

Traumatología facial

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Hospital Universitario 12 de Octubre

Madrid

1600 AC : Egipto



“Alguien con una fractura en su mandíbula, sobre la cual se ha inflingido una herida ...

y de ello tiene unas fiebres’ Una condición para no ser tratada...”

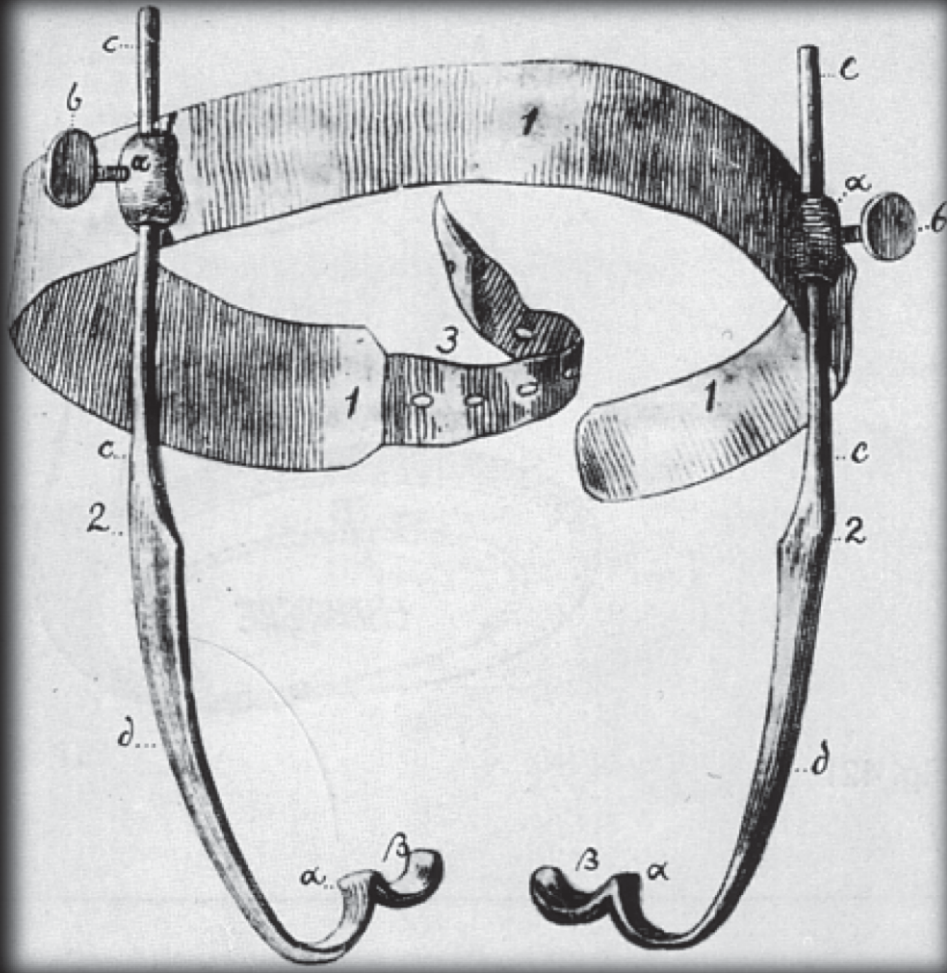
From Breasted translation of the Edwin Smith papyrus

460 AC: Grecia



- Maxilares vendados juntos para dar estabilidad
- Tiras de cuero cartaginés pegadas a la cara alrededor de segmentos fracturarios

Suspension externa



“Both upper jaw bones were loosened from their connections... Both upper jaw bones were held fast and pressed against each other at a high level by means of a quickly assembled apparatus.”

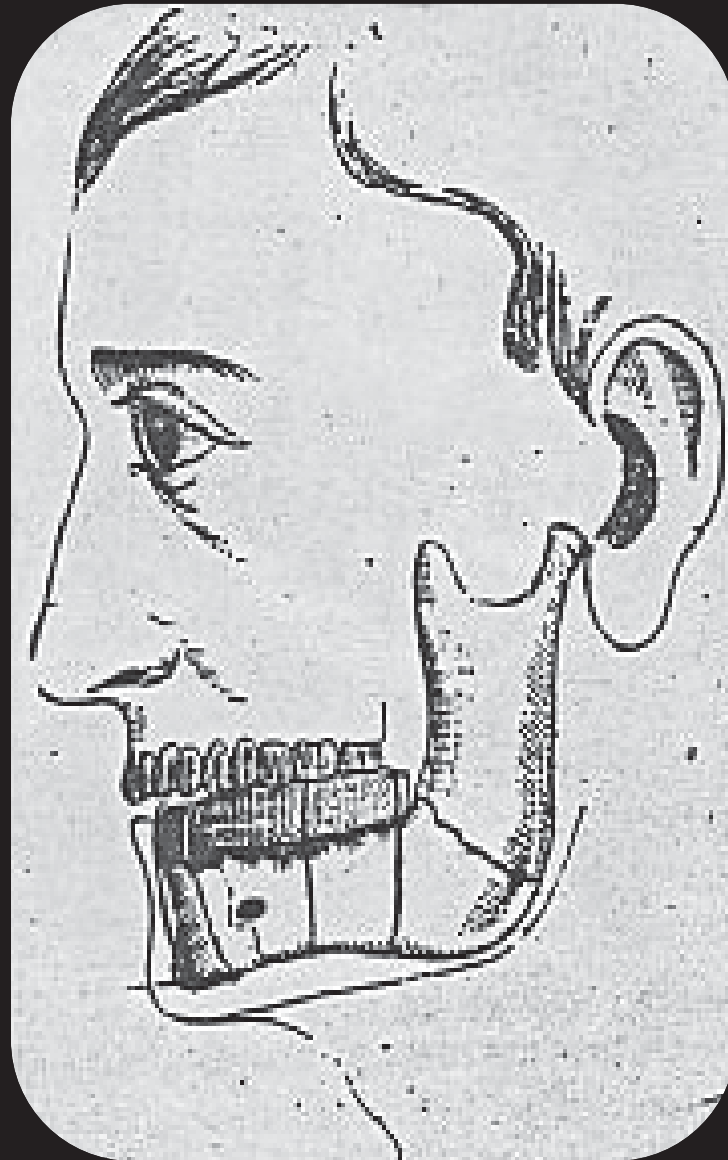
Von Graefe cranio-maxillary suspension device

Siglo XX



Source: Kazanjian and Converse. *The Surgical Treatment of Facial Injuries*. P.163, 188. 1949. Plaster cast for Le Fort, ZMC reductions

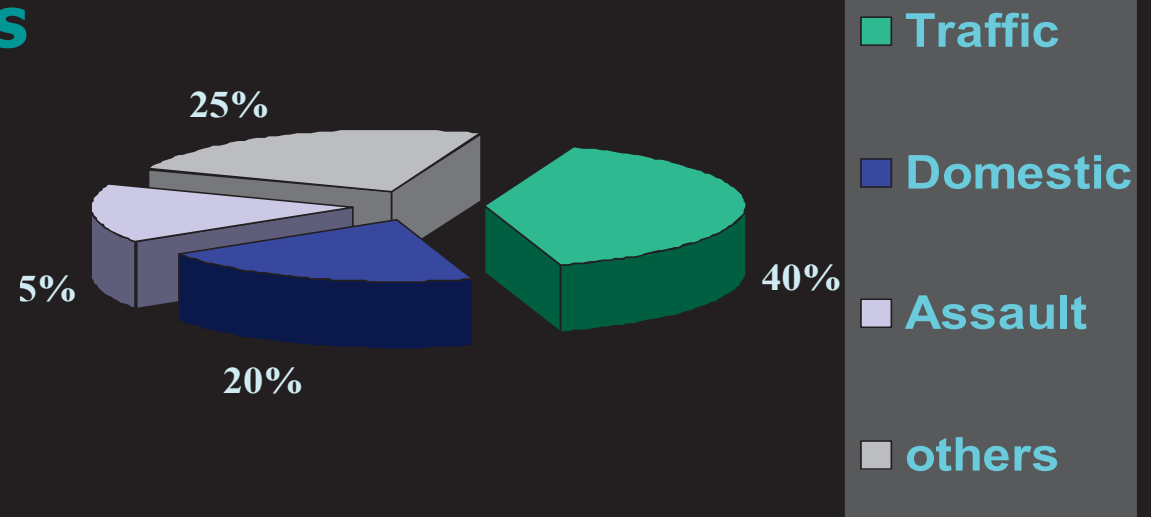
“Osteosíntesis” craneomaxilofacial



Traumatismos faciales

1501 patients / 165 days

- **Men (68%)**
Women (32%).



- **MVA : 598 patients (38%)**
- **32 years (medium age)**
- **29% Facial fractures**

Sánchez Aniceto G: Doctoral Thesis. Univ. Complutense (1993)

Traumatismos faciales

- **Aislados 75%**
- **Trauma asociado 25 %**

Traumatismos faciales

- **Baja energía**
- **Alta energía**



Caída de 7 metros = 30 kms/h



Trauma facial

- Alta energía

$$e = m \times v^2 / 2$$

$$120 \text{ km / h} = 18 \times e$$

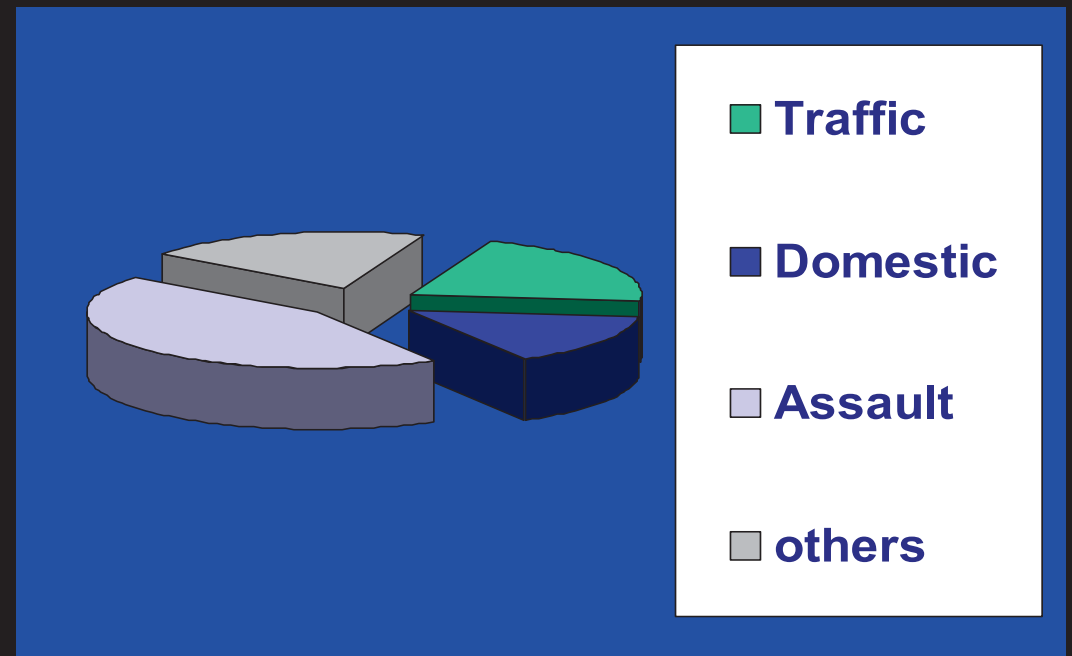
que a 30 kms/h



Traumatismos faciales

1249 FRACTURAS / 706 pacientes
(años 2002-2006)

- **Hombres (83%)**
Mujeres (17%).
- **AGRESIONES (44%)**
- **Acc tráfico (21 %)**
- **34 años (edad media)**



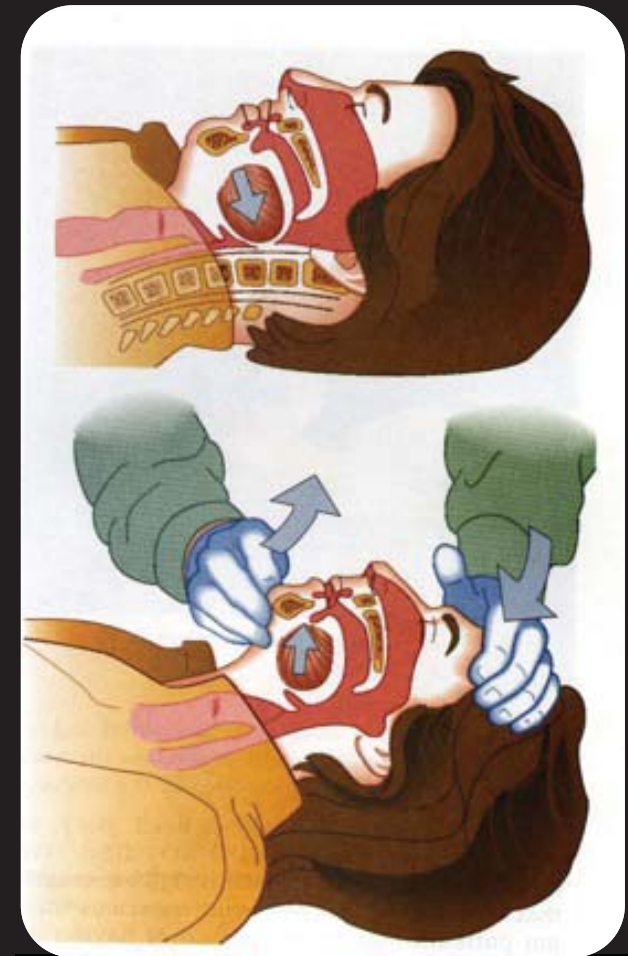
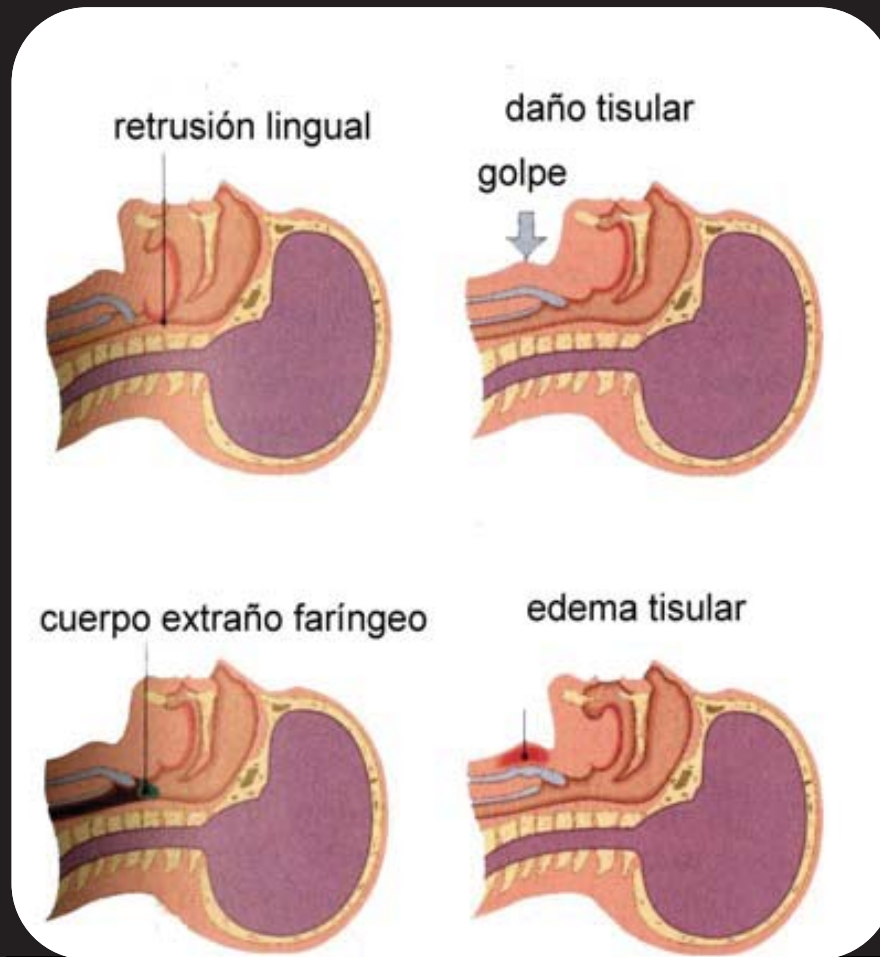
Servicio C. Maxilofacial H U 12 X (2002-2006)

