

Dacryoendoscopy, Endoluminal Lacrimal Duct Recanalisation **(ELDR)**

Gangadhara Sundar, MD, FRCSEd, FAMS

Asst Prof & Head, Orbit, Oculofacial Surgery

Adjunct Faculty, Dept of Pediatrics

Gangadhara_sundar@nuhs.edu.sg

**“I declare no financial conflict
of interest”**

National University Health System

Yong Loo Lin School of Medicine • National University Hospital • Faculty of Dentistry



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Outline

- **Lacrimal drainage obstructions**
- **Lacrimal drainage surgeries**
- **Newer procedures – ELR / ELDR**
- **Adjuvant procedures – Balloon DCP**
- **Evidence**

**Prof Reynaldo Javate,
Philippines
Dr Toru Suzuki, Japan**



**Dacryo-cysto-rhinosotomy (DCR)
– PANDO/SALDO**

**Syringing & probing – Congenital
NLDO**

Indications

- Pediatric vs. Adult
- Symptomatic vs. Asymptomatic pts



Traditional Management

Endonasal DCR (Non-endoscopic)

Galdwell 1893/West 1910

Endoscopic DCR

Rice 1988

External DCR

Toti 1904/Dupuy-Dutemps & Bourguet 1920

Endonasal Dacryocystorhinostomy With
Mucosal Flaps

ANGELO TSIRBAS, FRACO, AAFPS, AND
PETER J. WORMALD, MD, FRACS, FRCS(Edin), FCS(SA)

DCR

Ideal cases

- Elderly patient
- Female(postmenopausal) > Male

Non-ideal cases

- Flawless skin
- Absent creases
- Crowded nasal passages
- Severe DNS
- ANTICOAGULANTS



DCR - Problems

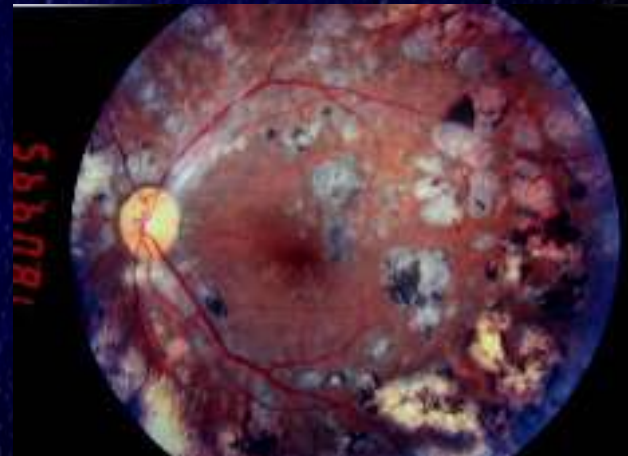
External

- Non-physiologic
- Invasive – Transcutaneous
- Technically demanding (Gen ophthalmologist)
- Complications: bleeding, failure rate, scarring



Endonasal

- Non-physiologic ('False passage')
- Invasive – Transnasal
- Technology (Learning curve, expertise)
- Complications: bleeding, failure rate, GA related.



Special situations

- Unwilling patient
- Patient seeking alternatives
- The 'well informed, well read, internet' patient!!!
- Unfit for prolonged anesthesia

Case Scenario # 1

- 60 yr old female
- h/o CAD, CVA, **Double anti-platelet agents**
- B/L NLDO R>L (PANDO)



