

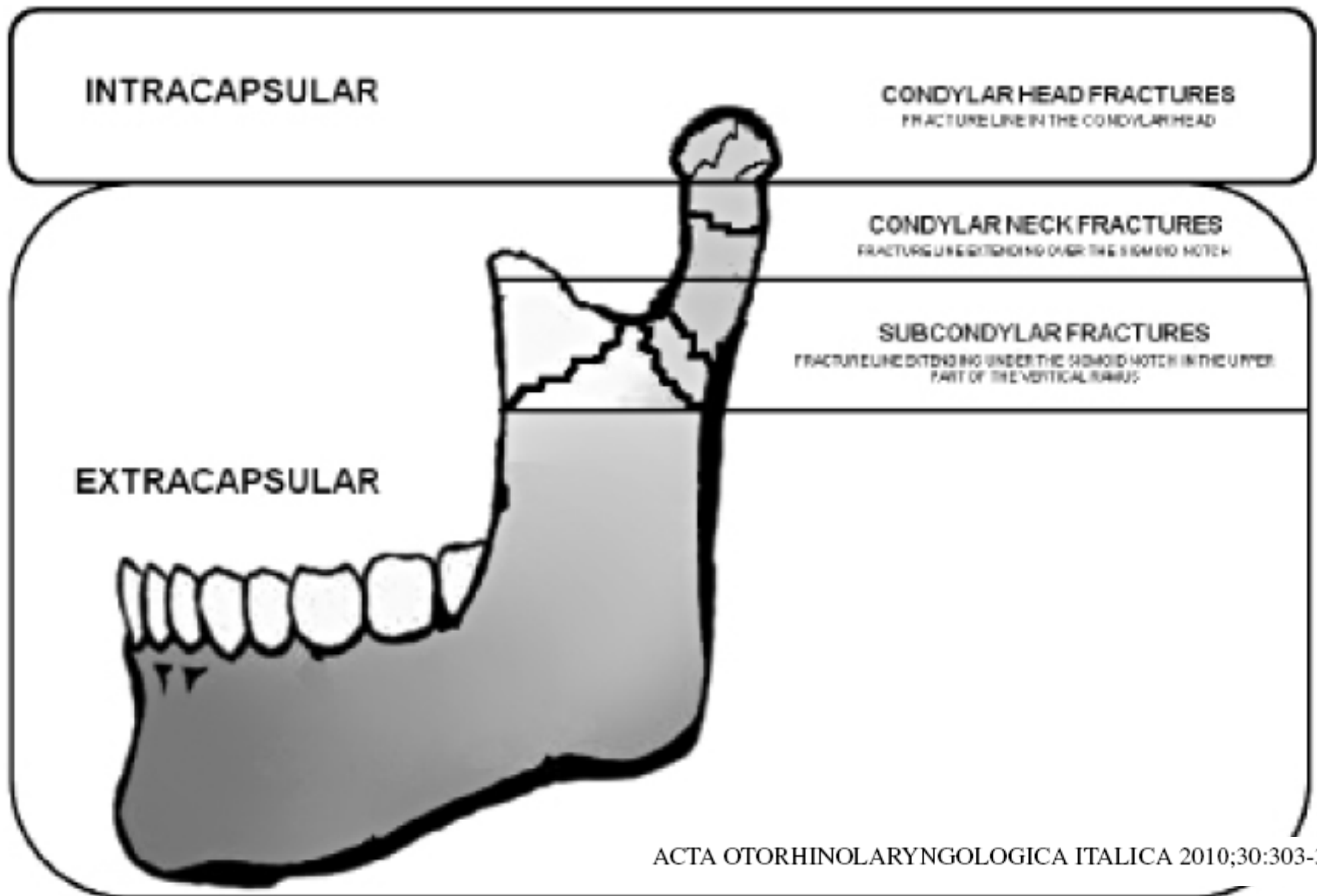
**“LONG PLATE TECHNIQUE” - THE SURGICAL
REFINEMENT FOR ENDOSCOPIC ASSISTED
MANDIBLE CONDYLAR FRACTURE OPEN
REDUCTION AND INTERNAL FIXATION**

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Fig. 1. Sites of condylar (intra-capsular and extra-capsular) fractures and of subcondylar fractures (according to Lindhal's and Zachariades' classification).

