

Pinos Intra-radicales



Prof. Carlos Francci

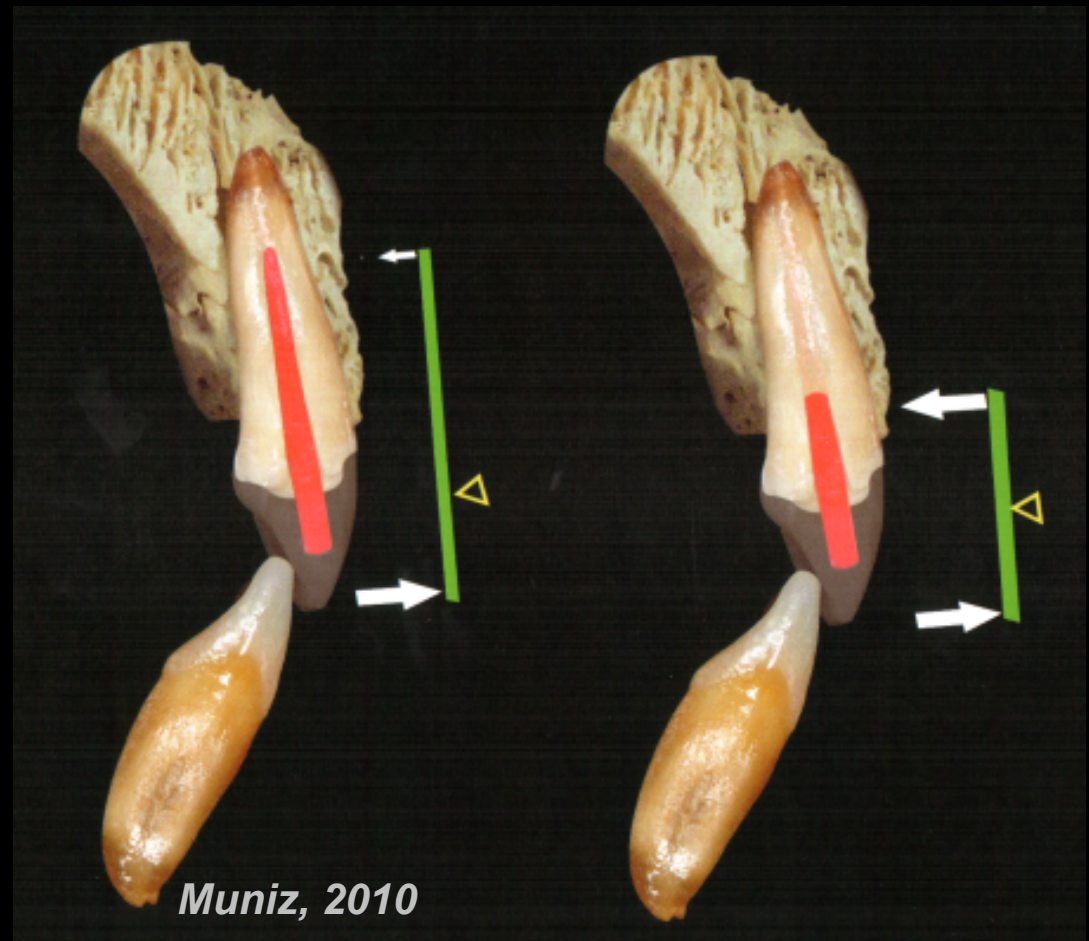
**Porque utilizar
pinos intra-
radiculares?**



**Retenção de
materiais
restauradores**

Porque utilizar pinos intra- radiculares?

Recuperação
biomecânica do
dente



**Quando utilizar
pinos intra-
radiculares e
quais fatores
devem ser
analisados?**

- **Perda de estrutura coronária significativa (>50%)**
- **Perda de cristas marginais**
- **Localização do dente**
- **Carga mastigatória elevada**
- **Presença de hábitos parafuncionais**

Qual pino utilizar ?
Qual pino utilizar ?

Rígidos

Flexíveis

Qual pino utilizar ?
Qual pino utilizar ?

Rígidos



Metálicos

Cerâmicos

**Alto Módulo de Elasticidade
210 GPa**

Qual pino utilizar ?
Qual pino utilizar ?

Flexíveis

Fibras

Qual pino utilizar ?
Qual pino utilizar ?

Fibras

Vidro

Carbono

Quartzo

**Módulo de Elasticidade
+/- 20 GPa**

RESEARCH REPORTS

Biomaterials & Bioengineering

A.F.V. Santos¹, J.B.C. Meira^{1*},
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Can Fiber Posts Increase Root Stresses and Reduce Fracture?

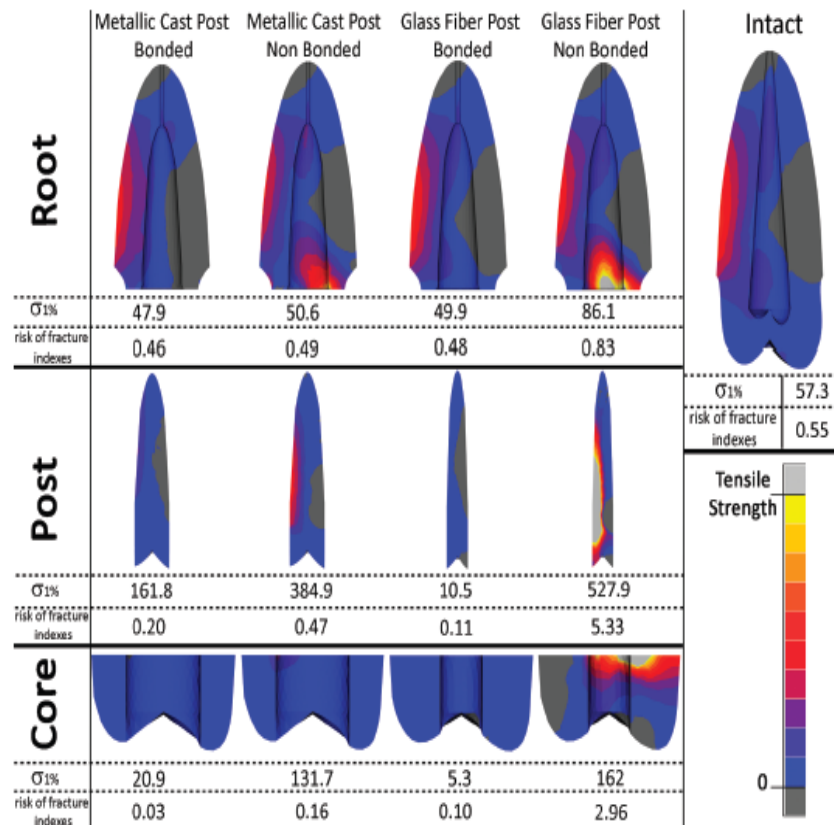
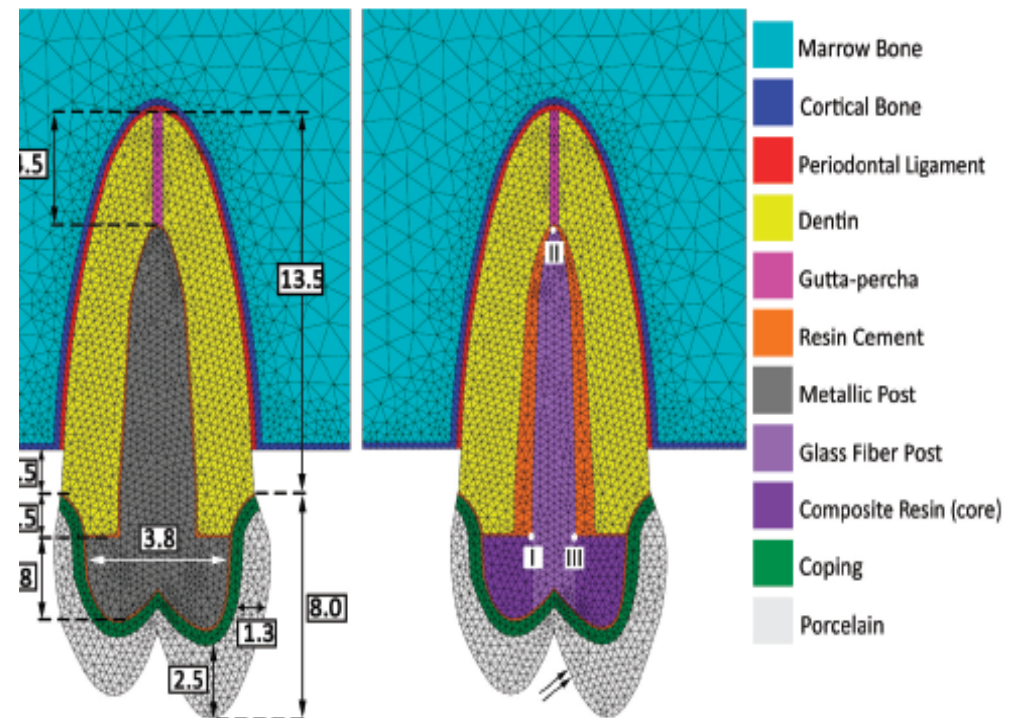


Figure 2. Distribution of the first principal stresses in the intact tooth and root, core, and post of the metallic cast post and glass fiber post models, bonded and non-bonded conditions. Maximum values of the first principal stresses ($\sigma_{1\%}$, in MPa) and the risk-of-fracture indices for each material.



