

Failure in Dental Restoration

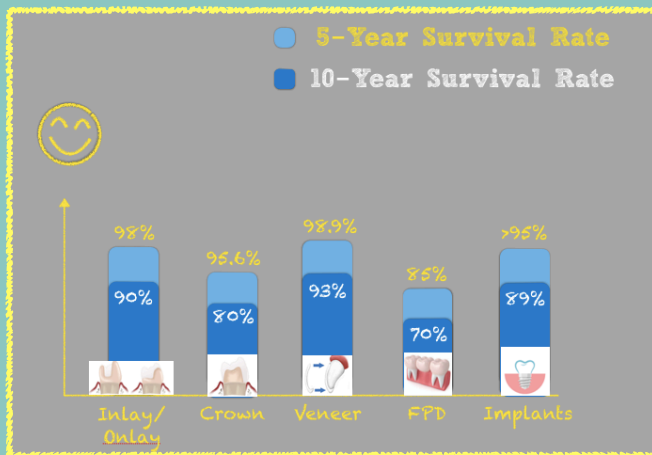
June 2019



**Patient don't buy what you do,
they buy why you do it !!!**

5 Years
SURVIVAL RATE

The long-term clinical documentation (≥ 5 years) is one of the most important tools showing evidence that the dental restoration is **Efficient, Reliable and Safe**.



6.1 Years
The average life span of the bridge
Failure rate at 10 years

Lang 2004; Pjetursson 2004

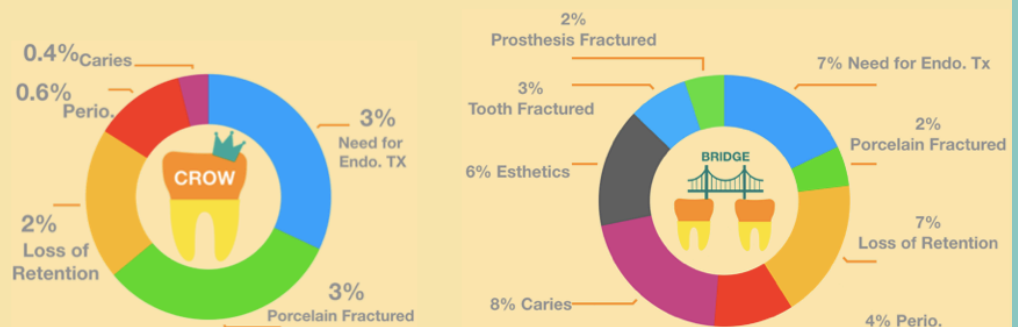
“Having a dental implant replaces a tooth rather than a bridge will break even at 7 years financially.”



Goal Fixed Dental Restoration

1. Preservation or improvement of tissue structure
2. Oral function
3. Esthetics
4. Ensuring restoration retention, resistance and stability
5. Improving patient comfort for maximum longevity

