



# NEET - MDS

MASTERS OF DENTAL SURGERY

BY NBE

NATIONAL ELIGIBILITY CUM  
ENTRANCE TEST

Volume - 9

Oral Surgery & Public Health Dentistry



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## DISTRACTION

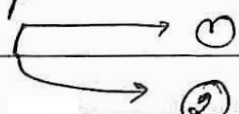
## OSTEOGENESIS (D.O.)

D.O. is defined as new bone format<sup>n</sup> when the bony ends are directed away from each other.

→ other name is callotasis, because we are stretch the fibrous callus formed after planned osteotomy of the bone.

• Distraction histogenesis ⇒ simultaneous growth of blood vessels, Nerves, Muscles, perosteum, skin, fascia, muscle etc. while D.O. is taking place.

D.O. → (1) Synonymous with Distraction Histogenesis (✓) → Correct  
 → (2) It is done with before growth completion (x) → Wrong.

→ Compression plates was initialy <sup>they were open</sup> used for  healing  
 → Treatment

⇒ Answer ⇒ 271

2 better option than 1 but both options are correct

of non union fractures

(non-vental fractures)

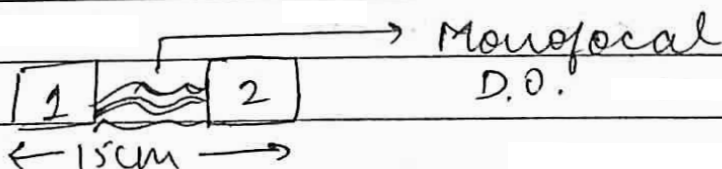
- or idea given by
1. D.O. was first done by / Codivila
  2. father of Distraction osteogenesis / law of tension stress / contributed for establishing protocol from D.O. is ILIZAGROV

force responsible for distraction osteogenesis is tension  $\gg$  traction

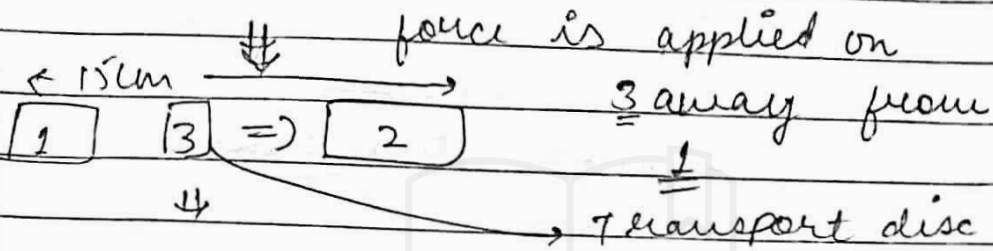
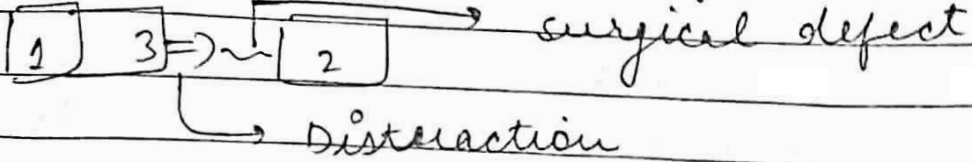
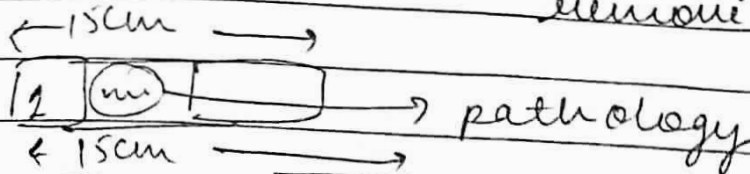
3. In maxillofacial area in humans was done by Alexander A. Ilizagrova.
4. Bifocal distraction osteogenesis done by Constantino et. al.
5. Trifocal distraction osteogenesis Annierno et. al.
6. 3-D distraction osteogenesis = McCarthy

7. Alveolar distraction osteogenesis  
Block Cy Association

$\Rightarrow$  Monofocal Distraction osteogenesis  
5-10cm  $\rightarrow$  To increase the length of the bone region ankylosis



2) → Bifocal distraction osteogenesis → To remove some pathology

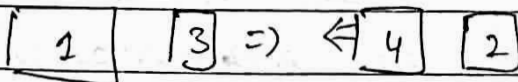
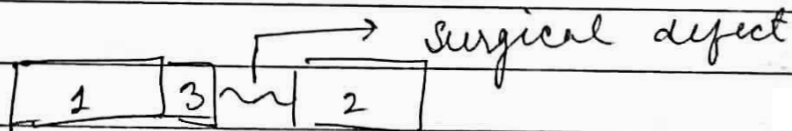
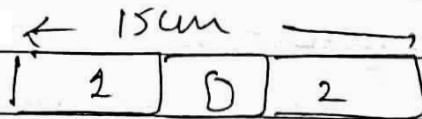


New Bone = 'DO'

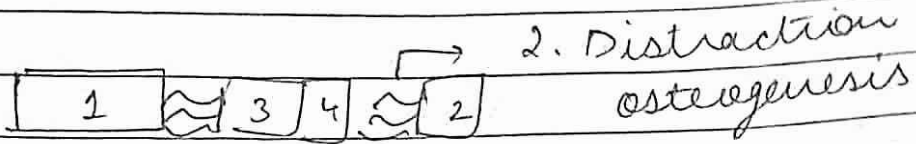
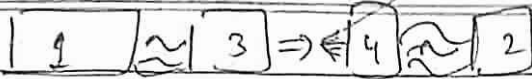


only 1 small & transport disc is present.