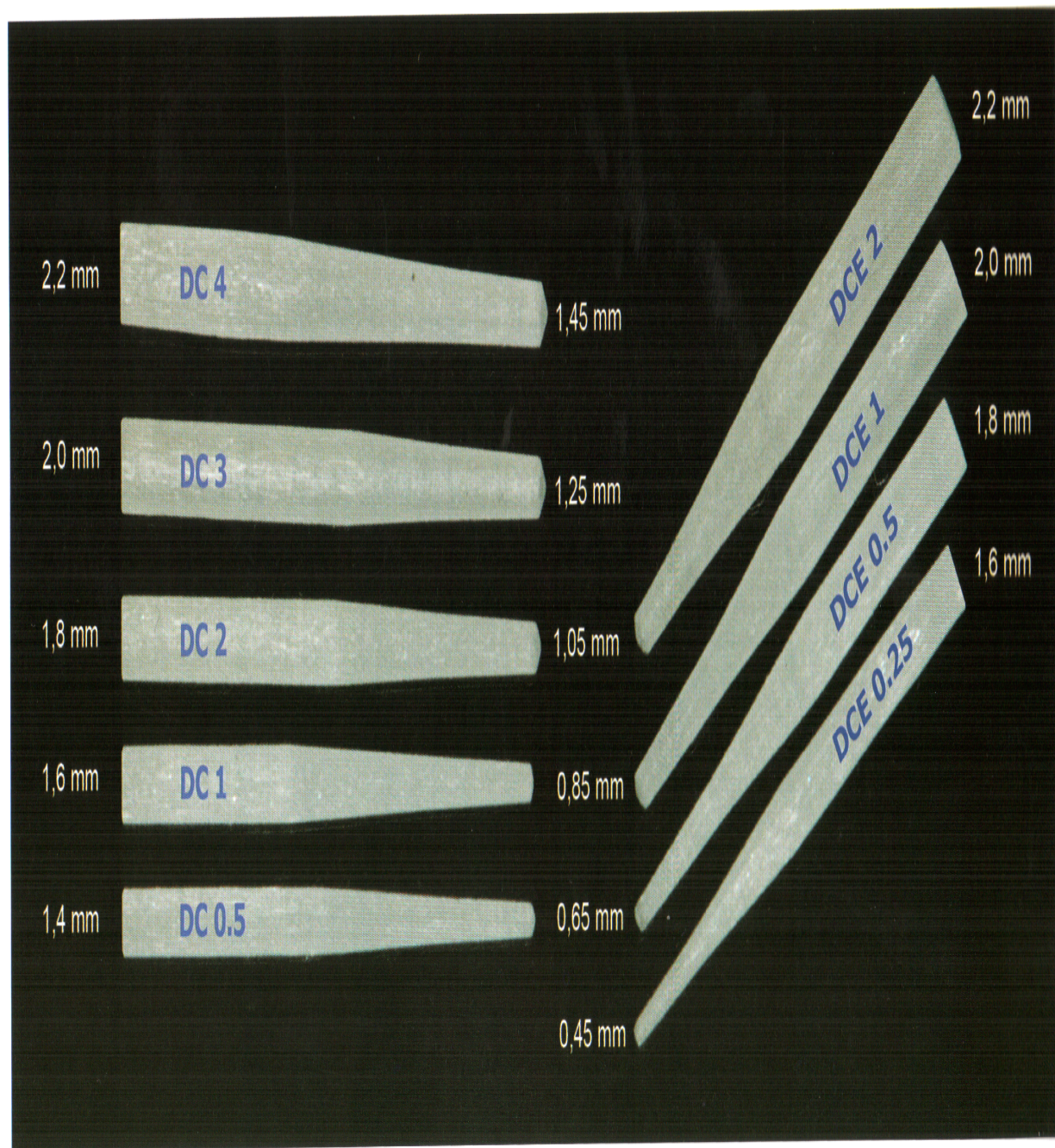
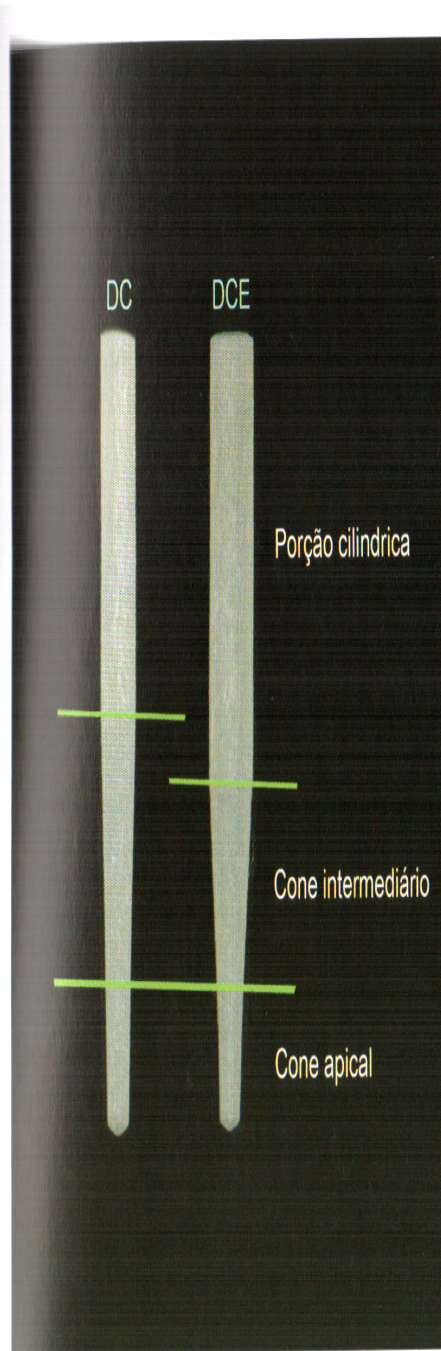
Rigidez excessivamente alta pode propiciar a fratura da raiz

Dentina	18,6 GPa
Esmalte	80 GPa
Pino de fibra	25 GPa
Cerâmico	180 GPa
Núcleo de NiCr	210 GPa



Pinos de fibra de vidro



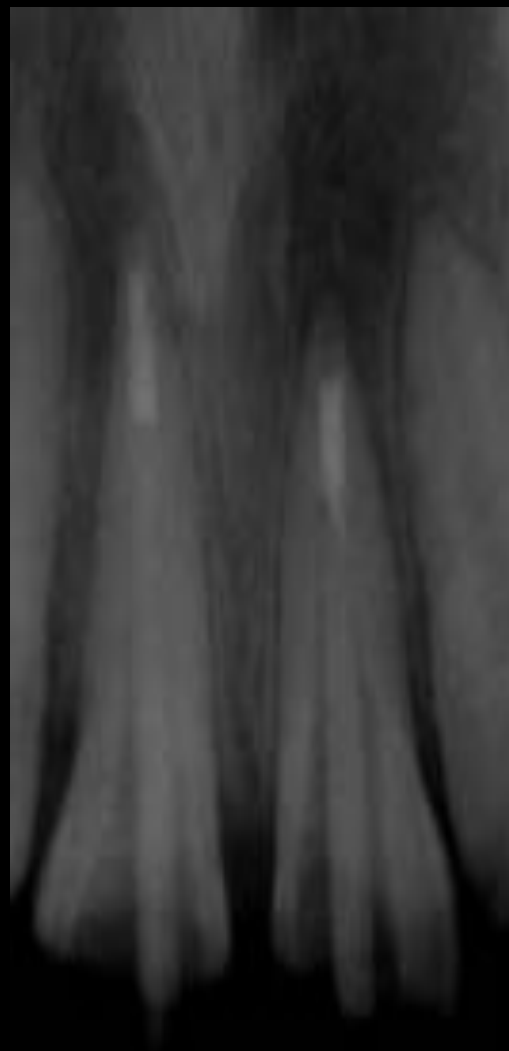


whitepost DC & DC-E

CE
0499

Guia de Seleção dos Pinos
Guía de Selección de los Pernos
Post Selection Guide









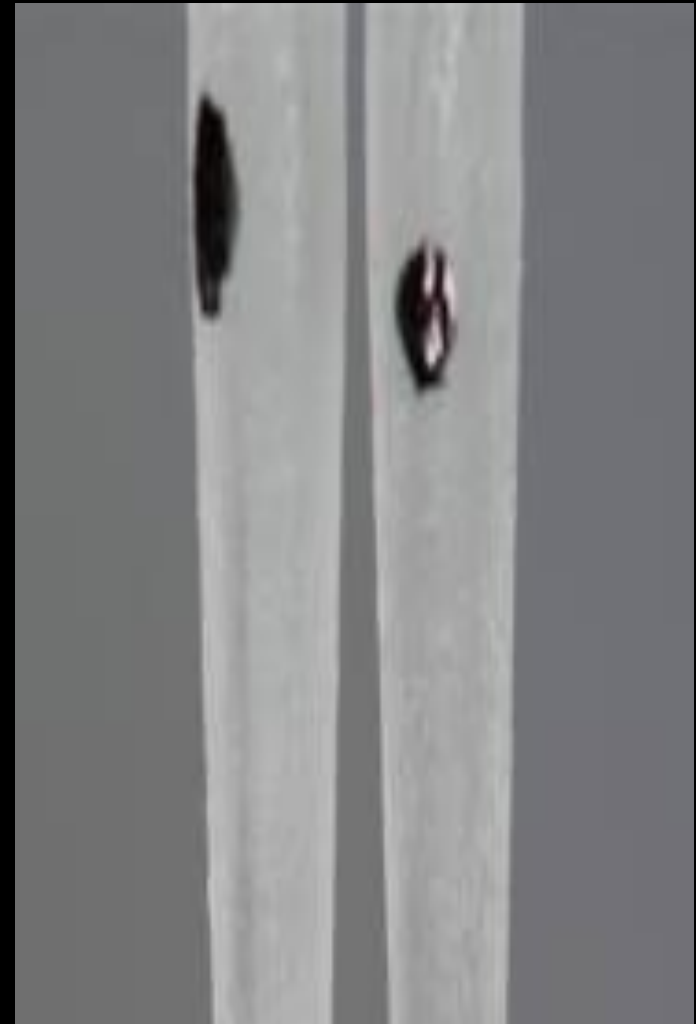


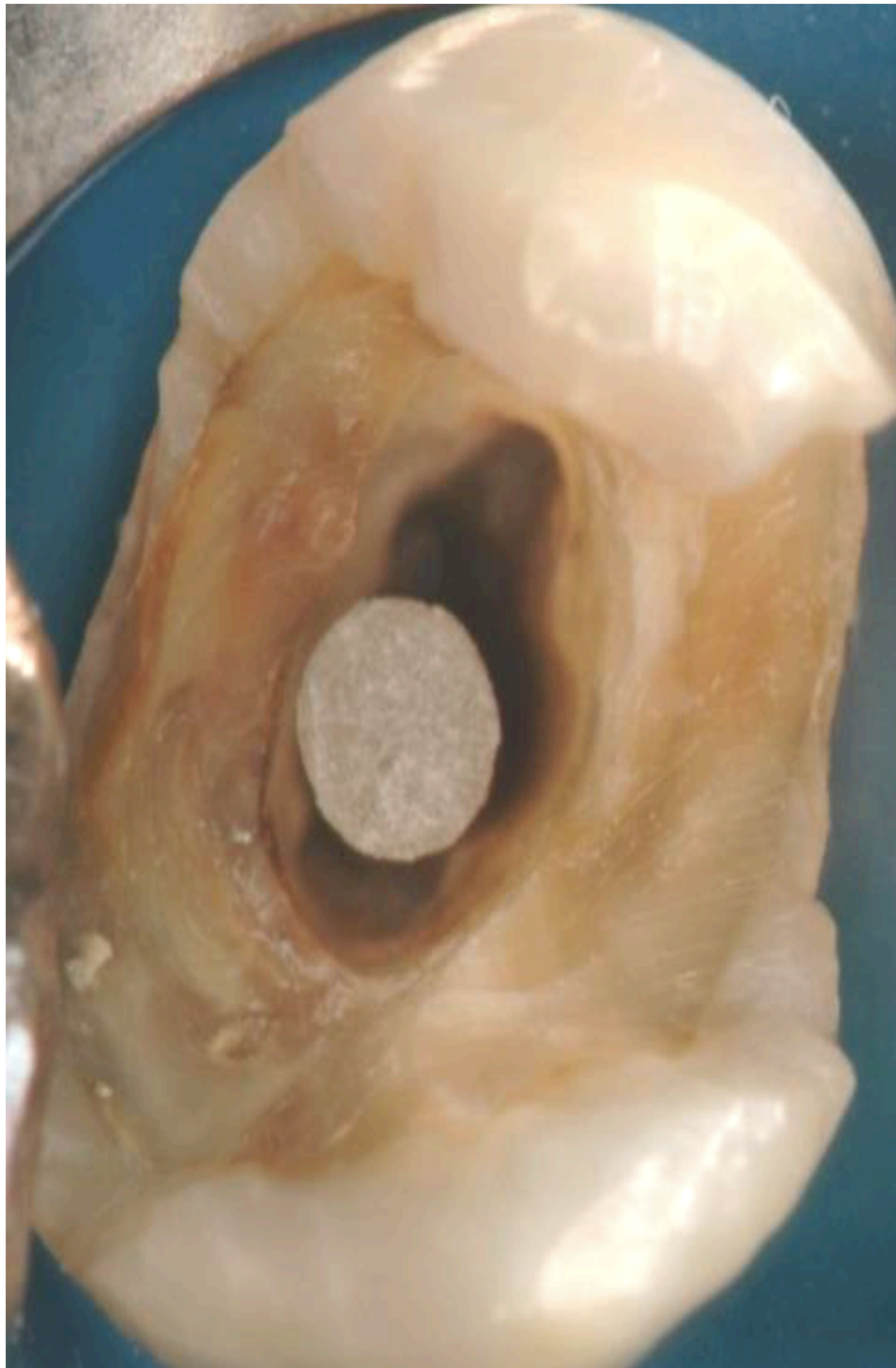
Caso Clínico











Leonardo Muniz
e Colaboradores

REABILITAÇÃO ESTÉTICA EM DENTES TRATADOS ENDODONTICAMENTE

*Pinos de Fibra e Possibilidades
Clínicas Conservadoras*



6. Adesão Intrarradicular

Carlos Francini

Edméa Lodovici

Marcelo Witzel

Soraia de Fátima Carvalho Souza

Marcos Kiriata

Adriano da Silva Pereira Sapata

Leonardo Muniz







1. J Prosthet Dent. 2010 Jun;103(6):362-8.

The effect of surface treatment of fiber-reinforced posts on adhesion of a resin-based luting agent.

