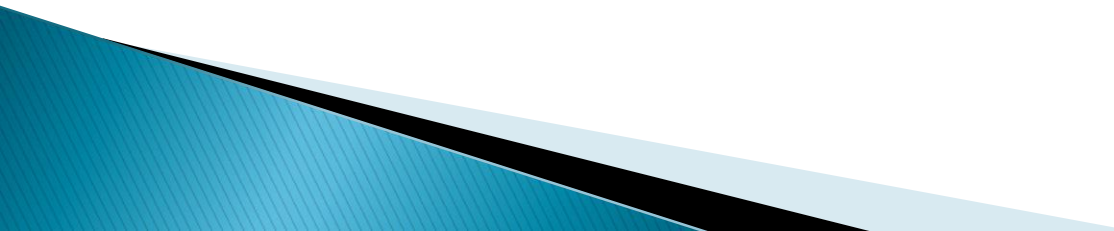


Approach to Headaches

Dr. Shauna Bassel

Headache

- ▶ One of the most common complaints encountered in family and emergency practices
 - ▶ 95% women and 91% men experience headache in a 12 month period
 - ▶ 18% women and 15% men will consult a physician
- 

Pathophysiology

- ▶ Activation of pain sensitive structures in or around brain, skull, face, sinuses or teeth
- ▶ May occur as primary disorder or secondary to another disorder

Classification of headaches

- ▶ Primary
 - Migraine with or without aura
 - Tension headache
 - Cluster headache
 - Other (post-orgasm headache, cold stimulus headache, cough headache, exertional headache)

Classification of headaches

- ▶ **Secondary**
- ▶ **Intracranial** (tumors, chiari type I malformation, CSF leak with low pressure headache, hemorrhage, intracranial hypertension, infections, chemical/noninfectious meningitis, obstructive hydrocephalus, vasculitis, venous sinus thrombosis)
- ▶ **Extracranial** (carotid or vertebral artery dissection, dental disorders, sinusitis, glaucoma)
- ▶ **Systemic** (hypertension, fever, bacteremia, giant cell arteritis, hypercapnia, hypoxia, viremia, viral infections)
- ▶ **Drugs/toxins** (analgesics, caffeine, carbon monoxide, hormones, nitrates, PPIs)

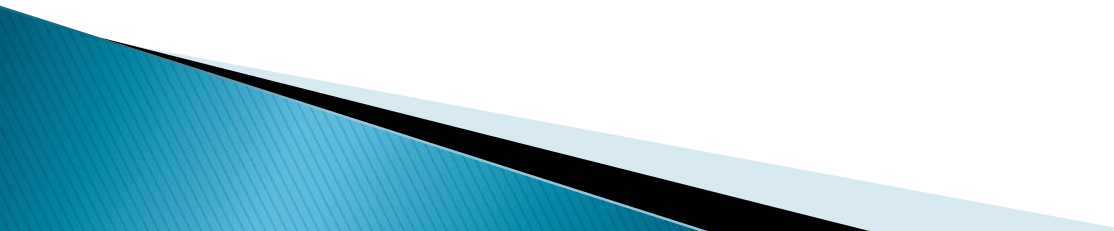
Evaluation

- ▶ Goal is to exclude secondary causes of headache and diagnose primary headache disorders.

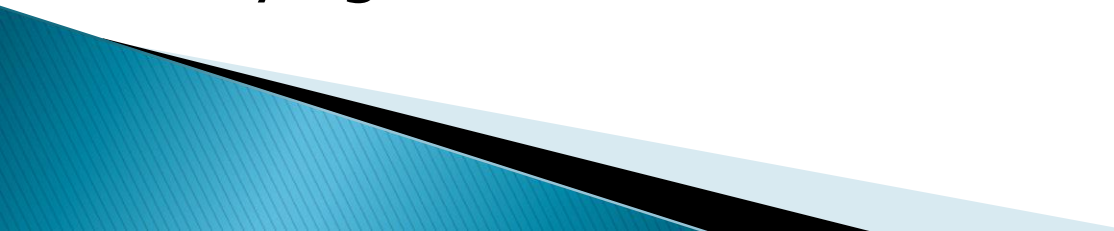
History

- ▶ **History of present illness**
 - Headache location, duration, severity, onset, quality, exacerbating/relieving factors, associated symptoms
 - Response to treatments
- ▶ **Past medical hx**
 - Previous headaches
 - Trauma or strain
 - Drugs/toxins/alcohol
 - Immunosuppressive disorders
 - Hypertension
 - Cancer
 - Dementia
 - Coagulopathy
 - Recent lumbar puncture
- ▶ **Family history**

