Lec : instrumentation in perio

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#what is the periodontium ?

a) alveolar bone

b)gingiva

c)periodontal ligament

d)cementum

# this semester , we will take some diseases which not common ,but we must take it and how we treat it .

# in clinic , we will start to learn how to examine periodontal disease .

# today we will take about instrumentation .

# gingival inflammation : we can see it visually or BOP .

# periodontal and bone : we cant see it clinically , we can see it on radiograph or we can see pocket ( measure attachment loss ) or recession .

# treatment :

In cons : the cause of caries is bacteria >>> remove it by drill .

In perio : the cause is plaque in supra gingival , calculus either supra or sub gingival >>> you have to remove them .

# in treatment : we have different phases :

- First phase :

We have to treat the cause and things that aggregate the cause like:

a)local factor : e.g :overhang , bad RPD , crowding .

b)systemic factor : e.g : smoking , diabetes .

- second phase : maintenance phase

When we have a chronic disease , we have to see a pt every once in awhile , because pocket is not very stable ( we have to do review to the pt ) .

Here we decide if I need surgery or not .

# my point is that all phases have periodontal instrumentation .

Scaling and root planning are different from each other .#

# scaling :

The process of removing biofilm and deposits either in crown or root , we have supra and sub gingival scaling .

#root planning :

The process of which you remove the deposits and you make sure that you have a nice smooth clean hard surface on the root . to have a new attachment and that’s the goal .

- cementum softer than enamel . if cementum is infected , it become soft .

- sometimes you need to remove part of cementum , because calculus is become part of it .

# most of instrument have a handle , shank and blade .

The working area is a blade , shank is an intermediate .

#periodontal probe : ( graduated tool )

Has a blunt end not cutting .-

- Usually is very hard to use perio probe , we use napers probe .

-Usually we have black bands on probe >> every band coded for a number .

-WH probe : there is a small ball (.5mm)

#we should know what's the probe in our hand before we do examination .

#napers probe : its angulated , it has also light and dark bands (3mm) in every one of them .

#explorer : it is a probe that we use it in cons , it is good to check because its pointed area . it can check the roughness .

We have different types of explorer .-

- usually sub gingival calculus is darker in color and harder , we try to dry gingiva then reflect it to see calculus but most of time you cant see sub gingival calculus , so we use the probe .

# the surface of the normal root should be smooth , for sure not the same of enamel ,but we should not feel any ledge or steps ( if any of ledge or steps were found that is either calculus or sub gingival caries ).

To know which is caries or calculus ( caries : is a cavity on tooth or at least within the surface of tooth , but calculus is a deposits (some thing on air ) you feel upon the tooth .

#chisel :for supra gingival , just push the calculus (remove away).

# hook : remove sub gingival .

- all instruments are pull through , except chisel is push through .

#instrument we use in perio :

1)skill scaler

2) curette .

1)skill scaler :

It has :-

1)pointed tip (triangular in cross section )

2)flat surface

3)two cutting edge (sharp edges both can cut )

-It uses supra gingival scaling not sub gingival , because it has 2 sharp edges (one do the work , but the other :

1) it will injure the gum .

2)pointed tip is very traumatic .

3) it is very large .

- it has different shapes … straight , curved shank <<< any thing curved use for posterior area usually to get more access because its access should be with long access of tooth ( shank with long access of tooth ) .

2)curette :

- most common used .

- most important .

- round tip .

- it is different from surgical curette .

- cross section is semi circular ( spone shape )

- the end not pointed , usually smaller in size , so can use sub gingival(the only one can be used sub gingival ).

- it can be used for sub gingival calculus , for root planning and for gingival curettage .

- new studies proved that gingival curettage is very traumatic and if we do it there is no effective result for it , so why so it !

- curette has tow types : (both of them spone shape )

a) universal :

you can use it for most sites and has tow cutting edges .

b)site specific :

- also called gracey curette

- for certain sites , means anterior teeth has specific type differ than posterior teeth .

- usually has only one cutting edge and another edge is blunt .

- has numbers indicate for a certain tooth .. refer to slide to know them .

#gracey unit can have a different modification , as the shank more rigid >>> as we use it in the more deposits .

# fine thin shank for fine finishing (smoothening ) .

#there is micro filled , mini filled modification ( cutting edges become smaller ) with numbers e.g : 1,2 for anterior teeth .

