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Multidisciplinary Care with Orthodontics

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What we are going to talk about

- 
- Treatment planning sequence and decision making process of multidisciplinary care for orthodontic patients

Multidisciplinary dental care for orthodontic patients

- - You are the quarterback in multidisciplinary treatment plans
 - Consult with each of the specialists needed for accomplishing tx goals and come up with a sequenced plan that is given to all tx providers involved
 - Ensures that things are done efficiently and timely



Multidisciplinary dental care for orthodontic patients

- As the quarterback in multidisciplinary treatment plans, you will often give the specialists ‘signals’ as to when to start their treatments and/or to end their treatments



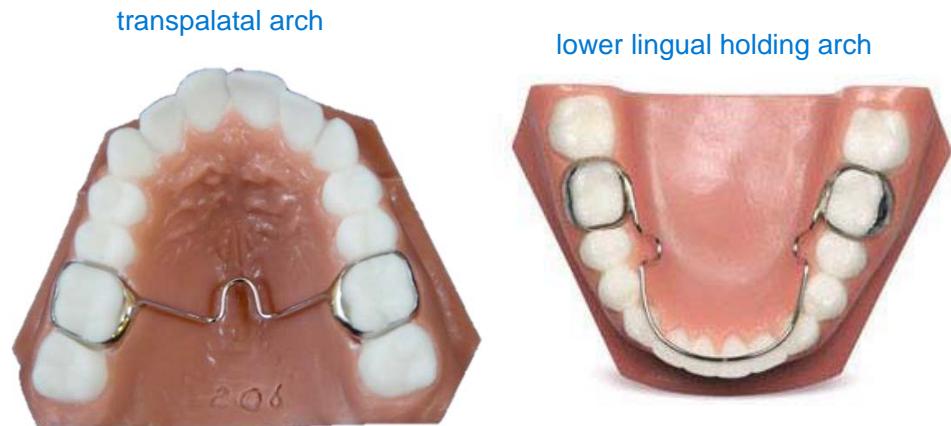
Temporary Anchorage Devices (TADs)

mini screw



- Traditionally, teeth/dental implants, intraoral/extraoral appliances, and elastics were used to control anchorage

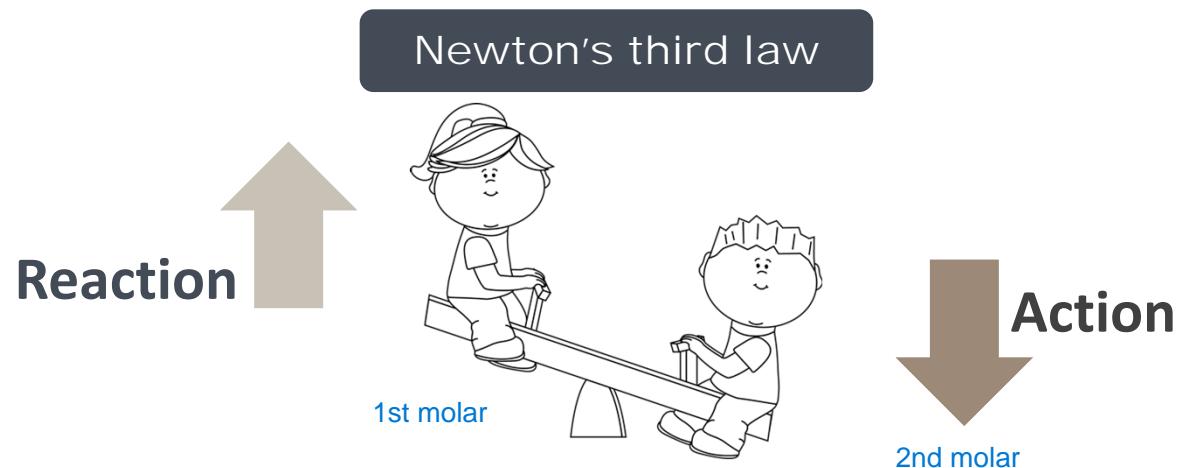
Head
Neck
Body



Temporary Anchorage Devices (TADs)



- Anchorage: Minimizing movement of certain teeth while moving others



if we push second molar down, first molar will move up without anchorage. usually we want to maintain the position of first molar

Temporary Anchorage Devices (TADs)