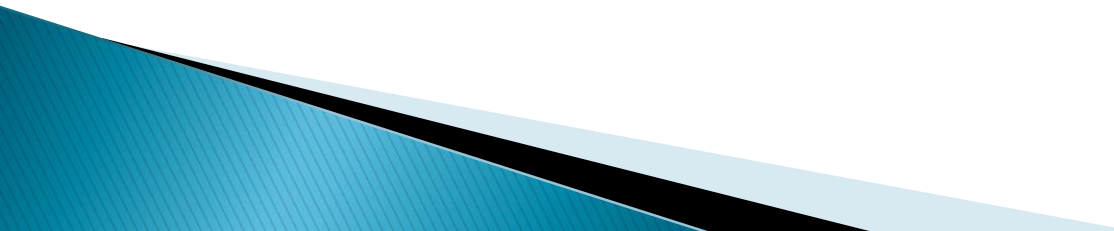
Red flags

- ▶ Onset after age 50
 - ▶ Increasing frequency and severity, change in type or pattern
 - ▶ First or worst headache
 - ▶ Sudden onset
 - ▶ Head trauma
 - ▶ Immunosuppression or cancer
 - ▶ Systemic symptoms
 - ▶ Neurologic symptoms or signs
 - ▶ Papilledema
- 

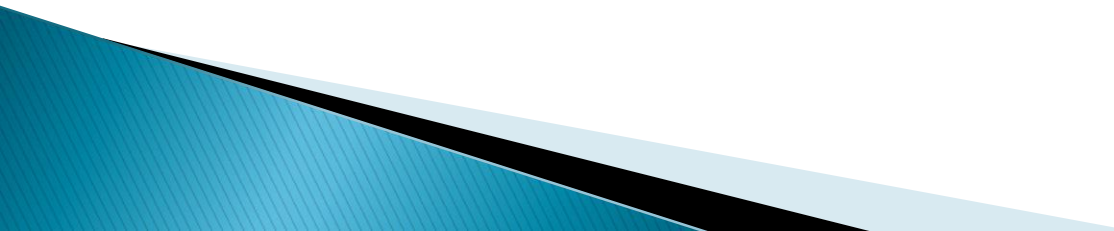
Review of systems

- ▶ Vomiting
 - ▶ Fever
 - ▶ Red eye, visual symptoms
 - ▶ Lacrimation and facial flushing
 - ▶ Rhinorrhea
 - ▶ Pulsatile tinnitus
 - ▶ Preceding aura
 - ▶ Focal neurologic deficits
 - ▶ Seizures
 - ▶ Syncope at onset
 - ▶ Myalgias
- 

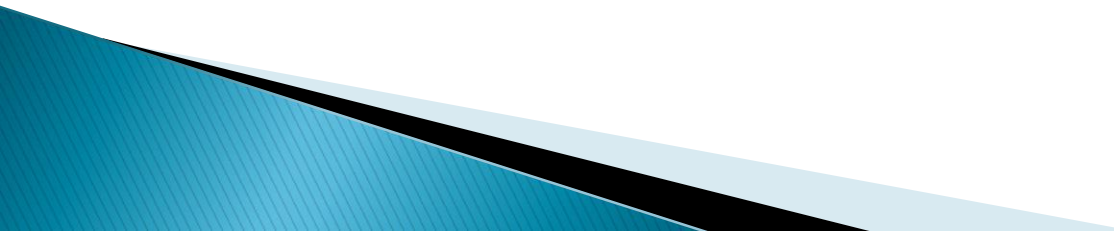
Physical exam

- ▶ Vital signs (BP, HR, temp, sats, RR)
 - ▶ General appearance
 - ▶ Head and neck exam (including fundoscopy, TMJ, cervical/MSK)
 - ▶ Neurologic exam
 - ▶ Cardiovascular exam
- 

