



**INTENSIVE**

**STEOPATHIC**

**UPDATE**

*Virtual*



# Headaches

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ACOFP Conference, 2021

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The background of the slide features a light gray, stylized circuit board pattern on the left side, consisting of various lines, nodes, and paths that resemble a printed circuit board. The rest of the background is plain white.

## Disclosure

I have no financial associations to any medications mentioned in this presentation. Any mention of medications will be used for educational purposes only



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# Pocket OMT Manual

SECOND EDITION



## Disclosure

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I was heavily involved in production and creation of this OMT manual with my fellow medical school classmates.

I will be using images and excerpts from it

The Pocket OMT Manual (2nd Edition)

- By Liesel C. Grentz, Jennifer M. Broadwater, Edward G. Stiles, R. Christopher Yonts, Derek W. Jones, et al

Mountain Medicine Publishing, 2004

# Disclosure

My helper today will be my first-born son, Chuck Kinzel



# Outline

- Predominance of headaches in America
- Types of headaches
- Exam
- Treatment options



# Headache Prevalance

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- **1 in 4 households** are affected by migraine type of headaches
- **12%** of the general population
- Data has been stable for past **19 years**





# Headache Prevalance

- **18% of females**
- 6% of males
- 10% of children
  
- Most common age range is 18-44 years old





# Headache Prevalance

- 4th to 5th most common emergency room visit
- **Roughly 3%** of all emergency room visits annually



# Headache Prevalance

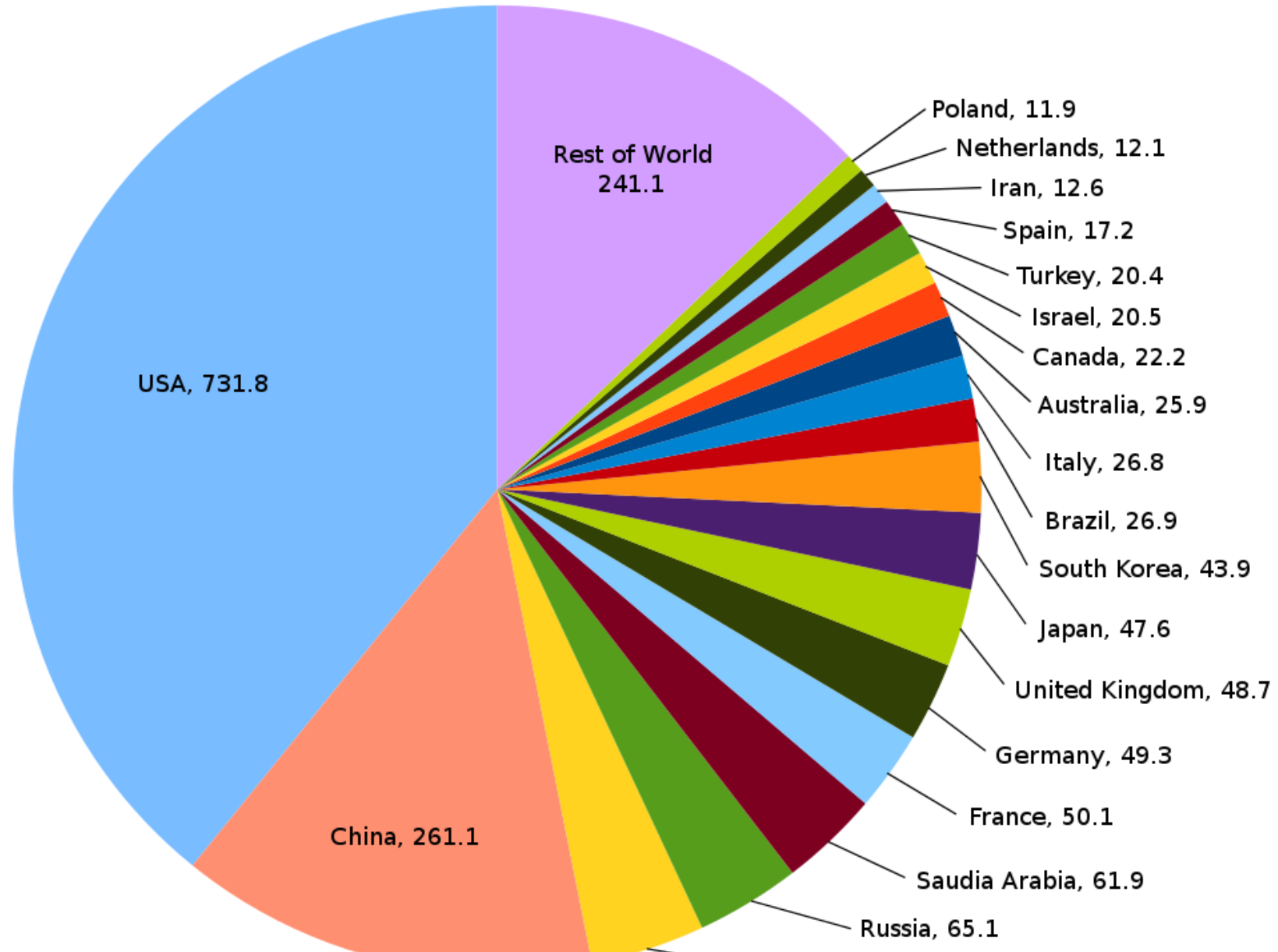
- **2019 data**
- Indirect cost of migraine headache
- 19.3 billion USD annually
- 81% of this cost is attributable to absenteeism

