The Vancouver & District Dental Society

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110th Anniversary Celebration

November 30, 2018

Preventing Complications Related to Implant Prosthesis Installation

AAID Dallas Sept 28, 2018

AAID MaxiCourse® PRACTICAL IMPLANT EDUCATION

www.ReverseMargin.com

EMIL L.A. SVOBODA PHD, DDS

HONORED FELLOW, AMERICAN ACADEMY OF IMPLANT DENTISTRY

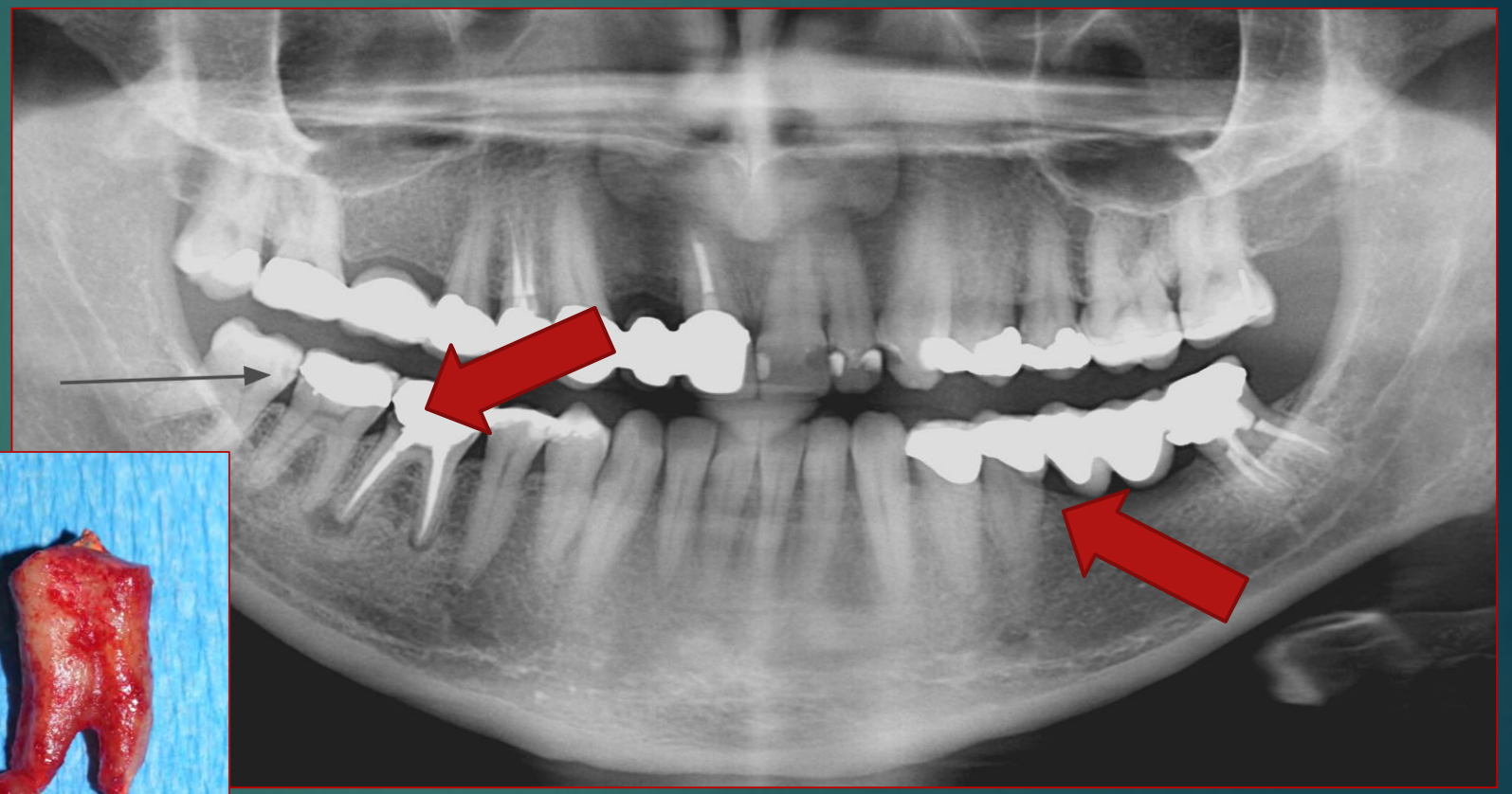
DIPLOMATE, AMERICAN BOARD OR ORAL IMPLANTOLOGY / IMPLANT DENTISTRY

Award Winning ePoster

AAID, Sept 28, 2018

Dr. David G. Hochberg, President of American Academy of Implant Dentistry congratulates Dr. Emil Svoboda for his Award Winning ePoster in Dallas

Why Are Natural Teeth Lost?
Function, Trauma, Infection



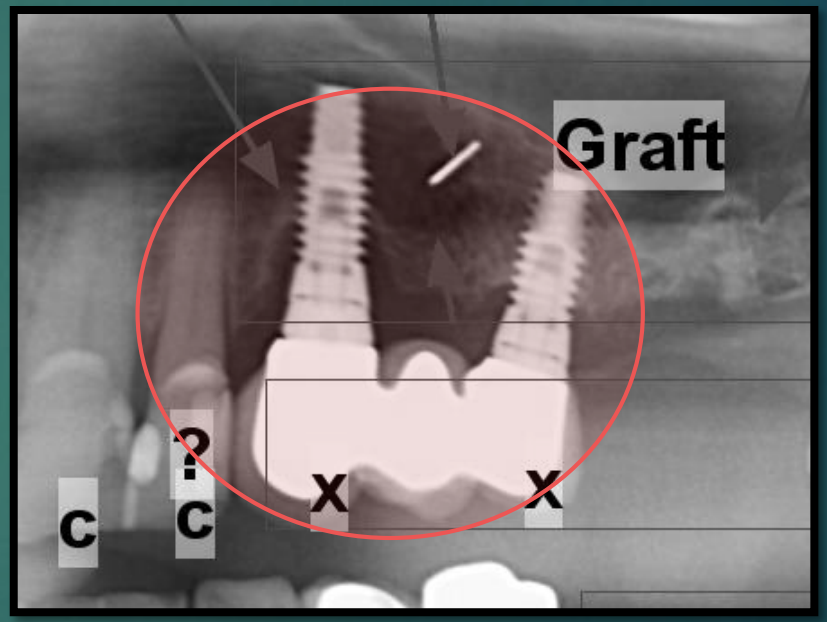
Caries, Abscesses, Periodontal Disease

Dental Implants
Let Us Put
Humpty Together Again
After All Else Has Failed

1. Increase load bearing units
2. Reduce collateral damage
3. Preserve existing tissues
4. Improve function
5. Implants don’t get caries

Why are Dental Implants Lost?
Function, Trauma, Infection

Unlike Teeth – Dental Implants are NOT FREE



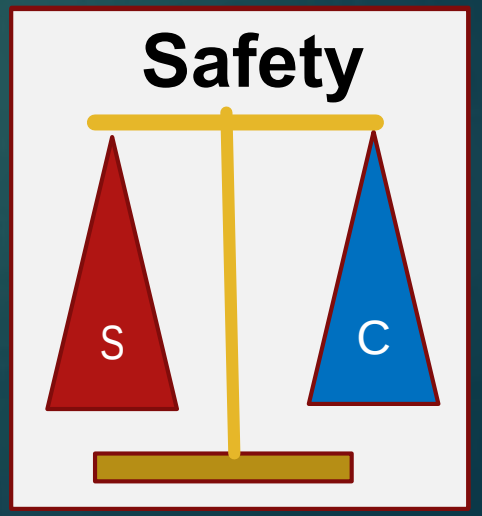
Treatment Complications are Bad for Business

4 Large Reviews 2013 - 15

Mucositis	30% of **Implants**
Peri-implantitis	15% of **Implants**
Peri-implant Disease	**45% of Implants****
Failures	**4% 5 years, 8% 10 years**

Same for Cement or Screw Installation

****Requires Treatment!**



Atieh MA et al. The Frequency of Peri-implant diseases: A systemic review and meta-analyses. J Periodontol 2013:84(11):1586-1598

Daubert DM et al. Prevalence and predictive factors for peri-implant disease and implant failure: a cross-sectional analyses. J Periodontol 2015:86(3): 337

Sherif S et al. A Systematic Review of Screw- versus Cement-Retained Implant Supported Fixed Restorations. J of Prosthodontics 2014 (23)1-9

Whittneben JG et al. Clinical Performance of Screw- Versus Cement Retained Fixed Implant-Supported Reconstructions: A Systemic Review. The Int J Oral Maxillofac Implants; 2014:29(Suppl):84-98.

Some Reviewers only Focus on Complications related to the Cement-in Installation Technique

The Complication Rates for Screwed-in Prosthetics Are Similar

What is Causing Them??

Who is Responsible for Complications??

1. **The patient?**
2. Those who taught the procedures?
3. The implant companies?
4. Your Governing Body?

5. **You … the DR. …**

Directly Responsible?

Are We Incompetent?

Or is the System … FLAWED?

Should We Install Implant Prosthetics by Screw or Cement?

Insanity … Doing the same thing over and over and expecting different results.

Albert Einstein

Is the Current Peri-Implant Disease Rate OK?

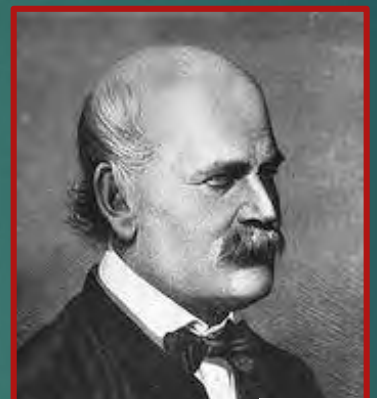
Which is Safer for our Patients?

Can We Do Better?

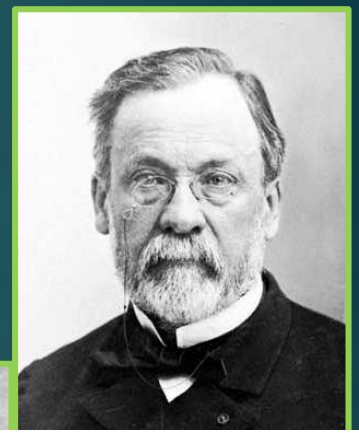
To Prevent Problems

Van Leeuvwenhoek 1632-1723

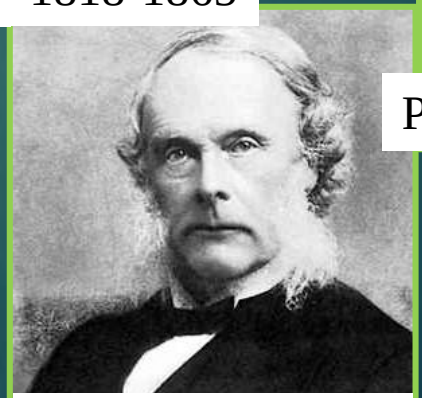
We Must First Discover Their Root Causes



Semmelweis 1818-1865



Pasteur 1822-1895



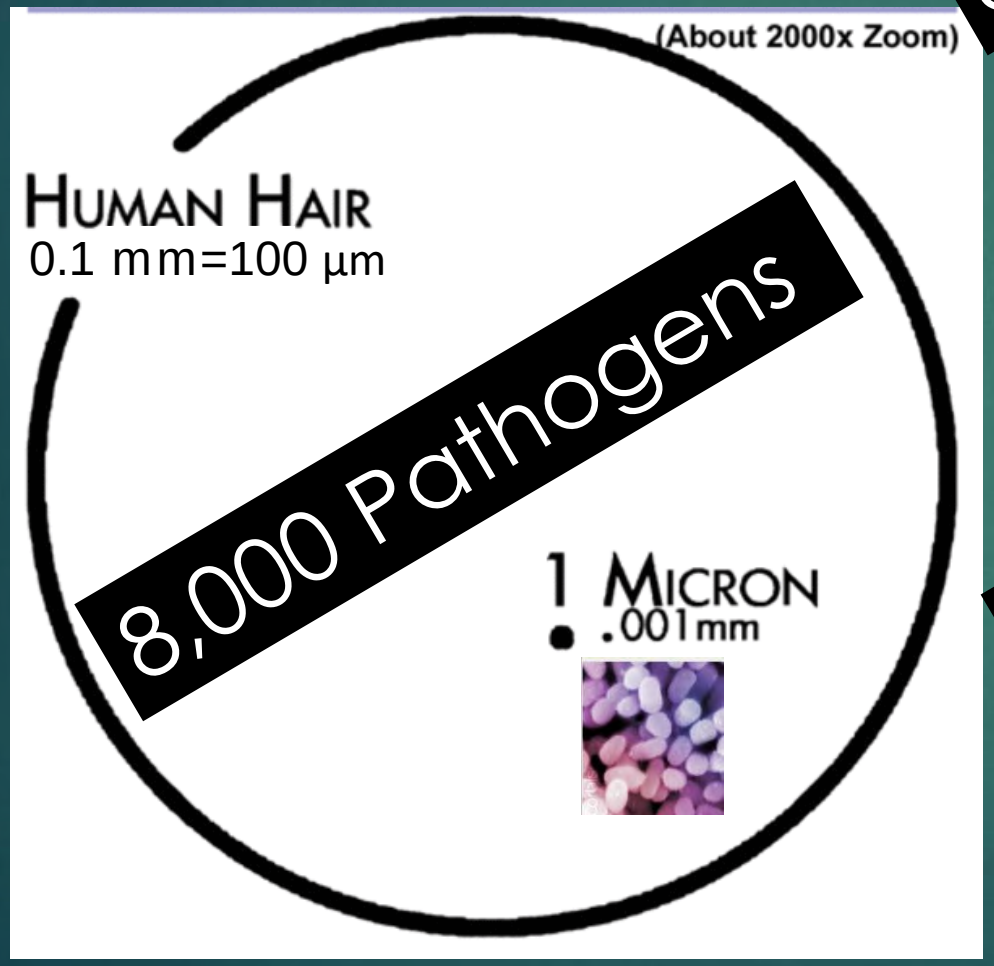
Lister 1827-1912

Oral Pathogens are a Root Cause of Peri-implant Disease

Shouldn't We Be
Investigating
Our Work
At The Micron Level

Peri-Implant Mucositis and Peri-Implantitis: A Current Understanding of Their Diagnoses and Clinical Implications. American Academy of Periodontology (AAP). J Periodontol: April 2013; Vol 84, No 4, 436 - 443
Svoboda ELA. Safer Implant Treatment. OralHealth; Oct 2018, 58-60.

SIZE MATTERS!



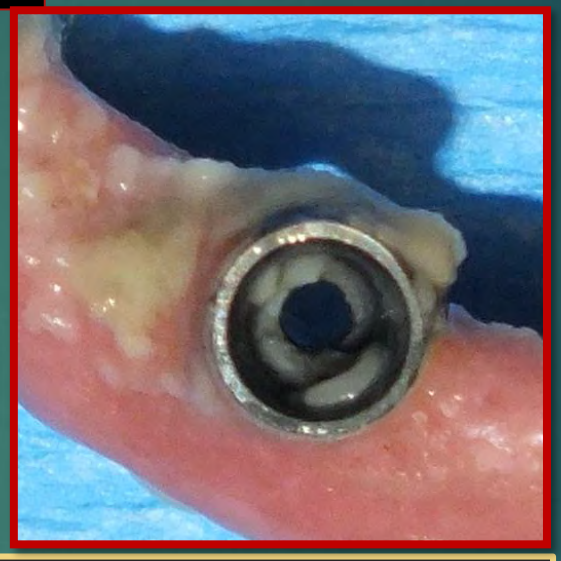
8,000 Pathogens

8 Million/mm

32 mm perimeter

250 Million Pathogens

In Microbiology
SIZE MATTERS!



