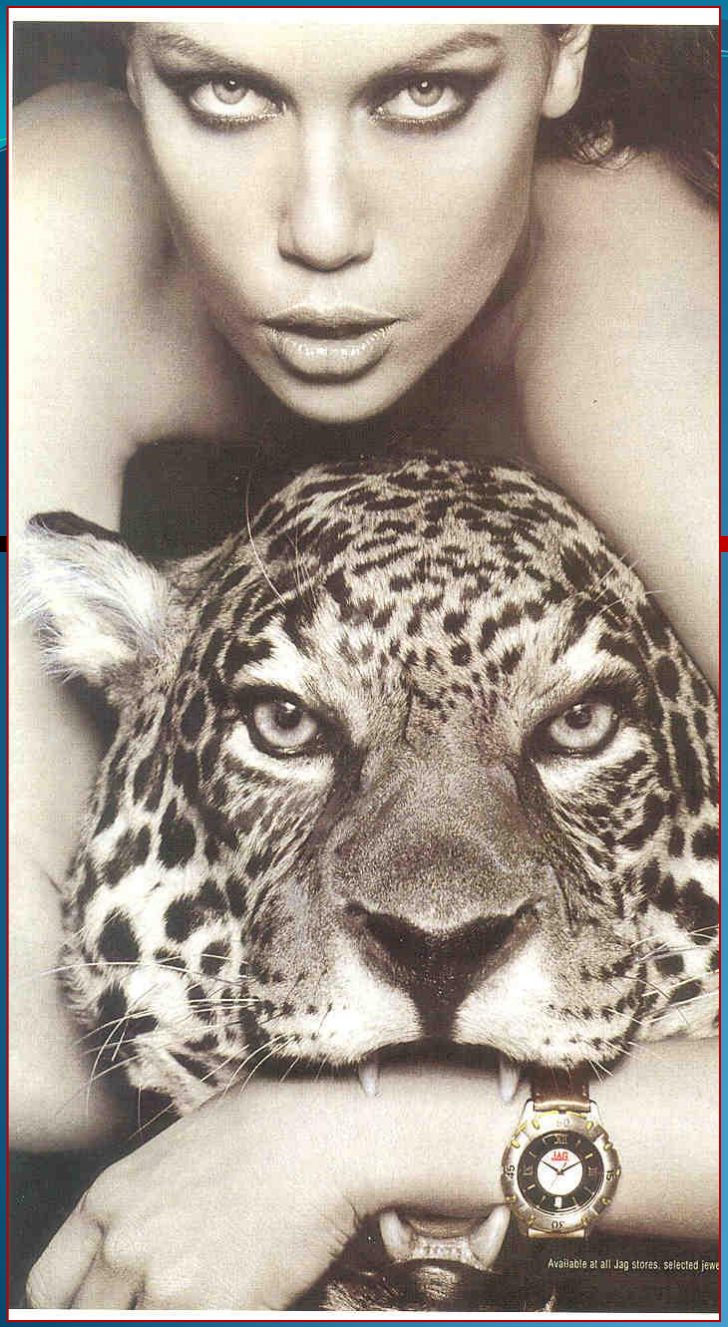
Professor Helen Danesh-Meyer

Eye Institute

Auckland

Identifying Dangerous Ophthalmologic Conditions - Main Session

Friday, 21 June 2013 Start 9:50am Duration: 25mins Baytrust



Bitten by Ophthalmology Emergencies

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Ophthalmological Emergencies

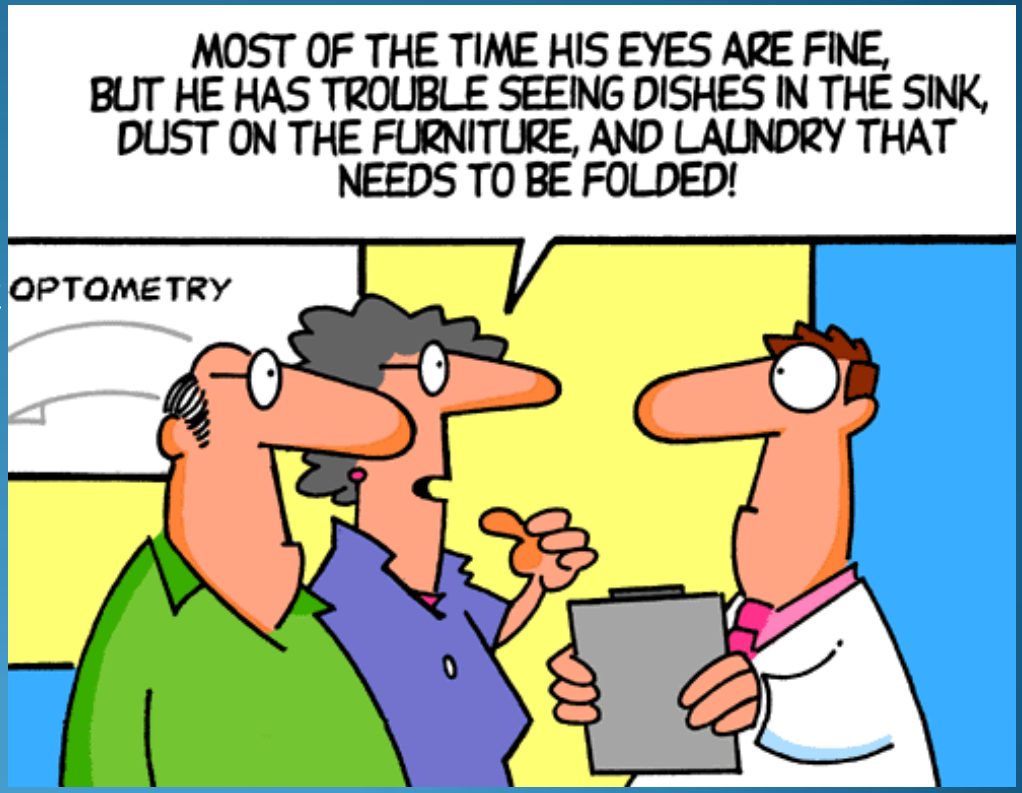
Alkaline Burn
Retinal Detachment
Acute IIIrd nerve palsy
Giant Cell Arteritis
Acute Angle Closure Glaucoma
Central Retinal Artery Occlusion
Corneal ulcers
Ophthalmia neonatorum
Globe perforation
Globe rupture
Corneal ulcer
Hyphema
Intraocular foreign body
Macular edema
Orbital cellulitis