[Choi Y](#), [Pae A](#), [Park EJ](#), [Wright RF](#).

Department of Dental Prosthodontics, School of Medicine, Ewha Womans University, Seoul, Korea.

Abstract

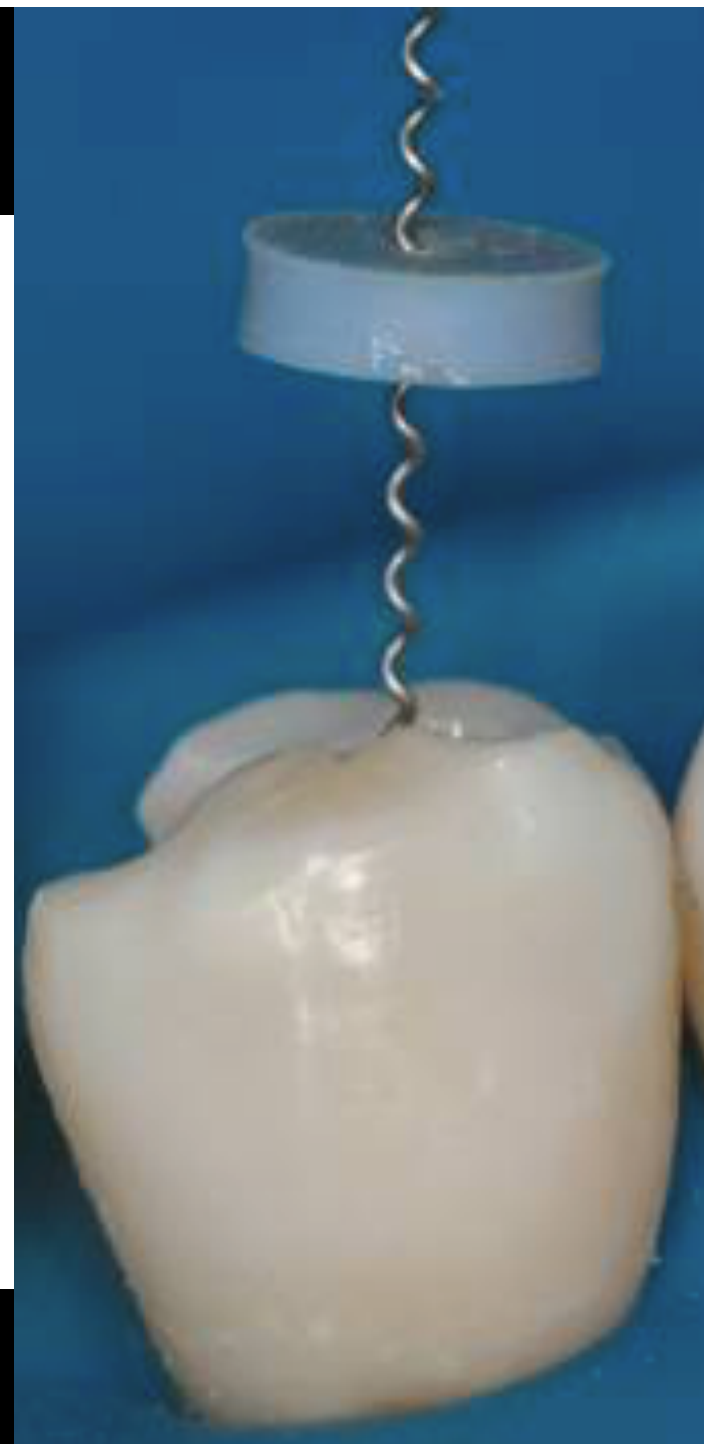
RESULTS: Shear bond strength of the luting agent to the post was significantly affected by surface treatment ($P<.05$). Treating the surface of the post with airborne-particle abrasion resulted in a significantly higher bond strength compared with other treatments. There was no significant difference in bond strength between the silanization group and the no treatment group or the silanization plus airborne-particle abrasion group. **CONCLUSIONS:** Airborne-particle abrasion provided a significant increase in bond strength between the post and the luting agent evaluated, without additional treatments. Copyright 2010 The



dual-polymerizing resin-based luting material (Variolink II) and stored in water at 37 degrees C for 24 hours. Shear bond strength (MPa) was measured using a universal testing machine. Data were analyzed with 1-way ANOVA and the multiple comparisons Scheffé test with Bonferroni correction ($\alpha=.05$).

RESULTS: Shear bond strength of the luting agent to the post was significantly affected by surface treatment ($P<.05$). Treating the surface of the post with airborne-particle abrasion resulted in a significantly higher bond strength compared with other treatments. There was no significant difference in bond strength between the silanization group and the no treatment group or the silanization plus airborne-particle abrasion group. **CONCLUSIONS:** Airborne-particle abrasion provided a significant increase in bond strength between the post and the luting agent evaluated, without additional treatments. Copyright 2010 The

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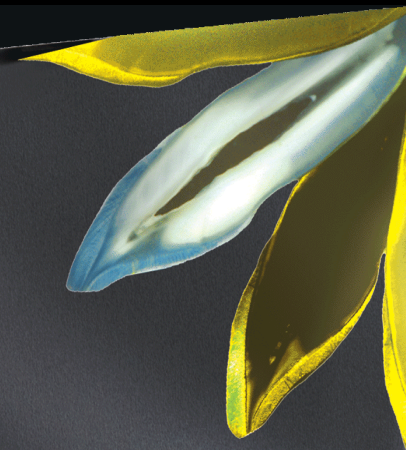


Opallis CE 0499

Compósito para dentes anteriores e posteriores
 Composite for anterior and posterior teeth
 Komposit für den anterioren und posterioren Bereich
 Composite pour dents antérieures et postérieures
 Composito per denti anteriori e posteriori
 Composite para dientes anteriores y posteriores
 Универсальный реставрационный композит для всех групп зубов
 Μέγιστη για πρόσθια και οπίσθια δόντια
 Compozit pentru dintii anteriori si posteriori
 Composiet voor voorste en achterste tanden
 Šviesioje kietėjantis kompozitas priekinių ir krūminių dantų restauracijoms
 ön ve arka dişler için kompozit dolgu



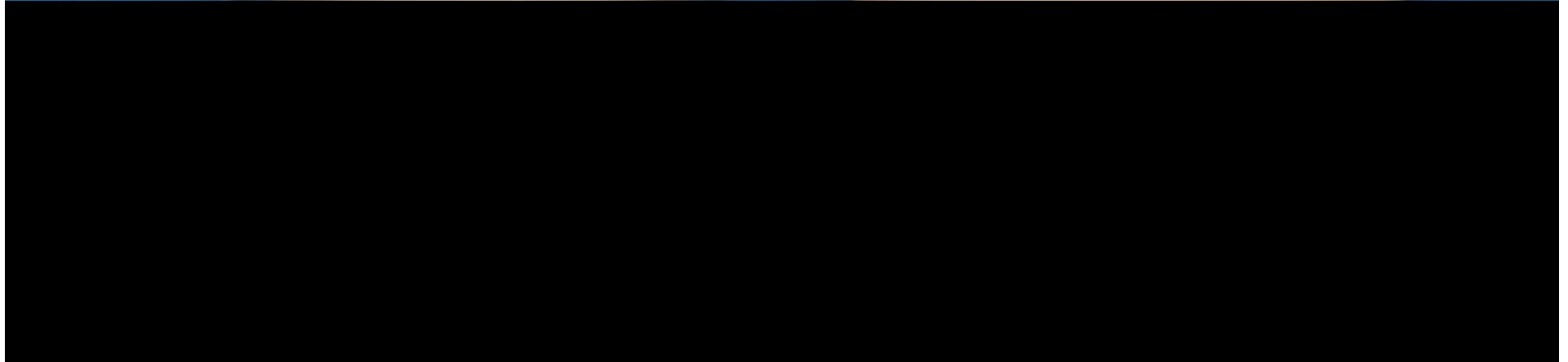
kit profiessional 12 cores



Opallis CE 0499





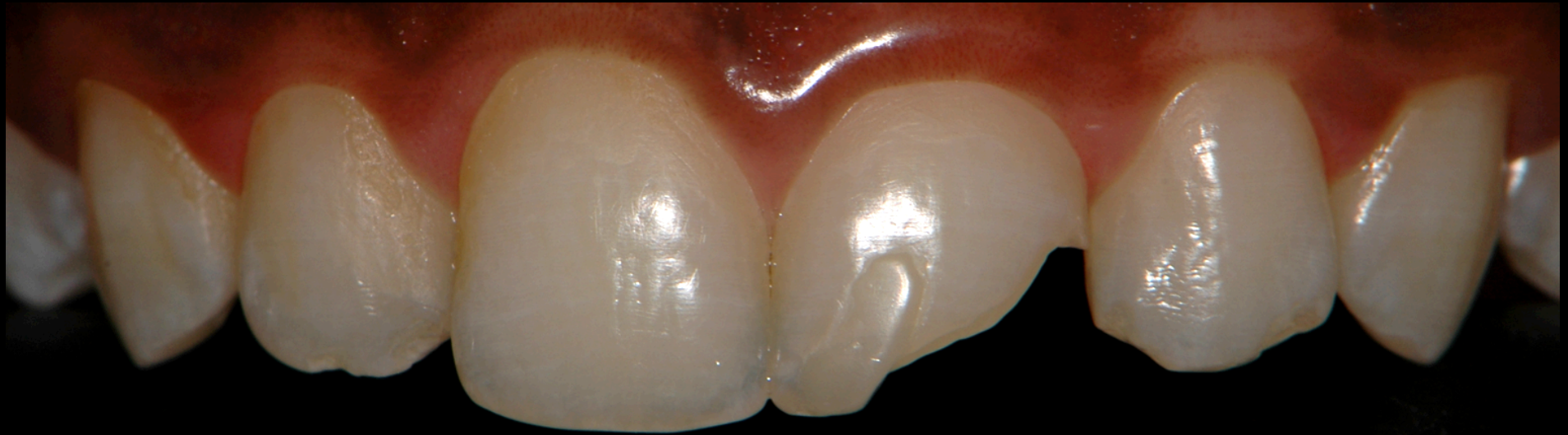






Resistência à Fratura

Resistência a Fratura



Quando Indicar ?

Quando Indicar ?