Toxins are Smaller than Bacteria

Size of Inoculum

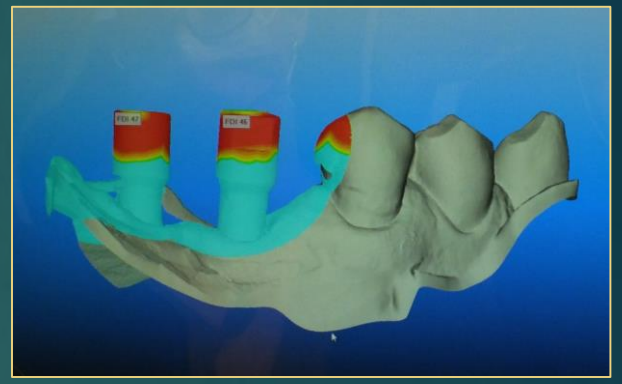
Host Resistance ⟷ **Pathogen Virility**

Risk Factors For Peri-Implant Disease Directly Attributable to Current Prostheses Installation Techniques

1) Prosthesis **Dimensional** Error
2) The Gingival Effects

How are Prosthetics Made?

The Dentist Makes an Impression of the Mouth



Lab Makes the Prosthesis To Fit the Dental Model

The Lab Makes the Prosthesis Fit the Dental Model

Why do We Need to Adjust
Contacts, Fit & Occlusion
to Install it
into the MOUTH?

Why Do We have Good and Bad Days?
Why is Fit Variable?

2018

Model Error

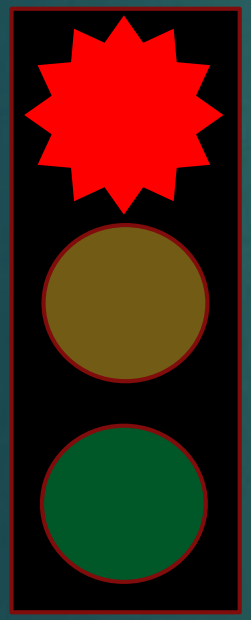
*Acceptable Levels
±150 µm
AKA 300 µm spread

Inaccurate

Comparison of the Accuracy of Different Transfer Impression Techniques for Osseointegrated Implants. Zen BM et al. JOI Vol 41 No 6 2015: 662-667.

BUT

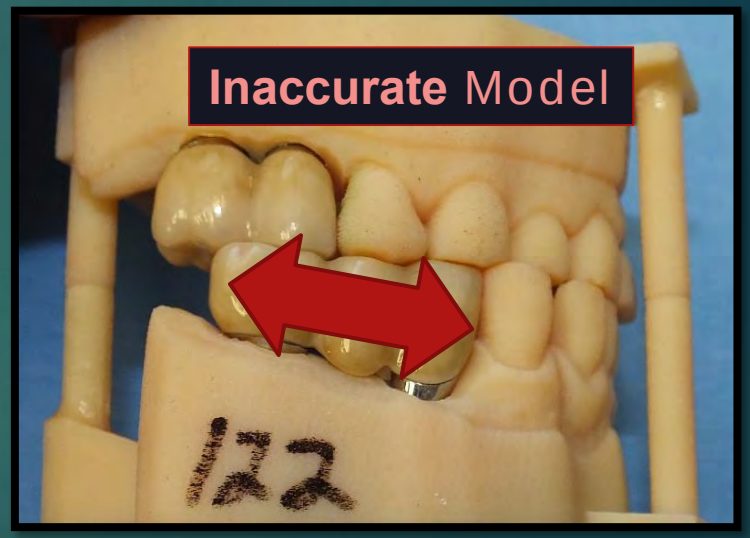
Does Anyone Really Know How Accurate a Specific Model/Prosthesis Is?



Is Accuracy a Game of Chance?

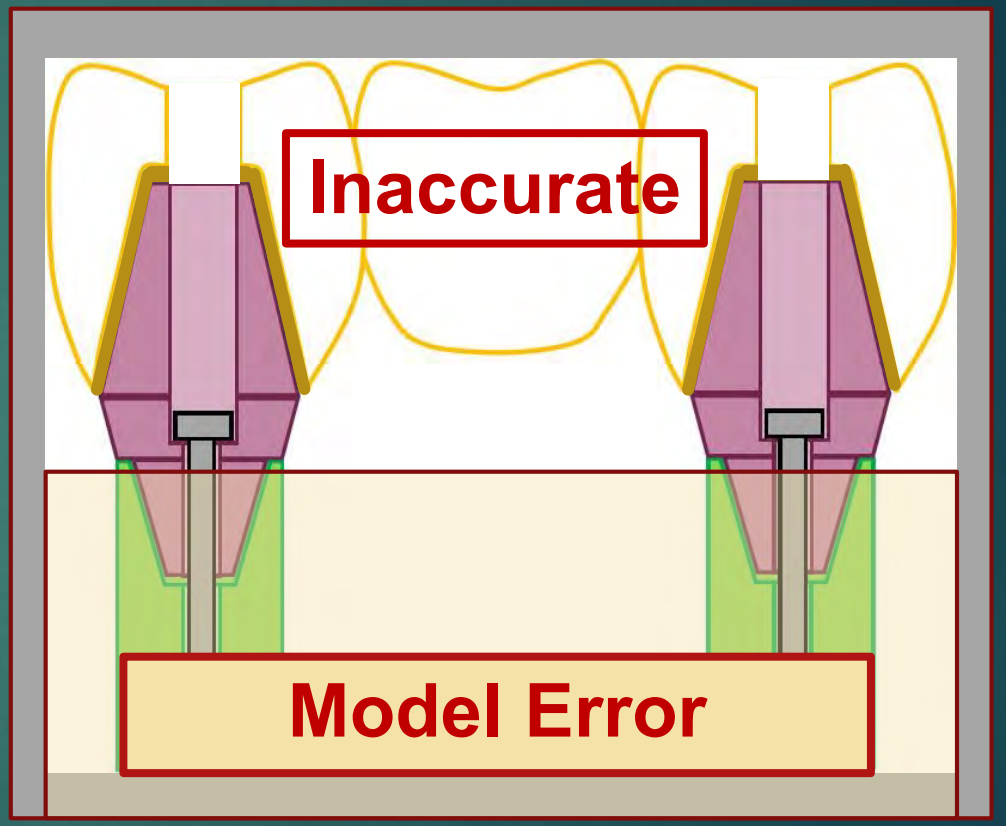
A BIG Problem for a Screwed-in Prosthesis is …

It's Made to Fit
a Dental Model
That is Inaccurate
&
the Abutments
are Joined to the
Inaccurate Prosthesis
on that Model!



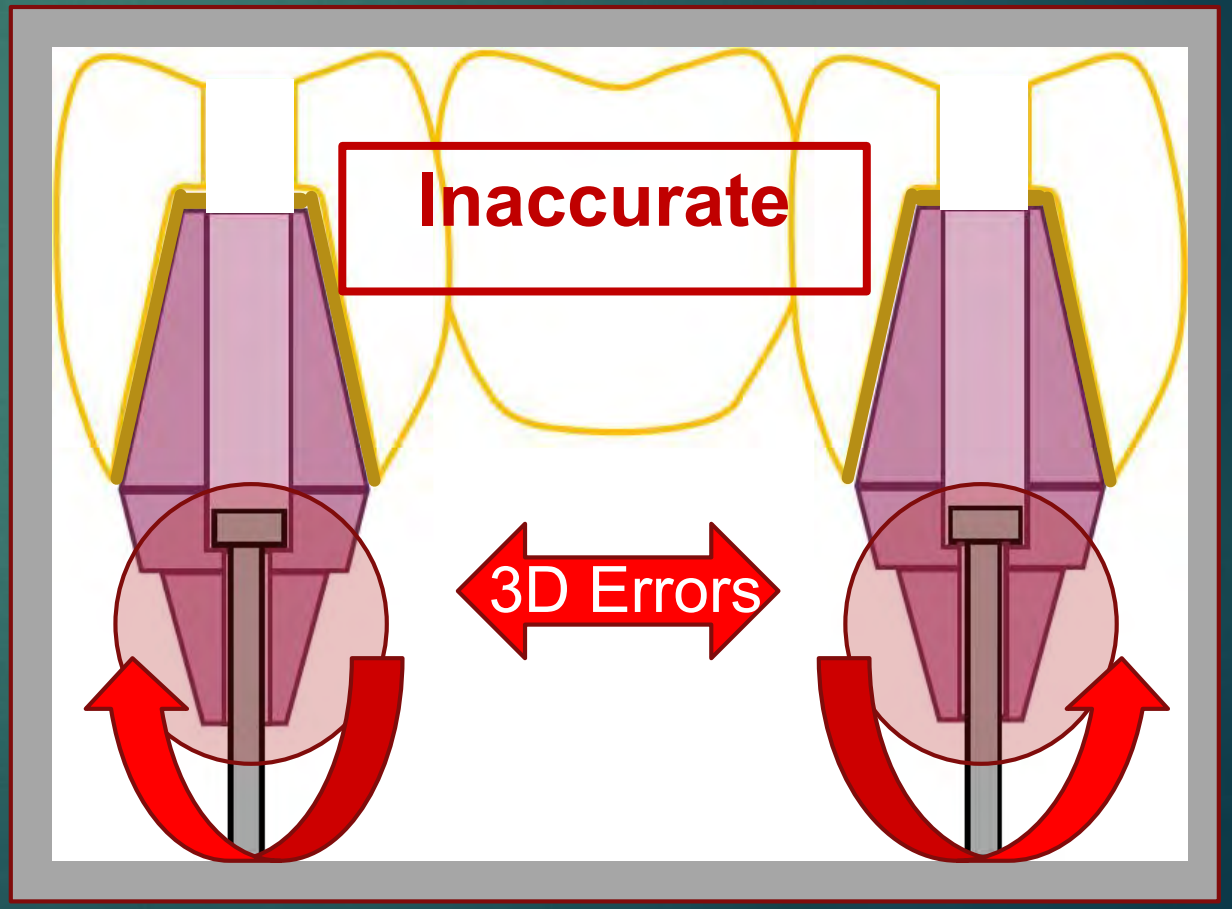
The Lab Joins the Inaccurate Prosthesis to its Abutments On the Inaccurate Model

Prosthesis Dimensional Error



The Inaccurate Prosthesis Now Constrains The Abutment

Abutment Connectors Are Fixed and Mispositioned!



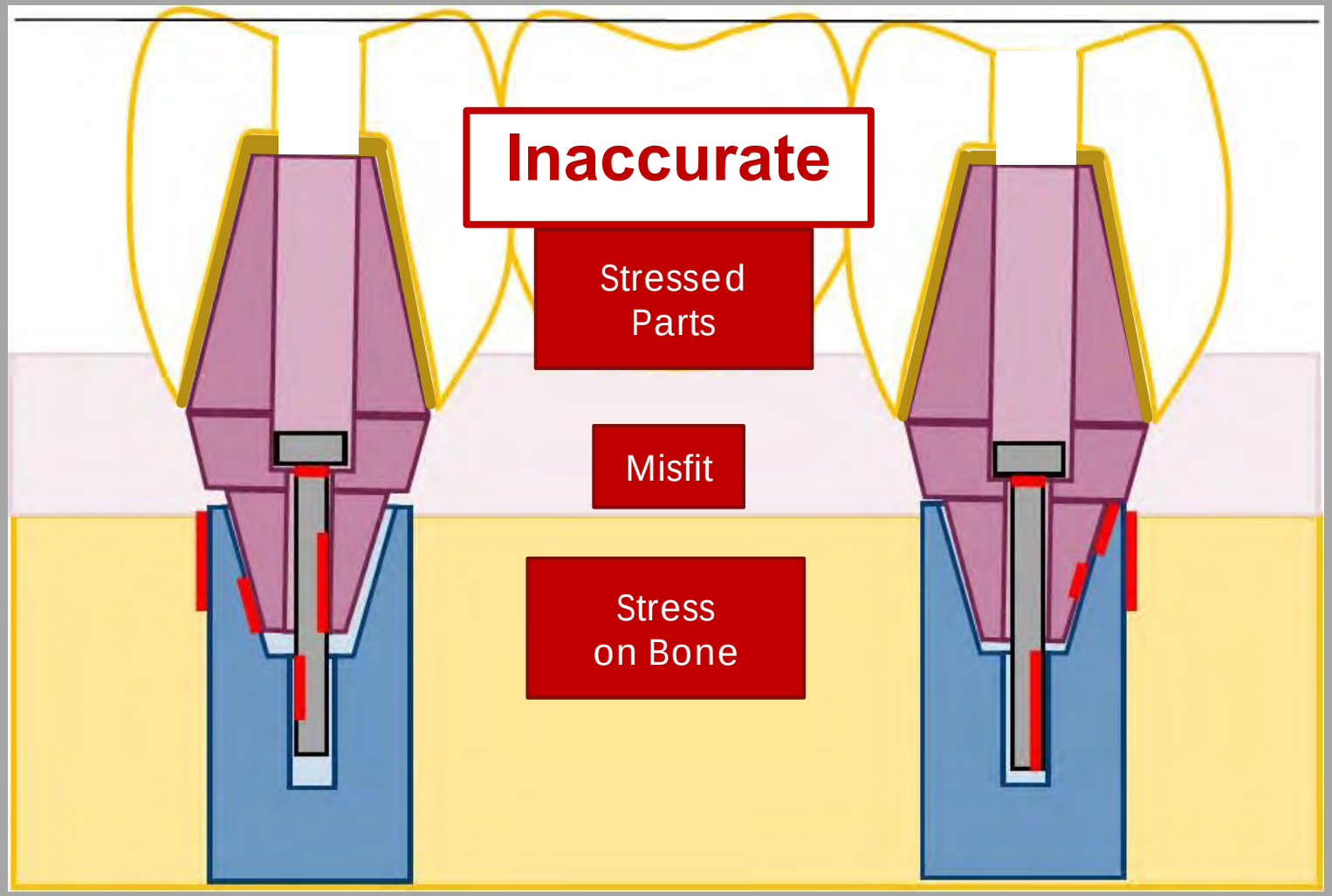
Implant-Abutment Misfit Implications

Mechanical Problems

- Misfit of Components
- Deformation of Parts
- Broken Retaining Screws
- Movement of Parts*

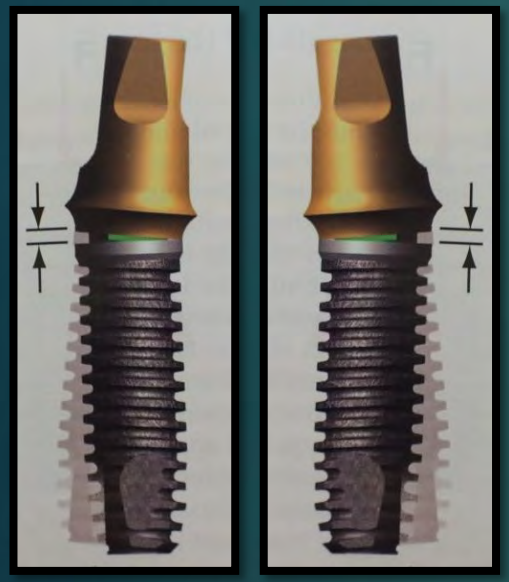
Biological Problems

- Stress on Bone
- Voids at Connection and Microbial Invasion



*Stability MATTERS!
That is Why we have GOVERNMENT ISO Based Standards

*Passive Fit could not be achieved with Screwed-in Prosthetics!