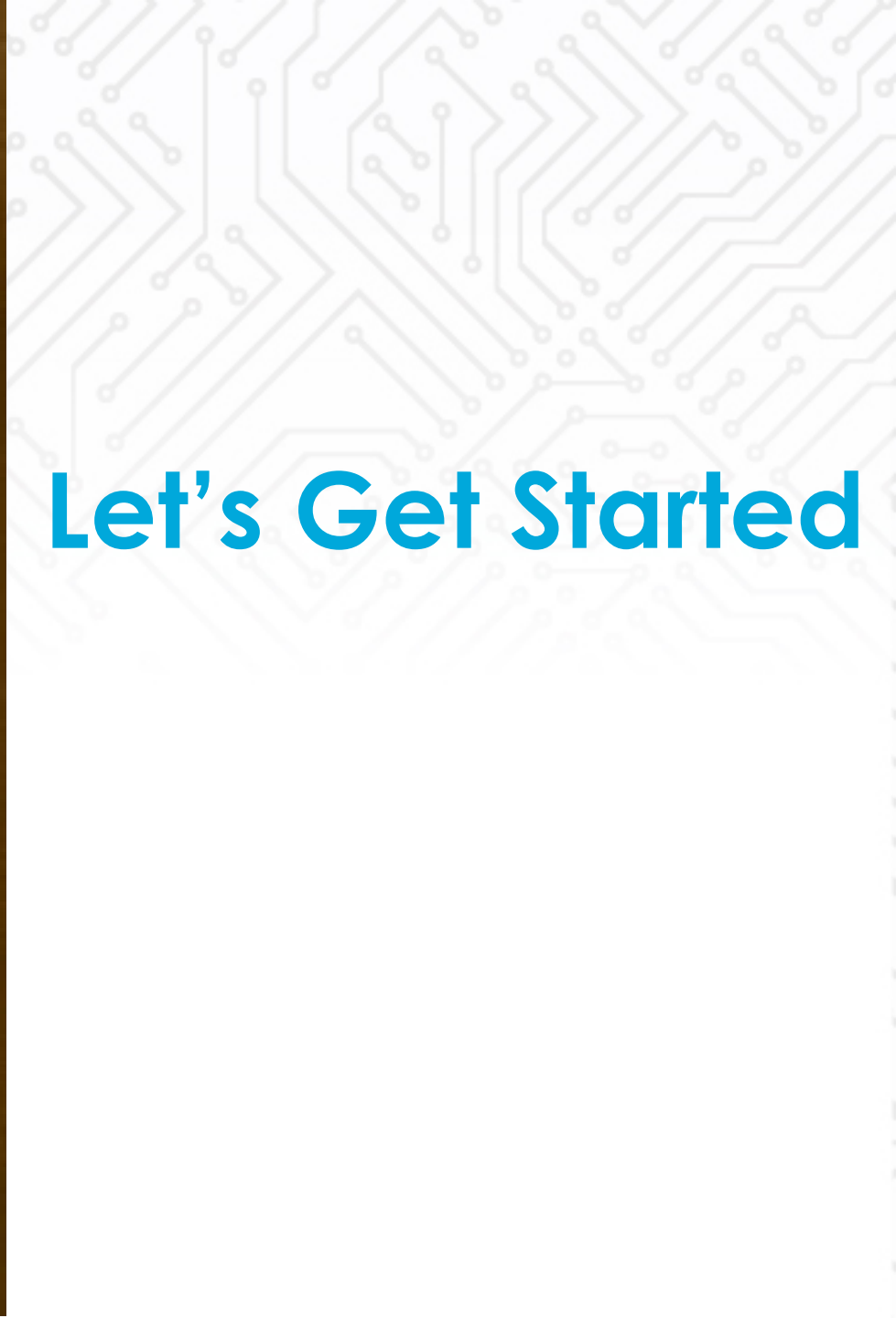


# Cost Comparison

- **19.3 billion**
- More than Poland, Netherlands, Iran and Spain spent annually on their military in 2019

Military Expenditures by Country  
US\$ billions, 2019





**Let's Get Started**



# Types of Headaches

## **TMJ**

pain is at temples, in front of ears.



## **Sinus**

pain is behind browbone and/or cheekbones.



## **Cluster**

pain is in and around one eye.



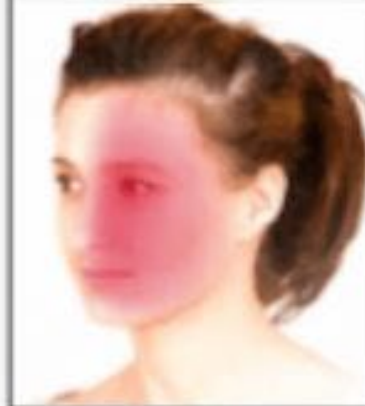
## **Tension**

pain is like a band squeezing the head.



## **Migraine**

pain, nausea and visual changes are typical of classic form.



## **Neck**

pain is at the top and/or back of head.



