AquaCare

Dental Air Abrasion & Polishing Unit

Our Clinical Cases

2018 Edition

Brought to you by velopex INTERNATIONAL 50 Years of Excellence

Cleaning and Conditioning

by

Jordi Manauta

Find out more:
styleitaliano.org

Lincoln Harris

Australia

Find out more:
restoringexcellence.com.au

Cleaning and conditioning old composites

Cleaning and conditioning old composites with AquaCare 50 micron, and insertion of 2 UNICA matrices in the centrals. Matrices are held in this case by the contact point, but can be fixed either with wedges or with custom resin.

The dentine margin needs to finish at 90 degrees. Enamel can have infinite finish lines with composite, but dentine cannot. It places too much stress on the bond and as the dentine deteriorates, you get staining up under the composite. If you have to finish on dentine, its better to have a margin.

Any demineralised enamel needs to be chased. Composite that finishes on demineralised enamel gets staining quickly. I did not remove the deepest part of the previous resin on the lateral.

Air abrasion from buccal and lingual to remove all debris. I use an AquaCare.

Therapeutic Pre-treatment

by

Florin Cofar

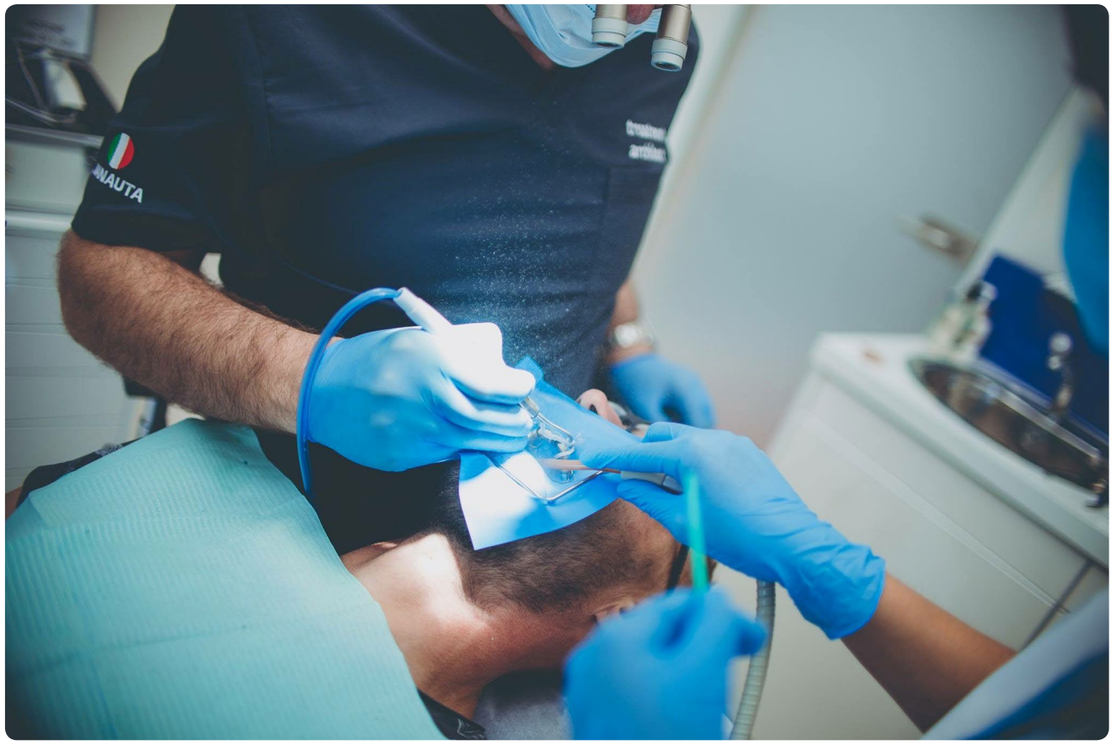
Romania

Using AquaCare

by

Jordi Manauta

Italy



AquaCare Experience as a user

by

Michael Thomas

UK

Minimally invasive dentistry (MID) advocates the maximum preservation of intact and repairable dental hard tissues through minimising the unnecessary alteration of healthy tooth structure. As an enthusiastic advocate of the application of the principles of MI dentistry in everyday dental care, the AquaCare has been a revelation in helping me to achieve improved outcomes for patients under my care.