- Temporarily fixed to bone: No osseointegration removed when done
- Minimally invasive: Local infiltration or profound topical anesthetics
 - Teeth are not anesthetized

POPULAR COMPOUNDED TOPICAL ANESTHETICS

| Brand Name* | Active Ingredients |
|-------------------------|--|
| TAC 20% Alternate | 20% lidocaine, 4% tetracaine, 2% phenylephrine |
| Profound | 10% lidocaine, 10% prilocaine, 4% tetracaine |
| Profound PET/DēpBlu | 10% lidocaine, 10% prilocaine, 4% tetracaine, 2% phenylephrine |
| Baddest Topical in Town | 3% lidocaine, 12.5% prilocaine, 12.5% tetracaine, 3% phenylephrine |
| Best Topical Ever | 12.5% lidocaine, 3% prilocaine, 12.5% tetracaine, 3% phenylephrine |

*Any compounding pharmacy can create any formulation with a prescription.

use this to anesthetize gingiva
don't numb teeth; use it as a safety measure

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before TAD placements, ensure they are divergent so they wont perforate

Temporary Anchorage Devices (TADs)

xb premolar. move anterior teeth back wo moving
anteriors forward.



Indications

primary indication

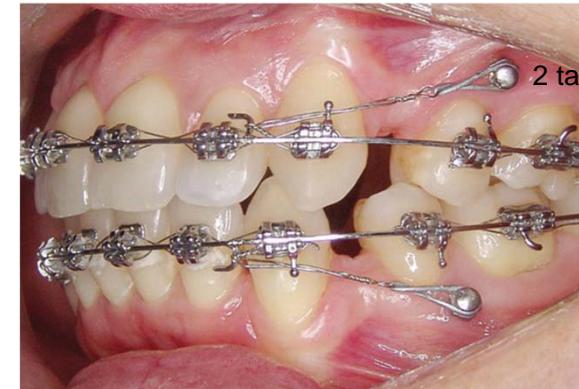
- Maximum (skeletal) anchorage
- Asymmetric movements
- Intrusion pushing tooth down
- Ridge preservation

bc TAD does not move; placed into bone

maintain xb space, dont want to lose thickness or height or ridge. place TAD there until pt gets implant