Figures of implants from "Dental Implant Prosthetics, Carl E. Misch, Elseier Mosby, 2005 & 2015

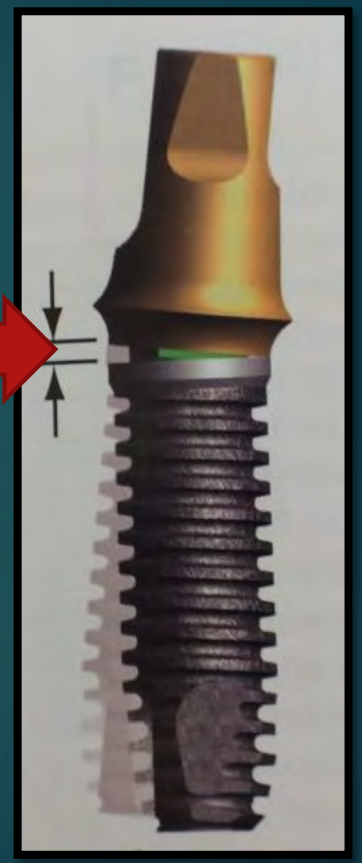
That Includes Using The Master Model Technique

*Review: Passive Fit in Screw Retained Multi-unit Implant Prosthesis Understanding and Achieving: A Review of the Literature. MM Buzaya, NB Yunus. J Indian Prosthodont Soc. **2014**, Mar;14(1):16-23 Comparison of the Accuracy of Different Transfer Impression Techniques for Osseointegrated Implants. Zen BM et al. JOI Vol 41 No 6 2015: 662-667. Tissue -integrated prostheses. Branemark PI, Zarb GA, Albrektsson T. Chicago: Quintessence; 1985. p. 253

Comparing the accuracy of master models based on digital intra-oral scanners with conventional plaster casts. C Vogtlin et al. Physics in Medicine. June 2016. Volume 1, 20–26

What Exacerbates the Problem of the Implant-Abutment Misfit for Screw-in Crowns and Bridges?

1. Tight Contacts with Adjacent Teeth
2. Subjecting the Implants to Higher Off-Axis Forces by Cantilevering for Screw Access
3. Blocking Access to Maintenance



The Dreaded Macrogap
AKA – Implant-Abutment Misfit

1. Inaccurate impressions/Models
2. Tight Contacts
3. Tissue Interferences
4. Cheaper Inaccurate Parts
5. Use of Engaging Abutments
6. Trying to Re-insert an Abutment that has been Previously Misfit Deformation?

"When **bacteria** are able to colonize a **Macrogap**, implant failure can result due to **biologic failure** such as **peri-implantitis**. (4)
In addition, **misfit** can lead to **mechanical failure** of the implant system because of factors such as **screw fracture** and/or implant fracture. (5)" **Movement?**

Top factors leading to dental implant abutment/implant fixture misfit: The dreaded microgap. **Scott Froum**, Perio-Implant Advisory, Feb 6, 2017. Clinical Associate Professor – Periodontist NYU

Proposed Definitions for Implant-Abutment Misfit

2018

Microgap
Related to parts Manufacturing Errors

(±5 µm)

Macrogap (30X Bigger)
Prosthesis Manufacturing Errors
Plus Microgap

(± 150 µm)

Optimized Fit
Macrogap = Microgap

(±5 µm)

How Big Is this Problem?

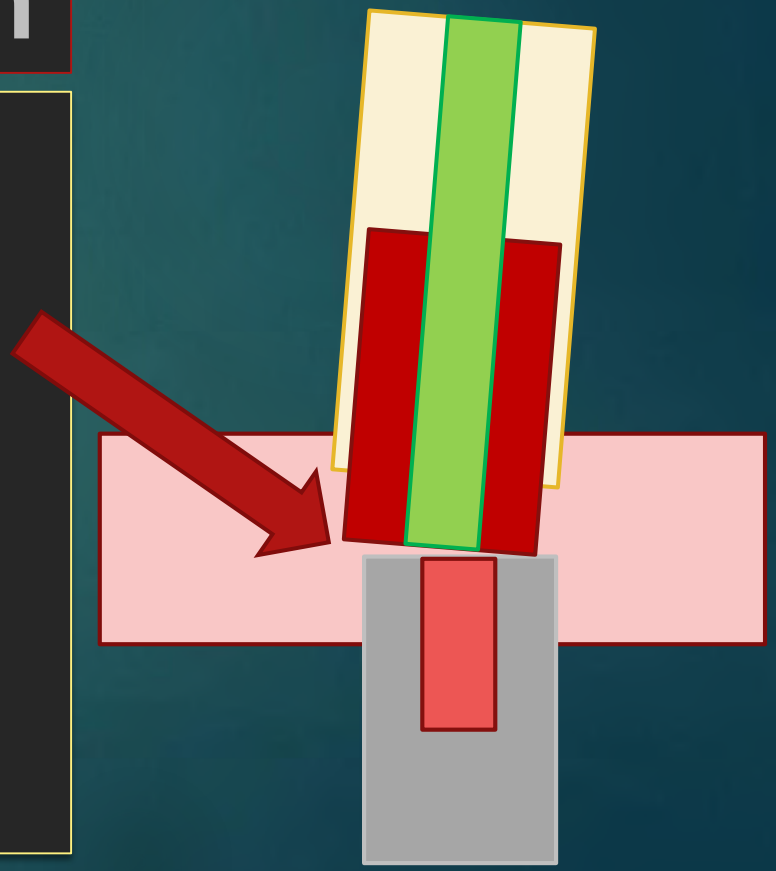
Katsoulis J et al., Misfit of implant prostheses and its impact on clinical outcomes. Eur J Oral Implantol **2017**;10(Suppl 1):121-138

Vertical Misfit Values 95 to 232 µm

The current literature provides insufficient evidence as to the effect of misfit at the **prosthesis-implant interface** on clinical outcomes of screw-retained implant-supported fixed dentures.

The present data do not imply that clinicians neglect good fit, but aim to achieve the least misfit possible.

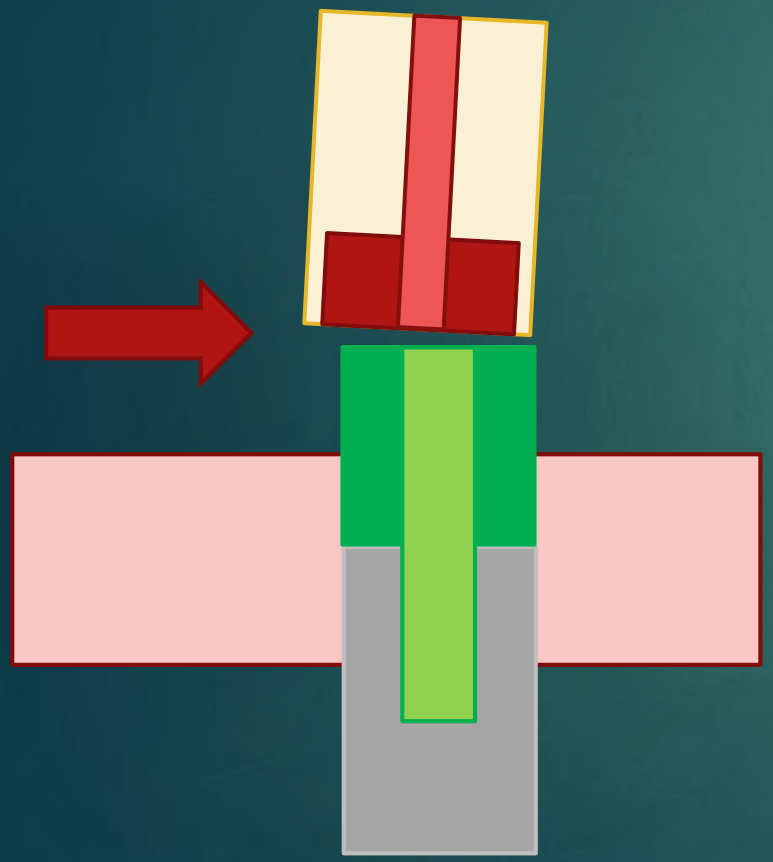
Screwed-in Crown & Bridge



Prosthesis Dimensional Error

Screw-Screw

All-on-4



Abutment-Prosthesis Misfit

Jokstad A, Shokati B.
New 3D technologies applied to assess the long-term clinical effects of misfit of the full jaw fixed prosthesis on dental implants. **2015**; Clinicl Oral Implants Research 26(10):1129-1134

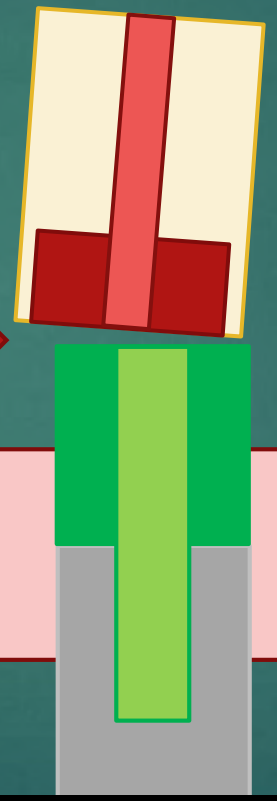
<u>Conclusion:</u> The effect of misfit between the superstructures on its supporting implants up to ~230 µm on the long-term clinical outcomes appears to be minor, apart from a slightly higher risk of screw-related adverse events.

Prosthesis Dimensional Error

Jokstad A, Shokati B.

Screw-Screw

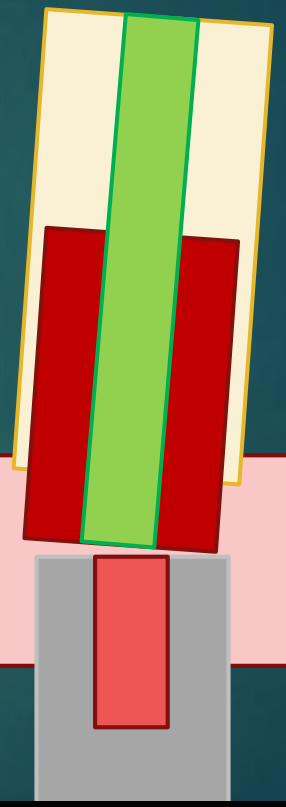
All-on-4



Abutment-Prothesis Misfit

Screw

Crown & Bridge



Implant-Abutment Misfit

Patients with 4 or more implants were 15X more likely to have Peri-implantitis

77% of their Prosthetics were installed by the Screw-in Technique

Effectiveness of Implant Therapy Analyzed in a Swedish Population: Prevalence of Peri-implantitis. Derks et al. J Dental Research, **2016** Vol 95(1):43-49 **(588 patients with 2,277 implants)**

What is Causing the Problems for the Screw-Screw Systems?

1) Subjecting the Implants to Higher Forces by Cantilevering the Prosthesis
   - for Screw Access
   - to accommodate Additional Teeth
2) Blocking Access to Professional and Patient Maintenance

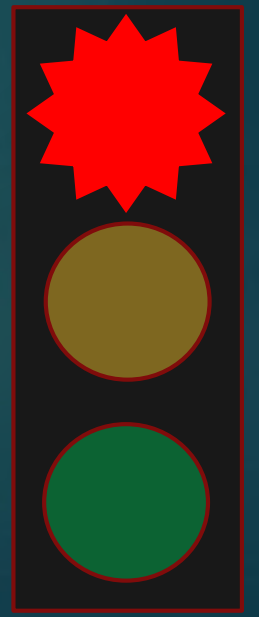
Abutment-Prothesis Misfit

Has this Inaccuracy Problem Already Solved by Digital Technology?

Rutkūnas V et al., Accuracy of digital implant impressions with intraoral scanners. A systematic review. Eur J Oral Implantol. **2017**;10(Suppl1):101–120

In TOTAL: 1 *in vivo* and 15 *in vitro* studies.
The clinical study concluded that angular and distance errors were too large to be acceptable clinically.

Conclusions: Data on accuracy of digital records, as well as accuracy of printed or milled models are of high relevance and are still lacking.



NO - Not Yet!

Many Speakers Do Not Discuss **Prosthesis Dimensional Error** In their Digital Workflow Presentations

Digital Workflow Accuracy is Only Approaching the Accuracy of Physical Models ± 150 µm

Are They Dealing with Inaccuracy By Ignoring it ?????

Prosthesis Dimensional Error

1

Is a Root Cause of the
Implant-Abutment Misfit
& Abutment-Prosthesis Misfit
Common to the
Screw-in Technique

"NO Predictable Treatment of Peri-Implantitis"

Primary Prevention of peri-implantitis: Managing of peri-implant mucositis

Jepsen S et al. J Clin Periodontol **2015**;42 (Suppl. 16) S152

Is Managing Mucositis Primary Prevention?

How Should We Do That?

How Do We Fix Macrogaps & Access for Maintenance?

Primary Prevention is …

“Preventing Mucositis by Preventing the Macrogap”

It Can be Prevented by One Small STEP!

Installing Implant Components Individually Inside the Mouth

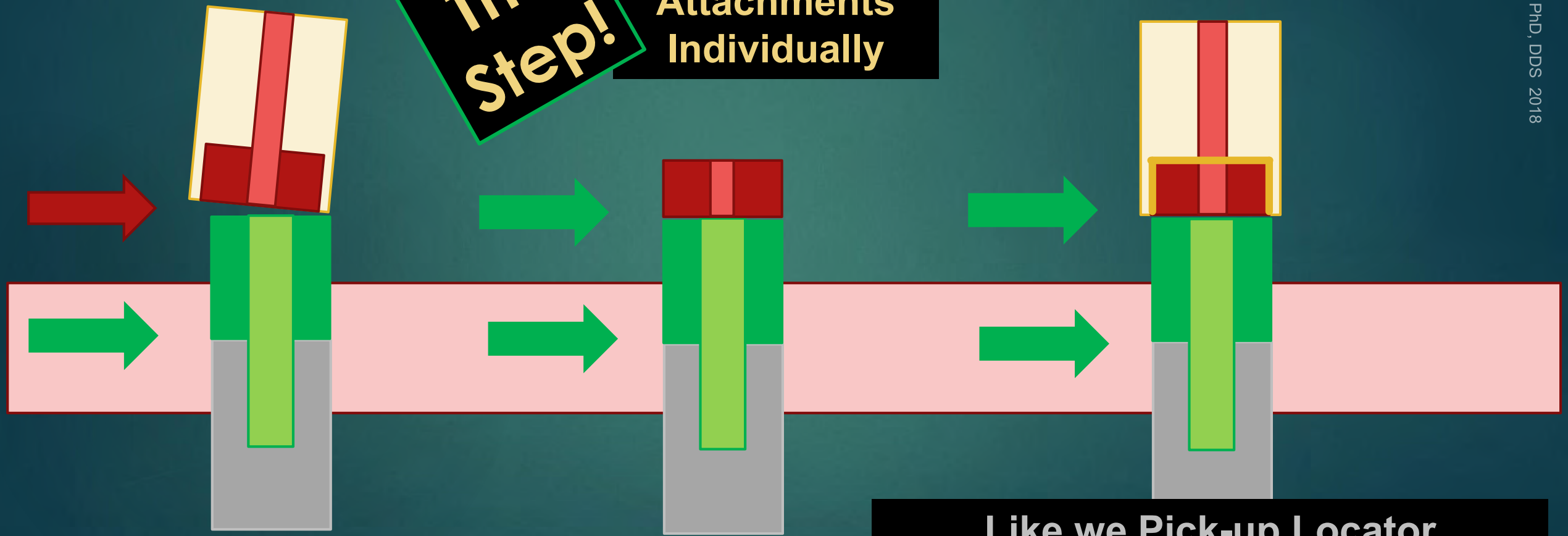
Mitigate Prosthesis Dimensional Error

Screw-Screw All-on-4

The Step!