The unit allows ease of use for polishing and abrasion techniques with a change in function at the turn of a switch. For polishing, surface stains are removed efficiently and selectively without damaging the underlying sound tooth structure. There is no heat generation or damage to soft tissues and the result is immediately pleasing to both clinician and patient. For air abrasion, the particles are emitted at high velocity within a fluid stream from an easy to use nozzle and are hence easily controlled and directed ensuring comfort for the patient as well as ease of vision for the operator. The air abrasion particles remove adherent extrinsic surface stains and debris without vibration or heat generation, minimising the risk of pulpal damage. The lack of vibration also improves comfort for the patient.

Bioactive powders have the potential for remineralisation and will selectively remove damaged tooth structures with much greater precision than conventional mechanical techniques. Bonding to the cleaned tooth surface is also enhanced making this technique ideally suited to modern adhesive dentistry, particularly with regards to the repair and refurbishment of existing restorations, which is now such a key component of MID.

From being brought up in the age of the high-speed handpiece, the Aquacut Quattro is now my go-to unit for cavity preparation and tooth repair. This is one of those pieces of kit that I can find further uses for every day and that the patients under my care much prefer compared to the conventional rotary handpiece.

1. Pre-operative

2. After wet air-abrasion

3. Final restoration (GC Essentia resin composite)

Pekkton
by

Bill Marais

"First try with the Aquacare sand blast unit for Pekkton.
Amazing surface for bonding !!!
Can see right side is not sand blasted ... Left is sandblasted and perfect !!!"

Restoration
by

Andres Roman

Argentina

Restoration

by

Richard Field

UK

RICHARD FIELD

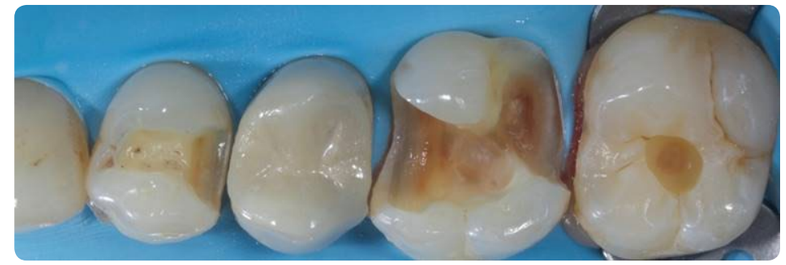
Find out more:
www.DrField.co.uk

"Working with the AquaCare as part of my daily routine gives me the confidence that my bonding is the best it can be. Often excess hand piece oil can contaminate your cavity during preparation and if not removed can seriously compromise bond strength. Prior to bonding, decontaminating the cavity with 27m alumina will help to ensure that the cavity with be clean and oil free."
Richard Field

Patient presented with food trapping medsial and distal to the Upper left 5. This was stemming from a poor medial and distal contact point from the adjacent defective restorations

Isolation was achieved with Unodent non latex rubber dam.

The old restorations and caries was removed from the upper right 4 6 and 7 reviewing a carious pulp exposure on the upper right 6.



Cavities were cleaned with 27m alumina using the aqua care unit to ensure bonding surfaces are clear of contaminants

An MTA plug was placed as a means of direct pulp capping over the exposure on the upper right 6

Direct composite was used to restore the Upper right 4 and 7 with a GIC core placed as a long term provisional on the upper right 6 in order to monitor pulp vitality prior to an indirect restorations

Bonding

by

Katherine Losada

Switzerland

1) Select your material (composite)
2) Isolate ,
3) Clean and prepare selective the surface to treat with AquaCare with 29micr powder at 2-3 bar of pressure for 5 seconds .to make it a bit rough and free from debris
4) Wash with water or the Aqua Care liquid (alcohol sol) rinse .
5) Etch for 15sec only the Enamel .
6) Use your bonding system and the composite you did select ,
7) Polish
8) Remove isolation and check occlusion.