TAD supported palatal expander



2 tads here

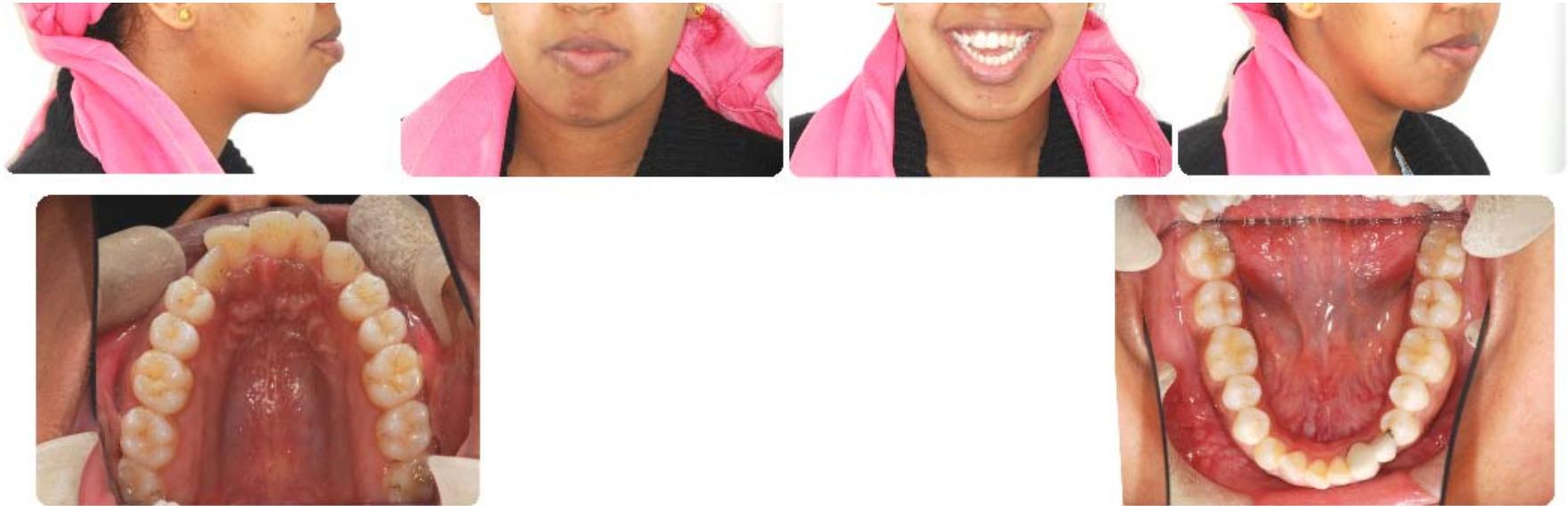


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CC: front teeth don't touch

has anterior open bite and tongue thrusting



crowding, missing UR canine, deviated mx midline

crowding, maryland bridge. missing mn incisor.



class I molar
canine n/a bc missing canine



mx midline deviate right, mn deviate left

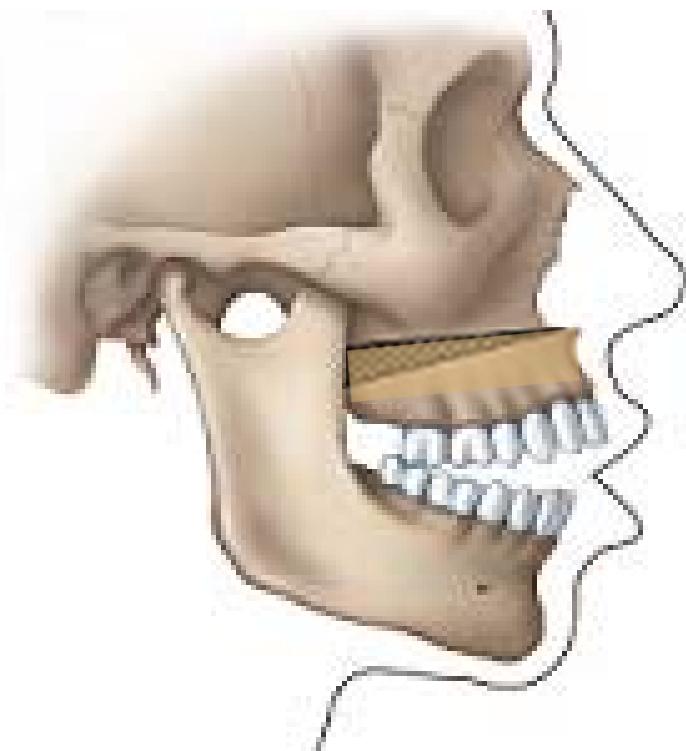


molar angle class I
canine n/a bc maryland bridge

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Anterior Open Bite



- Skeletal
- Dental
- Combination of the two

skeletal: open bite bc vertical axis of post mx. too long/excessive. can touch post teeth, but not ant teeth.
TMJ is hinge joint

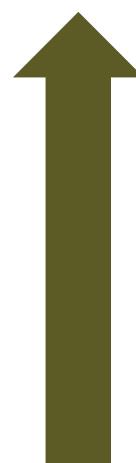
for this pt above
didnt want surgery so tried dental compensation to correct anterior open bite