Screw-in Prosthetic Attachments Individually

Lute Prosthesis Intra-Orally



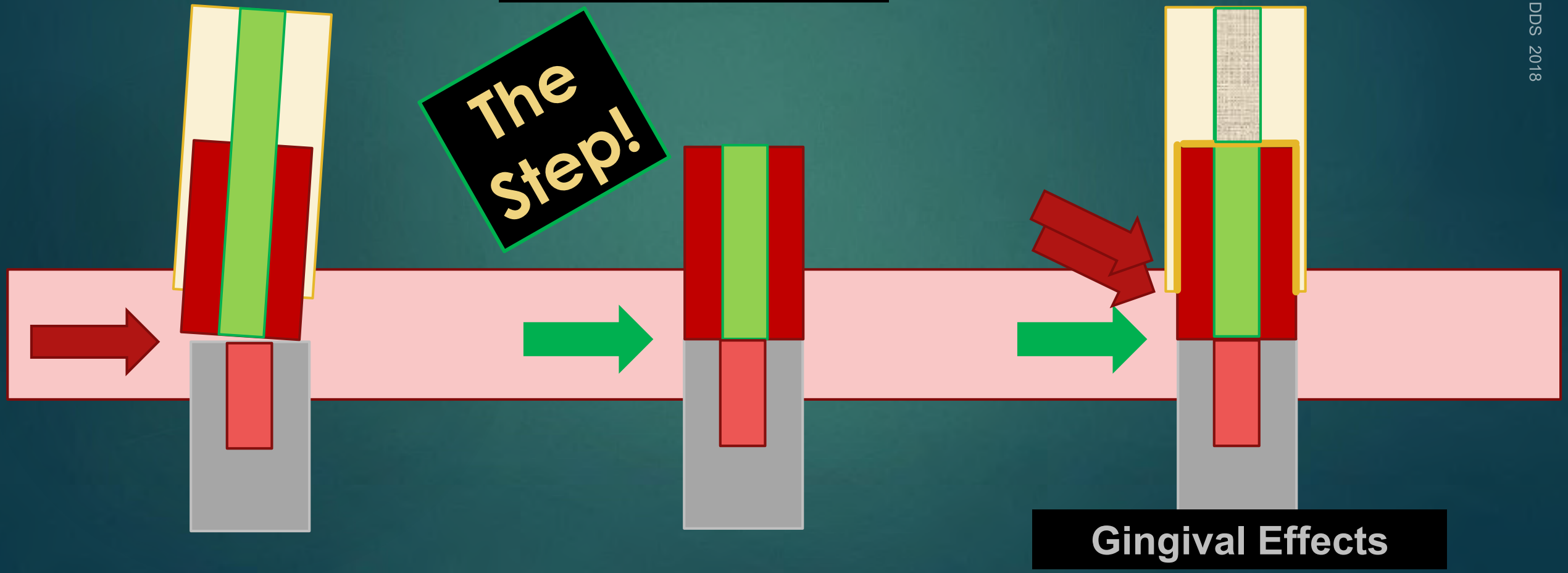
Like we Pick-up Locator Attachments with a Denture

Mitigate Prosthesis Dimensional Error

Screw-in Crown & Bridge

Screw-in Abutments Individually

Conventional Cement-in Crown & Bridge??



Gingival Effects

Screw-in Misfits

Can Be Prevented By Installing Screw-in Components Individually (Without the Prosthesis Attached)

Prosthesis Dimensional Error

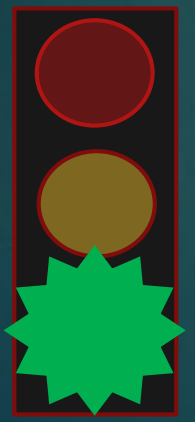
Is a Root Cause of the
Implant-Abutment Misfit
& Abutment-Prosthesis Misfit
Common to the
Screw-in Technique

That Step is Already Part of the Crown & Bridge Cement-in Installation Technique

Abutments are attached INDIVIDUALLY

Their Fit depends on Manufacturing Accuracy ±5 µ

(NOT Model Accuracy ±150 µ)



An Implant-Abutment Optimized Fit Can Now Be Routinely Achieved!

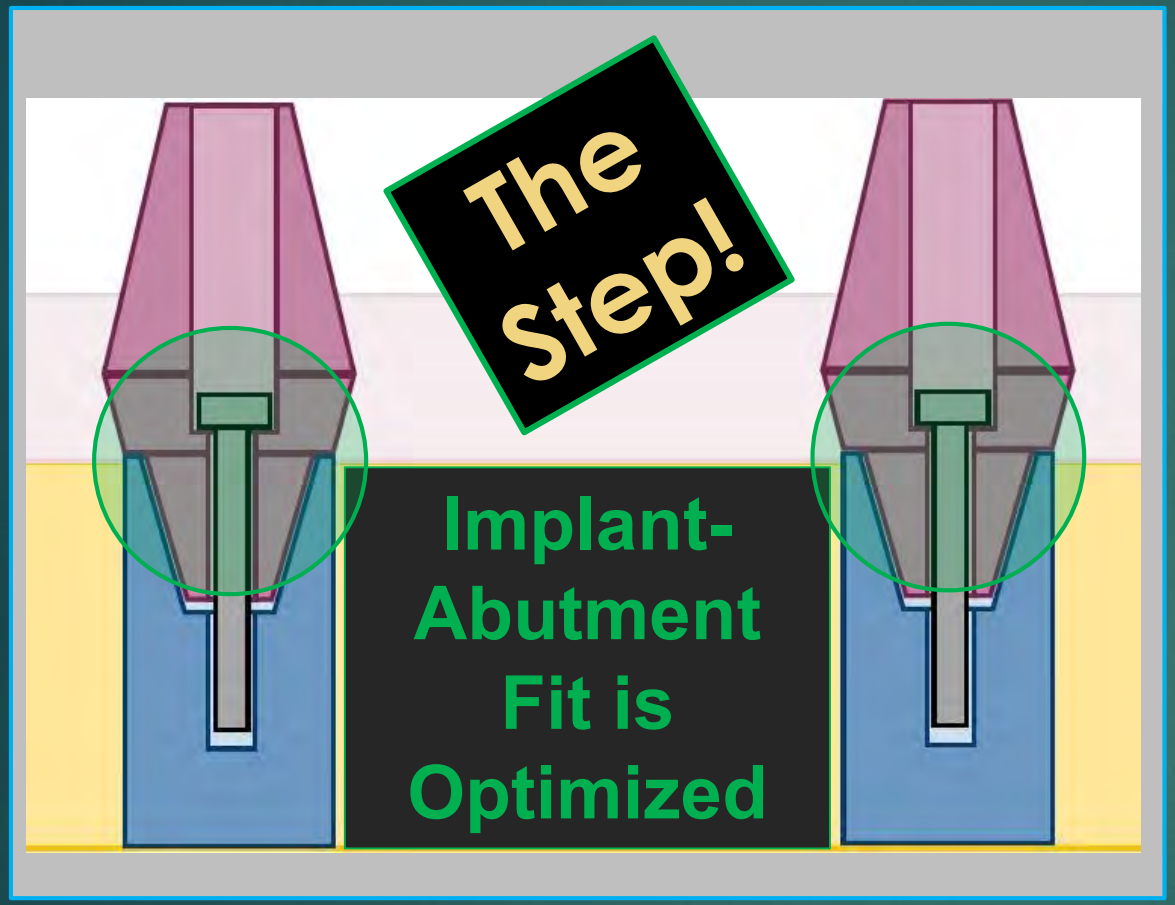
Abutments can be Installed onto Intra-Oral Implants INDIVIDUALLY According to Manufacturer's Specifications

Parts Manufacturing Accuracy (±5 µm)

30X More Accurate

than Model Accuracy (±150 µm)

Current Cement-in Technique



The Behavior of these Connections Can be Predicted According to Manufacturer's Research Results

However! How Do We Safely ….

… **Attach the Prosthesis to the Retainers Inside the Mouth?**

… **Fill the Space Between the Retainers and Prosthesis to** Prevent VOIDS that can be Inhabited by Oral Pathogens?

Let's Consider
Intra-oral Cementation
like We do for Natural Teeth

Is Intra-oral Cementation Just Another Can of Worms?

Prosthodontists in a University Setting Restoring Implants Left Subgingival Cement 60% of the Time!

Why Does this Happen? Is Our Understanding of this Common Dental Process Flawed?

Korsch M, Obst U, Walther W. Cement-associated peri-implantitis: a retrospective clinical observational study of fixed implant-supported restorations using a methacrylate cement. Volume 25, Issue 7, July 2014, pgs 797-802

Let's Investigate the Root Causes of Residual Subgingival Cement

What do we understand about intra-oral cementation? It is a hydraulic event.*

Excess cement can be:

1. difficult to control**
2. deep in the subgingival spaces*,**
3. difficult to detect and remove**
4. a risk factor for periodontitis & peri-implant disease***
5. removed by endoscopic or surgical means***

*Cementation in Dental Implantology. An Evidence Based Guide. Edited by Chandur P.K. Wadhwani. Published by Springer 2015.

**The Influence of the cementation margin position on the amount of undetected cement. A prospective clinical study. Tomas Linkevicius et al. Clinical Oral Implants Research. Vol 24,Issue 1, 71-76, Jan 2013.

***Thomas G Wilson Jr. The Positive Relationship Between Excess Cement and Peri-implant Disease: A Prospective Clinical Endoscopic Study. J. Periodont 2009;1388-1392

Effects of Margin Design on Flow of Excess Cement

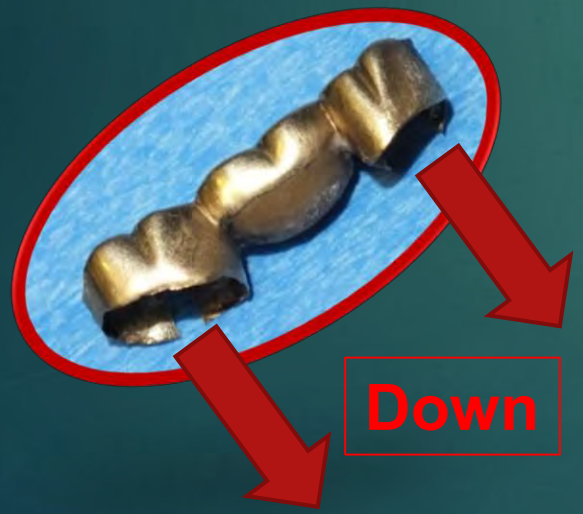
Arrows Indicate Margin Slope
1) Tapered
2) Chamfer
3) Reverse Margin

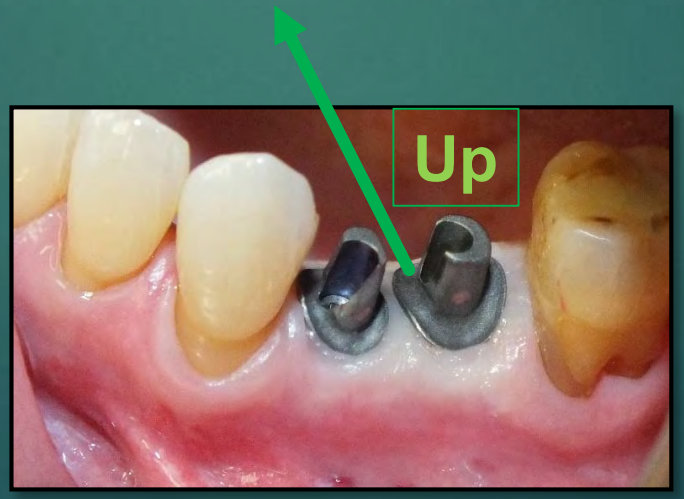
Arrows Indicate Cement Flow
1) Tapered - Down
2) Chamfer - Down
3) Reverse Margin - Up

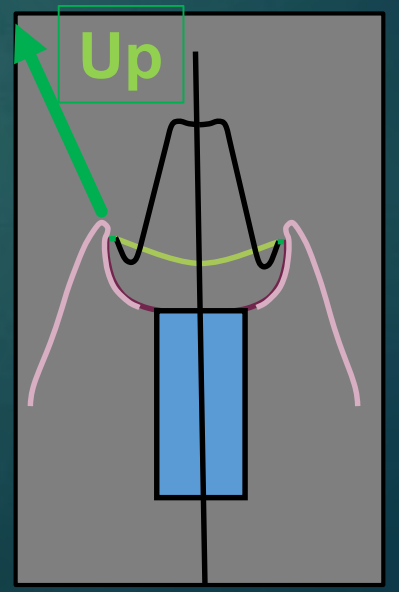
Watch the Video at www.ReverseMargin.com

Margin Design Effects the Direction of Cement Flow!

Why Choose Margin Designs that Direct Excess Cement into Tissues??







New

"Gingival Effects" Discovered

When "Gingiva" was Present, Excess Cement was Projected Under the Gingiva, Regardless of Margin Design!

Svoboda ELA. Controlling Excess cement During the Process of Intra-oral Prosthesis Cementation: Overcoming the Gingival Effects. OralHealth, Oct 2015; 52-66.

The "Gingival Effects" can Increase the Problem of Subgingival Cement

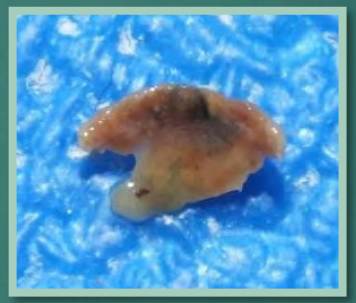
Three Margin Designs
1) Tapered
2) Chamfer
3) Reverse Margin
Clear Tygon Tubing Simulates Gingiva

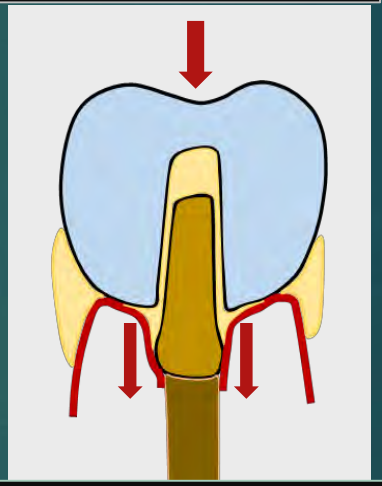
Regardless of Margin Design, excess cement became trapped by a gingiva-crown seal during installation and was forced DEEP into the Subgingival Environment

Watch the Video at www.ReverseMargin.com

The Gingival Effects on Cement Flow Can Be HUGE

They include the 1) Deflection Effect, 2) Eddy Effect, 3) Plunger Effect, 4) Bellows Effect …

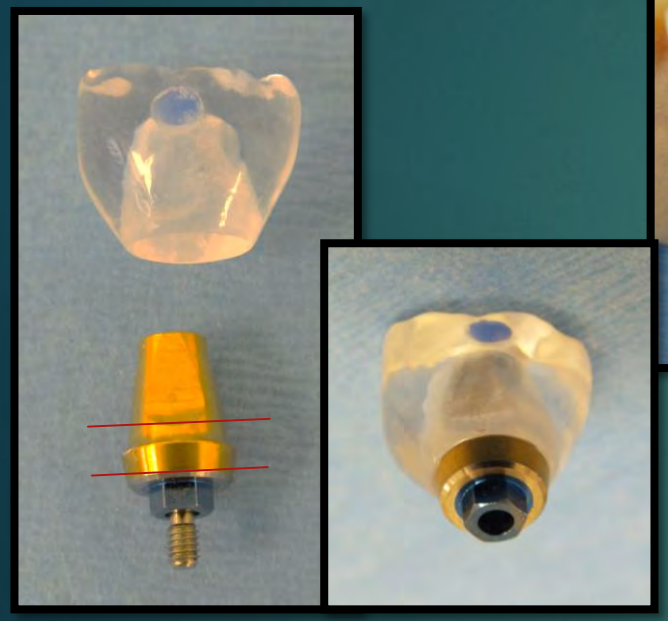




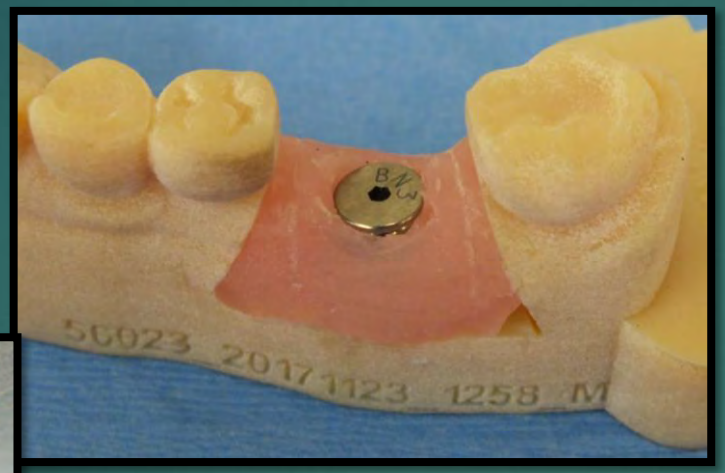
Skinny Abutments with Wider Profile Crowns are the Worst! We All Need to Understand Why!