Restoration

by

Chad Perry

USA

Cavity Prep

by

Thomas Taha

London,UK

Find out more:
www.drth.co.uk

“Always finish on 29µm Aluminium Oxide and Sylc”

Cleaning

by

Nazariy Mykhaylyuk

Ukraine

INCISAL SAUSAGE

by

Lincoln Harris

Australia

Find out more:
restoringexcellence.com.au

ZEROIN ON

by

Arthur Volker

USA

Find out more:
dentcaredentaloffice.com

1. Initial frontal view. Patient was unhappy with the black triangle between #8 and 9 (11 and 12)

2. Taking shade

5. Scope photo. Note the unusual position of the matrices, due to the overlapping of the teeth

6. Scope pic with filter

3. Retracted view.

4. Rubber dam view after air abrasion. The matrices will help to retract the dam further at the operative site

7. Immediate result following gingivectomy of #8 (11). Needs some refinement, which will be addressed after discussion with the periodontist.

8. Post-operative radiograph. Note the resultant contours from the matrices, as well as the palatal volume at #8 due to the unusual positioning of the teeth.

LEGO PREP

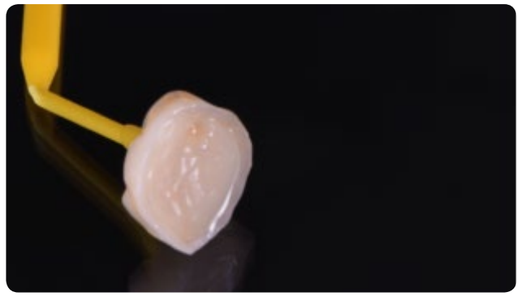
by

Thomas Taha

London,UK

Find out more:
www.drth.co.uk

1. The preparation ready for cementation with composite bump to aid location.



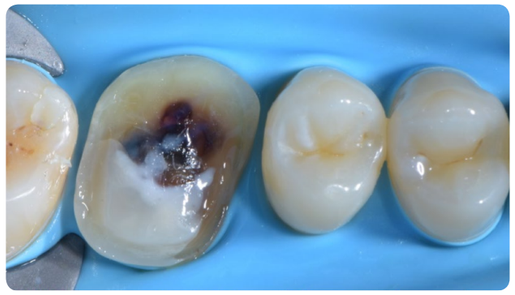
2. Lithium disilicate emax onlay surface being prepared for bonding.

3. Immediate buccal view post cementation.

4. Occlusal view showing fantastic bio mimetic integration.

5. Post operative X-ray shows clean join lines. A raised margin allows for easier cement clean up and less excess remaining.

6. An incongruous defective amalgam filling.

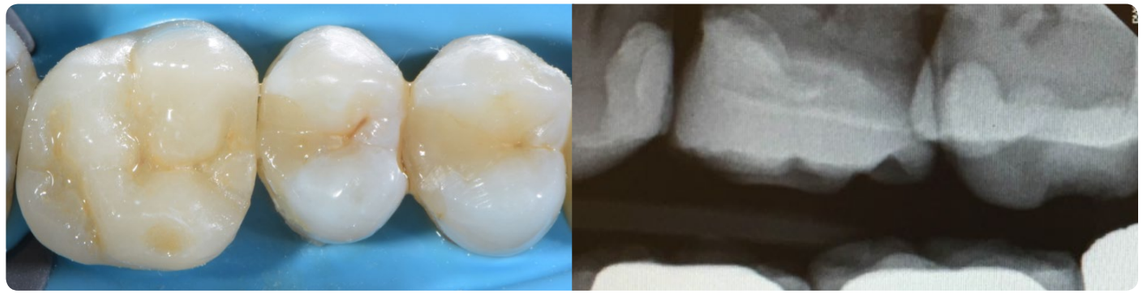


7. Preparation after IDS and being prepared for cementation.

8. Supra gingival margin allowing for simplified excess cement removal.

9. Occlusal view immediate post operative shows very natural result well integrated, occlusal bump (Lego onlay prep) after cleaning with AquaCare.

