





















# ACKERMAN-PROFITT SYSTEM OF CLASSIFICATION OF MALOCCLUSAL



## ◆ Step 1 (Alignment)

The first step involves assessment of the alignment and symmetry of the dental arch. It is classified as ideal/crowded/spaced.

## ◆ Step 2 (Profile)

It involves the consideration of the profile. The profile is described as convex/straight/concave. The facial divergence is also considered, i.e, anterior or posterior divergence.

## ◆ Step 3 (Type)

The transverse skeletal and dental relationships are evaluated. Buccal and palatal cross bites if any are noted. The cross bite is further sub-classified as unilateral or bilateral. In addition, differentiation is made between skeletal and dental cross bite.

## ◆ Step 4 (Class)

This involves the assessment of the sagittal relationships. It is referred as Angle's Class I/Class II/Class III classification of malocclusion. Differentiation is made between skeletal and dental malocclusion.

## ◆ Step 5 (Bite depth)

Malocclusions in the vertical plane are noted. They are described as anterior or posterior open bite, anterior deep bite or posterior collapsed bite. A mention is made whether the malocclusion is skeletal or dental.

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# TYPES OF MALOCCLUSION

## VERTICAL PLANE



**Open bite**



**Deep bite**

## SAGITTAL PLANE



**IDEAL OCCLUSION**



**CLASS I**

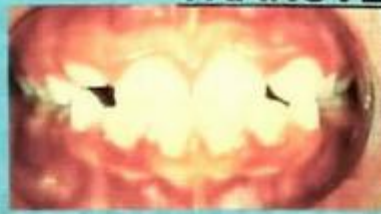


**CLASS II**



**CLASS III**

## TRANSVERSE PLANE



**Cross bite**



**Diastema**

## INTRA ARCH



**Crowding**



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# STEINER'S ANALYSIS

## SKELETAL ANALYSIS

VARIABLE	NORMAL	INCREASED	DECREASED
SNA ANGLE	82°	PROGNATHIC MAXILLA	RETROGNATHIC MAXILLA
SNB ANGLE	80°	PROGNATHIC MANDIBLE	RETROGNATHIC MANDIBLE
ANB ANGLE	2°	CLASS 2 SKELETAL PATTERN	CLASS 3 SKELETAL PATTERN
OCCUSAL PLANE ANGLE	14°	CLOCKWISE ROTATION OF OCCUSAL PLANE	COUNTERCLOCKWISE ROTATION OF OCCUSAL PLANE
MANDIBULAR PLANE ANGLE	32°	VERTICAL GROWTH	HORIZONTAL GROWTH

## DENTAL ANALYSIS

VARIABLE	NORMAL	INCREASED	DECREASED
UPPER INCISOR TO NA (ANGULAR)	22°	UPPER INCISOR PROCLINATION	UPPER INCISOR RETROCLINATION
UPPER INCISOR TO NA (LINEAR)	4MM	UPPER INCISOR PROCLINATION	UPPER INCISOR RETROCLINATION
LOWER INCISOR TO NB (ANGULAR)	25°	LOWER INCISOR PROCLINATION	LOWER INCISOR RETROCLINATION
LOWER INCISOR TO NB (LINEAR)	4MM	LOWER INCISOR PROCLINATION	LOWER INCISOR RETROCLINATION
INTER-INCISOR ANGLE	132°	RETROCLINED INCISORS	PROCLINED INCISORS

## SOFT TISSUE ANALYSIS

VARIABLE	"S" LINE
NORMAL	0 MM
INCREASED	PROTRUSIVE LIPS
DECREASED	RETRUSIVE LIPS



S.N.A. ANGLE



S.N.B. ANGLE



A.N.B. ANGLE



UPPER INCISOR TO NA (ANGULAR)



UPPER INCISOR TO NA(LINEAR)



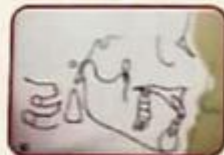
LOWER INCISOR TO NB(ANGULAR)



MANDIBULAR PLANE ANGLE



OCCUSAL PLANE ANGLE



"S" LINE



LOWER INCISOR TO NB(LINEAR)



INTER-INCISAL ANGLE

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# TWEED'S DIAGNOSTIC TRIANGLE

Tweed developed this analysis as an aid to treatment planning, anchorage preparation & determining the prognosis of orthodontic cases. At that time great emphasis was laid on the placement of mandibular incisors for the preservation of the orthodontically achieved results.

