**Headache**

**Indications for Imaging, Referral and Hospitalization**

**CLINICAL INDICATIONS FOR IMAGING**

* CT scan, noncontrast
	+ Indicated for ANY ONE of the following
		- Symptoms suggesting an ominous headache with a possibly more serious, underlying cause, as indicated by ANY ONE of the following:
			* First or worst headache of the patient’s life, particularly if the onset was rapid
			* Suspected subarachnoid hemorrhage when ANY ONE of the following is present (without contrast):
				+ Abrupt onset of severe headache
				+ Headaches during exertion or sexual intercourse
				+ Warning headache, i.e., a recent unusually severe headache with abrupt onset
			* A change in the frequency, severity, or clinical features of the headache attack from what the patient has commonly experienced
			* Onset of headache after 50 years of age
			* A new or progressive headache that persists for days
			* Precipitation of head pain with coughing, sneezing, or bending down
			* Systemic symptoms such as myalgia, fever, malaise, weight loss, scalp tenderness, or jaw claudication
			* Neurologic abnormalities
				+ Focal neurologic symptoms
				+ Abnormalities on neurologic examination
				+ Confusion
				+ Any impairment in the level of consciousness
			* Seizure disorder
			* History of cancer
* Magnetic resonance imaging
	+ Indicated for ANY ONE of the following:
		- Symptoms suggesting an ominous headache with a possibly more serious, underlying cause, as indicated by ANY ONE of the following:
			* First or worst headache of the patient’s life, particularly if the onset was rapid
			* A change in the frequency, severity, or clinical features of the headache attack from what the patient has commonly experienced
			* Onset of headache after 50 years of age
			* A new or progressive headache that persists for days
			* Precipitation of head pain with coughing, sneezing or bending down
			* Systemic symptoms such as myalgia, fever, malaise, weight loss, scalp tenderness, or jaw claudication
			* ANY ONE of the following neurologic abnormalities:
				+ Focal neurologic symptoms
				+ Abnormalities on neurologic examination
				+ Confusion
				+ Any impairment in the level of consciousness
		- Seizure disorder
		- Constitutional symptoms: fever, weight loss, or cough
		- History of cancer
		- HIV positive patient, generally as preferred test

(NOTE that neuroimaging is usually not warranted in patients with migraine and normal neurologic examination).

**CLINICAL INDICATIONS FOR REFERRAL**

* Refer to neurologist for ANY ONE of the following:
	+ Diagnosis is unclear, atypical presentation
	+ Unsatisfactory response to treatment, assistance needed
	+ Focal neurologic findings or altered mental status
	+ Change in headache pattern or neuropathic headache
	+ Sudden onset of severe headache, with no previous history of headaches, agc<10 or >50
	+ Abnormal findings on CT scan or magnetic resonance imaging, congenital disorder, hydrocephalus, abnormal intracranial pressure

**CLINICAL INDICATIONS FOR EMERGENCY EVALUATION**

* Emergency evaluation is indicated for ANY ONE of the following:
	+ Suspected organic causes or findings requiring emergency evaluation for diagnosis and therapeutic intervention, including ANY ONE of the following:
		- Subarachnoid or intracranial hemorrhage
		- Unruptured but threatening vascular malformation
		- Venous sinus thrombosis
		- Stroke or seizure
		- Increased intracranial pressure/abnormal funduscopic exam
		- Encephalitis, meningitis, brain abscess, space occupying lesion on image
		- Toxic or metabolic decompensation
		- Head trauma, HIV diagnosis, immunosuppression, cancer history
		- Malignant hypertension
		- Acute neurologic signs
		- Significant and persistent mental status change
	+ Severe headache, including rebound headache, with intractable nausea and vomiting unresponsive to outpatient interventions, “thunderclap” headache, suggestion of giant cell arteritis, association with postural change or “worst headache of life:.

**Reference**

Milliman Care Guidelines, “Ambulatory Care”, 23rd Edition, 2/27/2019.