Manejo Inicial del Traumatizado

Examen Primario

- A: vía aérea segura
- B: ventilación e intercambio gaseoso
- C: circulación y control de hemorragias
- D: estado neurológico
- E: exposición completa

Medidas preventivas durante la reanimación e inmovilización



Medidas preventivas durante la reanimación e inmovilización



- Elevación del mentón
- Elevación mandibular
- Cánula nasofaríngea
- Cánula orofaríngea
- Vía aérea definitiva

Medidas preventivas durante la reanimación e inmovilización

Prevención de la aspiración de vómitos y secreciones



Medidas preventivas durante la reanimación e inmovilización



Protección de la columna cervical e inmovilización hasta descartar lesiones potenciales



Manejo Inicial del Traumatizado

Vía Aérea

MANTENIMIENTO

- Elevación del mentón
- Proyección mandibular
- Cánula orofaríngea
- Cánula nasofaríngea



**VÍA AÉREA
DEFINITIVA**

Hemorragia

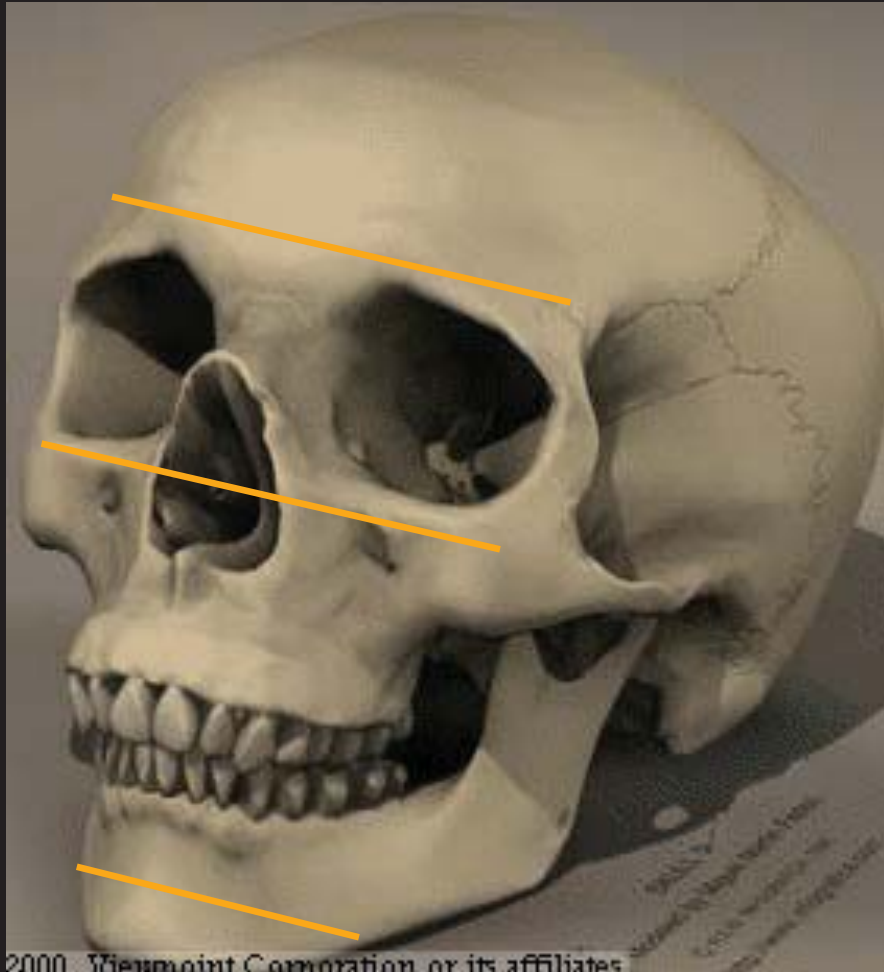
Alta vascularización

Epistaxis

Vendajes

Compresión

“Parachoques” faciales



Superior : frontal

Medio: malar/nariz

Inferior:mandíbula

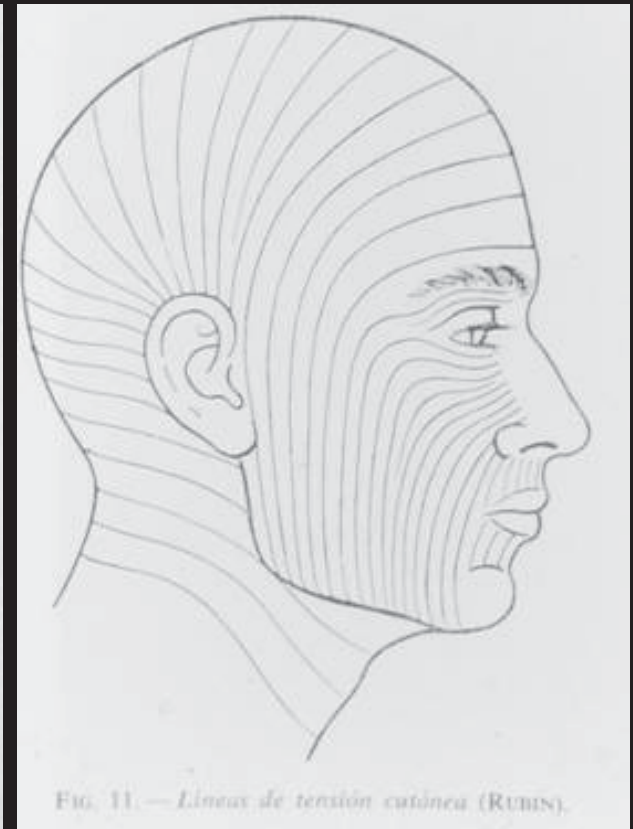
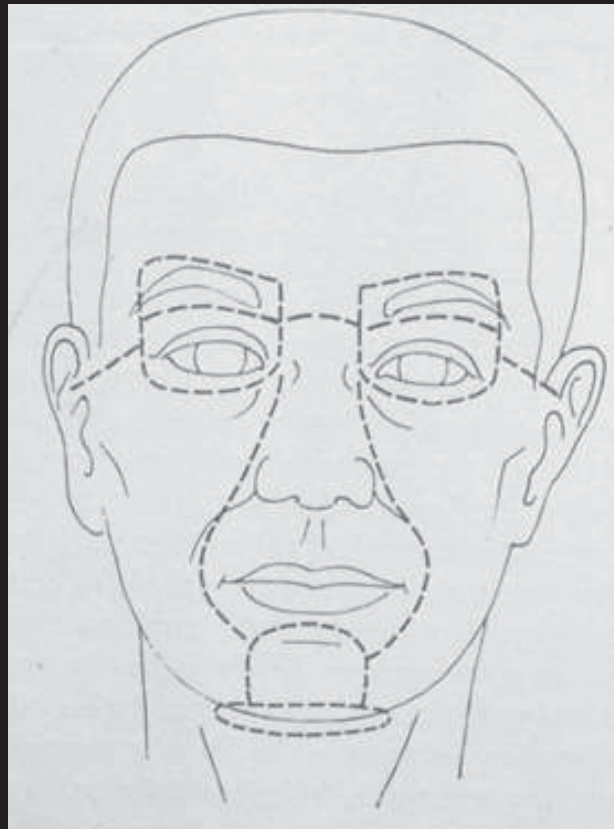
Heridas faciales

