



HEADACHES

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Outline

- The burden of Headaches
- Different types of Headaches
- What causes a Headache?
- Treatment and prevention of Headaches
- Question and Answer

The burden of Headaches

Headache & Migraine Population



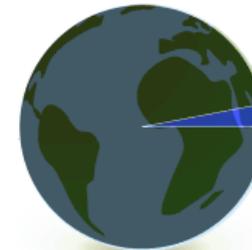
**99% of the world population
will get a headache sometime.
7.1 billion people**

**90% will get a headache
this year.
6.45 billion people**



**About 16-17% will have
a migraine attack sometime.
1.18 billion people**

**About 3% have
chronic migraine
(15+ headache days/month)
215 million people**



 Is headache and migraine a serious problem? You decide.
HeadacheandMigraineNews.com

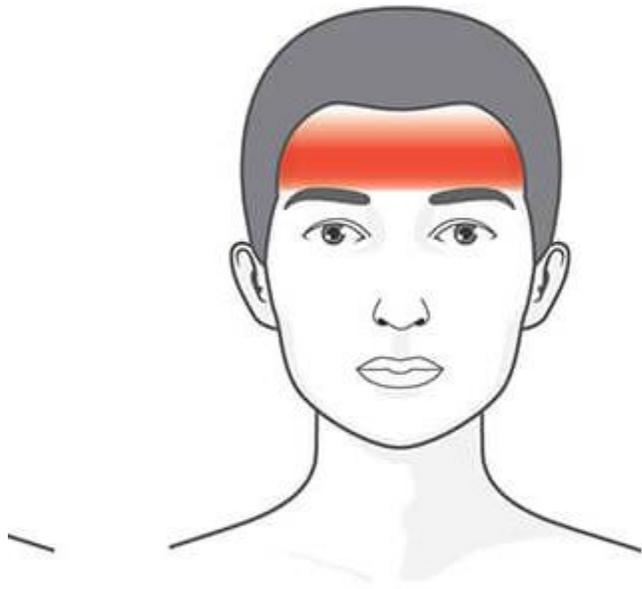
The Burden of Headaches



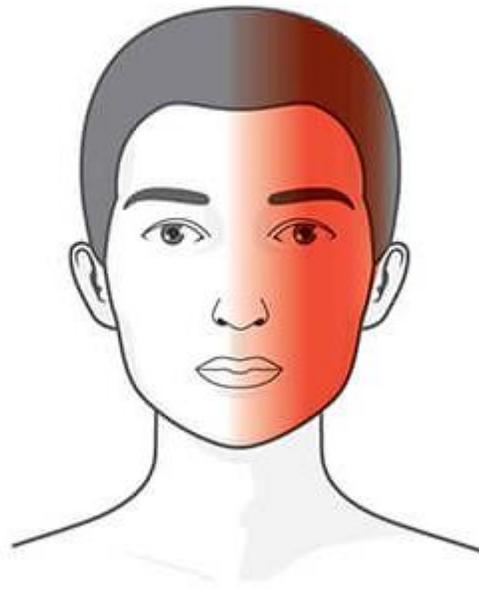
Prevalence: The Impact of Migraine

- Currently 28 million migraine sufferers age 12+ in the United States
 - 21 million females
 - 7 million males
- Migraine prevalence peaks in the 25-55 age group
 - 25% of women age 18-49 suffer from migraine
- 1 in 4 households has at least 1 migraine sufferer

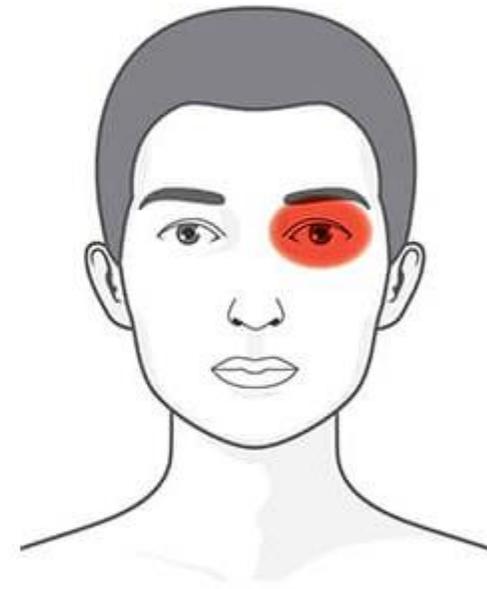
HEADACHE TYPES



Tension

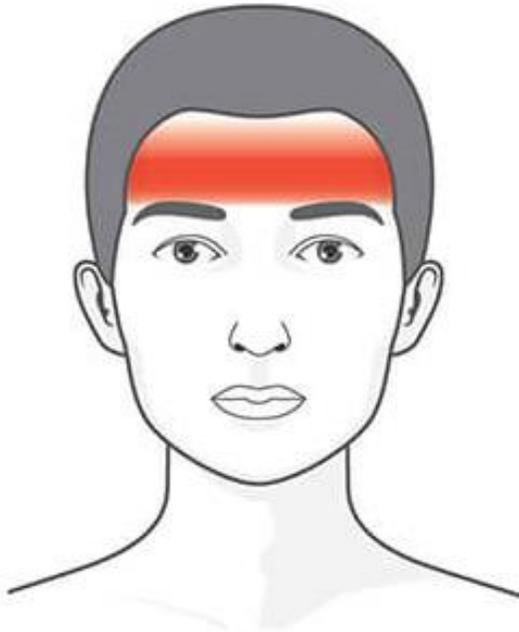


Migraine



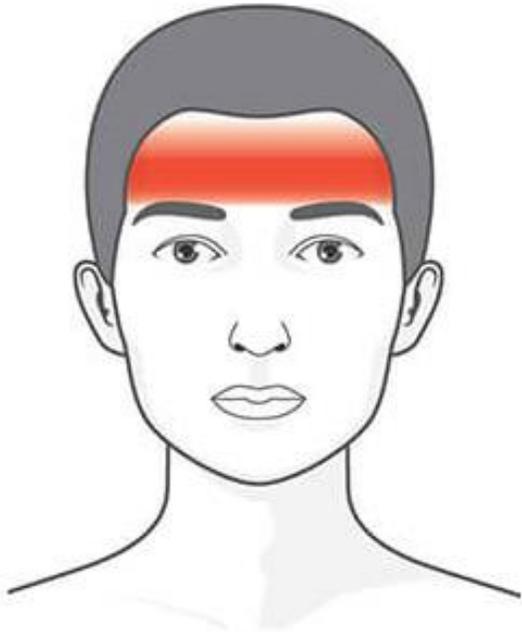
Cluster

Tension Type Headache



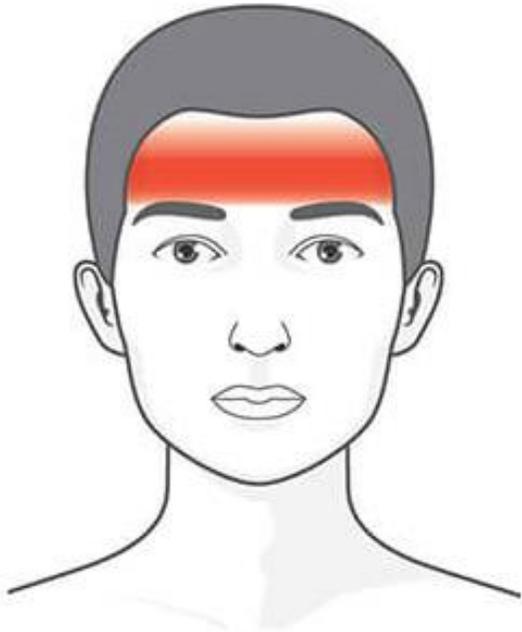
- Most prevalent headache in the general population (86%)
- Second most prevalent disorder in the world
- Dull, achy headache affecting both sides of the head
 - Pressure, fullness, band-like, head feels large, heavy weight on head or shoulders
 - Muscle tenderness