(3) → Trifocal Distraction osteogenesis



Two transport disc



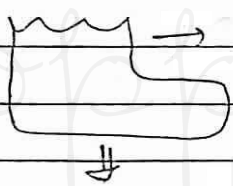
⇒ bifocal D.O.

neochondyle formation by Kaber's protocol

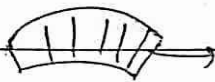


used for temporomandibular joint analysis treatment

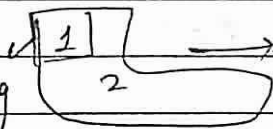
① capsular fossa



② Mandibular Stump.



rounding of glenoid fossa temp myofascial fiber

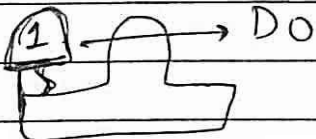
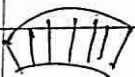


grow the mandibular raw stump

rounding it off to make Reverse

'L' osteotomy

it condyle into



Rate of D.O. according to neochondyle formation in 2mm/day





(B) Rhythm of Distraction  $\rightarrow$  continuous rhythm is ideal but distraction recommended

$$\hookrightarrow \frac{0.25 \text{ mm} \times 4 \text{ times a day}}{11} = 1.0 \text{ mm/day}$$

1.0 mm/day

or

$$\frac{0.5 \text{ mm} \times 2 \text{ times a day}}{10} = 10 \text{ mm/day}$$

$\hookrightarrow$  Patient / clinically Practical

or

acceptable

IV Consolidation period / Stabilization period / Healing Index / Period of Neutral fixation  
 $\downarrow$   
 It incorporates complete healing from start till end.

$\rightarrow$  Time lag b/w completion of distraction to the start of functional loading  
 $\rightarrow$  Around 8-12 weeks.

In children, consolidation phase should be less

So, In children

Latency =  $\downarrow$  sed

Rate =  $\uparrow$  sed

Rhythm = no issue

Consolidation = used

↳ So - that newly formed bone should gain strength.

## EXODONTIA

(I) Physical status classification /  
American Society of Anaesthesiologist  
classification (ASA)

ASA I → Normally healthy patient

ASA II → mild systemic disease which limit the daily activities to an extent

ASA III → severe systemic diseases which limits the activity to a large extent but is not incapacitating

ASA IV → severe systemic disease which to constant threat of life.

ASA V → Pt. not going to survive for 24 hours with or without treatment

ASA VI → Brain dead pt maintained for organ donation

Recent category

\* E  $\Rightarrow$  Emergency procedure is performed.

eg:- ASA III E  
ASA I 2 ASA II can be performed  
(surgery)

ASA III  $\rightarrow$  emergency surgery can be performed with physician consultations management of Systemic Disease.

(ii)  $\rightarrow$  when the patient has consumed steroids in the past but is not taking it regular now to see if there is adrenal gland insufficiency  $\downarrow$

we check by Rule of 2

$\rightarrow$  Pt. has consumed in cortisone or equivalent for consecutive 2 weeks in past 2 years

$\downarrow$   
Consider adrenal suppression.

\* Never reduce the dose.  
chance of bioavailability is more with i.v route.

$\Rightarrow$  If adrenal suppression is anticipated (Rule of 2)

requirements :-

① steroid prophylaxis  
Hydrocortisone



Hemi prochlorperazine  
100mg (i.v)

② Post operative => Antibiotics to  
avoid infect<sup>n</sup>.

③ Thyrotoxicosis / Hyperthyroidism  
Drug C/I => Adrenaline

\* steroids should not be stopped  
abruptly, it should tapered,  
and should be taken post-op.

④ Hypothyroidism => These pts are  
more sensitive to sedative  
drugs

↳ dose of sedation drug has to  
be controlled.

=> CVS Disease

① Ischaemic Heart Disease

② valvular Heart Diseases

③ Hypertension -> Mild increase in

BP like  
 $\frac{160}{95}$  mm of Hg, it is

is due to Anxiety related to the procedure, so the management is stress reduction potential followed by surgical intervention.

⇒ Myocardial Angina OR myocardial infarction

only pain ⇒ Angina  
pain infarction ⇒ Infarction

1. Electric procedure postpone for 6 months.

• Emergency procedure can be done

2. Blood thinners

(a) Anti platelet Drugs.