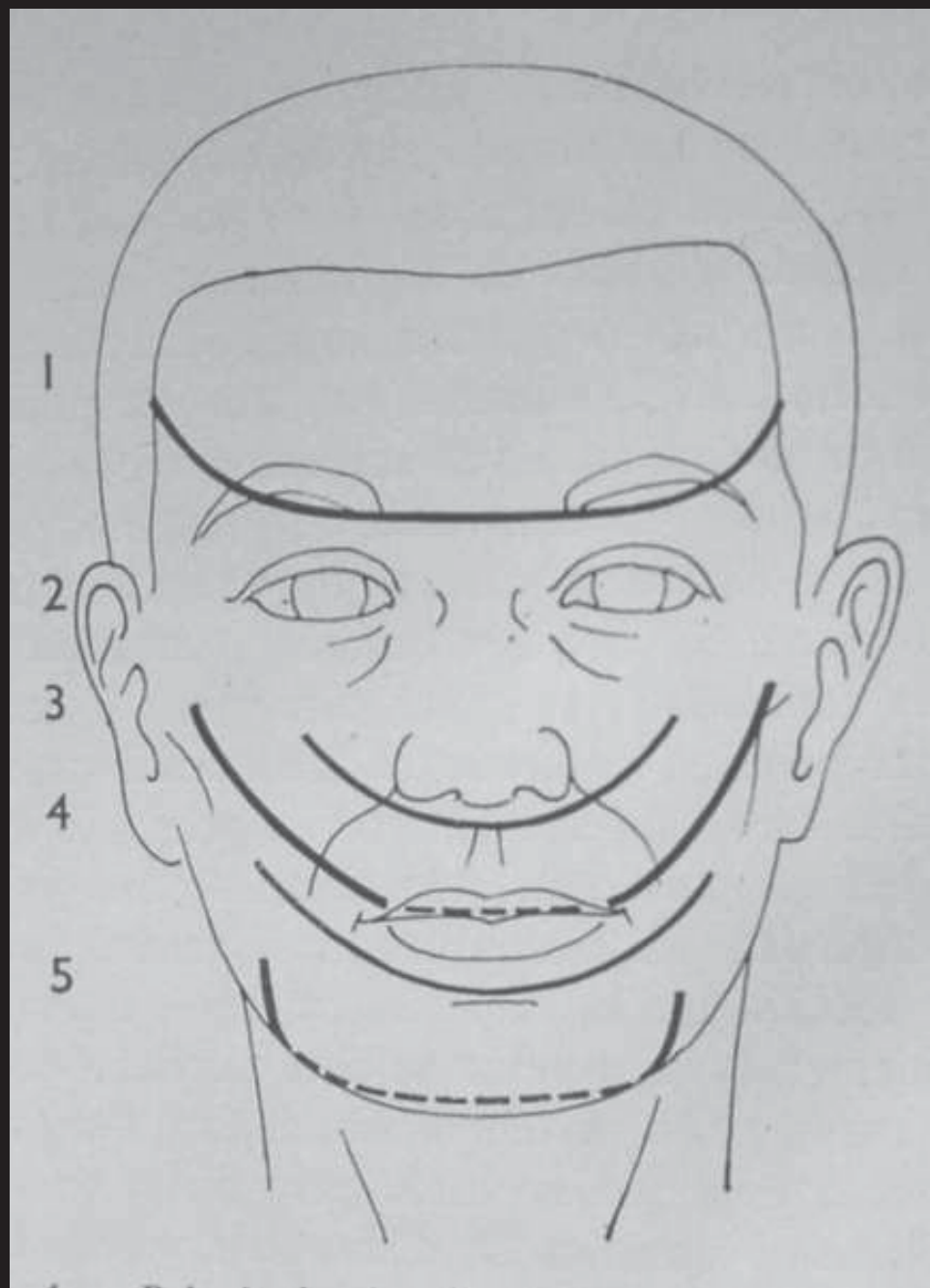
Unidades estéticas

Longitud

Bisel

RTSL



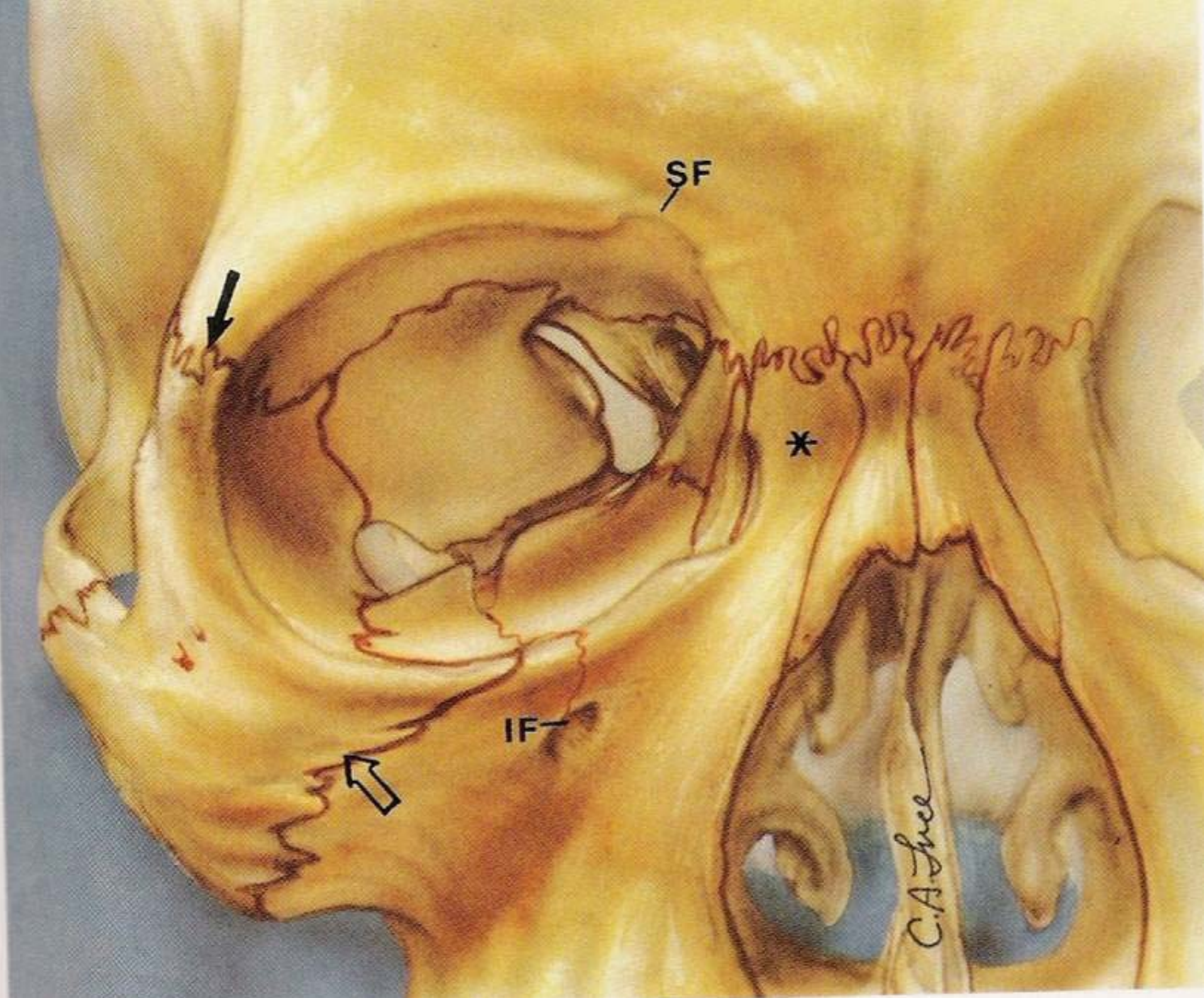


Heridas faciales

Limpieza

Anestesia

Exploración



Heridas faciales

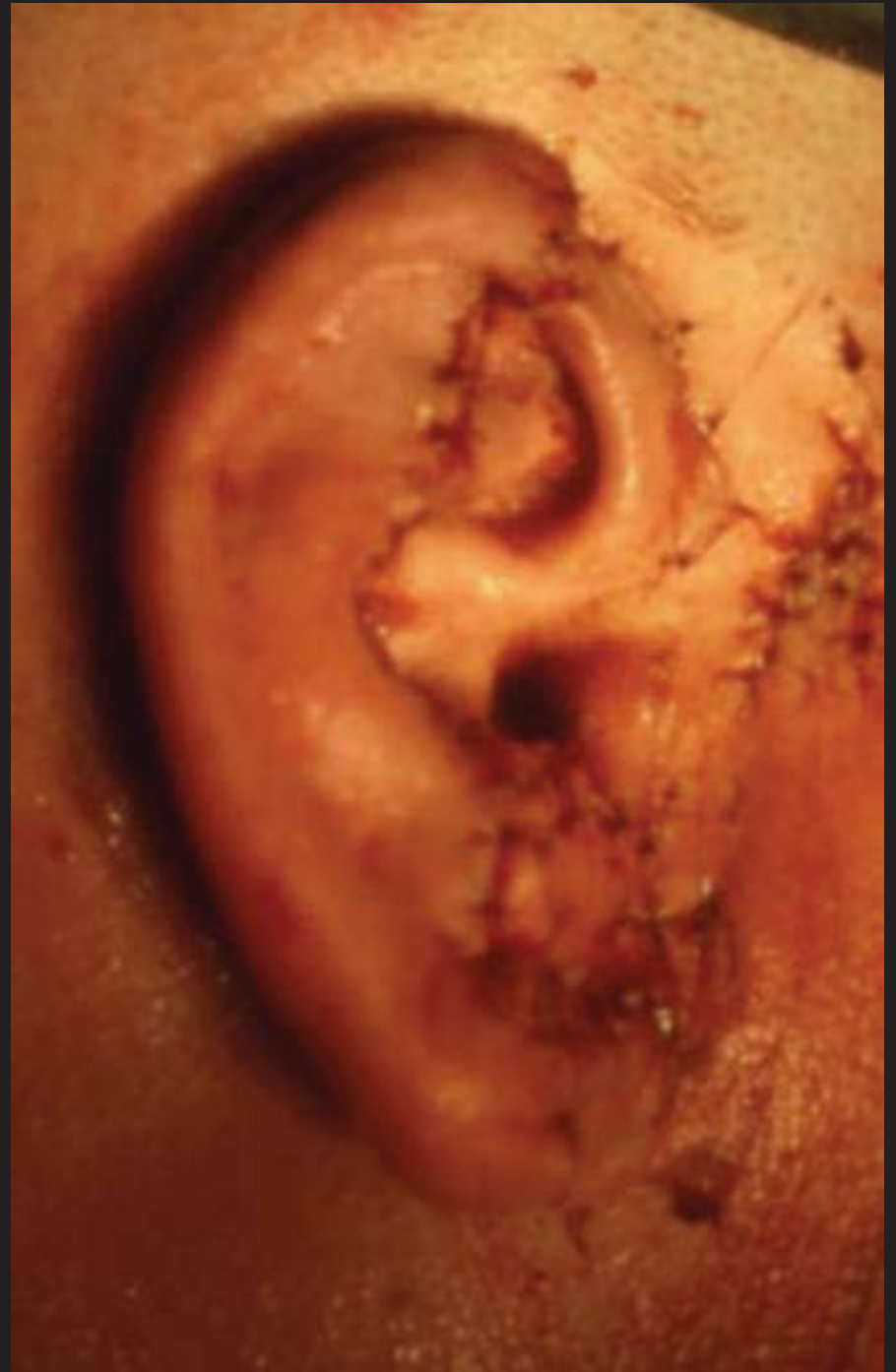
Pérdida tisular

Avulsión

V par

Herida ocular





Heridas faciales

Nervio facial

Ap. Lacrimal

Ap. elevador

Stenon



Heridas faciales

M. Mímica	PDS/APG	4-5/0
Piel	Monofilamento	5-6/0
Mucosas	Vycril,Dexon	3-4/0

Heridas faciales

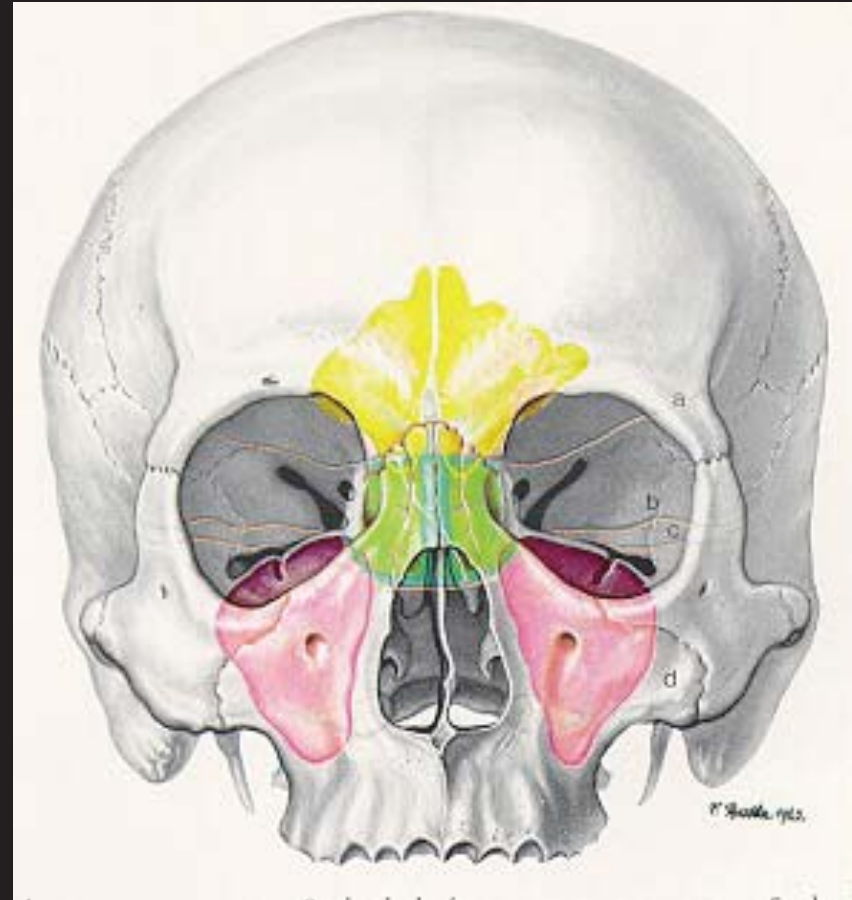
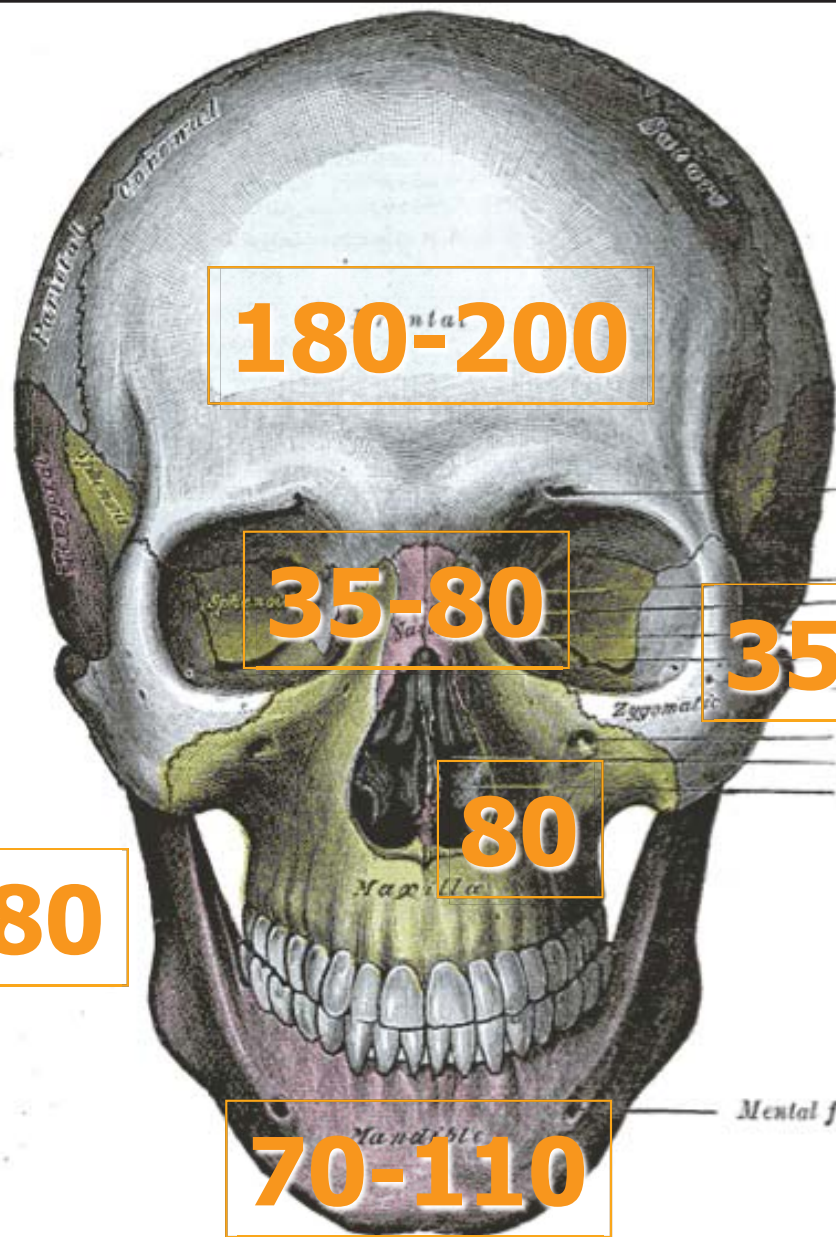
Apósito hidrófilo

Cura expositiva

Erosión / abrasión

Tul graso

Resistencia del esqueleto craneofacial



g/sq.inch

Fracturas faciales

1 NARIZ

2 ORBITAS

3 MANDIBULA

Fracturas faciales

1501 pacientes con trauma facial
498 fracturas / 444 pacientes
(29.4%)

Nasal : 229

Dentoalveolar : 103

Mandibula : 80 fxs / 56 pacientes

Malar : 38

Lefort : 19

Seno frontal : 14

Otras : 15

Fracturas faciales

166 fracturas / 122 pacientes (90's)

1249 fracturas / 706 pacientes (00's)

