

Now You See Me...

Your Eye and Stroke

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Disclosure

■ none

Educational Objectives:

1. Discuss mechanism of vision acuity loss (blindness) due to stroke
2. Review evaluation and treatment options for acute vision acuity loss due to stroke

Vision and Stroke Facts

- 1/3 of stroke survivors experience vision loss
- Vision loss after stroke do not fully recover
- Transient vision loss can be a harbinger of (preventable) stroke

Types of Vision loss after Stroke

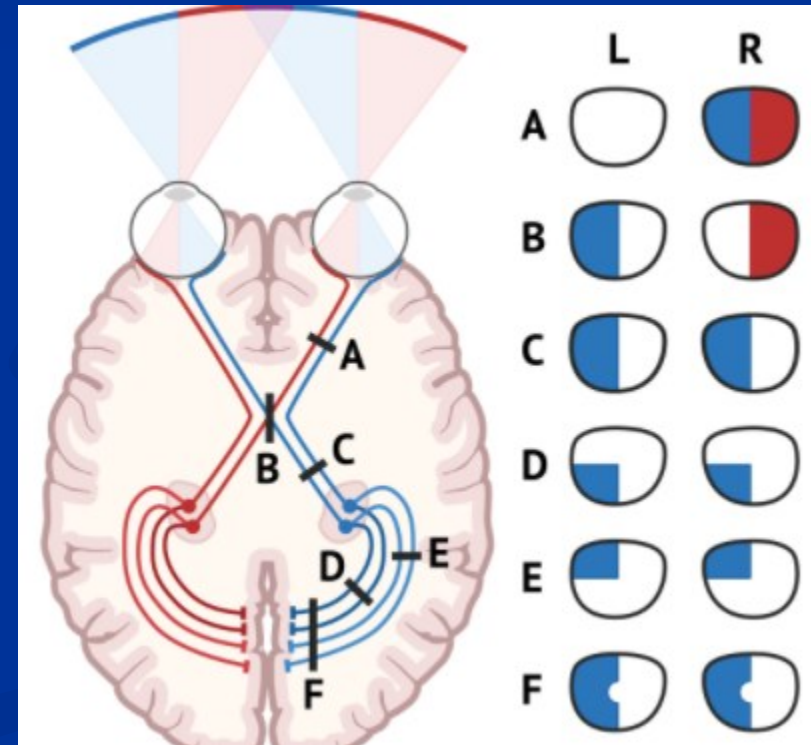
- Bilateral eye affected



Hemianopia

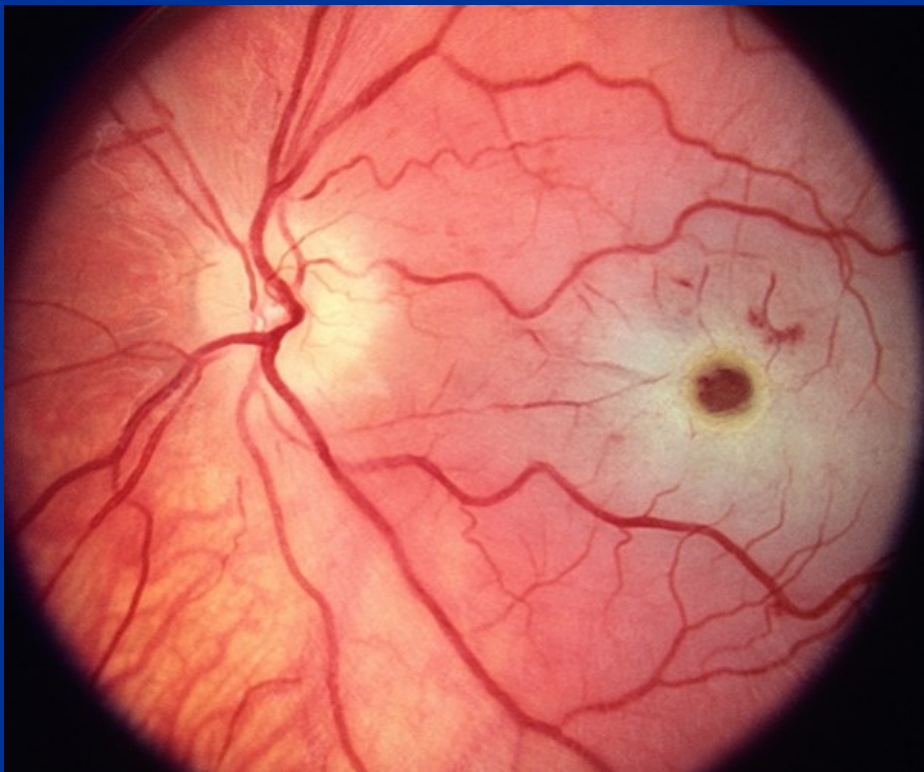


Quadrantanopia



Types of Vision loss after Stroke

- One eye affected - suspect Central Retinal Artery Occlusion



Pale Optic Disk

Cherry red spot

DDx for Acute Binocular Vision Loss

- Stroke
- Stroke
- Stroke
- LVO (large vessel occlusion)