Retenção do material restaurador

“Reforço da estrutura dental”

Diagnóstico *Diagnóstico*



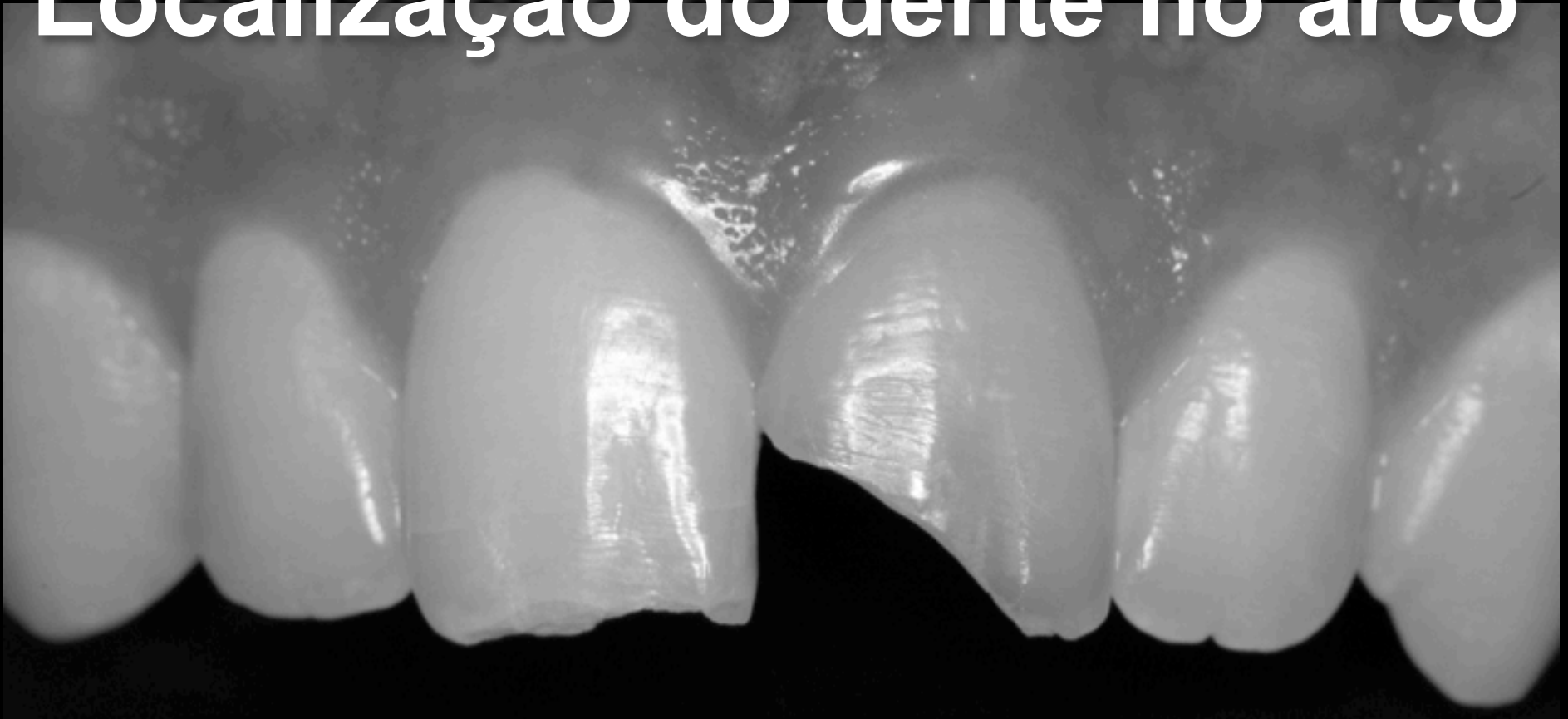
Caso Clínico



Quantidade de remanescente dental

Diagnóstico
Diagnostico

Localização do dente no arco



Dentes Anteriores ≠ Dentes Posteriores

Fibra de Vidro

Fibra de Vidro



Fibra de Quartzo

Fibra de Quartzo

DT Light-Post
Bisco



Fibra de carbono

Fibra de carbono



Formato do pino

Formato do pino

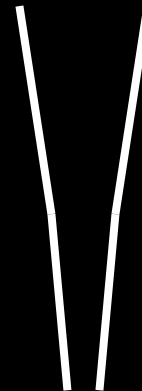
Paralelo



Cônicos



Dupla conicidade



Superfície do pino

Superfície do pino

Liso

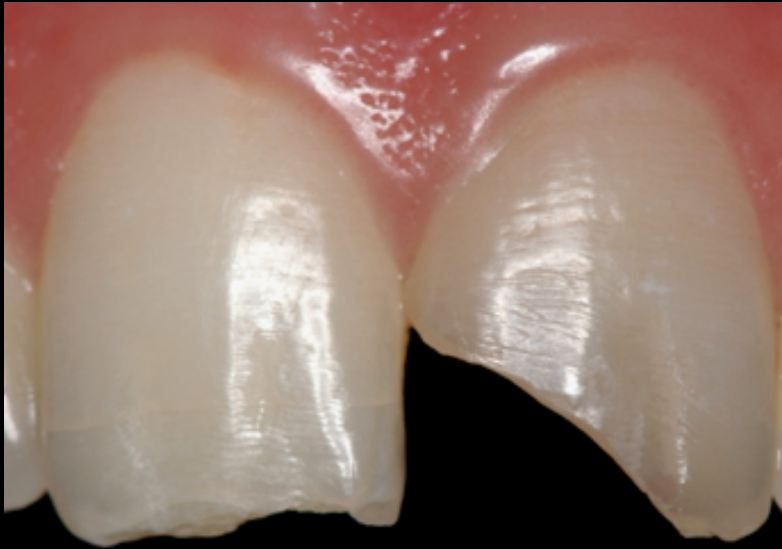


Serrilhado



Seleção do Pino

Seleção do pino



Escolha do Pino

Escolha do pino



Desobturação *Desobturação*

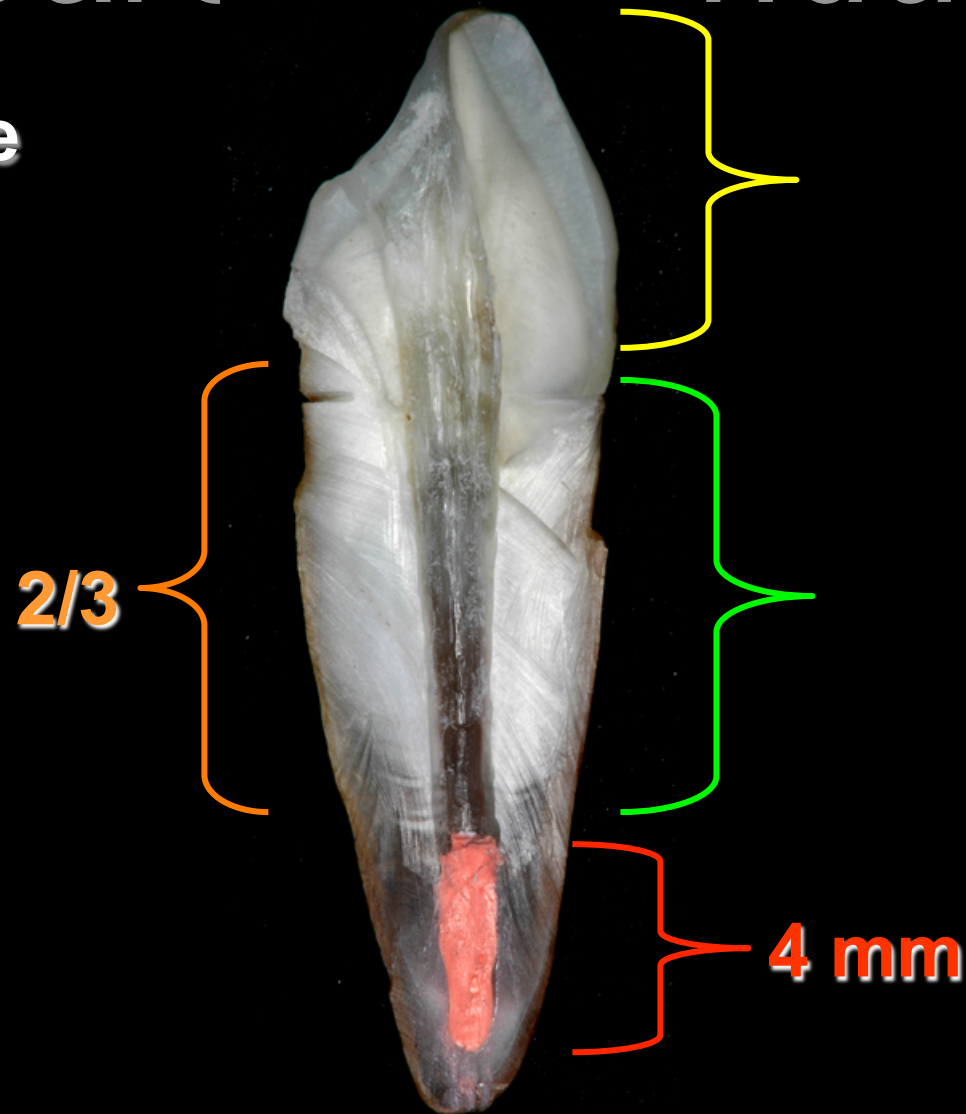


Broca de Gates

Preparo do Conduto

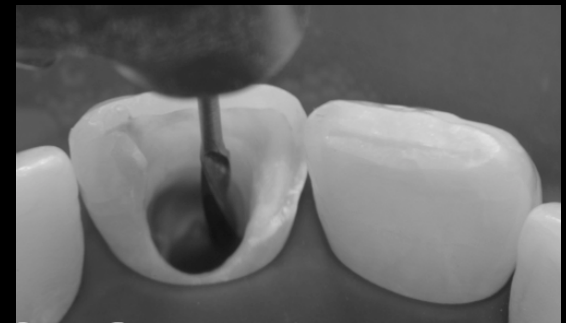
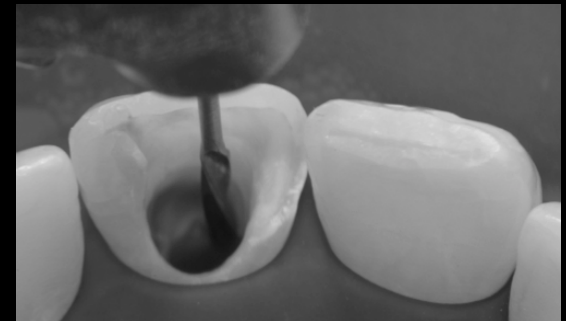
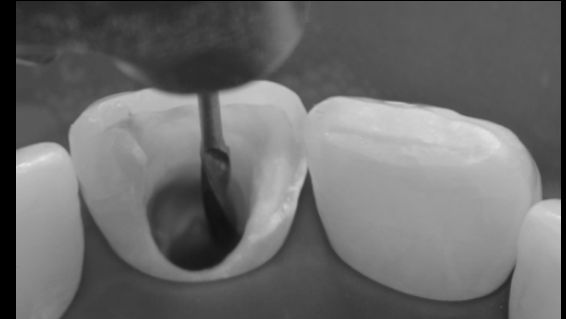
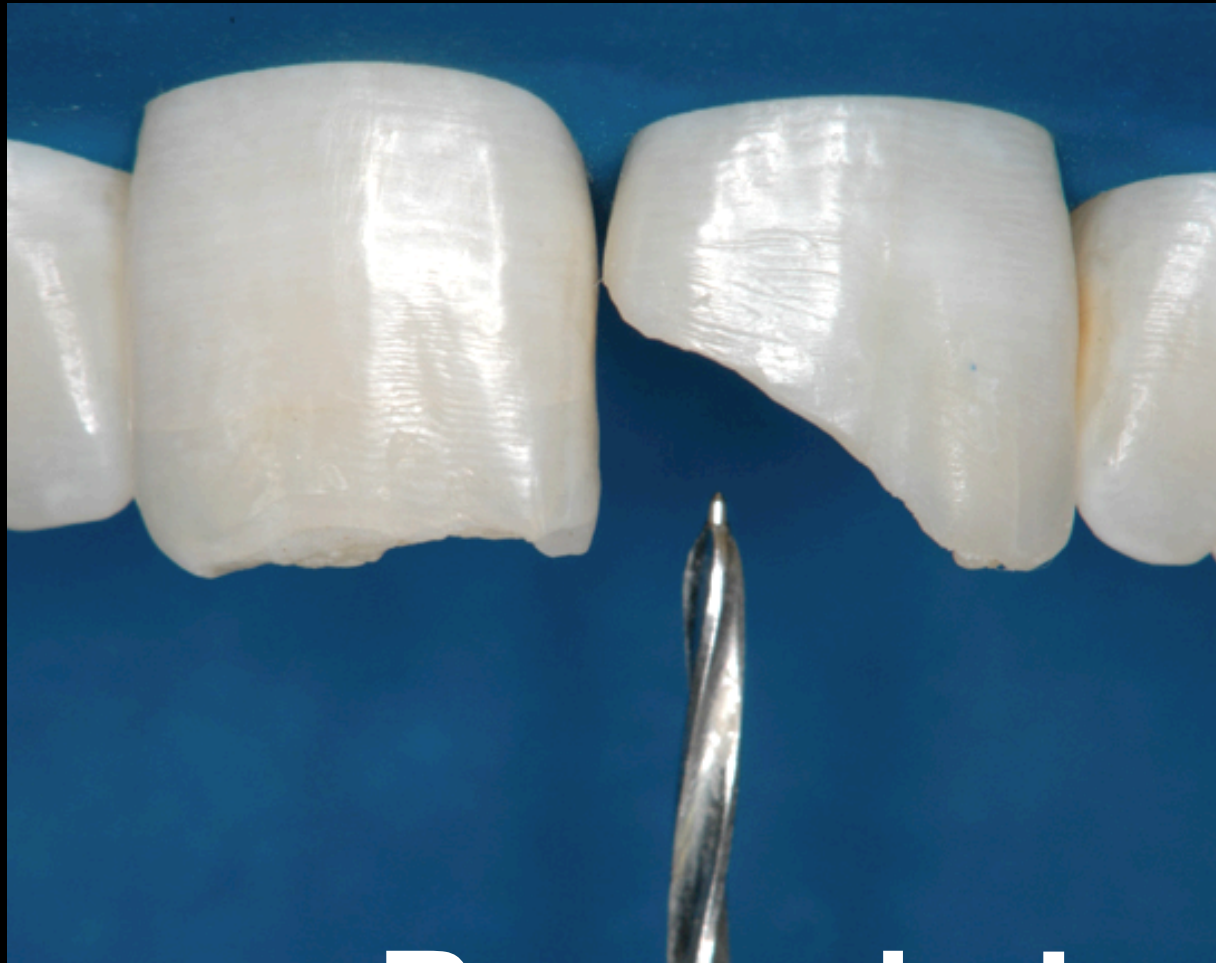
Preparo do conduto

