Epiphora (sic) in Adults

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History and examination for diagnosis in a patient with a watery eye
Tearing: we need to ask the questions...
Epiphora (sic) in Adults!

- We do not mean this...
- What we really mean is:

**Tearing in Adults**

Thus we can quote the patient

“Doctor, my eye/eyes is/are watering”
Three types of tearing or watery eyes...

1. Epiphora
2. Lacrimation
3. Plerolacrimala
Three types of Tearing or watery eyes...

Question: How do we sort this...?

Answer: Listen to an eminent clinician...
“Listen to the patient... the patient is trying to tell you the diagnosis.”

...regarding his or her watery eyes 😊

Sir William Osler (1849-1919) 1st Baronet, FRS, FRCP
Canadian Physician at McGill University in Montreal


- When Osler left for Europe he had planned to become an Ophthalmologist - 1884 😊
- Then went to Johns Hopkins Hospital, Baltimore.
- His book *The Principles and Practice of Medicine* was the most influential general medical text for a period of 40 years used around the world.
- Osler helped introduce a new emphasis on bedside clinical instruction.
- He focused on vigorous support of the importance of medical history for students and practitioners.
- In 1904, Osler was offered the Regius Professorship of Medicine at the University of Oxford by King Edward VII.

What could possibly be next?
Dr M. B. (Kappa) Kappagoda

A dynamic and unique Australian Ophthalmologist with outstanding knowledge and comprehension of Ophthalmology, Neurology and General Medicine


“The patient is DESPERATELY trying to tell you the diagnosis.”

...as to his or her watery eyes ☺
Don’t do this – there are only three categories of tearing for historical diagnosis

Management of the watery eye

- Lacrimation
- Exclude dry eye
- Remove or treat the cause
- Assess proptosis
- Decompress orbit
- Assess facial nerve
- Assess blink

- Epiphora
  - History:
    - Nasal obstruction
    - Trotter’s triad
    - Nasal fracture
  - Laceration
  - Exclude dry eye
  - Remove or treat the cause
  - Assess proptosis
  - Decompress orbit
  - Assess facial nerve
  - Assess blink

- Plerolacrima
  - Assess:
    - CC
    - Conjunctival flaps
  - CC surgery
  - Jones 1 more positive
  - CC surgery
  - Jones 2 negative

- Jones 1 positive
- Probe and syringe
- Laxity
- TMO or LCT repairs
  - Jones 2 negative

- Jones 1 positive
  - Localise obstruction:
    - punctum
    - canaliculus
  - Nasolacrimal stenosis
  - Surgery:
    - punctum
    - canaliculus
  - Jones 2 positive
  - Surgery:
    - punctum
    - canaliculus
  - PANDO
  - DCR

- Jones 2 negative
  - Positive
  - Probe and syringe
  - Positive with reflux
  - Jones 2 negative
  - Probe and syringe
  - Positive with no flow to nose and possible reflux

- Jones 2 negative
  - Negative
  - Negative with reflux and flow to nose

- Jones 2 positive
  - Negative with reflux and flow to nose

- Jones 2 more positive
  - Positive
  - Probe and syringe

- Jones 2 negative
  - Negative
  - Probe and syringe
  - Possible reflux

- Jones 2 negative
  - Negative
  - Probe and syringe
  - Possible reflux

- Jones 2 negative
  - Negative
  - Probe and syringe
  - Possible reflux
Tearing in Adults

Scenario 1: Epiphora 1

- Tears are seen or felt on the cheek - Greek ἐπιφορά: ἐπὶ ‘upon’ + pherein φέρειν ‘to bear or carry’ (…the cheek)

- Patient has no ocular surface or other symptomatology

- INSPECTION of the patient’s face, facial nerve function, ocular position, lids, puncta: 3 seconds *

- An obstruction to tear fluid drainage exists somewhere along the lacrimal drainage pathway so…

  Perform Lacrimal syringing/ irrigation/ lavage/ sac washout
Epiphora

Left mucopyocele

Congenital NLDO
Epiphora

Kissing naevi of the puncta
Note elevated MTF

Punctal Apposition Syndrome
Epiphora

Tear Meniscus Height pre and post DCR surgery evaluated by VRD (Video Reflective Dacryomeniscometry)

Lid Tension is important in patients with watery eyes
Epiphora

R lower lid ectropion
L lids early postop

Elevation of R UL because of suspicion of lax upper & lower lids → diagnosis of OSA → saves life and corrects ED

NB: The 22 Manifestations of OSA and the Visual system
Tearing in Adults

Scenario 1: Epiphora 2

- **Hydrostatic lacrimal sac massage** is performed:
  3 seconds per side

- **Fluorescein Dye Disappearance Tests (DDT)**...best to describe appearance which is
  - fluorescein remains **visible** or
  - fluorescein has **disappeared**

- **De rigueur**: Jones 1 and Jones 2 testing are carried out using rigid nasal endoscopy
Hydrostatic sac massage
Rigid Nasal Endoscopy

DDT
• Fluorescein dried on L lateral canthal skin
• R fluorescein and mucus persist
Consider (1) Trotter’s Triad: diagnostic of nasopharyngeal carcinoma

- Ipsilateral deafness
- Ipsilateral facial pain
- Ipsilateral paralysis of soft palate/clicking in the ear
Consider (2) Signs and Symptoms of Nasal and Paranasal Sinus Cancers

- Ipsilaterial nasal obstruction
- Epistaxis
- Mass of face, nose, palate, orbit
- Watery eyes
- Hearing loss
Tearing in Adults

Scenario 2: Lacrimation 1

- The patient generally has **ocular surface or other symptomatology** (e.g. conjunctivitis, foreign body, emotion...)