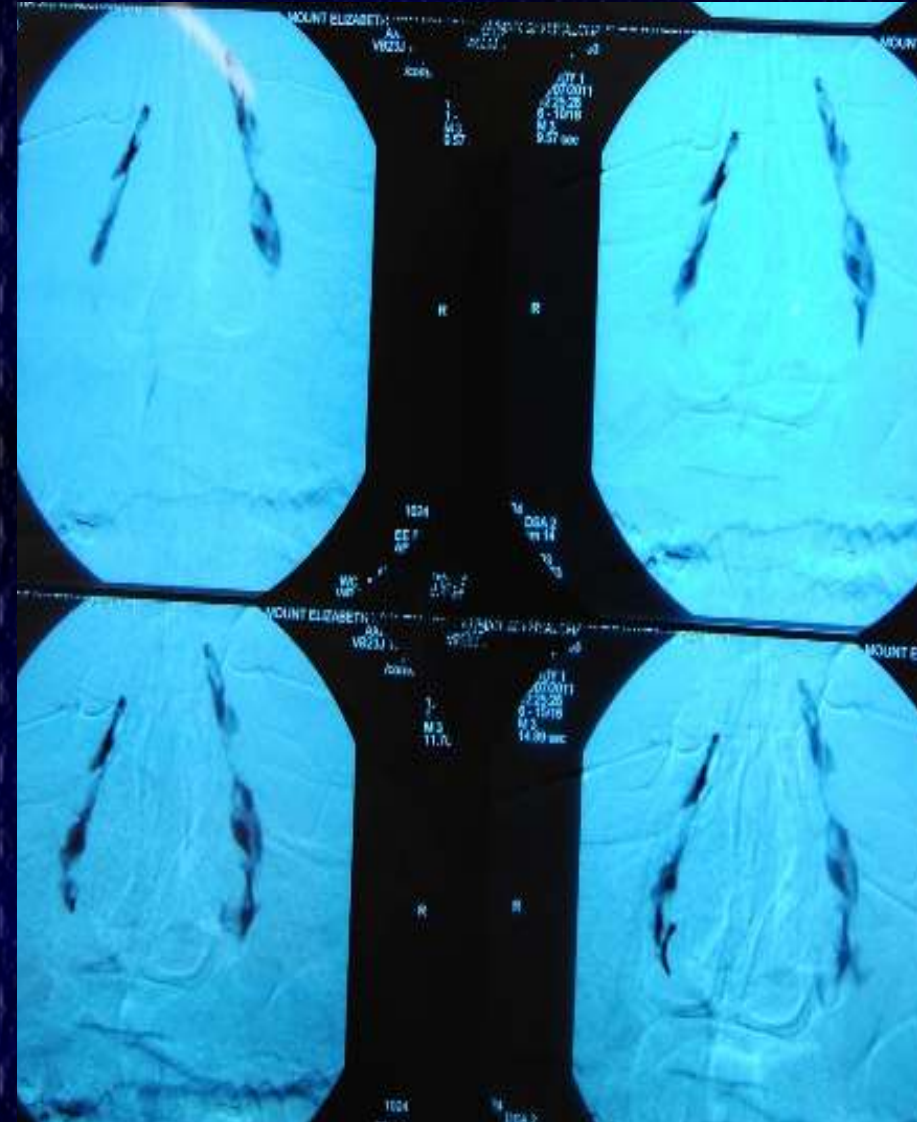
Case Scenario # 2

45 yr old male

ENGINEER

Intermittent pain and discharge

'Refused Left DCR'



Endoluminal Recanalisation

- Natural Orifice Transluminal Endoscopic Surgery (NOTES)