Tension Type Headache



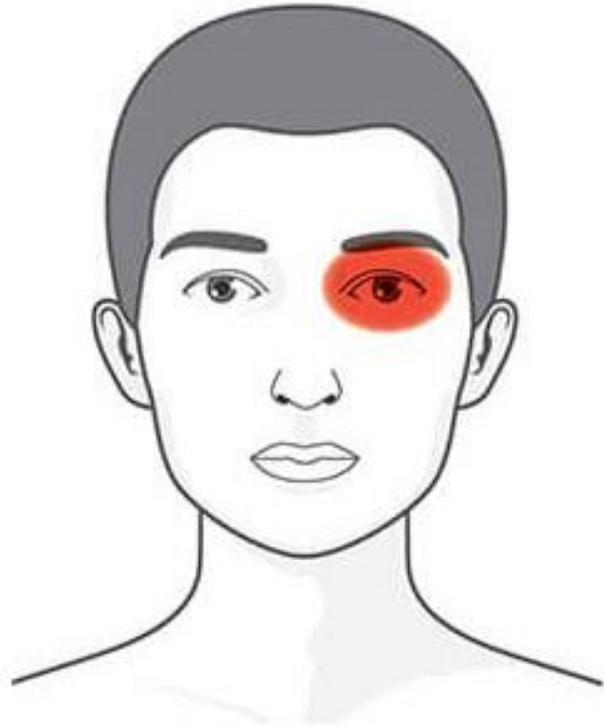
- Mild to moderate in intensity
- No associated neurologic symptoms
- Can be infrequent or chronic (≥ 15 days/month)
- Women > Men

Tension Type Headache

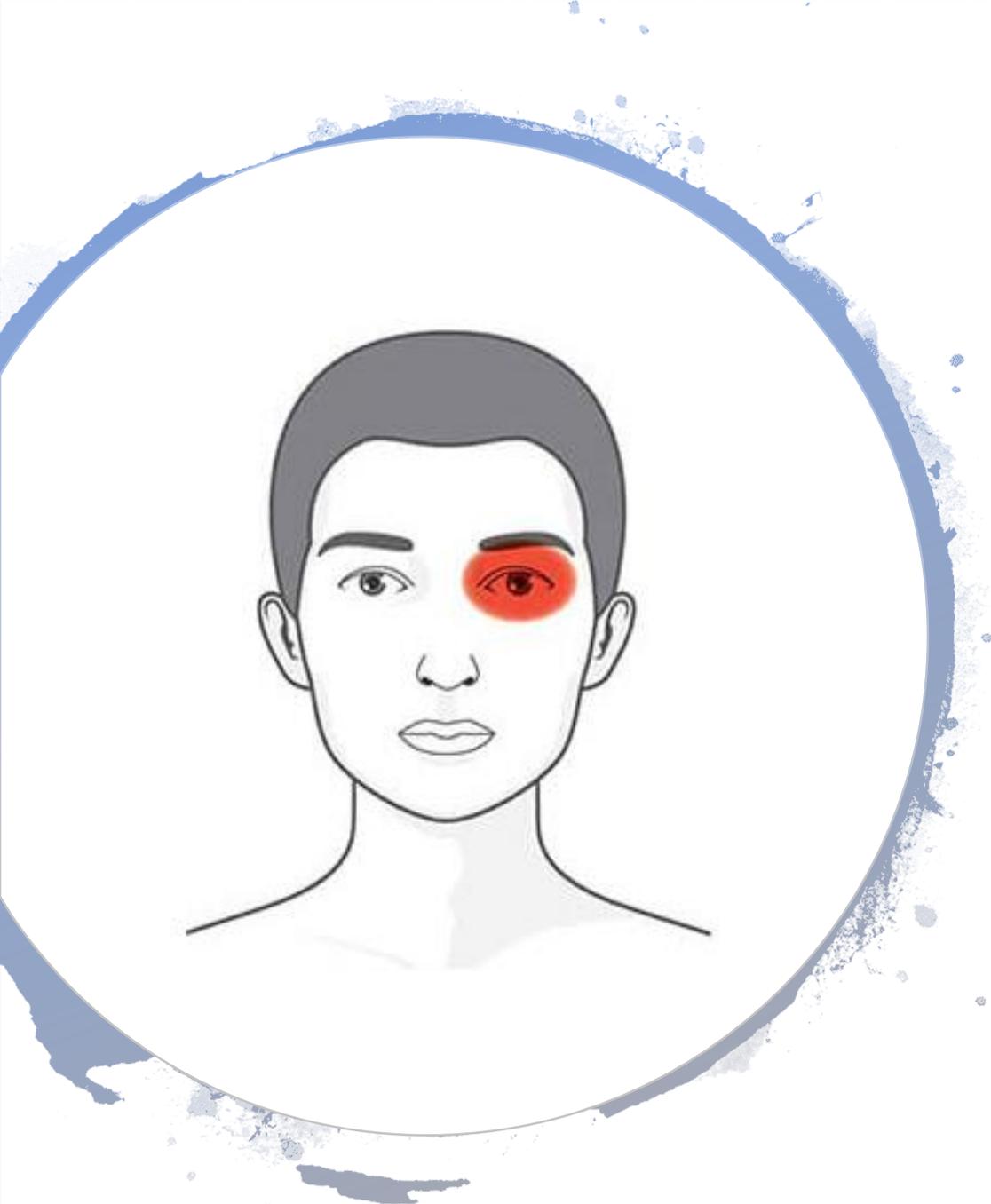


- Thought to be due to heightened sensitivity of pain pathways in the nervous system
- Most commonly precipitated by stress or mental tension