Intrusion / Extrusion



Intrusion

move tooth apical

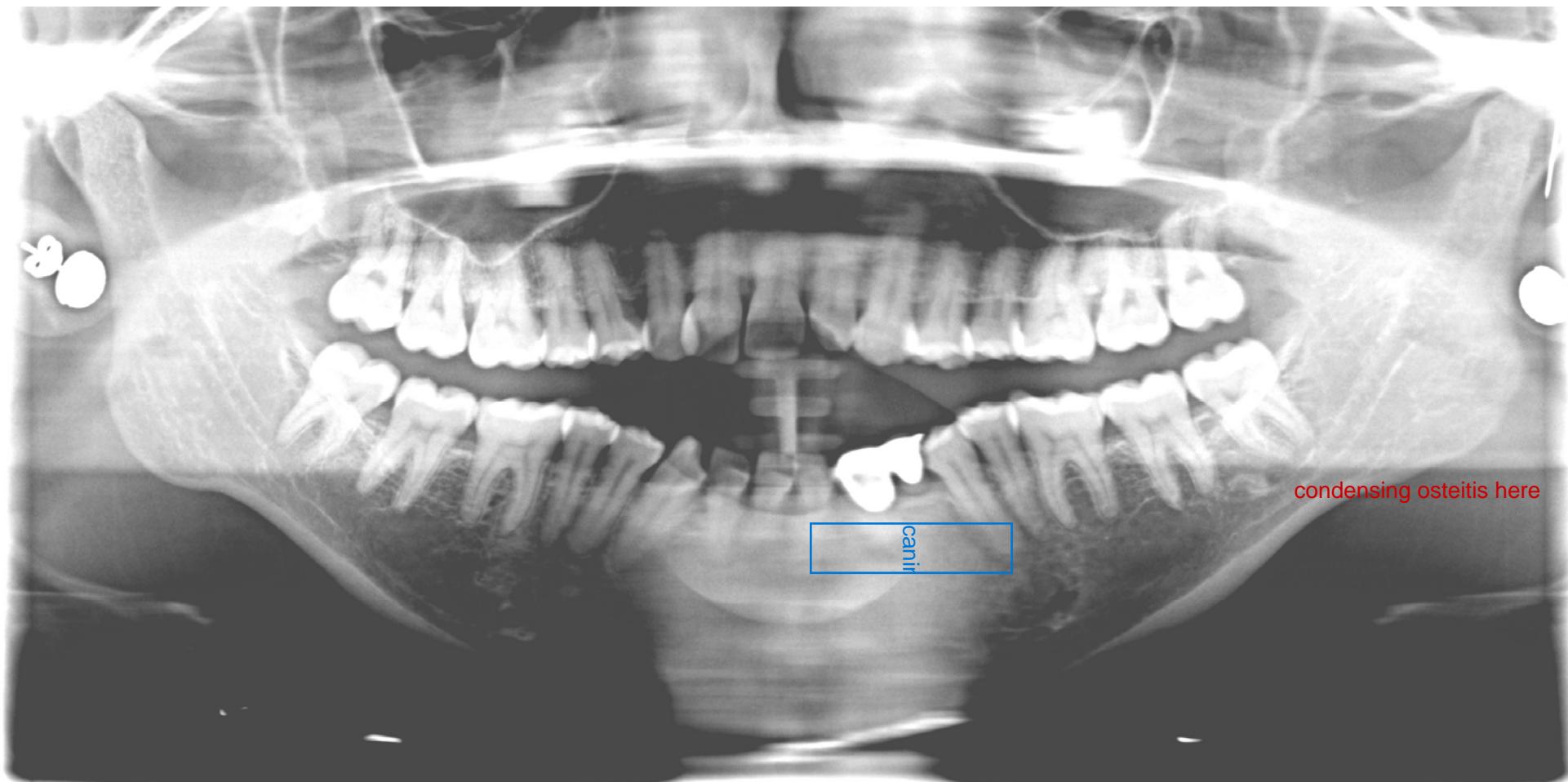


Extrusion

move tooth coronal



pt tongue thrusting. used tongue tamers - removable and fixed option. she bonded them to lingual of mn incisors.



lower incisors proclined a lot so it looks short, but isn't short.



removed tooth to swing upper midline -->



xb tooth and remove pontic. did xb to remove positive overjet and reduce lower incisor proclination