\*\* these are just modification you don’t need to know them .

# Dr. show us a pictures for plastic skill and curette with a plastic probe.

# Pastic probe : is cutting but we use it in implant surface metal .

- we also use titanium because if I use stainless steel, it may cruch surface of implant , increase plaque accumulation .

- so we use some thing as hard as implant or softer either titanium or plastic sclaer .

#perioscope :

- we use it to see sub gingival calculus , if you have a lot of money , you can get it :P .

Can see margins , caries -

It has a small camera , you put it inside calculus or pocket .-

You can explore a round .-

General principle : #

- your position : should in proper position , your feet should be flat on the floor , your neck should not bow more than 20 degree , other wise you will have a problem .

- Your elbow should be at the level of the pt mouth . you can move but not more than 30 degree.

- Dr. showed us a pictures of wrong and right position .

- the best position for pt usually supine postion .

- usually if you right handed you can set on the right , if you left handed you can set on the left .

: Instrument#

Your instrument should be sharp , if you clean with a dull instrument:

1)you will take more time.

2)you will take more force.

3)you will be very fatigue.

4)it wont remove calculus , it just do a burnishing .

When instrument is sharp , the cutting edge is usually a line .-

- pen grasp : the way we use to hold a probe as we hold a pen .

- modified pen grasp : instead of put middle finger underneath , you put it at the same level of instrument .

- palmed thumb :when we want to sharp instrument .

# if you want to activate instrumentation , you need to have a fulcrum area or finger rest .

Fulcrum : work as lever .-

Or (**Fulcrum** is the support about which a lever pivots. ) >> this is from the net .

- As we be close to the fulcrum >> we need more force .

- as we be far away from fulcrum >> the lever become more easier .

- the motion always on the rest depend on the location of fulcrum .

- fulcrum can be extra oral or intraoral ( see pictures on the slide ) .

- instrument should always be with long axis of tooth , sometimes instrument can adapt on the tooth but not with long axis of tooth which is wrong .

# how to do activation of instrument ( how to remove calculus ) ?

1) first of all adaptation :you have to adapt instrument to the surface .

Dr showed us some of pictures that illustrate adaptation .

2)when I engage the instrument , the angle must be zero or 10,20 degree .

- 16 ,18 angle are the best angle to remove calculus .

- if I increased or decrease upon this angle , we actually traumatized the tooth , or sometimes we just do burnishing and if the angle is very acute , you might cause gauging for surface .

- sometimes both ends of instrument can be used .

3) lateral pressure : once you engage instrument , you need to apply pressure against tooth ( we must hear scrubbing sounds on tooth , if you don’t do that , you don’t actually clean ) . and then pooling .

- if I am standing right to the pt , what it is clear to me is right buccal and left lingual and other sides not clear to me … so we rotate pt head to my side … if you don’t feel comfortable with this , change your position .

- there is some thing called pour scaler : which means it works by electricity .

- there are sonic and ultrasonic .

- sonic : you can actually hear it , its vibration between 2500 to 7000Hz.

- ultrasonic : it is above of our hearing , it is from 18.000 to 45.000 Hz , it most faster that cant actually hear it .

But this is not mean that we can not hear it at all , the evidence is when we pass nearby perio clinic we hear noisy sounds.

- sonic and ultraconic : there is no difference in efficiency , but in furcation >> ultrasonic is better because space of furcation is too small and in ultrasonic there are small tips can go in it .

- sonic look like what we have in cons .

- ultrasonic : the tip , face and back >> all are cutting .

- ultrasonic are two types :

1)magnetic

2)electrical

- contraindication of ultrasonic :

1)people who have a pace maker especially old ones are contraindicated with magnatic ultrasonic.

2)pts with HIV , hepatitis >> ultrasonic make aerosol , so clinic will be full of aerosol , so you need to wear glass and clean the area .

3)pt with asthma , cant tolerate H2O that come from ultrasonic.

4)dental implant .

#precaution :

- people who have amalgam and composite ( if margin not proper , it may go out ) .

Also sensitive teeth >> people may feel pain ,so use the manual .

# polishing : doesn’t affect perio health , it re orient enamel distribution , it give the pt fresh sensation . that’s the only positive feedback we have in perio ( it remove stain ) .