Cluster Headache

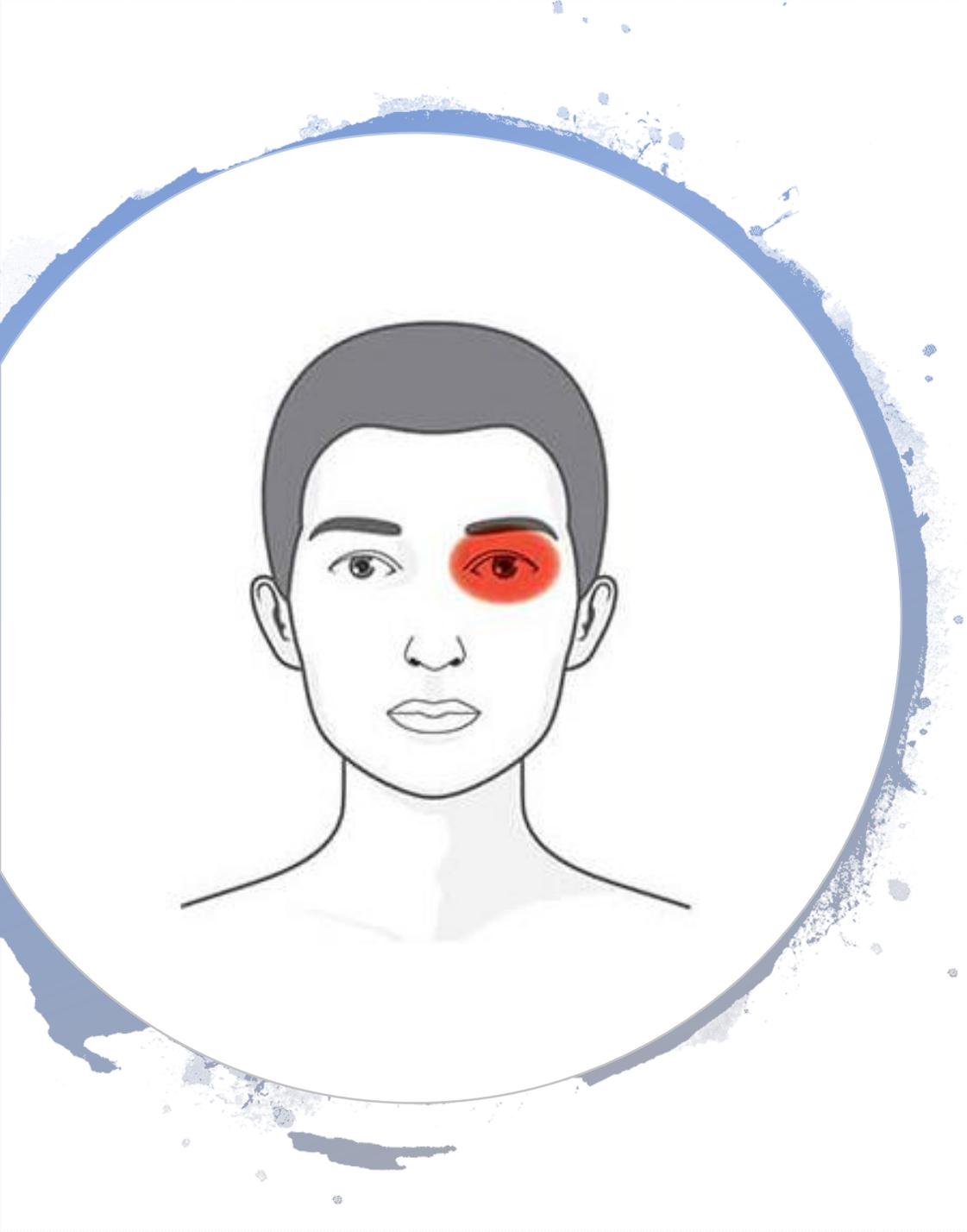


- Uncommon, but severe
- Affects <1% of the population
- Men>Women
- Risk factors: genetic predisposition and smoking
- Due to activation of pain pathways in the Trigeminal system



Cluster Headache

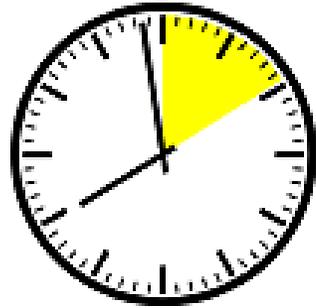
- Brief attacks of severe pain in or around one eye or temple
- Sharp, stabbing, throbbing
- Affects one side of the head, may shift sides in 15% of patients
- Attacks can last 15-180 mins, occurs in clusters
- Occurs daily (or multiple times/day) for an average of 6-12 weeks, followed by periods of remission



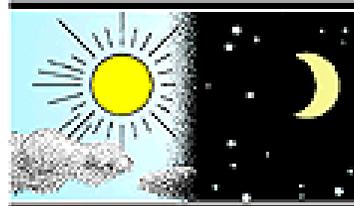
Cluster Headache

- Excruciating pain, has been known to trigger suicides
- Restlessness and agitation
- Brain scan recommended at initial diagnosis

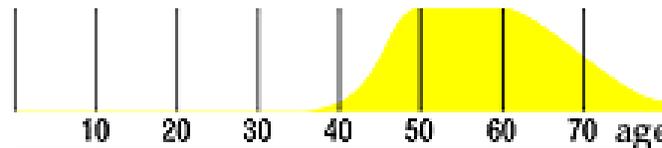
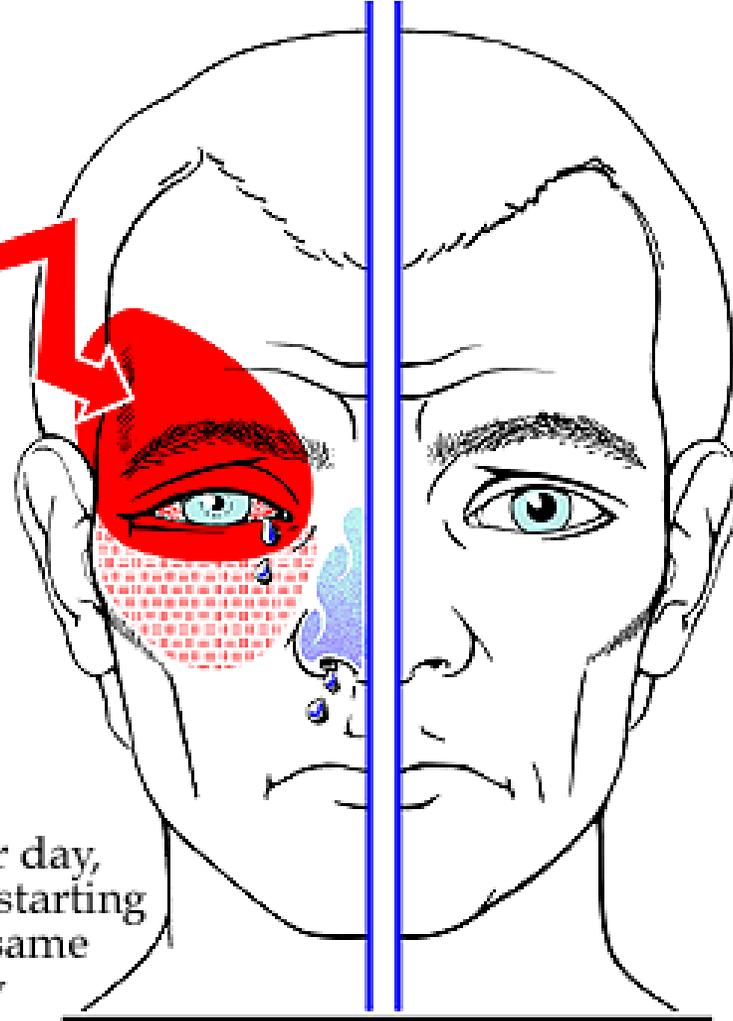
Maximum in 20 minutes



Lasting for 1 to 2 hrs,
of extreme intensity



1 to 3 times per day,
often at night, starting
usually at the same
hours each day





Migraine Headache

- Most common reason for neurological evaluation in the office setting
- Affects a large segment of the population:
 - 1 Billion worldwide
 - 1 in 4 homes
 - 1 in 5 women
 - 1 in 16 men
 - 1 in 11 children
- Most common at age 30-39



Migraine Headache

- Has significant genetic component, affecting multiple genes
 - 1 parent: 50% chance
 - Both parents: 75% chance
- Perfect storm: genetic predisposition + environmental triggers
- Brain scan typically not recommended



Migraine Headache

- Recurrent attacks, involves a cascade of events that occur over several hours to days
- 4 phases: prodrome, aura, headache, postdrome
- Usually without aura

PRODROME

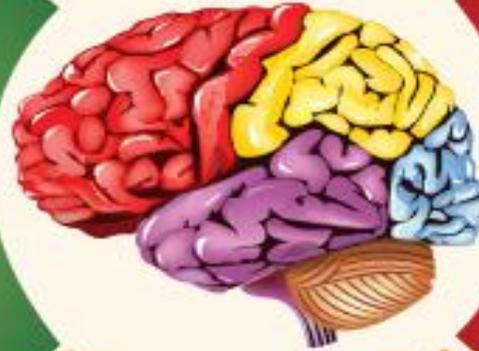
▲▲▲ 77%, 24-48 hrs before
headache

Light sensitivity, sound sensitivity,
nausea, fatigue, yawning, increased
urination, cravings, mood change,
neck pain

Fatigue,
difficulty concentrating,
weakness, dizziness,

POSTDROME

lightheadedness,
decreased energy



Change in vision such
as seeing spots, stars,
lines, flashing lights,
zigzag lines, or waves



AURA

Numbness and tingling

Difficulty speaking or
understanding others

Throbbing pain on one
or both sides of the head

Worse with movement

Nausea, vomiting, sensitivity to light, sound
and odors



HEADACHE

- Sudden head movement may bring back head pain
- Feel drained and exhausted
- Some feel elated or euphoric

- Usually, aura and headache occur together at the same time
- Develops gradually, completely reversible
- May mimic a stroke if sudden onset

Migraine Triggers

ENVIRONMENTAL 84.4%

STRESS 77%

LACK OF SLEEP 74.3%

FOOD/DRINKS 62.6%

MISSING MEALS 59.4%

FRAGRANCE 58.9%

HORMONES 53.2%

ALCOHOL/DRUGS 40.2%

PHYSICAL ACTIVITY 39.7%

OTHER 21.5%

SEXUAL ACTIVITY 9.6%



Don't mind the scattered thoughts, blank stares, or the pharmacy in my purse.