**Princípios de
retenção**



Preparo do Conduto

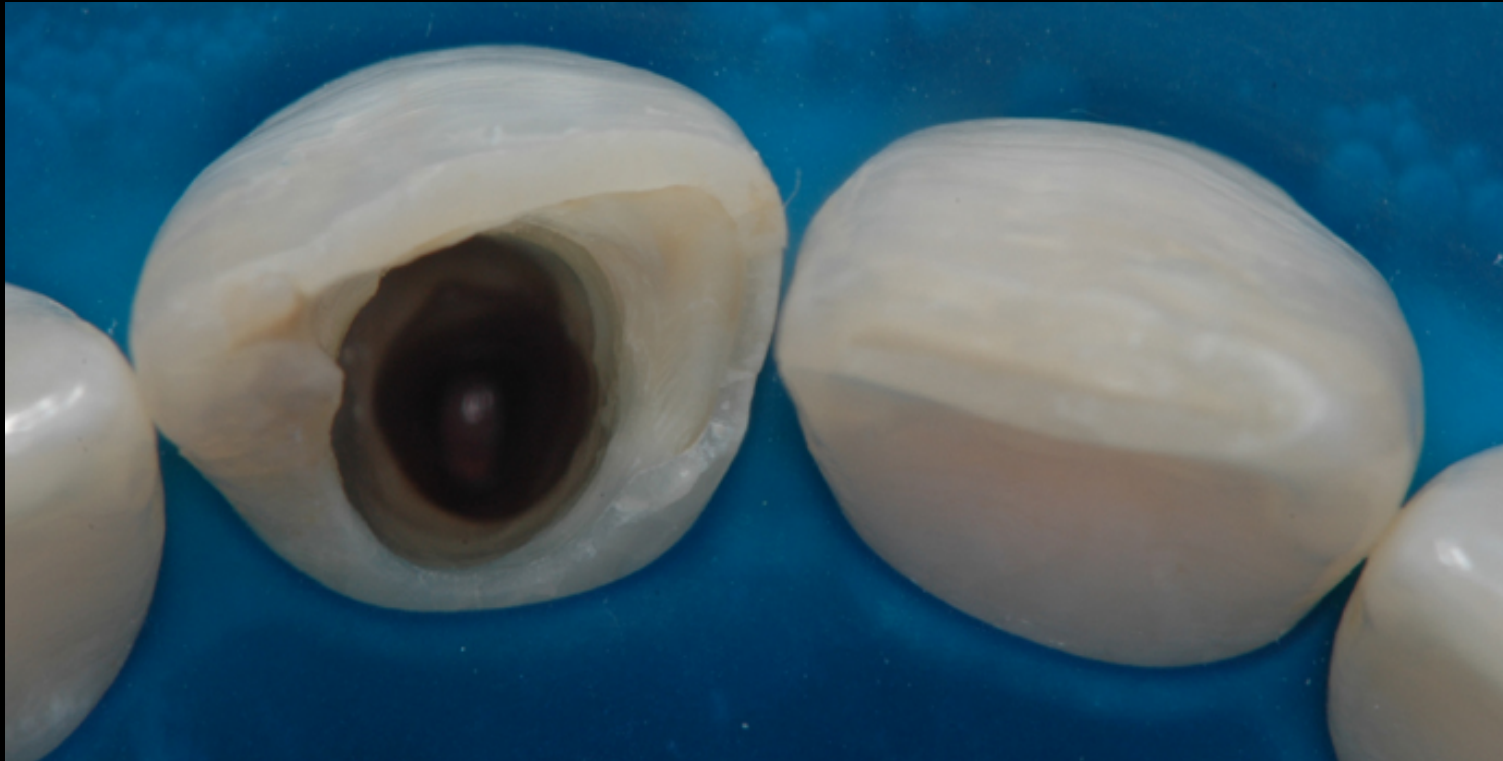
Preparo do conduto



Broca de Largo

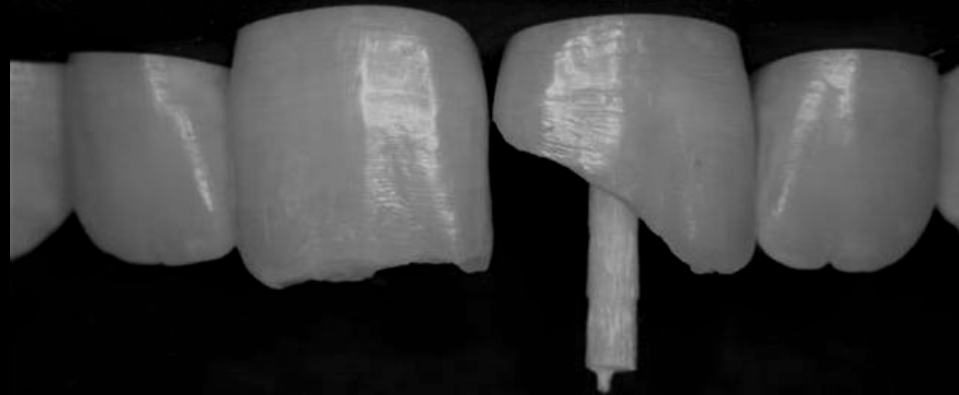
Conduto preparado

Conduto preparado

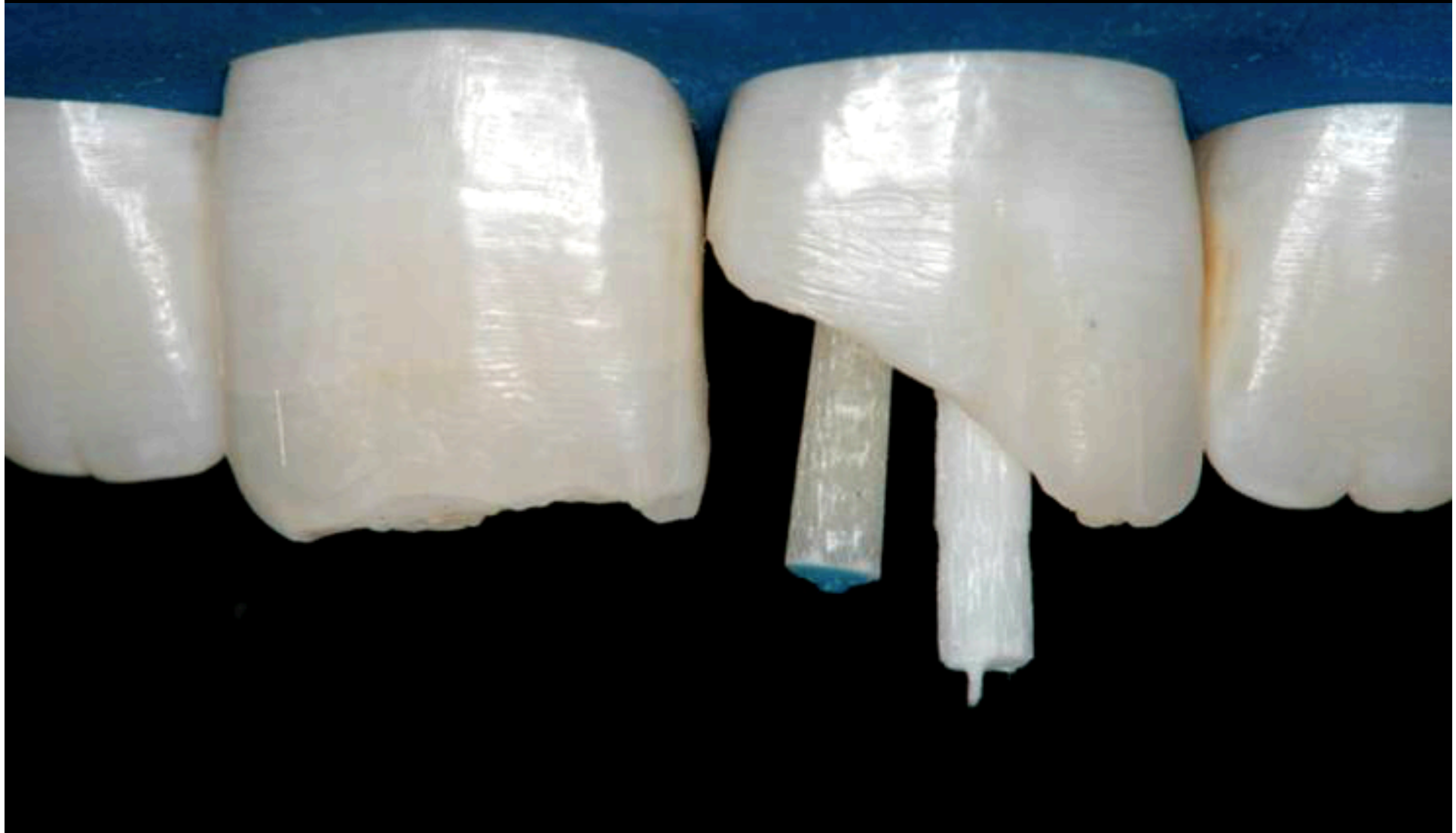


Prova do Pino

Prova do pino



Utilizando pinos secundários...
Utilizando pinos secundários...



