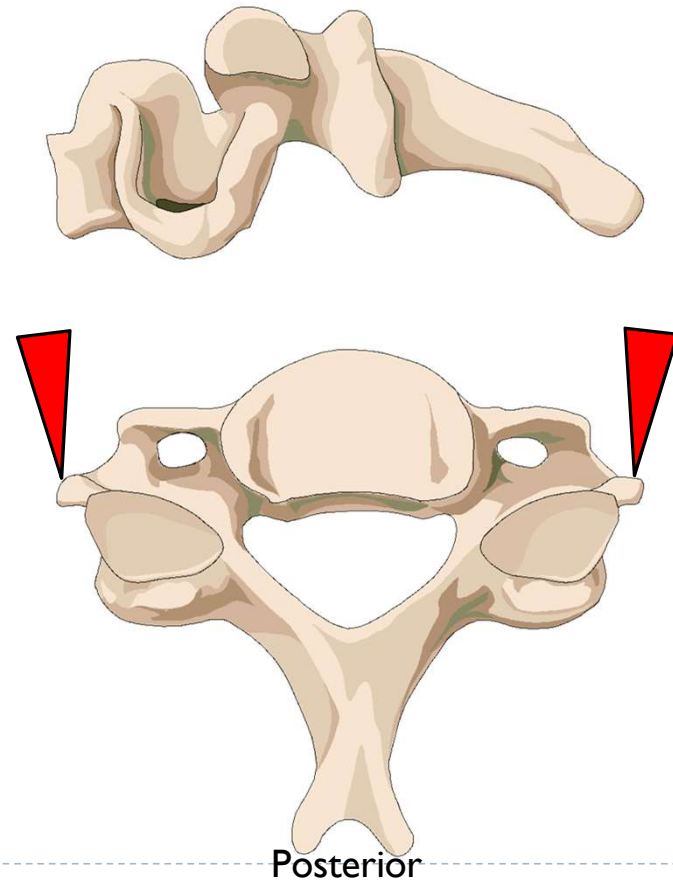
- 1) **Mandible:** Posterior surface of ramus of mandible - *push posterior to anterior*
- 2) **Transverse Process:**  
Midway between ramus and mastoid process on the transverse process of C1 - *push lateral to medial*



# ***Anterior Cervical Counterstrain***

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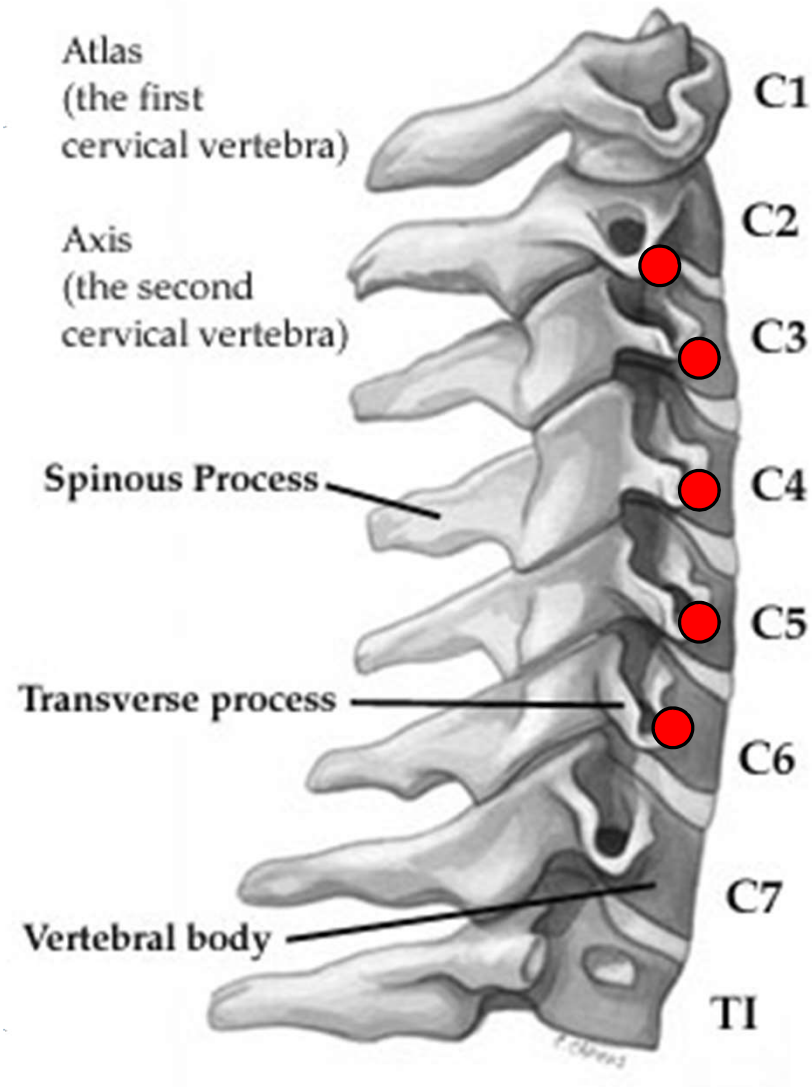
**AC2-6** - Anterior surface of the transverse processes



# Anterior Cervical Counterstrain

## AC2-6

Anterior surface of the  
transverse processes

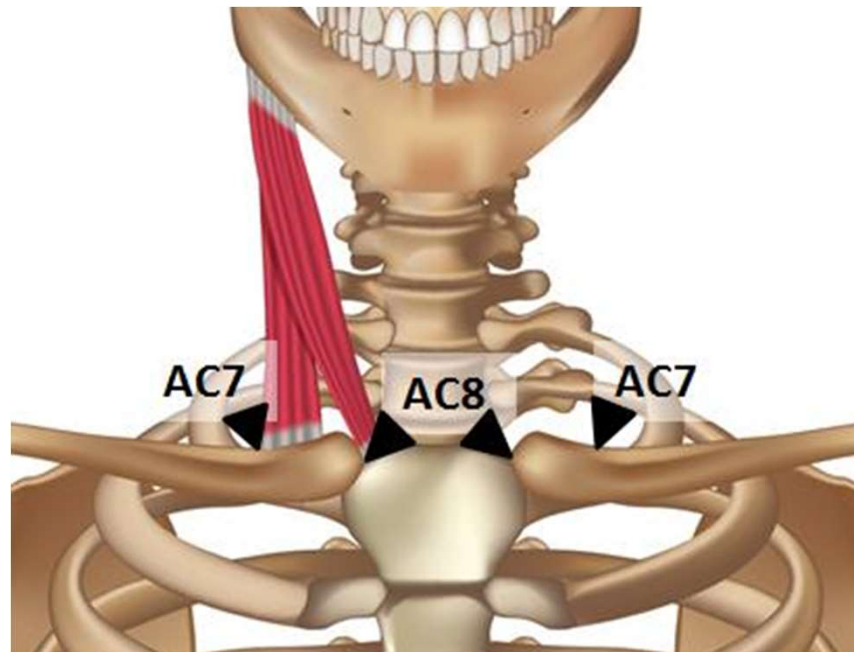


# Anterior Cervical Counterstrain

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**AC7** - 2cm lateral to the medial end of the clavicle  
(clavicular head of SCM)

**AC8** - medial end of the clavicle  
(sternal head of the SCM at sternal notch)



# Lab Exercise

## AC1

- 1) Posterior surface of ramus of mandible - *push posterior to anterior*
- 2) Midway between ramus and mastoid process on the transverse process of C1 - *push lateral to medial*

## AC2-6

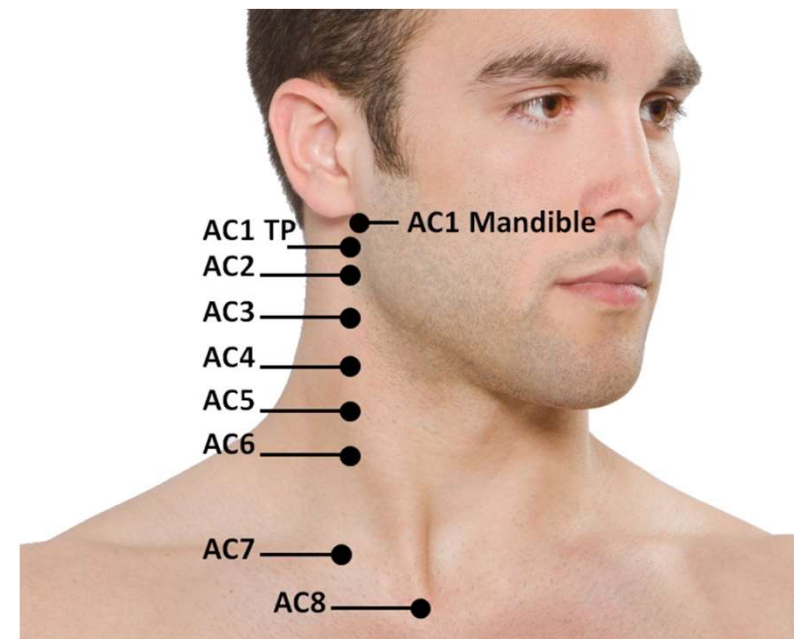
Anterior surface of the transverse processes – *push posteromedially*

