Could There Be More to Your Athlete's Headache?

Jennifer M. Plos, EdD, ATC

Renee L. Polubinsky, EdD, ATC, CSCS, CES

Western Illinois University

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HEADACHE STATISTICS

- ~90-95% of US population suffers from a headache annually
- 1 in every 6 people suffer from a headache daily
- ~8 million Americans visit physicians complaining of headaches each year
- 90% of headaches are diagnosed as unprovoked Primary Headaches;
  <10% Secondary Headaches
- Primary Headaches
  - Tension Headaches: 80-90% of the population
    - Sport & Exercise Induced
  - Migraine: 10-12% of the population
  - Cluster: 0.1% of the population
- Secondary Headaches
  - Trauma-induced, Heat-related, Exertional Hyponatremia

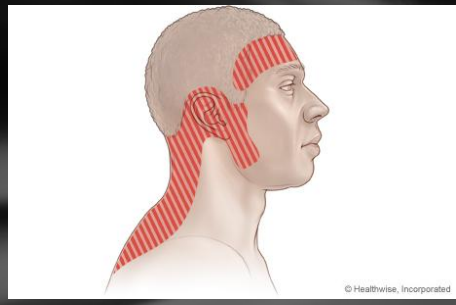
Primary Headaches

- Head pain itself is the issue, NOT associated with underlying medical issue/injury
- Vary in pain intensity, pattern, and location
- Majority do NOT require medical intervention
- Majority are NOT life-threatening

Primary Headaches

Tension Headache

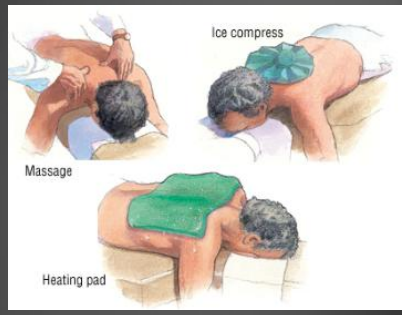
- MOI: Unknown; contraction of skull muscles → muscle spasm → pain



- Common pain sites: Base of skull, Temples, Forehead

- S&S:
  - Pain in back of head & upper neck
  - Pressure encircling the head – most intense over eyebrows
  - Mild to moderate, bilateral pain
  - Pain occurs sporadically
  - Pain allows normal function, despite HA

- Care: OTC pain medications, ice pack, massage, heating pad



Key Points to Tension Headache Dx

- Pain = mild to moderate, located on both sides of head
- Pain described as tightness that is NOT throbbing
- Pain is NOT made worse with activity
- No associated symptoms

  (i.e. nausea, vomiting, sound/light sensitivity)
- Mild point tenderness to scalp and neck

Sport & Exercise-Induced Headaches

- Benign Exertional HA:
  - Common in weightlifting or where overexertion occurs
  - Overexertion creates an ↑ in BP causing more blood to flow in the head, manifesting as a throbbing pain
  - Valsalva Maneuver with lifting can ↑ intracranial pressure
  - Stretch or strain of cervical musculature

Sport & Exercise-Induced Headaches

- Swim Goggle HA (Exertional Compression HA):
  - Caused by compression on skull which stimulates nerves under skin causing pain

Sport & Exercise-Induced Headaches

- Diver's HA (Hypercapria HA):
  - Caused by the increase in pressure when below a certain depth
  - Cervical and facial muscles overstrained through stabilizing the mouthpiece
  - Tight mask may compress nerves
  - Dental cavities may be sensitive to barometric pressure change when deep diving

Secondary Headaches

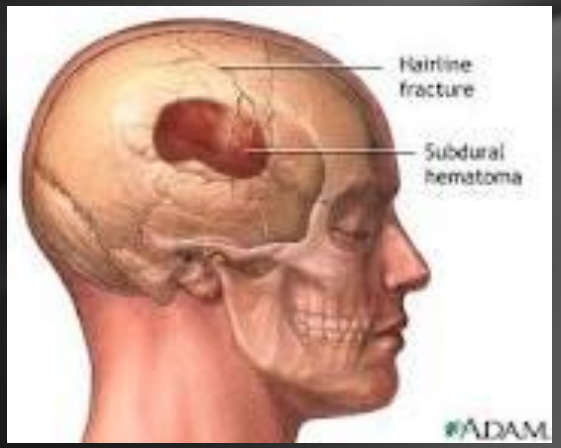
- Due to underlying condition/injury
- Most common to collision sports (i.e. football, hockey)
- Can be life-threatening
- Medical attention required

Secondary Headache

Skull Fracture

- MOI: Hit to the head
  - Ex: Batted baseball hits the head or deflects off glove into head
  - Fx can be linear, comminuted (in pieces), depressed, or basilar
  - Can be life-threatening