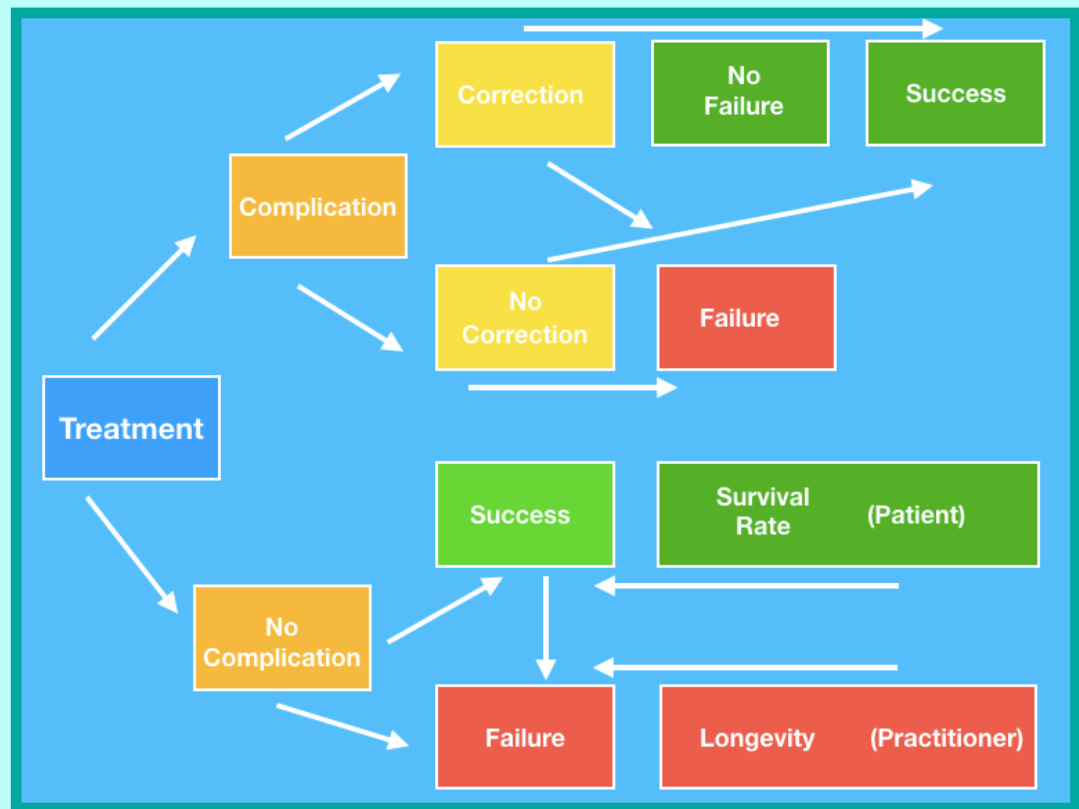
Clinical complications in fixed prosthodontics: Medline 50 years



Goodacre et al. 2003



The Pathway to Treatment Success and Failure



Manifestations of Failure

Patient's view

1. Pain/ discomfort
2. Inability to function
3. Dissatisfaction with esthetics
4. Broken teeth and/ or restoration
5. Inflammatory swelling
6. Bad taste
7. Bad breath
8. Bleeding gums
9. Anxiety

Causes of Fixed Prosthesis Failure

Factors

1. Improper case selection
2. Faulty diagnosis and treatment plan
3. Inaccurate clinical or laboratory procedures
4. Poor patient care and maintenance

Classification of Fixed Prosthesis Failure

Biological	Mechanical	Esthetic
<ol style="list-style-type: none"> 1. Discomfort 2. Caries 3. Pulp injury 4. Periodontal breakdown 5. Occlusal problems 6. Tooth perforation 7. Tooth fracture 	<ol style="list-style-type: none"> 1. Looseness or dislodgment 2. Prosthesis fracture 3. Occlusal wear or perforation 	<ol style="list-style-type: none"> 1. At the time of cementation 2. Delayed esthetic failure

Articulating Paper and Foils: Thickness

200 Microns

21 Microns

8 Microns



Bausch Articulating Paper



AccuFilm II Red/Red



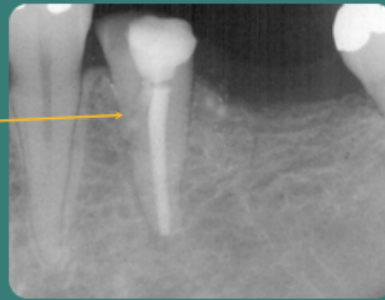
Shimstock

Endo. Note
BY
Dr. Taratorn

Perforation from POST Preparation

Emergency treatment as a restorative dentist?