## AC7

2cm lateral to the medial end of the clavicle (clavicular head of SCM) – *push inferiorly on superior aspect of clavicle*

## AC8

medial end of the clavicle (sternal head of the SCM at sternal notch)



## Counterstrain Treatment

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1. Find the tender point
2. Establish a pain scale
3. Position in standard treatment position
4. Recheck TP -Goal is Zero - minimum is 30% of original pain
5. Fine tune position for maximum effect
6. Monitor point and Hold treatment position for 90 seconds
7. **SLOWLY** return to neutral
8. Recheck point



## TIPS

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- Reach for 100% resolution; don't settle for just "30%"
- TPs located more laterally require more sidebending
- With multiple TPs, treat the most severe first
- With a row of TPs, treat the middle one first
- Tell your pts they may be sore for 24-48 hrs



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# **How to Treat AC 1-6**



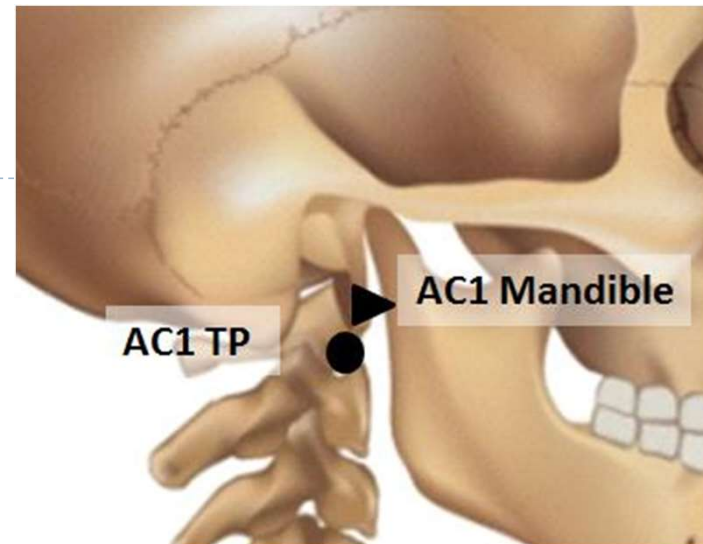
# Anterior C1

## Locations:

1. ACI TP: On C1 transverse process midway between ramus of mandible and mastoid process - *push lateral to medial*
2. ACI Mandible: Posterior surface of ramus of mandible - *push posterior to anterior*

## Position:

Sidebend and rotate head and neck away from point  
(away, away)



Left AC1 Tender Point Treatment

## Anterior C2-6

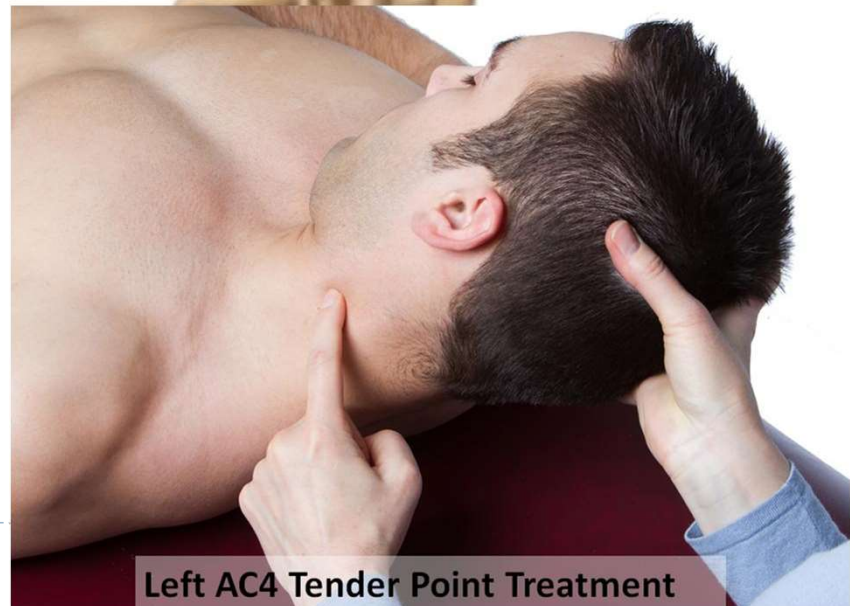
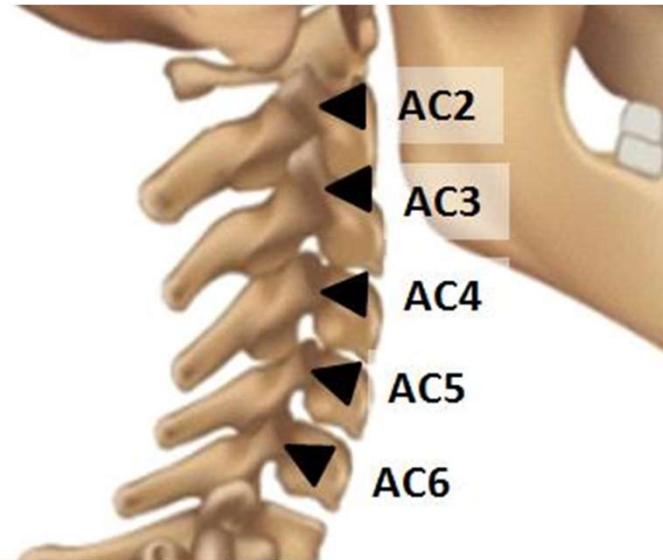
### Locations:

Found on anterior aspect of transverse processes of corresponding vertebra –  
*push anterior to posterior*

### Position:

Cervical flexion with sidebending and rotation of head and neck away from point  
(Flex, away, away)

Note : sometimes AC3 may need - *ESaRa*



Left AC4 Tender Point Treatment

# Anterior C3

## Locations:

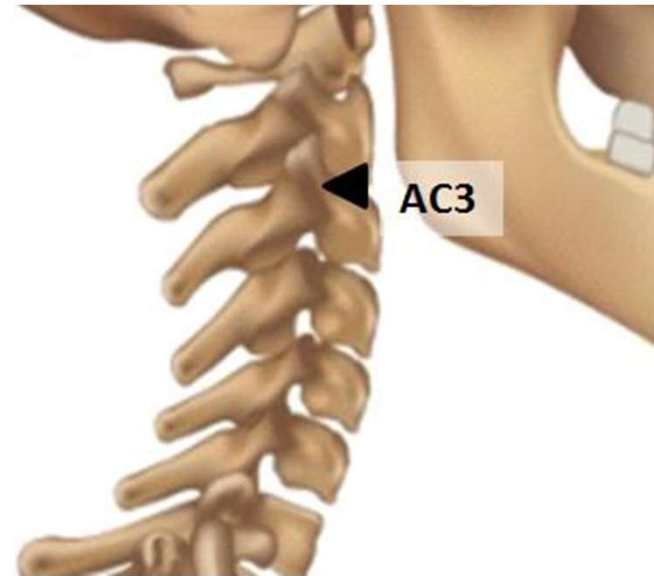
Found on anterior aspect of transverse processes of corresponding vertebra -*push anterior to posterior*

