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***Sheet no. :5***

***Refer to slide no. : 3***

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 **Anterior Guidance**

* The term anterior guidance can be somewhat confusing!
* Posterior guidance is provided by the TMJ (Condylar guidance).
* Anterior guidance is provided by the teeth (guidance of teeth). The word "anterior" means (in front of the condyles).
* This lecture is about the incisal guidance specifically. Some dental textbooks consider the anterior guidance is the guidance on the anterior teeth only! (we`ll refer to this as the incisal guidance).

***Slide #3***:

* The contour of the palatal surfaces has no effect when we're doing class III restorations as small as pen point! It will make a difference if the class III restorations involve all the palatal surfaces of the teeth or when placing palatal veneers.
* The incisal guidance is variable throughout life. If the teeth are worn, the incisal edges of mandibular teeth will change and the shape of the palatal surfaces too.
Everyone has a slightly different anterior guidance [the vertical and horizontal overlap vary from person to person].

***Slide #4***:

* On the dynamic level, anterior guidance represents the superior part of the envelope of motion. It is determined by the protrusive movement.
* Outer limit: it is the maximum movement the person can perform. It is determined by the envelope of motion and by the presence of muscles, bones and ligaments.
* The shape of the envelope of function is determined by the relationship between the maxillary and mandibular teeth.
The range of it is determined by the presence of muscles, ligaments, shape of bone.

***Slide #5:***

* If we knew the centric relation of a patient and examined the anterior guidance and the shape of the teeth, then we nearly finished the job! [centric relation is stable through life].
* Static → in centric occlusion (how the teeth come in contact with each other).
Protrusive movement → how the teeth move along the palatal surfaces of the maxillary anterior teeth.

***Slide #6***:

* Open bite: there is no contact (gap) between anterior teeth when the patient closes his/her mouth in the maximum intercuspation and during protrusion.
* Large horizontal overlap → more than 2-3mm.

***Slide #8***:

* The posterior guidance is dictated by the condylar path.

The incisal guidance is dictated by the anterior teeth.

* The condylar guidance angle: it is the angle between downward movement of the condyle and the horizontal plane.

***Slide #9:***

The relationship between the maxillary anterior teeth and the movement.

Example:

* Class II division 2 malocclusion → is where the maxillary anterior teeth are retroclined and a deep overbite exists.
* The skeletal class II relation might be either due to:
1. Mandibular deficiency (small mandible).
2. Maxillary excess (in Ant-Post dimension. characterized by a protrusion of the entire midface "protruded maxilla").
3. Or a combination of both.
* The skeletal class II relation is associated with a class II dental malocclusion as a result of natural dental compensation to make the skeletal disharmony less severe.

***Slide #10***:

* Phonetics: 'F' sound relates directly to the positioning of the maxillary incisal edges and doesn't involve the mandibular anterior teeth.

'S' sound is the result of the maxillary anterior teeth position and mandibular anterior teeth position (interacting together).

***Slide #11***:

(B) →

* less overbite - less posterior disocclusion (the mandible will not travel long distance to separate the posterior teeth) - shorter cusp height.
* The flatter the protrusive path of inclination, the flatter and shorter the cusp tips.

(A) →

* Greater overbite produces more disocclusion, hence permits longer cusp height.
* The steeper the protrusive incisal path of inclination. The steeper and higher the cusp tips.

***Slide #15***:

* The posterior teeth should contact heavier than the anterior teeth in centric occlusion.

***Slide #16***:

* Group function → All the anterior teeth are contacting. Occlusal contacts can be identified and marked using thin articulating paper.

***Slide #18***:

* To check if the position of all anterior teeth is in harmony with the lip contour → the lower lip should be covering the lower incisal one-third of the upper anterior teeth (in order to have a proper sound and proper form).
* Neutral zone is the area in the mouth where during function, the forces of the tongue pressing outwards are neutralized by the forces of the cheeks and lips pressing inwards.
* Neutral zone is important to improve denture stability. If the denture strays outside the neutral zone it will be unstable during the activities such as talking and swallowing (the tongue movement will dislodge the denture even if it is retentive).

***Slide #19***:

* The " human TMJ and Jaw " is essentially a lever system.
* The posterior teeth are closer to the center of rotation "TMJ" than the anterior teeth → load on the posterior teeth **>** load on the anterior teeth → so during protrusive movement, disclusion between posterior teeth will reduce the load on them. And the load on the anterior teeth is already small! → activated muscles are less than before [more comfortable :)].