Mandibula 34 %

Malar 23 %

Lefort 12 %

Seno frontal 8 %

Otras 24 %

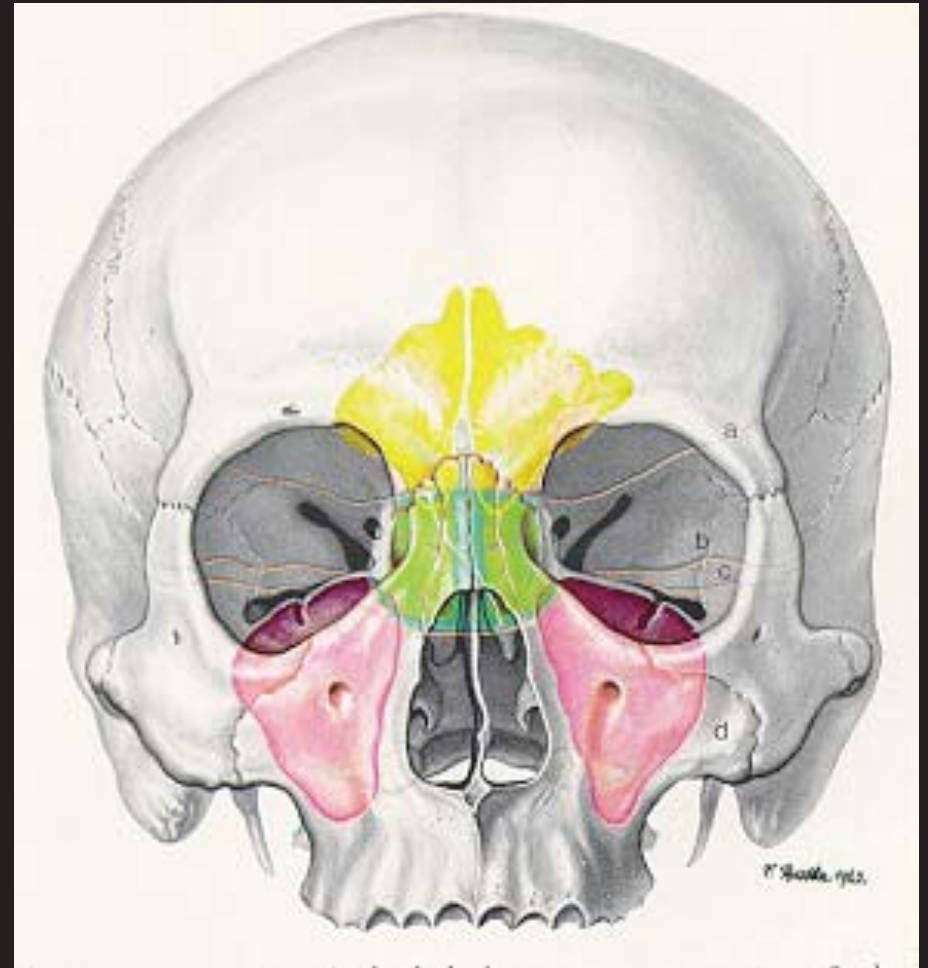
Fracturas faciales

Esqueleto facial

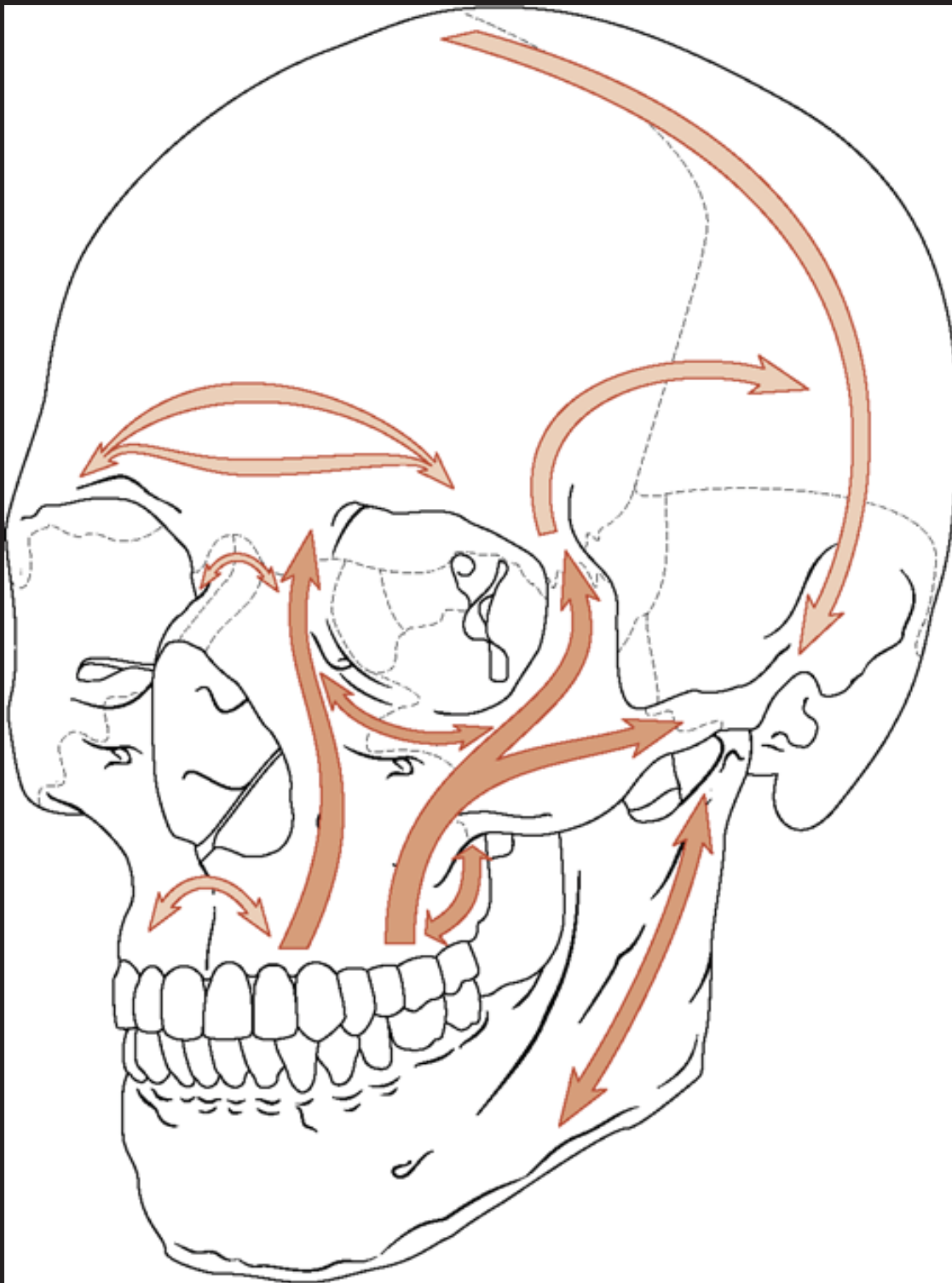
Parachoques

Arbotantes

Cavidades







**Pilares
mediofaciales**

Horizontales

Verticales

Combinados



Traumatismo

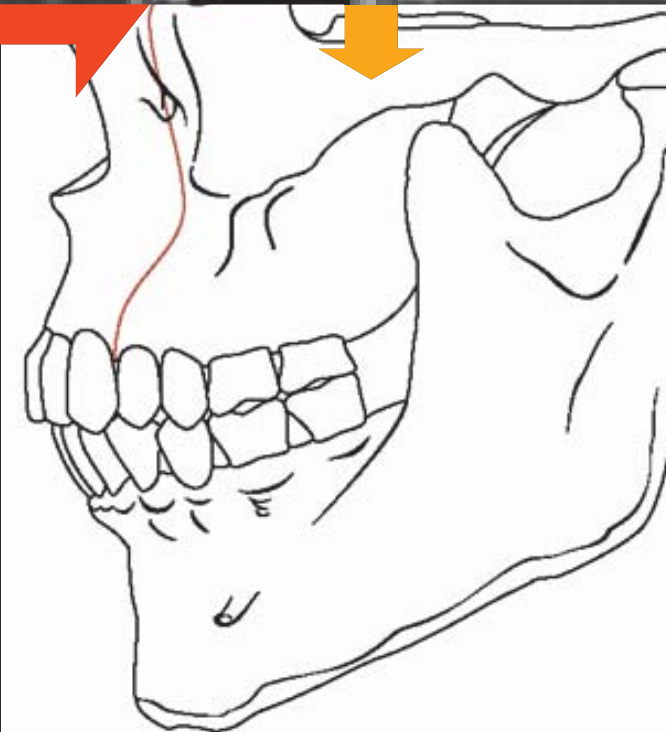
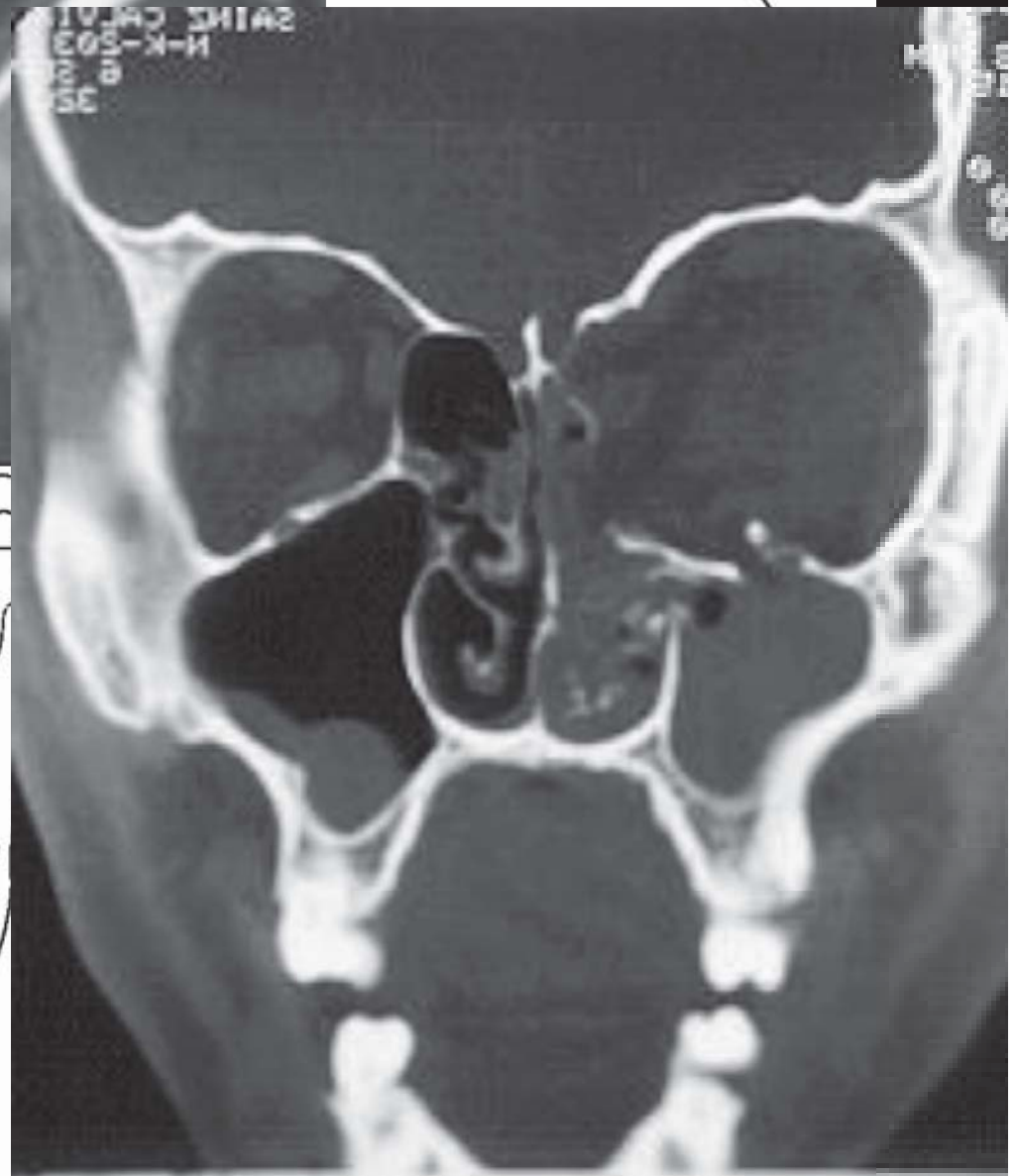
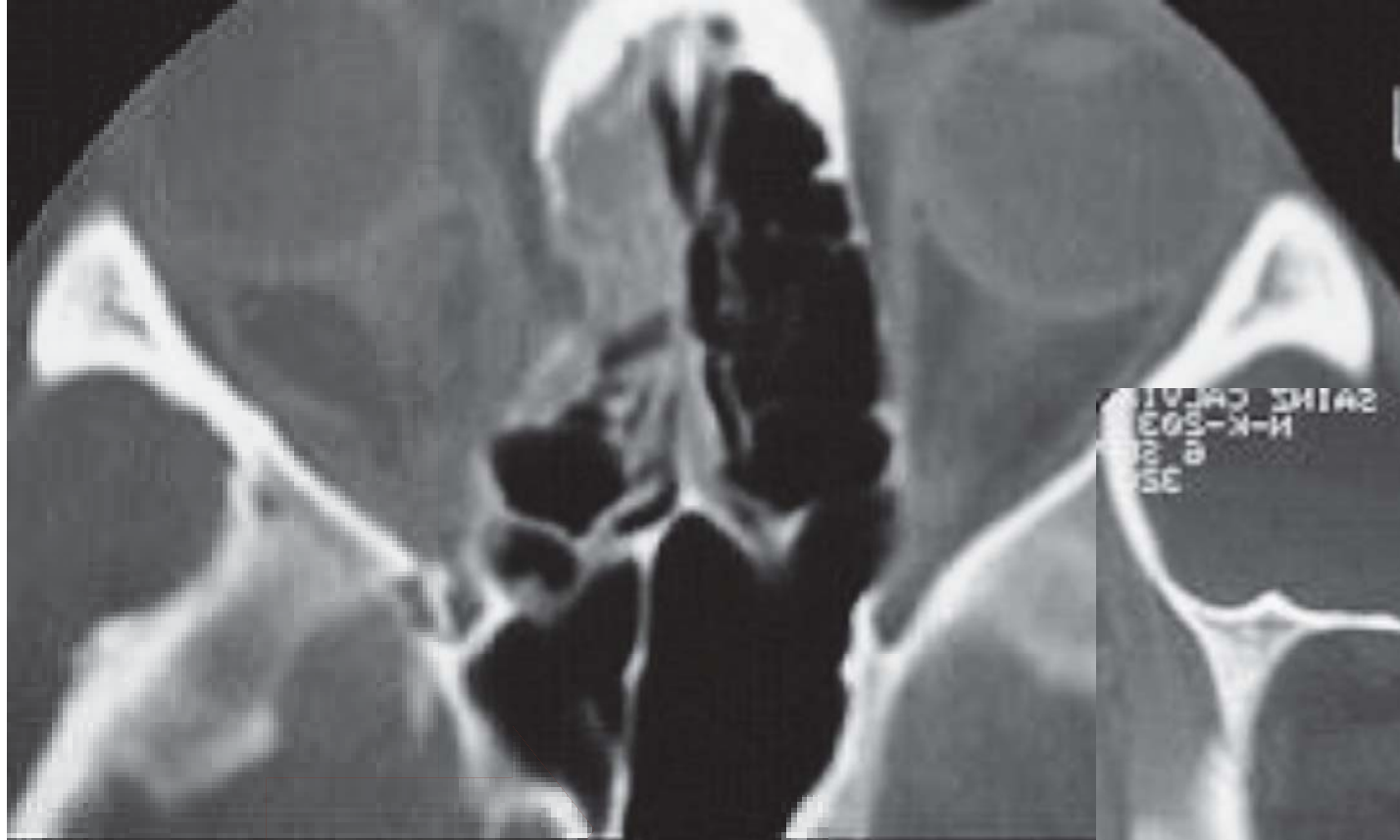
- **Daño directo**

Hueso

Tejidos blandos



- **Daño indirecto**



Fracturas faciales

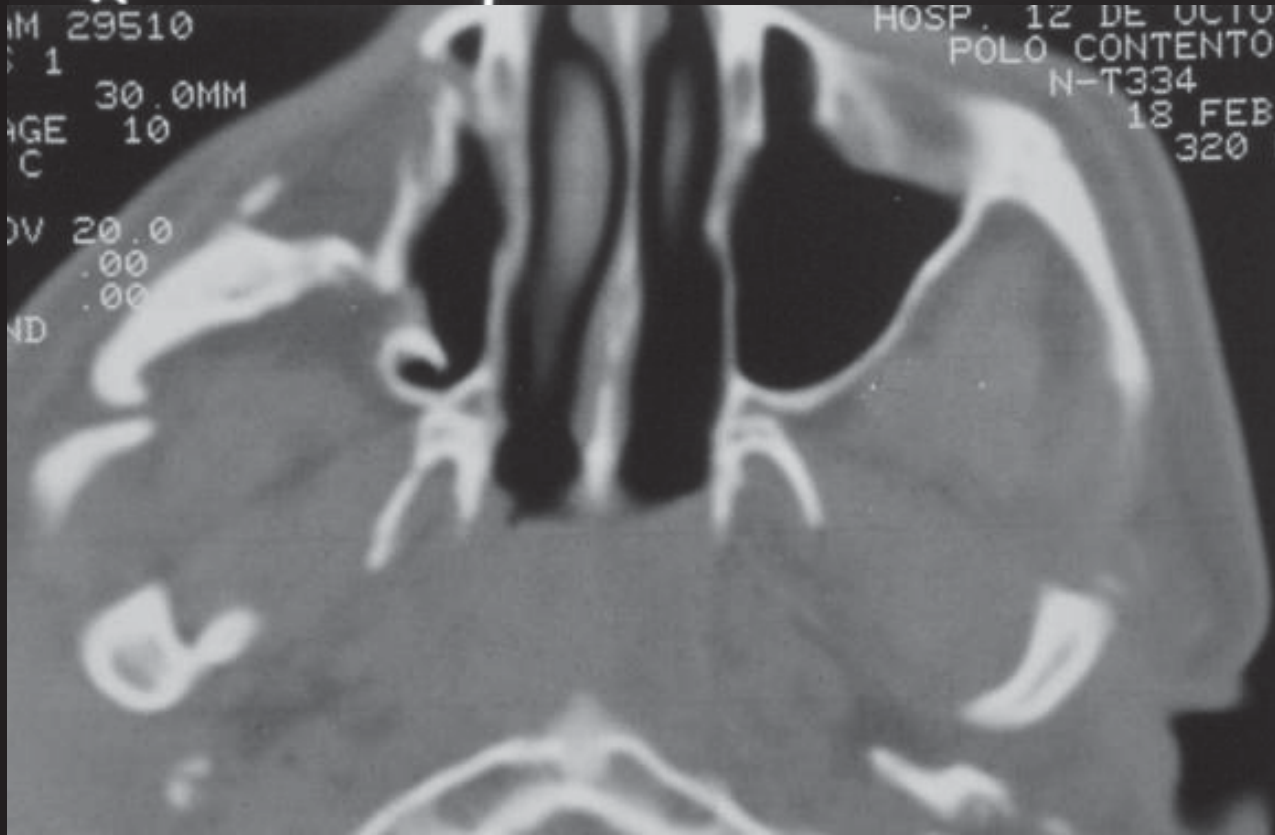
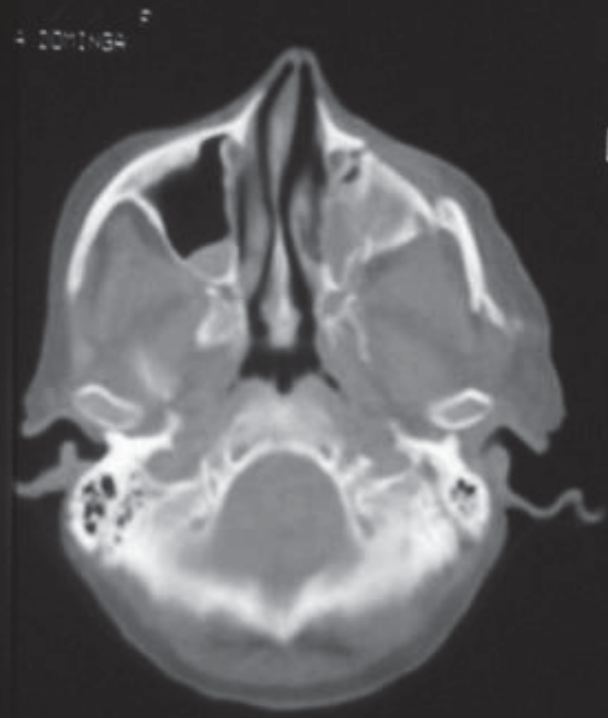
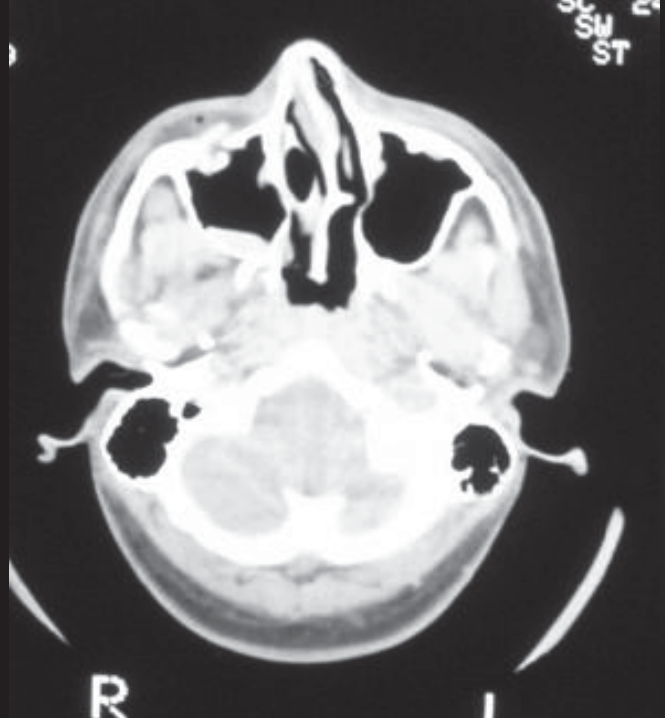
Alta

Media

Baja



ENERGIA



IM 29510
S 1
AGE 30.0MM
GE 10
C
OV 20.0
.00
.00
ND

HOSP. 12 DE OCTO
POLO CONTENTO
N-T334
18 FEB
320

RADIOLOGIA SIMPLE

WATERS

- **Occipito-naso-mento-placa**
- **Similar al Caldwell (O-M-P)**
- **Tercio medio facial**
- **Senos paranasales / FN**
- **Reverse - Waters**

RS



RADIOLOGIA SIMPLE

RX LATERAL HPN

- **Traumatismos nasales**
- **2 proyecciones**
- **Con waters ii**

RADIOLOGIA SIMPLE

RX craneo-mandibula P-A y LAT

- **Traumatismos faciales**
- **Mandíbula : 2 proyecciones 90°**
- **Ortopantomografía ?**