## Alternate Position:

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

## ***ESaRa***

Note: AC3 may require cervical flexion



# Lab Exercise

## □ Anterior C1

Rotate away

Sidebend away



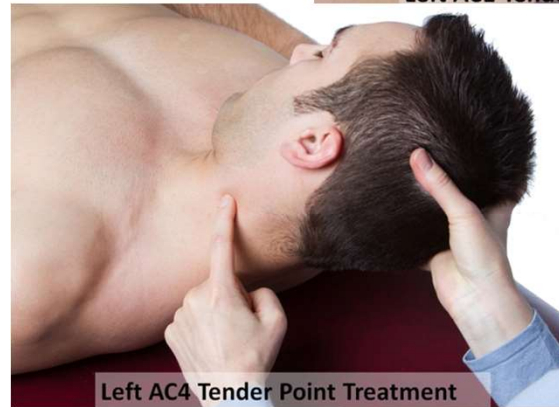
Left AC1 Tender Point Treatment

## □ Anterior C2-6

Flexion

Sidebend away

Rotate away



Left AC4 Tender Point Treatment

## Alternate AC3

may need - *ESaRa*

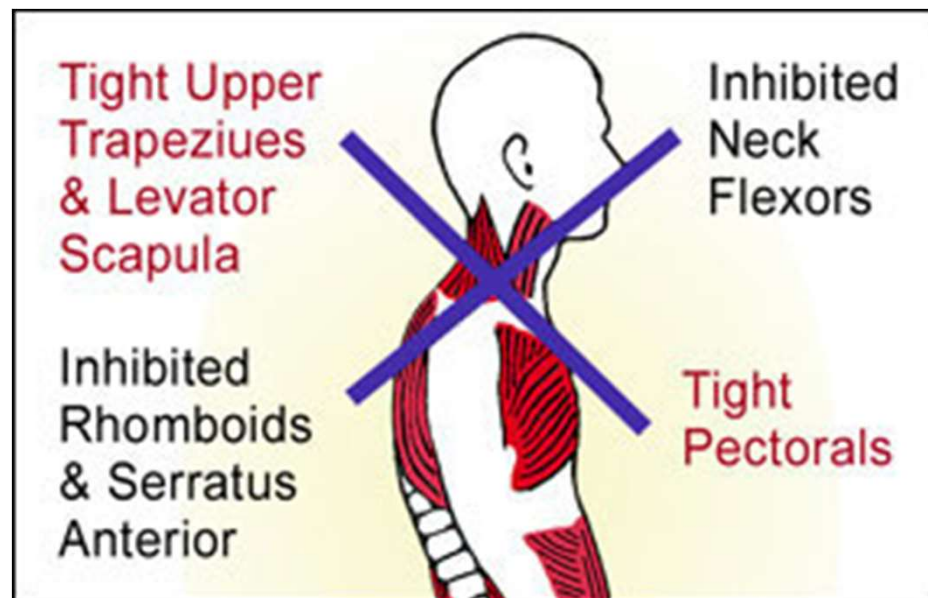


Left AC3 Alternate Tender Point Treatment

# Clinical Correlation

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- Postural problems
  - Upper cross Syndrome
- Headaches
- TMJ



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# **How to Treat AC 7 & 8**

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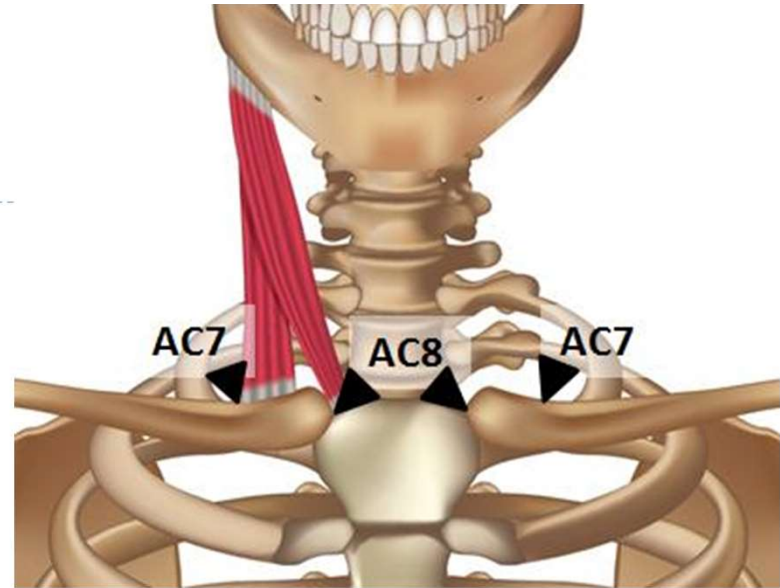
## Anterior C7

### Location:

Found at clavicular insertion of sternocleidomastoid muscle, 2-3 cm lateral to proximal clavicle - *push superior to inferior*

### Position:

Cervical flexion with sidebending **towards** and rotation of head and neck **away** from point



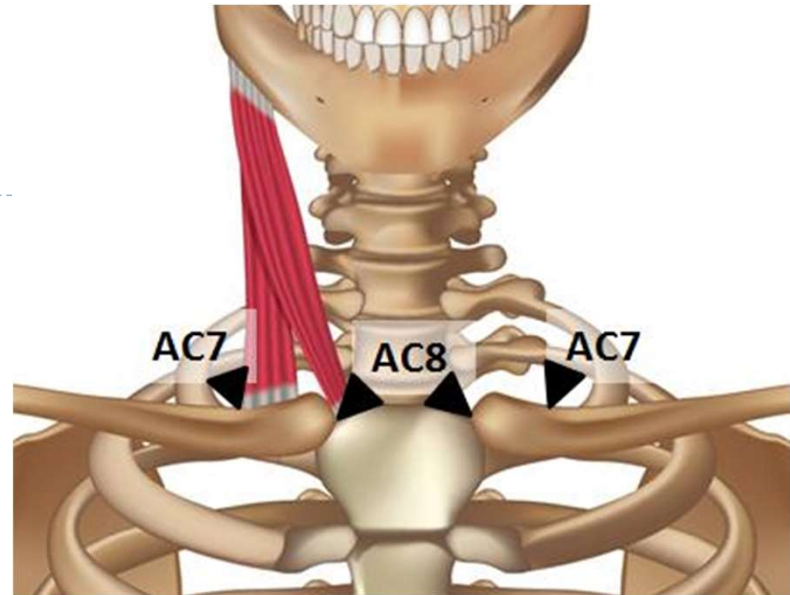
## Anterior C8

### Location:

Found at sternal insertion of sternocleidomastoid muscle -  
*push superomedial to inferolateral*

### Position:

Cervical flexion with  
sidebending and rotation of  
head and neck away from  
point  
(Flex, away, away)