- Tears are also found on the cheek but in response to one of the above so: Lacrimal syringing/ irrigation/ lavage/ sac washout

- The lacrimal drainage pathway is intact
Directed history for diagnosis of lacrimation

- Patient complains that: "I have pins and needles in my eyes and they water"
- Doctor thinks of causes of paraesthesiae in the eyes with associated lacrimation
- Thus examines all cranial nerves especially trigeminal and corneal sensation - takes one minute and 40 seconds → all normal

So we flip his lids and... ...stain the concretions with Fluorescein.....

*** So he really had ‘pins OR needles’ and lacrimation.....’
Tearing in Adults

Scenario 2: Lacrimation

- The usual thorough **INSPECTION** of the patient’s face, facial nerve function, ocular position, lid margins and position, puncta

- **Hydrostatic lacrimal sac massage** is also performed

- **Double or triple everted eyelid examination** bilaterally
  - N.B.: glass rod and topical anaesthesia

- **Jones 1 and Jones 2 testing** are carried out
Lacrimation

Allergic blepharoconjunctivitis

Glass rod for triple eversion of lids to locate/exclude a foreign body
Tearing in Adults

**Scenario 3: Plerolacrima**

Greek πληρόω (*pleróó*) = full of + Latin lacrima = tears

AKA previously: Lacrorrhoea (favoured by Professor Tim Sullivan)

‘The presence of watery eye symptomatology consisting of a wet eye, without tears running onto the cheek’

- The patient generally has minimal or no ocular surface or other symptomatology
- The patient is inspected on the slit lamp, looking particularly for conjunctivochalasis*, lid margin irregularities, and elevated MTF best seen on dedicated VRD
- …so… Lacrimal syringing/ irrigation/ lavage/ sac washout
- There is no obstruction to tear fluid drainage
Tearing in Adults

Scenario 3: Plerolacrima 2

Michael: Plerolacrima patient from the Rooms...

Ian to Michael in April 2019: “Please write and tell me what you have just told me”

“Hi Ian:

When I close off my PC or my TV my eyes fill with tears which remain in the eyes and do not run down my face even though I blink to dislodge them.

The tears stay a little while in the eyes and drain away when I move about the house.

When I close my eyes they feel dry.

Best wishes,
Michael”
The usual thorough inspection of the patient’s face, facial nerve function ocular position, lid position, puncta is still performed.

- Hydrostatic lacrimal sac massage is performed.
- Triple everted lid examination.
- Jones 1 and Jones 2 testing are carried out.
Richie has conjunctivochalasis plus an elevated MTF.

Temporal shift of most of the plica.
Technique of lacrimal syringing/irrigation/lavage/sac washout without pain and with confidence

1. Examiner’s L middle finger on LL
   1.b. Examiner’s R finger/thumb on barrel
   1.c. Third Hand (Dr Nicole S. Lim)

2. a. Examiner’s L index finger & thumb transfer to cannula-barrel junction
    2.b. Examiner’s L middle and ring stabilise LL & punctum

3. Examiner’s R finger/thumb transfer to plunger/barrel

4. Longitudinal movement along canaliculus is always good
Technique of lacrimal syringing/irrigation/lavage/sac washout

- To avoid complications, the dacryologist must use a technique that is safe, gentle, and atraumatic.
- This technique described provides the conditions for a pain-free and stress-free experience for the patient and the surgeon.

Possible complications of Lacrimal Irrigation

1. Patient pain and distress
2. Canaliculcular infection/trauma
3. Canaliculcular false passage
4. Localized cellulitis
5. Dacryocystitis
6. Unreliability of findings because of #1-3
Management of the Watery Eye: **NO!**

**History:**
- Nasal obstruction
- Trotter’s triad
- Nasal fracture

**Lacrimation**
- Exclude dry eye
  - Remove or treat the cause
  - Assess proptosis
  - Decompress orbit
  - Assess facial nerve
  - Assess blink
  - Assess puncta: stenosis, ectropion, PA syndrome
  - Assess plica

**Epiphora**
- Lower lid: Ectropion, Ptosis
- Laxity
- TMO or LCT repairs

**Assess:** proptosis

**Assess:** punctum, canaliculus

**Laxity**

**Epiphora:**
- If normal: Investigate epiphora
- Jones 1: Positive FDDT, Nasal endoscopy
- Jones 2: Negative, PANDO

**Jones 1:** positive
- Jones 2: negative

**Jones 2:** positive with reflux and flow to nose
- Jones 2: negative with no flow to nose and possible reflux

**Epiphora:**
- Surgery: punctum, canaliculus
- Surgery
- Probe and syringe: Positive, Probe and syringe: Negative

**Jones 2:** positive
- Jones 2: negative

**Histologies:**
- PRL
- CC surgery
- Plerolacrimal
- CC surgery
- Jones 1: more positive
- Jones 2: negative

**PANDO:**
- DCR

**But if you like Flow Diagrams: it does make sense.**
What we want is this approach or a slightly quicker one…
Watery Eyes made Quicker...

1. Look at the patient
2. Ask patient about his or her tearing and associated nasopharyngeal and sinus symptoms
3. Squeeze (the fundus of lacrimal sac)
4. Instill 2% fluorescein and observe
5. Rigid nasal endoscopy (maybe)
6. Saline irrigation

LASIRS
Using diagrams like these, talk to the patient.