CONDYLAR FRACTURE TREATMENT OPTION

CLOSE VS OPEN

- The management of fractures of the mandibular condyle continues to be controversial.
- Close reduction with intermaxillary fixation (IMF)
 1. all condylar fractures that occur in childhood
 2. Intracapsular fracture
 3. Extracapsular fractures that do not include serious condylar dislocation in adults.
- Open reduction
 1. adults with displaced fractures
 2. Adults with dislocation of the condylar head

REPORTED RESULTS

- 137 patients with unilateral fractures of the mandibular condylar process (neck or subcondylar)
- 77 treated closed reduction + IMF
- 65 treated open reduction with/without international fixation
- **The closed techniques** group had a significantly greater percentage of **malocclusion** compared with patients treated by open reduction, in spite of **the initial displacement of the fractures being greater in patients treated by open reduction.**

Ellis et al. Occlusal results after open or closed treatment of fractures of the mandibular condylar process. J Oral Maxillofac Surg 2000; 58: 260-8.

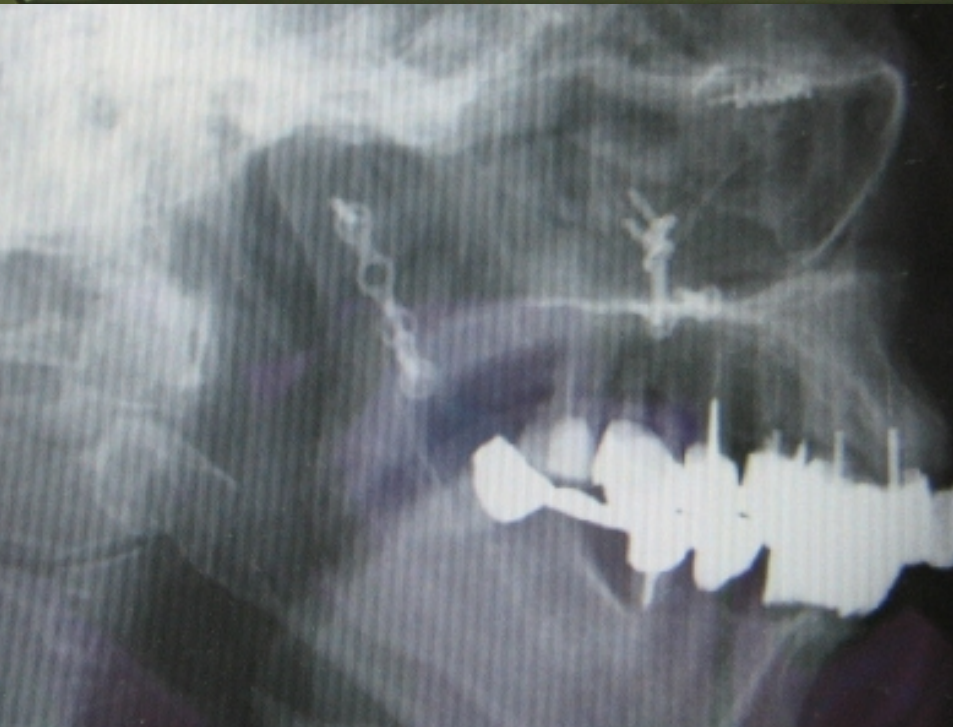
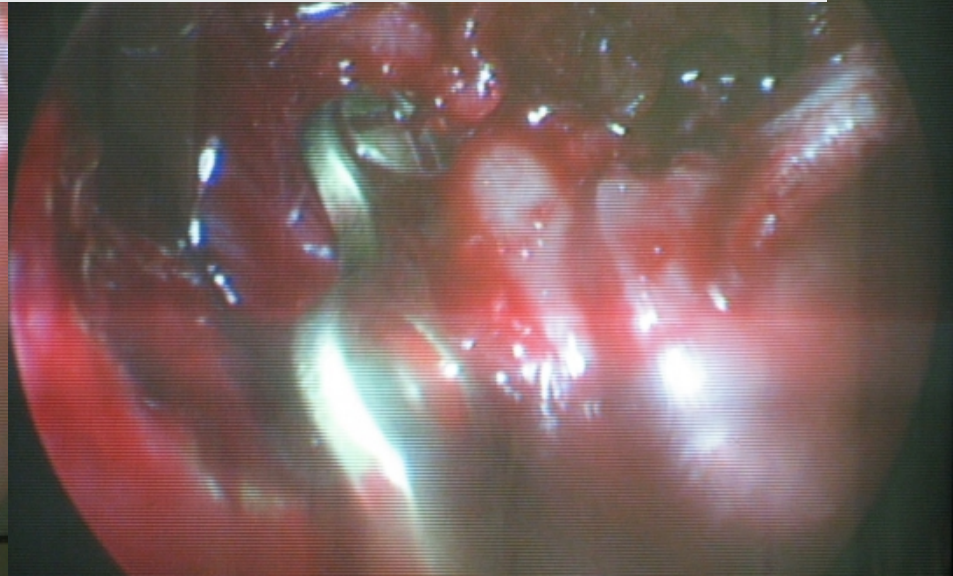
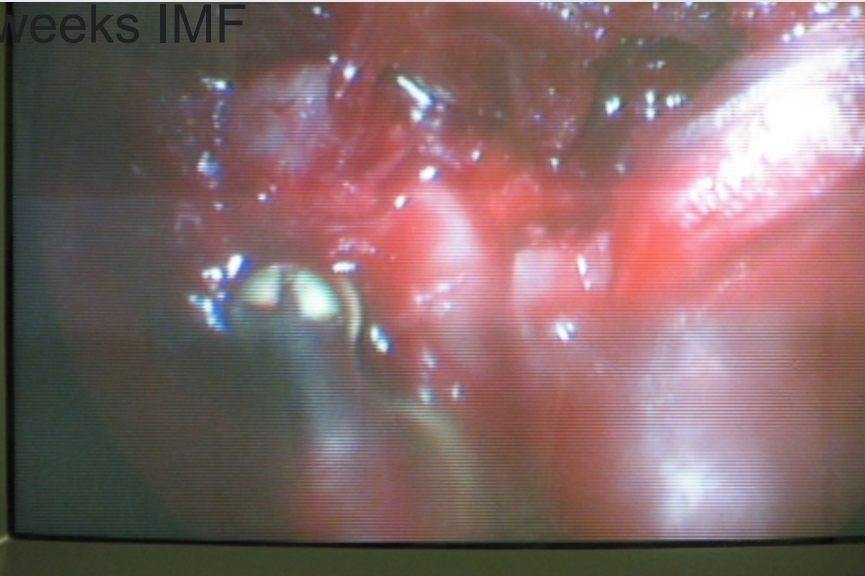
REPORTED SURGICAL PROBLEMS

- **limited access**
- risk of damage to **the facial nerve** and its branches
- postoperative auricular anaesthesia – paraesthesia due to injury of the greater auricular nerve
- damage to parotid gland function (sialocele, fistula, etc.).

MATERIAL AND METHODS

- From July, 2002 to August, 2012, there **were 2278 facial bone fracture** patients operated at Kaohsiung Medical University Hospital.
- Chart, CT images and operation record were reviewed.
- **59** condylar fracture patients .
(Bilateral 14, right side 27, left side 18)

Standard method: Submandibular approach, 4 hole plate used + 2~3 weeks IMF



2 M f/u

HOW THE IDEA COM

- Condylar neck fracture need tragus approach for plating.
- However, the 3rd or 4th hole of the 4-hole plate are very close to the facial nerve trunk.
- **Traction** at this area cause complication!