# Types of Headaches

- Today we will focus on three types
  - Sinus
  - Tension
  - Migraine



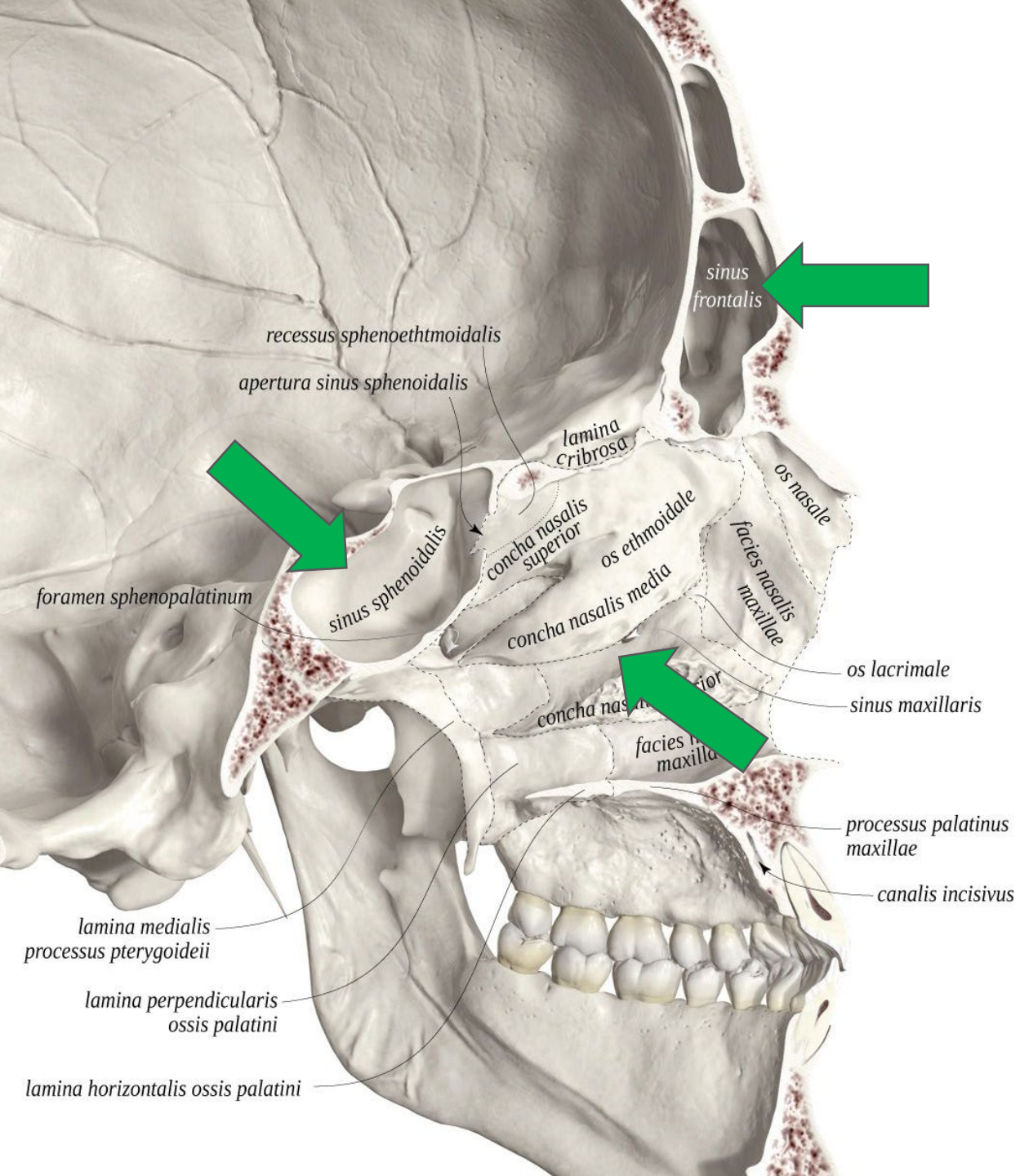


# **Sinus Headache**

# Sinus Headache

- Most typically has pain over the frontal and maxillary sinus cavities
- Other symptoms include;
  - **sinus congestion**
  - **sinus drainage**
  - **allergies**
- Description of the headache will include;
  - Pressure to sinus cavities
  - Constant pain
  - Worse when bending forward





# Sinus Headache

- Sphenoid
- Frontal
- Maxillary
- Ethmoid (not pictured)



# Sinus Headache Exam

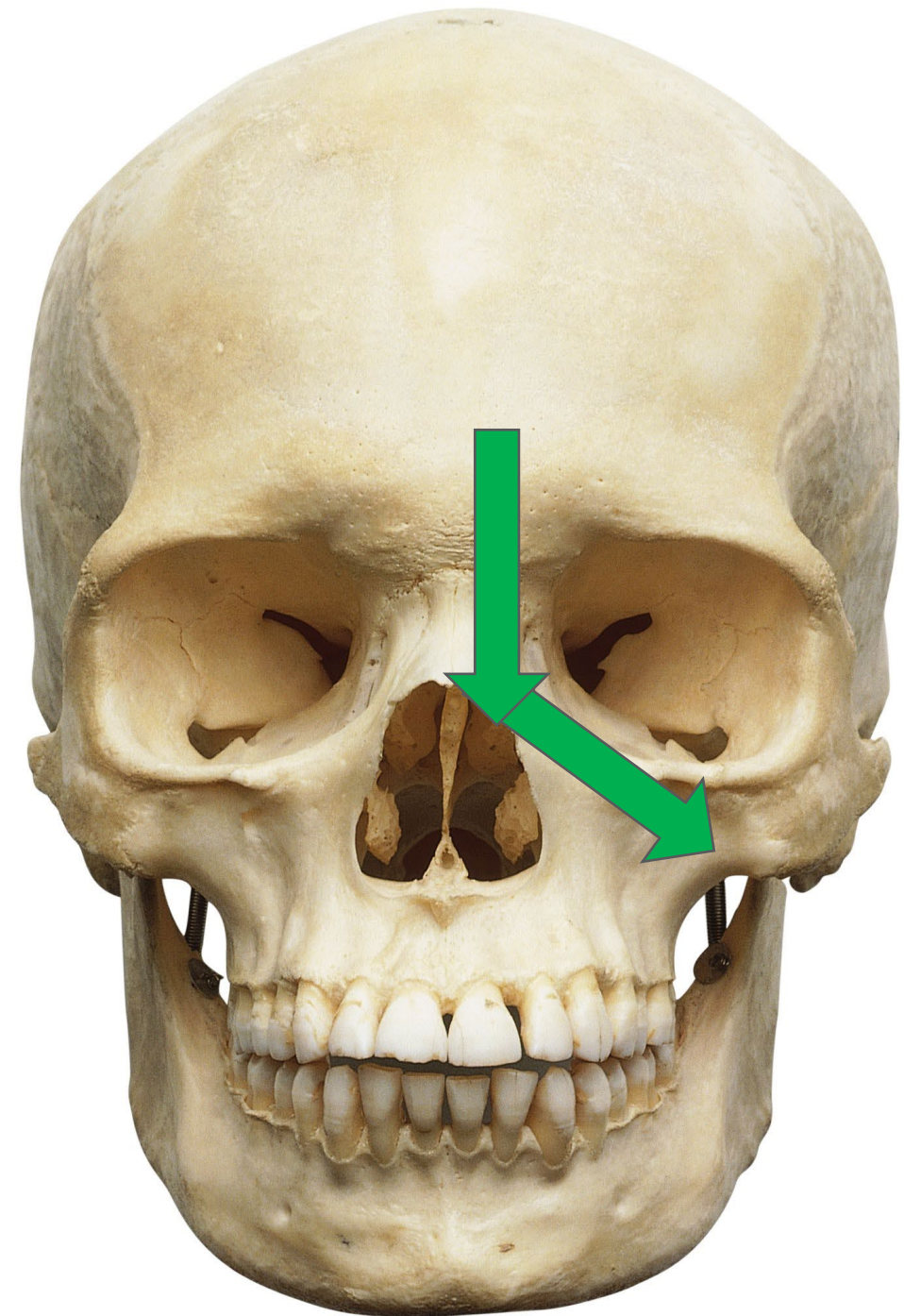
- Palpation over sinus cavities revealing tenderness
- Otoloscope examination of sinus cavity reveals
  - Edema to turbinates
  - Clear rhinorrhea