Dacryoscopy



Lacrimal Canaliculoscopy, Endoscopy of the Lacrimal Outflow System

Dacryoendoscopy



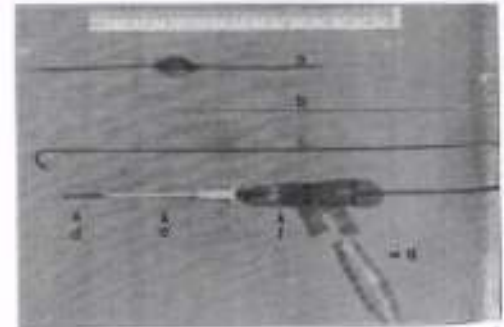
Emmerich, 1998



Müllner, 1999



Hurst, Hurwitits, 1991



William Fein, 1992

Historical perspectives

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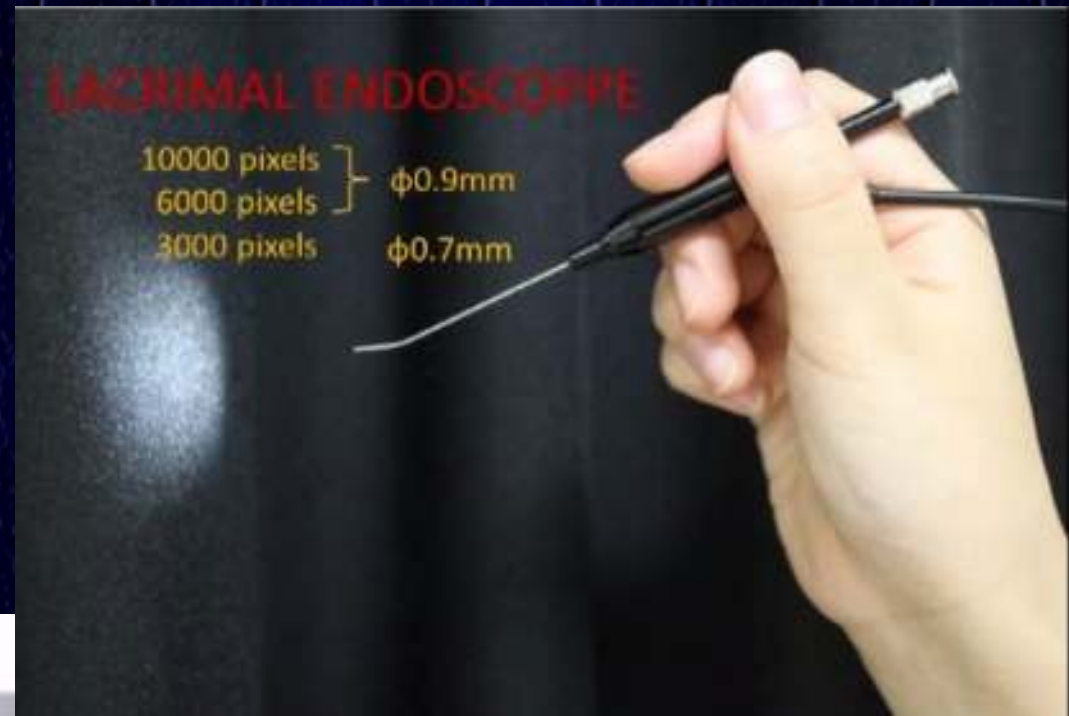
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- **Sasaki T, Nagata Y, Sugiyama K.** Nasolacrimal duct obstruction classified by dacryoendoscopy and treated with inferior metal dacryocystorhinostomy. *Am J Ophthalmol* 2005; **140**: 1070-4.
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Dr. Toru Suzuki



MACHIDA

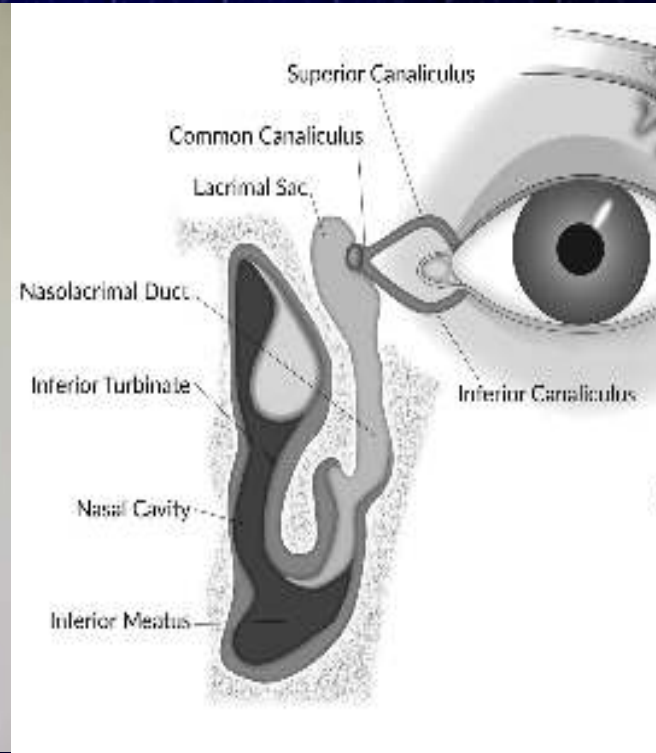
Recanalisation techniques

- Mechanical
 - **Probing**
 - Microdrill
 - Trephination
 - Microsurgical NLD rhinostomy®
- Electro/Thermocautery
- Radiofrequency
- Laser



Daraei P, DekGaduio HN, **Inferior meatus surgery for distal nasolacrimal duct obstructions**. Long term outcomes and treatment paradigm. JAMA Otolaryngol Head Neck Surg; 2014; 140(8): 533-544

