Not “Just An Orthodontist”
But Part Of the Comprehensive Dental Team

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Disclosures

- Advisor – Organogenesis
- No financial interest in anything mentioned in this lecture

Part of a Team

- Comprehensive Dental Team
  - Restorative / Prosthodontist
  - Periodontist
  - Oral Surgeon
  - Endodontist
  - Orthodontist

Did you ever have one of those days?

- "I need more room for my implant"
- "Why didn’t you tell me my kid needed gum grafting?"
- "Can you upright this tilted molar?"
- "Can you close this space?"
- "Can you intrude this?"
- "What can we do with this?"

CROWN LENGTHENING
Crown Lengthening

▲ Myth
- Restorative dentist is the one to diagnose and discuss crown lengthening with patient

Esthetic Crown Lengthening

When should the Orthodontist initiate a crown lengthening referral?
- Confer with DDS
- Discuss with Periodontist when would be ideal time for crown lengthening
Crown Lengthening

Ideal time for crown lengthening
- Before
  - Need more clinical crown for brackets
- During
  - If teeth were too cooked prior to starting ortho
    - Teeth are now more aligned
    - Smile line is established
    - Better idea of final result
  - Differing widths of teeth may affect final orthodontic positioning
- After
  - If inflammation present during treatment
  - Finances

Myth
- Restorative dentist is the one to diagnose and discuss crown lengthening with patient

Busted!
- Orthodontist is often the first to mention crown lengthening
  - We deal with esthetics
  - We are often doing pre-prosthetic alignment prior to crowns & veneers

KEY PRINCIPLE!!!

Orthodontic esthetic crown lengthening
- Force erupt tooth
- Cut supra-crestal fibers each week
- Usually 3 weeks active eruption
- Stabilize 3 months
  - Allow biologic width to reestablish
  - Allow bone at apical aspect to mature and stabilize
Orthodontic esthetic crown lengthening

Crown Lengthening

Myth
– The Periodontist does crown lengthening, not me

Busted!
– Orthodontist can absolutely do crown lengthening…
  …or be an integral partner
– Can open a new niche for your practice

How else might Orthodontists use this concept?

Presence or absence of interproximal papilla of great concern to periodontists, restorative dentists, and pts

Loss of the papilla can lead to cosmetic deformities, phonetic problems, and lateral food impaction

Effect of bone height

Purpose: To determine if distance from base of contact to crest of bone was correlated with +/- papilla (teeth only)

M&M: 228 sites in 30 pts examined

Results: Papilla present
– ≤5mm → 100% of time
– 6mm → 56% of time
– 7+mm → 27% of time

Tarnow DP, Magner AW, Fletcher P. The effect of the distance from the contact point to the crest of bone on the presence or absence of the interproximal dental papilla. J Periodontol 1992;63:995-996
▲ Periodontists cannot grow papilla’s
▲ Orthodontists CAN grow papilla’s
  – Force erupt a tooth you put tensions on the supra-crestal fibers
  – If you don’t cut the fibers the bone & papilla come with it
▲ How else might Orthodontists use this concept?

▲ Myth
  – Orthodontists don’t deal with implants

▲ Implant site development with orthodontics
  ▲ HR, 34y
  ▲ Traumatic injury off porch
  ▲ Banged up
Implant site development with orthodontics

- Can't grow vertical bone height surgically
- CAN grow vertical bone height orthodontically
- CAN regenerate papillae by erupting teeth

Implants

- How else are orthodontists involved in implants?

Implants

- Want 2mm of bone between implant & tooth
- Want 3mm of bone between two implants
- Papilla esthetics (best → worst)
  - Implant-tooth
  - Implant-pontic
  - Implant-implant

Implants - KEY POINTS!

- Single implant site
  - Need 7mm to place implant
  - Minimum of 1.5mm on each side of implant
  - 2mm is ideal
- Multiple implants site
  - Need 3mm between implant not lose interproximal bone
  - Set up reconstruction cases as tooth-implant-tooth-implant

- Myth
  - Orthodontists don’t deal with implants
- Busted!
  - Involved in implant site development
  - Set up cases pre-prosthetically
  - May change your configuration of where you put spaces and where you put teeth
Myth
- Teeth can generate bone horizontally?

PHYSIOLOGY OF TOOTH MOVEMENT

IF you have a healthy periodontal attachment, within the confines of the alveolar ridge
- You can grow tissue & bone into an edentulous space
- You will grow bone in the wake (behind) of the moved tooth

Grow bone horizontally?

Can we use this for horizontal implant site development?
- Yes!
  - Kokich showed us this a long time ago
Grow bone horizontally?

▲ Can we move teeth into a bone graft?
▲ Depends on graft material used
  – BioOss → No
  – Synthetic’s → No
  – Mineralized bone → Slowly
  – Demineralized bone → Yes
  ▲ Wilckodontics

Grow bone horizontally?

▲ Can we grow bone laterally with expansion?
  – Yes and no
  – Muscle pressure prevents buccal bone formation with excessive lateral movement

Orthodontic Movement

▲ Can low-force low-friction systems grow bone laterally
  – If within muscle balance then yes
  – If not then no

Gingival Grafting

▲ Myth
  – Teeth can generate bone horizontally
  ▲ Confirmed!
    – If a healthy periodontal attachment exists, teeth can move within the contours of the alveolus.
    – Lateral expansion is within the muscle balance.
    – Teeth can move into mineralized and demineralized bone graft (Wilckodontics).
    – Teeth can be used for horizontal implant site development (Kokich)
  ▲ Busted!
    – Lateral expansion is outside the muscle balance.
    – Even with self-ligating brackets

▲ Myth
  – Gingival grafting should be done after orthodontics
  ▲ Busted!
    – Ideally, grafting best done pre-orthodontics
      ▲ Better blood supply
    – If in doubt, consult with a Periodontist prior to ortho
      ▲ Let Periodontist know your treatment plan (expansion, ext’s, etc…)

There’s so much more!

▲ Implant anchorage
▲ Orthognathic surgery
▲ Maintaining existing arch forms
▲ Treating periodontally compromised patients
△ The Orthodontist is part of the comprehensive dental team
△ Together we can do so much more than by ourselves

Thank You!

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