Key ophthalmological emergencies

Immediate treatment is sight -saving

Delay in diagnosis result in permanent irreversible visual loss

Management can be initiated by GP prior to referral



CASE 1

Mrs AV: 78 year old man

- PC:
  - Episode of loss of vision in left eye lasting 30 seconds.
  - 3 episodes in one week
  - Complete blackness followed by complete recovery.
- PMH:
  - Hypertension (controlled by medication)
  - Elevated Cholesterol (controlled by medication)
- Review of Systems
  - Migraines
  - Urinary Incontinence
  - Dyspepsia
  - Osteoarthritis
  - Sexual dysfunction

Presented to emergency room

Examination:

- Vision significantly recovered

Diagnosis: amaurosis fugax

Investigations:

- Carotid Duplex Studies- within one week
- Started on aspirin
- Cardiologist referral

Clinical course

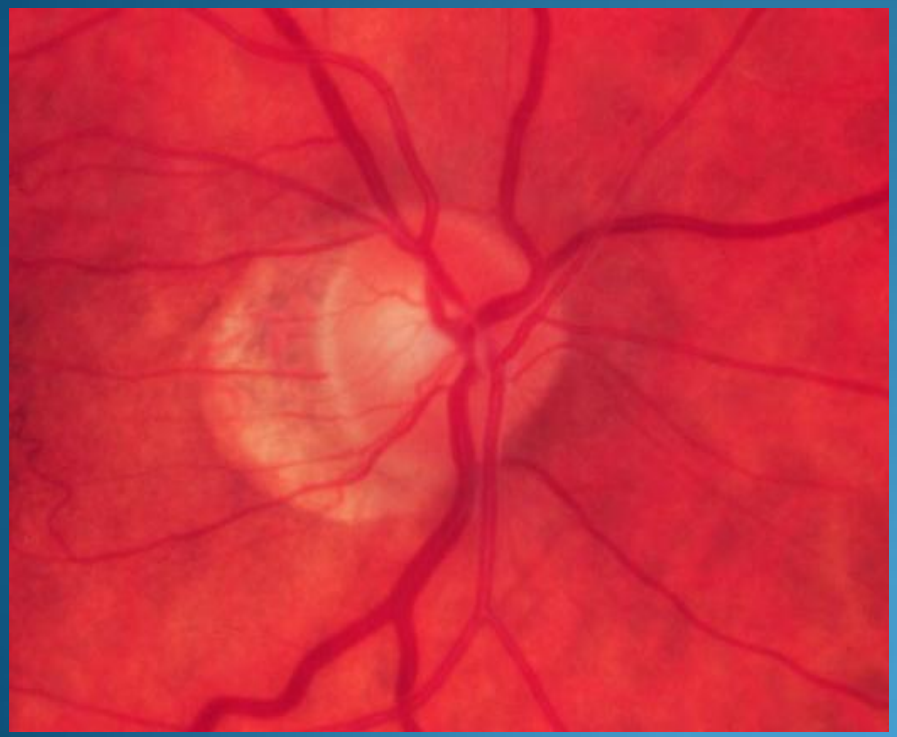
Re-presented 1/7 later

Now:

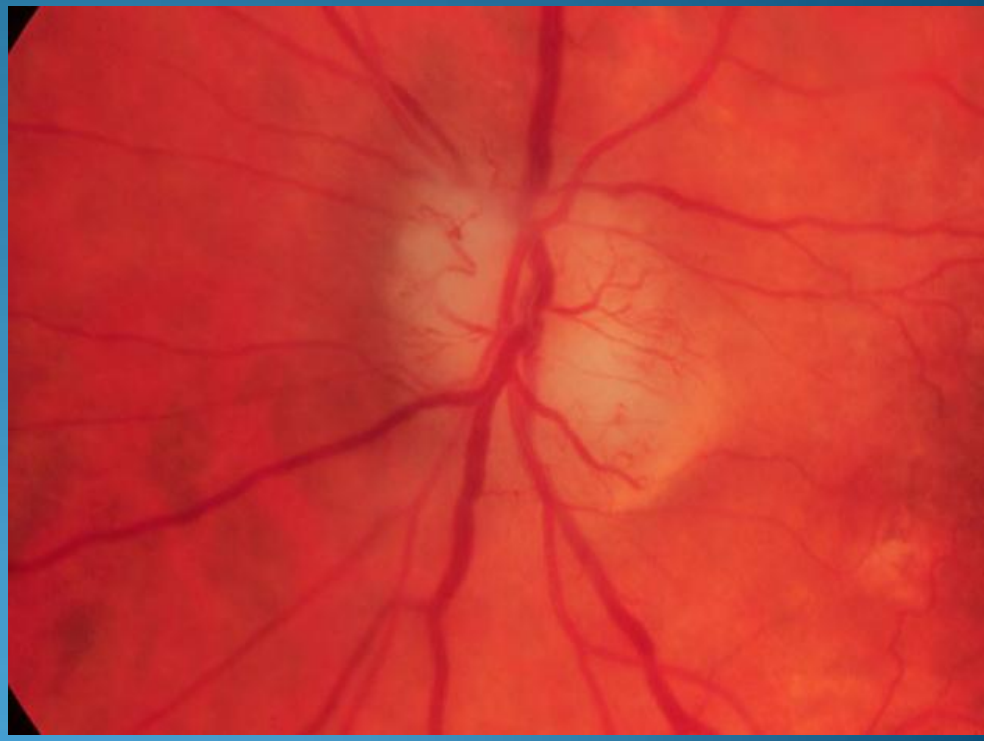
VA:	6/6 right	No light perception
Pupil:		Left Relative afferent pupillary defect