10. Immediate after onlay cementation.



11. X-ray showing deep margin elevation and onlay placed over to protect tooth.

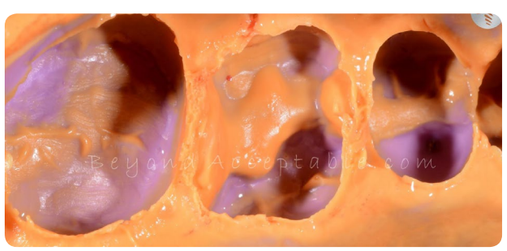
12. Comparison prior to emax onlay replacing stained old composite restoration.

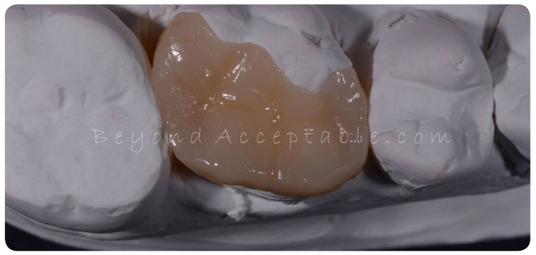
Would you have cut down the Palatal here?

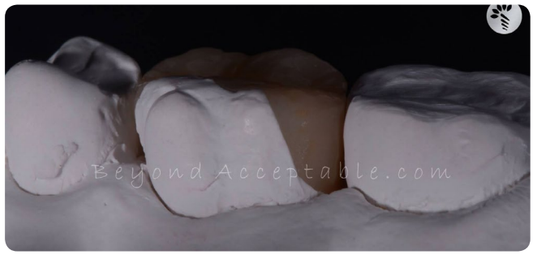
Andrew Thorpe

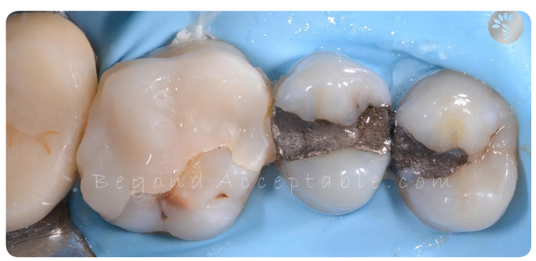
Australia

Find out more:
beyondacceptable.com

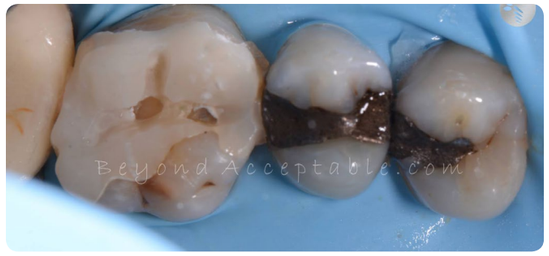


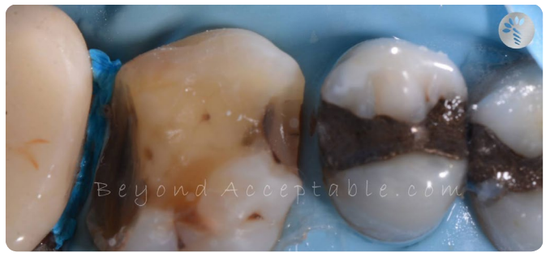






Andrew Thorpe





Andrew Thorpe - Australia
beyondacceptable.com

Andrew Thorpe

TOOTH RESTORATION

by

Chad Perry

USA

Find out more:
chadperrydds.com

SANDBLASTING

by

Pasquale Venuti

Italy

Find out more:
studiodentisticovenuti.it

Tomorrow Tooth

SANDBLASTING

‘Used 53 micron aluminium oxide, then used electrosurgery and isolated by means of Ferrior Clamps and teflon. The image is after sandblasting and before etching.’

SANDBLASTING

by

Jordi Manauta

Spain

Find out more:
styleitaliano.org

Style Italiano

SANDBLASTING

‘Two partial bonded restorations just prepared for bonding. AquaCare allows me finally to sandblast or prophylaxis inside and outside the mouth, with or without water, with the exact amount of media I want to deliver. I’m in full control now of those important procedures.’