Dacryoendoscopy

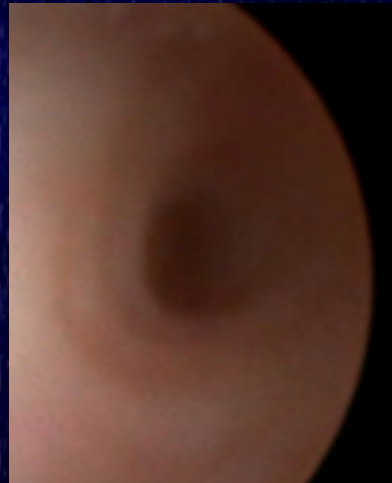
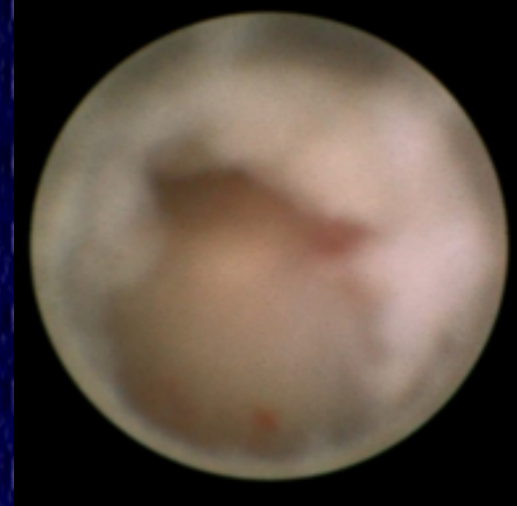


Polydiagnost®
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- **Lacrimal Duct Stenosis**