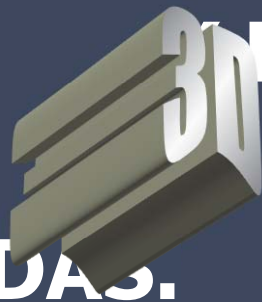


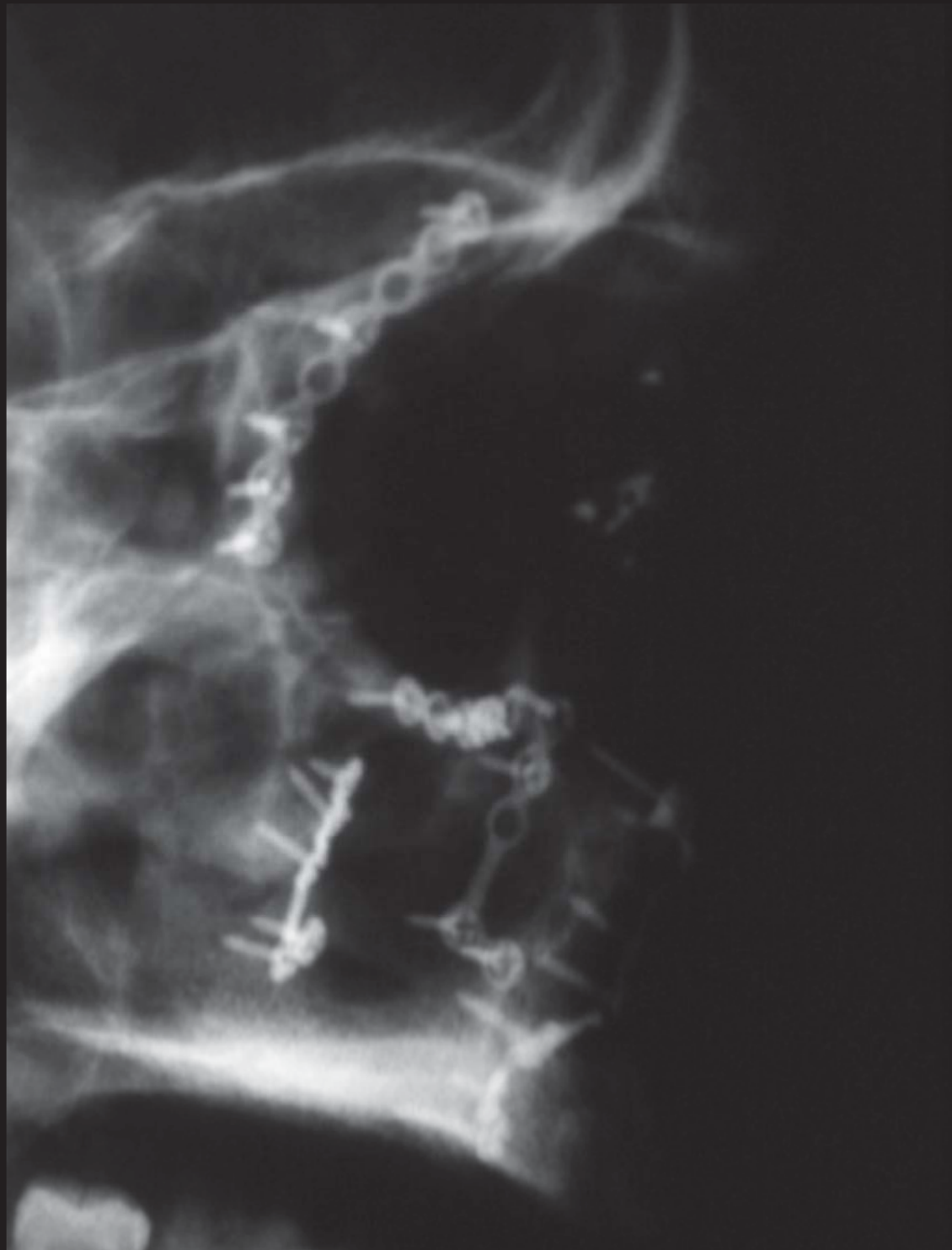
Session#: 201101153451 - Acquired: 2011-06-07 11:37:35 - Orientation: Lr



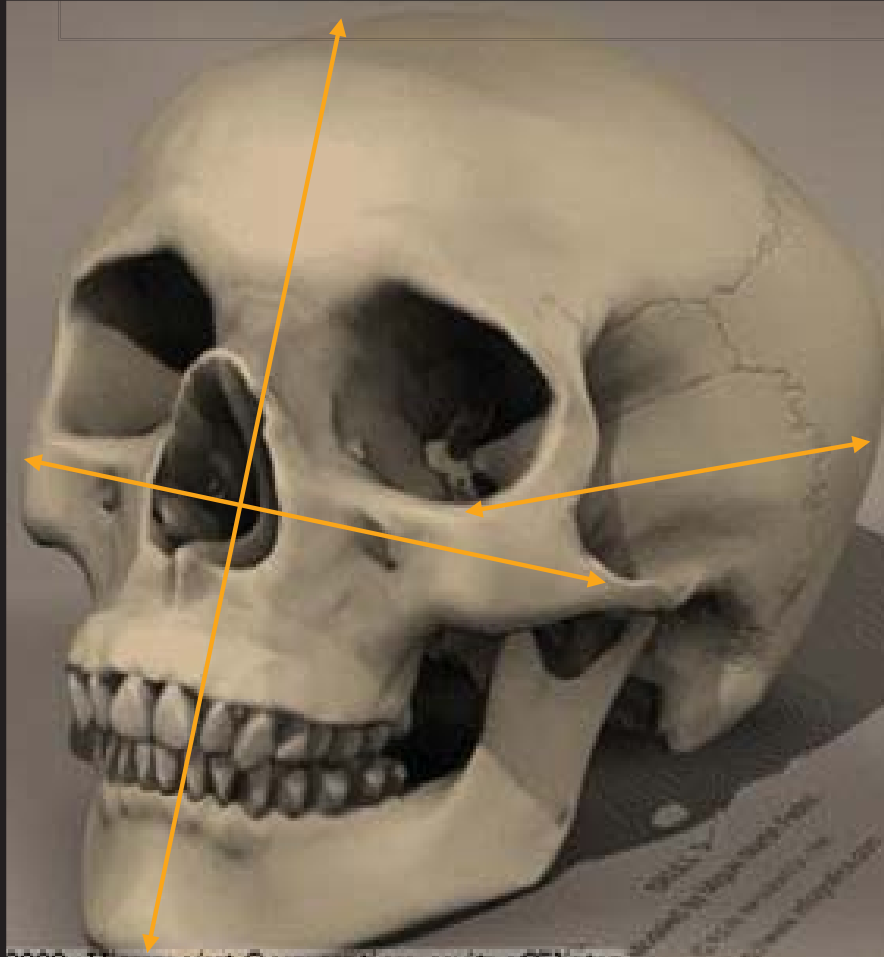
Principios terapéuticos

- **P. Manson, Tessier, Gruss y otros:**
 - **TRTO. URGENTE + UN TIEMPO.**
 - **EXPOSICIÓN AMPLIA Y ESTÉTICA.**
 - **REDUCCIÓN**
 - **INJERTOS.**
 - **PARTES BLANDAS.**
 - **FIJACIÓN RÍGIDA.**





Dimensiones faciales



Altura

Anchura

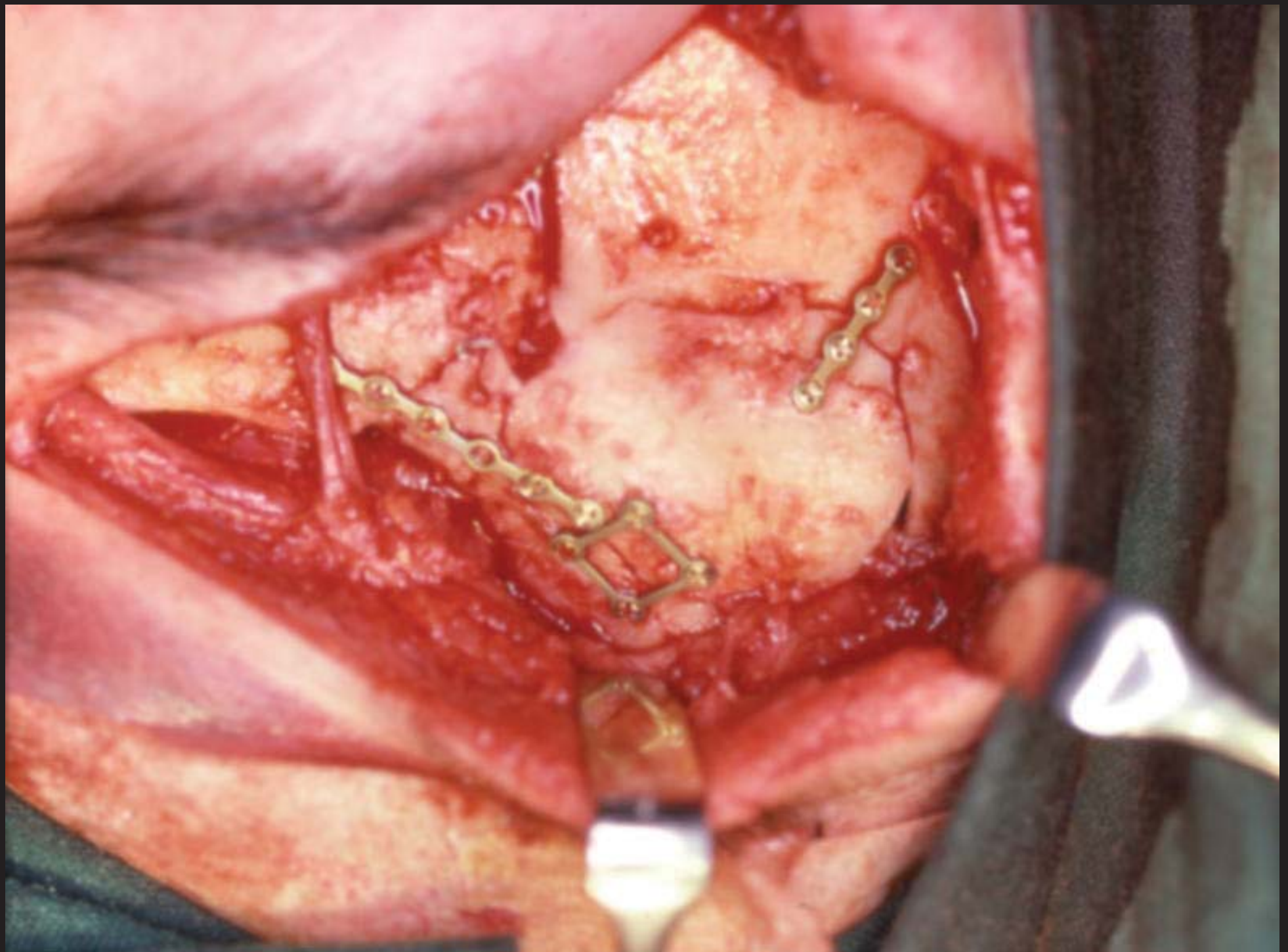
Proyección A-P

BOVEDA

- **Contorno
Estético**



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Fracturas nasales

- Osteocartilaginosas
- Epistaxis : autolimitada ?
- Taponamientos
- Impactos : frontal /lateral
- Grados de conminución /desplazamiento
- Diagnóstico clínico - Rx

Fracturas nasales

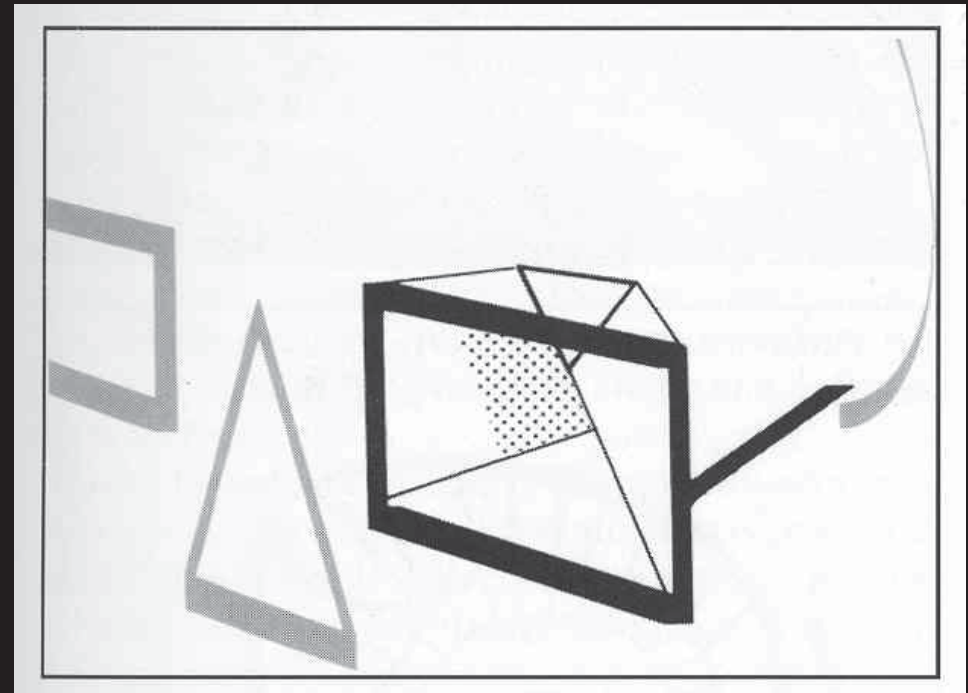
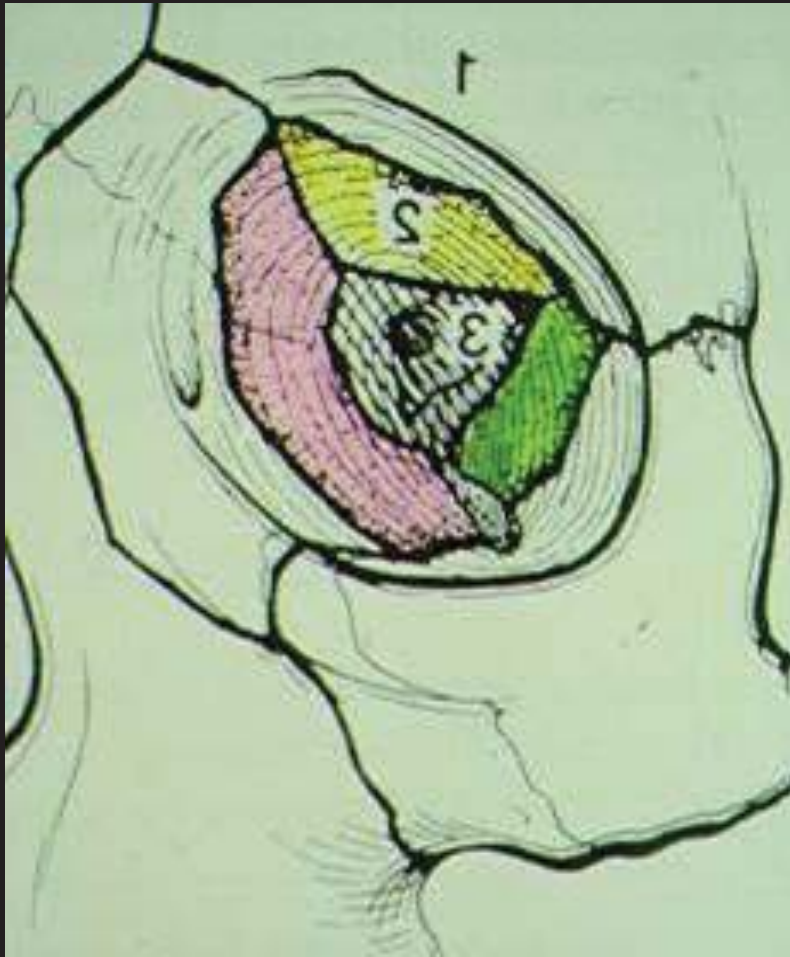
- **Rinoscopia anterior**
- **Indicación quirúrgica**
Estética / funcional
- **Reducción cerrada**

Fracturas orbitarias

BASES DEL TRATAMIENTO

- **Reducción abierta**
- **Osteosíntesis rebordes orbitarios**
- **Reconstrucción paredes orbitarias**