Ophthalmic presentation

Right Disc



Left Disc

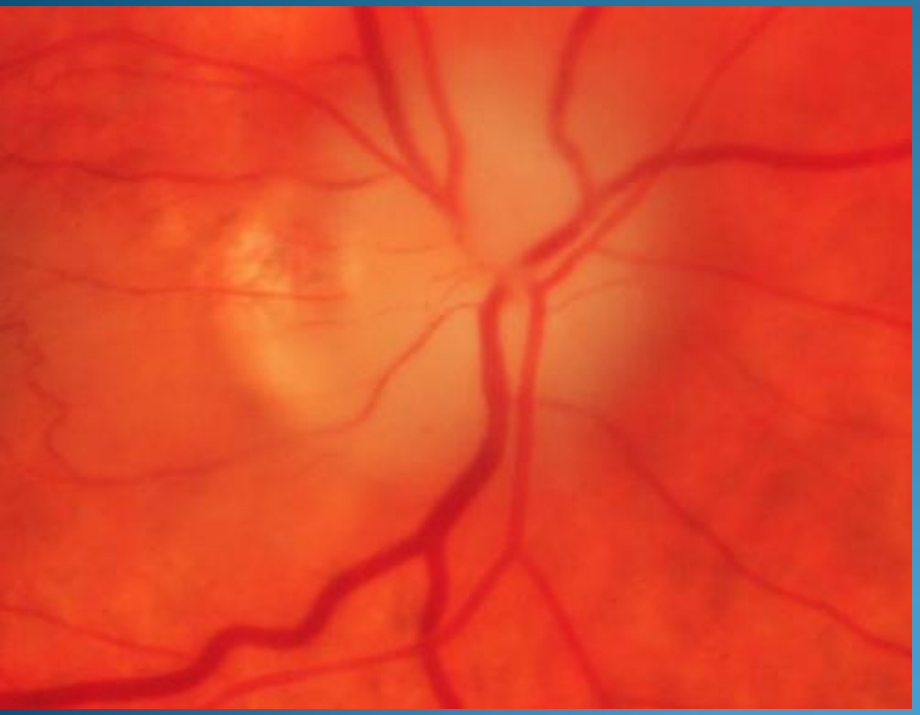


Management

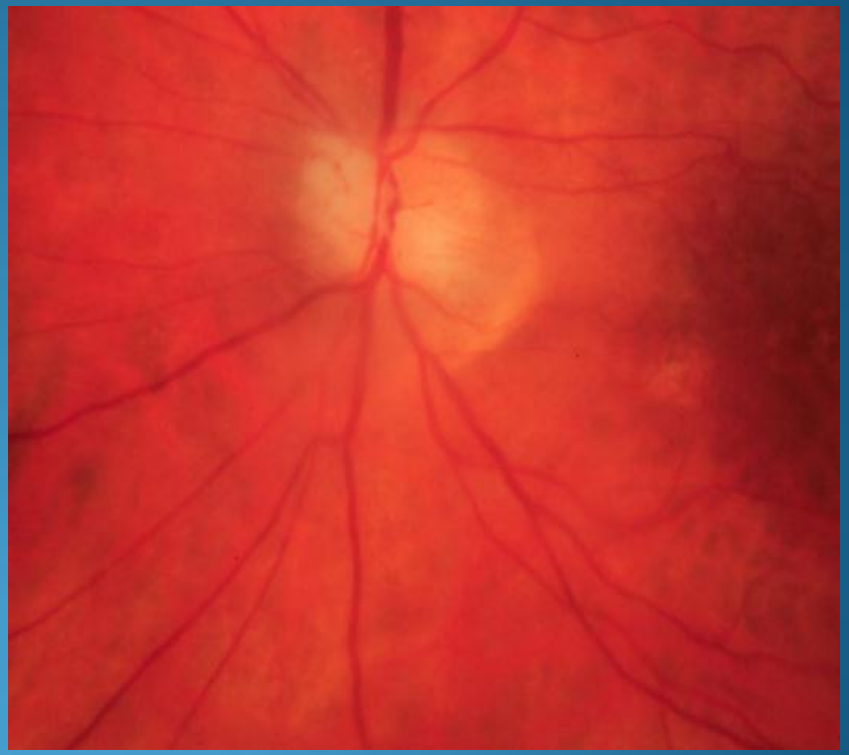
- Diagnosis:
  - Swollen left optic nerve
    - ? Giant cell arteritis
    - ? Non- arteritic anterior ischaemic optic neuropathy
- Management
  - Given prescription for prednisone 60mg
  - Temporal artery biopsy organised for 2/7

One day later: now no light perception BOTH eyes

Right Disc



Left Disc



Giant cell arteritis

‘Ranks as the prime medical emergency’

Kearns, 1975

70% of patients who lose VA to **worse than 6/60**

Danesh-Meyer HV, Savino PJ, Sergott. The Prevalence of Cupping in End-Stage Arteritic and Non-arteritic anterior ischemic optic neuropathy. *Ophthalmology* 2001; 108: 593-8

Once vision is lost in one eye,
if untreated VA is lost in the **other eye**:

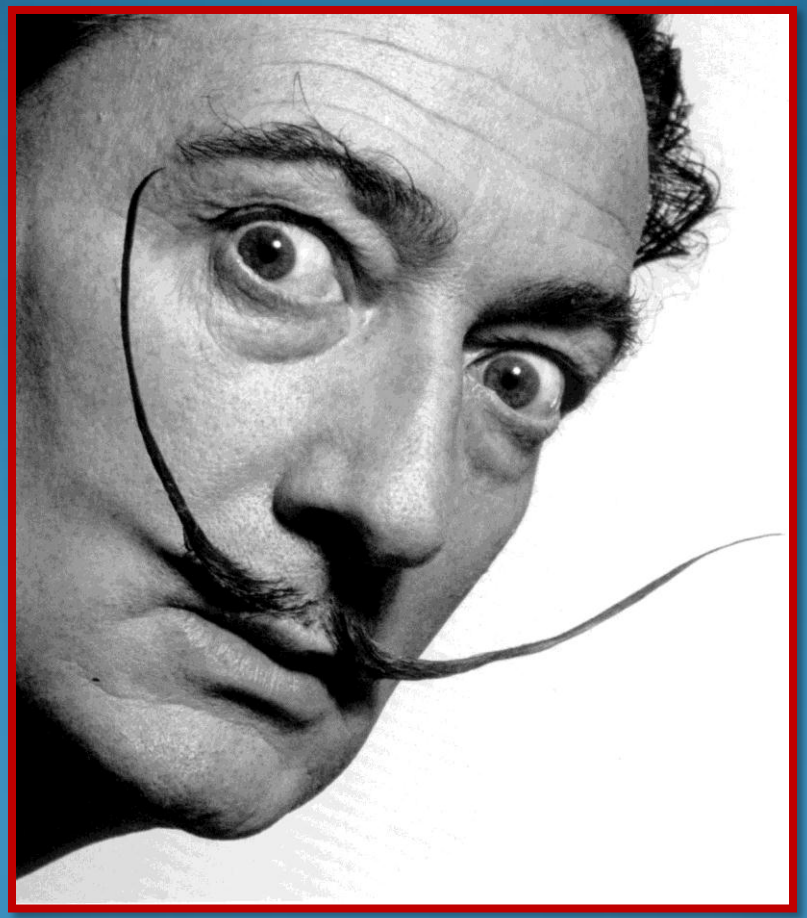
- **1/3** within **one month**
- **1/3** within **one week**
- **1/3** within **one day**

1. Index of suspicion

2. Delay of initiation of treatment

3. Inadequate Dose of Steroids

1. Index of suspicion



Giant Cell Arteritis

- > 55 years
- Ocular signs
- Systemic/ constitutional signs

Ocular Involvement

- Transient Visual Obscurations **65%**
- Anterior Ischaemic Optic Neuropathy **80-90%**
- CRAO **10-15%**
- Diplopia **2-15%**
- Up to **20%** are occult GCA

Ocular Involvement

- Transient Visual Obscurations **65%**

Premonitary symptoms **8.5 days** prior to sudden loss.

Usually more than one episode

Last few seconds to minutes

Classically, darkening, graying or blackening Of vision

Ischaemic optic neuropathy

Dangerous

Not- dangerous

Constitutional Symptoms

Weight loss

Anorexia

Night sweats

Fatigue

Scalp tenderness

Stroke

Polymyalgia rheumatica

Headache

Cardiac dysfunction

Jaw claudication

GI infarction

Likelyhood Ration (LR)

Symptom:	**LR**
- Jaw claudication	4.2
- Diplopia	3.4
- Absence of temp artery abnormality	0.53
- Headache	1.2

Levin et al, Ophthalmology 2004

2. Delay of initiation of treatment

Start Treatment with Steroids!


8

What tests help make the diagnosis?

- ESR
- CRP
- Platelets

2-20% will have **biopsy-proven GCA** and a **Normal ESR.**

Keltner JL. Giant cell arteritis.
Signs and symptoms.
Ophthalmology 1982;89:1101-1110

CRP

CRP found to be more sensitive than ESR at detecting GCA.

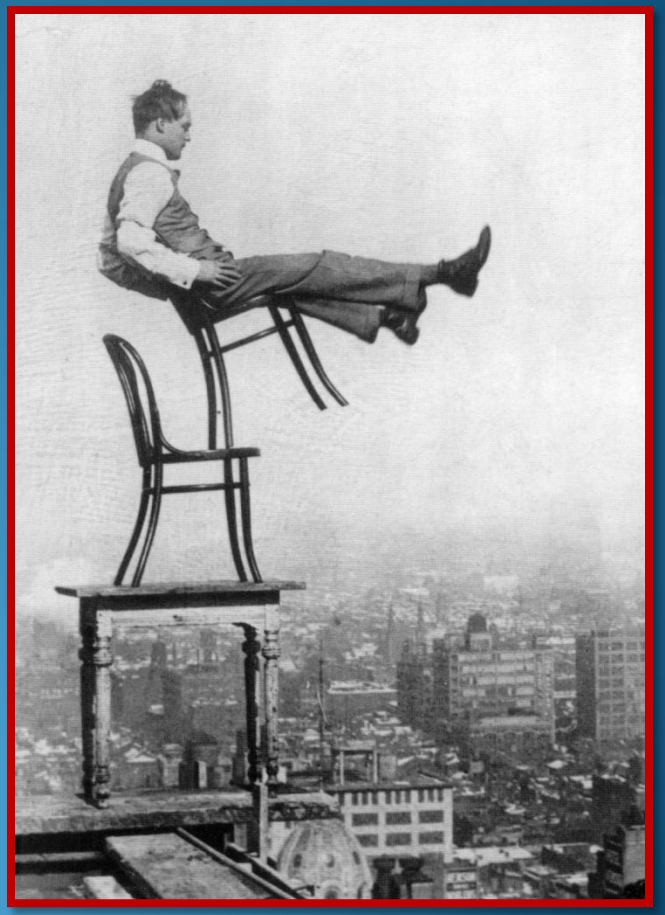
Hayreh SS, Podhajsky PA, Raman R, et al. Giant cell arteritis; Validity and reliability of various diagnostic data. *Am J Ophthalmol* 1997;123:285-296.