DDx for Acute Monocular Vision Loss

- Eye problem – Need Ophthalmologist
 - Vitreous hemorrhage
 - Retinal detachment
 - Demyelinating lesion: MS
 - Glaucoma (painful)
- Nerve/Brain problem – Need Neurologist
 - Demyelination/Multiple Sclerosis/NMO
 - Optic neuropathy
 - Amaurosis Fugax (symptomatic carotid disease)
 - CRAO, BRAO

CRAO

- Non-arteritic
 - Thrombus/Embolus
 - Carotid Artery Stenosis
 - Clues to diagnosis
 - Amaurosis fugax (transient monocular vision loss)
 - Carotid bruit
- Arteritic
 - Giant Cell Arteritis
 - Clues to diagnosis
 - Headache prominent, jaw pain, weight loss
 - Tender temple/scalp

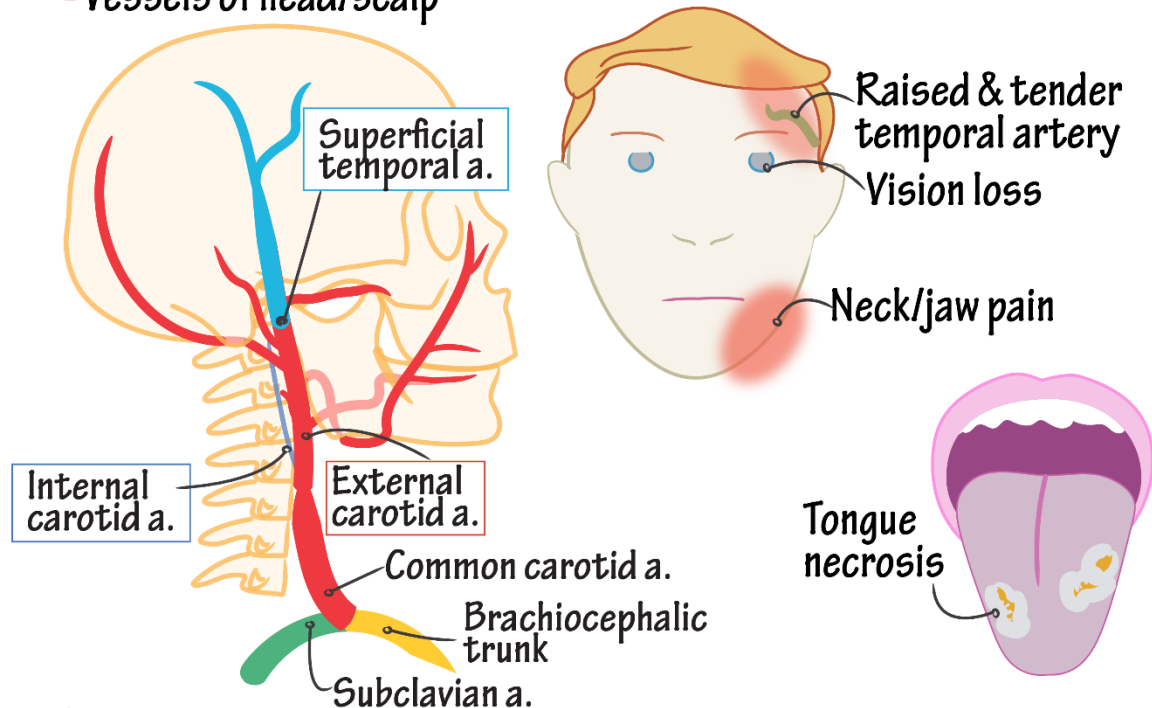
Giant cell arteritis

(aka, Temporal arteritis, Horton disease)

Granulomatous Disease

✓ Affects aorta and its large branches (esp. external carotid arteries).

