UNDERSTANDING HEADACHES

Charles Stockwell, O.D.
Texas Tech Health Sciences Center
Charles.Stockwell@ttuhsc.edu
No Disclosures

A HEADACHE/CEPHALAGIA

- Pain around forehead
- Mild, dull pressure
- Incidental, non-recurring
- Typically short lived
- Not usually accompanied by other symptoms
- Treatable with medicine, rest, and water

THE HEADACHE

- Pain in different locations of the Head
- Exquisite Pain
- Reoccurring Pain
- Can go on and on and on
- Other associated symptoms
- Treatable sometimes and sometimes NOT

UNDERSTANDING HEADACHES

- How many of you have headaches?
- How many of you have had Complaints from patients about headaches?
  - Pretty common complaint.
  - We are Eye Doctors and they are complaining because they think their eyes may be causing the headaches or their Doctor does.
- What Causes them?
- What are they from?
- What are some Questions to Ask?

BECAUSE WE GET SO MANY COMPLAINTS

- MOST headaches are NOT Visual BUT:
  - We have a responsibility to patient
  - We need to r/o sight/life threating Sx
  - We need to refer appropriately

HEADACHE EPIDEMIOLOGY

- Most Common Complaint – 70% are Women.
- 85% of the US population had significant headaches
- 1 out of 3 people have had a severe headache
- Many headaches are felt around the eyes but UNCOMMON to be of ocular origin and majority with primary C/O do NOT have a serious medical cause for the problem.
- More common in Females than Males (3:1)
- 3-5% of ER visits CC headache, 50% Tension, only 8% potentially serious, and 1% life threatening (SAH).
- Primary Headache, Secondary Headache

WHAT CAUSES A HEDACHE?

- Inflammation – Under lying Disease, Sinus, Teeth, Meningitis
- Vascular – HBP, Blood Flow Changes
- Traction – Tumors, Abcesses
- Muscle Contraction – Muscles of the Face, Tension
- Hormones – Changes
- Vision - Limited

GENERAL COMMON HEADACHES

- Tension/Stress
- Migraine
- Cluster
- Sinus

PRIMARY HEADACHE

• Tension/Stress	69%
• Migraine	16%
• Idiopathic Stabbing	2%
• Exertional	1%
• Cluster	0.1
	89.0 %

SECONDARY CAUSES OF HEADACHES

Symptom of an Underlying Disease

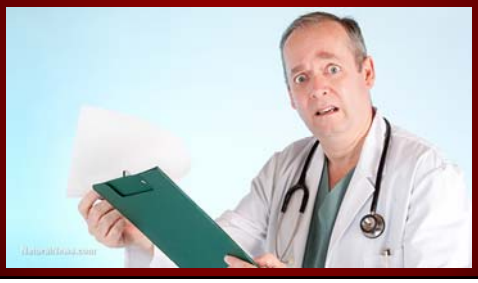
• Hypertension	Medication
• Post Traumatic	Hematoma
• Dental	Ear
• Hemorrhage	Intracranial tumors
• Infections – Viral/Bacterial	Trigeminal Neuralgia
• Sinus Inflammation	Arteritis
• Glaucoma	Withdrawal/Drugs

SECONDARY HEADACHE

• Of the 11%:	
• Systemic/Infection	63%
• Head Injury/Trauma/TBI	4%
• Vascular disorders	1%
• Subarachnoid Hemorrhage	<1%
• Brain Tumor	0.1%
• Trigeminal Neuralgia	<0.01%
• Other: Substance WD, Teeth, Ears, TMJ	

WORK

THE DOCTOR



THE DOCTOR

YOUR SIGNIFICANT OTHER

YOUR SIGNIFICANT OTHER

OR NOT

APPROACH TO HEADACHES

- Location
- Timing
- Character
- Associated Symptoms
- Alleviating/Aggravating
- Enviromental/Setting
- Past medical Hx
- Family Hx
- Social Hx
- Sexual/Spiritual Hx
- Review of Systems

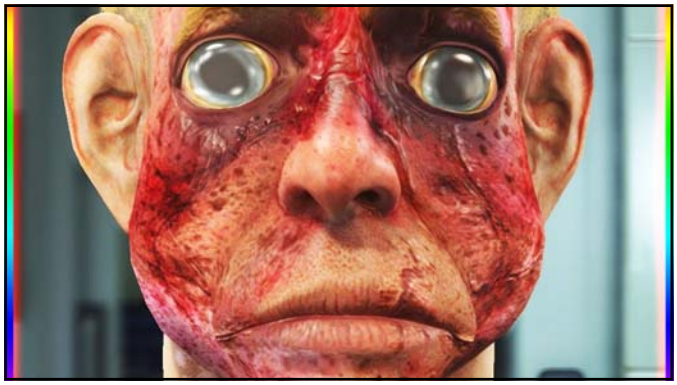
LOCATION

LOCATION

- SITE AND SPREAD OF THE PAIN
  - Frontal
  - Temporal
  - Occipital
  - Unilateral/Bilateral
  - Around Eyes
  - Behind Eyes
  - Base of Skull

TIMING

- Why consulting now
- When it began/Onset
- How long did it last
- How many times in the past/Frequency or Pattern



CHARACTER

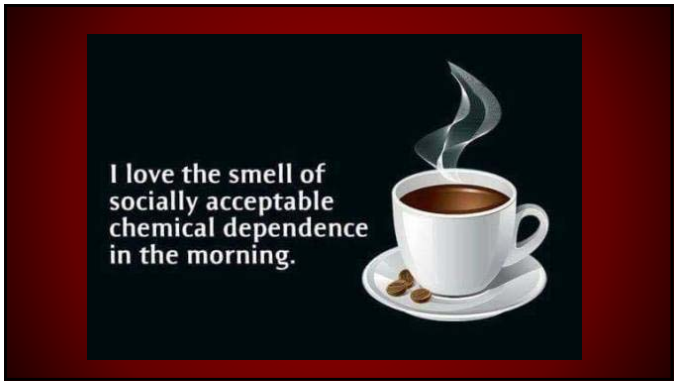
- Intensity/Severity
- Quality
- Interfere with Activities

ASSOCIATED SYMPTOMS

- Blurry Vision/No Vision
- Nausea, vomiting
- Dizziness, Diplopia, Eye Pain
- ENT problems
- Dental problems
- Fever
- Anxiety or depressive symptoms
- Raised ICP