The analysis consists of the tweed's triangle formed by

1. Frankfort's horizontal plane.
2. The mandibular plane.
3. The long axis of lower incisor.

Three angles formed by these three planes are :-

1. Frankfort's mandibular plane angle (FMA)
2. Incisor mandibular plane angle (IMPA)
3. Frankfort's mandibular plane angle (FMIA)

The normal values for,

$$\text{FMA} = 25^\circ$$

$$\text{IMPA} = 90^\circ$$

$$\text{FMIA} = 65^\circ$$

The basis is the FMA angle, and the following can be derived from a change in its value :

1. FMA  $16^\circ$  to  $28^\circ$  :-

Prognosis is good.

at  $16^\circ$ , IMPA should be  $90^\circ + 5^\circ = 95^\circ$

at  $22^\circ$ , IMPA should be  $90^\circ$

at  $28^\circ$ , IMPA should be  $90^\circ - 5^\circ = 85^\circ$

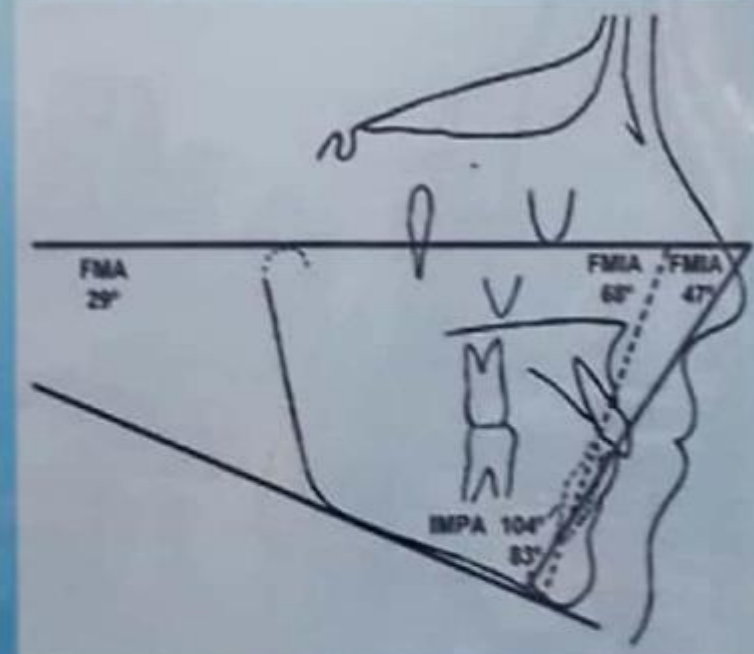
2. FMA  $28^\circ$  to  $35^\circ$  :-

Prognosis is fair at  $28^\circ$ .

Extractions are essential in majority of cases at  $35^\circ$ .

3. FMA above  $35^\circ$  :-

Prognosis is bad, extractions frequently complicate problems.

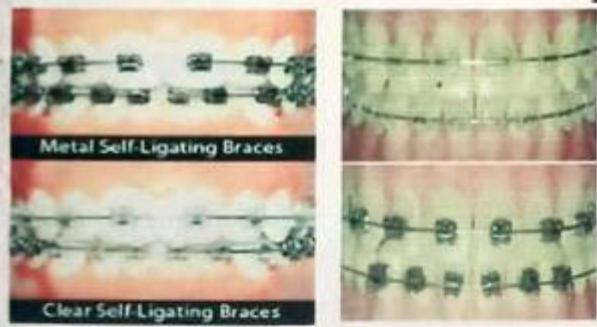
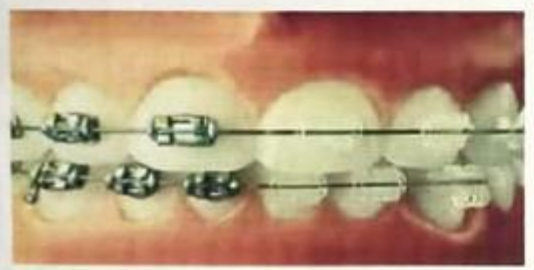
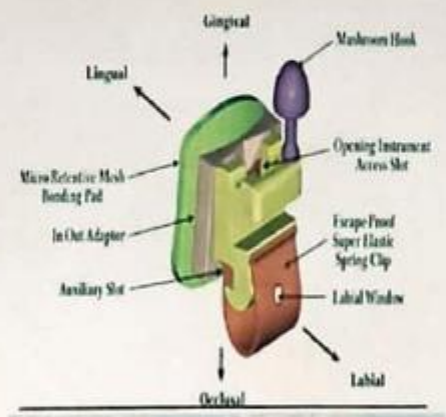
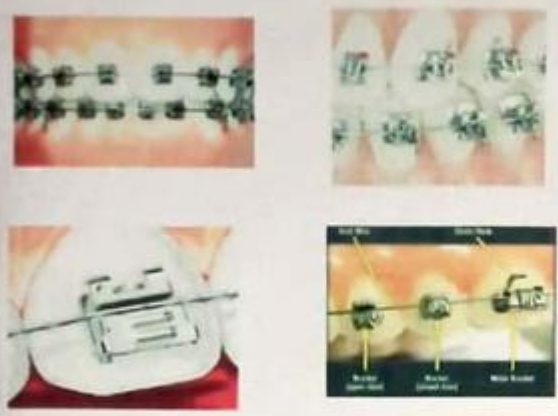