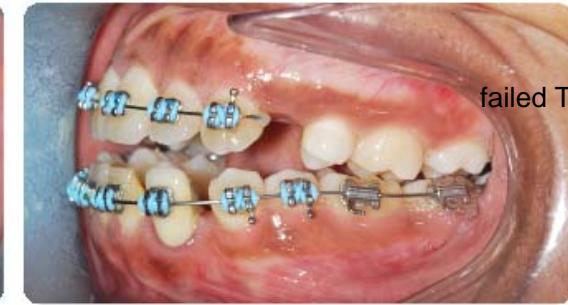


TAD

full braces bottom



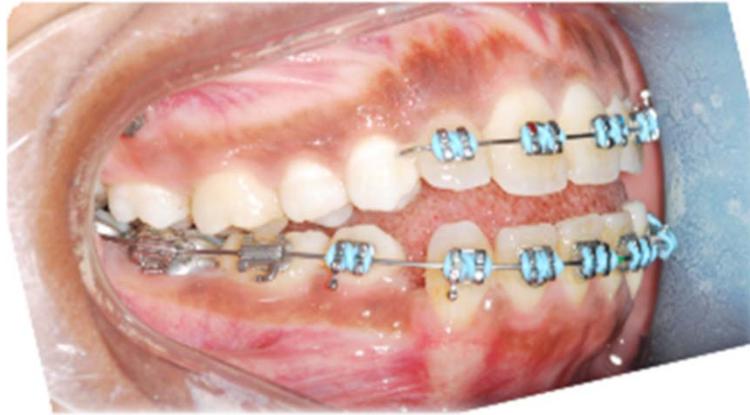
partial braces top



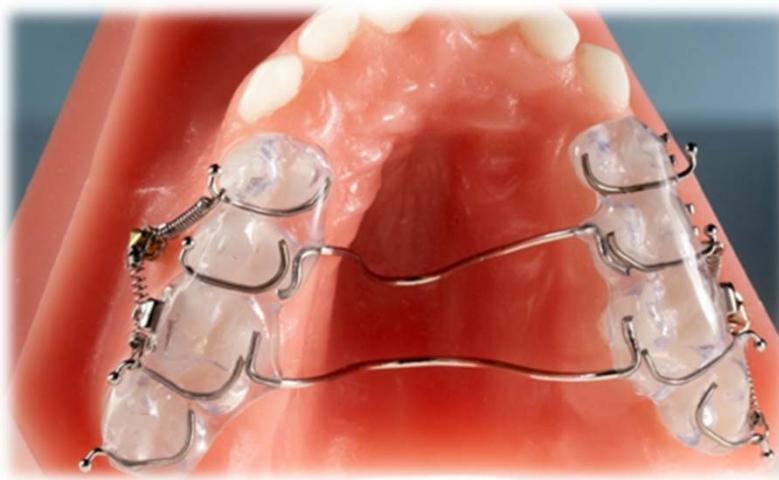
failed TAD

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partial braces on top
Use TADs for intrusion



bonded this to mx posterior
then used TAD to intrude posterior segment to close anterior open bite
bulky

AOB (Anterior Open Bite) appliance



3 months into tx



posterior bite (blue) = temporary bite turbo? stimulate post bite plate (clear part in image above). Help push mx post teeth up

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closing

8 months into tx





9 months into tx





11 months into tx



almost positive overbite/jet



midlines coming together nicely



still have some xb space to close

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continuing intrusion. change TAD location bc wanted it more anterior.

20 months into tx

continued xb space closure



class 1 occlusion on right

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21 months into tx



critique

- expand upper arch a bit transversely.
occlusion is a little tight.

ideally seated together better

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pt has ptsd

lots of nighttime bruxism - lots of wear in mn posteriors and supraeruption compensation

wanted to intrude post mn



Initial



couldn't do TAD due to extensive tori



couldnt do TAD bc extensive tori

supra eruption mn post. general dentist wanted cc, but intrusion first so no rct exposure during cc prep.
primary goal = want to intrude mn post



used invisalign w no TAD. difficult - know where to place invisalign attachment (rectangular white part), correct size, etc.



7 months into tx



couldnt do TAD due to extensive tori



nice bilateral posterior intrusio



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but the class ii correction will be replanned

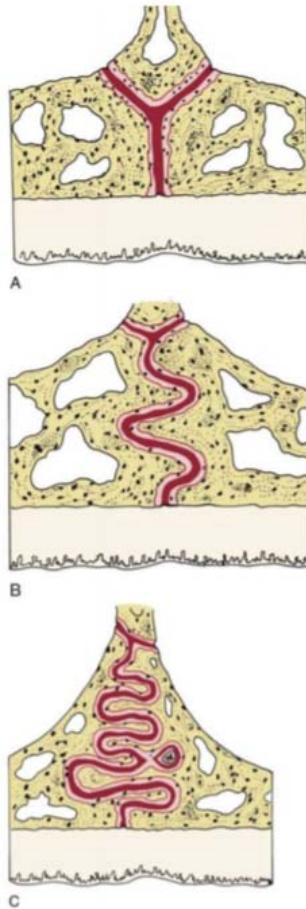
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TAD supported RPE/palatal expander

Miniscrew-Assisted Skeletal Expansion (MSE)