- **Chronic dacryocystitis**



- **Mucosal folds with stenosis**

- **Complete NLDO**

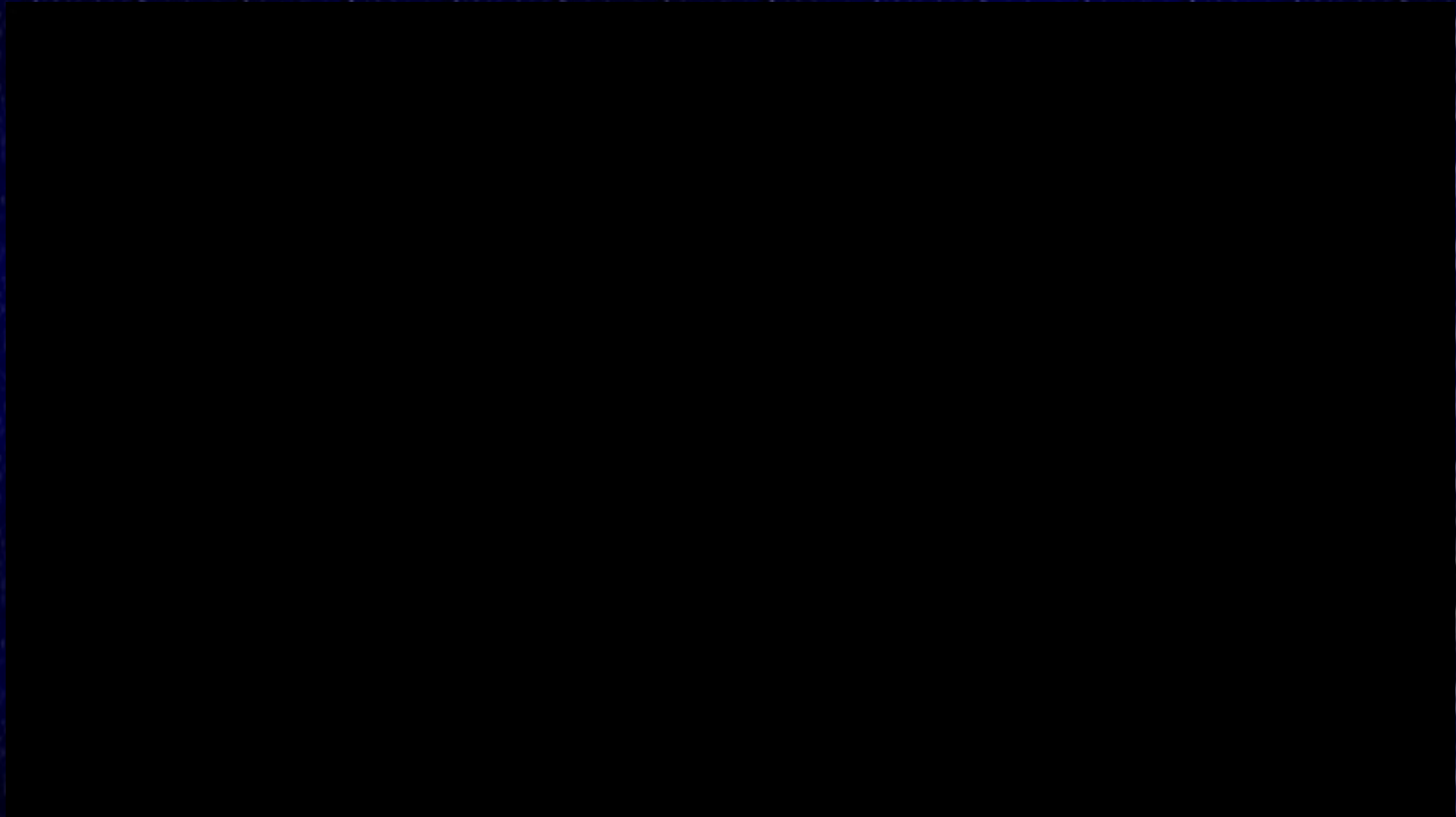


ELDR Setup

- **Lacrimal Endoscope – Camera system**
- **Nasal Endoscope – Camera system**
- **Balloon Catheter with Inflation device**
- **Bicanalicular Intubation system**
- **Assistant***



Dacryoendoscopy, ELDR with Intubation



Adjuvant techniques

- Balloon Dacryoplasty
- Steroids
- Stenting
- Mitomycin C / 5-FU

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Balloon dacryoplasty: ushering the new and routine era in minimally invasive lacrimal surgeries

Mohammad Javed Ali, Milind N. Naik, Santosh G. Honavar

Prospective randomised comparison of external dacryocystorhinostomy with and without silicone intubation

R Saiju,¹ L J Morse,² D Weinberg,³ M K Shrestha,¹ S Ruit¹

Balloon Dacryoplasty





- 2 cycles of 90 s & 60 s @ 8-10 atm



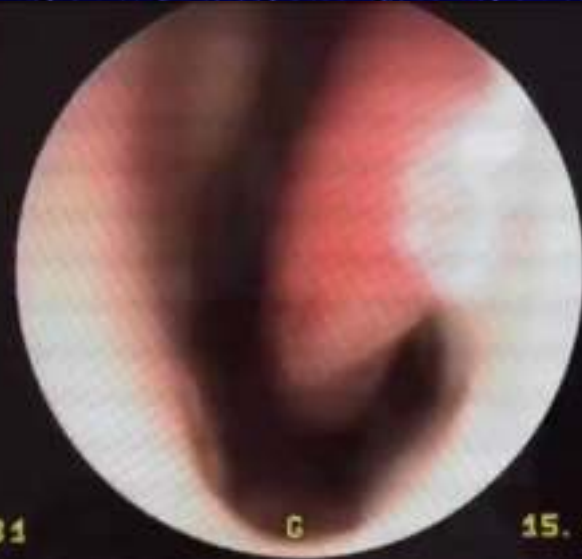
Postoperative regimen

- Antibiotic steroid eye drops, nasal decongestants
- Serial follow up
- Fluorescein dye disappearance test
- Nasal endoscopy
- Lacrimal irrigation (antibiotics, steroids)
- Valsalva maneuver***