## CLINICAL SIGNIFICANCE :

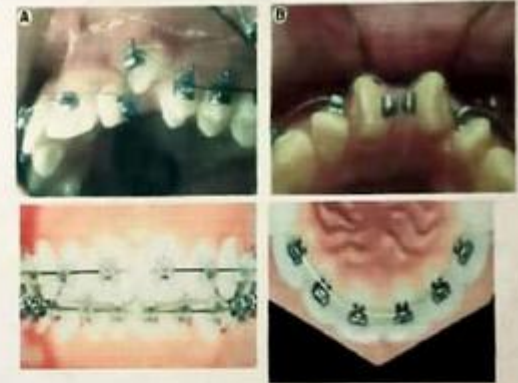
It is primarily for clinical treatment planning & should not be considered a complete analysis by itself. By establishing the position lower incisors should occupy, provisions are made for variations in mandibular position & the upper incisors are placed according to lower incisors. The ideal position of lower incisors helps in stability of the results achieved, thereby, indicating prognosis of the case.



# SPEED IN ORTHODONTICS (SELF LIGATING SYSTEM)



Fewer follow up visits  
 Upto 12 weeks apart  
 Shorter appointment  
 More comfort to patient  
 Lessens the time of treatment  
 Maintain proper oral hygiene  
 less root resorption  
 easy cleaning



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# INVISALIGN

Invisalign is a series of clear, removable teeth aligners that Orthodontists use as an alternative to traditional metal dental braces.



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# POSTNATAL GROWTH OF MAXILLA

Growth occurs by following mechanism

**Displacement**

**Primary**

Bone is displaced by its own enlargement

**Secondary**

Bone is displaced by growth of surrounding structures & not by its actual enlargement

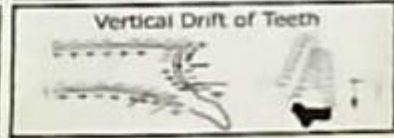
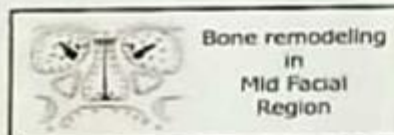
**Growth at Sutures**

Growth of Maxilla occurs at following sutures.

- 1) Fronto nasal
- 2) Fronto maxillary
- 3) Zygomatic maxillary
- 4) Pterygo palatine

**Surface Remodeling**

Remodeling occurs by means of bone deposition and resorption which maintains the size of the bone and helps in changing the shape of bone.



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# ORAL HYGIENE MEASURES DURING ORTHODONTIC TREATMENT

It is imperative that meticulous oral hygiene be maintained during any orthodontic treatment.

Here are some guidelines for keeping good oral hygiene



- Brush your teeth at least twice a day.
- Use a toothbrush with soft bristles or use orthodontic brush.
- Brush in and around all of the brackets and wires of your braces.
- Brush gently to avoid bending or snapping wires and brackets.
- Brush the inside surfaces of your teeth using a gentle jiggling motion.
- Use a firm back and forth motion for the chewing surfaces.
- Brush your tongue gently from back to front.
- Finally, rinse your mouth thoroughly with water.
- Replace your toothbrush at least every 3 months.
- Floss your teeth daily. Floss between teeth and between the wire and braces.



## Food that you should avoid:

- Crunchy food such as popcorn or walnut.
- Sticky food such as caramel, chocolate, papad, mathiya, chewing gum.
- Hard food such as nuts, peanuts, dryfruits & bhakhari.
- Do not chew on hard things such as pens, pencils or fingernails.
- Avoid biting fruits, biscuits, raw vegetables with front teeth.

## Instructions:

- If any appliance, bracket, or wire is broken, report to doctor immediately.
- Do not try to repair any appliances by yourself.
- Wear appliances regularly.
- Keep them clean.
- You must follow the instructions given by the doctor.



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Pooja shukla

Khoobi shah  
Pooja lala  
Deepmala soj