Investigations

- ▶ Neuroimaging (CT, MRI)
 - ▶ Lumbar puncture and CSF analysis
 - ▶ Temporal artery biopsy
 - ▶ Tonometry
 - ▶ ESR
- 

Reasons for referral

- ▶ Inadequate level of comfort in diagnosing or treating
 - ▶ Initial diagnosis is in question
 - ▶ No response to treatment
 - ▶ Worsening of condition/disability
 - ▶ Inpatient management required
 - ▶ Intractable or daily headaches
- 

Migraine

▶ Without aura

- At least 5 attacks:
- Lasting 4–72 hours

At least 2:

- Unilateral, pulsating, moderate to severe, aggravated by physical activity

At least 1:

- Nausea/vomiting, photo and phonophobia

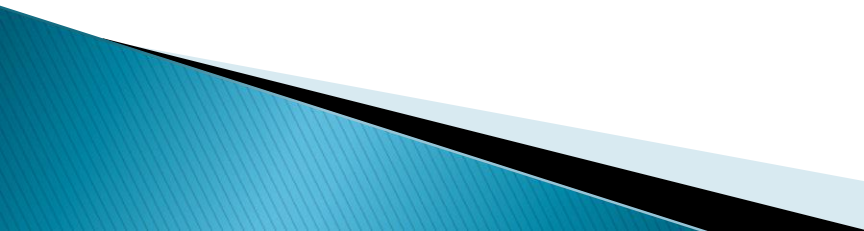
▶ With aura

- At least 2 attacks:

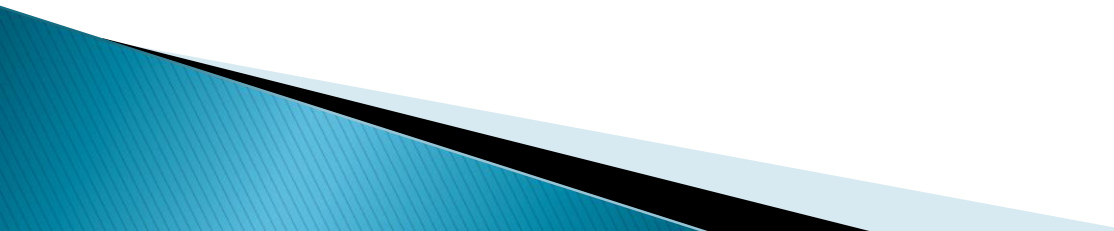
At least 3:

- One or more fully reversible aura symptom
- At least one aura symptom develops gradually over >4 min, or ≥ 2 symptoms occur in succession
- No aura symptom lasts >60 min
- Headache follows aura within 60 min

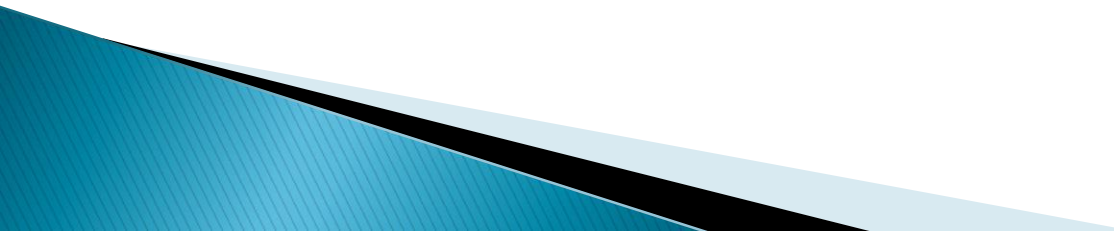
Treatment of migraine

- ▶ Reassurance
 - ▶ Removal of triggers (hormonal, food, stress, sleep, medications, weather, light & odours)
 - ▶ Biofeedback
 - ▶ Acupuncture
 - ▶ Rest
 - ▶ NSAIDs, acetaminophen, codeine
 - ▶ Triptans
 - ▶ Ergots
 - ▶ Prophylactic therapy (anticonvulsants, TCAs, B-blockers, CCB, Botulinum toxin)
- 