## Lab Exercise

### □ Anterior C7

Flexion

Rotate away

Sidebend **toward**

### □ Anterior C8

Flexion

Rotate away

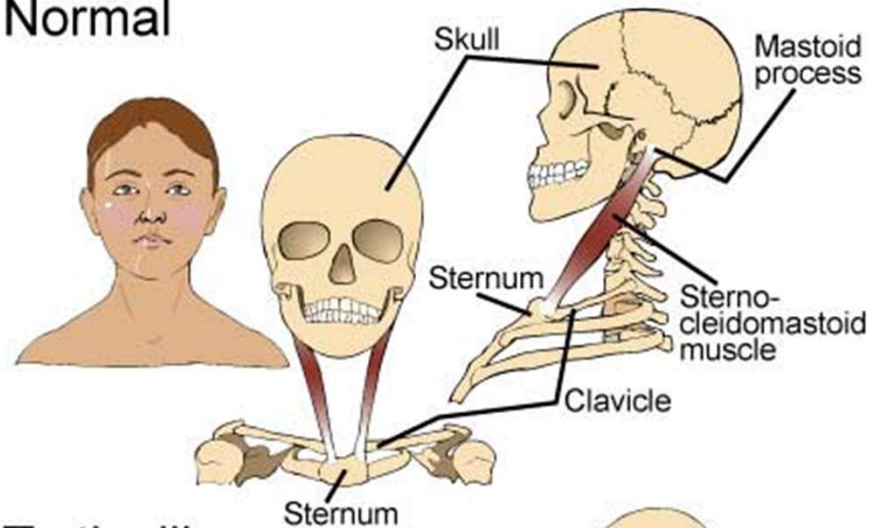
sidebend **away**



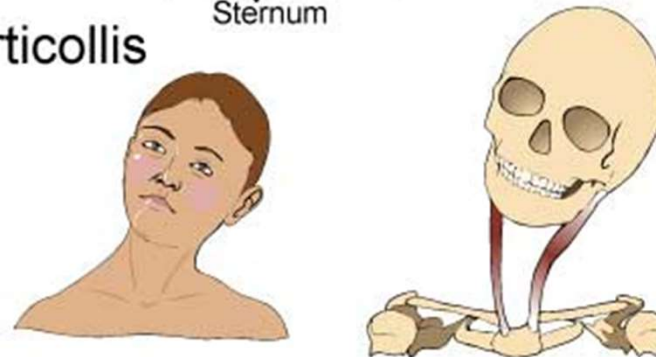
# Clinical Correlation

- ☐ Poor posture
- ☐ Whiplash
- ☐ Torticollis

Normal



Torticollis



# Posterior Cervical Tender Points

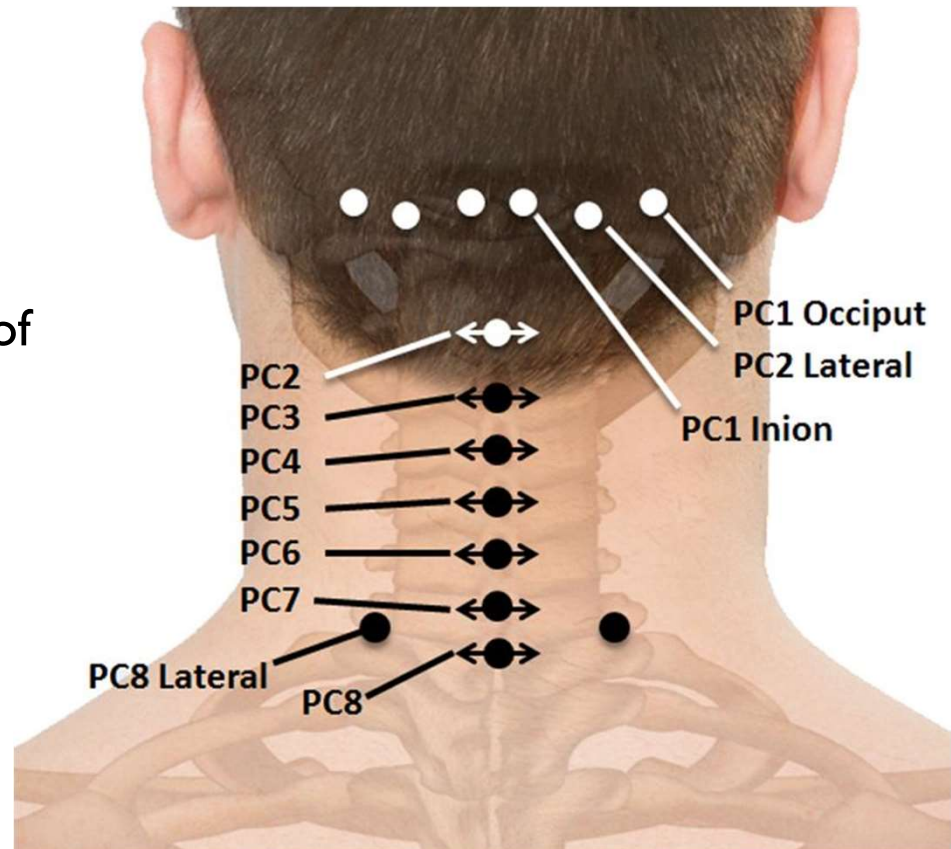
**PC1** - inion

**PC1** - occiput

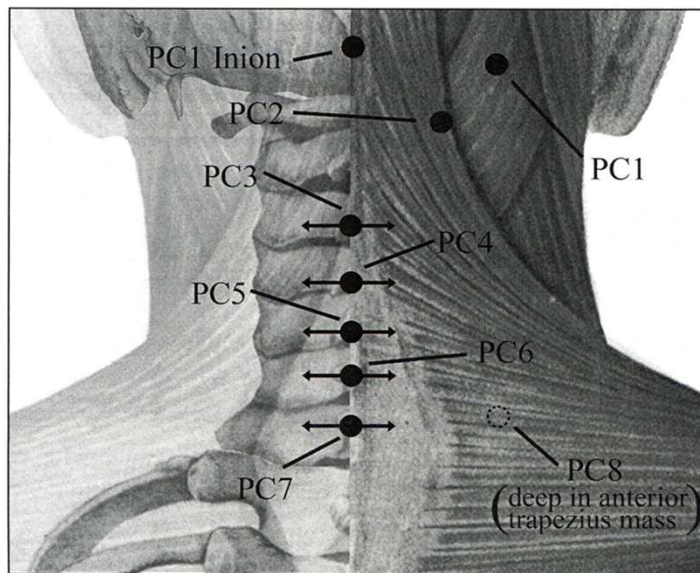
**PC2** - lateral, medial

**PC3-7** - spinous process of  
vertebra above

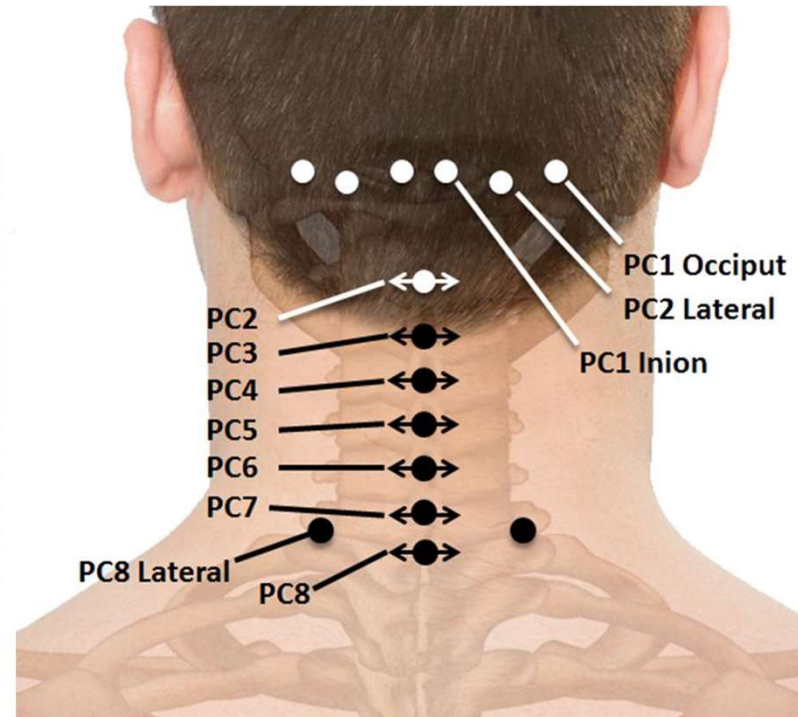
**PC8** - lateral, medial



# AUTHOR DISAGREEMENT



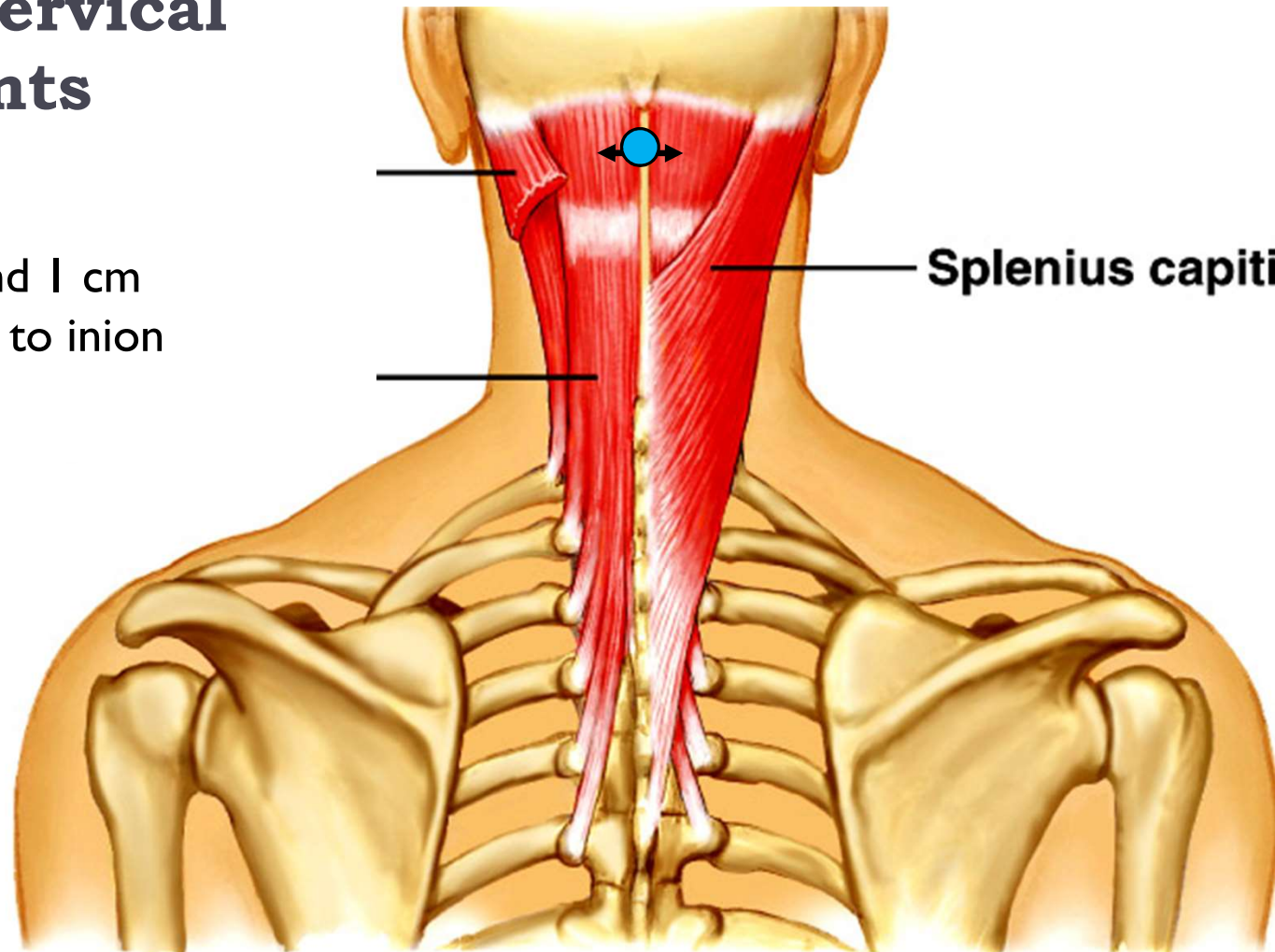
Named for vertebral level