Anatomía orbitaria

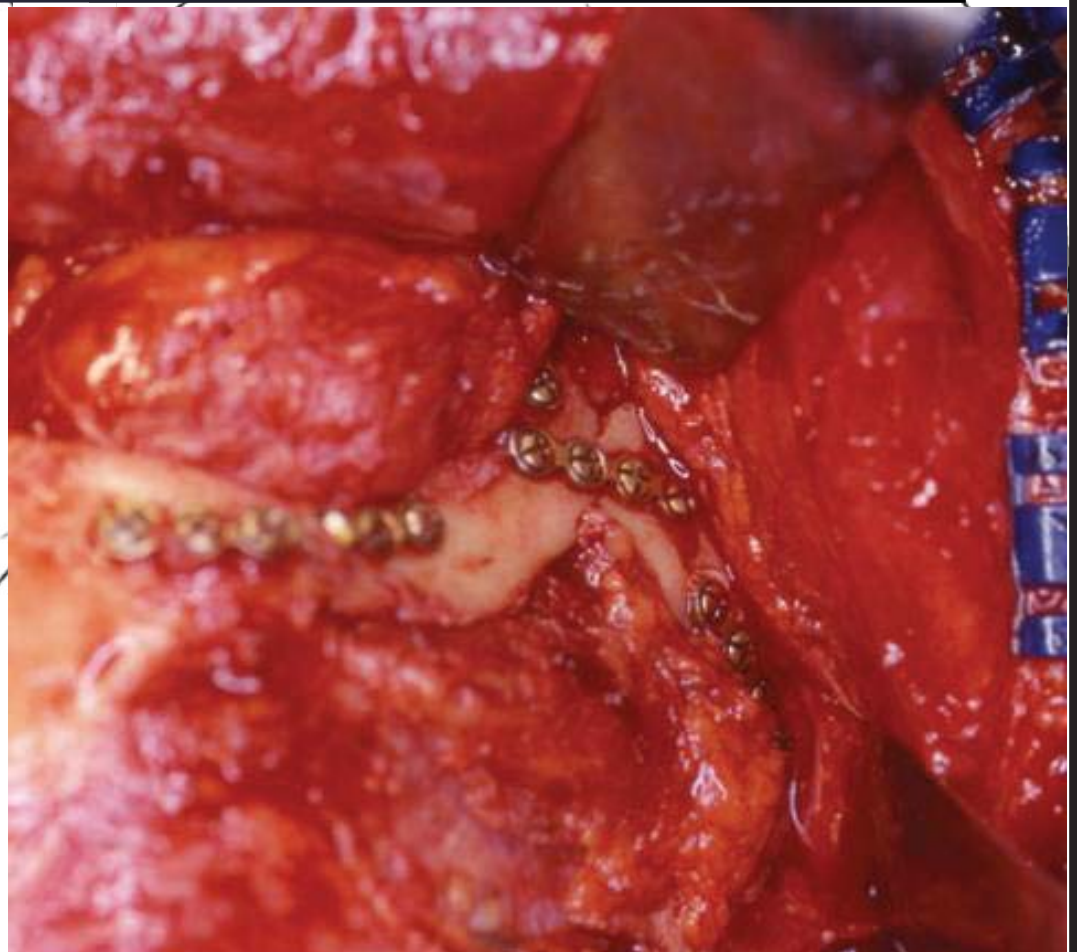
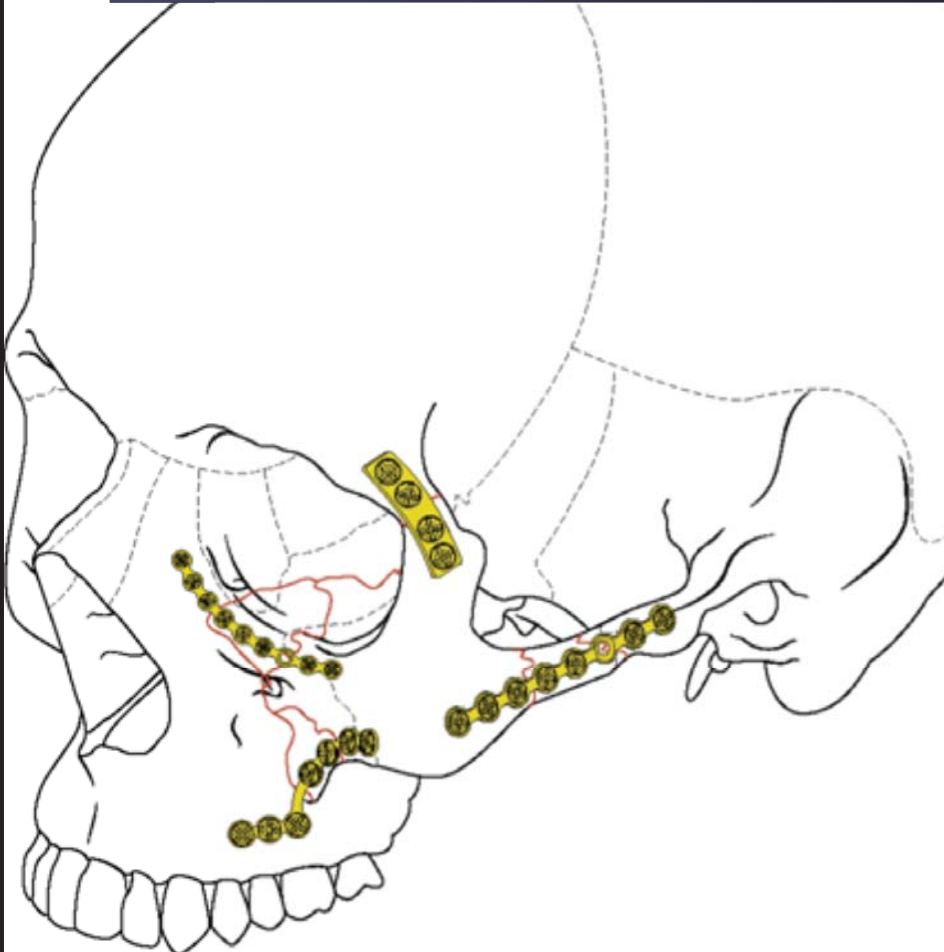


Fracturas de malar

“ Pómulo ”

- Hundimiento
- Anestesia V2
- Equímosis
- Diplopia ?

Fracturas de malar



102
Luma Rending No cut

Jun 17 2003

OV 13.0 cm
ANDARD
12/5



No. 100
No. 120
No. 200
No. 2
1-2 2m0.8/8:1/0.8m
1-2 0.0

Executive Editor: Edward Ellis III, Marcelo Figari, Gregorio Sánchez Aniceto, Kazuo Shimozaoto
General Editor: Daniel Buchbinder

CMF

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Welcome to the CMF section of the AO Surgery Reference. To enter any of the four modules - mandible, dental trauma, midface, or skull base/cranial vault - please click on the respective area of the skull below. (The skull base/cranial vault will be available in 2010.)

AO Surgery Reference
Online reference in clinical life

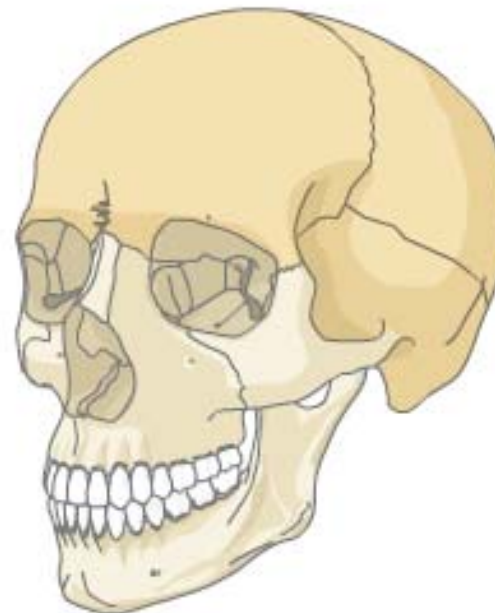
Note

The skull base/cranial vault module will be available at the end of 2010.

Further reading

> [AO Philosophy and evolution](#)

> [AO CMF Fracture classification](#)

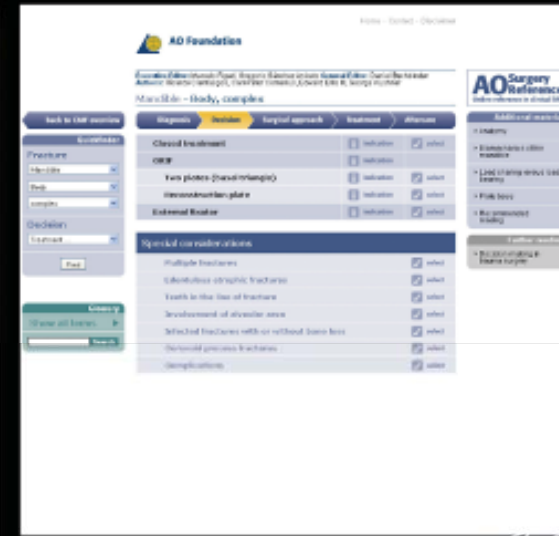


AO SURGERY REFERENCE

AOCMF Surgery Reference

Diagnosis

Decision

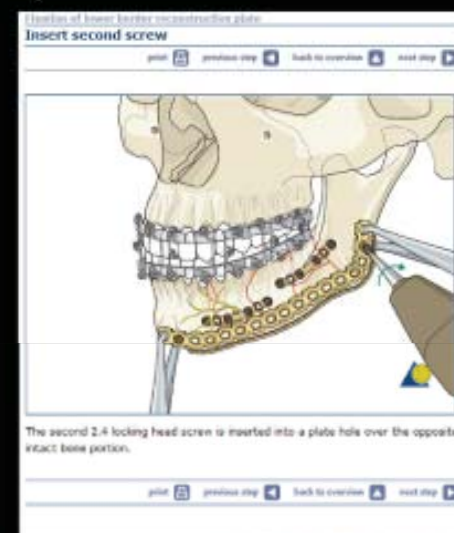
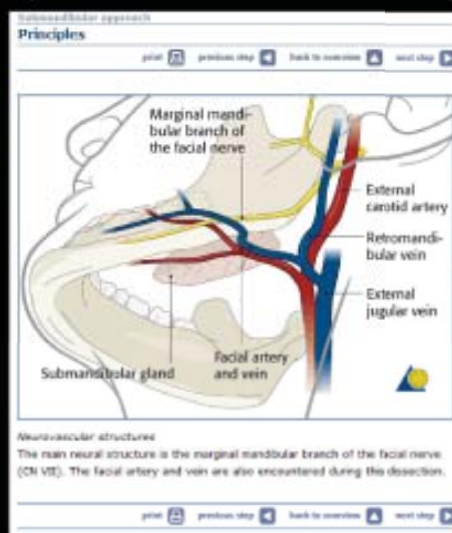


AOCMF Surgery Reference

Surgical approach



Treatment



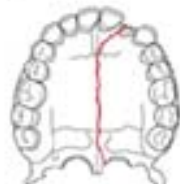
Aftercare



Executive Editor: Edward Ellis III, Kazuo Shimozaoto General Editor: Daniel Buchbinder
 Authors: Carl-Peter Cornelius, Nils Gellrich, Søren Hillerup, Kenji Kusumoto, Warren Schubert

Midface

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[Aftercare](#)
Palato-alveolar

Simple

☒ select

Comminuted

☒ select

Le Fort

Le Fort I

☒ select

Le Fort II

☒ select

Le Fort III

☒ select

Orbit

Floor

☒ select

Medial wall

☒ select

Combined fractures

☒ select

Roof
Lateral wall
AO Surgery Reference
 Online reference in clinical life

Note

Current standards of care for trauma patients, whether polytrauma or only with craniomaxillofacial injuries, follow the Advanced Trauma Life Support (ATLS) protocol relating to Airway, Breathing, Circulation, Disability, and Environment in that sequence. In the polytrauma patient, on admission a number of injuries take higher priority than the craniomaxillofacial ones. Craniomaxillofacial injuries need to be diagnosed, a treatment plan established, and a sequence fitted into the total treatment plan for the patient at an early stage.

Additional material

- > [Introduction](#)
- > [Emergency treatment](#)
- > [Examination of patients with midfacial injuries](#)
- > [Choice of implants](#)
- > [AO CMF Classification: Midface](#)
- > [Recommended reading](#)

Further reading

- > [AO CMF Fracture classification](#)

Combined orbital fracture (medial wall and orbital floor), Open treatment

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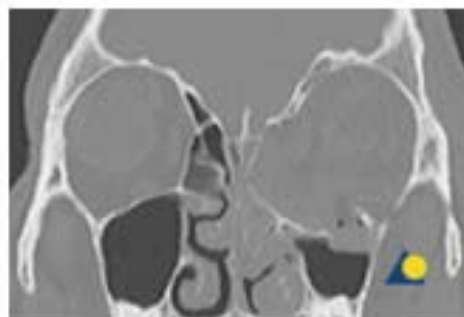
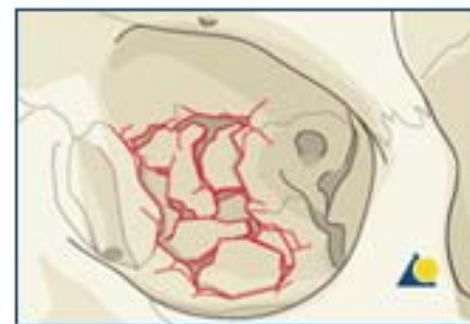
The decision to perform orbital reconstruction or to observe is based on thorough clinical and radiographic (CT) evaluation.

Orbital reconstruction is indicated in the presence of:

- Significant internal orbital defects proven by imaging
- Disturbances of eye mobility that are the result of incarceration of ocular muscles
- Enophthalmos
- Exophthalmos secondary to blow-in fractures
- Hypophthalmos

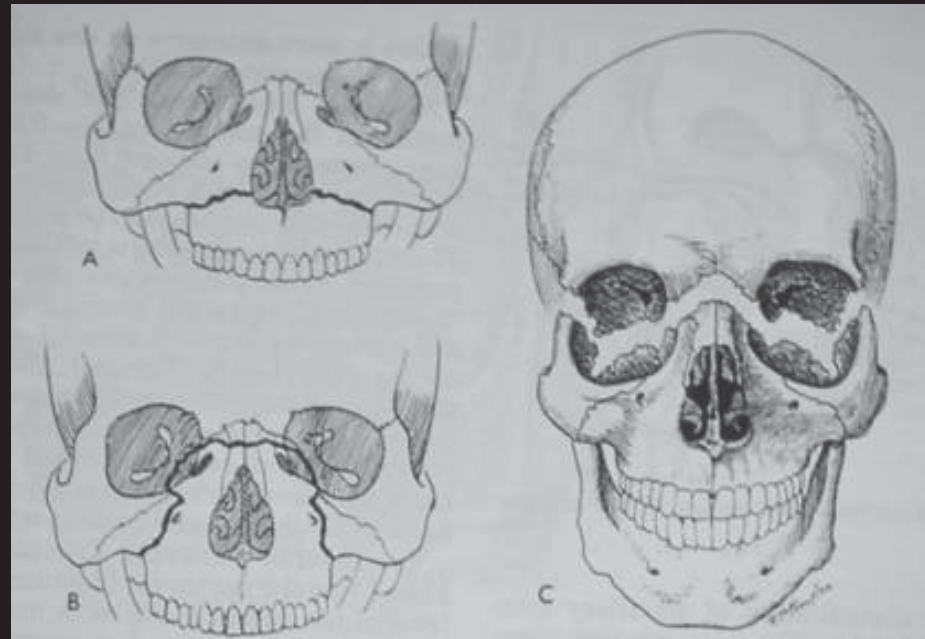
Contraindications:

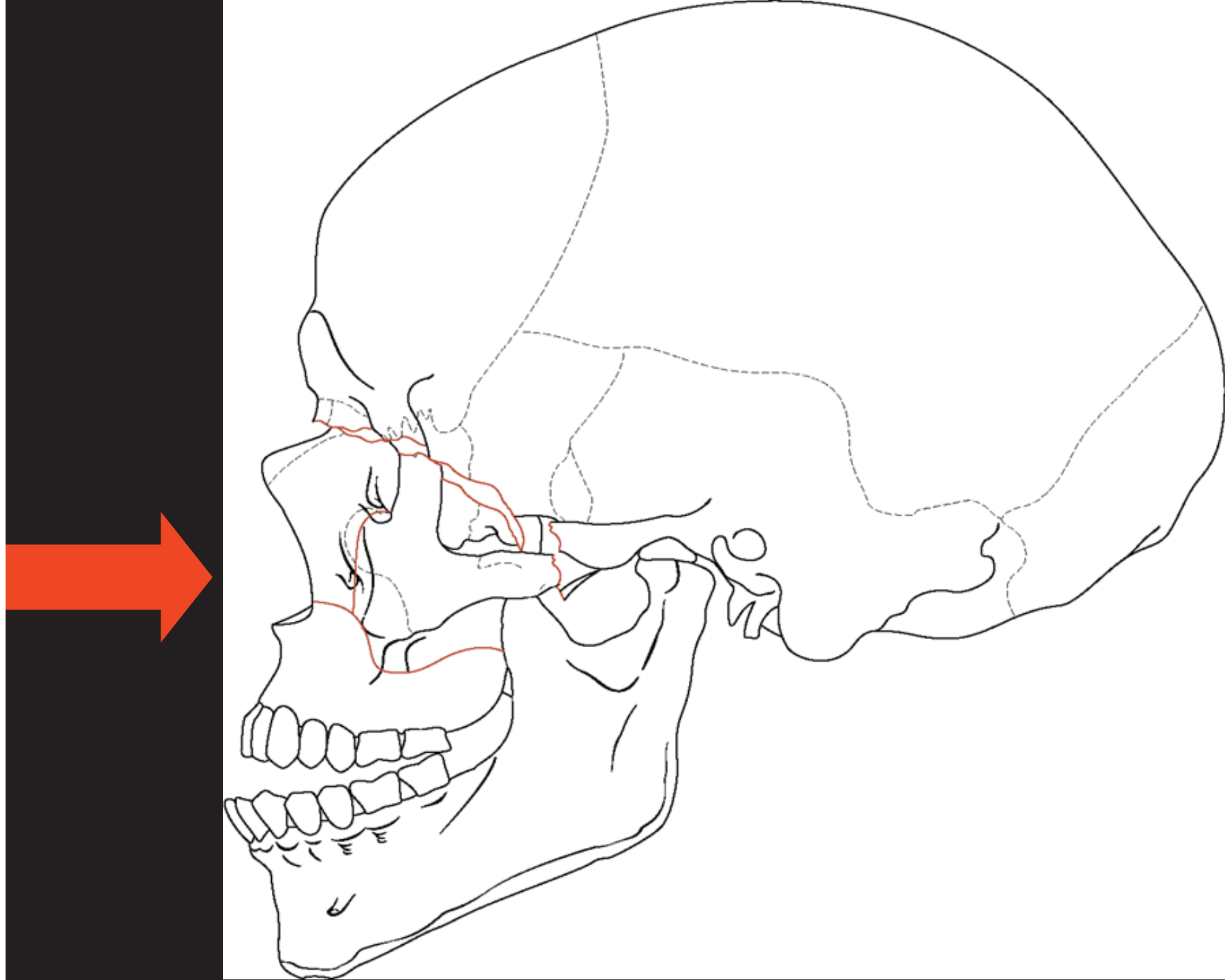
- Severe ocular trauma such as a rupture of the globe, hyphema, retinal detachment, traumatic optic nerve lesions, or other severe globe injury may necessitate delay of orbital wall repair.
- General patient condition not allowing surgery
- Orbital fracture in the only seeing eye (relative contraindication)

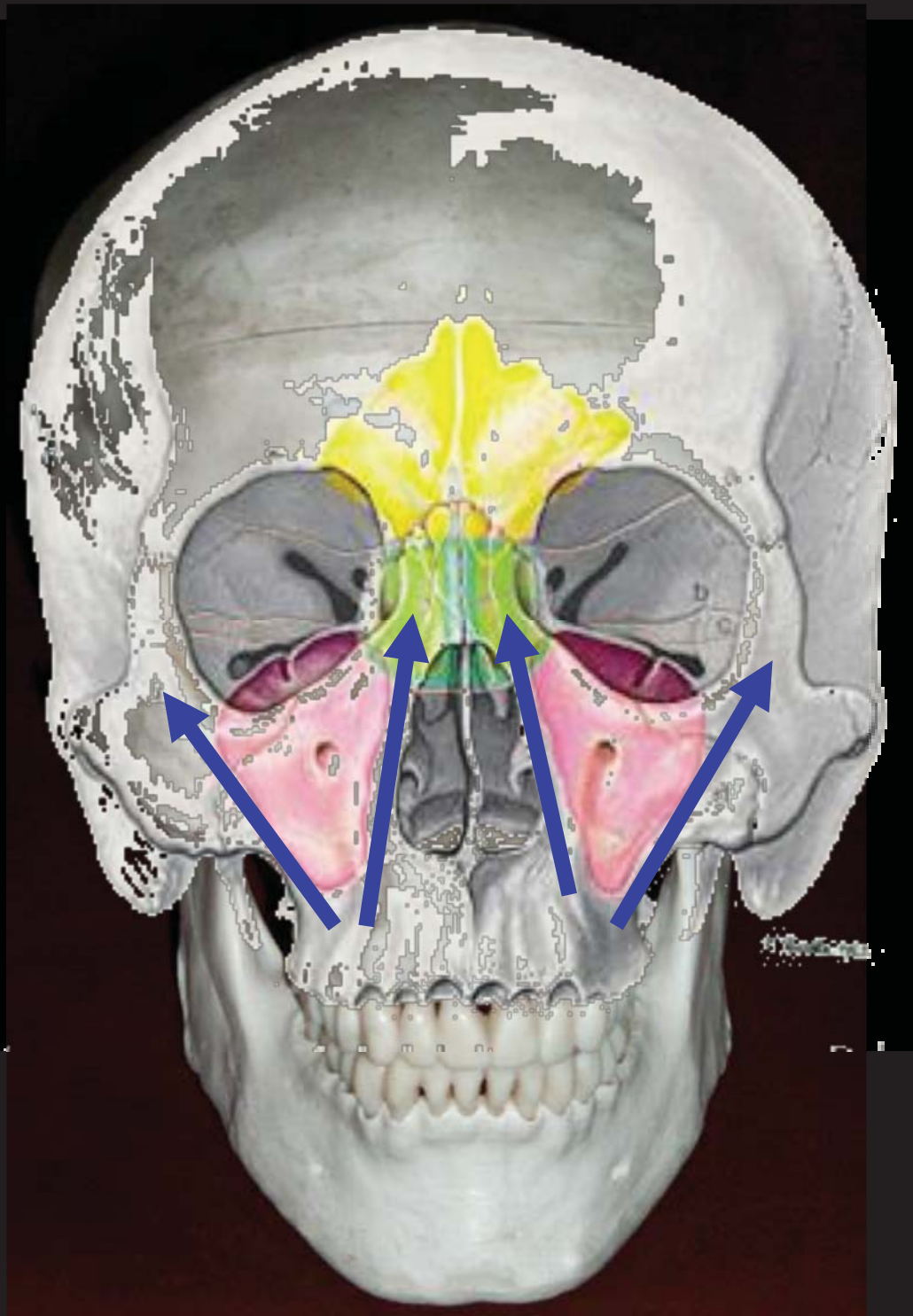


René Lefort (1901)

- Lefort I
- Lefort II
- Lefort III





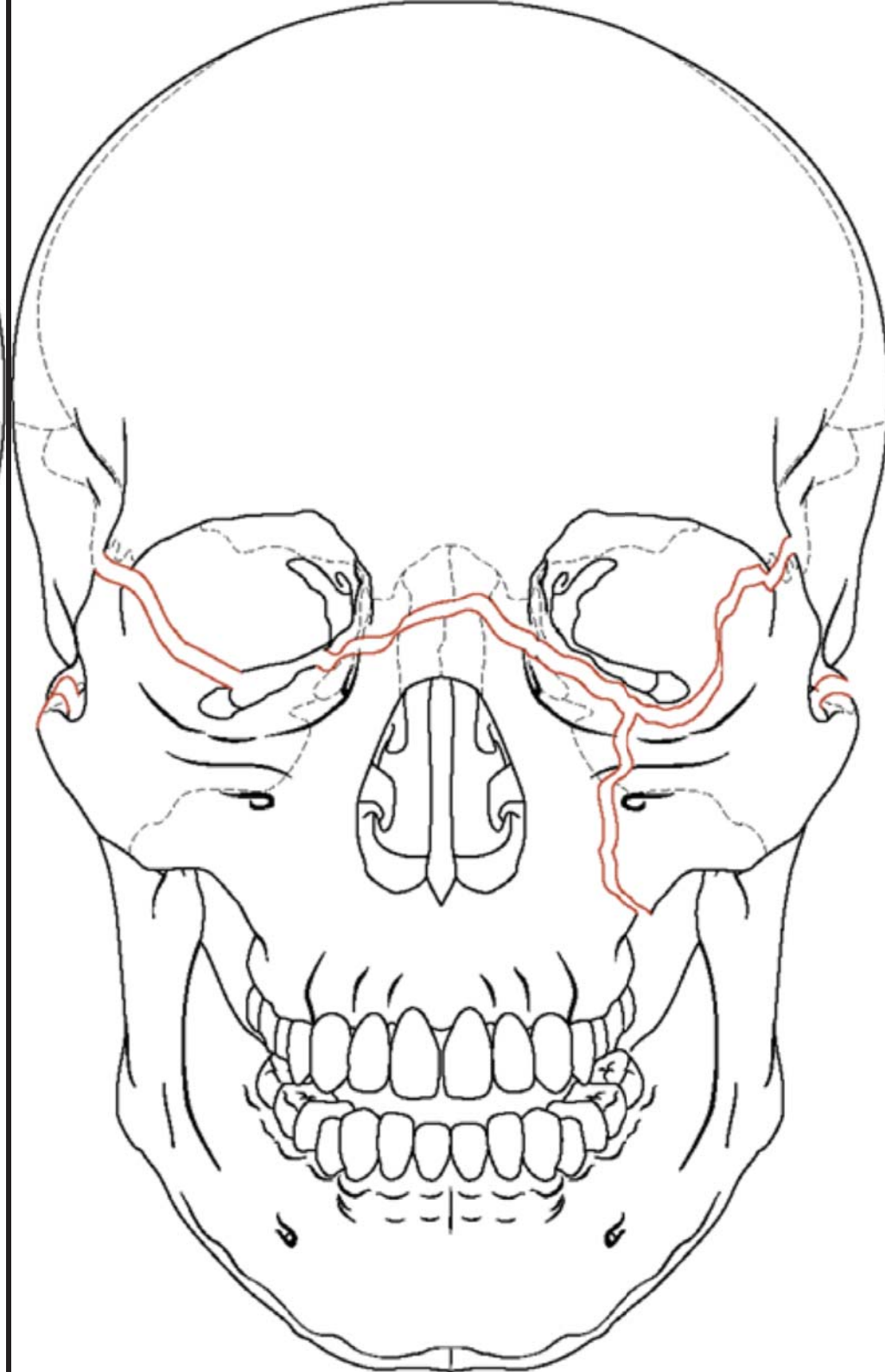
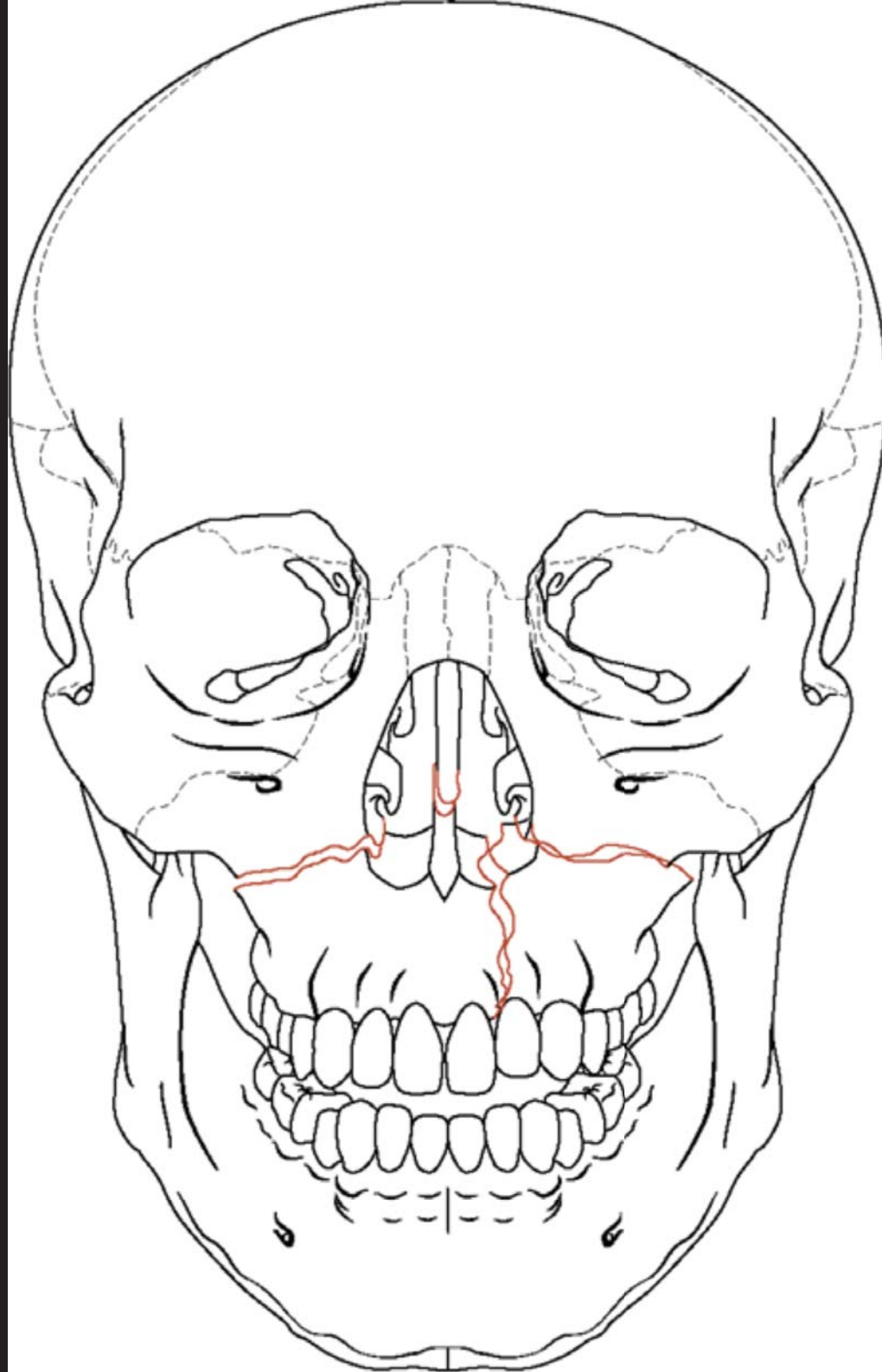


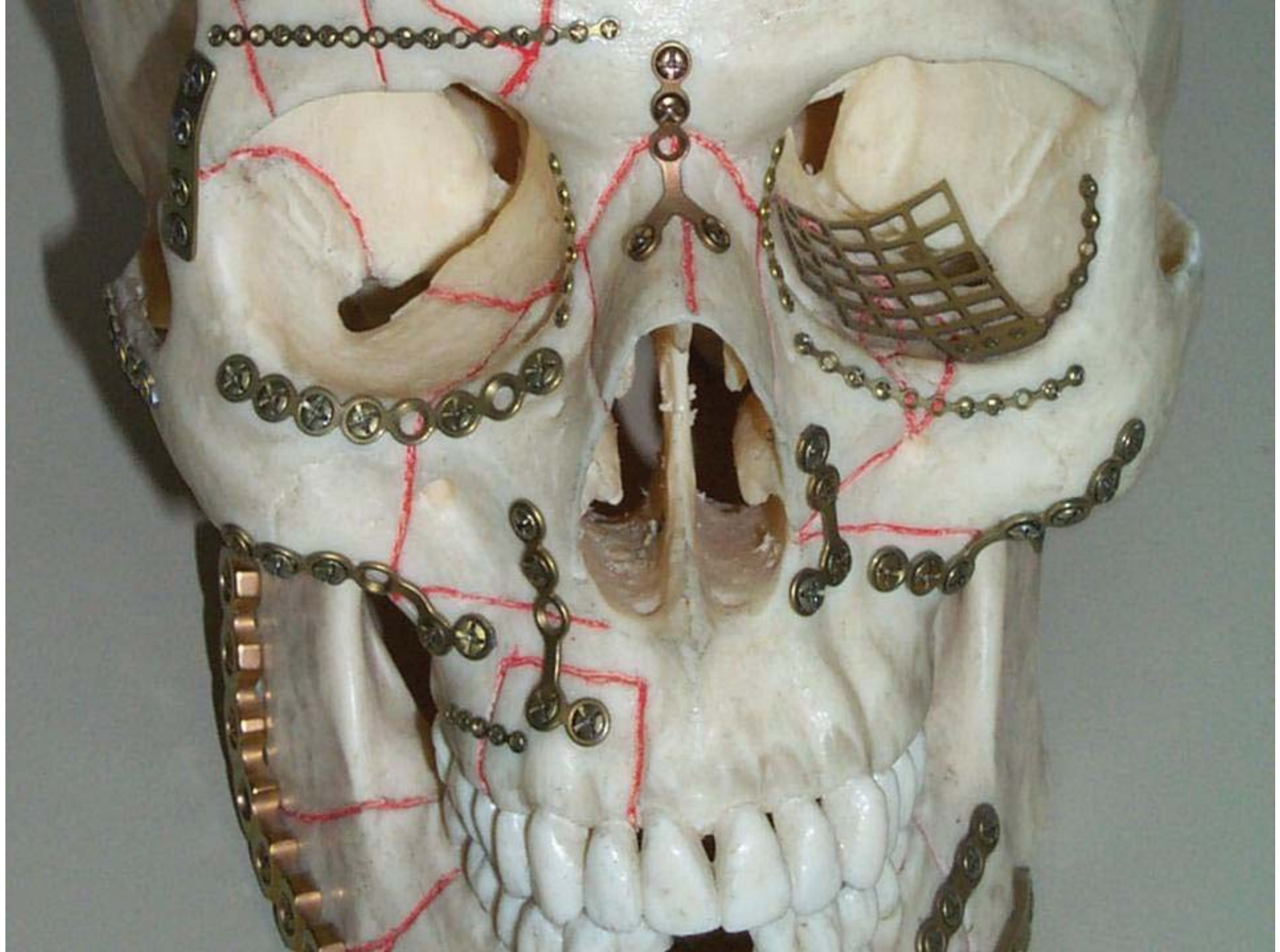


Fracturas tipo Lefort : diagnóstico

CLINICA :

