Lec. #22

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**Treatment planning**

 When you examine a patient you'll obtain a group of information, and when the patient says that his chief complaint is aesthetic in an orthodontic clinic you have to ask more and more about the details; which arch, tooth, what is the problem with this tooth. Because most of us have an aesthetic problem with his/her teeth, so we have to ask more about the chief complaint.

 In extra-oral examination you have to look at the skeletal pattern (ant. Post. Relation) which is done by a cephalometric radiograph, tracing and soft tissue assessment (lips; competent or not, lip line, swallowing pattern).

\*\*\* swallowing pattern is based on the body which might be lazy; meaning that the body doesn't want to spend energy also the pattern depends on the lips if they are competent or not;

If the lips are **competent** they're already together and the tongue is behind the upper incisors (normal swallowing pattern).

If the lips are **mildly incompetent**, the lips are forced to become together during swallowing; (low lip line).

If the lips are **severely incompetent**, you'll have an adaptive tongue to lip swallowing in which the tongue contacts the lower lip during swallowing, an ex. is when having the lower lip behind the upper incisors (no lip line at all).

Finally, there's a tongue thrust swallowing pattern.

Also you have to examine:

* Oral hygiene
* Caries risk
* Soft tissues
* Overjet and overbite
* Mid lines
* Canine relationship
* Incisors relationship
* Molar relationship
* Crowding and spacing; you have to do space analysis so you may see anterior crowding (from distal of canine to distal of canine) or posterior crowding (from distal of canine to mesial of the first molar)>>> the best way to measure it is by looking at the occlusal view of a **study model** or examine it **clinically** or by using **average widths** of the teeth (centrals width is 10mm, laterals 6mm, canine 9mm, premolars are 7mm)>>> we measure these numbers by looking at the distance between the CONTACT POINTS between the teeth; if there's overlap between the contact points then there's crowding, but if there's a space between them then there's spacing.

# Overjet is the maximum horizontal distance between the upper and lower incisors (not the centrals only, it may be between laterals)………… so you have to know the definitions in details in orthodontics.

* Now we got a lot of data and information from the ptn>>> we'll determine a **list of problems** that the ptn has (record all the things that are not normal)>>> then we'll put a proper treatment plan with a proper sequence (treatment **objectives**).
* The dr. showed a case with this **problem list**: class 2 skeletal pattern, increased lower facial height, severely incompetent lips, low lip line, adaptive tongue to lip swallowing pattern, half a unit class2 canine relationship, half a unit class2 molar relationship, increased overjet, increased overbite, spaced upper incisors…..
* Now we'll ask some questions about the things that we will put in the problem list, and determine which of them we can change and which we cannot:
* Can we change the skeletal pattern?

Yes, but only by surgery, ONLY if the case was sever, and we determine the severity according to SNA, SNB, ANB values and the lower face height (we determine it by lower facial height percentage and MMPA …. If they're outside 2 standard deviations of the normal most probably we need to do surgery)……. Most of our ptns will not need surgery.

There are 3 randomized controlled clinical trials that showed that there's no difference in the growth between ptns that used the functional appliances and ptns who did not! >>> So the effect of the functional appliances according to these trials is ZERO! , THEY MOVE TEETH BUT DO NOT change the skeletal pattern.

* Can we change the soft tissues pattern?

Yes, by surgery, but the surgery to the soft tissue is very unreliable, or by changing the environment around it (if we have incompetent lips with increased overjet, we can make the lips normal by reducing the overjet….. so changing the soft tissues here was not our objective).

## So changing the skeletal pattern and the soft tissues will not be in our objectives; we cannot change them except by doing surgery.

* Can we change teeth position?

Yes, and actually this is what we do in orthodontics.

Now what is the logical **sequence** to correct the problems that are related to teeth positions (overjet, overbite, spacing, molar and canine relationships)?

Our main objective is to reduce the overjet in these ptns, BUT we cannot bring the incisors back before reducing the overbite.

* So, the **FIRST** thing we do is reduces the overbite.
* The **2nd** thing is to provide space; that is needed to reduce the overjet, BUT we have to be sure after providing space and before reducing the overjet that we have nicely well aligned teeth.
* The **3rd** thing is to correct the canine relationship

So I have to bring the canines to a class 1 relationship so that the laterals and centrals will fit in their correct position, and this way we'll know if the space that we had provided is enough or not . (The **KEY** in orthodontic treatment is to bring the canines into a class 1 relationship).

* The **4th** thing is to reduce the overjet.
* **Finally**, correct the molar relationship. (Sometimes we may start from the back "molar relation" first!).
* How can we retain the canines and molars in their corrected position?
* By putting them in class1 relationship, we put them in cusp to fossa position which is much more stable than half unit class2 "cusp to cusp position".
* The soft tissues also will retain the teeth in their normal position, as in our case, when we reduce the overjet, we correct the lip line so the lower lip will hold the upper incisors in its new position.

نحن خلفاء الله على هذه الأرض فلننشر صفات الله على أرضنا.......