★ Named for nerve root level

## Posterior Cervical Tender Points

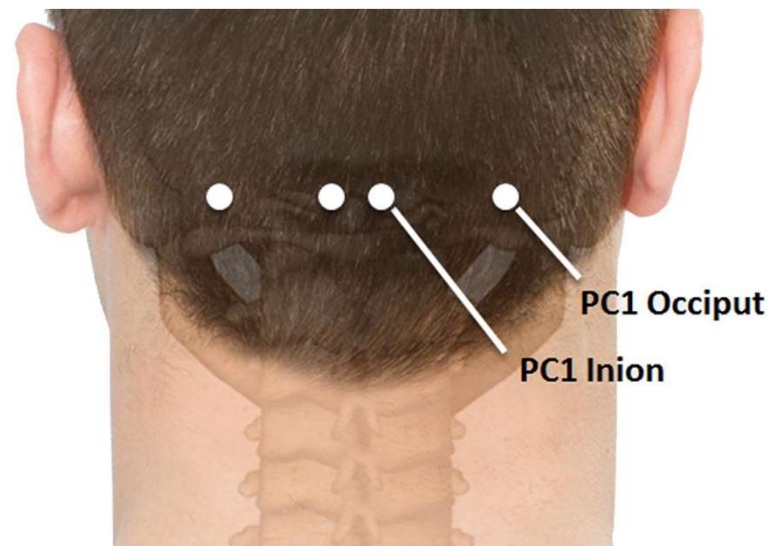
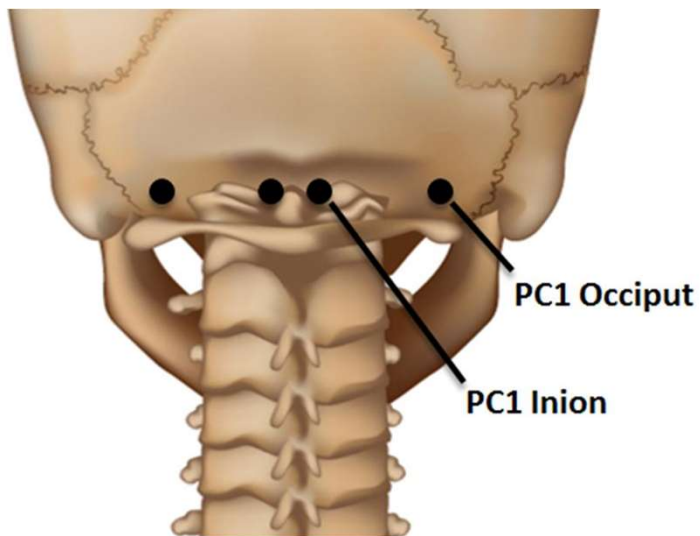
**PCI Inion** – Found 1 cm  
inferior and lateral to inion



# Posterior Cervical Tender Points

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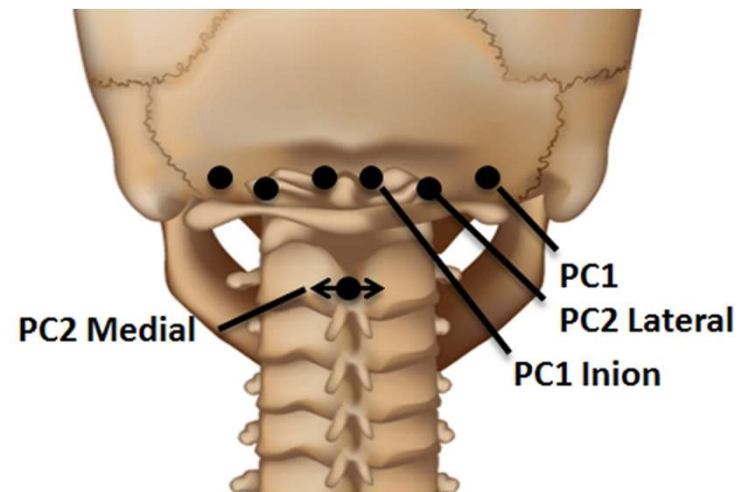
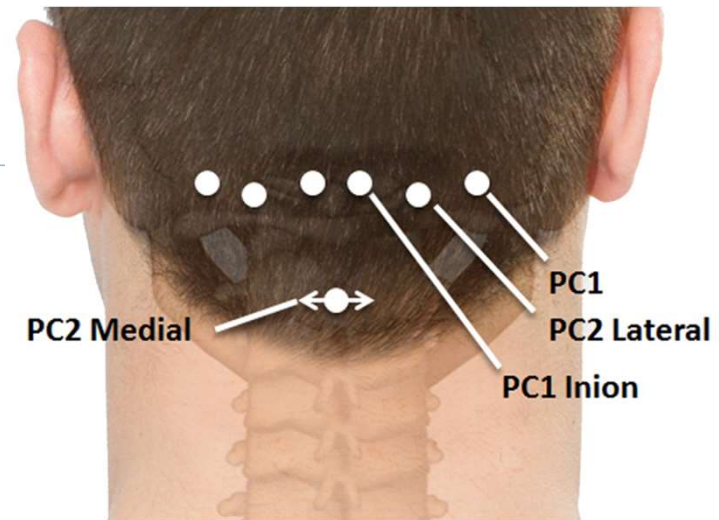
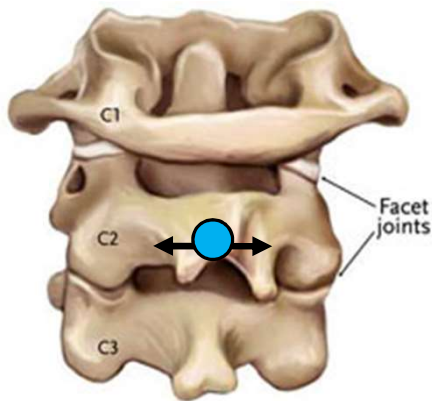
**PC1 Occiput** –Found on occiput 3-4 cm lateral to midline in muscle mass



# Posterior Cervical Tender Points

## PC2

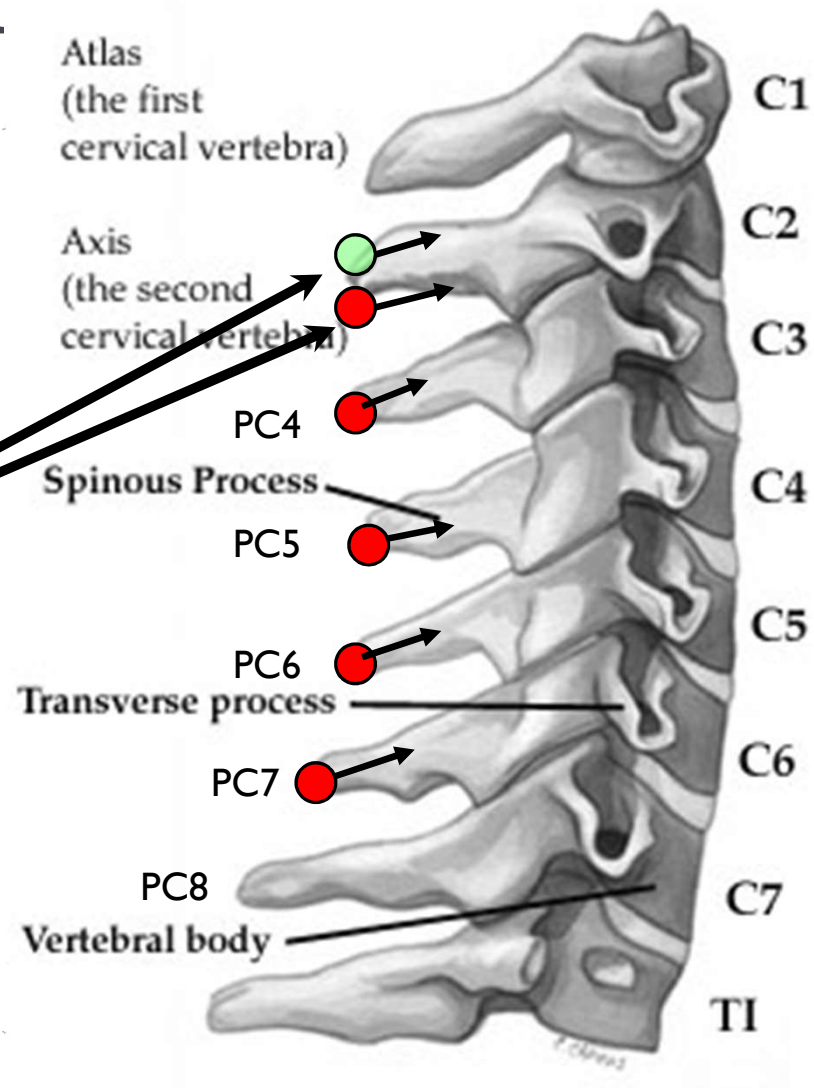
1. Medial - On C2 spinous process or just lateral
2. Lateral - 2 cm lateral to midline below occiput in muscle mass