Histological Diagnosis: Temporal artery biopsy

3. Inadequate Dose of Steroids

Dose and Duration

- IV steroids if visual symptoms **1gm/ methylprednisolone 3/7**
- Usually treat for **1 year**
- Manage side effects



Side Effects

- Osteroporosis
  - Actively managed.
  - Biphosphonates/ Calcium regimen
  - Bone density
- Diabetes
- Mood alteration

Giant cell arteritis: the great mimicker

- Think of the diagnosis
- Start steroids immediately
- Temporal artery biopsy
- to confirm diagnosis
- Adequate treatment

CASE 2

78 year old woman

- Red eye
- Painful eye
- Blurred vision
- Nausea and vomiting

Direct Questioning

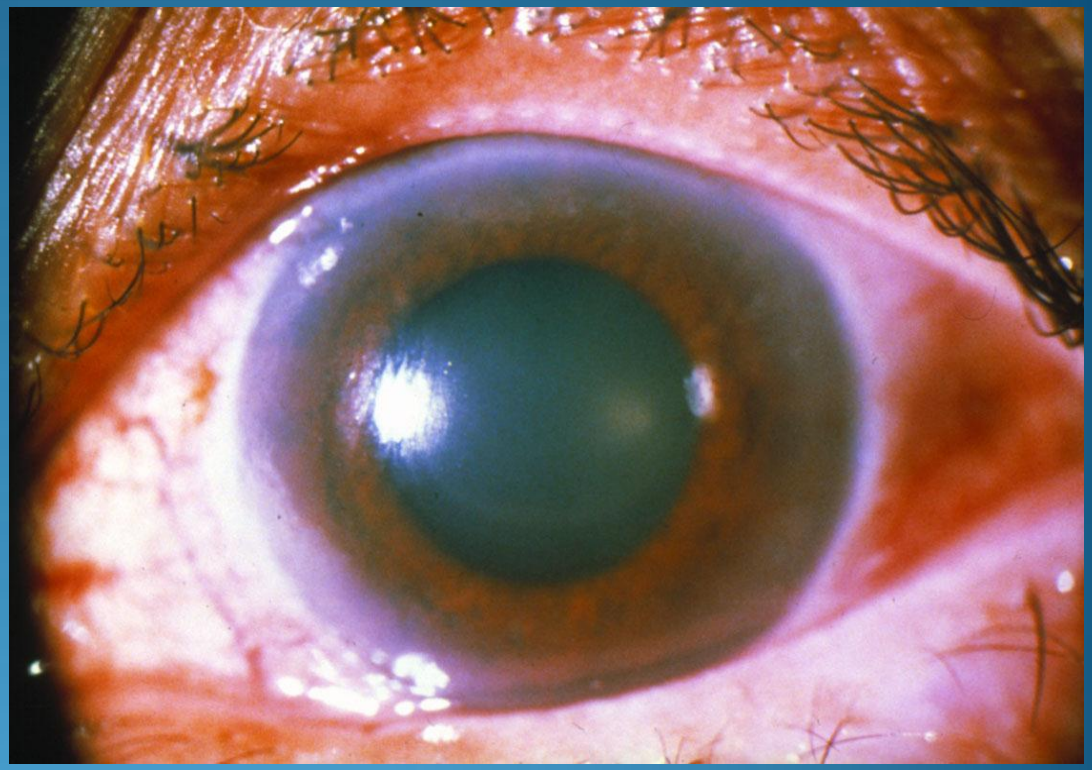
- Nausae and Vomiting
- Pain
- Halos around lights
- Hypermetrope
- Cataract