# Sinus Headache Treatment

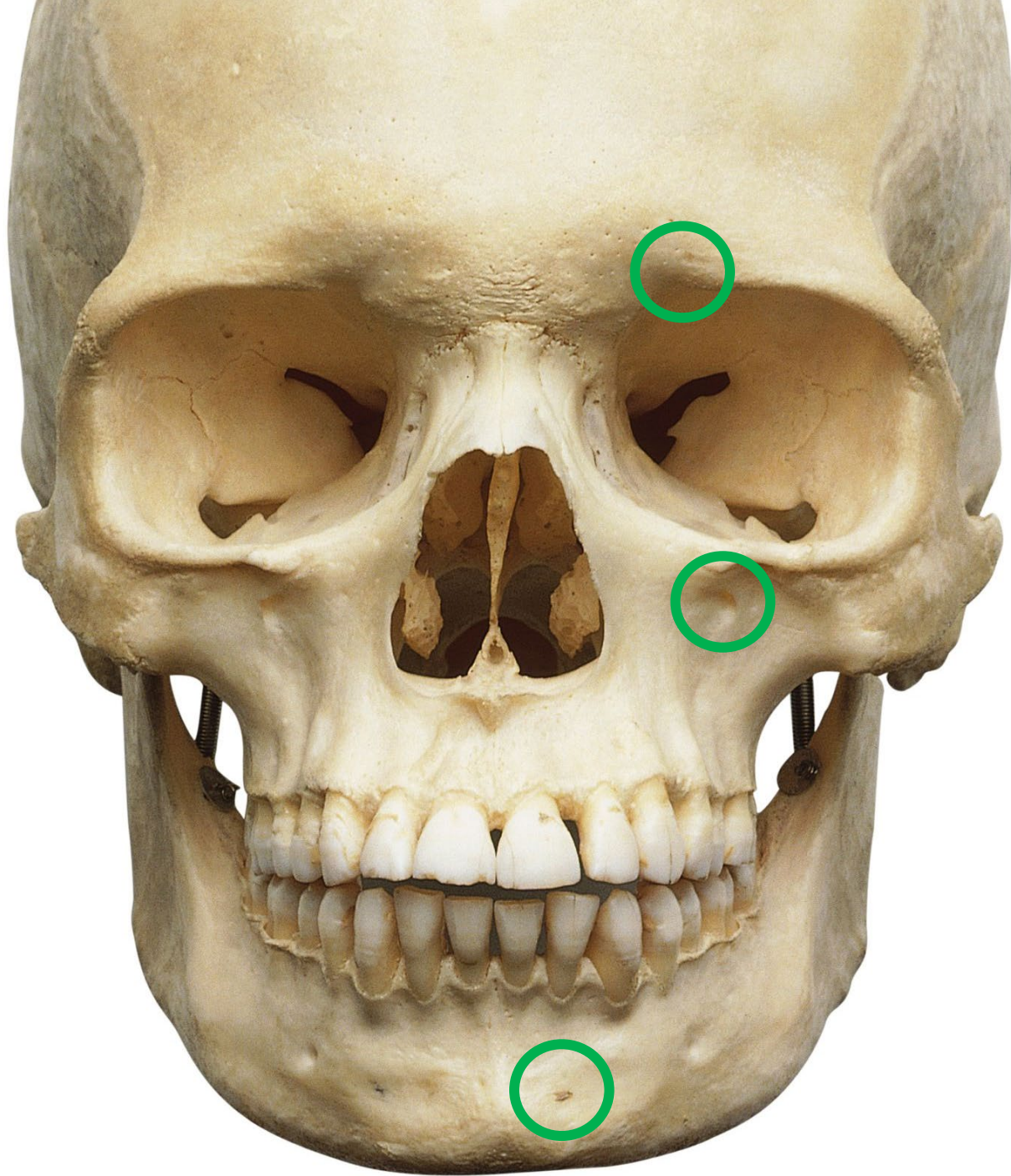
- Petrissage
- Stimulation of trigeminal branches
- Assess facial bones for restrictions
  - Treat with cranial technique

# Sinus Headache

- Petrissage
- Massage from nasal bone down towards zygoma
- Light pressure with pads of fingers, constant stroking motion





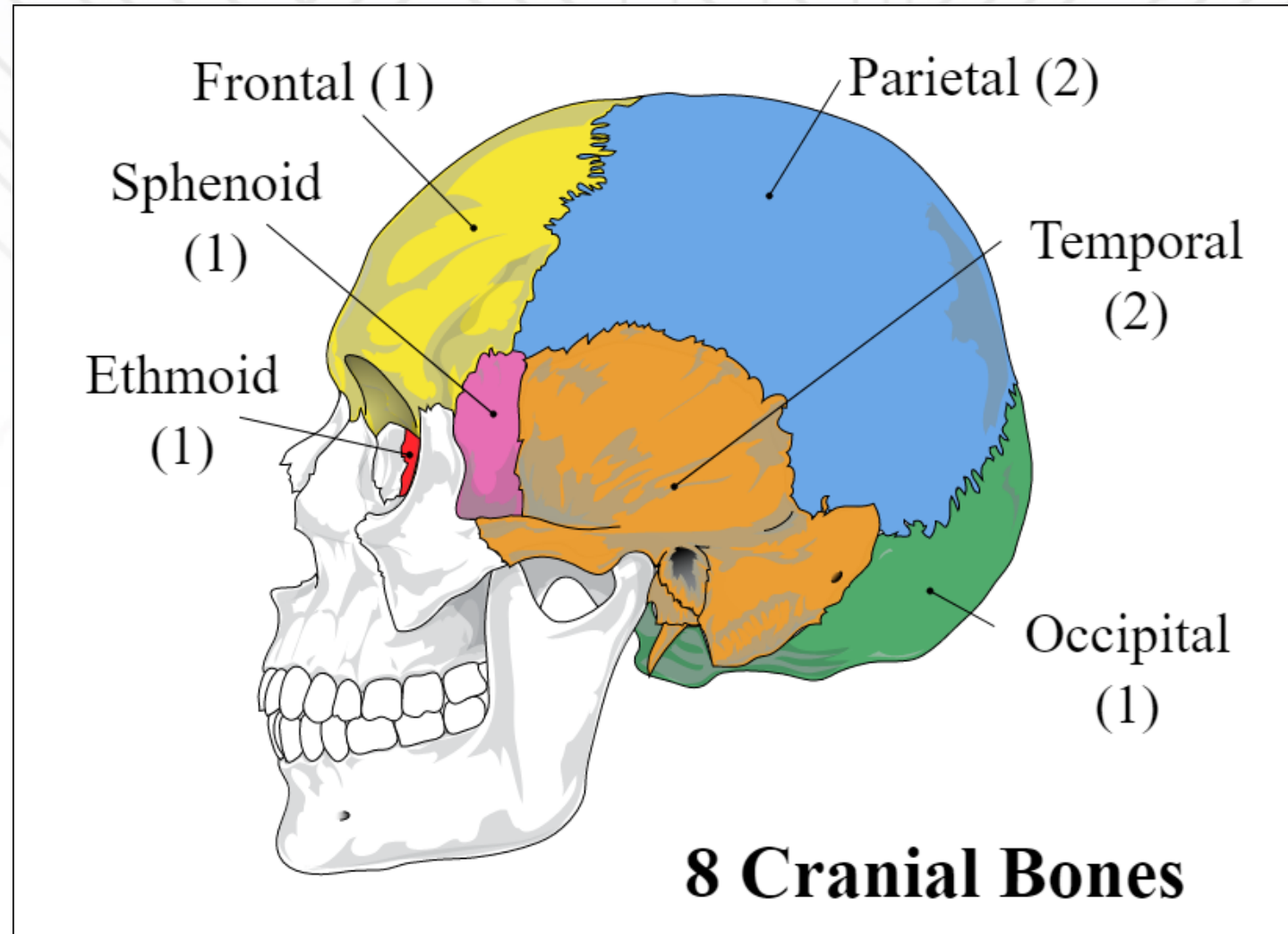


# Sinus Headache

- Stimulation of the **V1 branch** at supra-orbital foramen
- Stimulation of the **V2 branch** at the infra-orbital foramen
- Stimulation of the **V3 branch** at the mental foramen