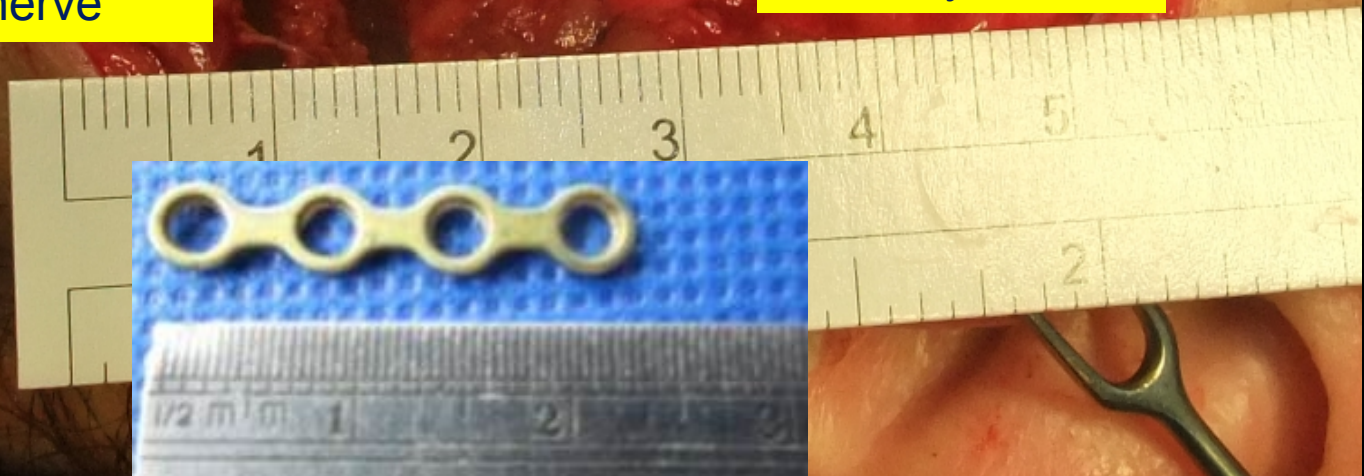


Left facial nerve transient paralysis,

During plating, the 3rd or 4th hole of the 4-hole plate are very close to the facial nerve trunk