ORTHODONTIC RESIN REMOVAL

by

Bhupinder Dawett

UK

ORTHODONTIC RESIN REMOVAL

'Air polishing with a bioactive material (SYLC) at low pressure setting to remove residual orthodontic resin as an alternative to using rotary instruments.'

PREPARATION FOR ADHESIVE CEMENTATION

by

Prof. Dr. Francesco Mangani

Italy

Find out more:
odontoiatriamanganiroma.com

PREPARATION FOR ADHESIVE CEMENTATION

'Preparations after composite resin build-ups treated for adhesive cementation. Cleaning has been made using AquaCare Device. Powder ProCut 29 microns Al2O3 with LOW PRESSURE.'

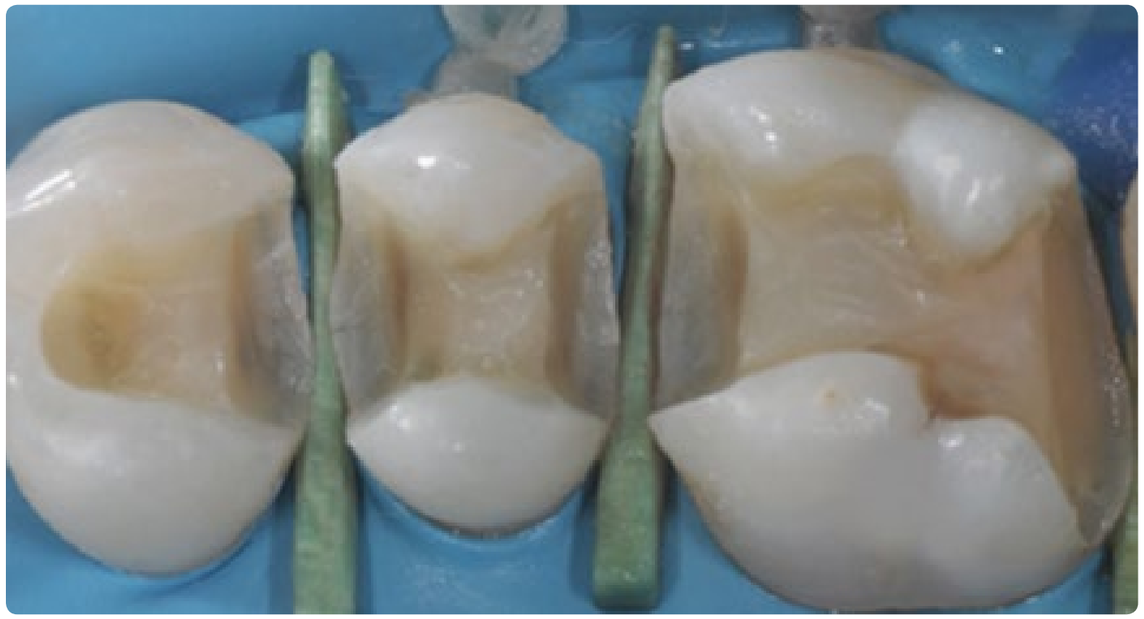
PREPARATION FOR ADHESIVE CEMENTATION

by

Prof. Dr. Francesco Mangani

Italy

Find out more:
odontoiatriamanganiroma.com



PREPARATION FOR ADHESIVE CEMENTATION

‘Composite build-ups have been selectively cleaned and sandblasted using ProCut 53 microns Al2O3 with HIGHER PRESSURE.’

ISOLATION PARTICLE ABRASION

by

Jason Smithson

UK

Find out more:
jasonsmithson.com

ISOLATION - PARTICLE ABRASION

‘Particle abrasion with 29 micron alumina to remove aprismatic enamel and improve bond strengths prior to no prep direct bonding to close black triangles which were secondary to periodontal disease.’