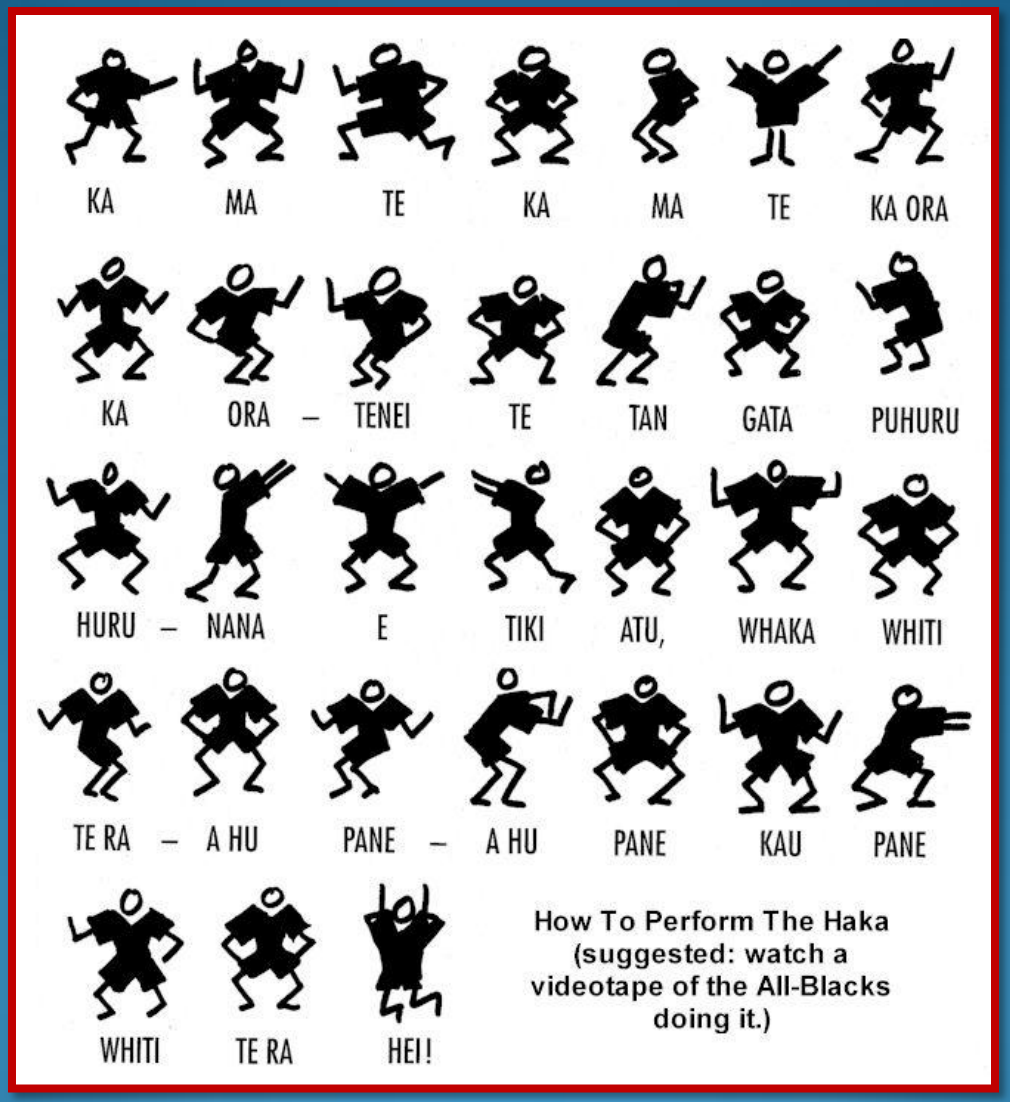
Diagnosis

Acute Angle Closure Glaucoma!

Aims of early management in acute angle closure

- **Eliminate severe pain and nausea**
- **Lower IOP and clear the cornea which allows for definitive management**
- **Prevent permanent visual loss**




KA MA TE KA MA TE KA ORA
KA ORA – TENEI TE TAN GATA PUHURU
HURU – NANA E TIKI ATU, WHAKA WHITI
TE RA – A HU PANE – A HU PANE KAU PANE
WHITI TE RA HEI!
How To Perform The Haka
(suggested: watch a
videotape of the All-Blacks
doing it.)