ALLEVIATING/AGGRAVATING

- What makes it better and what makes it worse
- Pain relievers
- Caffeine
- Exercise/Activity
- Cough
- Cold/Heat
- Touch

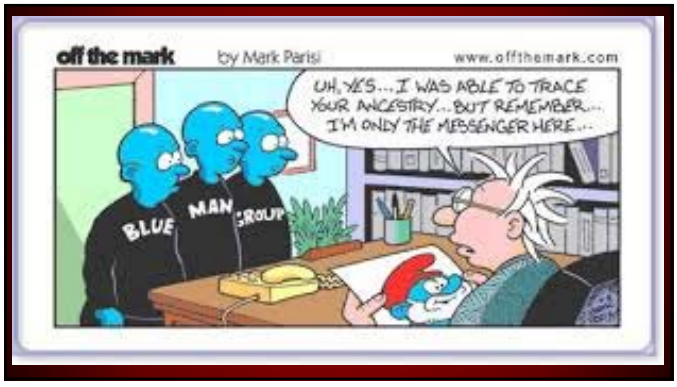


ENVIRONMENT/SETTING

- What were you doing
  - Computer Work
  - Eating
  - Drinking
  - Exercising
- Where were you at
- Bright lights or dim
- Angry/Depressed/Happy/Calm

PAST MEDICAL HX

- Allergies
- Hospitalizations
- Illnesses/Immunizations
- Surgeries
- Trauma
- Oral medications
- Reproductive history/contraception
- Youth illnesses

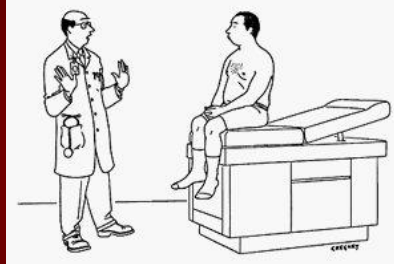


FAMILY HX

- Genetic
- Others with similar problems
- Alive or Deceased
- Determine the Risk Factors

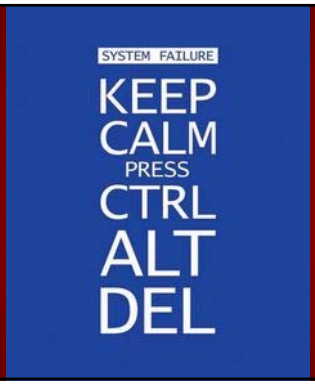
SOCIAL HX

- Health Behaviors
- Personal Choices
- Smoking
- Drugs
- Drinking



SEXUAL/SPIRITUAL

- Medications
- Partners
- Practices
- Protection from STDs /Past history of STDs
- Prevention of pregnancy



REVIEW OF SYSTEMS

- Presence or absence of symptoms/All symptoms/Present illness
- General
- Head and Neck (H&N)
- Cardiovascular (C/V)
- Genito-Urinary
- Ob/Gyn/Breast
- Endocrine
- Musculoskeletal
- Skin and Hair
- Vision
- Pulmonary
- Gastrointestinal
- Hematology/Oncology
- Neurological
- Infectious Diseases
- Mental Health

TENSION/STRESS

- Most Common Type!!!
- Front of head, temples, middle/top of head
- Dull, aching and vise like, non-pulsating – mild to moderate. Like a Band squeezing the head.
- Bilateral and diffuse, worse at end of the day.
- No nausea or vomiting.
- Occasionally decreased appetite, or photophobia.
- NOT aggravated by physical activity – will actually help.
- NOT attributed to another disorder.

Causes of tension headaches:

- Hunger
- Lack of sleep
- Stress
- Overexertion
- Depression and anxiety
- Dehydration

SYMPTOMS OF STRESS

- Anger
- Tension and Irritability
- Crying
- Loss of Interest in Activity
- Headaches, Stomach Pain
- Sadness and Symptoms of Depression
- Increased Use of Alcohol and Drugs
- Disbelief and Shock
- Loss of Appetite
- Difficulty making Decisions
- Sleep Problems
- Trouble Concentrating
- Fear and Anxiety

MIGRAINES

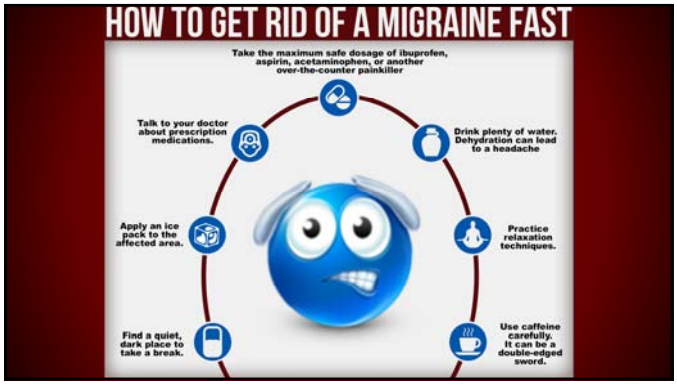
- Pain on One or Both side(s) of head.
- Intense, pulsing, or throbbing
- Can last for days
- Nausea and dizziness and light sensitivity
- Flashing lights and blind spots
- Commonly recurring

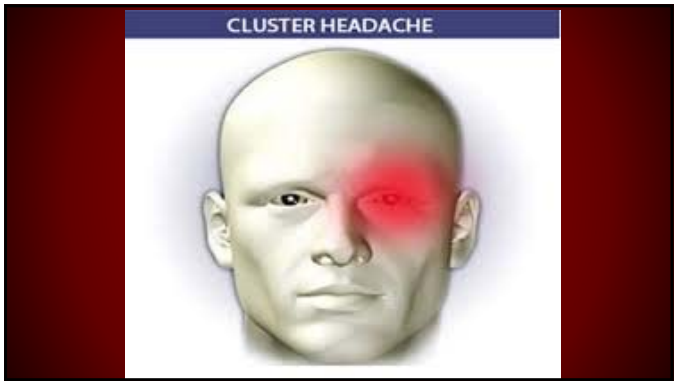
CAUSES OF MIGRAINES

- Exact Cause is Unknown but the Thinking is:
- Result of abnormal brain activity affecting nerve signals, chemicals/hormones and blood vessels in the brain.
- Triggers:
  - Hormonal – Period, Serotonin
  - Emotional – Stress, Anxiety, Tension, Depression, Excitement
  - Physical – Tired, Posture, Exercise, Low Blood Sugar
  - Dietary – Alcohol, Caffeine, Specific Foods/Dairy, Missed Meals
  - Environmental – Bright lights, Flickering Screens, Strong Smells, Changes in Weather, Smoking, Loud Noises
  - Medicinal – Sleeping Tabs, Contraceptive, Hormone Replacement