ELA Svoboda. Controlling Excess Cement During The Process of Intra-oral Prosthesis Cementation: Overcoming the Gingival Effects. OralHealth Oct 2015;52-66 and at www.ReverseMargin.com.

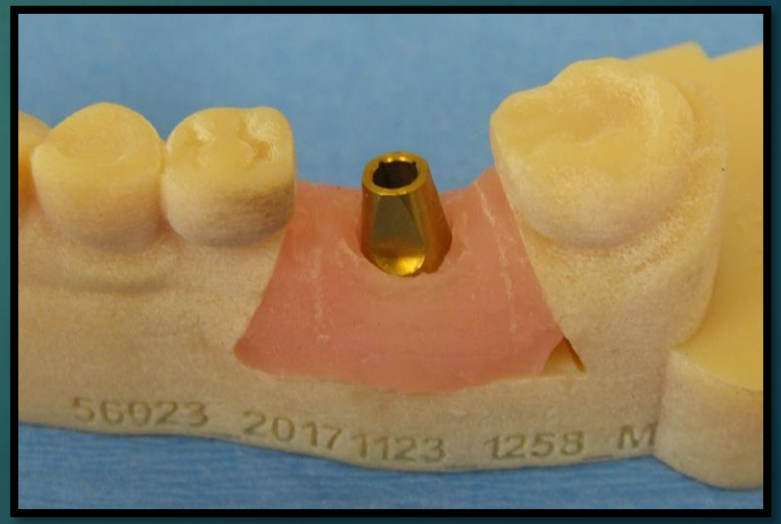
Lab Experiment
Stock Abutment & the Gingival Effects



Excellent Fit of Solid Crown on Abutment

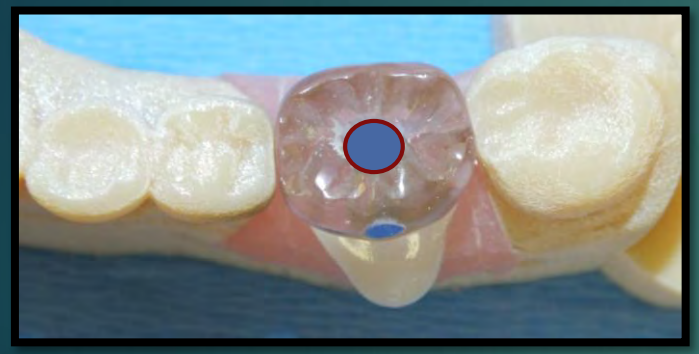


3 mm Cover



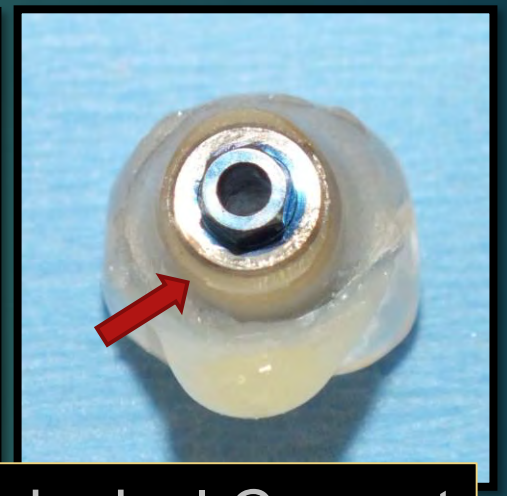
This and other experiments shown are easy to reproduce and were done many times

Gingival Effects Can Cause Abundant Subgingival Cement

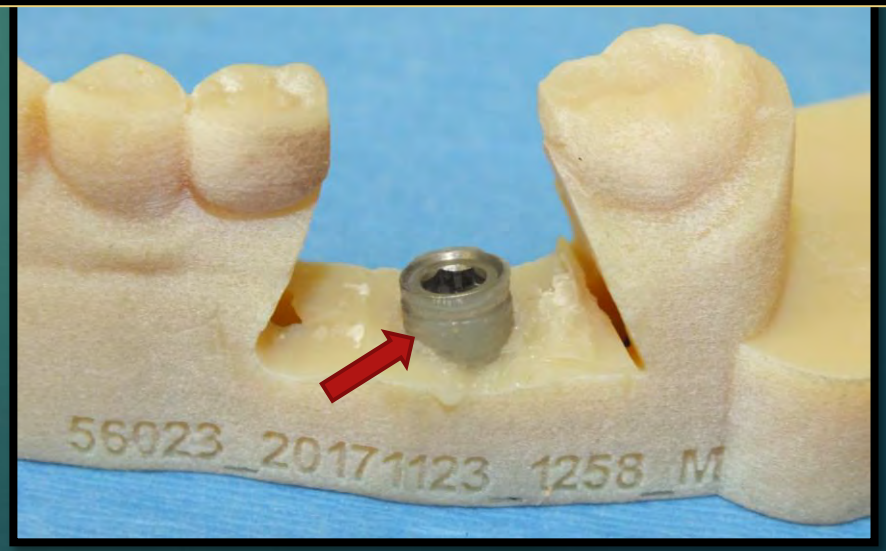


Cemented

Access Hole Drilled For Crown Removal



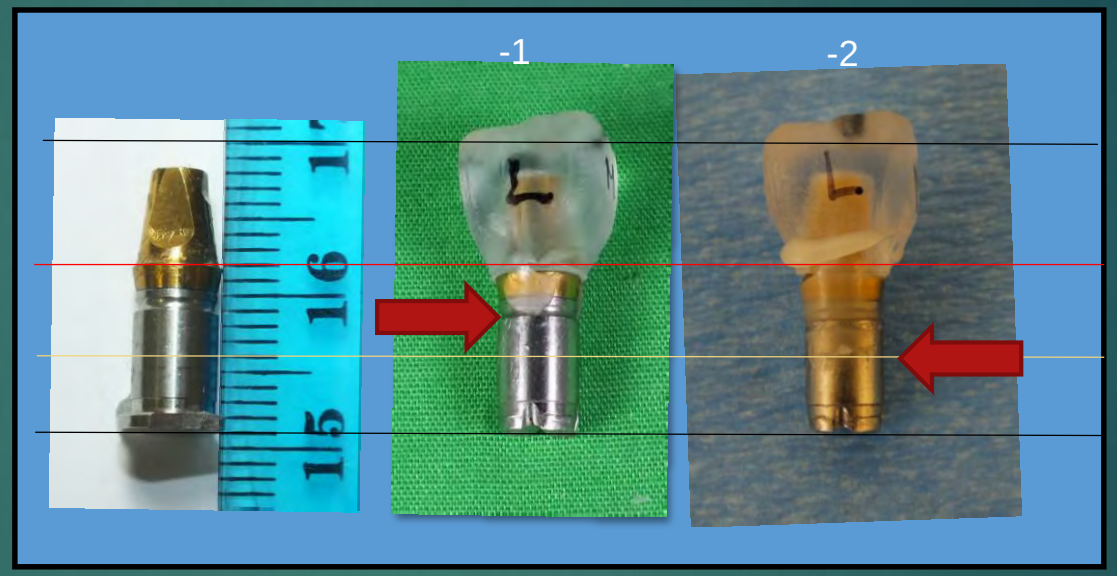
Abundant Subgingival Cement



180112

100% of 20 Trials
Abundant Sub-Marginal Cement
& Open Margins*

Lingual Abutment Margin



Distance of Cement from Gingival Margin

-1 mm average 4.5 mm, range 3.6-5.2 mm

-2 mm average 6.3 mm, range 5.2-8.0 mm

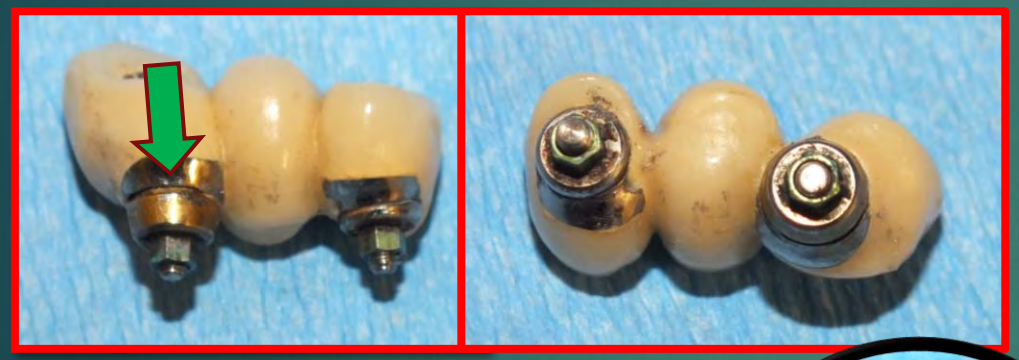
T-1≠T-2, P 0.01, Mann Whitney U Test

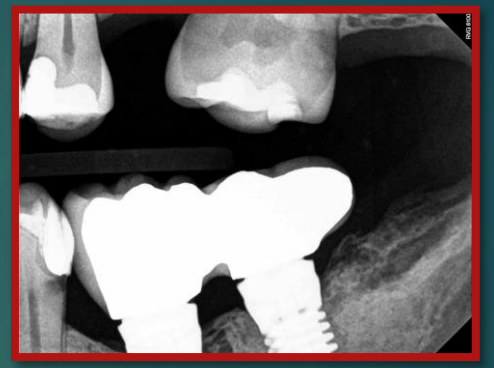
Residual Subgingival Cement, & Open Margins

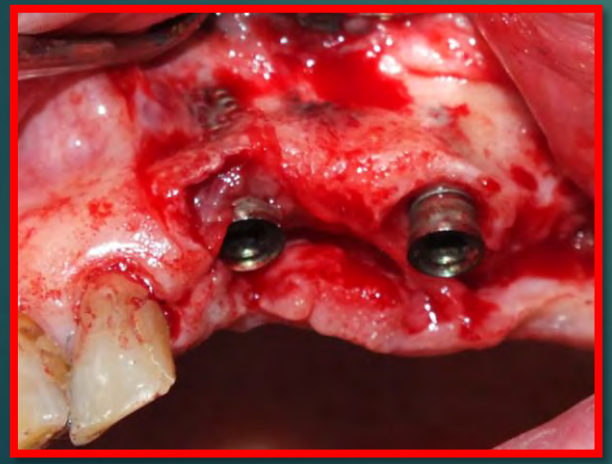
(Gingival Resistance to Displacement by Crown?)

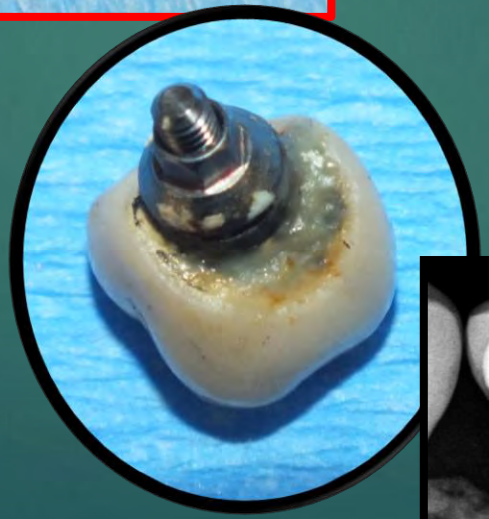
Do subgingival tissue fluids displace cement from margins?

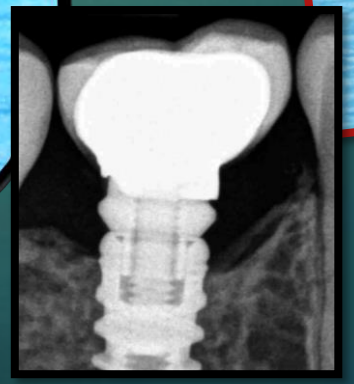
Residual Subgingival Cement & Open Margins Are Common Complications









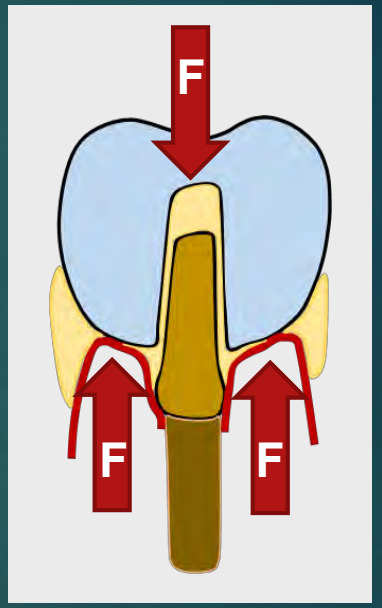


New

Gingival Effect #5
"Resistance to Displacement Effect"

Can Cause the "Dreaded Open Margin"

Stiff Gingiva Can Further Increase Subgingival Cement



ELA Svoboda. Controlling Excess Cement During The Process of Intra-oral Prosthesis Cementation: Overcoming the Gingival Effects. OralHealth Oct 2015;52-66 and at www.ReverseMargin.com.

Are Stock Abutments Safe for Intra-oral Cementation? NOT Usually?