# Posterior Cervical Tender Points

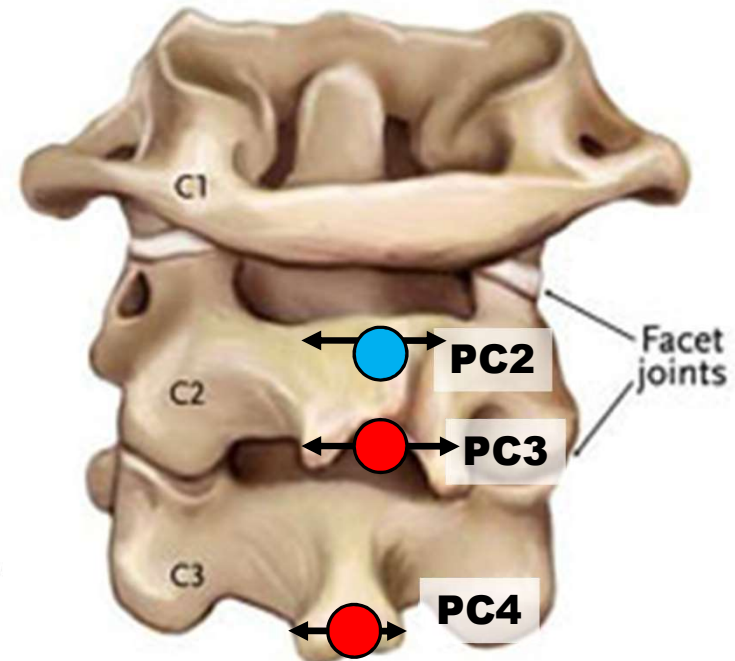
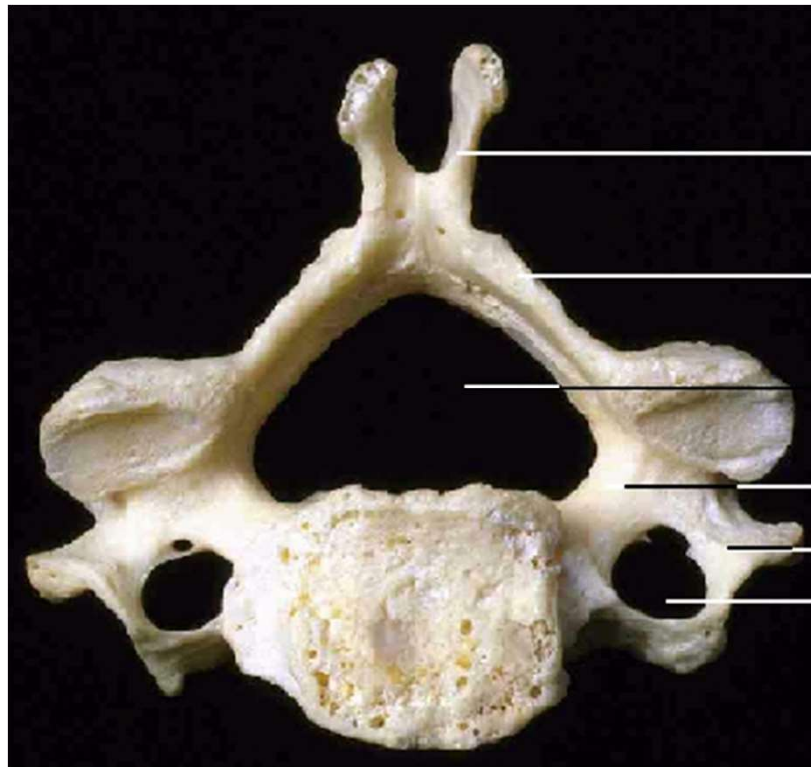
**PC3-7** - Midline or slightly lateral to spinous processes of vertebra above

**NOTE: PC2 and PC3 are on the same vertebra**



**PC3-7** - Midline or slightly lateral to spinous processes of vertebra above

### Bifid Spinous Processes



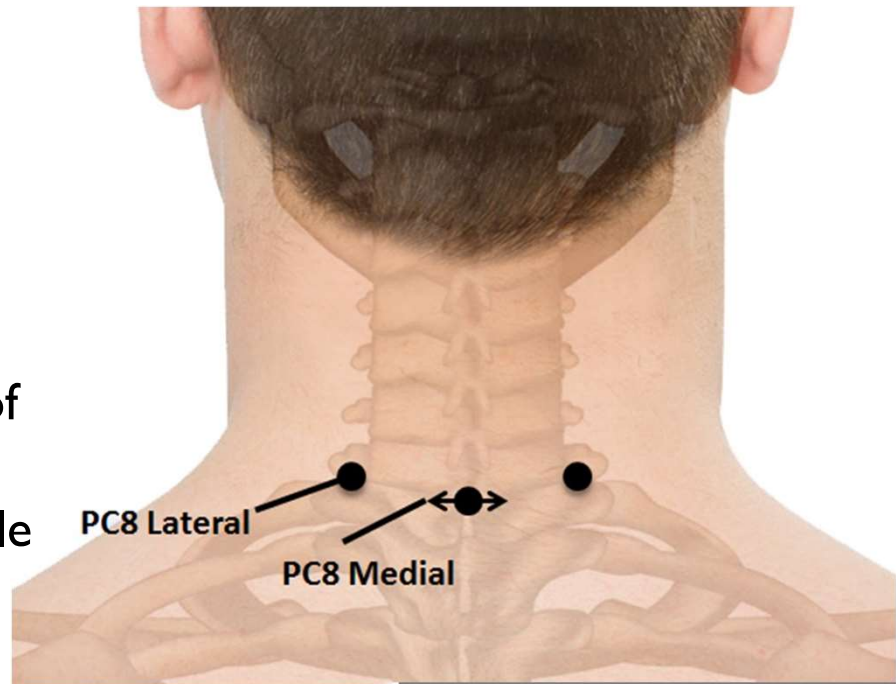
lamina  
vertebral canal  
pedicle  
transverse process  
transverse foramen