MIGRAINE SYMPTOMS AND STAGES

- Stage 1
  - Prodrome: Before the pain hits, 50% of sufferers – light/sound sensitivity, irritability and lack of appetite.
- Stage 2
  - Aura: Up to ONE hour before the headache with changes in visual percection or loss of vision.
- Stage 3
  - Headache: Moderate to Severe up to THREE days, One/Both sides of head
- Stage 4
  - Postdrome: Several days, "hangover", irritable and fatigued, mood changes

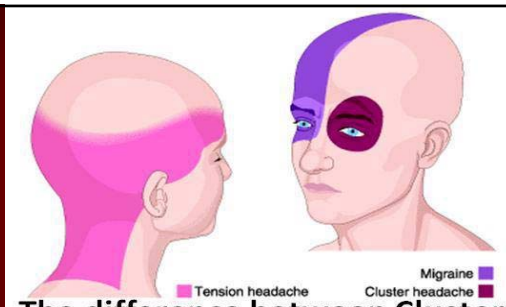




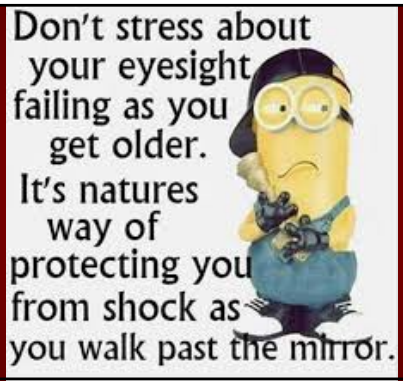
CLUSTER

- One of the most painful types. Described as sharp, penetrating, or burning.
- Occurs in cyclical patterns or clusters.
- Excruciating pain in or around ONE eye, drooping eyelid, excessive tearing, miotic pupil, and stuffy/runny nose on that side.
- Sensitive to light and sound, Aura, Restlessness, paleness to face, nausea, and exhaustion afterwards.

Watery eye, drooping eyelid, runny nose

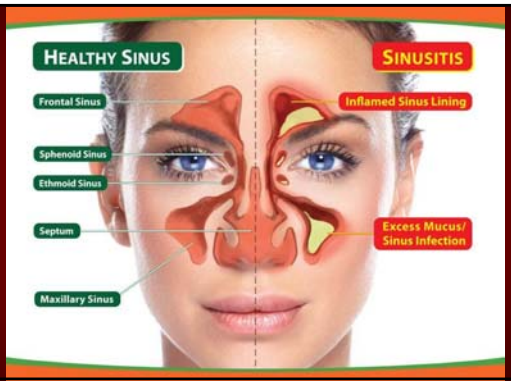


The difference between Cluster Headache and Migraine



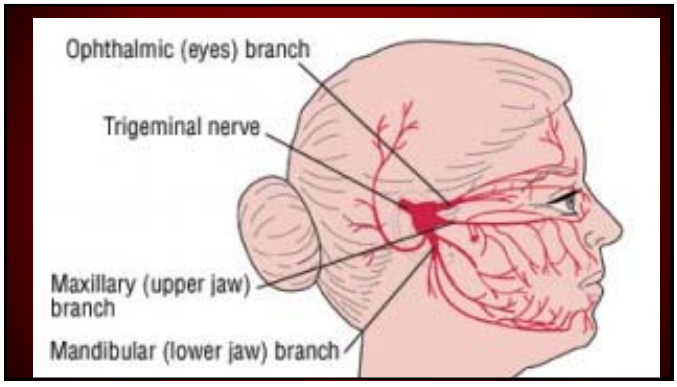
SINUS

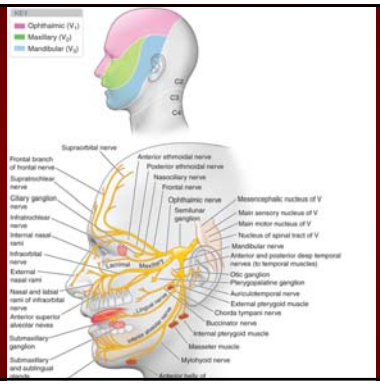
- Inflammation of the lining of eight sinus cavities.
- Facial pressure/pain - Frontal deep chronic ache around the eyes, cheekbones, forehead and bridge of the nose.
- Leaning over, or sudden movement, or exercising may make the headache worse.
- Yellow or green discharge, pain in upper teeth, bad breath, coughing, nasal congestion.



TRIGEMINAL NEURALGIA

- Sudden, Severe, unilateral, brief (few seconds – two minutes), shock like, usually confined to one part of one division of the Trigeminal Nerve V (Damage). Rarely crosses the midline.
- Pain Paroxysms (sudden, violent) will reoccur over days ,weeks, or years. Periods of time when symptom free.
- Sensitive to light and sound. Nausea and vomiting.
- Do not occur during sleep.
- Trigger area on the face with slight touch, wind, eating or speaking.
- **Suicide Disease**





UNKNOWN/IDIOPATHIC

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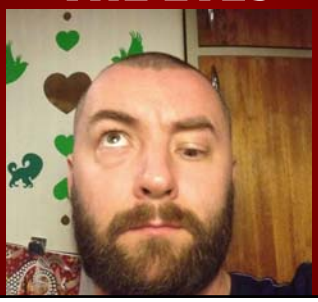
- Migraines are of unknown Causes
- Pain Structures in the Head/Brain vrs No Pain Structures
- Have to treat the Symptoms
- New daily persistent headache = NDPH