I'm a
MIGRAINE
WARRIOR.

POSTED BY THE
FIGHT LIKE A GIRL CLUB™

PERSONAL USE ONLY



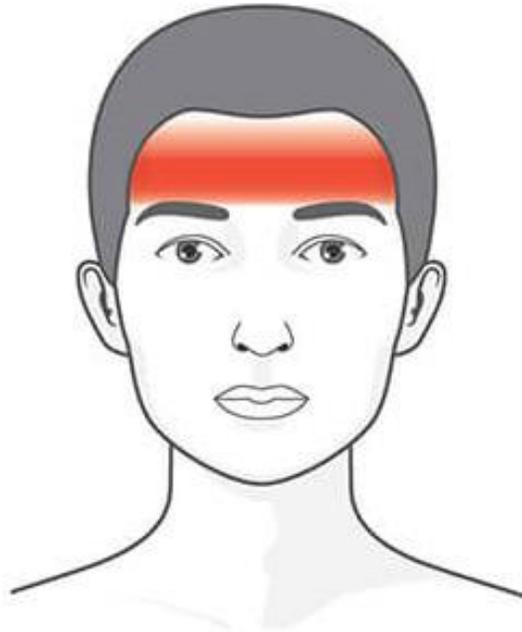
Prevention
and
Treatment

Types and Goals of Treatment

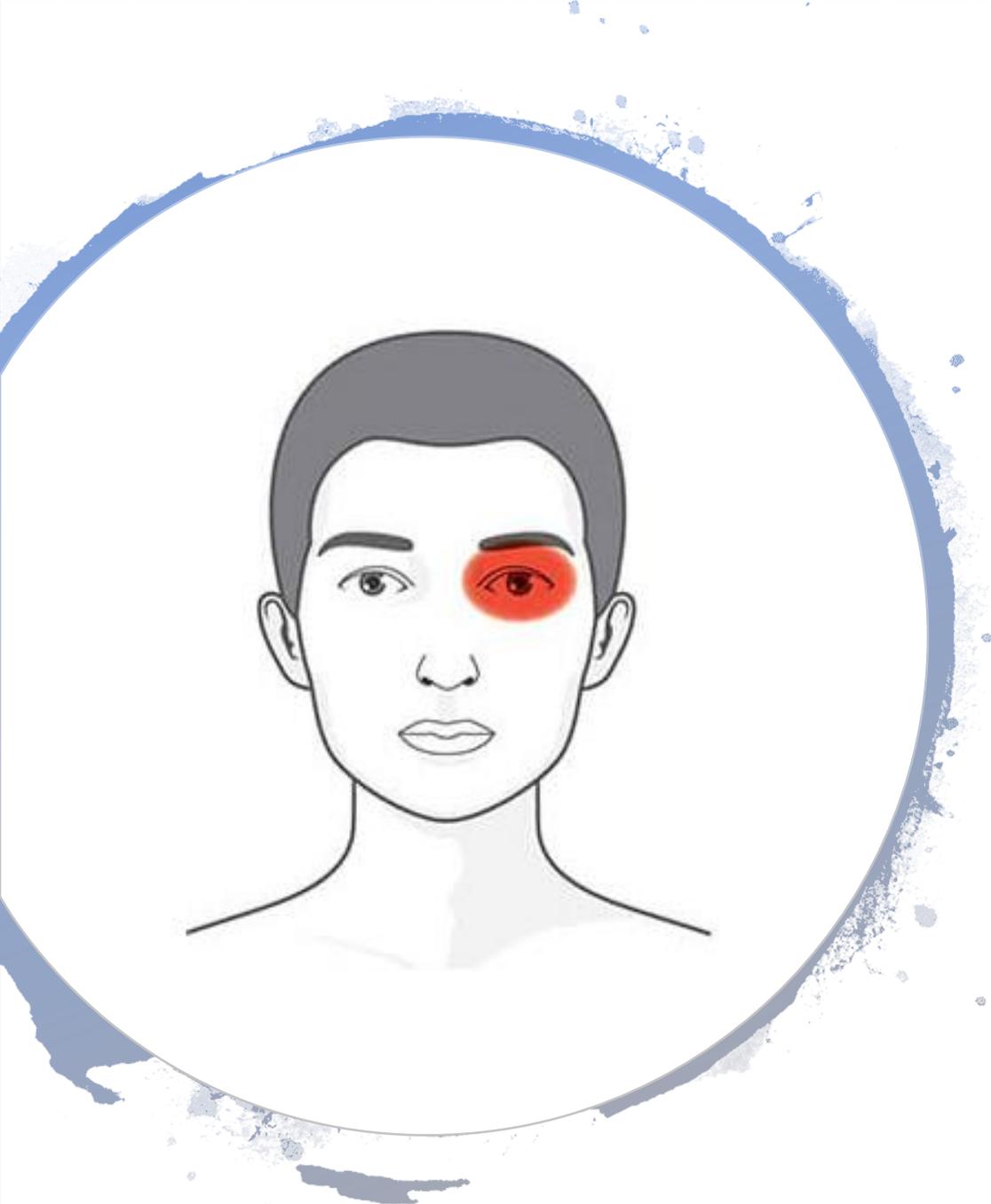




Tension Type Headache



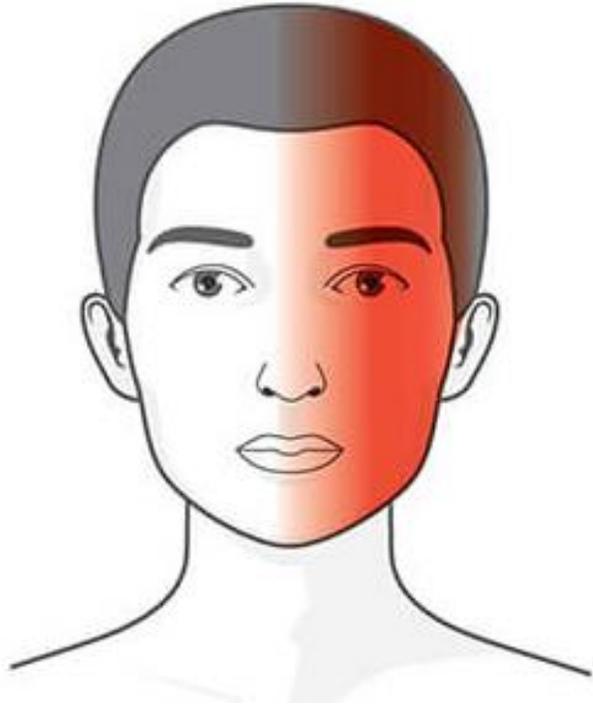
- Preventive:
 - Amitriptyline/Nortriptyline
 - Mirtazapine
 - Venlafaxine
 - Topiramate
 - Gabapentin
 - Tizanidine
- Abortive/Rescue:
 - Aspirin 650-1000 mg
 - Acetaminophen/Tylenol 1000 mg
 - Ibuprofen/Motrin 200-400 mg
 - Naproxen/Aleve/Naprosyn 220-550 mg