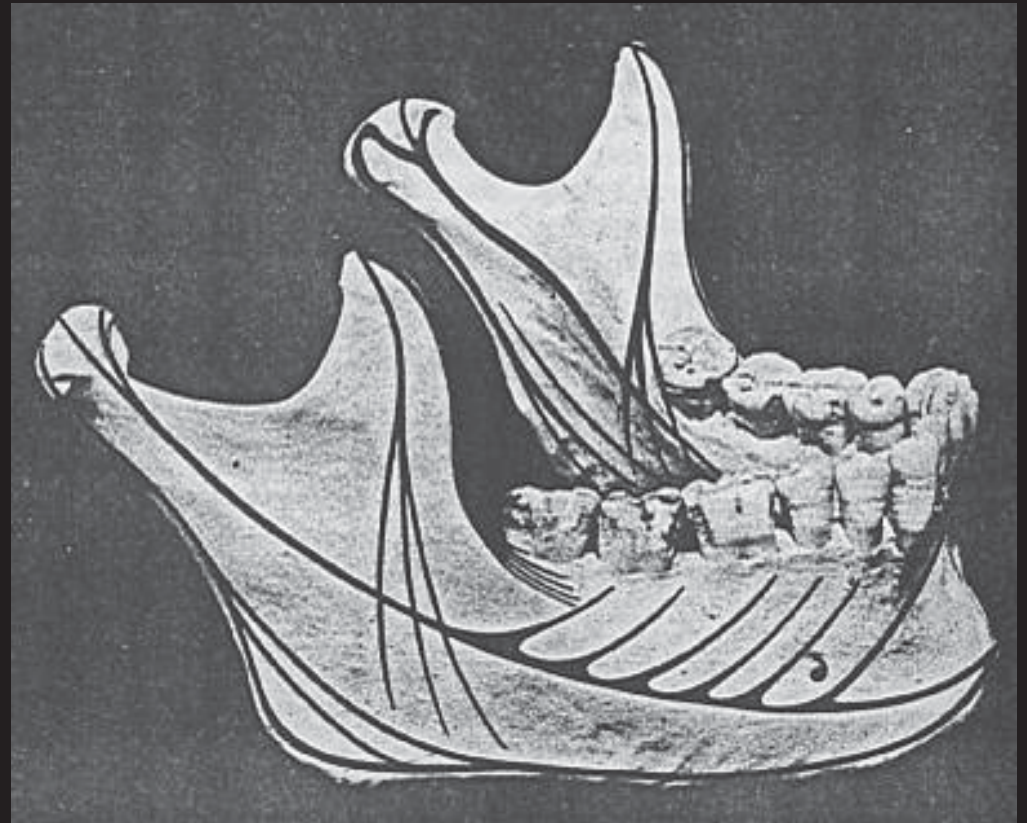
- **Equímosis / edema periorbitarios**
- **Movilidad maxilar superior**
- **Aplanamiento facial**
- **Mordida abierta anterior**

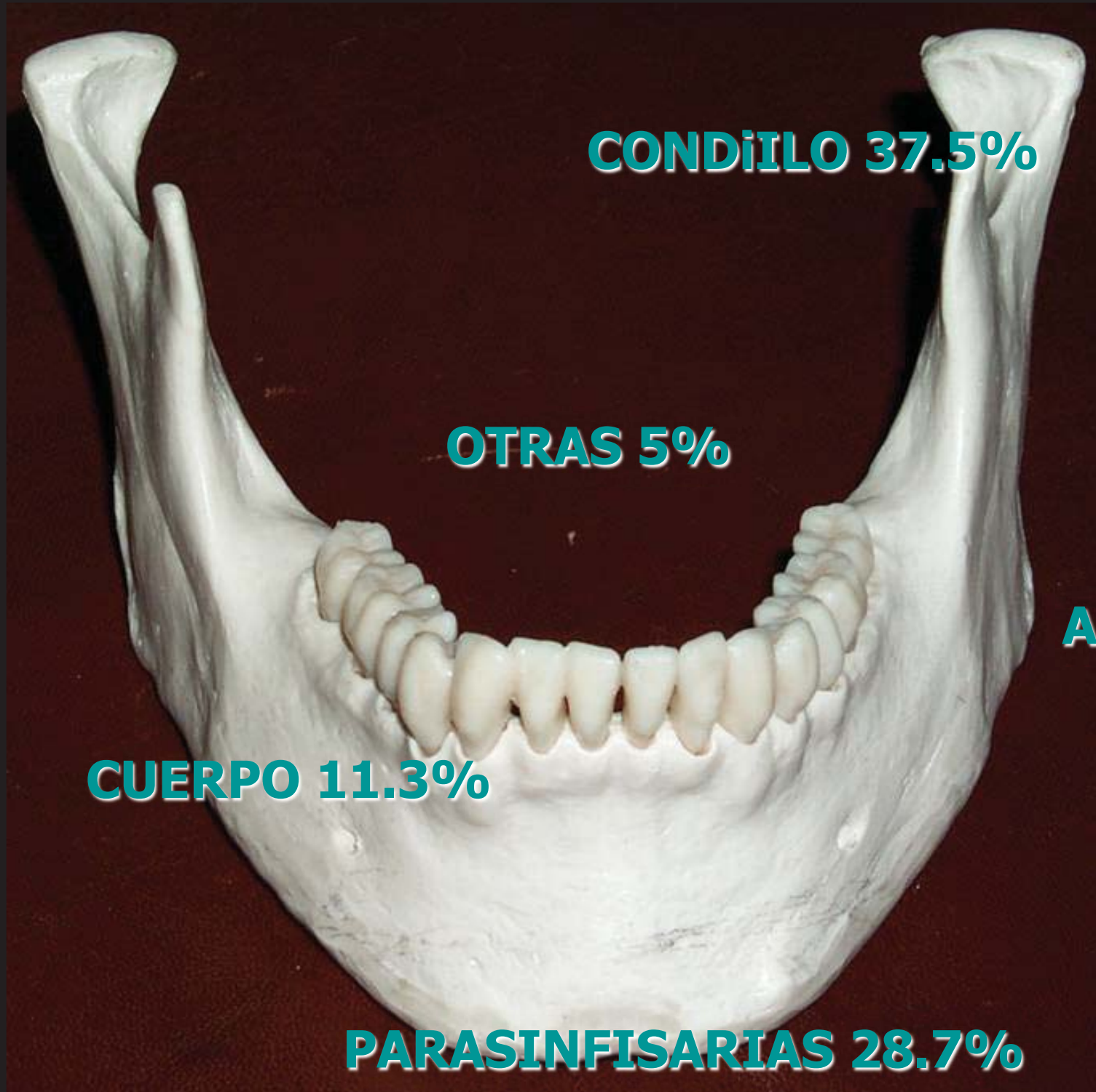




MANDIBULA

- Fuerzas:
 - Tensión.
 - Compresión.
 - Torsión.
- Hueso Bicortical.





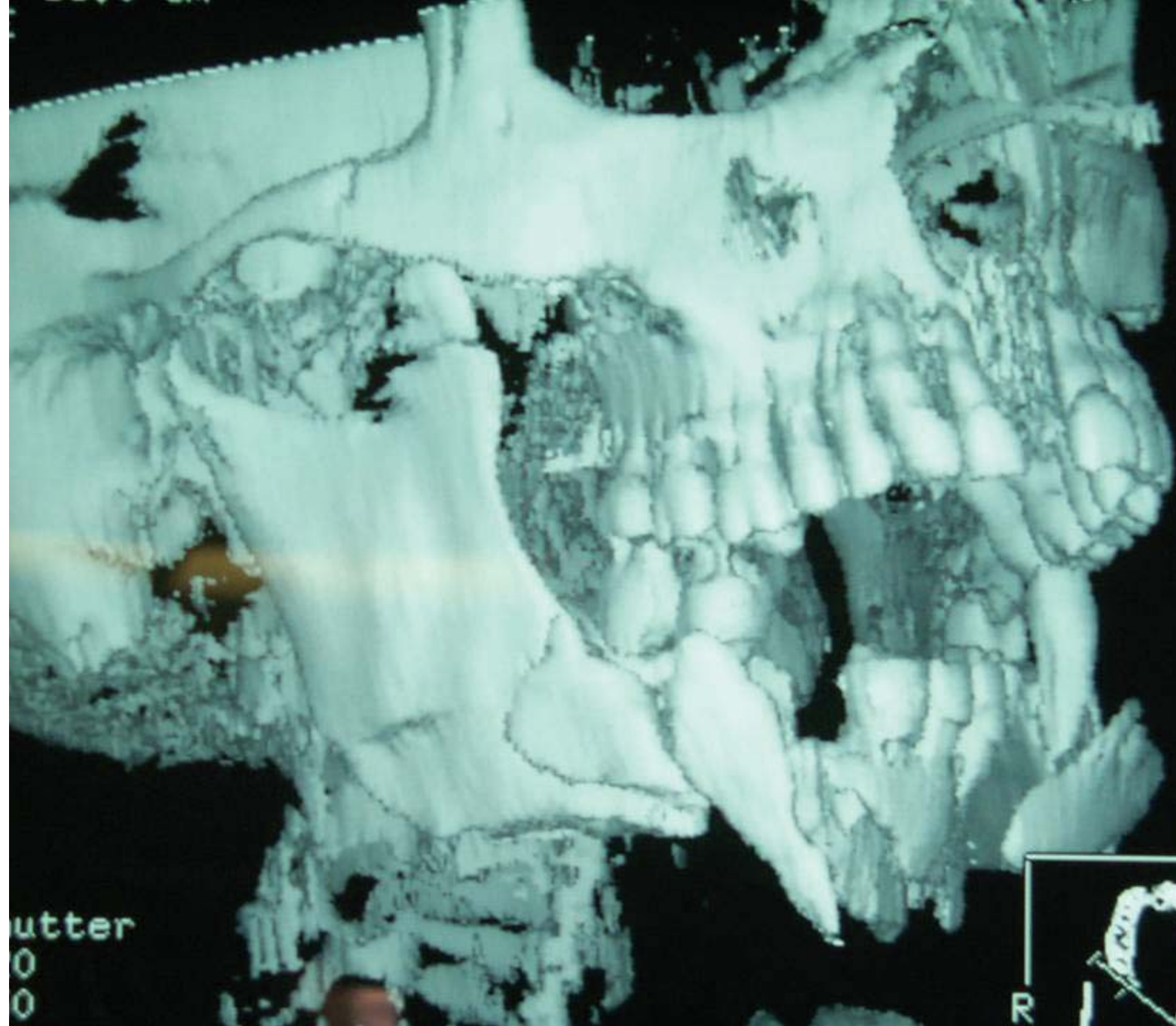
CONDiILO 37.5%

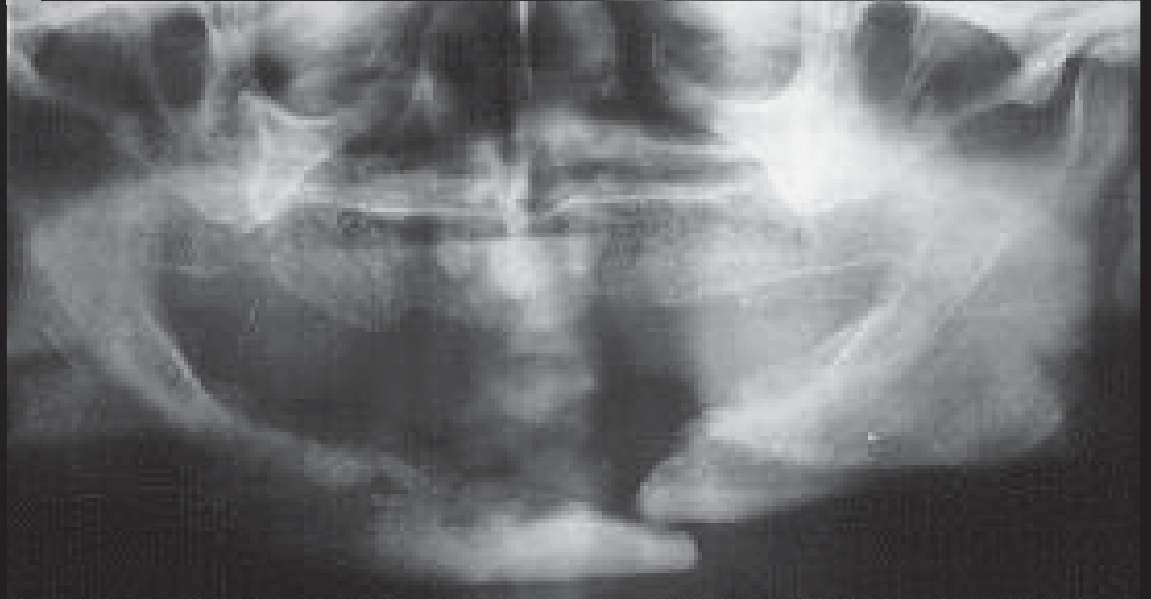
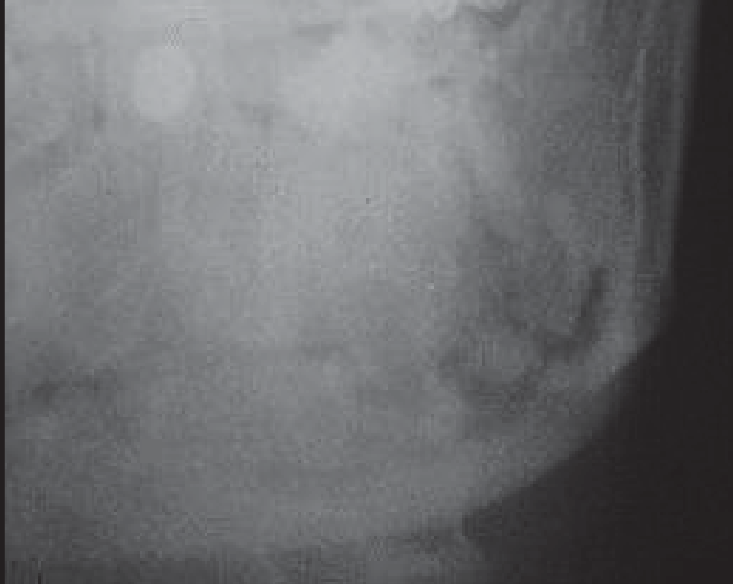
OTRAS 5%

ANGULO 17.5

CUERPO 11.3%

PARASINFISARIAS 28.7%





MANDIBULA

- Ortopédico.
- B.I.M. (Fr. favorable)
- Fijación Rígida:
 - No colaboradores.
 - Manejo ventilatorio.
 - EPOC.
 - Fr. Alta Energía (Fr desfavorable).
 - Preferencia del paciente.