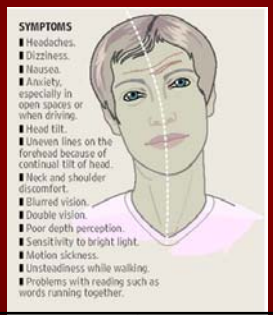
THE EYES

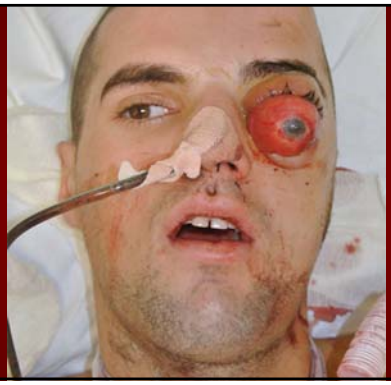


THE EYES/OCULAR CAUSES OR SYMPTOMS

- Refractory error and eye muscle weakness
  - Binocular Abnormalities
    - Accommodation, convergence insufficiency, lack of fusional capacity
  - Muscle contraction – ciliary
- Secondary to Diseases of the Eye
  - Angle closure glaucoma, iritis, keratitis, ocular ischemic syndrome, scleritis
- Systemic disorders having prominent ocular symptoms
  - Raised Intra cranial pressure, temporal arteritis, migraine, psychogenic

BINOCULAR VISION DYSFUNCTION





OCULAR CONCERNS

- Uveitis/scleritis
- GCA
- Optic Neuritis
- Orbital Tumor
- Orbital Cellulitis
- Supra orbital neuralgia
- Chiari malformation

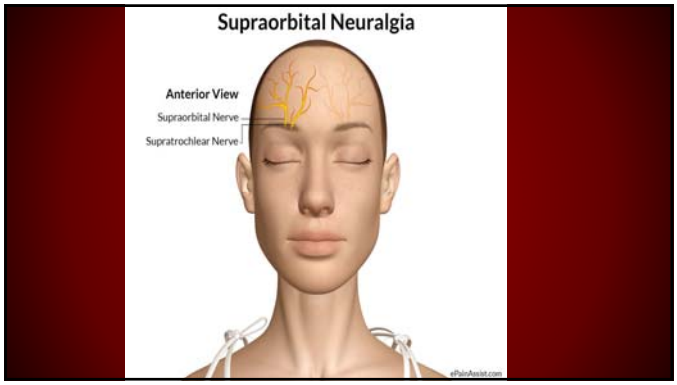
Pituitary Tumor
Cranial Nerve Palsy
Aneurysm or sah
High ICP - papilledema
Carotid ischemia and OIS
Carotid dissections

"RED FLAG" HEADACHE SYMPTOMS

- Sudden Onset or Change: Worst, Waking Up, Exertion
  - SAH, Cerebral Venous Sinus Thrombosis, Pituitary Apoplexy, Meningitis
- Focal Neurological Sx: Seizure, Syncope, Conscious/Cognitive/Memory
  - Intracranial Mass Lesion, SAH
- Constitutional Sx: Weight Loss, Malaise, Rash, Meningism
  - Neoplasm
  - Meningoencephalitis
- Raised Intracranial Pressure
  - Intracranial Mass Lesion
- New Onset > 60 years
  - Temporal Arteritis

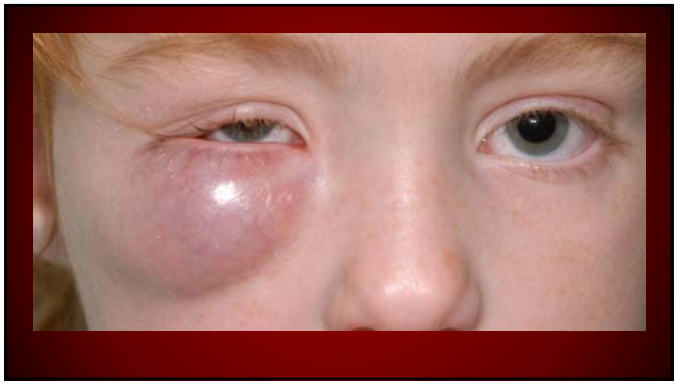
SUPRA ORBITAL NEURALGIA/SWIMMERS/GOGGLE

- Unilateral Pain in the Forehead, Tinel's Sign
- Due to location confused with Migraine, Cluster, Sinus
- Caused by Damage of Nerve by Trauma, Pressure, Entrapment, Fluid retention, Eyeglasses.
- May need to Treat the Supra Trochlear as well.



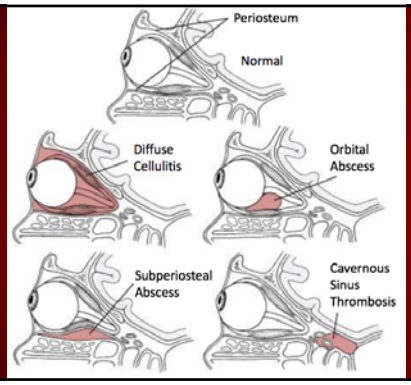
ORBITAL CELLULITIS

- Erythema, Edema, Tenderness, Fever, Warmth
- Vision Changes/Diplopia/Limited EOM
- Ophthalmoplegia
- Proptosis
- Chemosis
- Reduced Visual Acuity
- Abnormal Light Reflexes



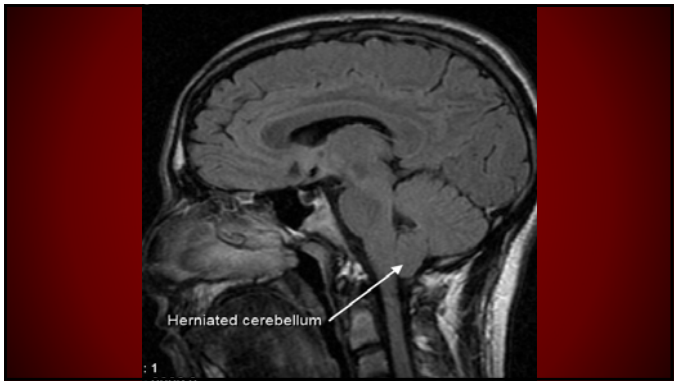
STAGING OF ORBITAL CELLULITIS

- I. Preseptal — Eyelid swelling and erythema
- II. Inflammatory Edema — Edema, Proptosis, Chemosis, Decreased EOM
- III. Subperiosteal Abscess — Vision Loss, Pus, Sinus Involved
- IV. Orbital Abscess — Ophthalmoplegia, Vision Loss
- V. Cavernous Sinus Thrombosis — Displacement, Ophthalmoplegia, Beginning to affect other eye, Cranial Nerve involvement (III, IV, V, VI)