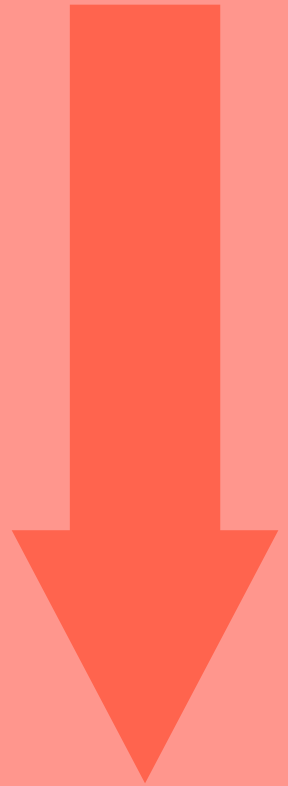
Inserting Ca(OH)_2
Refer to repair ASAP



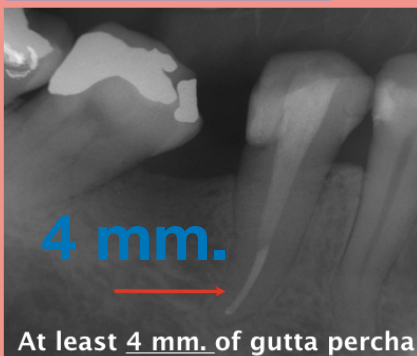
As a temp/ root canal medication
2 wks most/ coronal seal***



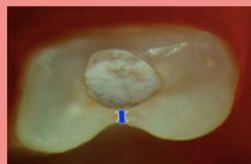
The endodontist then repairs with MTA.
Asking for the post space if possible.



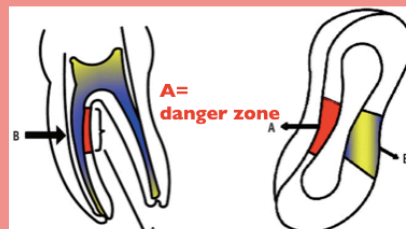
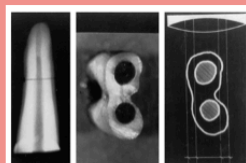
Adequate Apical Seal



Knowing the Anatomy:



Danger Zone vs Safety Zone
for Post Space



Intact Temp. Filling
Thickness
at least 3.5 mm



Clinical Management of Failed Restorations



Mechanical Failure of restoration components: To Avoid

1. The framework: An adequate porcelain support (1-2 mm)
2. Ensuring uniform thickness of porcelain
3. The metal surfaces to be veneered: Smooth
4. Rounded sharp angles on the veneering surface
5. Occlusion/ Polished

Clinical Management of Failed Restorations

Abutment teeth:

Loss of retention :

Clinical conditions with excessive **taper** and **short** clinical crowns should be treated with :

- A. Incorporation of proximal grooves.
- B. Additional retentive grooves (should be along with the path of insertion).
- C. Additional pins
- D. Intra-coronal preparation



Avoiding Failures

1. Caution at the planning stage
2. Confirmation of diagnosis and treatment plan
3. Expertise of the technician
4. Treatment of preoperative problems
5. Search for the primary cause of failures rather than the apparent

Clinical Management of Failed Restorations

Abutment teeth:

In case of short crowns :

- A. Crown lengthening procedure
- B. Modification of supra-gingival margin to sub-gingival margin
- C. Additional retentive grooves and proximal box
- D. Incorporation of pins
- E. Addition of extra abutments

3-25 %

J Prosthet Dent, 2002

A pulpal necrosis rate as a result of tooth preparation for complete coverage restorations

- Use of temp. cementation
- Design of prosthesis for possible future addition
- Placement of a rest seat for possible future use
- Specified undercut or guide plane of a crown, even when denture is not planned



Questionable

- Recording of shades/ lab tech
- Recording of cement used
- Retention of working casts and provisional restorations
- Informing patient/ consent

Consider Extraction



- A. Crown root ratio greater than 1.1
- B. Class III mobility
- C. Bone loss on questionable tooth that jeopardizes the support of adjacent teeth
- D. Poor periodontal prognosis that needs crown lengthening surgery
- E. Poor endodontic prognosis that needs large post and core or lack of ferrule



roongkit2010@gmail.com

By Roongkit Leehacharoenkul

5