Cluster Headache

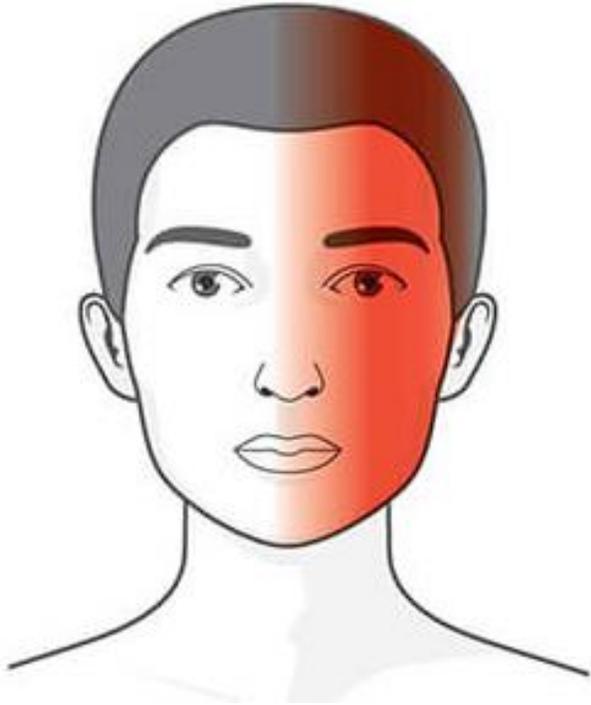
- Abortive:
 - High flow Oxygen – nonrebreathing mask
 - Triptans: Sumatriptan and Zolmitriptan
 - Ergotamine
 - SPG block
- Preventive:
 - Verapamil 240-320 mg– drug of choice
 - Prednisone/dexamethasone
 - Lithium 300 mg
 - Topiramate- adjunct to verapamil
 - Occipital nerve blocks, SPG blocks

Migraine Headache



- Abortive:
 - More effective if given EARLY
 - Large single dose better than multiple small doses
 - Analgesics for milder migraines, others for more severe headaches
 - Nausea/vomiting: nasal spray or injection, in conjunction with anti-nausea medication

Migraine Headache

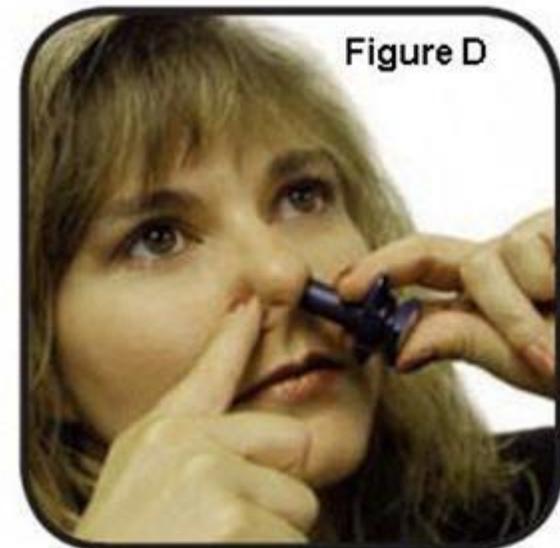


- Mild to Moderate attacks:
 - Analgesics (Tylenol, ibuprofen, etc): effective, less expensive, less side effects
 - Can combine with anti-nausea meds

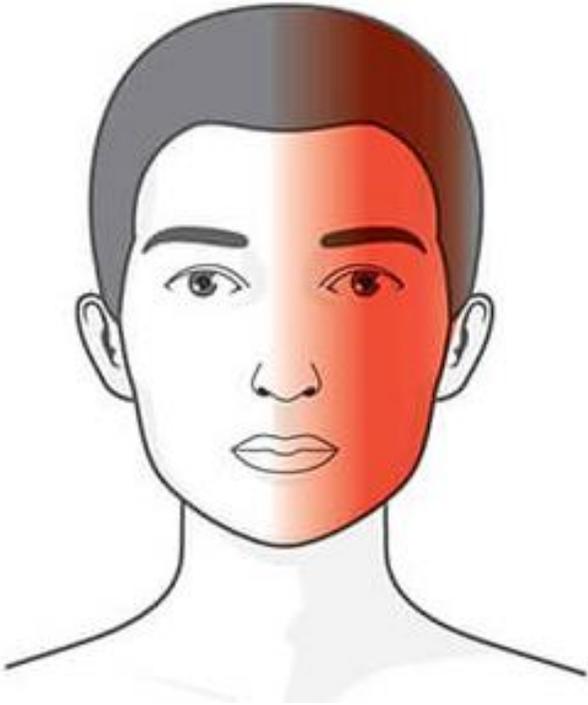


Migraine Headache

- Moderate to Severe Attacks: Migraine specific agents
 - Sumatriptan/Imitrex: oral, nasal, injectable
 - Rizatriptan/Maxalt: disintegrating tablet
 - Zolmitriptan/Zomig: oral and nasal
 - Almotriptan/Axert
 - Frovatriptan/Frova
 - Naratriptan/Amerge
 - Eletriptan/Relpax
 - Dihydroergotamine (DHE): nasal or injectable
- Use in combination with anti-nausea medications
- Steroids: break prolonged migraines

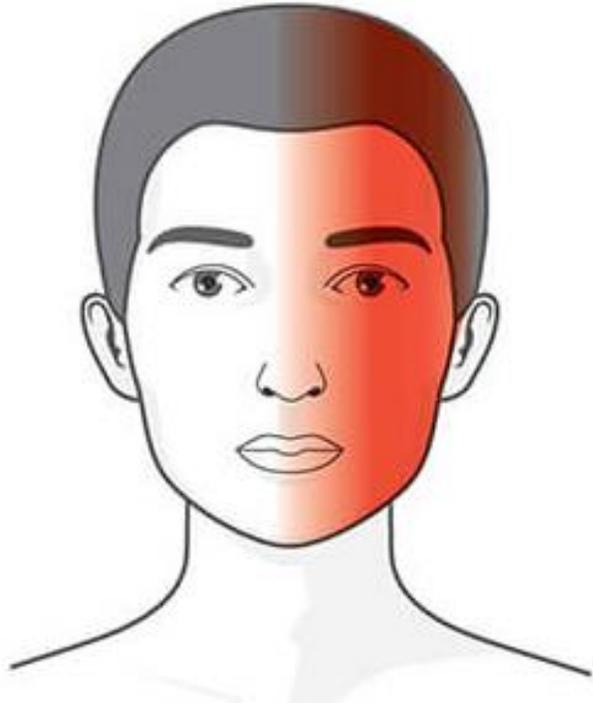


Migraine Headache



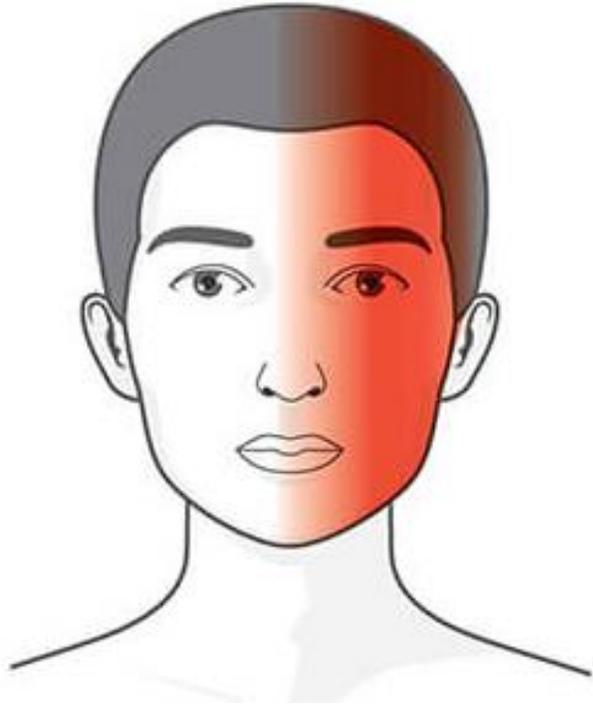
- Emergency Treatment: Status Migranosus
 - Sumatriptan injectable
 - Metoclopramide, Promethazine, Chlorpromazine IV
 - Ketorolac/Toradol OV
 - Dihydroergotamine IV
 - Steroids IV
 - Depakote IV
 - Magnesium Sulfate – pregnancy
 - Narcotics not recommended or effective