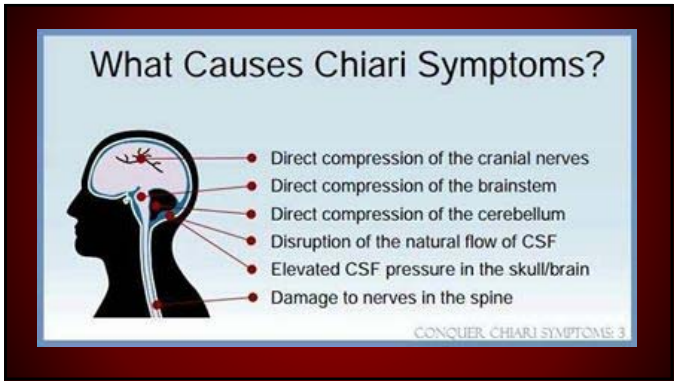
CHIARI MALFORMATION TYPES

- I. Fetal Development – characterized by downward displacement by more than 4 mm. of the cerebellar tonsils beneath the foramen magnum into the cervical spinal canal.
- II. Downward Displacement of the Medulla, fourth ventricle and cerebellum, as well as the elongation of the pons and fourth ventricle. Myelomeningocele exclusively.
- III. Cerebellum/Brainstem pushing out. High Mortality – Rare – Severe.
- IV. Severe and Rarest. Extensive Malformations. High Mortality.



SYMPTOMS OF CHIARI MALFORMATION

- Occipital Headache at base of skull. Worse when coughing, sneezing, or straining. Looking down/reading.
- Severe neck and head pain.
- Double or Blurred Vision.
- Loss of muscle strength in the hands and arms.
- Collapsing to the ground d/t muscle weakness.
- Balance problems, dizziness, spasticity
- Sensitive to Bright lights.



TREATMENT OPTIONS FOR CHIARI

- Referral to Neurologist
- 1. Wait and See – If Mild or no Sx, MRI's, Regular Check ups
- 2. Treat Each Sx Individually – Not severe enough for Surgery
- 3. Surgery – Sx Severe or getting worse, Posterior fossa decompression

SCLERITIS/UVEITIS CLASSIFICATIONS

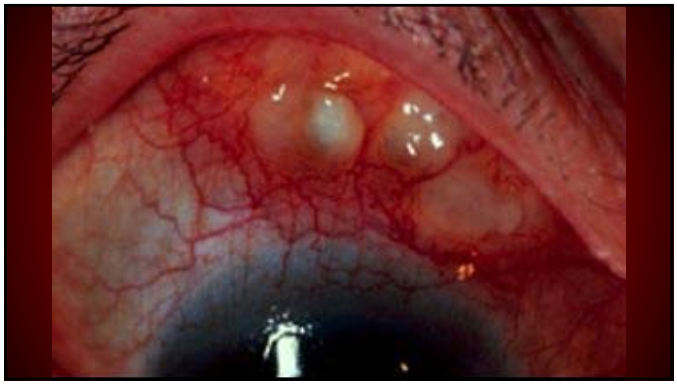
- Episcleritis: Simple and Nodular
- Scleritis: Disturbs Sleep w Headache and Pain
  - Anterior: Diffuse, Nodular, Necrotizing both with and without inflammation(perforancs)
- Posterior Scleritis/Uveitis - Uncommon

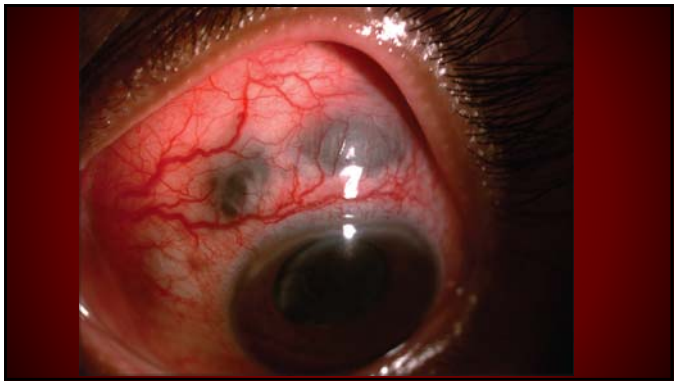
EPISCLERITIS

- Blanch with adrenergic agents
- Salmon pink and movable vessels
- Minimal Pain
- Sectorial 70% of time.
- Does not Progress
- Oral or Topical NSAID's, infrequently Steroids
- 2/3 Reoccur but clears.

SYSTEMIC DISEASES ASSOCIATED WITH SCLERITIS

- Rheumatoid Arthritis – Rosacea – Chlamydia
- Systemic Lupus – HSV – HSZ – Mumps
- Ankylosing spondylitis – Churg-Strauss - Gout – Fungus
- Reiter's Syndrome – Behcet's – Parasites (Acanthamoeba)
- Psoriatic arthritis – IBS – GCA
- Relapsing Polychondritis – Cogan's Syindrome





MANAGEMENT OF SCLERITIS

- This is an Urgent need for referral and Treatment.
- Referral for the Ocular Treatment is Obvious

the rest is:

- Dependent on Underlying Medical Condition

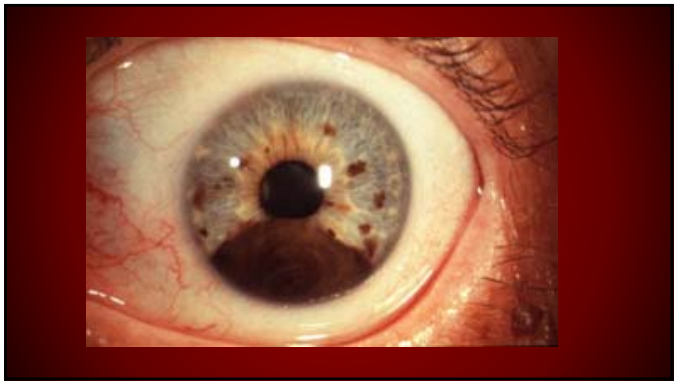
- Posterior Scleritis is uncommon.
  - Fundus findings: disc swelling, macular edema, choroidal folds, exudative retinal detachment, choroidal detachments.