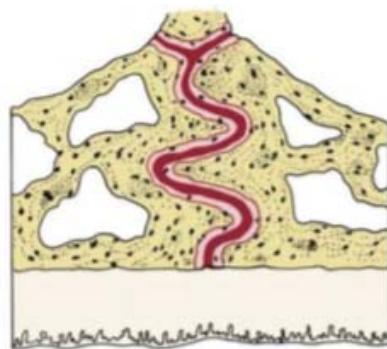
palatal suture increasingly tortuous
need help for palatal expansion, so use MSE

With increasing age

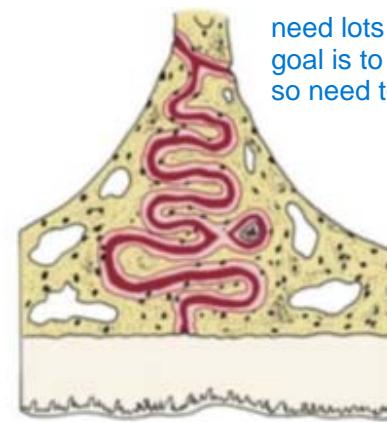


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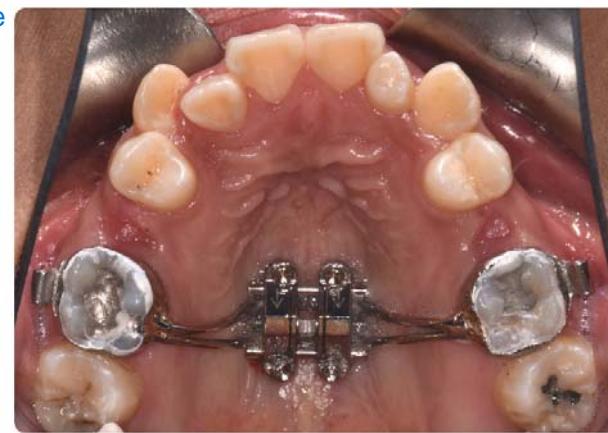
Miniscrew-Assisted Skeletal Expansion (MSE)



can use any expansion devices here



need lots of force to separate palate
goal is to create microfracture
so need to use TAD



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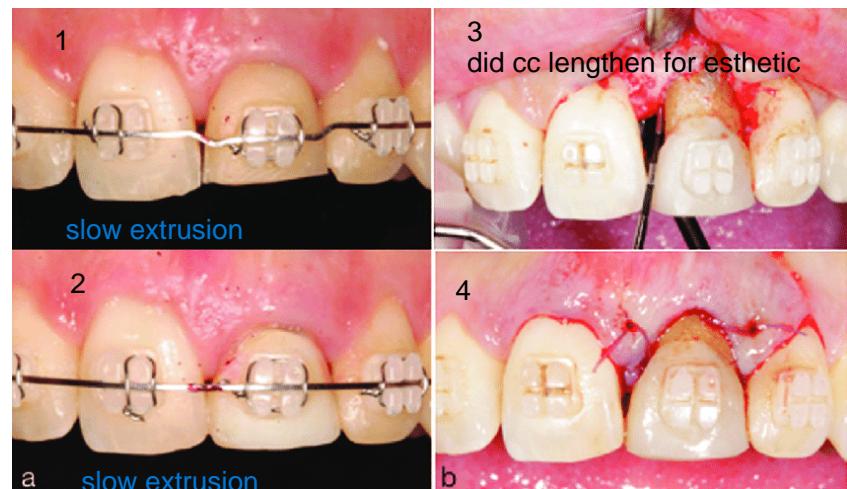
see diastema = skeletal expansion so you want to see this. over time, teeth migrate to midline to close gap. if it doesn't close, you can close gap w braces and wires.



Orthodontic Extrusion

- info icon
 - To facilitate gaining ferrule effect
 - To reduce esthetic concern about performing “crown lengthening only” in the anterior region
 - To reduce concern about compromising alveolar support with “crown lengthening only”

rapid and slow extrusion
rapid -> tooth only extruded
slow -> periodontium follows tooth



this is wrong occlusion



canine and molar want to intrude.

intrusion more difficult than extrusion. these larger teeth and larger roots have minimal negative effect