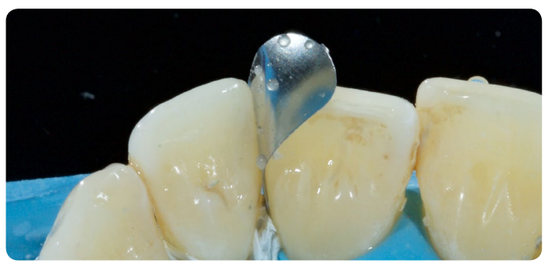
ISOLATION
PARTICLE ABRASION

by

Jason Smithson

UK

Find out more:
jasonsmithson.com



DEBONDING

by

Lincoln Harris

Australia

Find out more:
restoringexcellence.com.au

DEBONDING

Calculus removed with bicarb using Aquacut. Then moved to al oxide to remove remaining composite from previous retainer.

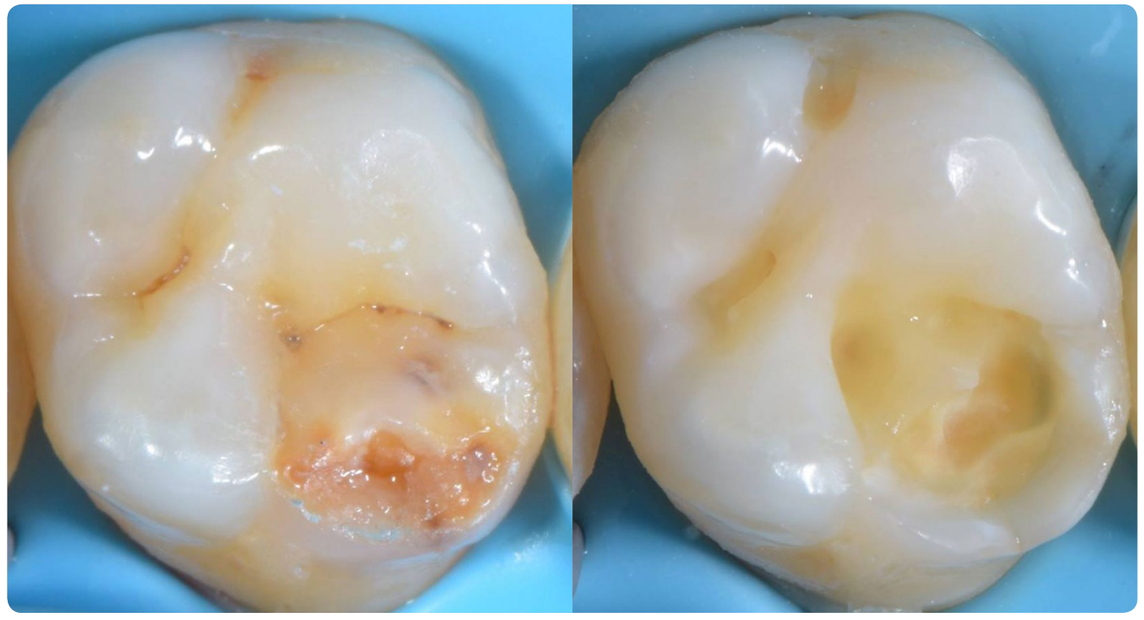
HYPO MINERALISED

by

Thomas Taha

UK

Find out more:
www.drth.co.uk



HYPO MINERALISED

‘Used AquaCare 53 micron aluminium oxide cutting powder to remove fractured and decayed hypo mineralised tooth tissue only without the need for drilling.’

