Failing Implant??

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What is Failure?

Main Entry: failure
Pronunciation: feyl-er
Function: noun
1) a : a failing to do or perform <failure to pass the test> b : neglect of an assigned or expected action <failure to pay on time> c : inability to perform a normal function well enough <heart failure>
2) a : a lack of success <failure in the campaign> b : BANKRUPTCY <a business failure>
3) a : failing short <DEFICIENCY <crop failure> b : a breaking down <a failure of memory>
4) one that has failed <the scheme was a complete failure>

What is Success?

Osseointegrated implant with minimal to no bone loss over time
Provides appropriate function
Esthetically pleasing

What is Failure?

Biomechanical failure
Esthetic failure

Failure Types

Surgical failure
Restorative failure
Peri-implant disease

Surgical Failure

Why didn’t we get integration?
Inadequate bone volume
Surgical Failure

Inadequate bone quality

Thermal

Implant position

Unknown cause
- Patient selection
- Patient response
- Implant fracture

Restorative Failure

Cement
- Occlusal Forces
Occlusion
- Clenching and grinding
- Excursive forces

Peri-Implant Disease
- Peri-implant mucositis: inflammatory process limited to the soft tissue
- Peri-implantitis: inflammatory process that includes the soft tissue as well as progressive bone loss

Peri-implant Disease
Prevalence
- 63.4% of patients and 30.7% of implants with peri-implant mucositis
- 18.8% of patients and 9.6% of implants with peri-implantitis


Ailing, Failing, Failed
- Ailing refers to an implant that is clinically stable but has soft tissue involvement
- Failing refers to an implant that is also stable but has bone loss
- Failed is either fractured or mobile

Diagnosis
- Probing depth
- Bleeding on probing
- Radiographs
- Mobility

Treatment
- Nonsurgical
- Surgical
Nonsurgical Treatment

Debridement
multiple studies have shown very limited benefit

Surface decontamination
chemical, laser, air abrasion
almost all worked in vivo, but not nearly as well in vitro

Local antibiotics
Arestin, Chlorhexidine, Doxycycline
Limited reduction in pocket depth, but decreased bleeding on probing

Systemic antibiotics
Not for long term use due to antibiotic resistance
Useful only for acute phase of peri-implantitis

Open flap debridement
Has been shown to improve probing depths after treatment
Studies have varied depending on the implant surface
Variables include: bone contouring, apically positioned flap, surface decontamination and implantoplasty

Regenerative techniques
studies have shown improved probing depth and bone fill
small studies and many varied grafting materials and bone defects make it nearly impossible to determine best course and if better than other treatments

Surgical Treatment
Surgical treatment

Explantation
removal
attempt to save as much bone as possible and graft as needed

Thank You

Questions??

WHAT IS THE PINHOLE TECHNIQUE?

Douglas Petersen, DDS
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The Dental Specialists, Edina

TAKING CONTROL OF ENDODONTIC ANATOMICAL COMPLEXITY

Brent Rundquist, DDS, MS

Goals
• Discuss gingival recession
• Traditional techniques, pros and cons
• Newer techniques, pros and cons and controversies

Recession defects

A classification of marginal tissue recession.
Miller PD, Jr.
• Determines predictability of root coverage procedures
• Class 1-4
• Based on extent of recession tooth position and status of interproximal hard and soft tissue
**Miller Class I Defects**
- Intact interproximal tissues
- Recession not past mucogingival junction
- 100% root coverage likely

**Miller Class II Defects**
- Recession past the mucogingival junction
- Interproximal tissues intact
- 100% coverage expected

**Miller Class III Defects**
- Recession past mucogingival junction
- Some loss of interproximal tissues
- <100% root coverage likely

**Miller Class IV Defects**
- Substantial loss of interproximal tissues
- Root coverage unpredictable

**Connective Tissue Grafts**
- Gold standard in treating gingival recession
- Originally described by Bernimoulin in 1975
- Technique has been studied and improved significantly over the years through worldwide collaboration.
- This has improved the technique and patient outcomes.

**Connective Tissue Graft**
- Pre-op
- Miller grade 1
- Good root coverage expected
Connective Tissue Graft

• Root scaled and root planed
• Recipient bed prepared

Epithelium reflected from palate.

Graft harvested

Closed with sutures
Connective Tissue Graft

- Flap advanced to cover graft, closed with sutures.
- Post op
- Ibuprofen, soft diet, Peridex, suture removal in a week, Risk of bleeding post operatively.
- Pain 3-4/10

Connective Tissue Graft

- One week post op
- Good root coverage
- Some swelling

Connective Tissue Graft

- Two week post op
- Still a little bulky
- Will likely do some gingivoplasty in 6-8 weeks

Pinhole Technique

- New root coverage technique.
- Aggressive marketing campaign
  - General dentists
  - Periodontists
  - Patients
Pinhole Technique

- Described by John Chao DDS
  - General DDS and JD
  - IJPRD 2012
  - For root coverage

Advantages
- Less invasive
- No palatal donor site required
- Quicker
- Suture free?