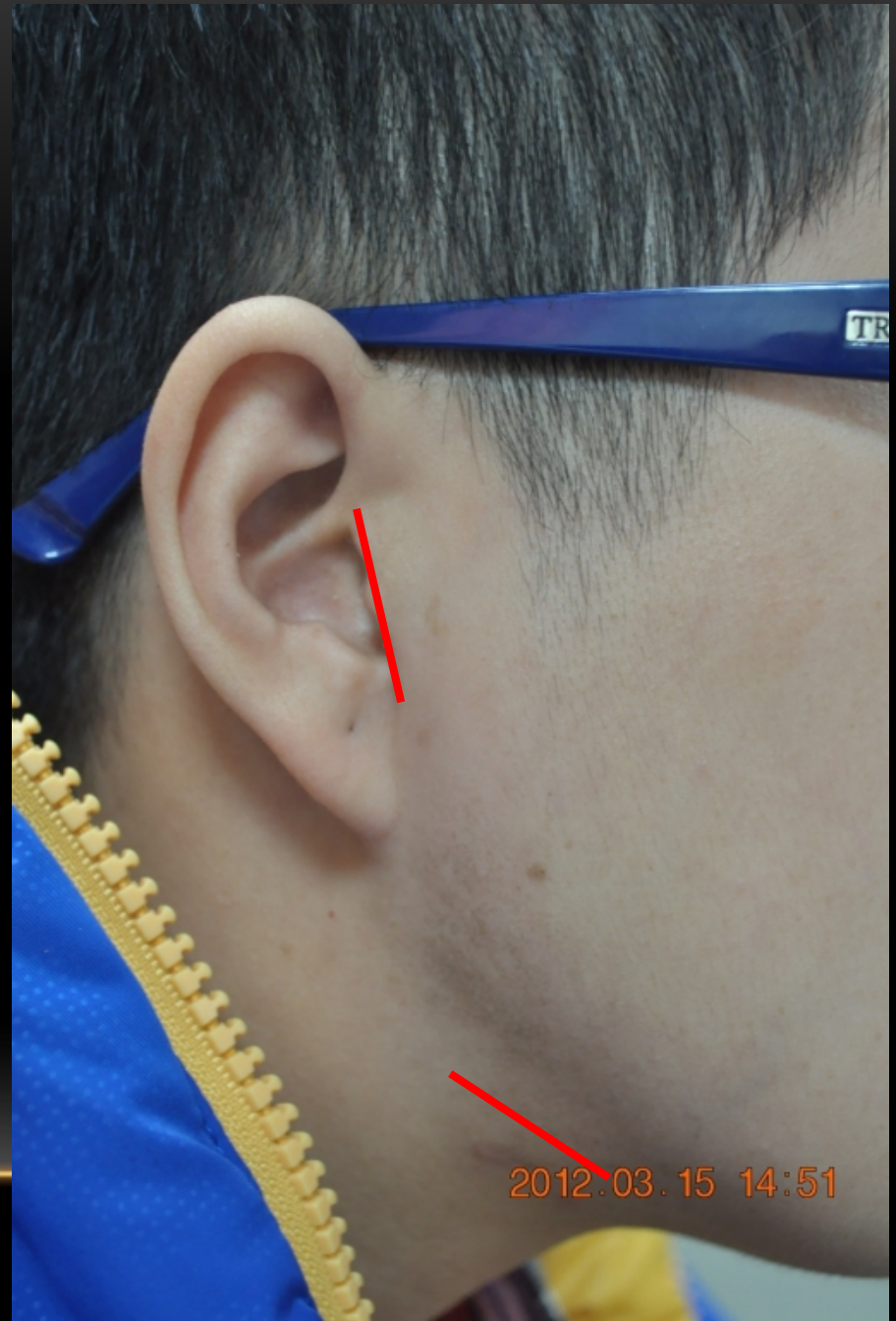
Left Facial nerve
trunk

Lt Condylar head

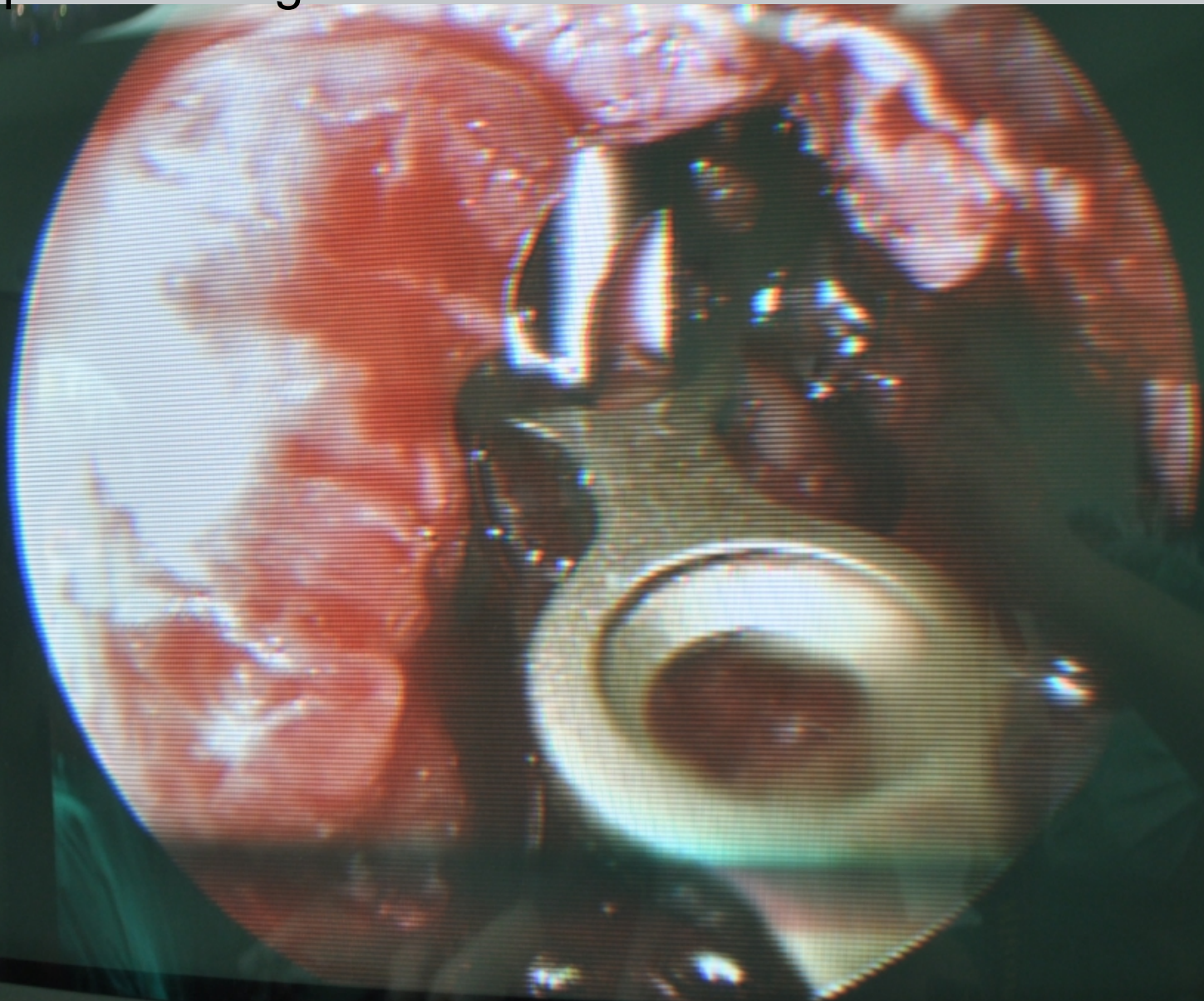


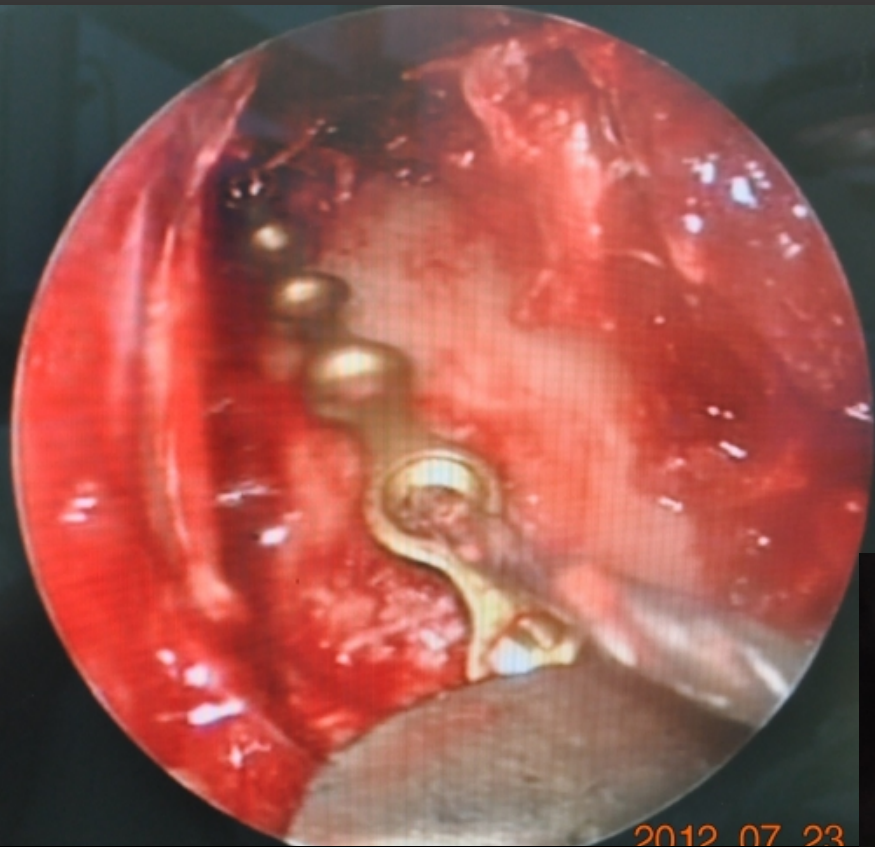