Migraine Headache



- Limit acute medication to <10 days/month
- Medication overuse headache: avoid or minimize
 - Opioids
 - Butalbital – Fioricet or Fiorinal
 - Caffeine containing analgesics - Excedrin

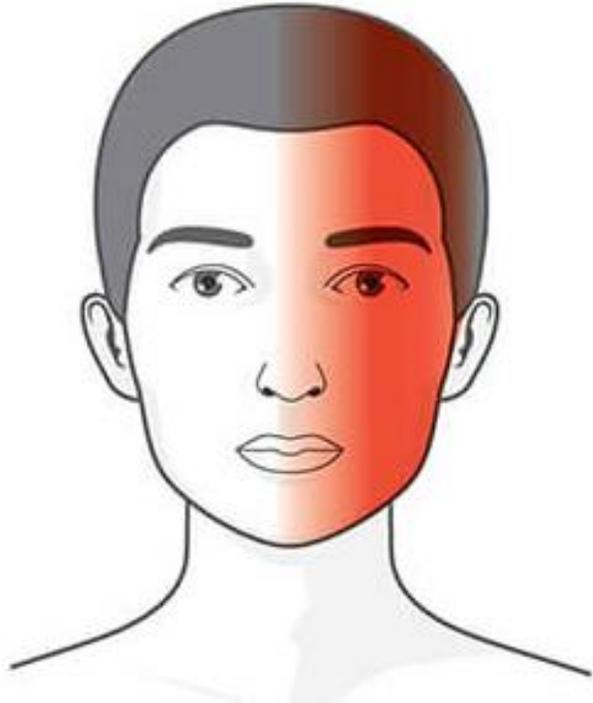
Migraine Headache



- Preventive treatment

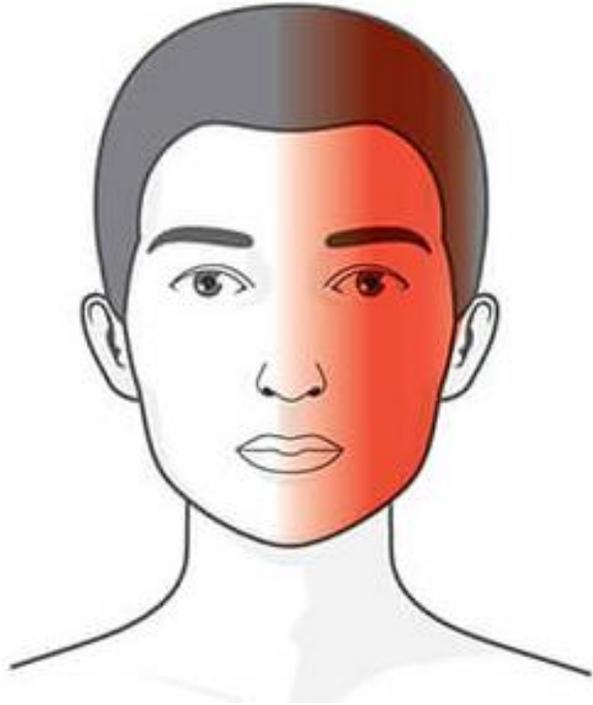
- Beta Blockers: Propranolol, timolol
- Antidepressants: Amitriptyline, Venlafaxine
- Anticonvulsants: Topamax, Depakote, Gabapentin, Zonisamide
- Calcium Channel Blocker: Verapamil
- CGRP medications
- Botox

Migraine Headache

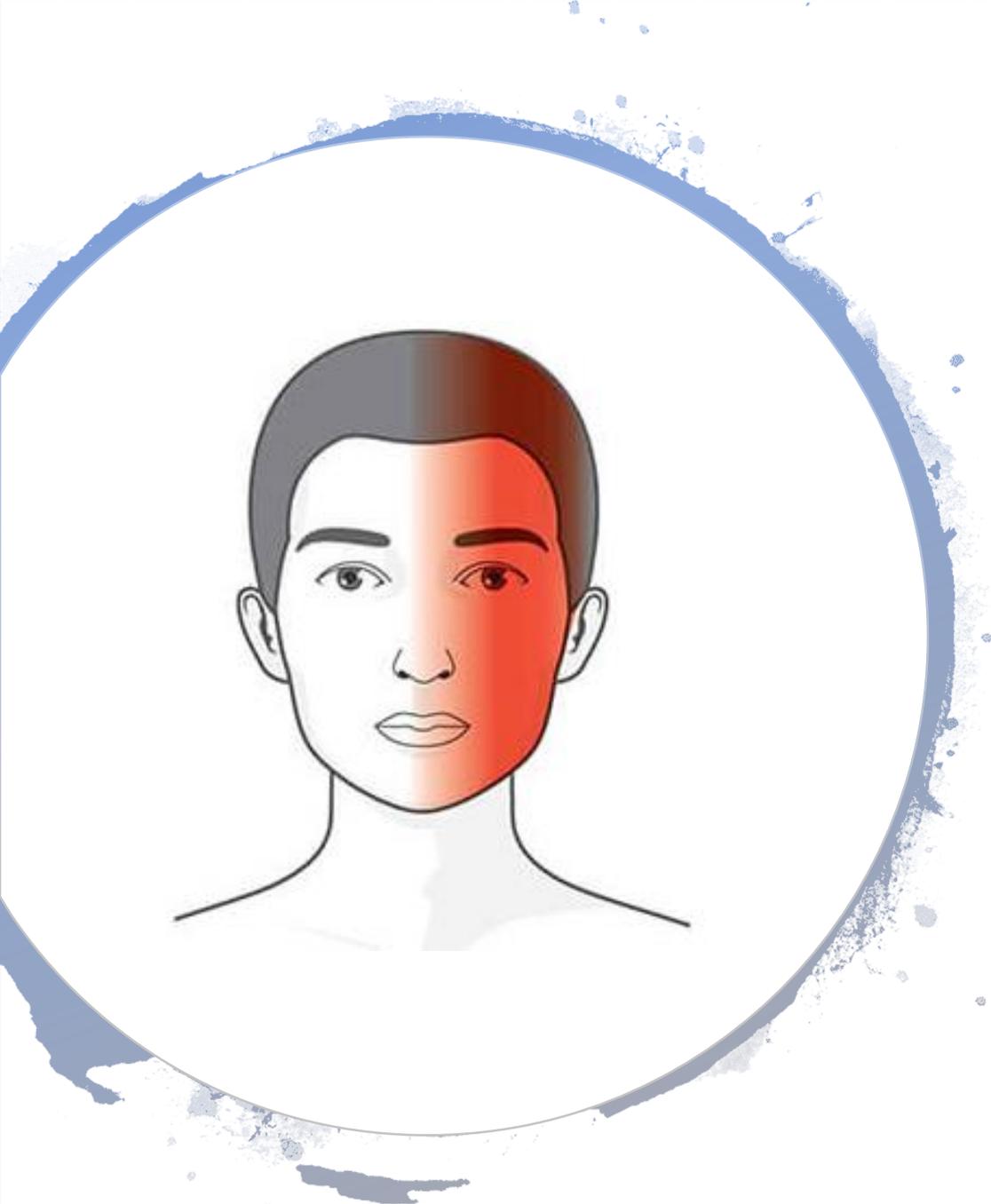


- First Line: Amitriptyline, Topamax or a beta-blocker (most effective and less side effects)
 - Hypertension: beta blocker, verapamil
 - Insomnia: amitriptyline
 - Obesity: topiramate
 - Depression: Amitriptyline or Venlafaxine
 - Epilepsy: Depakote or Topamax