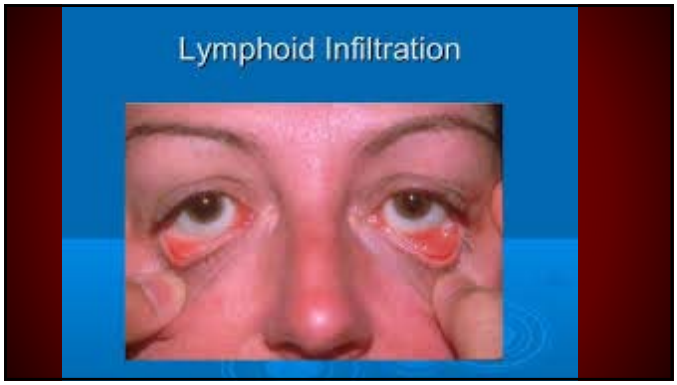
ORBITAL TUMOR CFLASSIFICATION BY ORIGIN

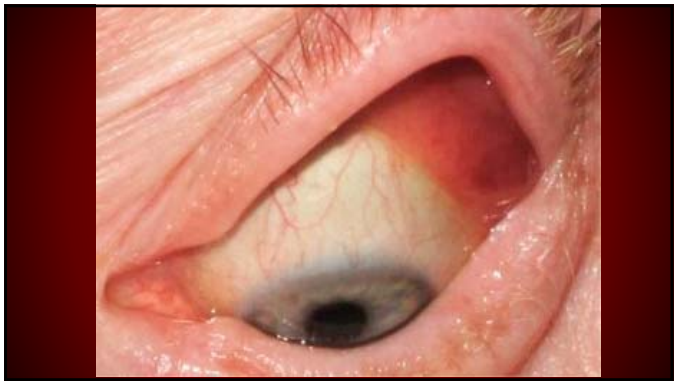
- Primary
  - Lesions from the Orbital Tissues
    - Conjunctiva, Sclera, EOM, Iris, Retina
- Secondary
  - Lesions from the Neighboring Cavities and Tissues
    - Sinuses, Periosteum
- Metastatic
  - Lesions via Hematogenous or Lymphatic Spread from other areas.
    - Breasts, Lungs

INCIDENCE AND EPIDEMOLOGY

- Rare
- Male = Female
- Adults
  - Melanoma and Lymphoma most common
- Children
  - Retinoblastoma and Medulloepithelioma most common
- Metastases are more common than Primary – usually from the Breast or Lung Cancers

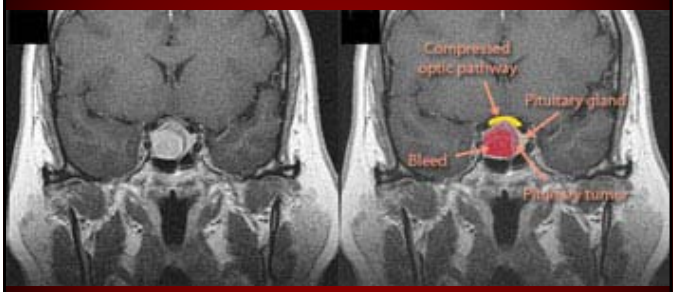


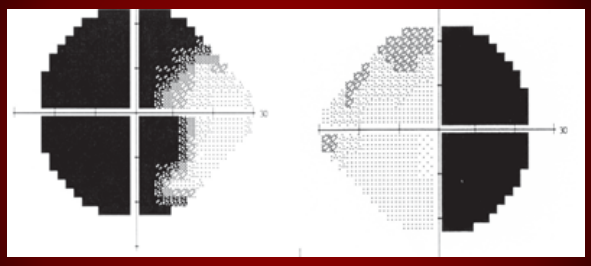

Lymphoid Infiltration

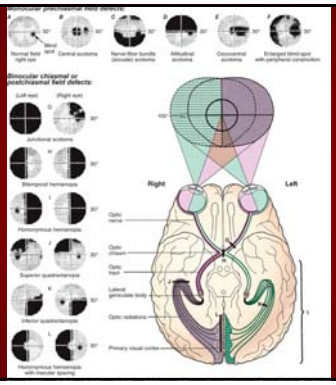


PITUITARY TUMOR SYNDROME

- Ophthalmologic Signs
  - Decreased Visual Acuity, Visual Field Defects, Exophthalmos: Rare
- Neurologic Symptoms
  - Headache, Seizures, Meningeal signs, Nerves III, IV, VI which cross the Cavernous Sinus
- Radiological Signs
  - Enlarged Sella Turcica, Acromegaly







OPTIC NEURITIS CLASSIFICATIONS

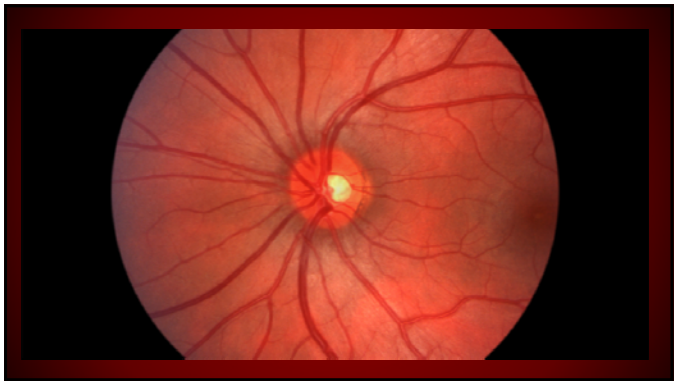
- Retrobulbarneuritis – Normal Disc
  - Most common, Demyelination – MS, Lyme, Sinus Related
- Papillitis – Edema and Hyperanemia
  - Uncommon - Syphilis
- Neuroretinitis – Papillitis and Macular Star
  - Cat-scratch Fever, Lyme, Syphilis