Every Implant Company Sells Stock Abutments

Perhaps its Time

For Them To Offer Some

Healthier Alternatives

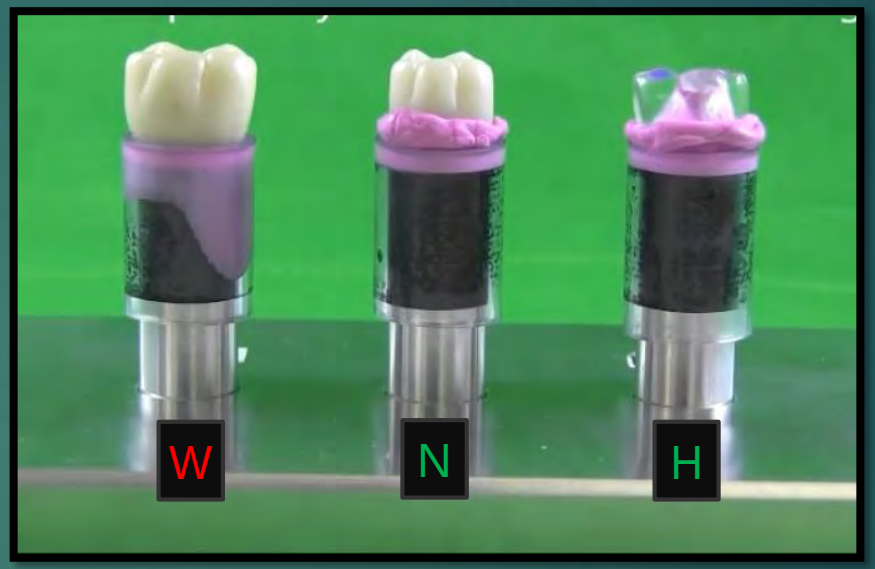
The Gingival Effects

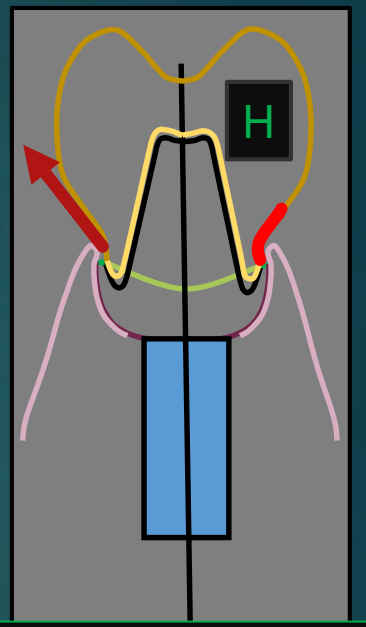
2

Are a Root Cause
of Complications
(Subgingival Cement, Open Margins)
Common to the
Cement-in Technique

New

Overcoming the "Gingival Effects" by Prosthesis Design

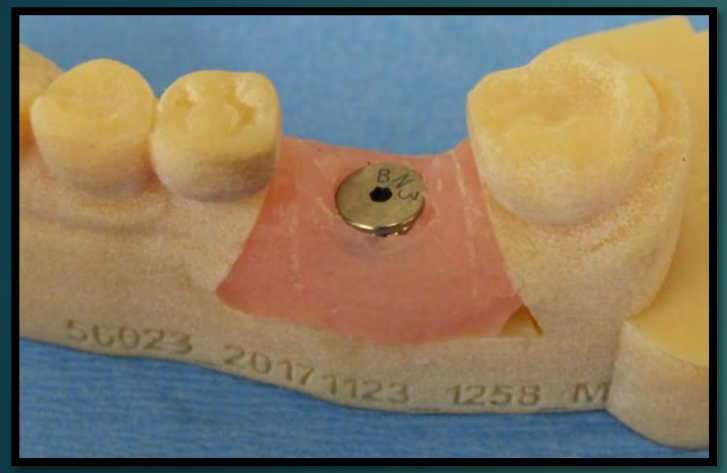




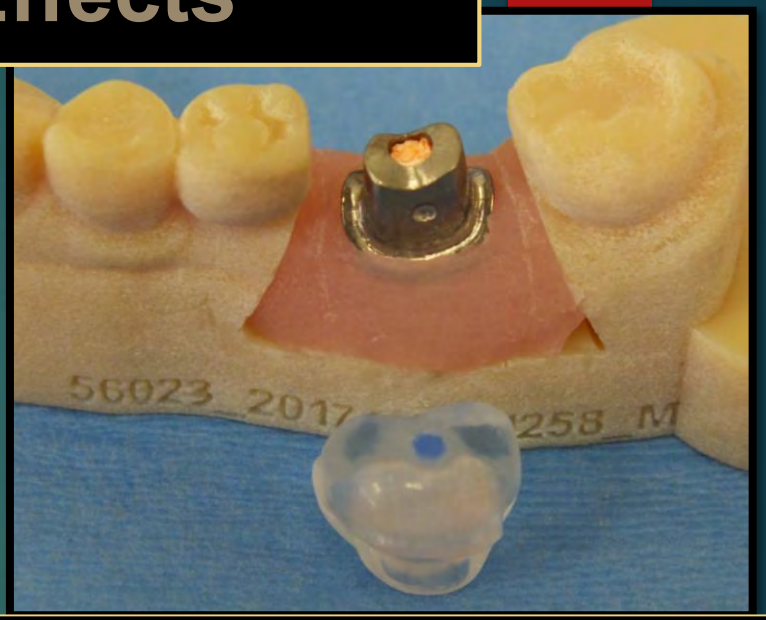
All Rods have Reverse Margins, Crowns Shapes are Wide, Narrow and Hybrid
The W is wider than the adjacent gingiva. N has a space between the gingiva and crown, and the H is like N but transitions to a W shape above the gingiva
W Causes SubMarginal Cement but N and H do not!

Watch the Video at www.ReverseMargin.com

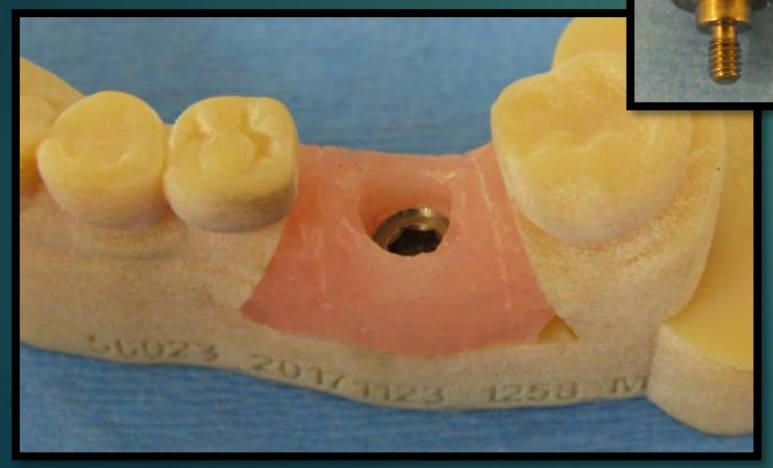
Lab Experiment #2: Custom Abutment & Crown Designed to Mitigate the Gingival Effects



3 mm Cover



Margin 1 mm Subgingival



Crown in Place

Buccal Margin 1 mm Under Gingiva

All Reverse Margin Abutments - No Open Margins

Not Trimmed
All Have
Sub-Marginal Cement

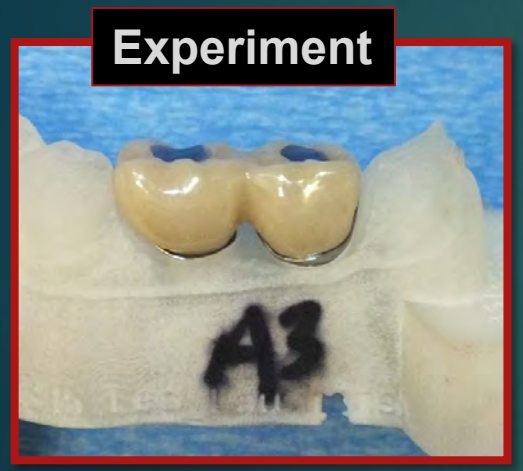
Trimmed
None Have
Sub-Marginal Cement

External Cement Vent – No Sub-Marginal Cement

Experiment #5 – Two Splinted Crowns

Margins Subgingival on Buccal

Clinical Experiments



Gingiva Does Not Interact with the Prosthesis – By Design

Mitigating the Gingival Effects
No Sub-Marginal Cement, No Open Margins

These Safer Designs are Not Limited to Particular Materials

We Can Now Prevent

The Gingival Effects By Design

The Gingival Effects

2

Are a Root Cause
of Complications
(Subgingival Cement, Open Margins)
Common to the
Cement-in Technique

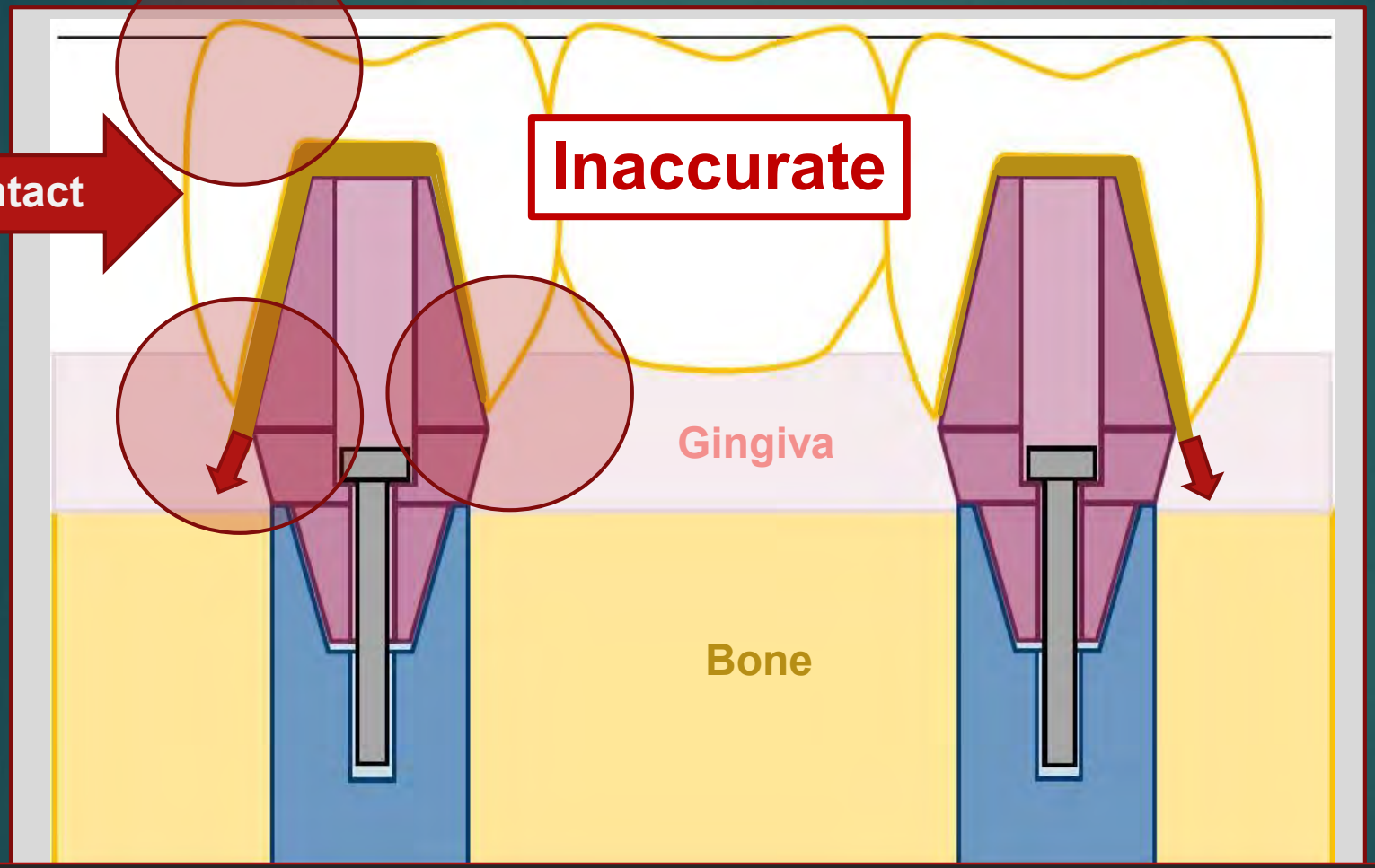
BUT!

Prosthesis Dimensional Error

3

Is also a Root Cause
of Multiple Risk Factors
Common to the
Cement-in Technique

Prosthesis Dimensional Error



Poor Contacts, Hyperocclusion, Subgingival Cement, Overhanging, Overextended, Open Margins

Relationship of Residual Excess Cement to Peri-implant Disease

-34 of 42 diseased implants (81%) had subgingival cement

- After cement removal 25 of 33 (74%) no longer has signs of peri-implant disease after "30 days"

Thomas G Wilson Jr. The Positive Relationship Between Excess Cement and Peri-implant Disease: A Prospective Clinical Endoscopic Study. J. Periodont **2009**;1388

Do you think Peri-Implant Disease Stayed Away after 30 days???

Let's Investigate

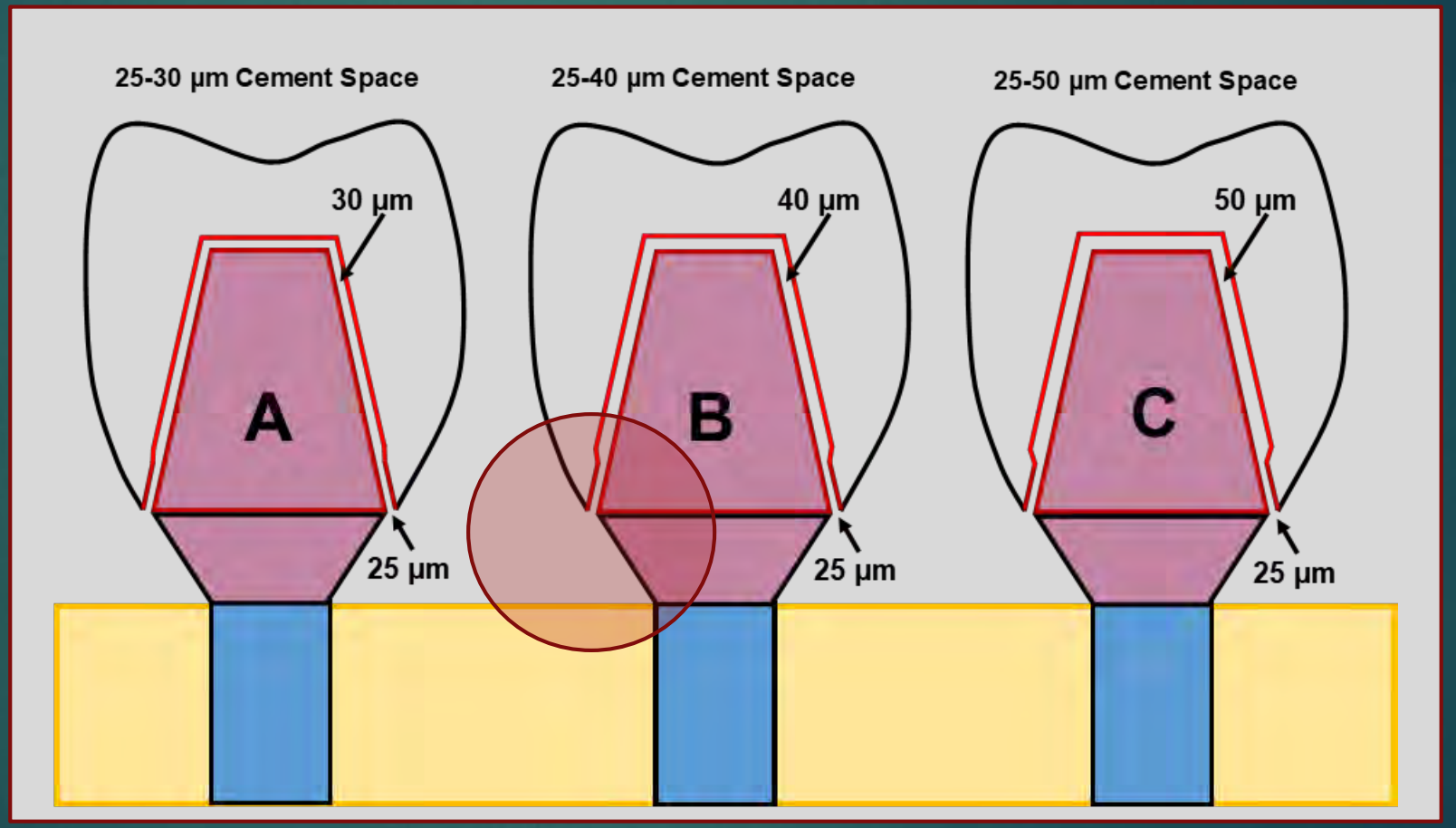
This BIG 100 Year Old Problem

Did you know?

Dental Labs
& Milling Companies
Increase Cement Space
at the Margins
to make
Prosthesis Installations Easier?