Tension headache

- ▶ At least 10 headaches:
 - ▶ Lasting from 30 min to 7 days
 - ▶ Pressing or tightening quality (not pulsating)
 - ▶ Mild to moderate
 - ▶ Bilateral
 - ▶ Not aggravated by physical activity
 - ▶ No nausea/vomiting
 - ▶ No photo or phonophobia or only one
- 

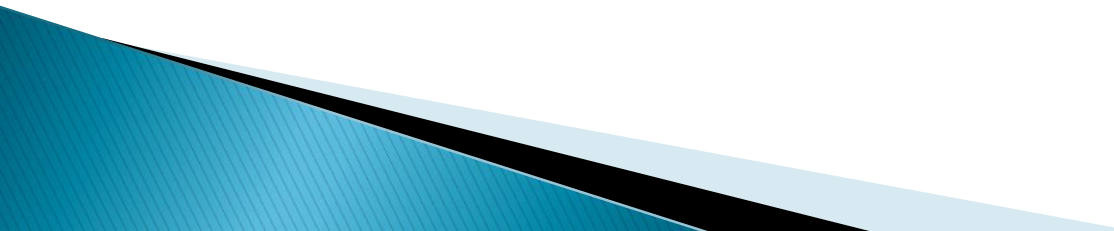
Treatment of tension headache

- ▶ Reassurance
 - ▶ Counseling/education
 - ▶ Heat
 - ▶ Massage, stretching, posture
 - ▶ NSAIDs, acetaminophen
 - ▶ TCAs
 - ▶ Trigger point injections
- 

Cluster headache

- ▶ 5 attacks:
- ▶ Severe unilateral orbital, supraorbital and/or temporal
- ▶ Lasting 15–180 min

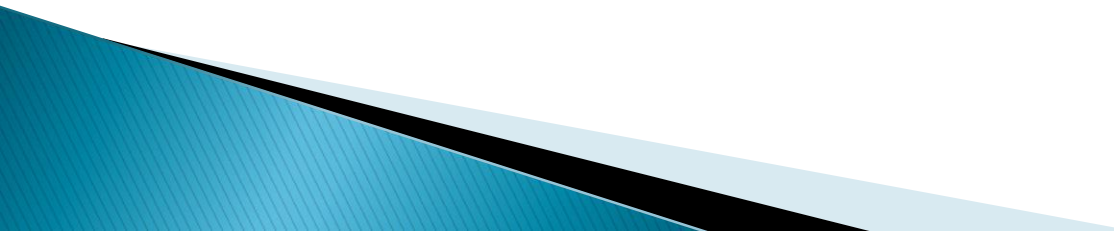
With at least one:

- ▶ Conjunctival injection
 - ▶ Lacrimation
 - ▶ Nasal congestion
 - ▶ Rhinorrhea
 - ▶ Forehead and facial sweating
 - ▶ Miosis
 - ▶ Ptosis
 - ▶ Eyelid edema
 - ▶ Frequency 1 attack q2day to 8 attack per day
- 

Treatment of cluster headache

- ▶ Triptans
- ▶ Ergots
- ▶ Prophylaxis (CCBs, lithium, prednisone)

Treatment of exertional H/A

- ▶ Pre-exertion treatment 30–60mins prior:
 - ▶ Indomethacin/NSAID
 - ▶ Beta-blocker
 - ▶ Triptan
- 

Brain Injury: Canadian CT Head Rule

High Risk for Neurological Intervention

- ▶ GCS of < 15 at 2 h after injury
- ▶ Suspected open or depressed skull #
- ▶ Any sign of basal skull # (raccoon eyes, CNS otorrhea/rhinorrhea, hemotympanum)
- ▶ Vomiting ≥ 2 episodes
- ▶ Age ≥ 65 years

Brain Injury: Canadian CT Head Rule (Cont')

Medium Risk (for Brain Injury on CT)

- ▶ Amnesia of the trauma or before impact ≥ 30 min
- ▶ Dangerous mechanism (pedestrian struck by vehicle, occupant ejected, fall from elevation ≥ 3 ft or 5 stairs)

Not applicable if: non-trauma, GCS < 13, age < 16, coumadin or bleeding d/o, obvious open skull fracture