Prova dos Pinos

Prova dos pinos



Internamente...
Internamente...



Vamos imaginar?
Vamos imaginar?



Prova do Pino

Prova do pino



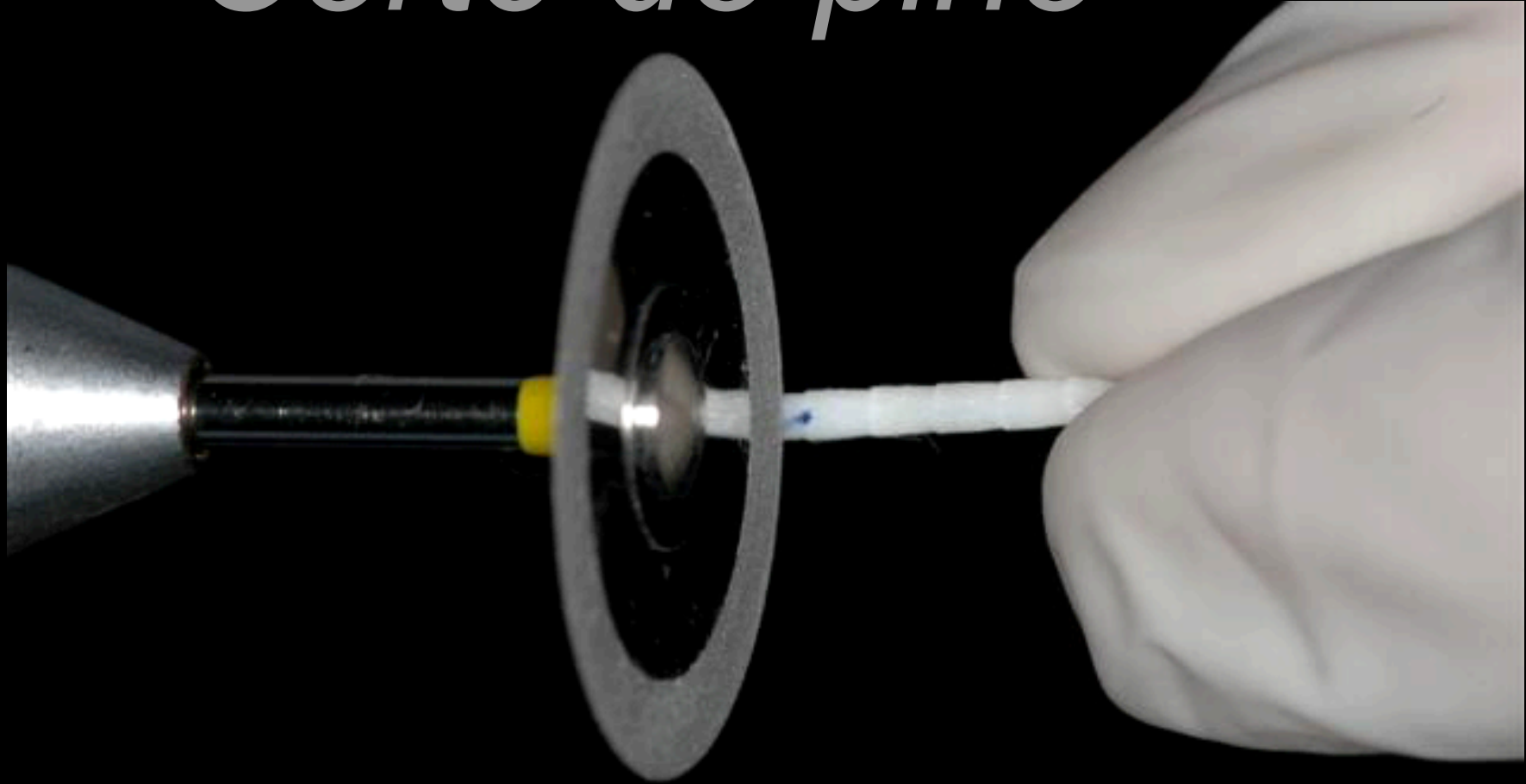
Corte do Pino Principal

Corte do pino principal



Corte do Pino

Corte do pino



Corte do Pinos Secundários

Corte do pinos secuncários



Corte do Pinos Secundários

Corte do pinos secuncários



Preparo do Pino

Preparo do pino

Limpeza: álcool 70%



Preparo do Pino

Preparo do pino



Silano

Preparo do Pino

Preparo do pino



Secagem

Reforpins

Reforpins



Escolha do Sistema Adesivo

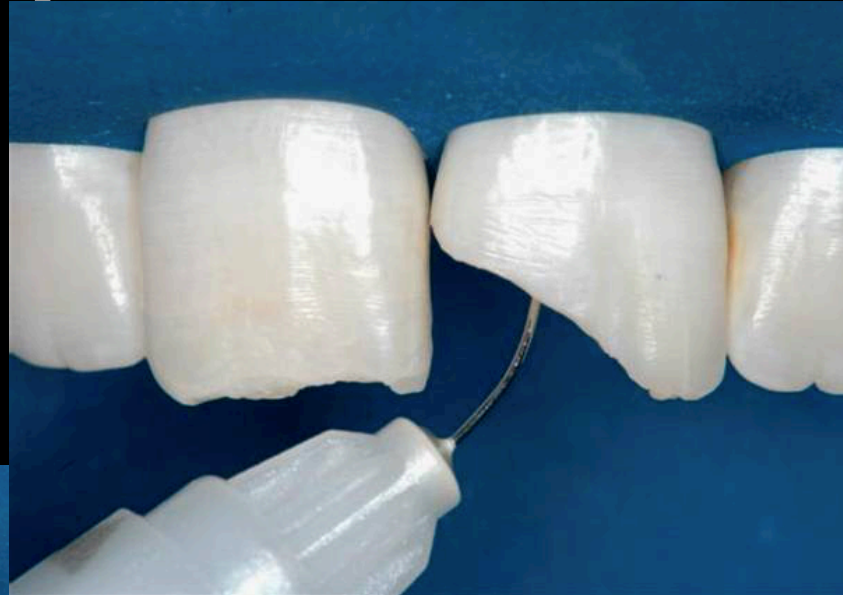
Escolha do sistema adesivo



Scotch Bond Multipurpose (3M ESPE)

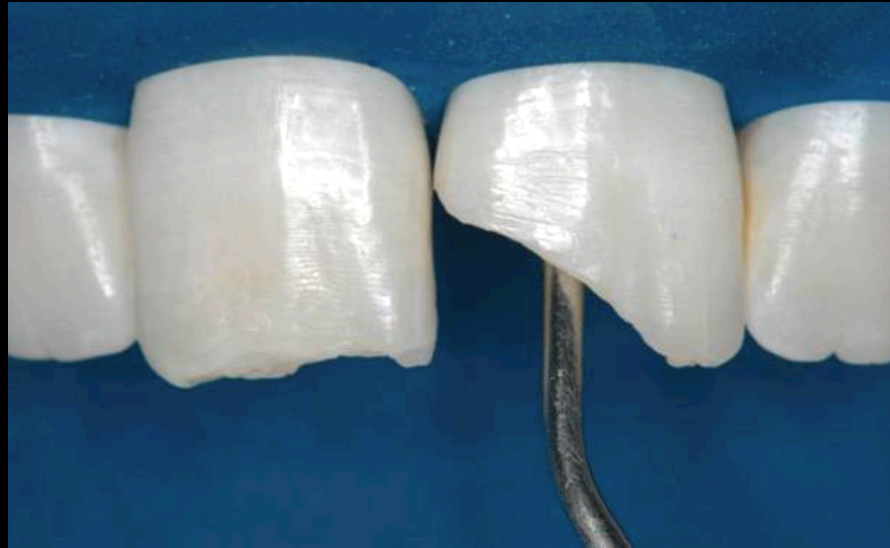
Preparo do Dente

Preparo do dente

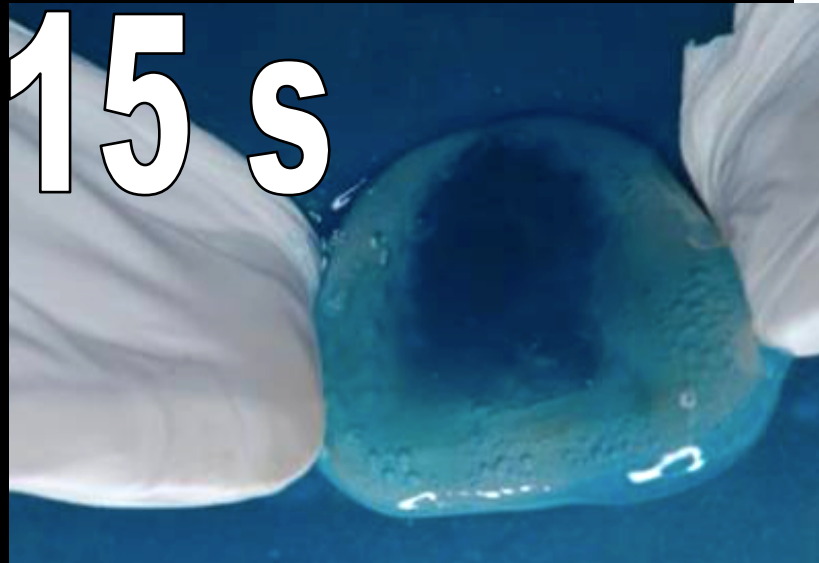
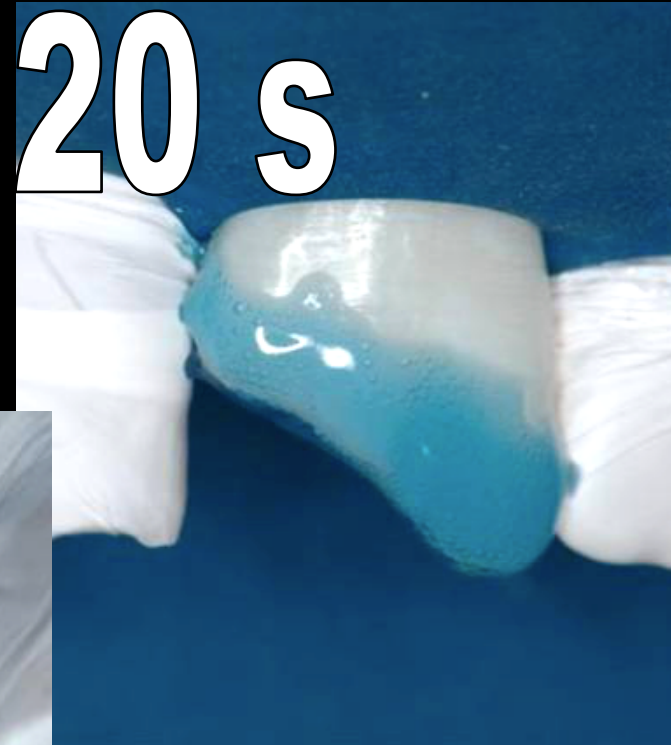
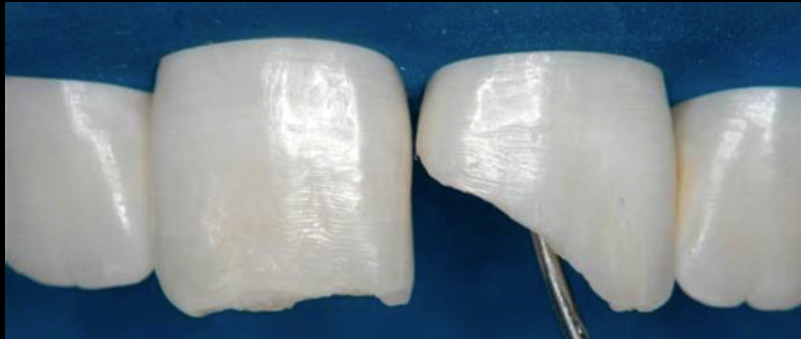