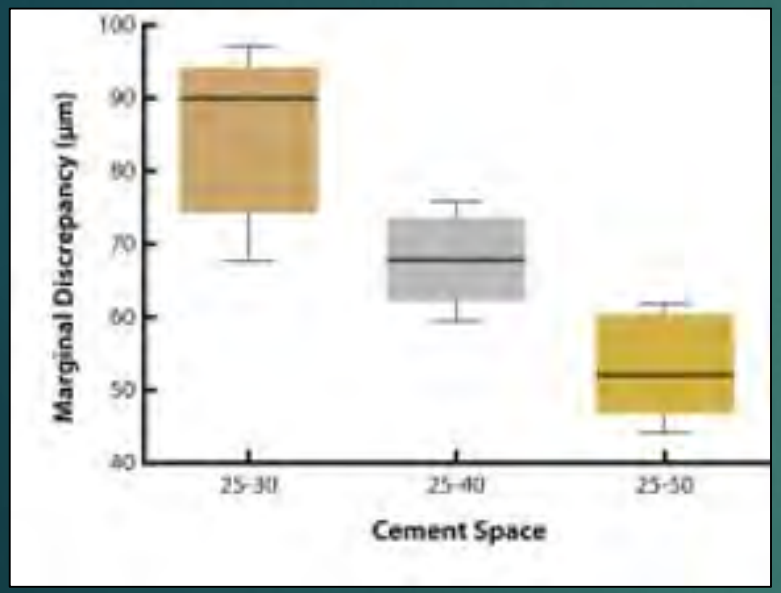
What happens to the Vertical Misfit when Cement Space is Increased?

The Design



Kale E et al. Effect of cement space on the marginal fit of CAD-CAM-fabricated monolithic zirconia crowns. J. Periodont 2009;1388

With Increased Cement Space
The Vertical Misfit Decreases



Vertical Dimension Misfit

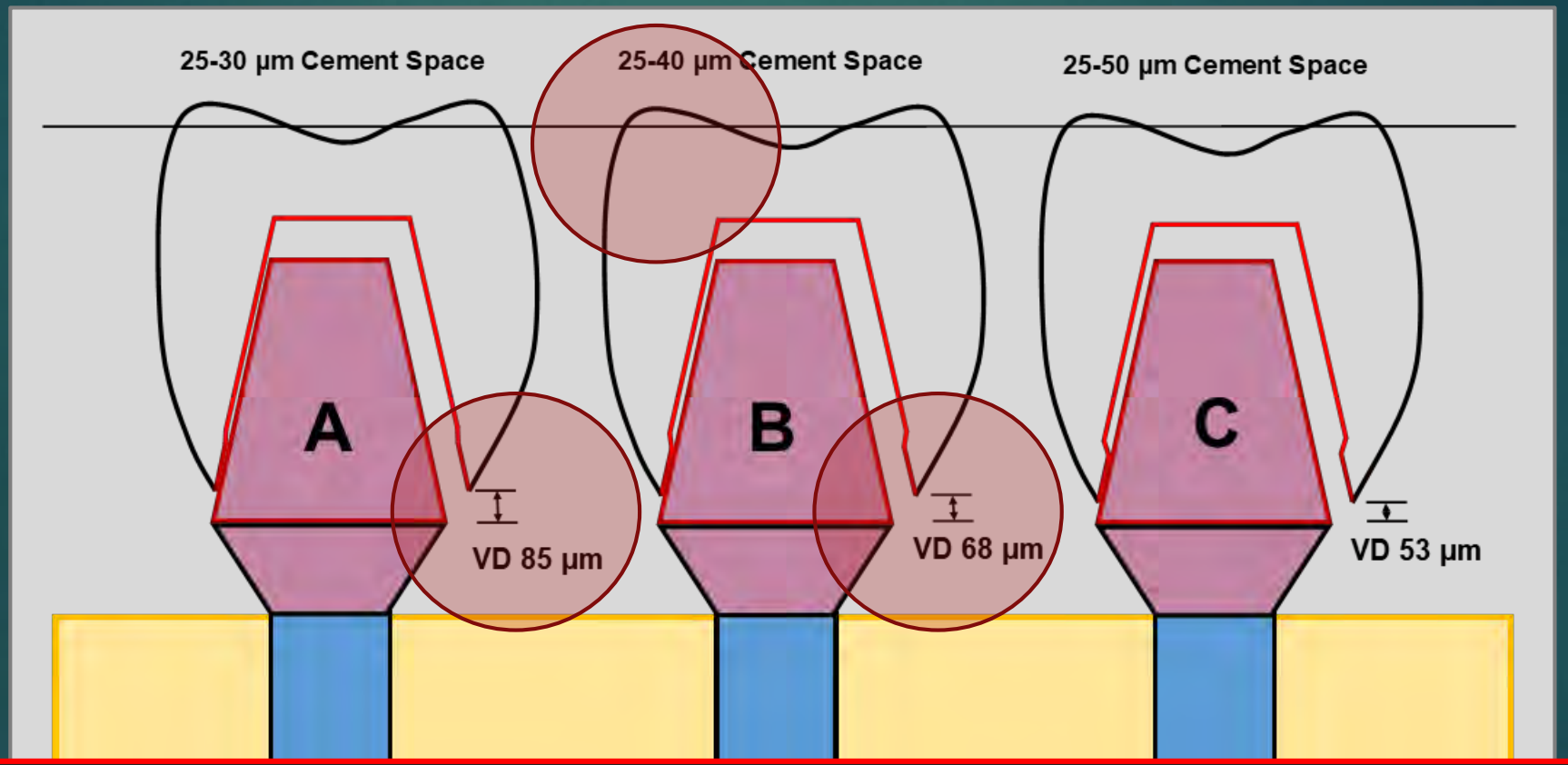
A (25 – 30) **Ave 85 µm**
B (25 – 40) **Ave 68 µm**
C (25 – 50) **Ave 53 µm**

However - What About the 25 µm Default Overhang at the Margin?

Single Tooth Cemented Restorations in vitro

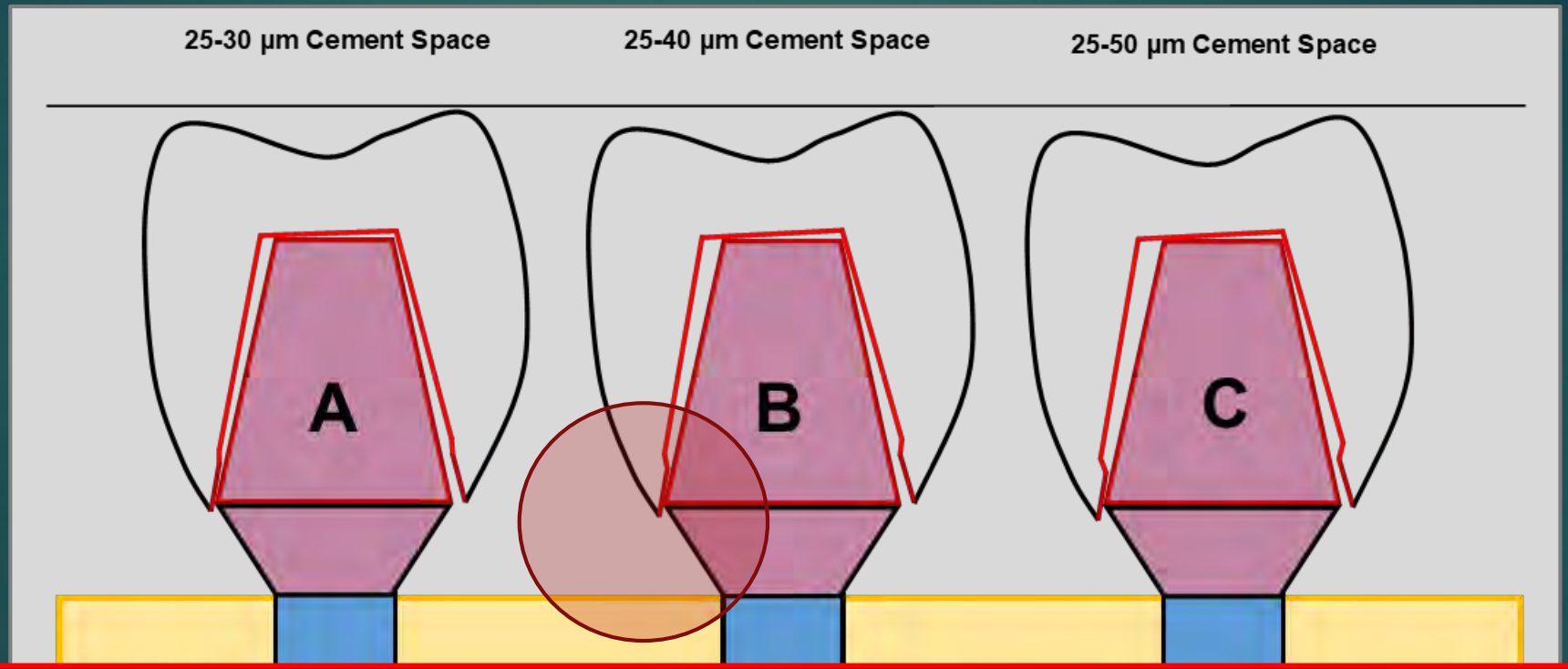
Kale E et al. Effect of cement space on the marginal fit of CAD-CAM-fabricated monolithic zirconia crowns. J. Periodont 2009;1388-1392

A Lateral Crown Shift during Installation Can Give a 50 µm Overhang



Increased Overhanging and Open Margins Hyperocclusion and Subgingival Cement

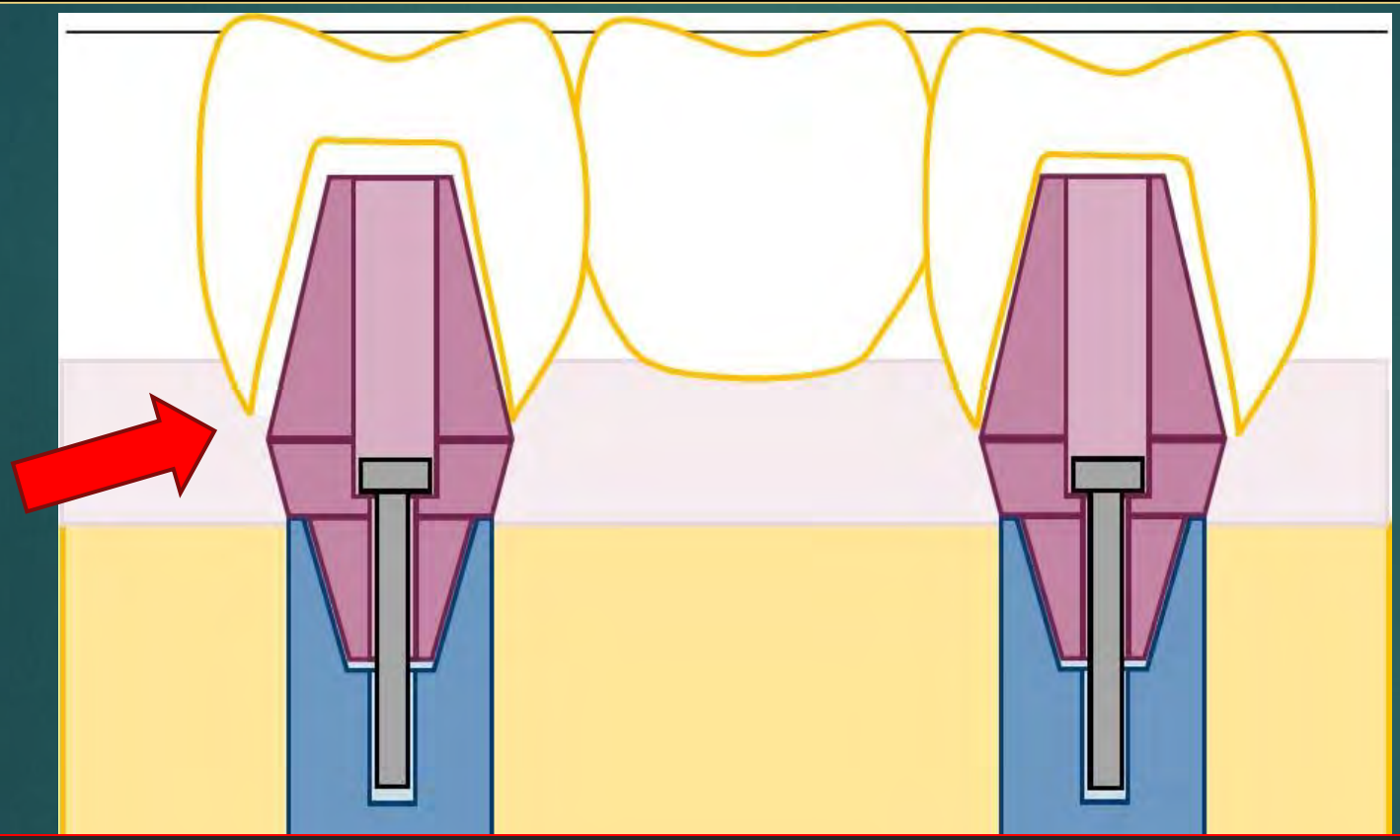
What About Overextended Margins?



Wider Crowns were found in 86-97% of Cases
Overextended Margins 57-72% of Cases
Precise Fit of Crown Margin is Very Rare!

Kissov HK, Popova EV, Katsarov SG. **Position of crown margin in relation to the tooth preparation line.** Folia Med (Plovdiv). 2008 Apr-Jun;50(2)57-62.

Can We Safely Increase Cement Space to Compensate for Prosthesis Dimensional Error?



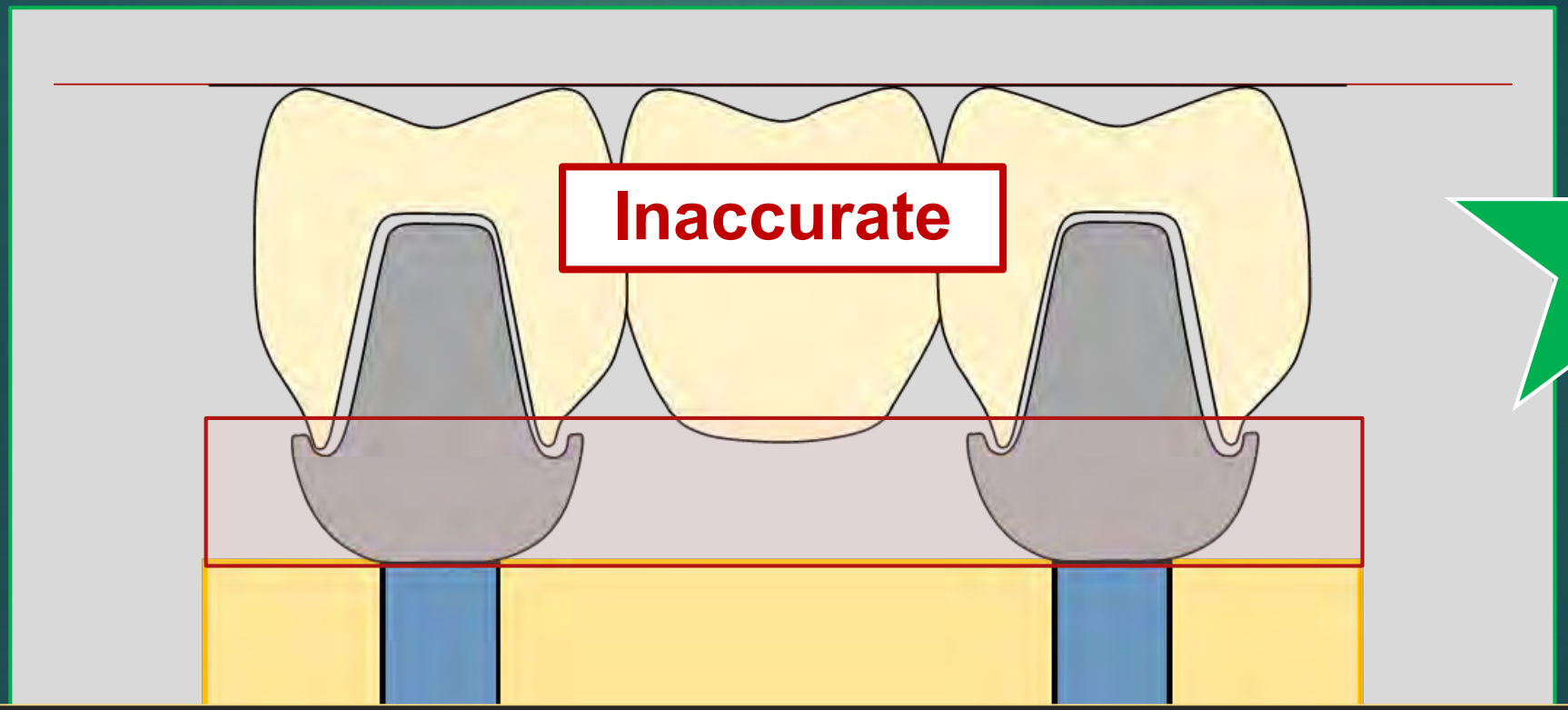
NOT With Downward (Tissue) Facing Margins