LONG PLATE TECHNIQUE

- Endoscope, 4mm, 30 degree
- Submandibular approach
- Tragus incision
- Penrose drain for 3 days
- 2.0 mm. 8-hole plate
- 2 weeks IMF with wire + 1 week rubber band guiding traction.



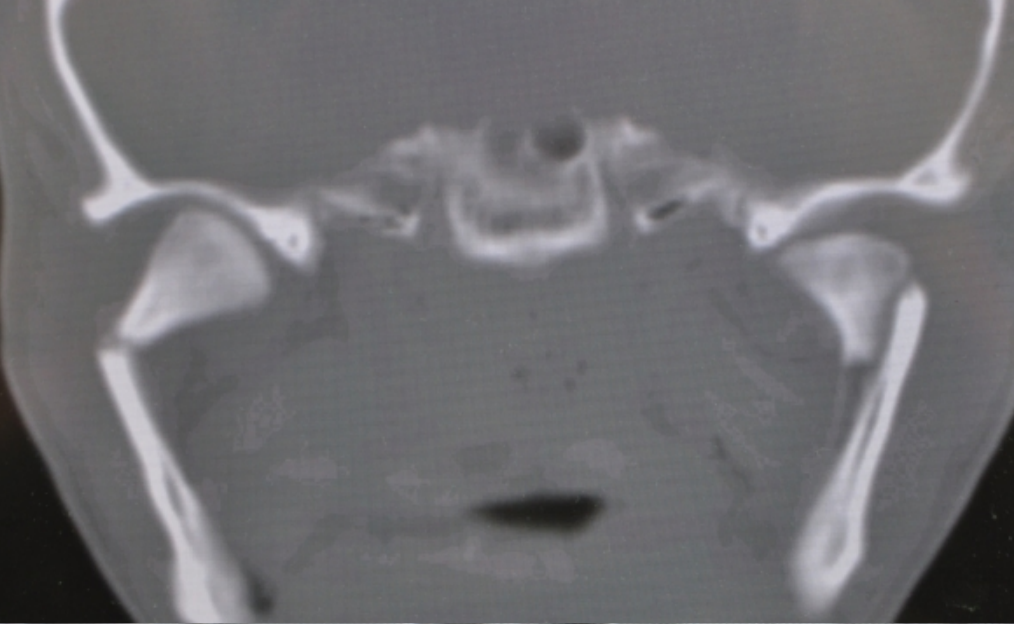
Tragus incision to fix the first screw of plate at proximal segment