- S&S:
  - Severe HA
  - Nausea
  - Pupil changes
  - CSF
  - Battle's Sign



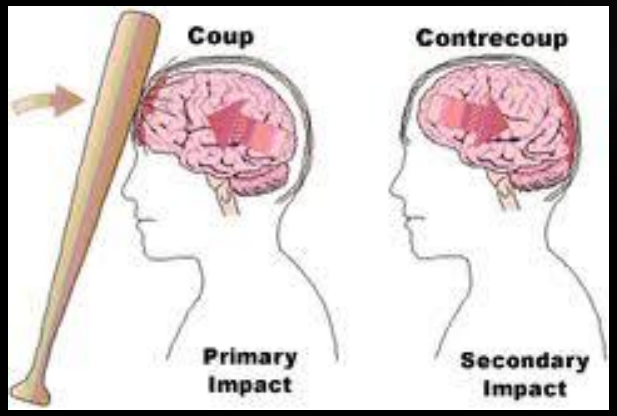
- Care: Call EMS, keep athlete still, cover open wounds with sterile dressing (risk bacterial infection resulting in septic meningitis), do not apply pressure to bleeding, monitor vitals

Secondary Headache

Cerebral Injuries

- Coup-type: Head is still & hit by moving object

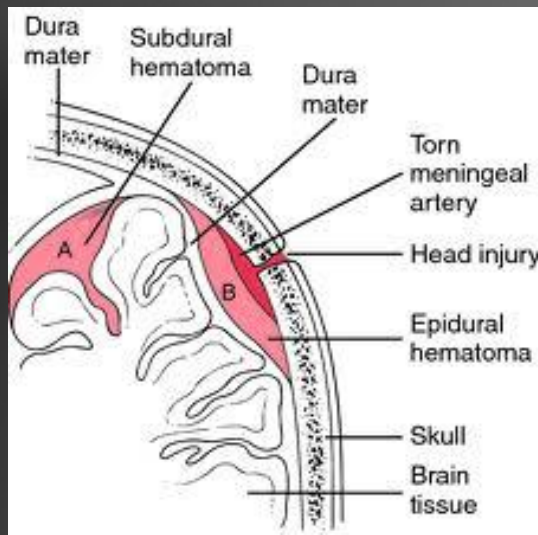
- Countrecoup-type: Head is moving & hits stationary object or slower moving object
  - Can be similar to a whiplash effect as brain continues to move in cranium after impact.



Secondary Headache

Epidural Hematoma

- MOI: Often associated with skull fractures, very rare
- Damages middle meningeal arteries = high pressure
- S&S:
  - Initial LOC then Lucid Interval
  - Within 10-20’ ↓ing mental status from hematoma pressure on brain
  - HA, drowsy, nausea, vomiting, unequal pupils
- Care: Immediate Referral



Secondary Headache

Subdural Hematoma

•3x more frequent than Epidural Hematomas and is the leading cause of death in FB players

•MOI: Hemorrhaging of veins from a hit to the head – can be acute (48-72 hrs) or chronic (days-wks).

•S&S:

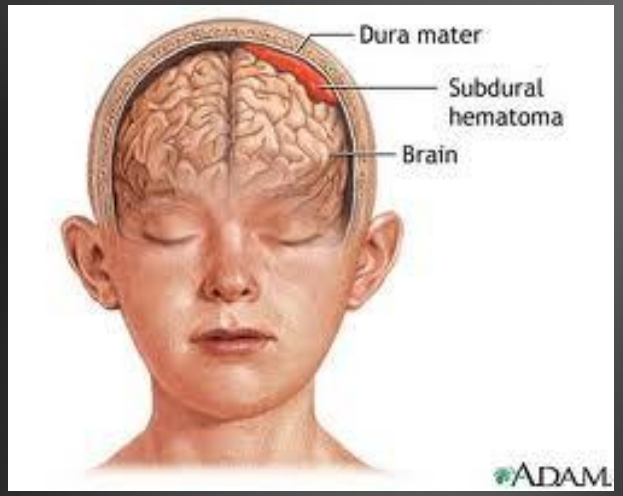
- Severe HA
- Unequal pupils
- Nausea/vomiting
- Confusion

*Emotional changes

*Pulse ↓ing

*Changes in respirations

•Care: Immediate Referral



Secondary Headache

Cerebral Contusion

- MOI: Hit to head: Ex: Hockey puck hits head/head hits ice

- S&S:
  - Vary depending on location or extent of bleeding
  - Often have HA
  - Dizziness
  - Nausea
  - NML neuro exam
  - May be alert or lapse into unconsciousness

- CARE: EMS, monitor vitals, do not give any meds for pain

Secondary Headache

Concussion

TBI from mild to severe

- S&S:
  - HA
  - Visual changes
  - Confusion
  - Poor coordination
  - Memory deficits

*Vacant stare
*Delayed verbal and motor responses
*Slurred speech
*Changes in emotions
*LOC

- CARE: Refer

Secondary Headache

Posttraumatic Headaches

Often confused with concussions

It is a vascular HA from vasospasm and does not usually occur WITH impact but rather, shortly afterward.

- S&S:
  - Recurrent migraine-like HA with sudden onset
  - With or without vision changes (localized area of blindness)
  - Brilliantly colored shimmering lights
  - May have gastrointestinal problems with onset of symptoms

- CARE: Refer, often treated with medications

Secondary Headache

Second Impact Syndrome

- MOI: Returning to play before S&S of first concussion have resolved and then sustaining a second head trauma. The second trauma may be relatively minor or may not even be to the head to cause serious consequences.