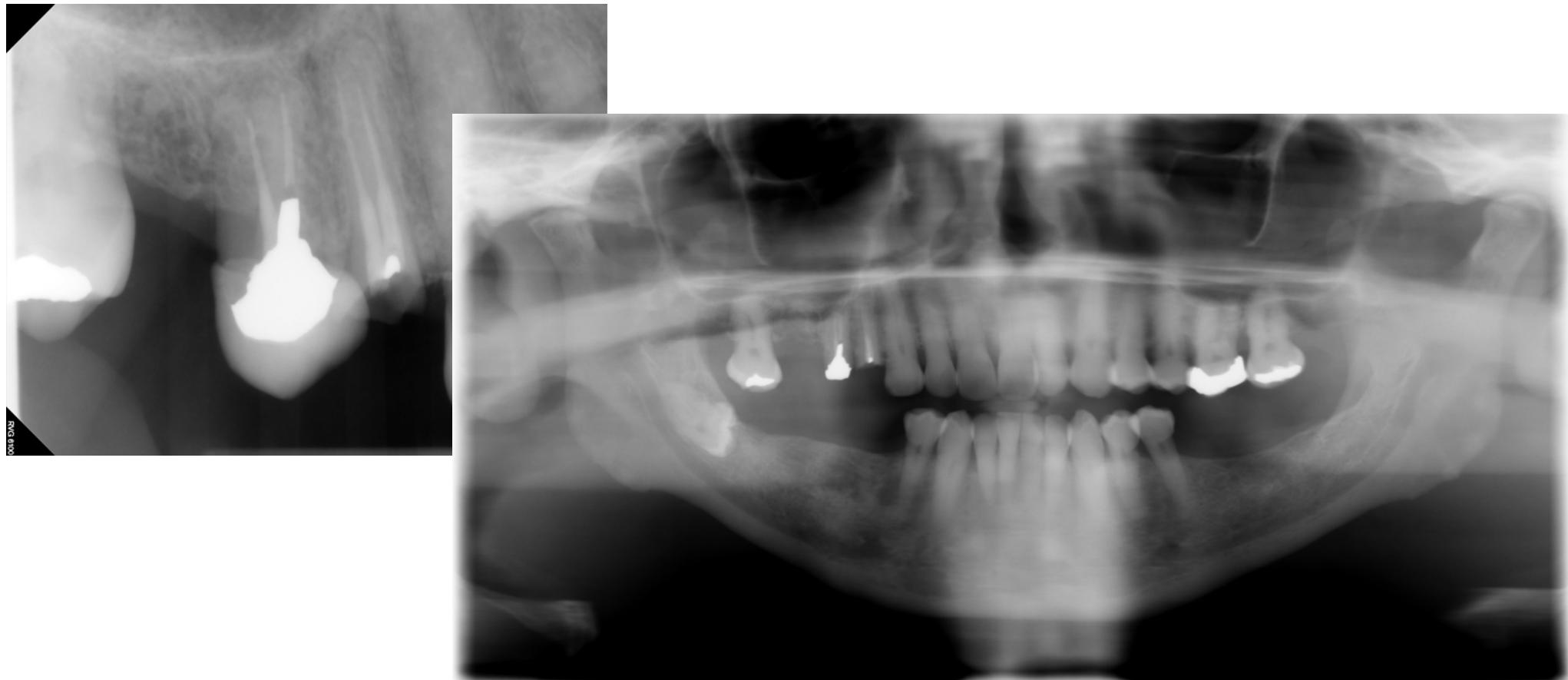


wanted to extrude these



this is the correct occlusion

C/R ratio not that great and compromised results. but pt still wanted ortho extrusion



tried rapid extrusion, but periodontium followed
notice its slanted



nice extrusion



then did temp crowns. C/R ratio compromised



worn mx and mn incisors
pt wanted invisalign but not good bc deep overbite. invisalign tends to deepen bite

Orthodontic Treatment to Facilitate Restorative Work



worn out incisal edges of mn anteriors



posterior crossbite on UR seocnd molar



intentional posterior overbite to correct cross bite so teeth can pass each other

nice intrusion bottom and top - incisor area

cross elastic btw buttons to fix cross bite



fix post crossbite

bilateral class i occlusion
existing mn crowding --> fixing wont help overjet
tight overjet --> break incisors mx and mn



20mo. tx time



mx and mn midline discrepancy
want to move toward each other



anterior bite turbos to intrude lower
incisors and extrude post
everywhere to open up deep bite



want to extrude post teeth



intentionally open to extrude post teeth

midline getting fixed

maintained class i occlusion



composites on incisal edges of mn anteriors



pt wanted to remove mn





Thank You

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