Haemorrhage

↓

platelets

↓

Adhesion to ruptured blood vessel

↓

Activation to release its content

↓

Aggregation of platelets together

↓

Platelet plug, 1<sup>o</sup> plug, Initial Plug.

Haemostatic plug

1<sup>o</sup> Haemostasis

1° Haemostasis

eg. Aspirin (M.C. used)

↳ antiplatelet Drug.

COX (Cyclooxygenase)

COX-1

COX-2

COX-3

House  
keeping  
COX  
enzymes  
↓

Inducible  
form

Humans as  
well

↓

Inhibitor

(Nowadays  
detected)

Irreversible

selective  
COX

preperitil

Eg. Paracetamol

COX  
inhibition

Nitrolicid

Eg. NABUMETONE

- COX-3 → Inhibitor is paracetamol.  
If a patient is on 75mg aspirin (N = 75-325)

Simple extract can be done of  
3 teeth C use of local Haemostatic  
drugs.

⇒ clopidogrel (Antiplatelet Drug)

↓  
Same management as  
aspirin.

• If pt. is on clopidogrel + Aspirin = Same management.

• If patient on Anticoagulant  $\Rightarrow$  1<sup>o</sup> Haemostasis followed by clotting factors

is affected by Anti coagulants  $\leftarrow$  (2<sup>o</sup> plug) / fibrin plug / Definitive plug

$\downarrow$   
2<sup>o</sup> Haemostasis

Most commonly used drugs are warfarin Based

$\downarrow$   
check prothrombin time

Normal = [ 11 to 15 sec ]

Normal individuals  $\leftarrow$  value

$\rightarrow$  (70% - 100%)  $\left[ \frac{12 \times 100}{15 \text{ BT}} \right]$  (7/min)

Normal  $\rightarrow$  [ 11 sec - 18 sec ]

## TNR (Inhalation Normalized Ratio)

pt A → Lab 1 (PT = 15 sec) ⇒ TNR = 1.2

→ Lab 2 (PT = 30 sec) ⇒ TNR = 1.2

$$TNR = \left[ \frac{\text{P.T of Patient}}{\text{Normal P.T}} \right]$$

P.T = Normal value

Note:-  $TNR \leq 3-5$ , extraction of 3 teeth, can be performed with the use of local agents.

### # Indication of extraction

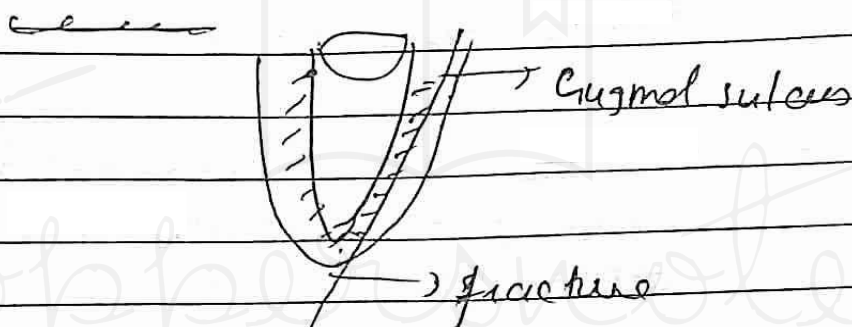
- ① Dental caries pathologies → Most common indication  
(given by Allen)
- ② Periodontal Disease
- ③ Orthodontic extraction
- ④ Tooth related to pathology.



Apical 1/3rd  $\rightarrow$  favourable ~~fracture~~ prognosis

- No need for extraction
- Middle 1/3rd  $\rightarrow$  Guarded prognosis
- Cervical 1/3rd  $\rightarrow$  cog. th

$\rightarrow$  Tooth involved with fracture line  $\Rightarrow$



Save the tooth when it is important for  
esthetic, function.

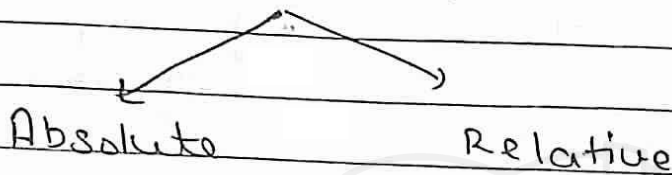
It is indicated when ① Related to pathology.

- ② Grossy Carious.
- ③ Pulpocionium
- ④ tooth hays gets#
- ⑤ Tooth is grossy mobile.

⇒ Teeth within the line of fire.

• To avoid Radiation Caries Radiation pulpitis

⇒ Contra Indications of Extractions.



1) A-V Malformation

1) Acute Infection related to tooth in ques.

2) Hemiarthrosis

a) Acute pericoronitis.

b) ANUL

c) Heipitic gingivostomat

Vascular lesion.

↓

will have high blood flow

2) Uncontrolled systemic Diseases