# Posterior Cervical Tender Points

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## PC8 Locations

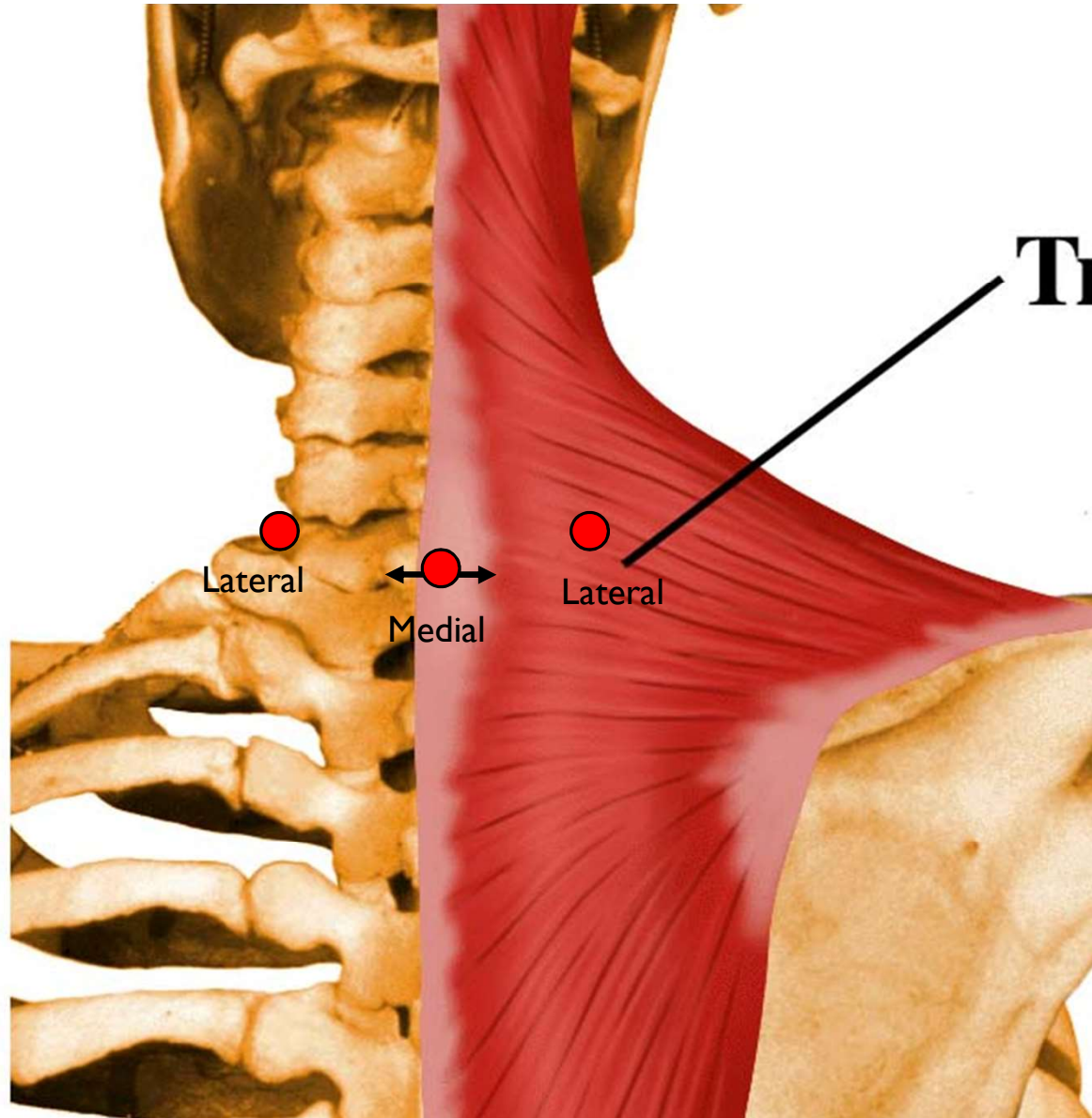
- I. Medial - At midline or inferolateral aspect of C7 spinous process
- I. Lateral - on posterior tip of transverse processes, anterior to trapezius muscle belly



# Posterior Cervical Tender Points

## PC8

1. Medial - At midline or inferolateral aspect of C7 spinous process
2. Lateral - on posterior tip of transverse processes, anterior to trapezius muscle belly



# Lab Exercise

## PC1 Inion

- On the inion, usually right or left side on protuberance, but occasionally midline

## PC1 Occiput

- 3-4 cm lateral to midline in muscle mass

## PC2

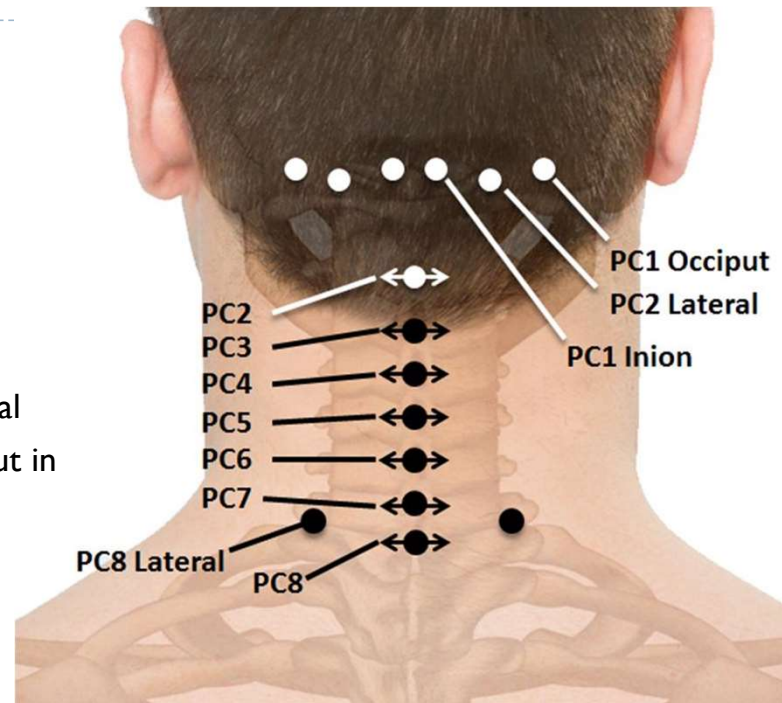
- Medial - On C2 spinous process or just lateral
- Lateral - 2 cm lateral to midline below occiput in muscle mass

## PC3-7

- Spinous process of vertebra above

## PC8

- Medial - At midline or inferolateral aspect of C7 spinous process
- Lateral - on posterior tip of transverse processes, anterior to trapezius muscle belly



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# **How to Treat PC 1 & 2**

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## PC1 Inion

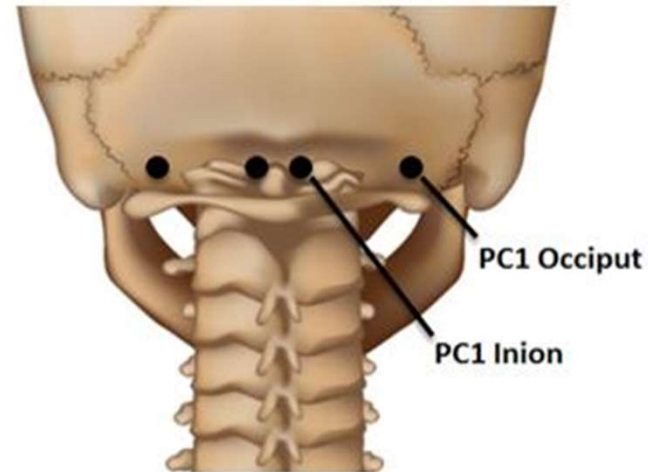
### Location:

Found 1 cm inferior and lateral to inion

### Position:

Cervical flexion with sidebending **towards** and rotation of head and neck **away** from point

***Flex StRa***



# PC1 Occiput

## Location

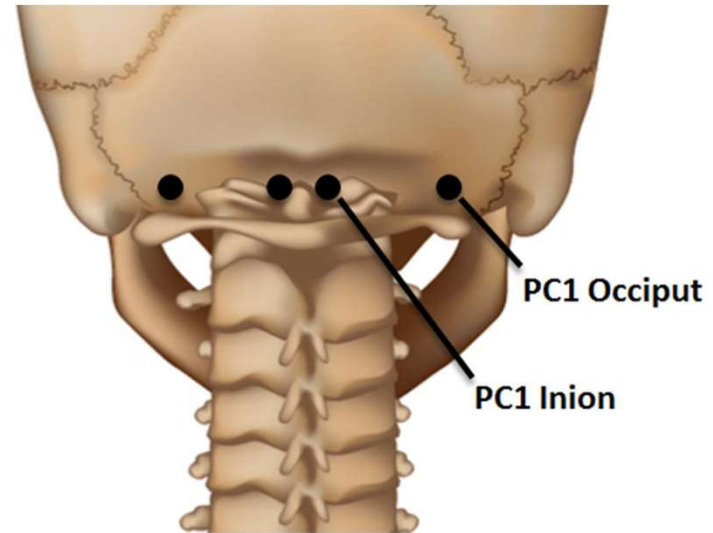
Found on occiput 3-4 cm lateral to midline in muscle mass

## Position:

Cervical extension with sidebending and rotation of head and neck away from point as needed

(Extend, away, away)

***E with SaRa as needed***



Left PC1 Occiput Tender Point Treatment

## PC2

### TWO Locations:

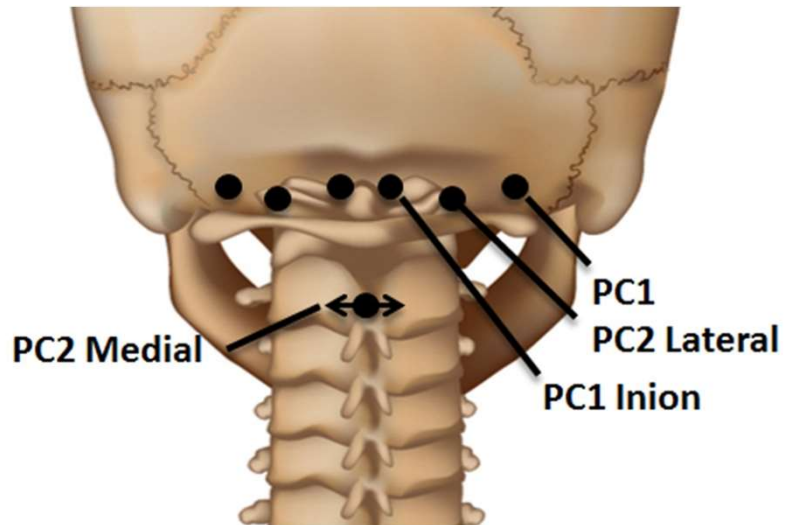
*Medial:* On C2 spinous process or just lateral