Postop intervention

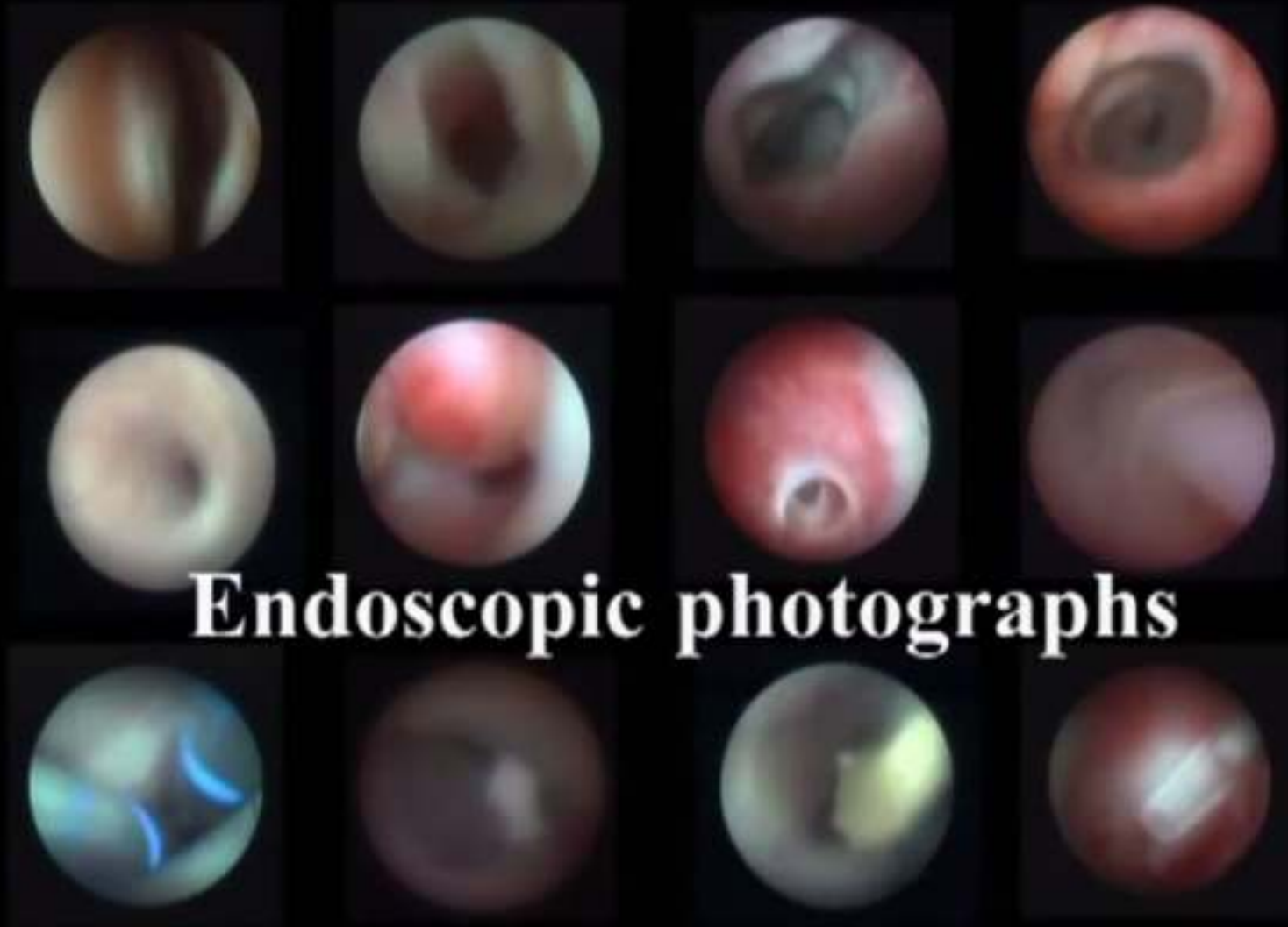


Early and late postop follow up



Dacryoedoscopy

Courtesy Dr Toru Suzuki



Intraluminal plug



ELDR

Advantages	Disadvantages
Direct visualisation of pathology	Technology
Avoids unnecessary investigations: DCG (CT., MRI)	Resolution
Diagnostic + Therapeutic	Availability
Reduced operative time	Learning curve
	Repeated frequent follow up
	Validity / Evidence ???

Ideal cases

- **Older children, young adults, elderly adults**
- **Recent onset symptoms**
- **No fulminant dacryocystitis**
- **Lower end of NLD Obstruction**
- **Focal obstruction**
- **Realistic patient**

Contraindications

- Unrealistic patient
- Bony obstruction: Congenital, posttraumatic
- Chronic / Acute dacryocystitis
- Proximal / diffuse obstruction
- Poor follow up pts

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