Secagem antes do condicionamento

Secagem antes do condicionamento



Condicionamento Ácido Condicionamento



Condicionamento Ácido

Condicionamento ácido



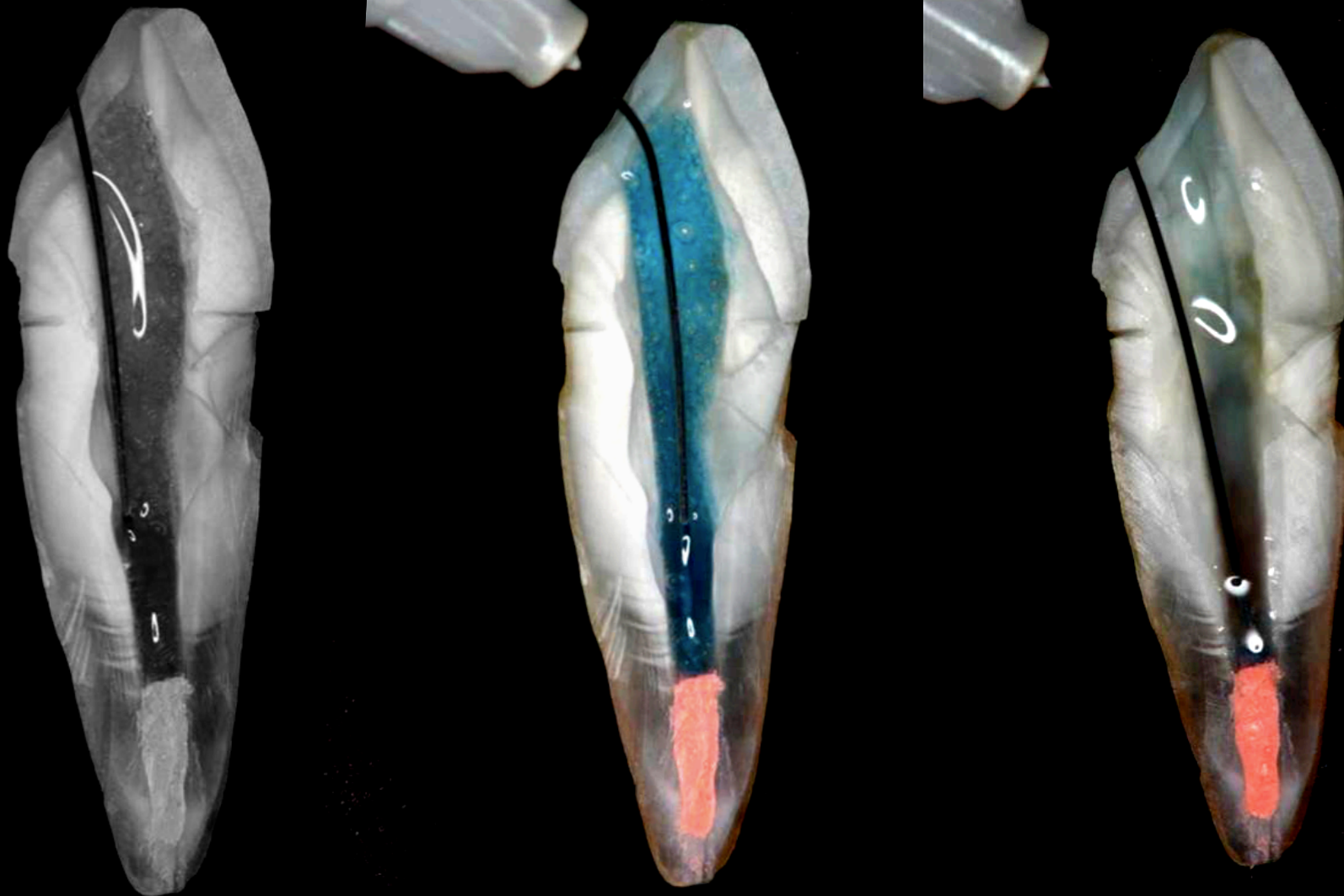
Lavagem do Ácido

Lavagem do ácido

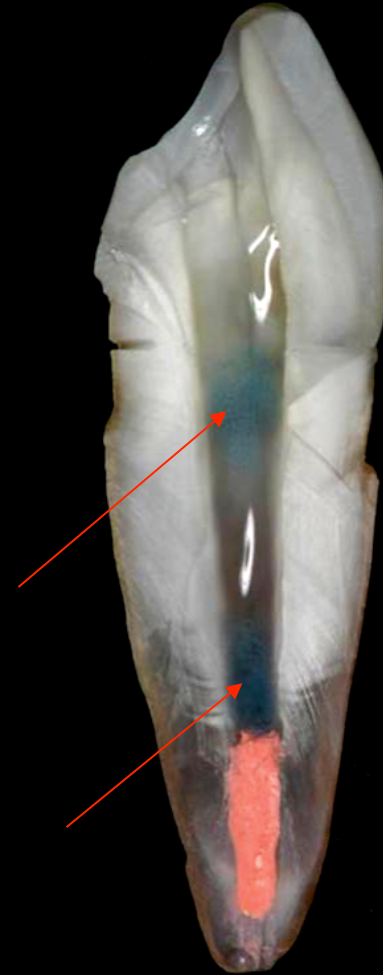
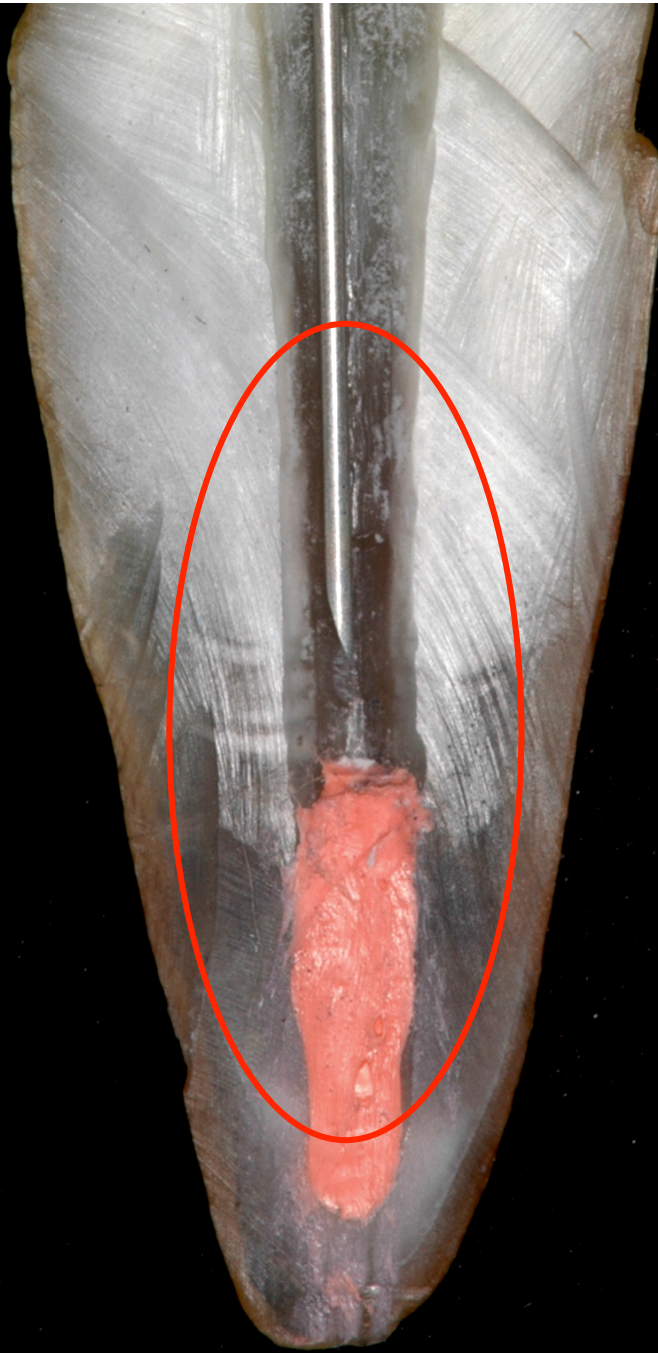
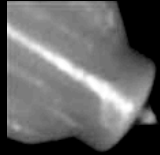


Lavagem do Ácido

Lavagem do ácido



Será ?
Será



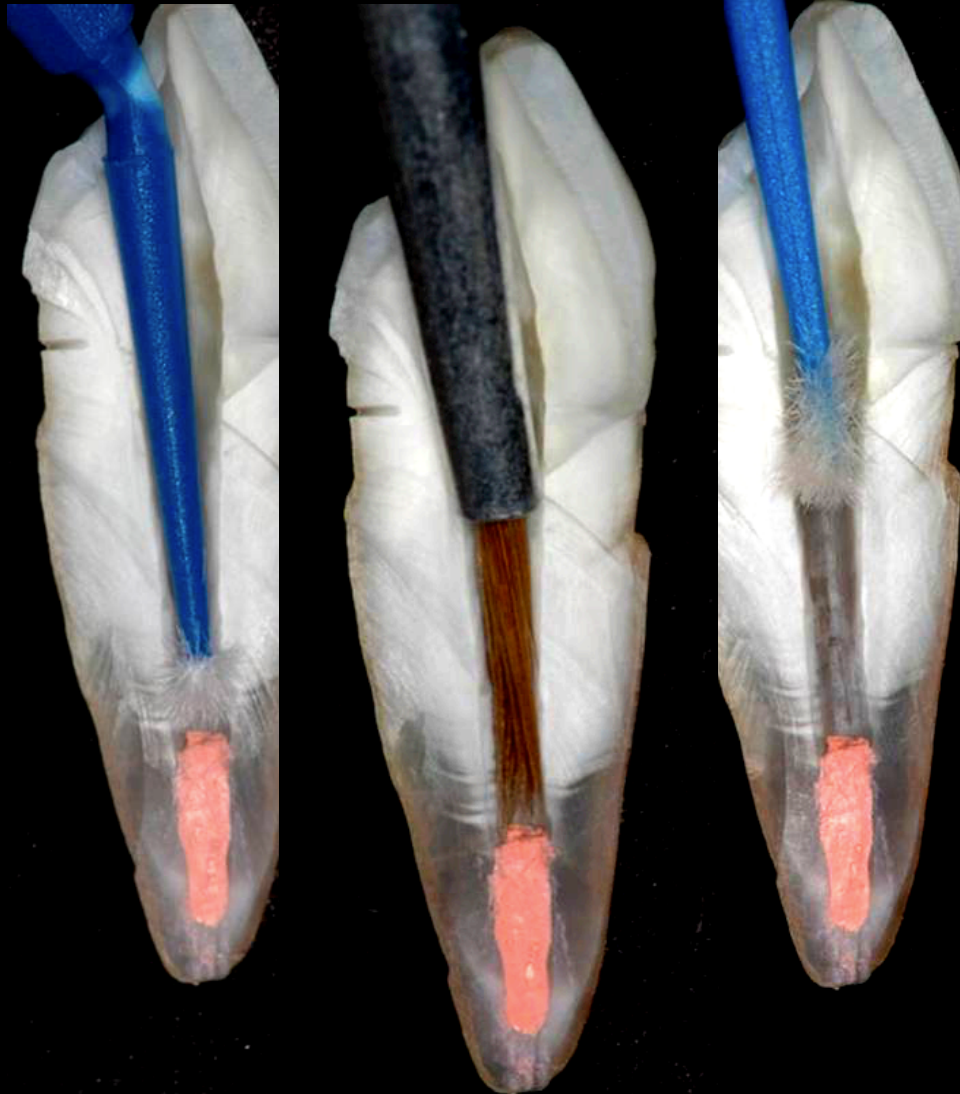
Secagem do Ácido

Secagem do ácido



Aplicando o sistema adesivo...