- S&S:
  - Appears “stunned” and may even walk of field or to huddle on own power
  - Pressure quickly builds in brain, causing crushing pressure to brain stem
  - Athlete collapses = LOC, coma
  - Pupils dilated
  - Respiratory failure
  - All this occurs within 2-5 minutes from hit to brain stem failure

- CARE: EMS, life support needed

Secondary Headache

Postconcussion Syndrome

- MOI: Past history of concussive event. S&S linger following a concussion (48 hrs to weeks or months)

- S&S:
  - Persistent HAs
  - Blurred vision
  - Dizziness
  - Memory loss
  - *Irritability
  - * ↓d attention span
  - *Poor concentration
  - *Sleep disturbances

- CARE: Treat symptomatically, no activity until all S&S resolved

Secondary Headache

Heat Illnesses – Dehydration Issues

Heat Exhaustion:

- S&S:
  - HA
  - Dizzy
  - Fatigue
  - Weak rapid pulse
  - Cool clammy skin

*Thirsty
*Light-headed
*Profuse sweating
*Low BP

- CARE: Cool place, rapid cooling of body, elevate legs

Secondary Headache

Heat Illnesses – Dehydration Issues

Heat Stroke:

- S&S:
  - HA *Skin is red, hot & dry
  - Confusion *Disorientation
  - Unsteady gait *Core temp ↑ing
  - Shallow breathing
  - Pulse rapid & strong(150-170 bpm) to start then rapid & weak

- CARE: Medical emergency, cool immediately and rapidly, EMS

Secondary Headache

Exertional Hyponatremia

- Low Sodium levels in the blood

- MOI: Drink too much water during endurance exercises; Exercising in heat without replenishing fluid electrolytes (especially Sodium)

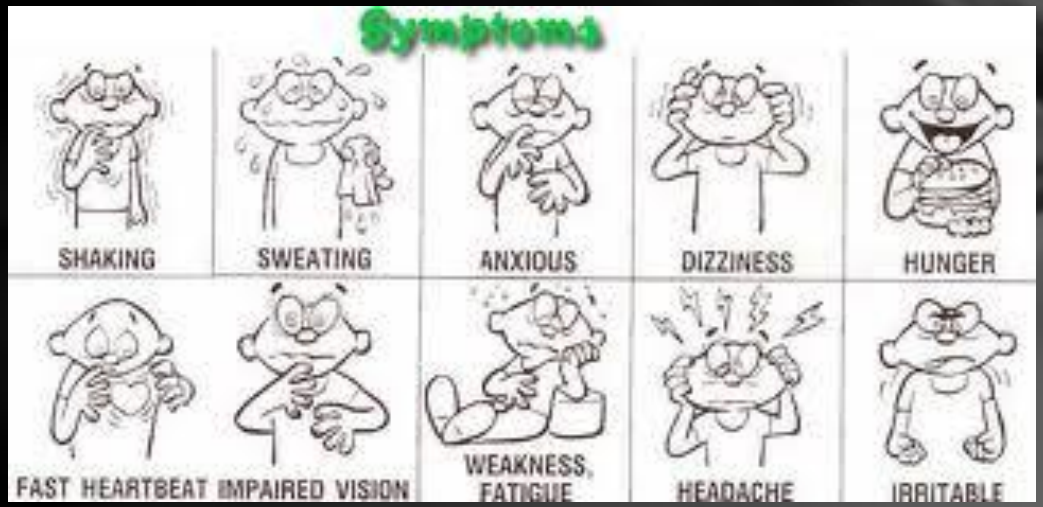
- S&S:
  - Headache
  - Nausea & vomiting
  - Confusion
  - Loss of energy
  - *Fatigue
  - *Restlessness & irritability
  - *Muscle weakness, spasms, cramps
  - *Unconsciousness/Coma

- CARE: Drink electrolyte fluids (sport drinks) – Beware hydration may be contraindicated, EMS

Secondary Headache

Hypoglycemia

Low Blood Sugar



- S&S:
  - HA
  - Dizzy
  - Intense hunger
  - Aggressive behavior
  - Pale, cool, clammy skin
  - Profuse perspiration
  - Tingling of lips & tongue

- CARE: Give sugar. If unconscious or very weak, roll on side and place sugar under tongue

Seek Medical Intervention for Headache (HA)

- If HA is new and unaccustomed
- If change in HA pattern, intensity, frequency
- If HA associated with changes in vision, speech, or behavior
- If HA is associated with:
  - Nausea & vomiting
  - ↑drowsiness
  - Stiff neck
  - Weight loss
  - Fever
- If HA is a result of head trauma

Summary

- HA are one of the most common medical complaints
- Most common HA classifications = Primary & Secondary
- Primary HA are independent of other medical conditions
- Most common Primary HA = Tension HA
- Tension HA treated with OTC medications, ice, massage, heat for pain
- Secondary HA = symptom of an injury or underlying illness
- Seek medical care for HA with new onset, fever, stiff neck, change in behavior, vomiting, weakness, or change in sensations, following trauma

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