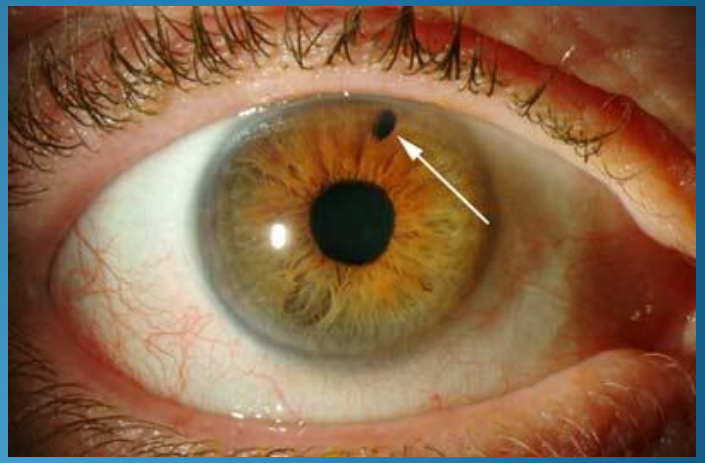

Cellnet

Treatment of acute angle closure glaucoma

Drops

IV

Laser

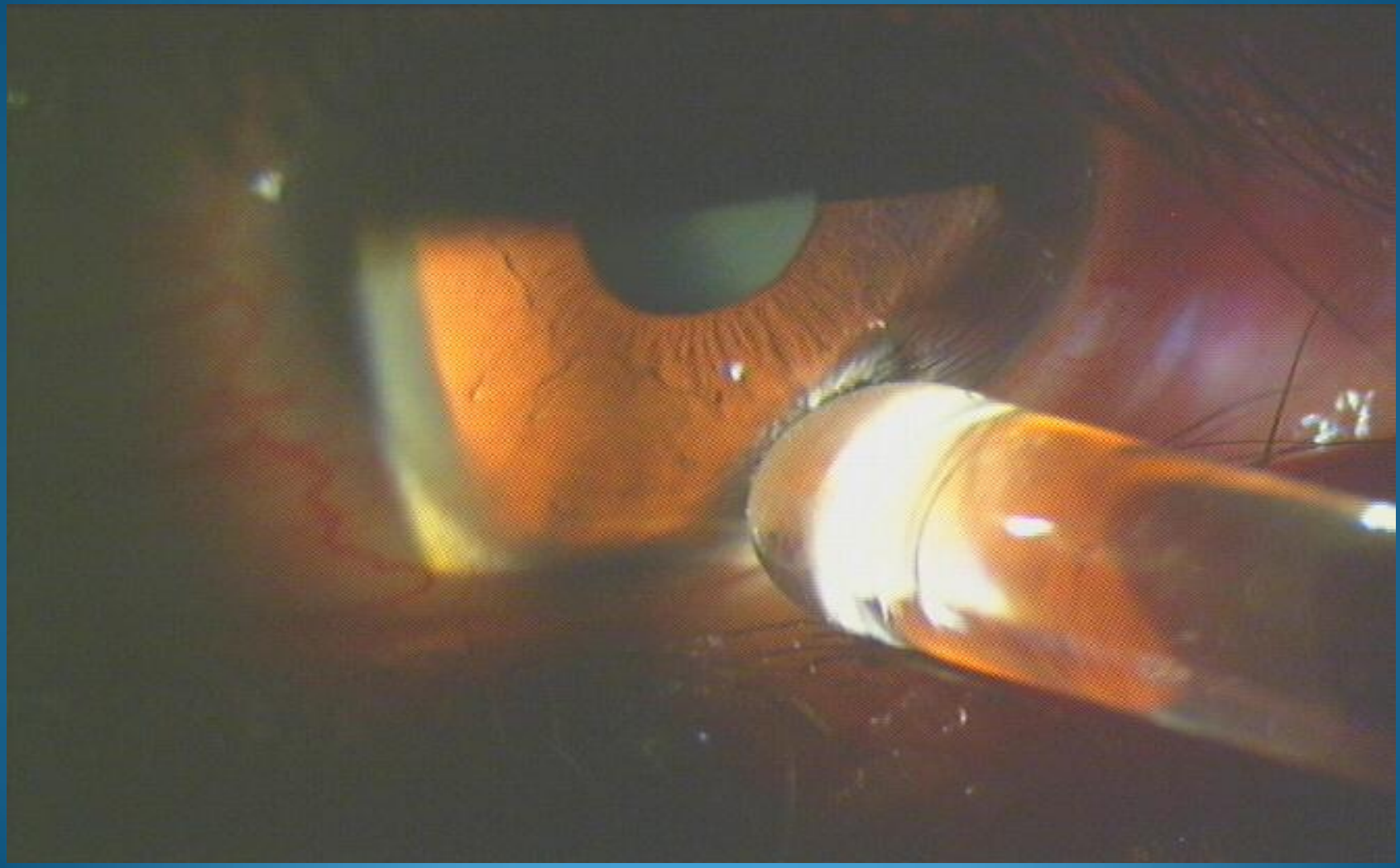


Corneal Indentation in the Early Management of Acute Angle Closure

Katherine Masselos, MBBS, MPH,[1,2] *Allan Bank, FRANZCO,*[1,3] *Ian C. Francis, FASOPRS, PhD,*[1,2,3] *Fiona Stapleton, PhD*[2]

Ophthalmology 2009;116:25–29 © 2009

Corneal Indentation



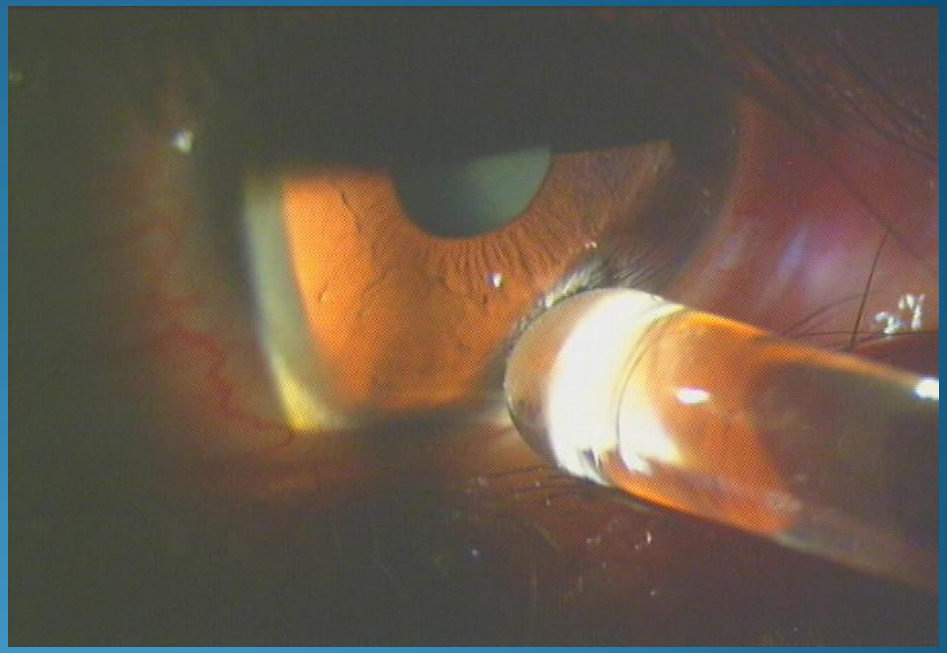
Corneal indentation aims to break the attack by:

- Forcing aqueous into the peripheral anterior chamber opening the angle.
- If the angle can be forced open, the IOP will fall rapidly (within minutes)
- Definitive management can follow

Preferred instruments

Technique

- Topical anaesthetic
- Pressure in cycles
  - 30 seconds on / off
- IOP response in 3-4 cycles
- Inferior cornea
- End points
  - Iris contour convex
  - Pupil margin movement



Case: 69 year old male

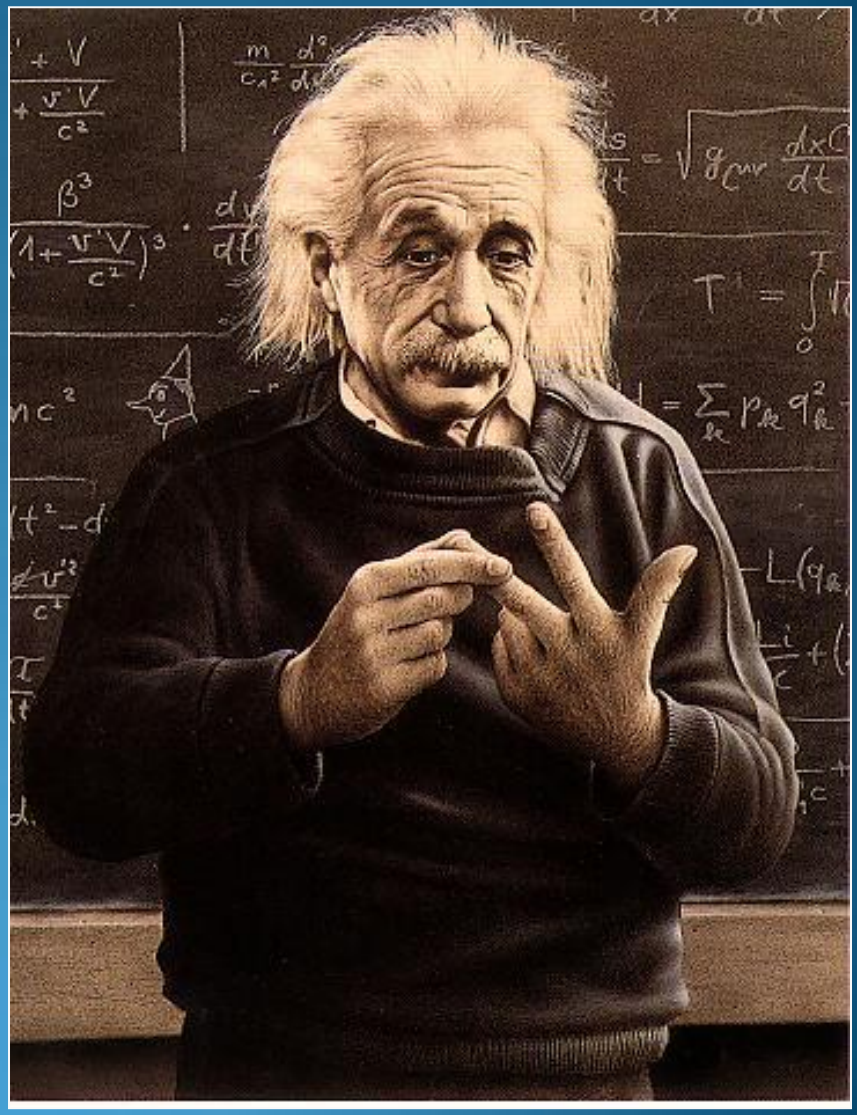
- PC: Acute onset severe pain and nausea 3-4 hours following pupil
- IOP 72mm Hg OD, 14mmHg OS
- Oral Diamox, Pilocarpine.Timolol and Brimonidine
- Minimal decrease in IOP after 45 min.
- IOP OD 11mmHg after corneal indentation
- Definitive Rx with laser iridotomies (OD same day, OS next day)