# Sinus Headache

- Look for restrictions at the:
  - Frontal–sphenoid
  - Frontal-nasal
  - Frontal-zygomatic



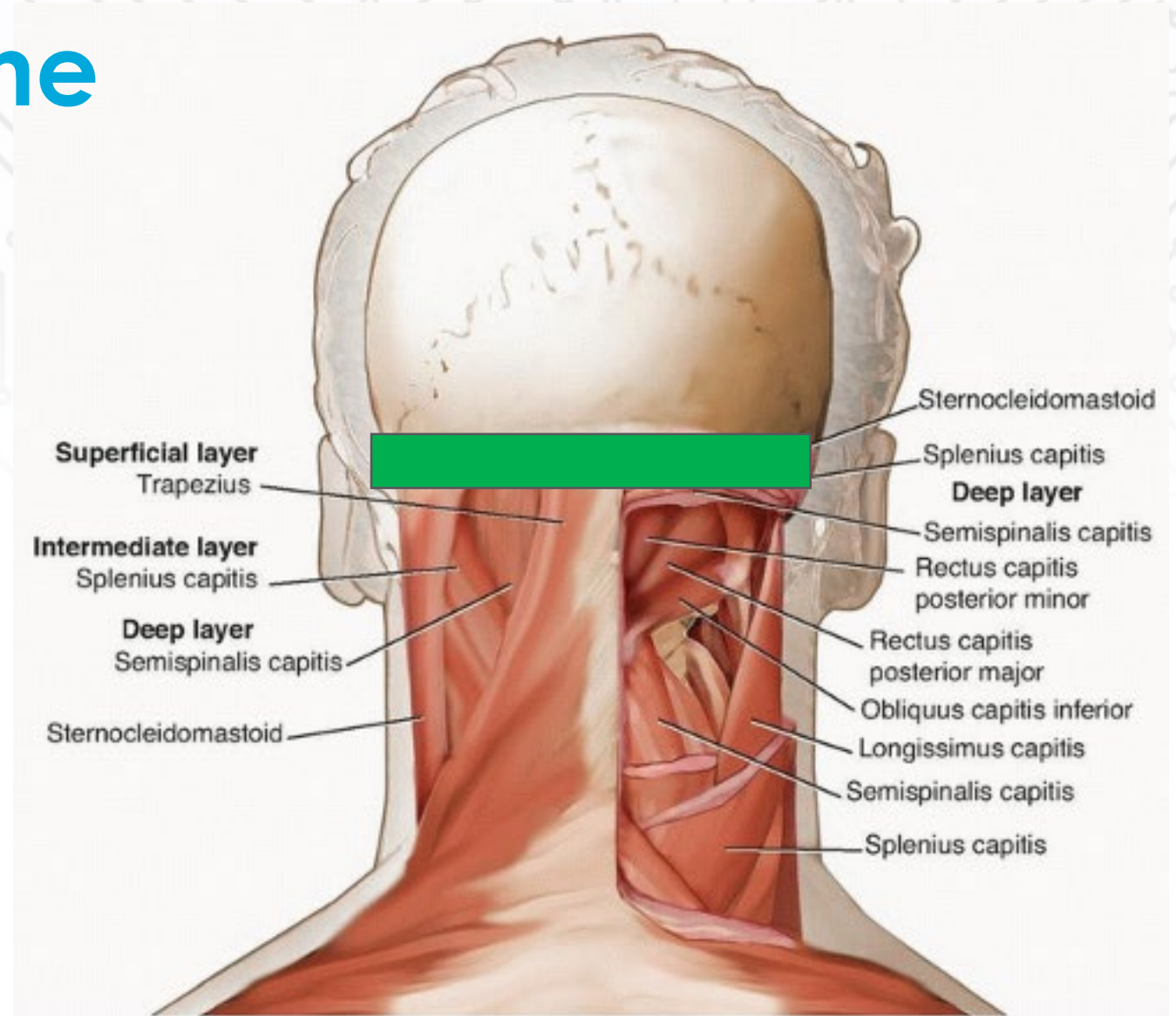


A background pattern of light gray circuit board traces and nodes, resembling a complex network or neural network, filling the upper half of the image.

# Tension Headache

# Tension Headache

- Suboccipital release
- Soft tissue release of cervical musculature



# Tension Headache

- Patient laying supine on OMT table
- Pads of fingers palpate cervical musculature
- Tissue texture changes at cephalad portion of cervical spine at the cranial-cervical junction

# Tension Headache

- Soft tissue release of cervical musculature
- Have patient rest on exam table supine
- Practitioner takes hands with palms facing upwards and strokes the muscles of the paracervical region
- Work from base of neck up towards skull
- Apply gentle anterior pressure
- Repeat for effect