Migraine Headache



- Common side effects:
 - Amitriptyline: sleepiness, dry mouth, weight gain
 - Topamax: tingling, taste changes, memory loss
 - Depakote: sleepiness, weight gain, hair loss, teratogenic
 - Gabapentin: sleepiness, leg swelling, weight gain
 - Propranolol: fatigue, decreased heart rate
 - Triptans: chest pain, tingling



Migraine Headache

- Occasionally may combine different medication classes for better effect
- Treatment Failure: <50% relief even with ADEQUATE dosing and treatment duration, or **intolerable** side effects

Botox

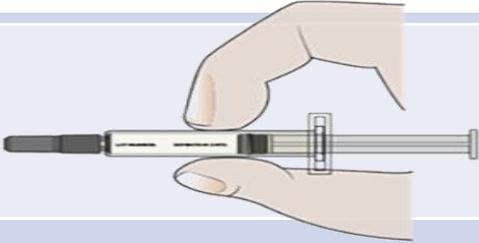
- For chronic migraine only
- Once every 3 months
- Done in the office, takes 10-15 mins
- Insulin needle, shallow injections
- Covered by almost all insurances after at least 2 treatment failures
- Very well tolerated, does not affect other medications you take



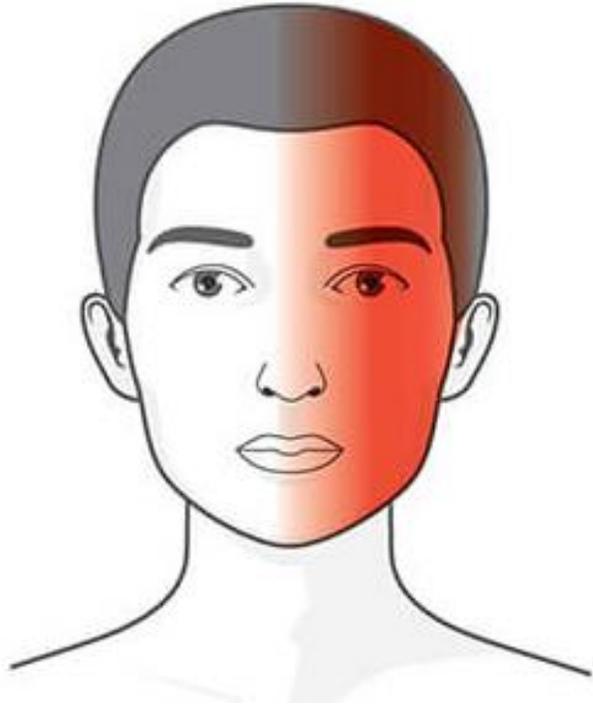
Botox

- Allergic reaction
- Pain at injection site
- Most common: neck pain and headache (5%)
- Drooping of an eyelid (4%)– temporary, may use eyedrops to hasten recovery
- Caution in patients with certain muscular diseases: myasthenia, ALS, Lambert Eaton syndrome



Name	Dosing	Frequency	Side Effects
Erenumab (Aimovig)	SQ 	Monthly	Pain Constipation Muscle Cramps
Fremanezumab (Ajovy)	SQ 	Monthly or Quarterly	Pain
Galcanezumab (Emgality)	SQ 	Monthly	Pain

Migraine Headache

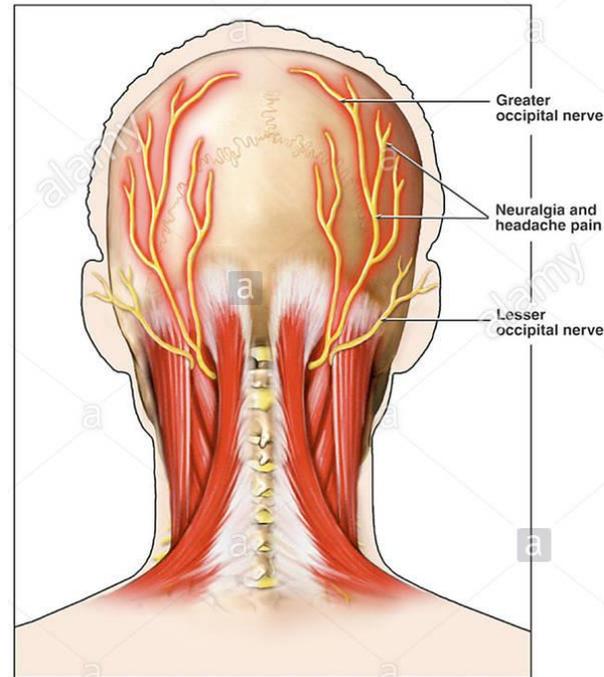


- Other treatments with possible benefit:
 - Butterbur- 150 mg daily, GI upset, burping
 - CoQ10: 100 mg 3x daily
 - Riboflavin (B2): 400 mg daily
 - Feverfew: conflicting evidence, no major side effects
 - Magnesium oxide: 400 mg daily, diarrhea and stomach upset

Greater Occipital Nerve Block

- For cluster headache and occipital neuralgia
- Performed by neurologists or pain specialists
- 2 ml of lidocaine and steroid
- May inject one or both sides
- Low risk, local effect
- Relief is quick, can last several weeks to months
- Repeated as needed

