**Problem Assisted Learning (PAL)**

**Headache**

**Objectives:**

* + Describe an approach to the classification of headache
  + Describe the key diagnostic criteria, signs and symptoms, and management (pharmacological and non-pharmacological) of the common causes of primary headache (migraine, tension, cluster)
  + Based on the knowledge of appropriate history and physical examination skills, determine whether a patient is suffering from a benign headache or a potentially serious or fatal headache
  + Demonstrate knowledge of headache ‘red flags’ and how these affect diagnosis and management
  + Identify those patients with headache who require referral to a specialist and/or cerebral imaging

**Developing an approach to headache:**

Students are encouraged to determine an approach to the patient with headache including:

* Red Flags: severe headache, morning headaches, headaches with night awakening, headaches with neurological symptoms and/or deficits, headaches starting over the age of 50 years.
* History: Obtain history of location, radiation, quality, severity, relieving and aggravating factors and triggers. Obtain history of any previous headache with presence or absence of aura. Obtain smoking history, medication and drug history, use of contraceptives, menstrual history, history of stress, work environment
* Physical Exam: vital signs, general appearance, neck rigidity, full neurological exam, motor exam, mental status.
* Appropriate investigations – none unless red flags
* Age, sex, history and physical exam appropriate differential diagnosis – key diagnoses to consider include classical migraine; tension headache; cluster headache; tumor (benign or malignant); subarachnoid hemorrhage, headache as a somatic presentation of depression; temporal arteritis; recovery headache; sinus headache; meningitis, and iatrogenic headache secondary to inappropriate use of over-the-counter oral analgesics.

**Clinical scenarios:**

Details of the clinical case will emerge as the students as the facilitator appropriate questions about the patient’s headache.

**Case #1**

A 35-year-old female patient presents for periodic health exam. During the examination, she complains of headaches. These are bilateral, band-like, worse with stress but no other clear exacerbating features. There are no red flags or features of migraine or cluster. Consider tension headache. Demonstrate awareness and management of medication rebound headache.

**Case #2**

A 35-year-old female patient presents for periodic health exam. She complains of headaches. These are bilateral, band-like, worse with menstrual periods but no other clear exacerbating features. There are no red flags or features of migraine or cluster. Consider tension headache, menstrual migraine (or premenstrual migraine), consider role of OCP, smoking, risks/benefits, management.

**Case #3**

A 35-year-old female patient presents for periodic health exam. During the examination, she complains of headaches. These are unilateral, throbbing, associated with photophobia. There are no red flags. Consider migraine with and without aura or prodrome, diagnostic criteria, acute and prophylactic management.

**Case #4**

A 72-year-old man presents with recent onset headache. These are unilateral. There is associated change in vision. Possible history of PMR. Possible temporal tenderness, temporal rash. Consider temporal arteritis, role of steroids and biopsy. Consider in the differential malignancy.

**Case #5**

A 12-year-old boy presents with migraine. How does this affect management?

**Case #6**

A 21-year-old hockey player presents with new onset a headache. On questioning, this began after sustaining a head injury (with or without loss of consciousness) during play yesterday. Students should be aware of signs and symptoms of acquired brain injury, when imaging is recommended, and recommendations for return to play.

**Case #7**

A 17-year-old girl presents with 24 hours of headache. These are becoming more severe, associated with fever and photophobia. Students should know signs of meningeal irritation and to ask about rash.

**Case #8**

A 42-year-old man presents with a 2 week history of headache. He is HIV positive. Students should be aware of risk of cerebral infection and malignancy in this patient population.

**Case #9**

A 54-year-old man presents with sudden onset headache. This was exertional in onset, the worst ever. Consider subarachnoid hemorrhage and be aware of importance/timing of CT and lumbar puncture.

**Resources:**

[Consensus for headaches](http://www.cmaj.ca/cgi/reprint/159/1/47.pdf) or www.cmaj.ca/cgi/reprint/159/1/47.pdf

Clinch, C. Evaluation of Acute Headache in Adults. *Am Fam Physician.* 2001 Feb 15;63(4):685-693.

[CT head rules](http://www.ohri.ca/emerg/cdr/cthead_formats.html) http://www.ohri.ca/emerg/cdr/cthead\_formats.html

Levine, Z. Mild traumatic brain injury Part 1: Determining the need to scan. *Can Fam Physician* Vol. 56, No. 4, April 2010, pp.346 – 349.

Levine, Z. Mild traumatic brain injury: Part 2: Concussion management. *Can Fam Physician*. Vol. 56, No. 7, July 2010, pp.658 – 662.

Pringsheim et al. Prophylaxis of migraine headache. *CMAJ.*2010; 182: E269-E276.

Schuurmans, A, van Weel, C. Pharmacologic treatment of migraine. Comparison of guidelines. *Can Fam Physician*, 2005 Jun; 51: 838 - 843.