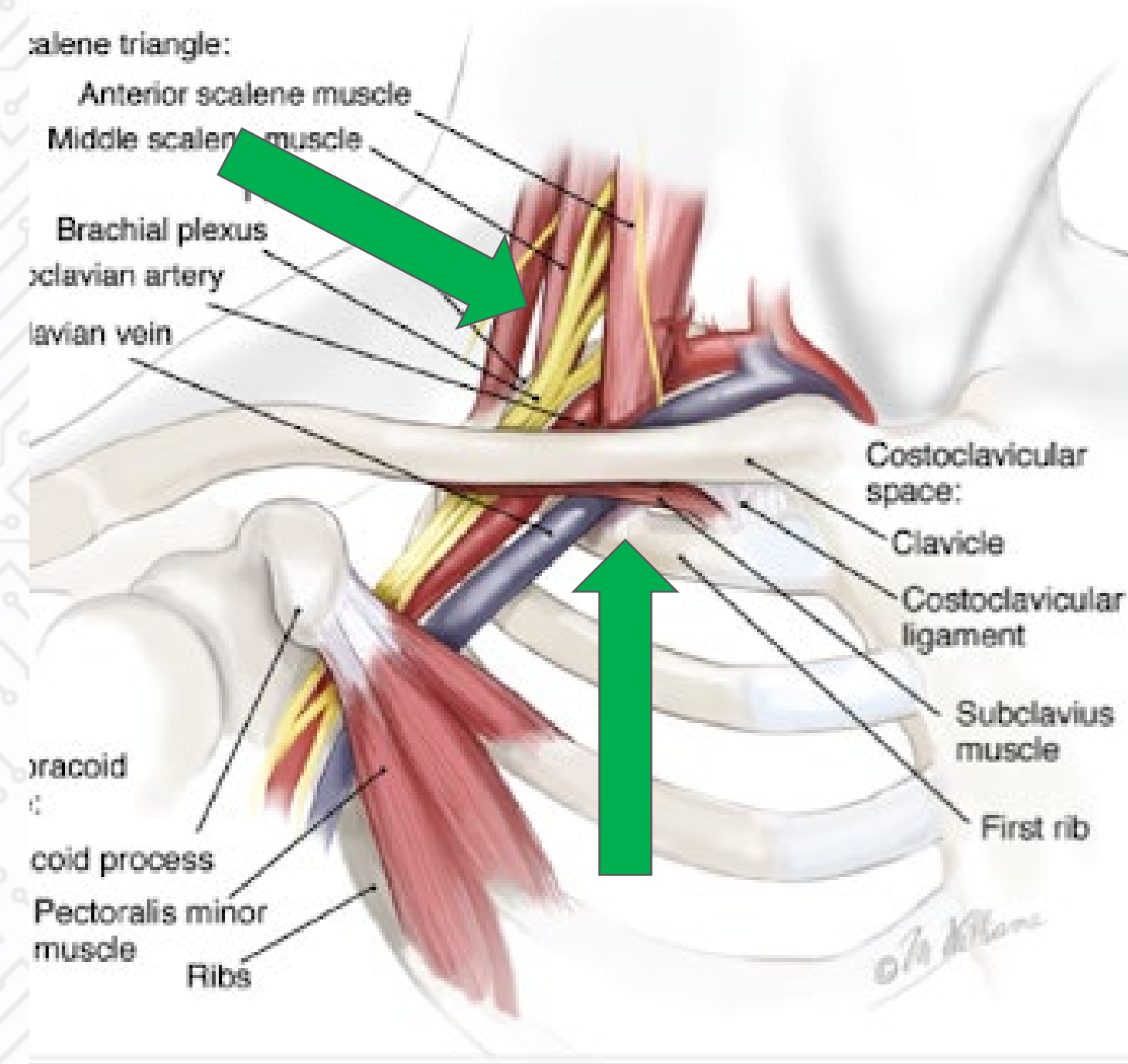
The background of the image features a complex, repeating pattern of light gray lines that resemble a circuit board or a neural network. The lines are interconnected, forming various geometric shapes and paths across the top half of the frame. Below this pattern, the text "Migraine Headache" is centered in a bold, green, sans-serif font.

# Migraine Headache



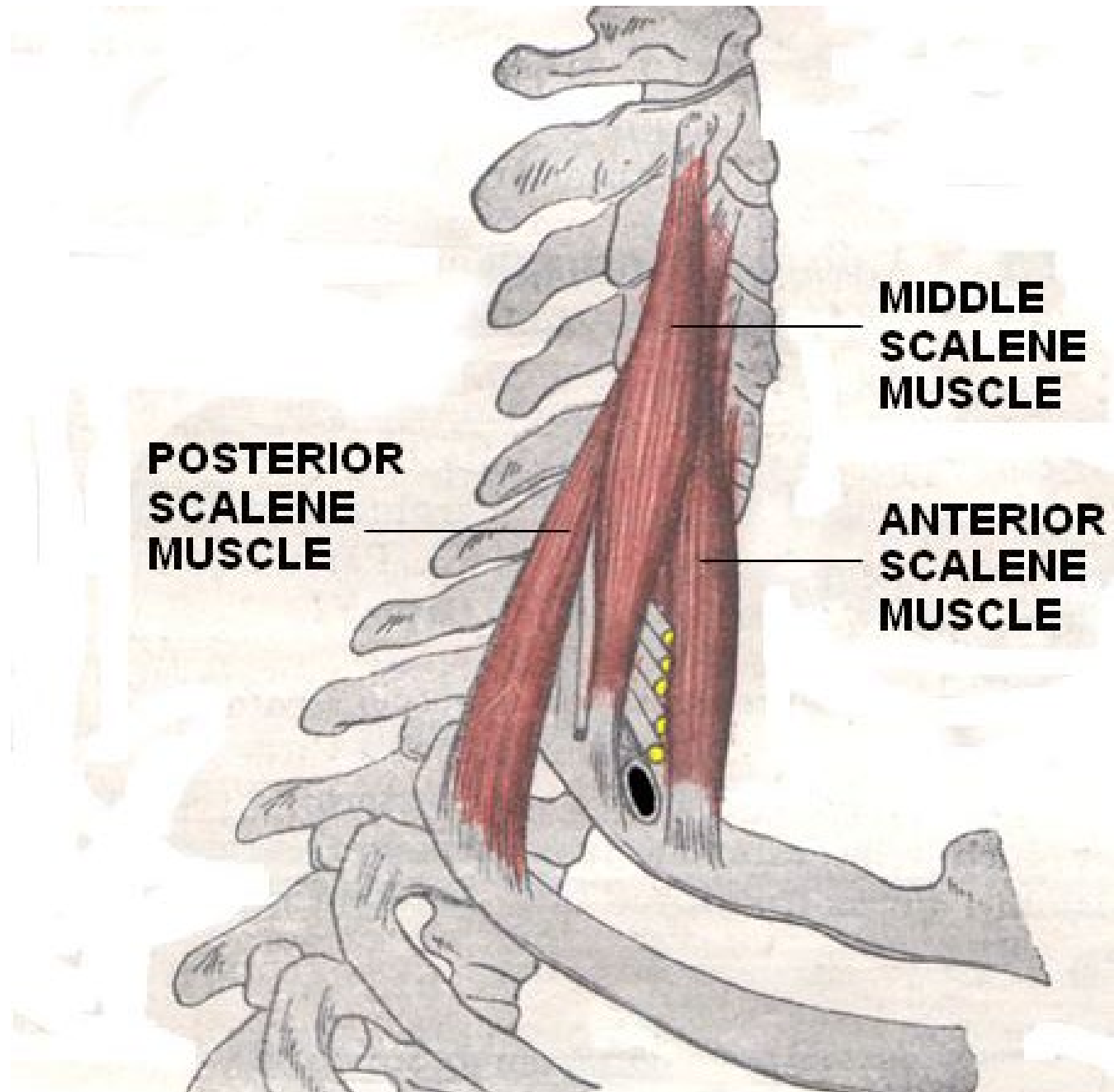
# Migraine Headache

- Scalene muscles
- **First rib**
- **Brachial plexus**
- Third cervical vertebrae