▪ Vessels of head/scalp



✓ + signs of systemic inflammation (fatigue, fever, weight loss)

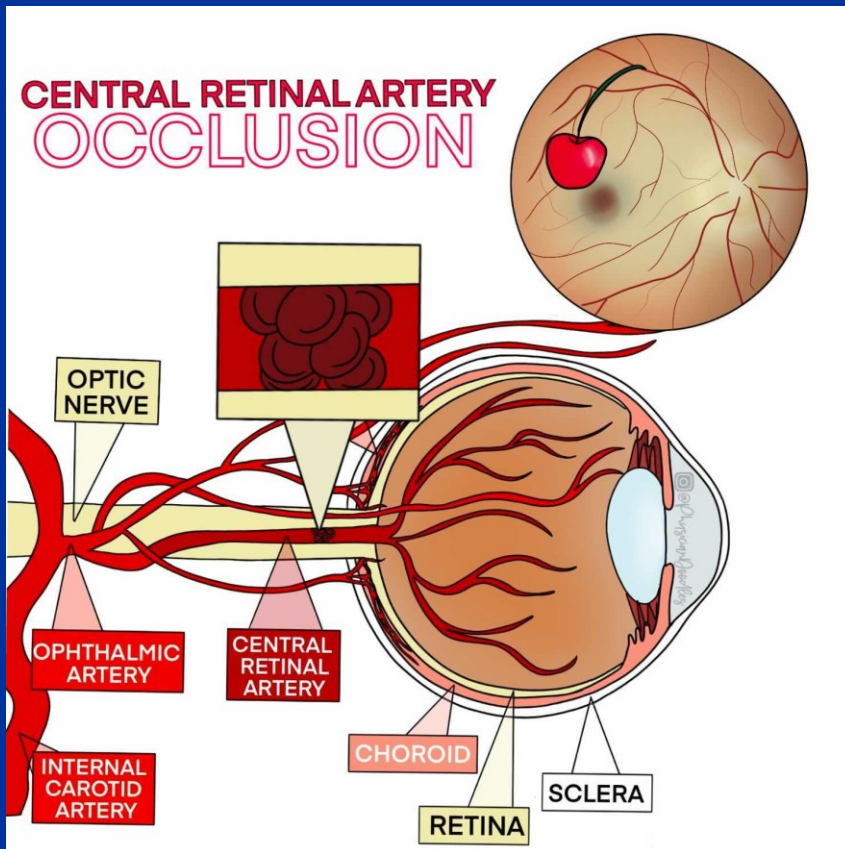
✓ Most common in > 55 y.o., Women, Nordic ancestry

▪ * Assoc. w/ polymyalgia rheumatica

✓ Complications: Aortic aneurysm, stroke, blindness.

CRAO

- Central Retinal Artery Occlusion



- Ocular/Medical emergency
- Sudden, severe, painless
- 1-2/100,000 male >60
- After 90 min, permanent vision loss occurs

