

Headaches

Mechanism: Headache pain is generated by irritation of pain-sensitive craniocervical structures (arteries, veins, meninges, cranial nerves V/VII/IX/X, upper cervical roots). The main task is to distinguish primary (migraine, tension-type, TACs) from secondary headache (vascular, infectious, neoplastic, pressure/volume derangements). In the emergency department, the distribution of both forms is roughly 50:50.

Syndromes:

Migraine: throbbing, moderate-severe, on half of the head, nausea, photo-/phonophobia, ± aura (4-72 h).

Tension-type: pressure, frontotemporal bilateral, mild-moderate (30 min - 7 days).

Cluster headache: severe unilateral orbital/temporal, pronounced autonomic signs, restlessness (15 min - 3 h, up to 8x/day).

Cervicogenic: pain predominantly on the vertex and occipitally accentuated by head movement + lightheadedness ("non-rotational dizziness / weakness").

Red flags:

- Fever, weight loss → meningoencephalitis, systemic/inflammatory disease.
- History of neoplasm → metastases/intracranial tumor.
- Neurologic deficit or decreased level of consciousness → stroke, intracranial mass, CNS infection.
- Abrupt onset (thunderclap) → subarachnoid hemorrhage (> 40% pretest probability of serious pathology) - emergent CT ± lumbar puncture.
- Older age (> 50 years, onset after 65) → giant cell arteritis, tumor.
- Pattern change / progressive / recent-onset new headache → intracranial mass.
- Positional headache → intracranial hypertension or hypotension.
- Precipitated by Valsalva maneuver (cough, sneeze, exertion) → posterior fossa lesion, SAH.
- Eye pain/injection, halos, blurred vision → acute glaucoma.

Examination:

- 1) History regarding pain character, its distribution, duration, and triggers, deciding whether it is a primary vs secondary headache.
- 2) Supplementary imaging if it is a new, unrecognized headache in the acute phase - noncontrast head CT (CTA if carotid dissection is suspected, CT venography if venous sinus thrombosis is suspected).
- 3) Laboratory testing (ESR, CRP), lumbar puncture (neuroinfection, spectrometry, opening pressure measurement).

Treatment (by type):

Migraine: acutely NSAIDs, triptans, gepants, prophylaxis.

Tension-type: NSAIDs; prevention: amitriptyline.

Cluster: acutely O₂, triptans; prevention: verapamil, steroids.

Onset	Children	Adults
Acute	migraine, febrile infections, sinusitis; posterior fossa tumor, meningitis, hemorrhage	migraine (14%), cluster; SAH (subarachnoid hemorrhage), meningitis, encephalitis, acute glaucoma, venous sinus thrombosis; posttraumatic
Subacute	tension-type headaches, sinusitis, refractive errors; subacute tumors, idiopathic intracranial hypertension	tension-type headaches (~25-38%), medication-overuse headache, idiopathic intracranial hypertension, giant cell arteritis (>50 years), intracranial hypotension, tumor
Chronic	chronic migraine, tension-type, genetic syndromes	chronic migraine, chronic tension-type, medication-overuse headache, idiopathic intracranial hypertension, intracranial hypotension, tumor