# Migraine Headache

- Scalene anterior and middle have origin at C3
- Insert on first rib



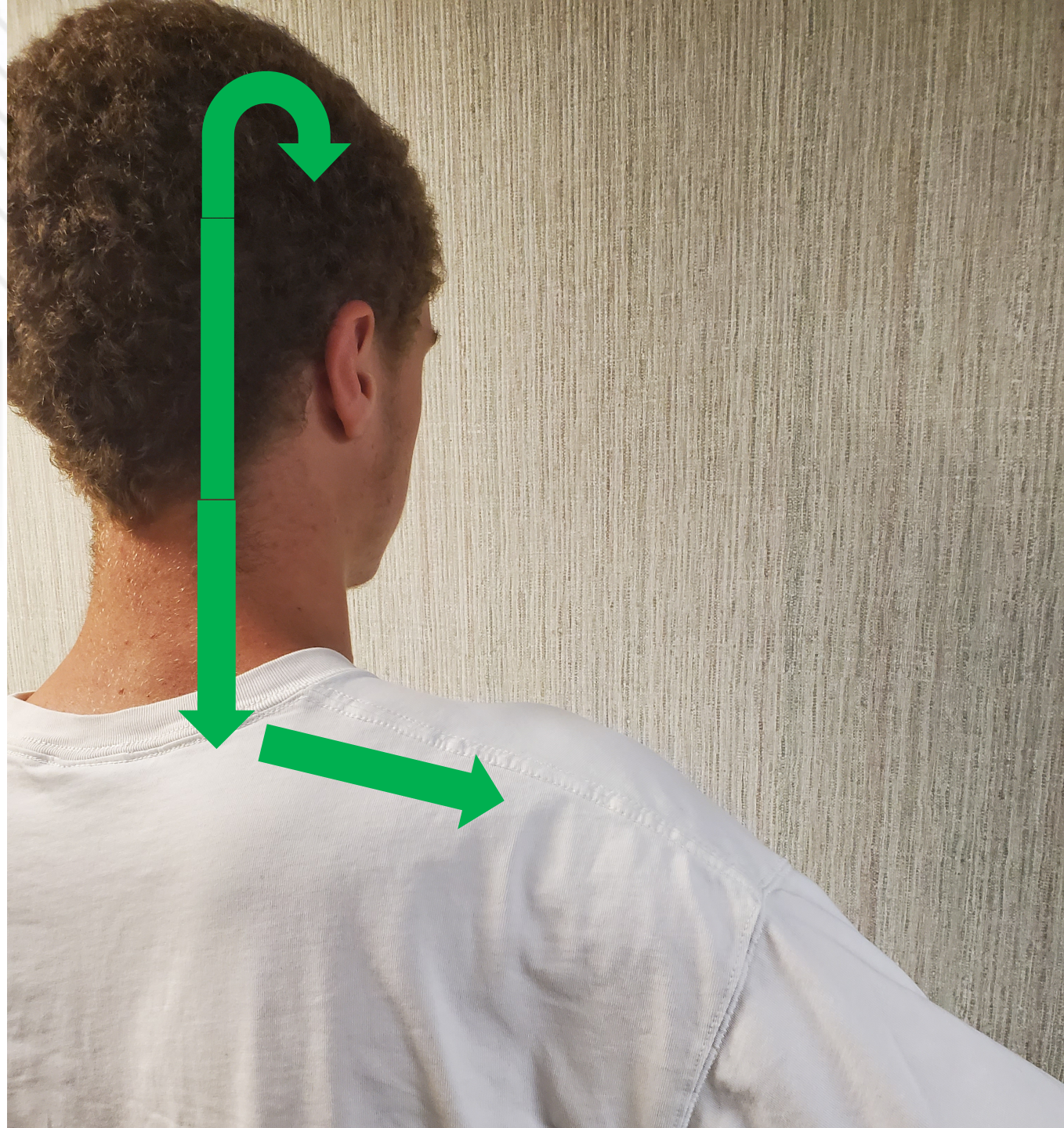
# Migraine Headache

- The first rib is elevated by the contraction of the anterior and middle scalene muscles
- This narrows triangular space that the brachial plexus traverses thru
- The patient will have pain along the posterior aspect of the shoulder from T1 and first rib dysfunction



# Migraine Headache

- Location of pain





# Migraine Headache

- Pain from neck down to lateral shoulder (level of deltoid insertion) from brachial plexus irritation
- Ipsilateral pain at C3
- Headache pain extending from C3 up over head on ipsilateral side to forehead

# Migraine Headache- Contributing Factors

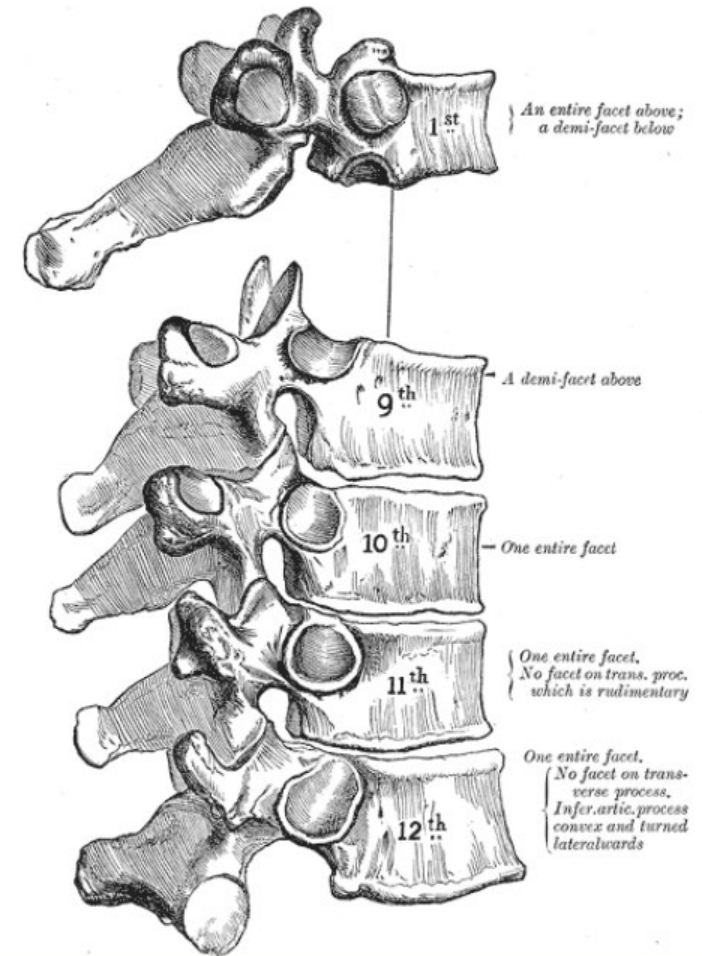
- Cell phones
- Lifting suitcase, or other heavy things in a shrugging motion
- Studying for boards
- Having head propped up on arm reading