Overhanging and Overextended Margins Get Worse

Can We Safely Increase Cement Space to Compensate for Prosthesis Dimensional Error?

with Upward Facing Margins

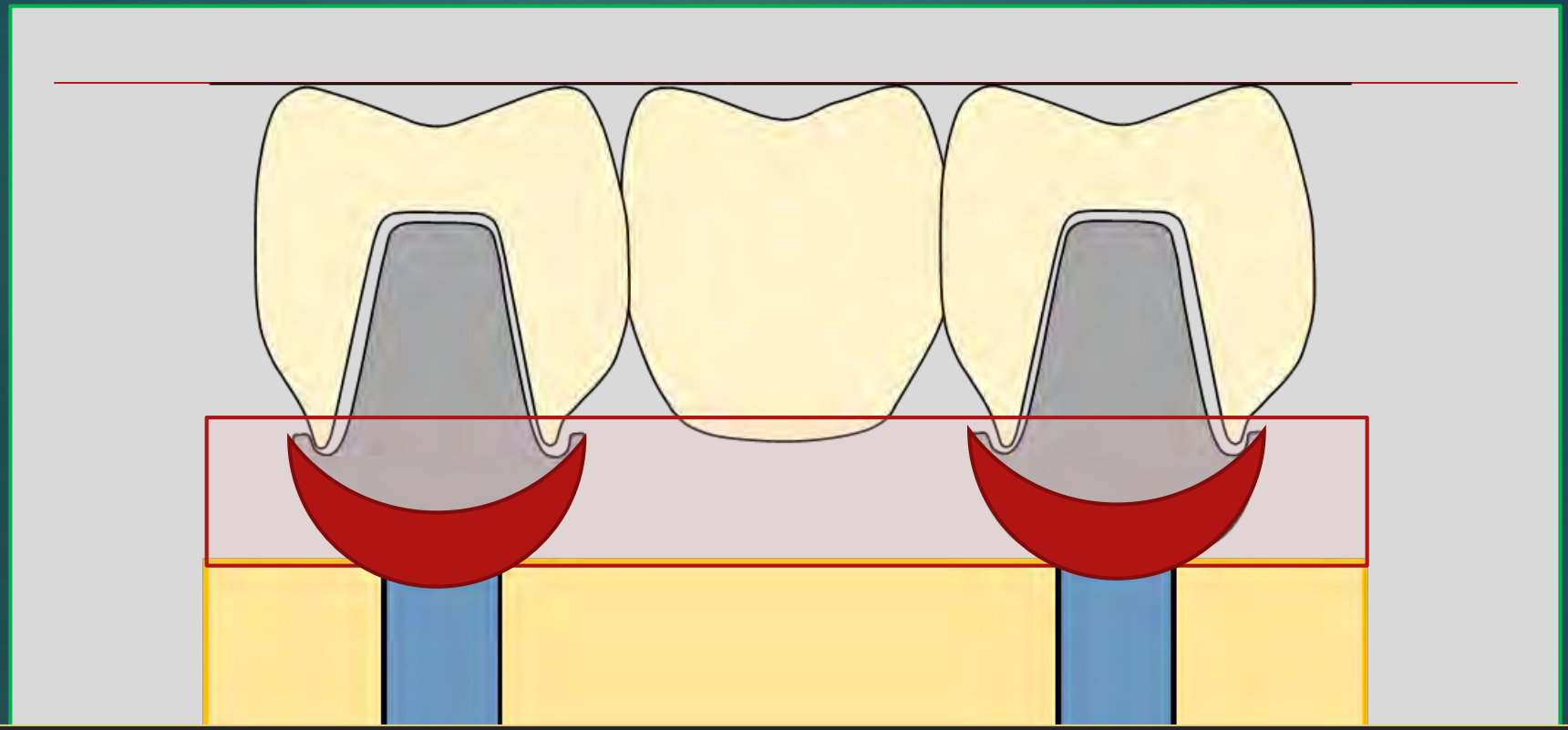
YES



3

Cement Filled Margin Faces Upwards
No Hyperocclusion, No Margin Overhangs

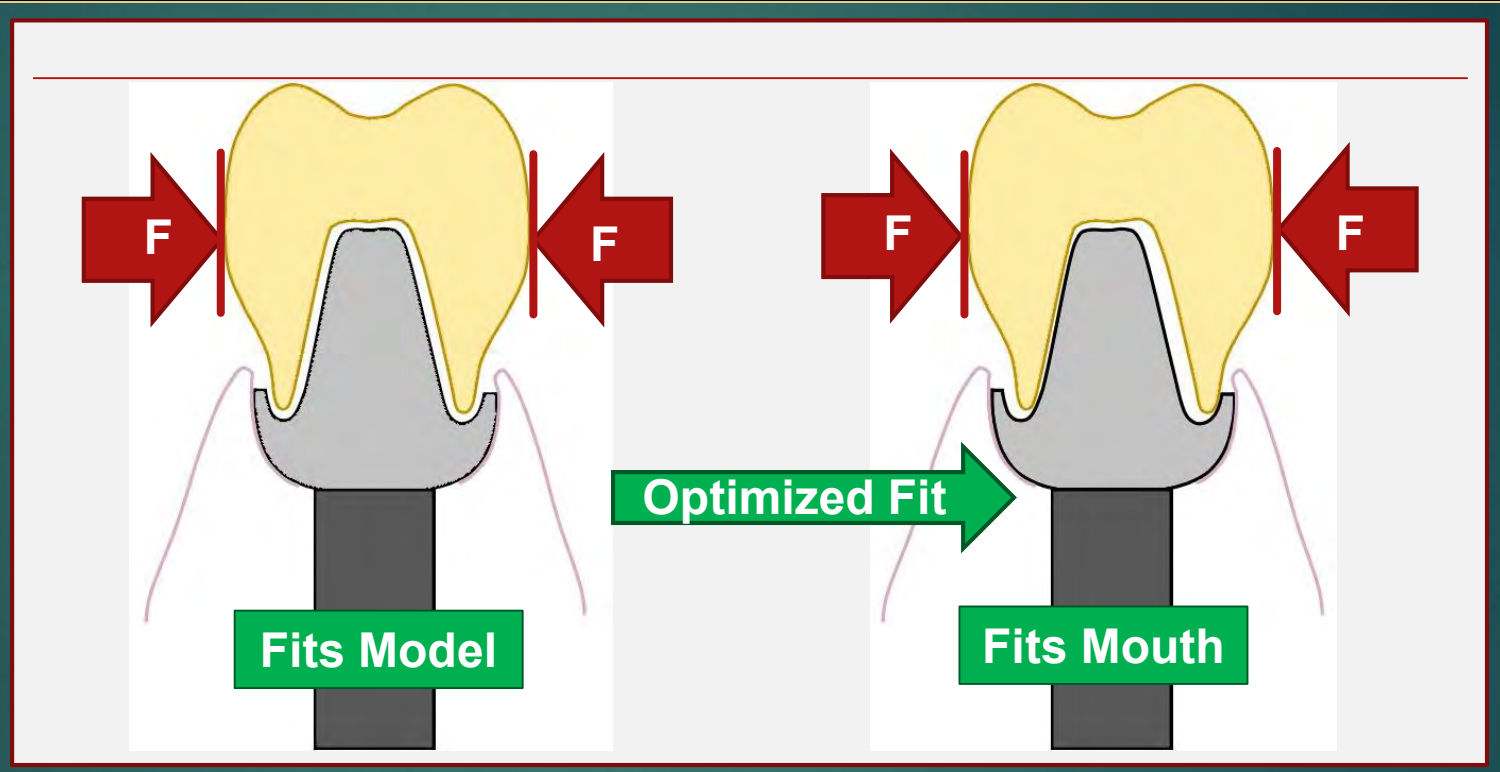
The Abutments Acts like SHIELDS
Protecting Gingival from Interacting with the Base of the Prosthesis



Upward facing margins are accessible for maintenance & the resin cement excludes bacteria from entering the margin

What About Tight Contacts?
This System Assumes & Tolerates Error

Bonus!



Self Centering & No Hyperocclusion
= Easier Installation

Safer Prosthesis Installation

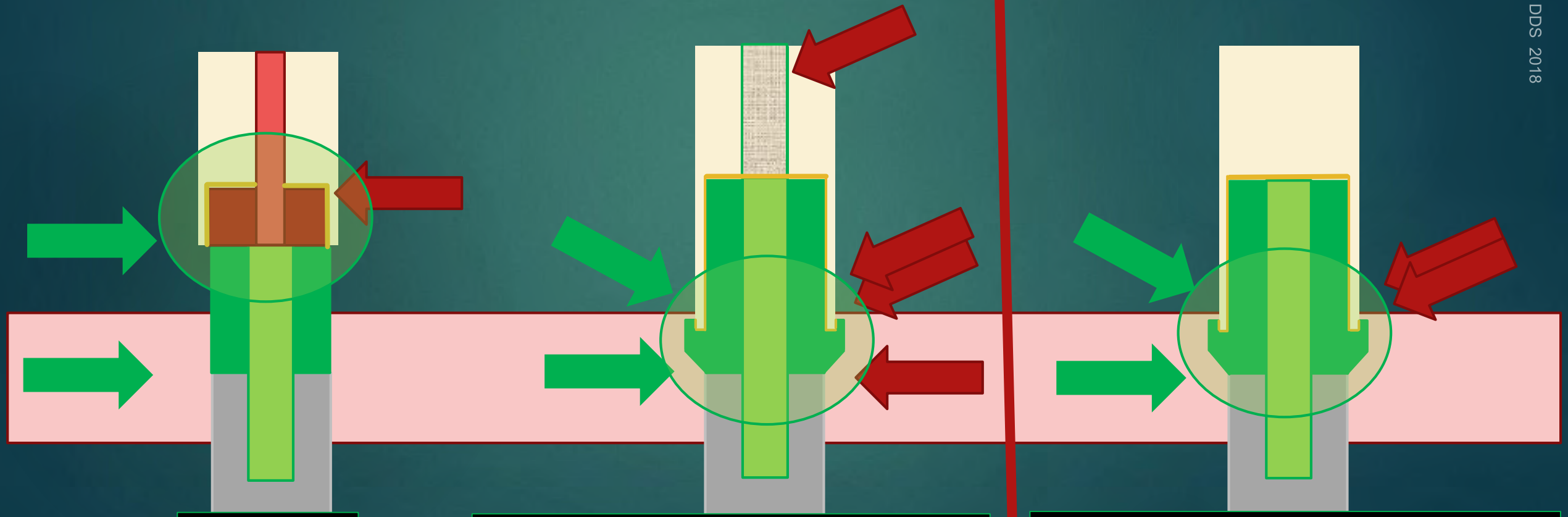
1. **Installing abutments individually without a Prosthesis attached,** allows the implant-abutment connection to be optimized, predictably.
2. **The Reverse Margin™ Design** mitigates the Gingival Effects and thus prevents residual subgingival cement & open margins ...
3. **… AND allows for the Safe Use of Adequate Cement Space** to compensate for Prosthesis Dimensional Error, without causing open, overhanging & overextended margins.

Mitigating Prosthesis Dimensional Error and Gingival Effects

Pick Up Prosthetic Attachment in Mouth
Pick it up, Pick it Up

Assemble in Mouth
Cement-in Prosthesis
Reverse Margin™

Assemble in Mouth
Cement-in Prosthesis
Reverse Margin™

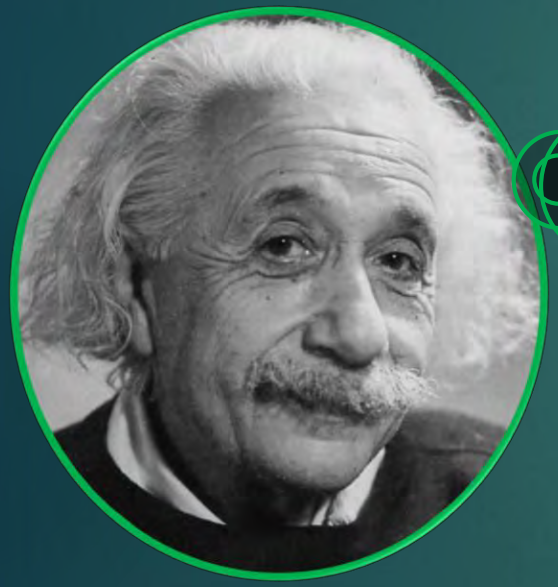


All-on-X

Screw-in Crown & Bridge

Cement-in Crown & Bridge

Albert Einstein “Intellectuals Solve Problems, Geniuses **Prevent** them.”



Just Preventing Prosthesis Related Complications

Can Save Hundreds of Thousands of Patients from Peri-Implant Disease

And Save Dentists Countless Hours Managing Unhappy Patients

Who is responsible for Complications?

1. The patient?
2. Those who taught the procedures?
3. The implant companies?
4. Your Governing Body?
5. You … the Dentist

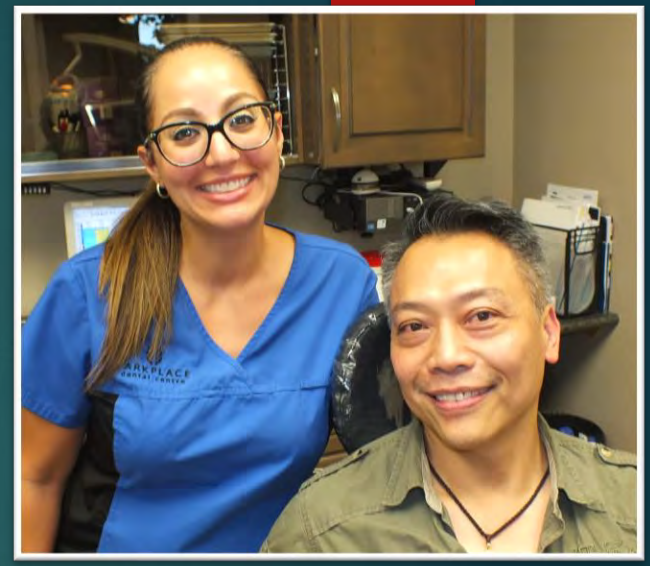
6. All of the above!

McDonalds Offers Healthier Meal Choices!
Isn't it Time For Dentists to Offer Healthier Treatment Choices to Patients?

Make a Healthier Choice

Reverse Margin™ Abutments & Prostheses

Make Implant Treatment More Predictable



Understanding Leads to PREVENTION

Thank You for Your Attention

I Look Forward to Your Questions

www.ReverseMargin.com

drsvoboda@rogers.com