Pre-operative Condition



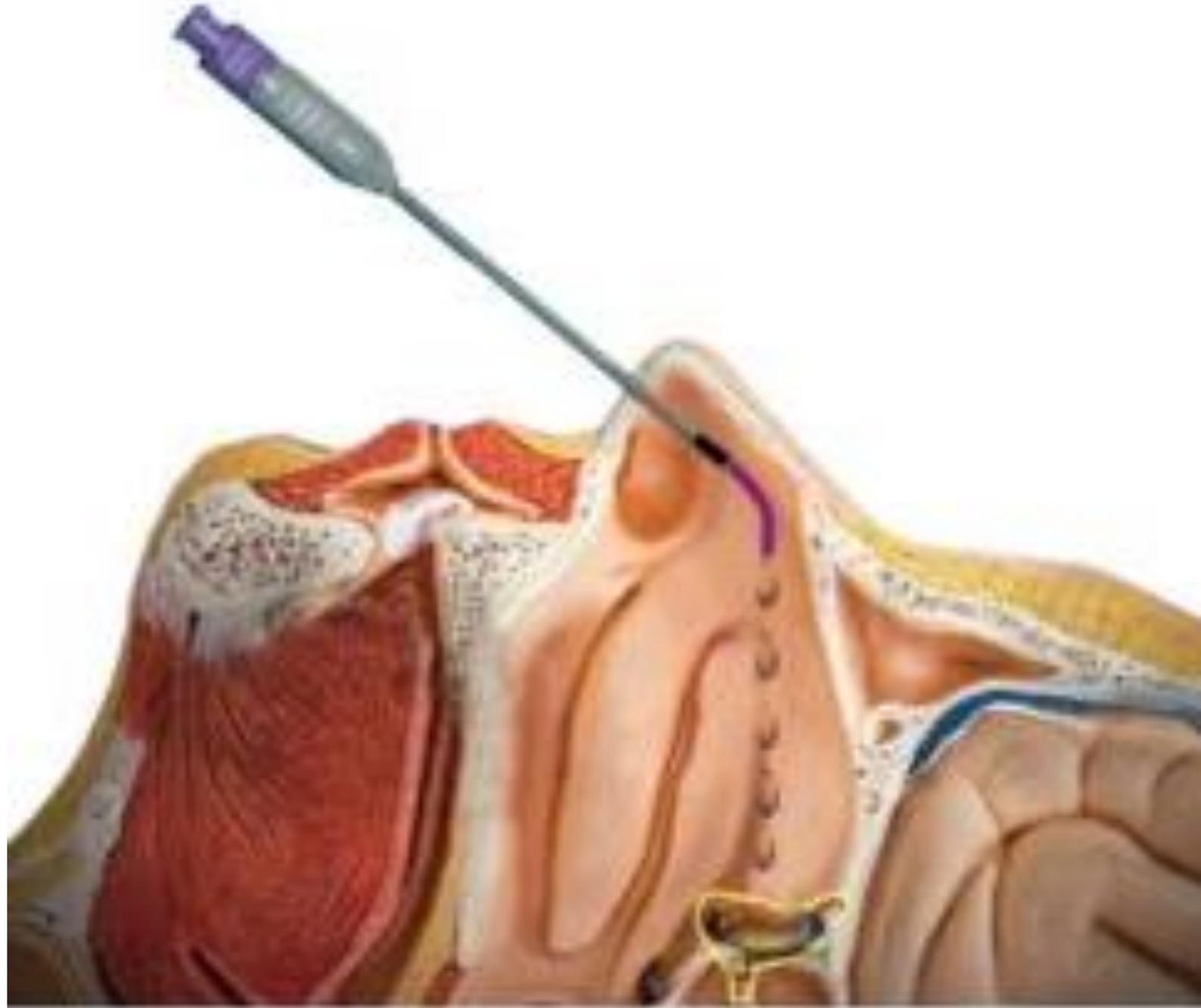
Posterior view of the head and neck



A needle is inserted at the base of the skull and the medication is injected around the origin of the greater occipital nerve.

Sphenopalatine Ganglion (SPG) Block

- 2 ml of lidocaine applied to the Sphenopalatine Ganglion
- Local, low risk
- Works well for facial pain and headaches located in the front of the head
- Works quickly, can last for weeks or months
- Initially done 1-2x/week for 6 weeks



Trigger point Injection

- For patients with headaches associated/exacerbated by neck pain and muscle spasms
- Relieves knots in large muscles of the neck and back
- 0.5 ml of lidocaine per trigger point
- Low risk





Lifestyle Modifications for Headache

Lifestyle Modifications

- SLEEP: most important
 - At least 7 hrs nightly
 - Have a consistent sleep schedule
 - Establish a relaxing bedtime routine
 - Minimize screen time and bright light before bed
 - Avoid caffeine at least 6 hrs before bed
 - Avoid daytime napping
 - Sleep apnea: snoring, unrefreshing sleep, excessive daytime sleepiness, frequent waking



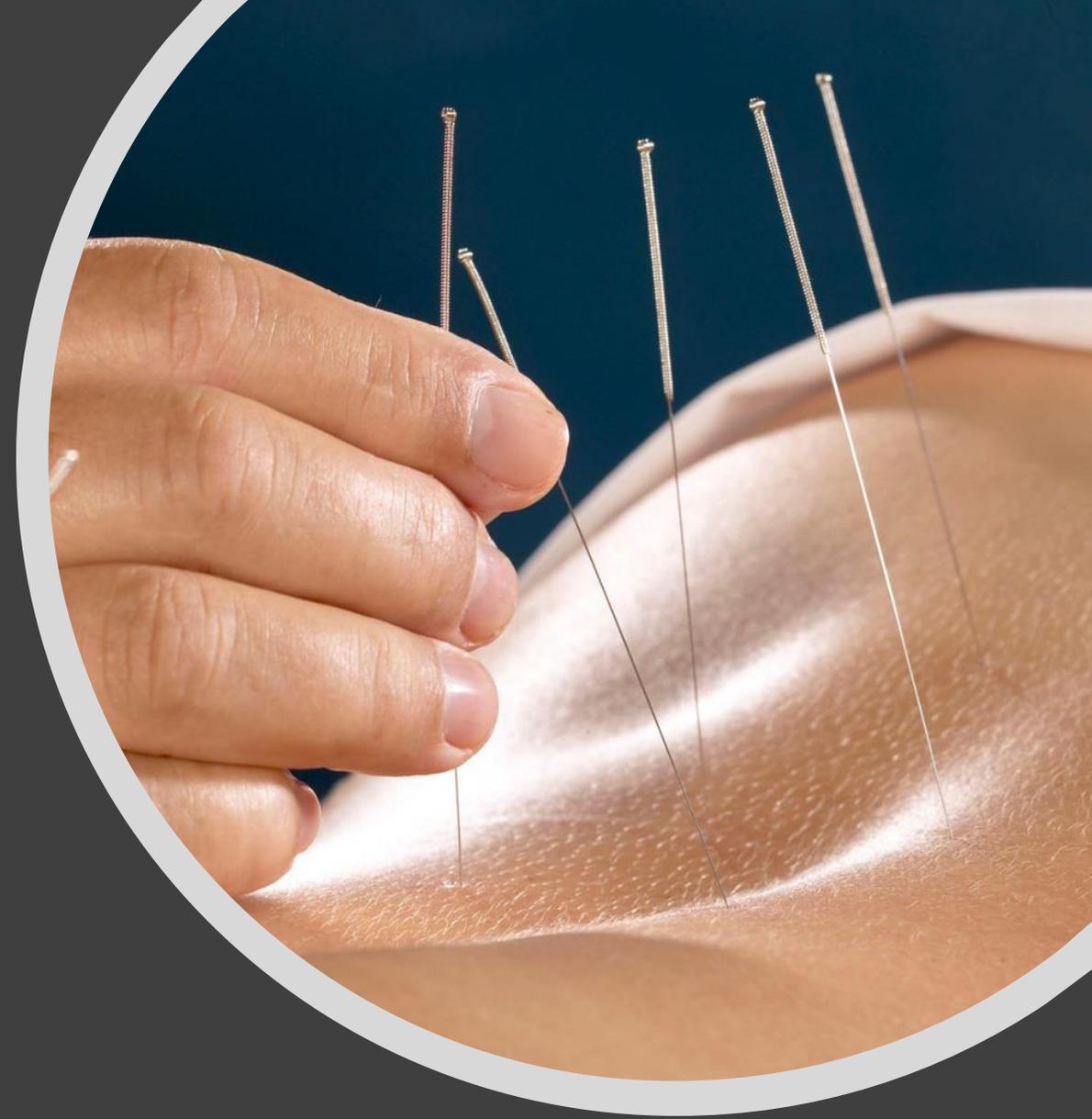
Lifestyle Modifications

- Cognitive Behavioral Therapy
 - Relaxation Training – progressive muscle relaxation, deep breathing, meditation
 - Biofeedback – allows you to observe and then modify your body's reaction to stress
 - Works well in conjunction with medical therapies
 - Used more often in children
 - Done by a trained psychologist
 - Usually not covered by insurance



Lifestyle Modifications

- Acupuncture
 - More effective than placebo, but not better than medical therapy



Lifestyle Modifications

- Routine meal schedules: avoid skipping meals
- Regular exercise
- Avoid smoking and alcohol



Questions?

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THE PAIN STARTS IN MY HUSBAND'S LOWER BACK,
THEN IT TRAVELS UP HIS SPINE TO HIS NECK,
THEN IT COMES OUT HIS MOUTH AND INTO MY EARS.
AND THAT'S WHY I GET THESE HEADACHES.