Stroke

AHA SCIENTIFIC STATEMENT

Management of Central Retinal Artery Occlusion

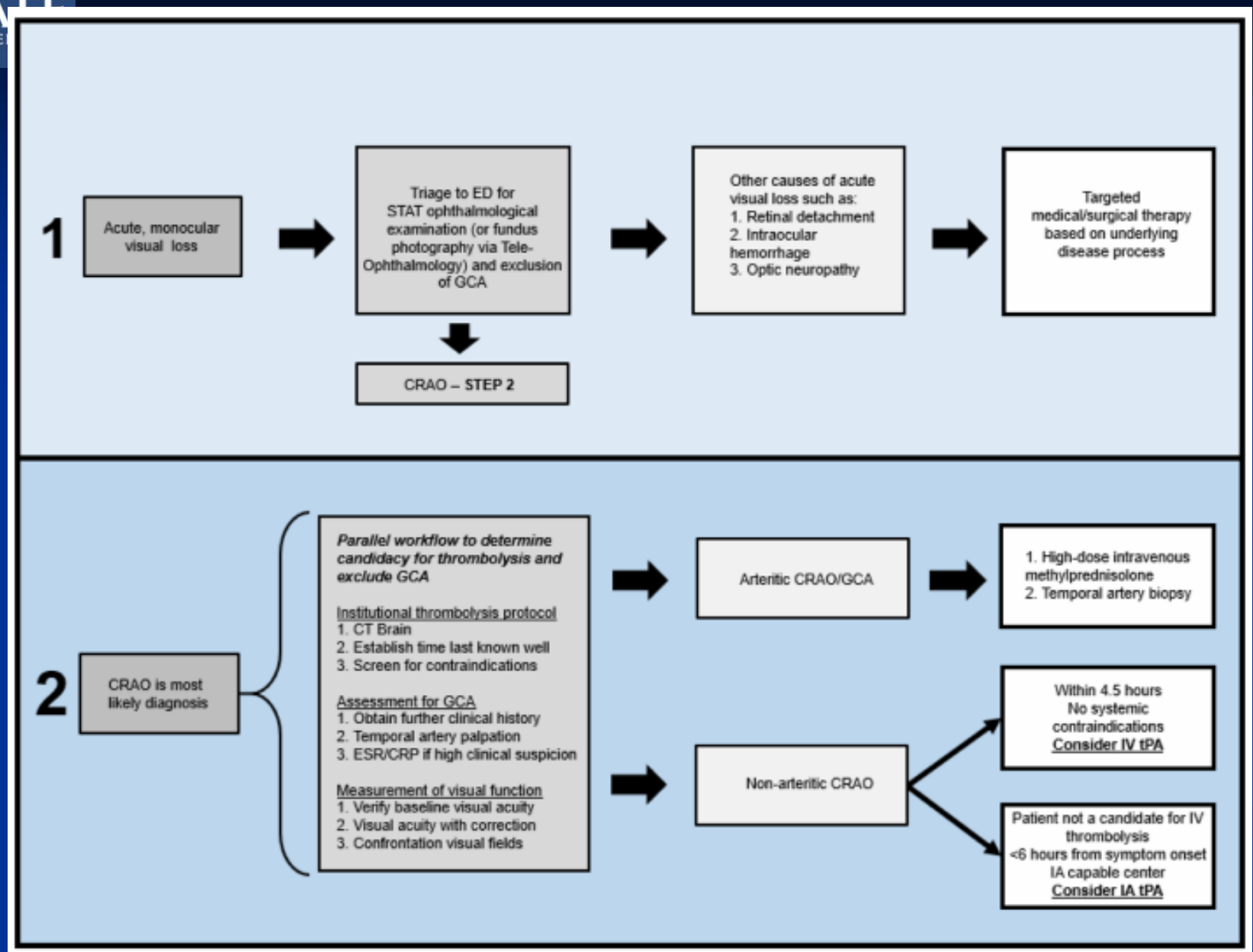
A Scientific Statement From the American Heart Association

The American Academy of Neurology affirms the value of this statement as an educational tool for neurologists.

The American Association of Neurological Surgeons/Congress of Neurological Surgeons Cerebrovascular Section affirms the educational benefit of this document.

Endorsed by the North American Neuro-Ophthalmology Society, the American Academy of Ophthalmology Quality of Care Secretariat, and the American Academy of Optometry.

Brian Mac Grory, MB BCh BAO, MRCP, Chair; Matthew Schrag, MD, PhD, Vice-Chair; Valérie Biousse, MD; Karen L. Furie, MD, MPH, FAHA; Marie Gerhard-Herman, MD; Patrick J. Lavie, MB BCh BAO, MRCP; Lucia Sobrin, MD, MPH; Stavropoula I. Tjoumakaris, MD; Cornelia M. Weyand, MD, PhD; Shadi Yaghi, MD, FAHA; on behalf of the American Heart Association Stroke Council; Council on Arteriosclerosis, Thrombosis and Vascular Biology; Council on Hypertension; and Council on Peripheral Vascular Disease



Central Retinal Artery Occlusion: Visual Outcome

SOHAN SINGH HAYREH, MD, MS, PhD, DSc, FRCS, FRCOphth,
AND M. BRIDGET ZIMMERMAN, PhD

244 patients CRAO

VA and VF improved primarily first 7 days

74.2% present CF or worse vision

Initial visual acuity	20/40 better	CF/worse
NA-CRAO (86.9%)	None	93.2%
NA-CRAO w/ cilioretinal sparing (14.3%)	20%	60%
Transient NA-CRAO (16%)	37.9%	37.9%
Arteritic CRAO (4.5%)	None	75%

Am J Ophthalmol 2005; 140: 376-391

Life after CRAO

- Lifetime reduced ave 10 years vs healthy
- 30% RAO died after average 4.2 years
- Stroke risk 10 times higher vs general population 3.5 years
- Increased stroke risk up to 10 years
- **Stroke Education**
- Risk Factors: DM, HTN, Hyperlipidemia
- Additional ocular sequelae
 - NV, NVI, NVA, NVG

Rim et al. Stroke 2016

Bruno et al. Ann Intern Med 1995

Lorenzen SE. Acta Oph 1989

Hankey et al. BMJ 1991

THANK YOU



THIS ISN'T FUNNY

I'm having a stroke