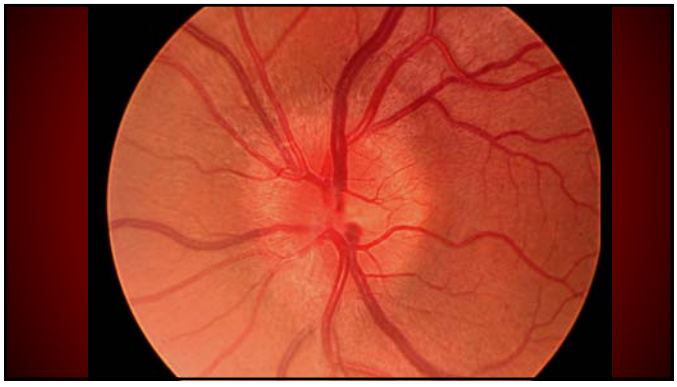
CHARACTERISTICS OF OPTIC NEURITIS

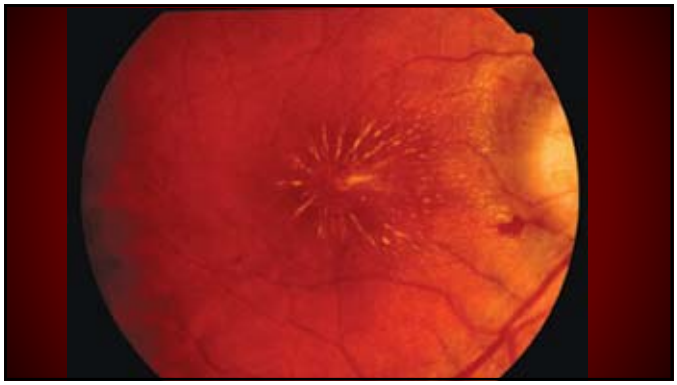
- Inflammation of the Optic Nerve – Pain with Eye Movement
- Swelling of the Optic Nerve and Enlargement of the Blood Vessels
- Vision Loss in the affected Eye from Slight Blur to Complete Blindness
- Vision Loss can be Temporary but Permanent in Some Cases.
- RAPD, Loss of Color Vision, Flashing Lights
- Highly Associated with Multiple Sclerosis

TREATMENT FOR OPTIC NEURITIS

- Most Cases Improve Without Treatment
- To Prevent the Risk of MS IV Steroids are given.
- IV Steroids can also speed Visual Recovery but cannot restore lost Vision.
- If IV Steroids did not work and there is Vision Loss then Plasma Exchange Therapy is tried.



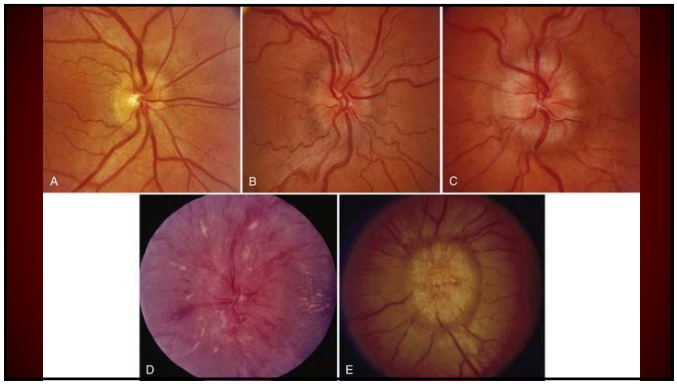


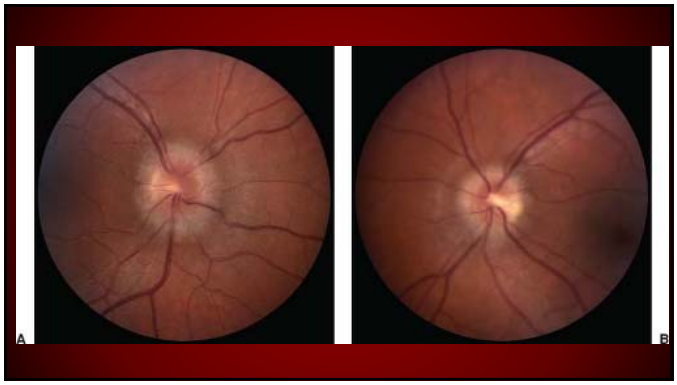


HIGH ICP - PAPILLEDEMA

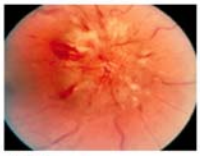
MODIFIED FRISEN SCALE

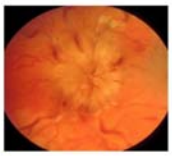
- Stage 0 – Normal Optic Disc
- Stage 1- Minimal Edema – Halo Subtle, Obscure Retinal Details
- Stage 2 – Low Papilledema– Nasal Elevation, No Vessels
- Stage 3 – Moderate Papilledema– Obscure Few Vessels, Elevation
- Stage 4 – Marked Papilledema– Obscure the disc, Full Elevation
- Stage 5 – Severe Papilledema– Obscure All Vessel on and leaving
- Almost ALWAYS Bilateral!!! No RAPD VF = Enlarged Blindspot.





PAPILLEDEMA VS OTHER DISC SWELLING





- Papilledema
- History--TVO, blurred vision
- Visual Acuity is usually normal
- Usually No RAPD
- No visual field defect except enlarged blind spot
- Can cause optic disc pallor

Optic disc swelling (optic neuritis,AION)

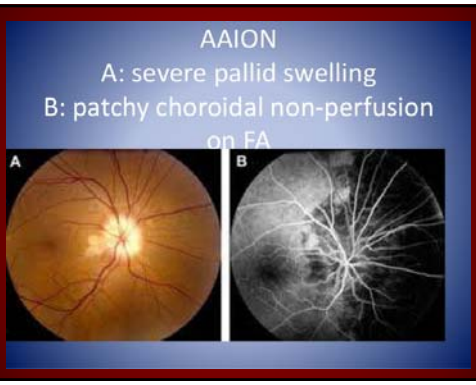
- History--visual loss, dimming
- Visual Acuity-almost always abnormal
- RAPD present if unilateral
- Visual field definitely abnormal
- Causes optic disc pallor

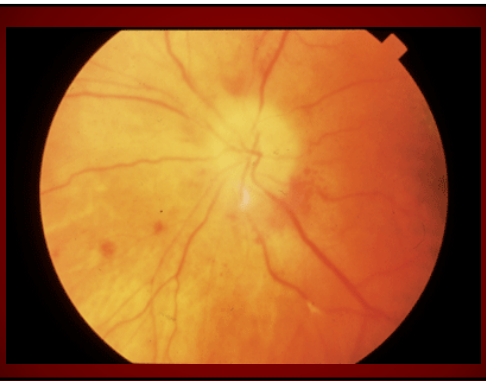
ARTERIC ANTERIOR ISCHEMIC OPTIC NEUROPATHY OR GCA