Aplicando o sistema ...

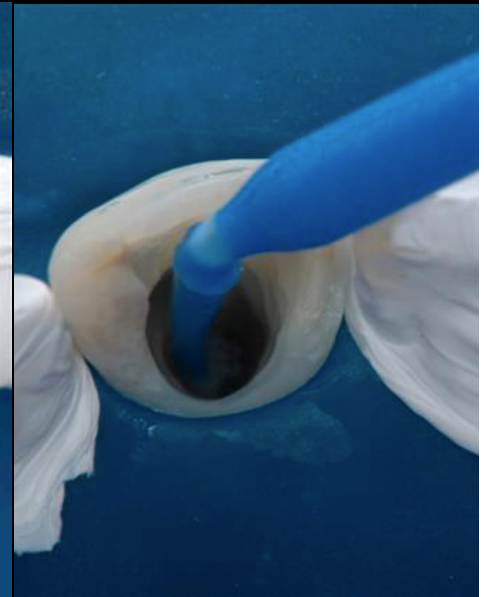
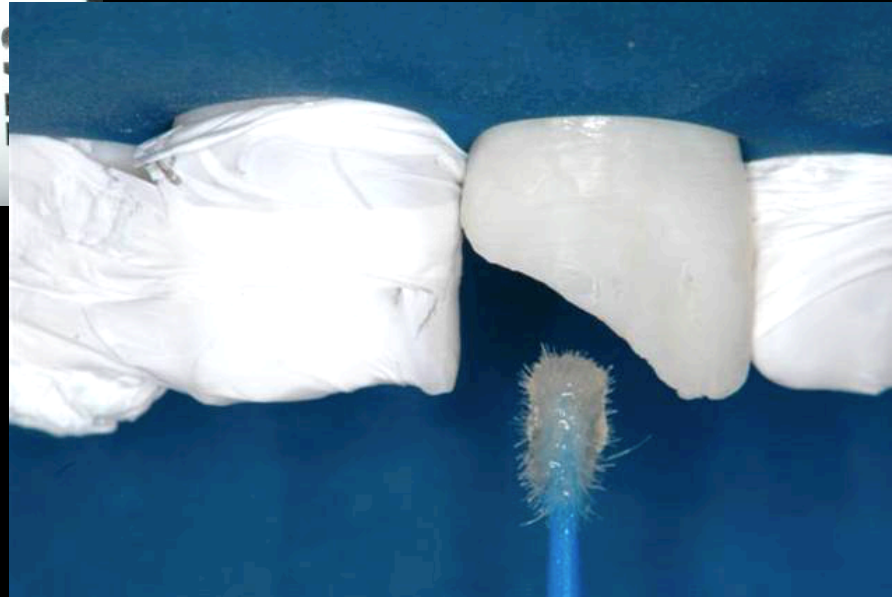


Aplicando o sistema adesivo...
Aplicando o sistema ...



Aplicando o sistema adesivo...

Aplicando o sistema ...



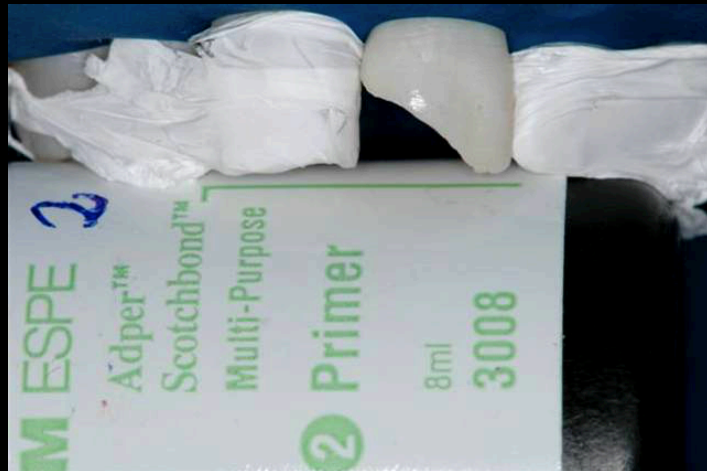
Aplicando o sistema adesivo...

Aplicando o sistema ...



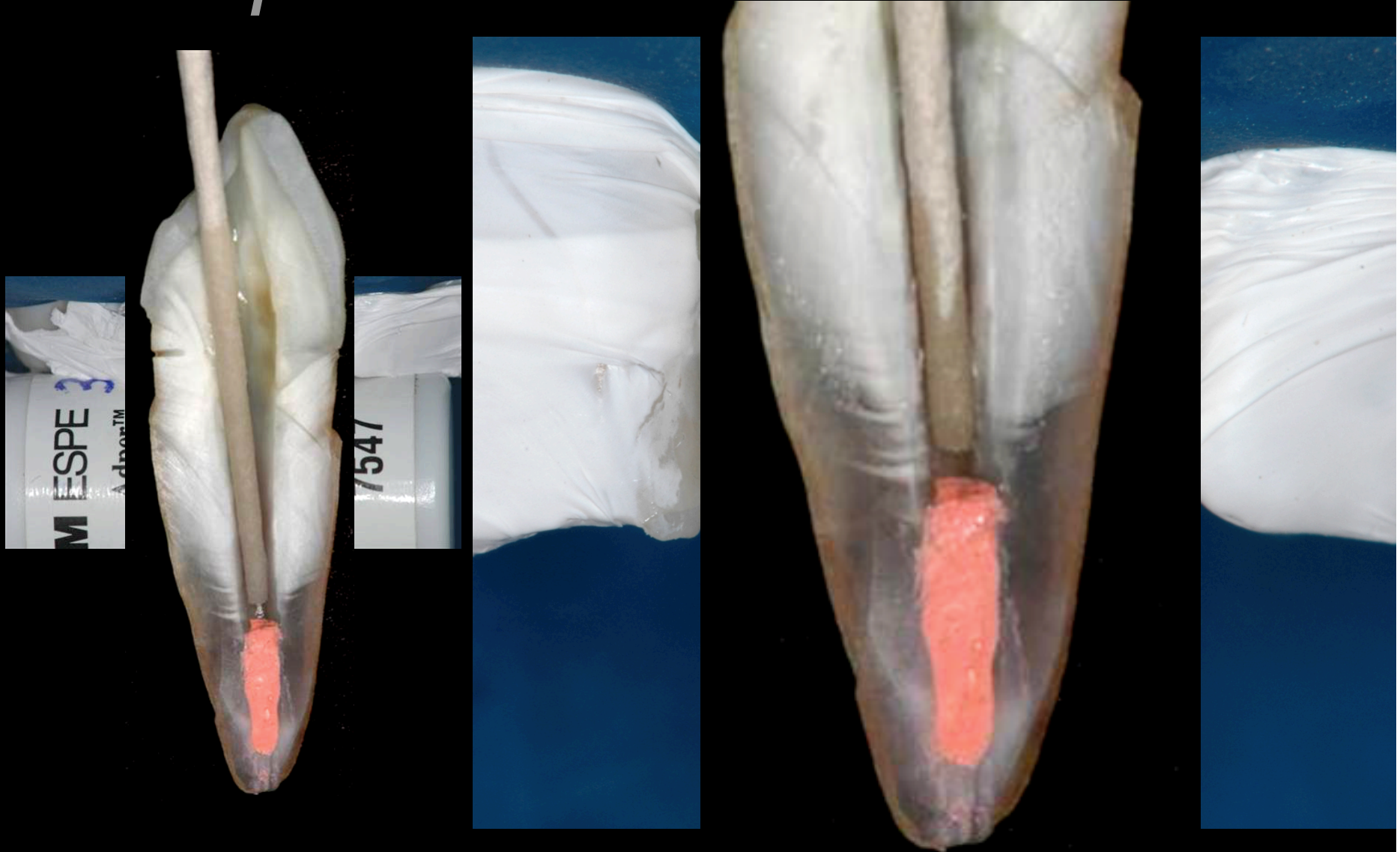
Aplicando o sistema adesivo...

Aplicando o sistema ...



Aplicando o sistema adesivo...

Aplicando o sistema ...



Preparando o cimento...

Preparando o cimento ...



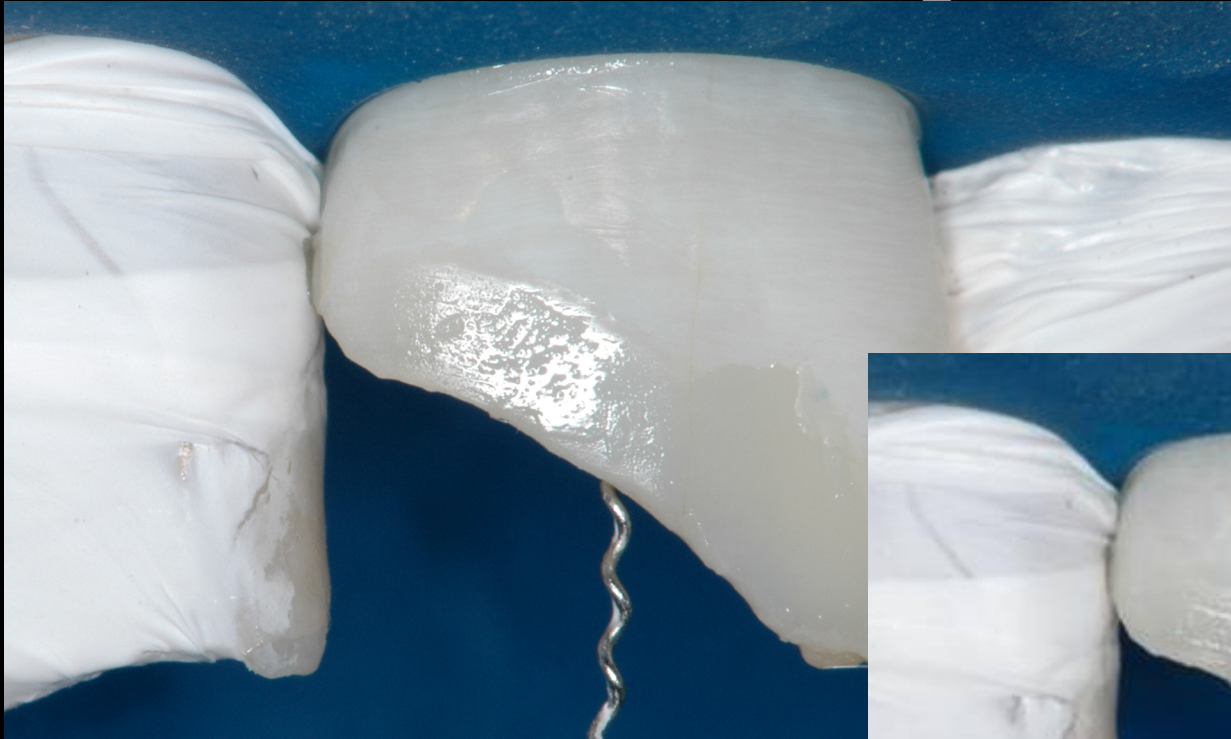
Antes de cimentar...
Antes de cimentar ...



Na cimentação...
Na cimentação ...



Na cimentação...
Na cimentação ...



Na cimentação...

Na cimentação ...



Preenchimento... *Preenchimento ...*



Espera-se que...
Espera-se que ...



Espera-se que...
Espera-se que ...



**...tenha o maior preenchimento possível do conduto
radicular, com a menor linha de cimentação**