# Migraine Headache

- Palpate transverse process of T1
- Patient bends forward, “look at your toes”
- Sit up straight
- Patient extends backwards, “look up at ceiling”
- Diagnosis is made when right thumb translates posteriorly with extension

## Thoracic Vertebra





# Migraine Headache

Motion Test T1, Treat First



Motion Test First Rib





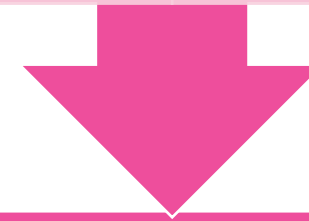
# Migraine Headache

Fryette's law- for  
T1-T5 treatment  
is in two steps

1.) treat in neutral

side bending  
only

Placing T1 at  
apex of curve



2.) add in extension  
and rotation

# Migraine Headache

- “3 breaths, poke and a stretch”
- In this scenario we will be treating inhaled **first rib on right side, with T1 FRS right**



# Migraine Headache

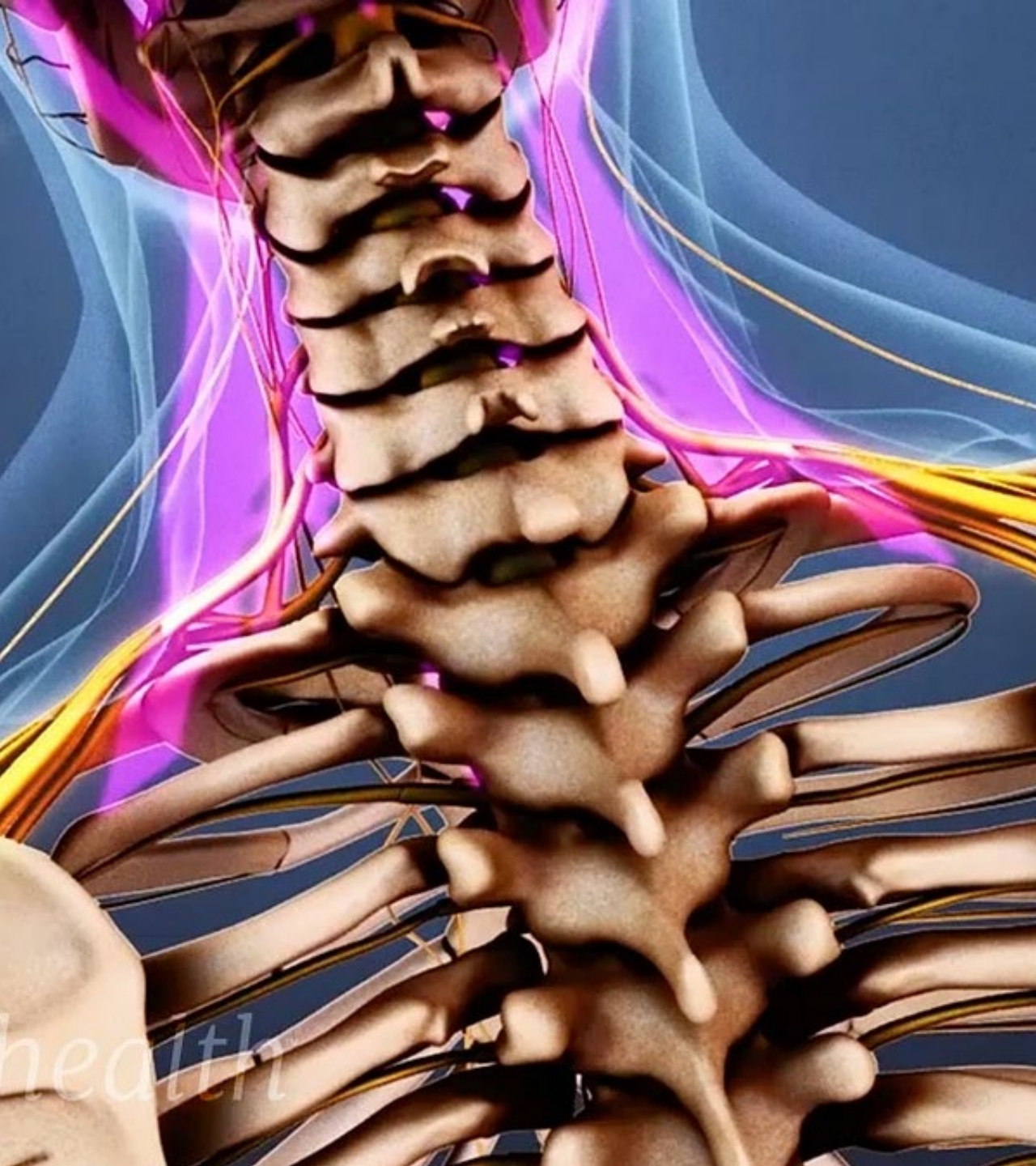
- Hand supporting neck moves head to **shorten scalene muscles**
- Flex forward with side bending and rotation to right
- Take to feather edge of barrier
- As patient breathes out the head is moved in this fashion with left hand, as the right hand is providing **caudad pressure on first rib**
- Patient **pushes head back** into practitioners' hand adding component of muscle energy



# Migraine Headache

- This process is repeated **three times**
- Then a **caudad thrust** is applied to first rib
- Do not allow rib to move back up, **hold rib** at maximal caudad displacement
- With right hand holding first rib in place
- **Stretch the scalene muscles** by moving head and neck with left hand.
- Stretch by moving head in a **left side bend and left rotation** direction





# Migraine Headache

- This motion will cause some patient discomfort
- **Warn them ahead of time!!**
- Recheck first rib motion
- Assess cervical spine, there will most likely be a related C-3 dysfunction

# Headache Treatment Review

- Know basic physiology associated with the different types of headaches
- Know at least two anatomical points, and landmarks, for each headache treatment
- Be able to demonstrate proper hand placement and explain what you are palpating
- After treatment re-assess your patient and describe a resolution of dysfunction

The background of the slide features a light gray, repeating pattern of circuit board traces and nodes, creating a technical and digital aesthetic.

**Thank you!**

**Questions?**