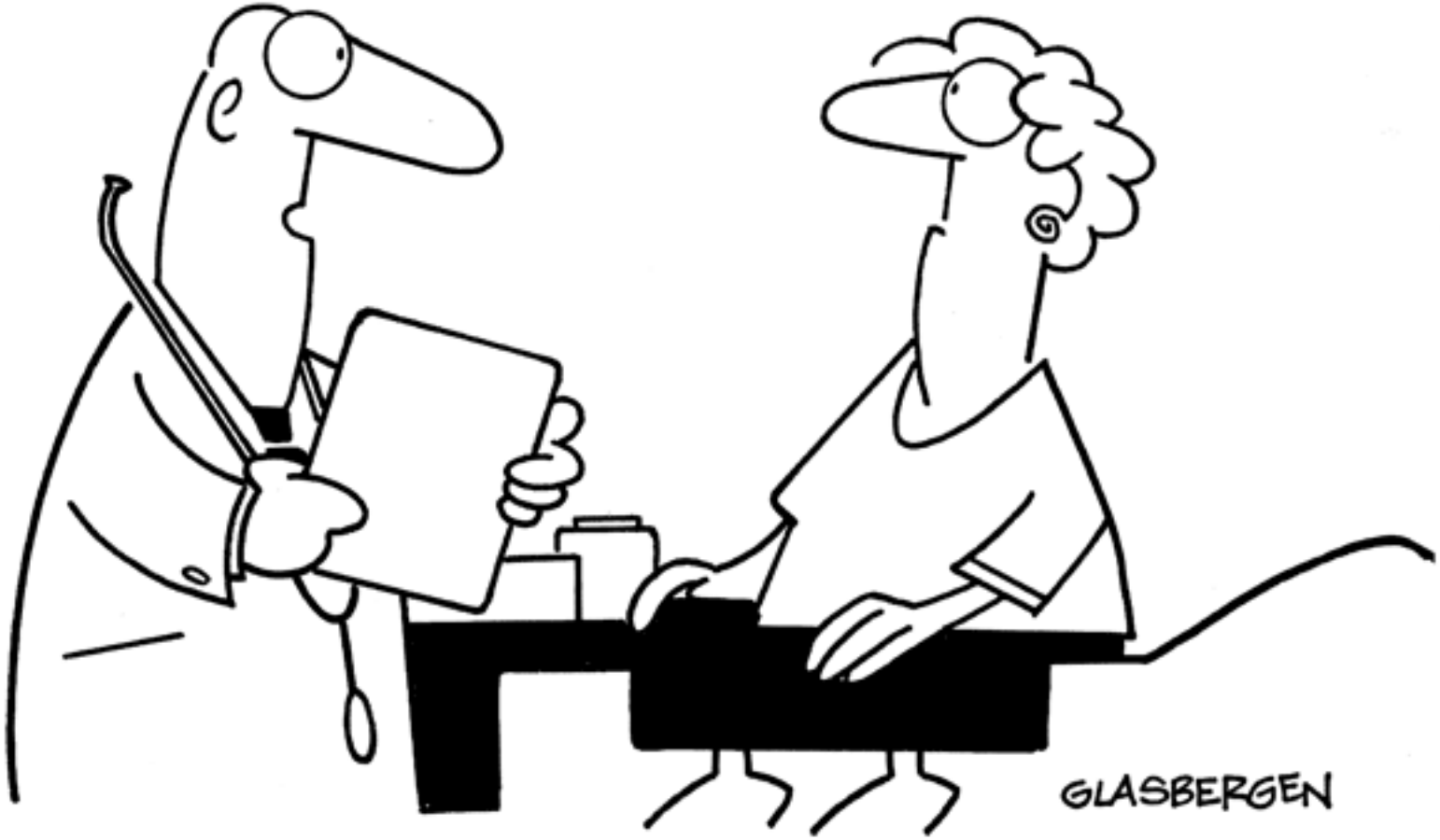
Corneal Indentation

- Rapid, portable, safe and effective
- Independent of presenting IOP
- Most effective early in the attack

Ophthalmology Emergencies

- Think of the diagnosis
- Consider appropriate investigations
- Initiate immediate treatment





**"I looked up your symptoms on Google.
If you want a second opinion, I can check Yahoo."**

**"Your doctor can only do so much.
The rest is up to you. Stop getting older."**