*Lateral:* 2 cm lateral to midline below occiput in muscle mass

### Position:

Cervical extension with sidebending and rotation of head and neck away from point as needed

***E with SaRa as needed***

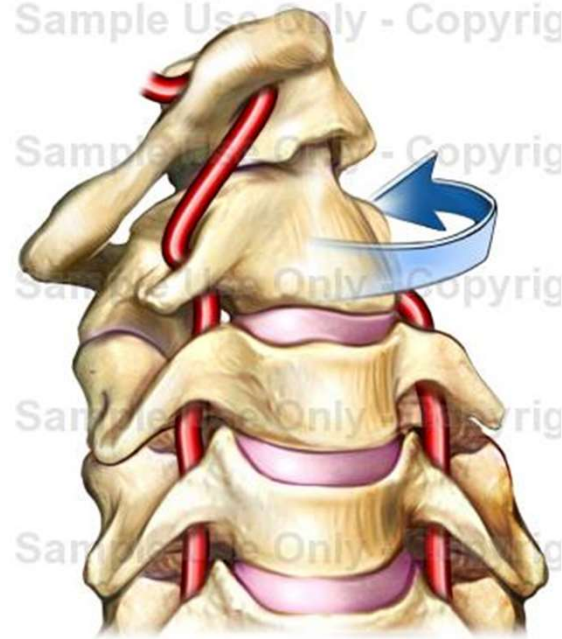


# WARNING

Hyperextension and rotation results in compression of vertebral artery on contralateral side

## Vertebral artery stenosis

- ☐ Disequilibrium
- ☐ Vertigo
- ☐ Diplopia
- ☐ Tinnitus
- ☐ Paresthesia
- ☐ Dysphagia
- ☐ Dysarthria
- ☐ Ataxia



## Lab Exercise

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### Treat Most significant Tender Point

**PCI Inion** – *F StRa*

**PCI Occiput** - *E with SaRa as needed*

**PC2 (TWO Locations)**  
*E with SaRa as needed*



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# **How to Treat PC 3 - 8**



## Posterior C3

### Locations:

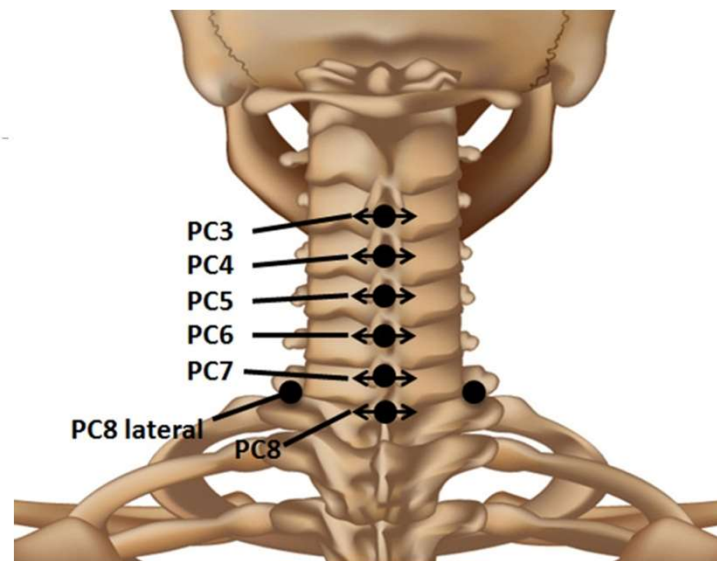
Found at midline or inferolateral aspect of C2-6 spinous processes of named vertebra above or just lateral to spinous processes

### Alternate Position:

Cervical flexion with sidebending and rotation of head and neck away from point

### *Flex SaRa*

Note: PC3 may require cervical extension



Left PC3 Alternate Tender Point Treatment

## Posterior C3-7

### Locations:

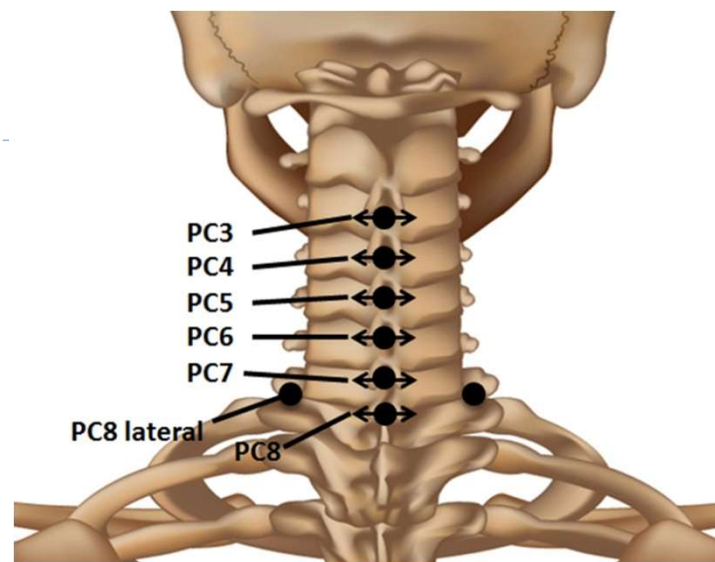
Found at midline or inferolateral aspect of C2-6 spinous processes of named vertebra above or just lateral to spinous processes

### 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



### PC8 Location

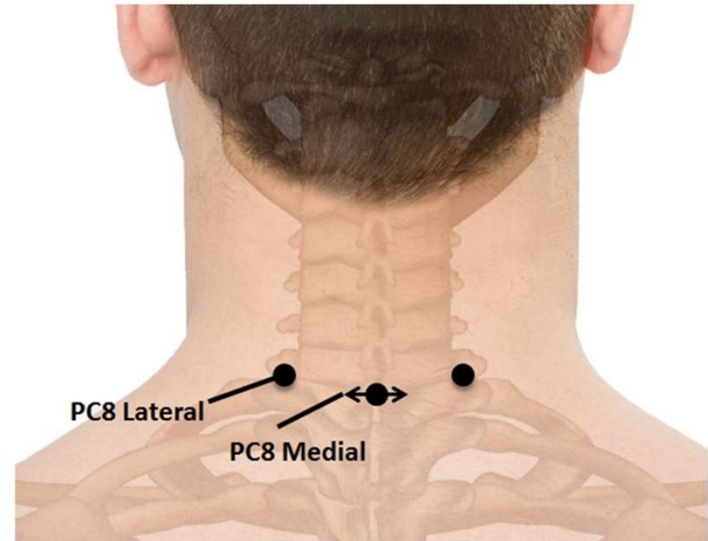
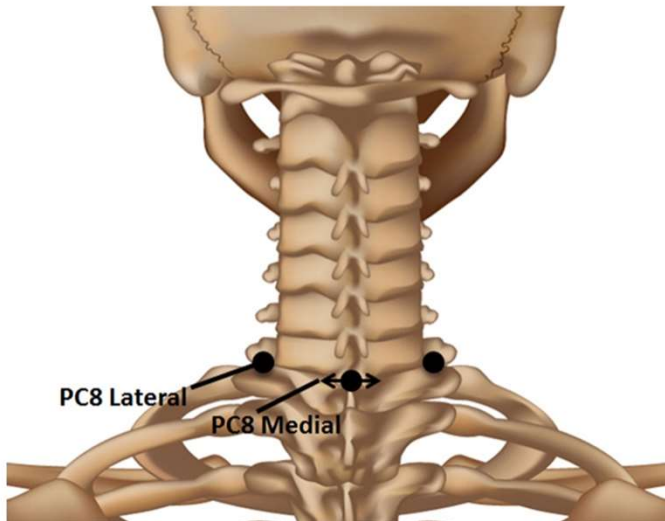
1. Medial: At midline or inferolateral aspect of C7 spinous processes
2. Lateral: On posterior tip of transverse processes, anterior to trapezius muscle belly

### Treatment

1. Supine
2. Cervical extension with sidebending and rotation of head and neck away from point
3. Midline points may require pure extension

### ESaRa

### Anatomical Consideration



### Left PC8 Tender Point Treatment



## Lab Exercise

**Treat most significant  
Tender Point**

**PC3-8 – *ESaRa***

Midline points may require pure  
extension

PC3 may require cervical **flexion**



# Clinical Correlation

- Tension headaches
- Migraine Headaches
- Occipital neuralgia
- Poor Posture
- Crick in the neck