Study
- 121 recession sites
- 85 sites Miller Class I or II
- Assessment period 18 months
- Used bioresorbable membrane or acellular dermal matrix
Results

• Class I or II sites
  • Complete root coverage 81.2%
  • Defect reduction 94%
• All Sites
  • Complete root coverage 69.4%
  • Defect reduction 88.4%
• Treatment Time - 22 minutes
• Patients reported minimal discomfort

Controversy

• Patented
• Not taught and cannot be taught in periodontal residencies
• New technique which does not have a body of evidence in the scientific literature
• No independent clinical research
• No research in the pipeline

Pinhole Technique

• Marketing campaign
• email to general dentists
• Direct to consumer marketing
• The Doctors
• TV appearances.

Pinhole Technique

• To become “qualified” you must attend a seminar with Dr Chao
• Seminar fee is $5000

Pinhole Contract

• Must sign non-disclosure contract if you attend technique seminar.
• Can’t take photos of technique and display on a website
• Can’t share seminar materials
• Cannot re-create instruments
• Can only use instruments purchased from Chao

Pinhole Technique

• Patented instrument kit $4000
• $307 per instrument.
Pinhole Contract
• Cannot teach anyone else the technique
• Any improvements developed by attendee of seminar belong to Chao

Pinhole Technique
• Chao's perspective
• Trying to protect patients and ensure they are well treated and doctors are well trained.

My Opinions
• I like less invasive techniques
• The pinhole technique has promise as well as other techniques such as tunneling
• I don’t like it when research and advances in medical treatment are stymied by lawyers and contracts.

My Opinions
• Independent research is lacking
• Are his results reproducible?
• Will the treatment hold up over time?
• Is this treatment approach appropriate for all areas? Mental nerve?
• Appropriate for all biotypes?

Thank You!

Endodontic anatomical complexity plays a significant role in success or failure of root canal treatment?
True or False?

Leaving **undebrided** tissue behind in the pulp space is one of the most common reasons for persistent, non-healing pathosis following NSRCT.

True or False?

The more anatomically **aberrant** the pulp space and canal system, the more unfavorable the long term prognosis following NSRCT.

True or False?

Being aware of which teeth harbor the most anatomical variability is the first step towards being able to manage pulp space complexity.

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Sources: Vertucci, Cleghorn, Peikoff, Nosrat, Azim, Baisden

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Mn 1st premolar

Cleghorn et al, J Endod 2007;33:509-516
The Three Rooted Mn 1st Premolar

Look for:
- Evidence of a “fast break”
- Evidence of multiple PDLs on PA

The “C” shaped Mn 1st Premolar
Mn Incisors

Bianchi Leoni et al, J Endod 2014;40:710-716

The “Middle Mesial” in Mn Molars

Nosrat et al, J Endod 2015;41:28-32

Trough through developmental groove to locate or rule out “middle mesial”

The younger the patient, the more likely you are to locate a middle mesial canal. >40 = significantly more hard tissue in canals and developmental groove

Azim et al, J Endod 2015;41:164-168

The Mx First Molar “The Demon”

4 canals 41-72% of cases

Mx 1st molar

Two palatal roots/canals

Anatomy at the apex of the MB root

Incidence = 1.4%
Negotiating dilacerated canals

- Use small, short file (#6) until you run out of usable file length
- Use generous amount of canal lubricant (EDTA or RC Prep etc.)
- Increase file size gradually. If the file stops advancing with light teasing motion, go back to smaller file
- Rotary files may or may not negotiate curvature. Use hand instrumentation in curvature as needed and rotaries within the “safe zone”
- Straight line access is an absolute necessity
- Pre-bend small instruments with “pig tail” and orient in direction of curvature when inserted into orifice

Locating small canals

- Use some kind of enhanced magnification. Scope is ideal
- Use your pre-op PA as a road map. Pre-op PA must be of high quality and additional angle may be helpful
- Look for multiple PDLs. The more PDLs you can trace, the more complicated the radicular architecture to be expected
- Look for “fast break” as indication of branching in canal system
- Assume more canals are present until you prove otherwise
- Thoroughly trough through developmental grooves to uncover hidden canals
- Respect anatomical complexity

Calcified Canals

Canals obliterated with hard tissue will be found along the boundary between the darker, irregular, secondary dentin and the lighter, primary dentin that was present when the tooth developed

Canal Location Tricks

- Use ultra sharp endo explorer
- Trough until you reach the bottom of the developmental groove
- Look for effervescing bubbles of chlorine gas over orifice
- Use long shank half round bur high speed

Questions?