- OVER 50 YO – Complete Vision Loss,
- Headache, Vision Loss, Diplopia, Jaw Caudification, Bruits, VF = Altitudinal Defect
- Loss of Vision by damage to ON d/t Insufficent Blood Supply, CRAO, CR
- Cause is unknown but involves the inflammation of small blood vessels within the walls of larger arteries. Mainly Neck and Head.
- Associated with HZV, RA, SLE, PMR
- Dx: Symptoms, Medical imaging, Biopsy, Elevated ESR and CRP
- Tx: Steroids

OCULAR OBSERVATIONS OF AAION

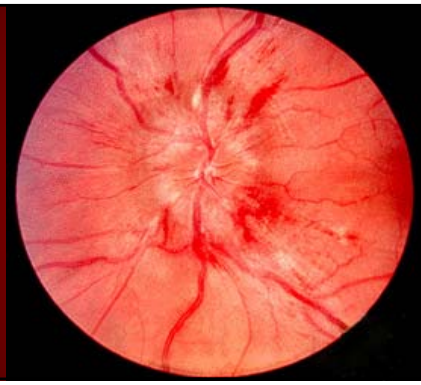
- Diffuse Optic Nerve Edema
- Retinal Ischemia
- Cotton Wool Spots

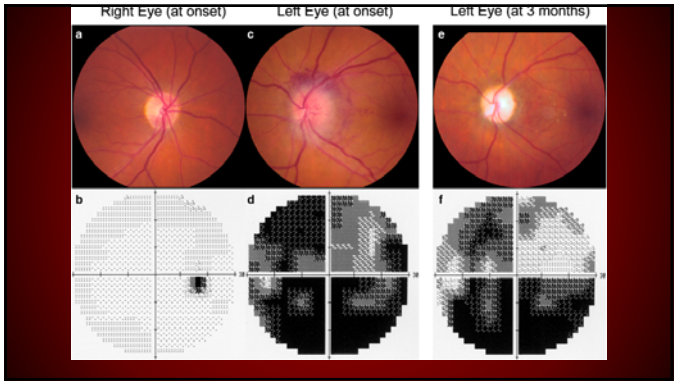


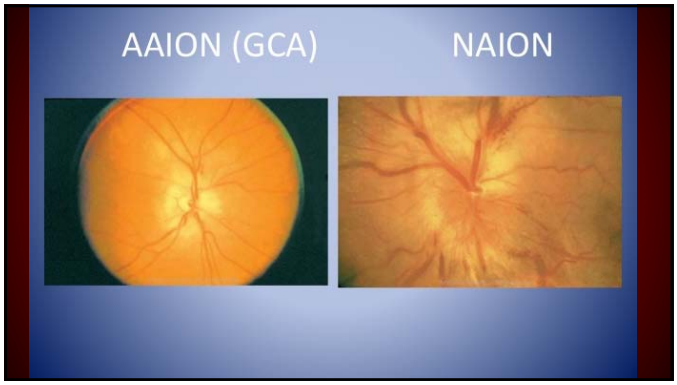


NON-ARTERIC ISCHEMIC OPTIC NEUROPATHY

- OVER 50, More Common
- Sudden Loss of Vision, Mild Pain, Often Bilateral, RAPD, VF = Altitudinal Defect
- Cardiovascular Risk with "crowded" Optic Discs, A Stroke to the Optic Nerve, Hyperemic
- Vision can improve over time.
- Associated with Diabetes, Hypertension, Sleep Apnea, High Cholesterol
- Tx: Steroids

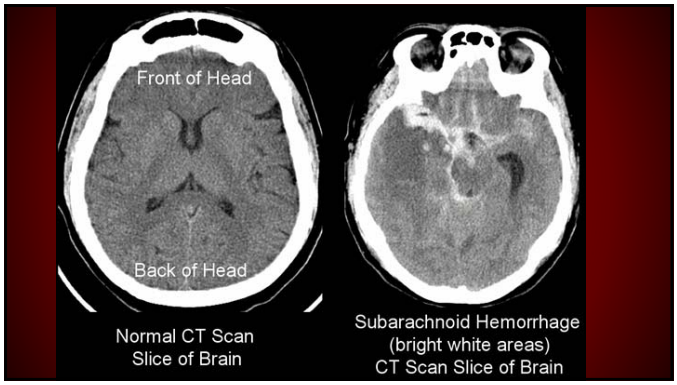






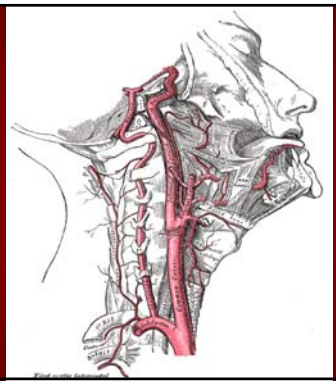
ANEURYSM OR SAH

- Thunder Clap Headache = Worst Headache in My Life"
- Photophobia and Visual Changes
- Neck Pain
- Nausea and Vomiting
- Loss of Consciences
- Past Hx of Trauma or Brain Injury or Lesions
- Tear in Subarachnoid Veins and Collects Under Arachnoid.



INTERNAL CAROTID ARTERY DISSECTION

- Headache Typical First Symptom
- Face and Neck Pain Precede Other Symptoms by Hours/Days
- Partial Horner's Syndrome" Miosis and Ptosis
- Cranial Nerve Palsies
- Can Mimic Migraine with Nausea and Vomiting and Aura



ACUTE ANGLE CLOSURE GLAUCOMA

- Sudden Headache
- Visual Disturbance
- Sluggish Pupil, Mid Dilated, Hazy Cornea, Redness, Raised IOP, Papilledema
- Increased IOP causing optic nerve damage in a characteristic pattern that can permanently damage vision if left untreated.

FURTHER TESTING AND REFERRAL

- CT — Tumors, Nodes, Fractures
- MRI — Detailed Images of Structures, Organs or Soft Tissue
- MRA — Blood Flow through Arteries, Aneurysms, Malformations
- MRS — Chemical Anomaly,HIV,TIA,TBI,Tumors,MS, Alzheimers
- OCT, PHOTOS

•Recap