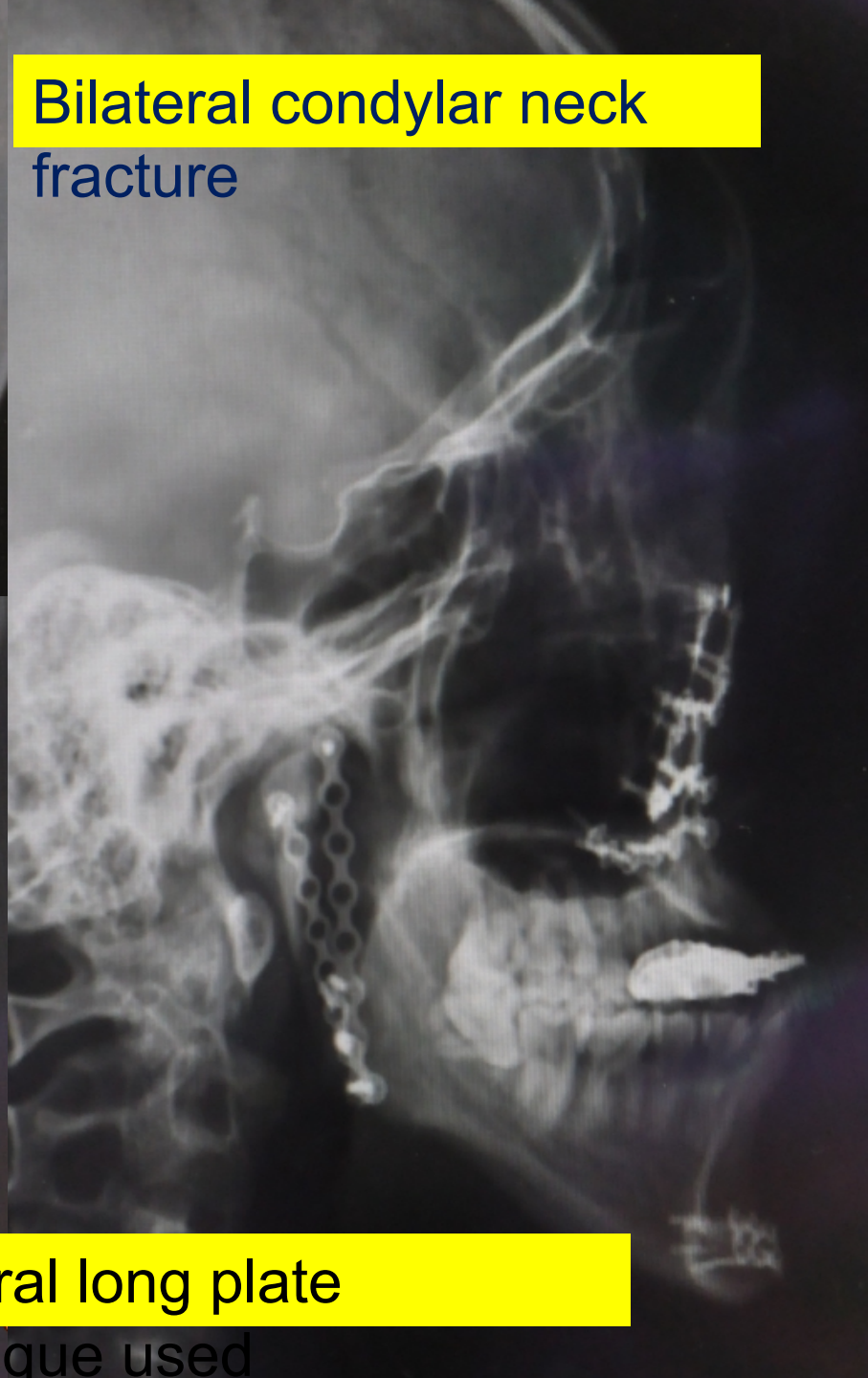


6 hole plate /8 hole plate
used to
fix the lower 3 or 4 hole
with screws via the





Bilateral condylar neck fracture



Bilateral long plate technique used

2013.03

RESULTS

- 59 condylar fracture patients
- Close reduction with IMF 21 patients
- Open reduction with IMF 18 patients
- Open reduction with 4 hole plate fixation 11 patients
- After 2011-6
- Open reduction with **long plate fixation** 9 patients

ADVANTAGE

- **After finish the 1st screw**, the lower part of screws can be inserted under **direct vision**, thus shorten the op time.
 - **Less risk to trauma** the facial nerve trunk. (need more experience to verify this point)
 - **Penrose drain** for 3 days, **no infection** in this series.
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