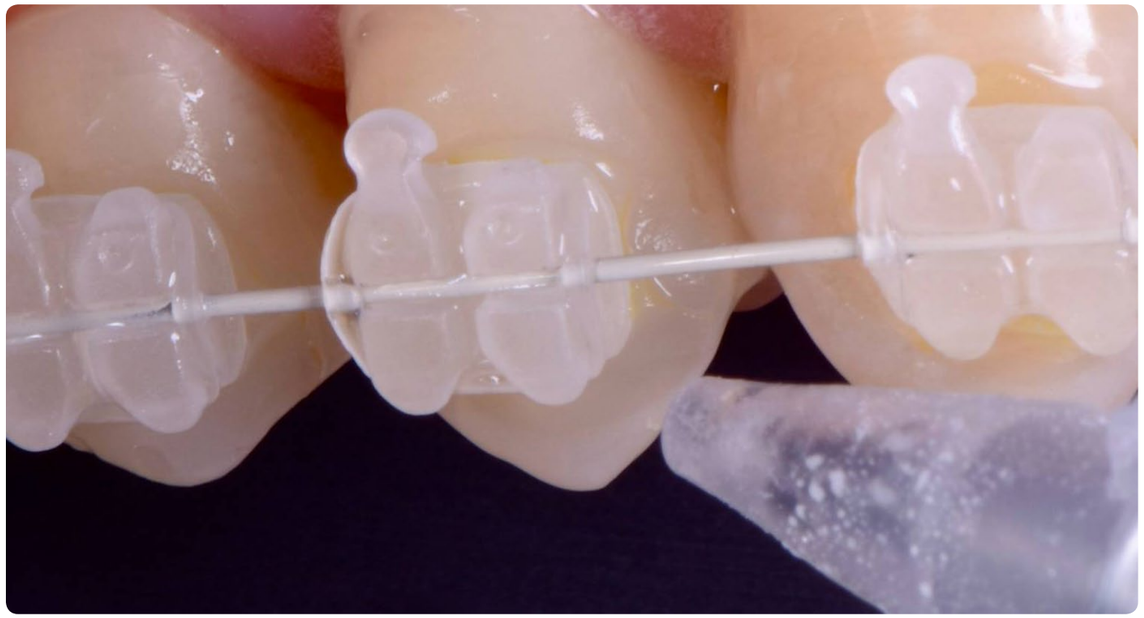
STAIN REMOVAL

by

Thomas Taha

UK

Find out more:
www.drth.co.uk



STAIN REMOVAL

‘A bit of Sylc on low pressure cleans up staining nicely around brackets.’

SANDBLASTING

by

Walter Devoto

Italy

Find out more:
styleitaliano.org

Style Italiano

SANDBLASTING

‘Activation temporary before relining.’

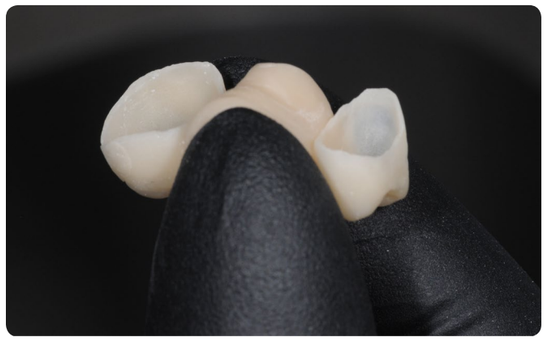
SANDBLASTING

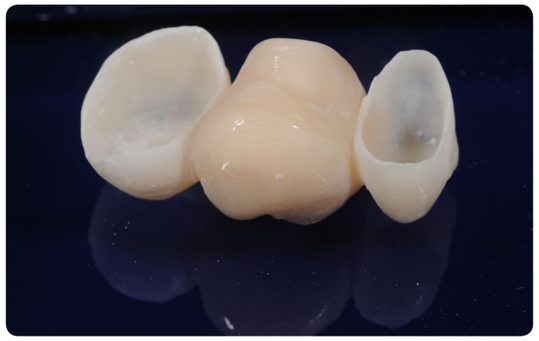
by

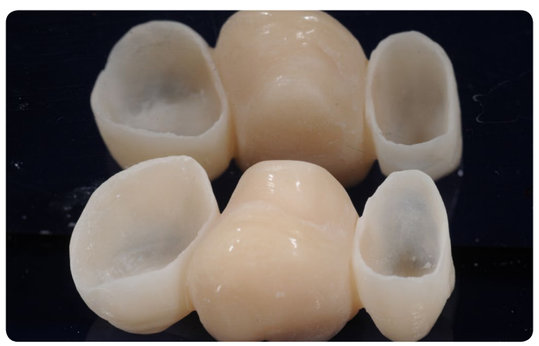
Walter Devoto

Italy

Find out more:
styleitaliano.org







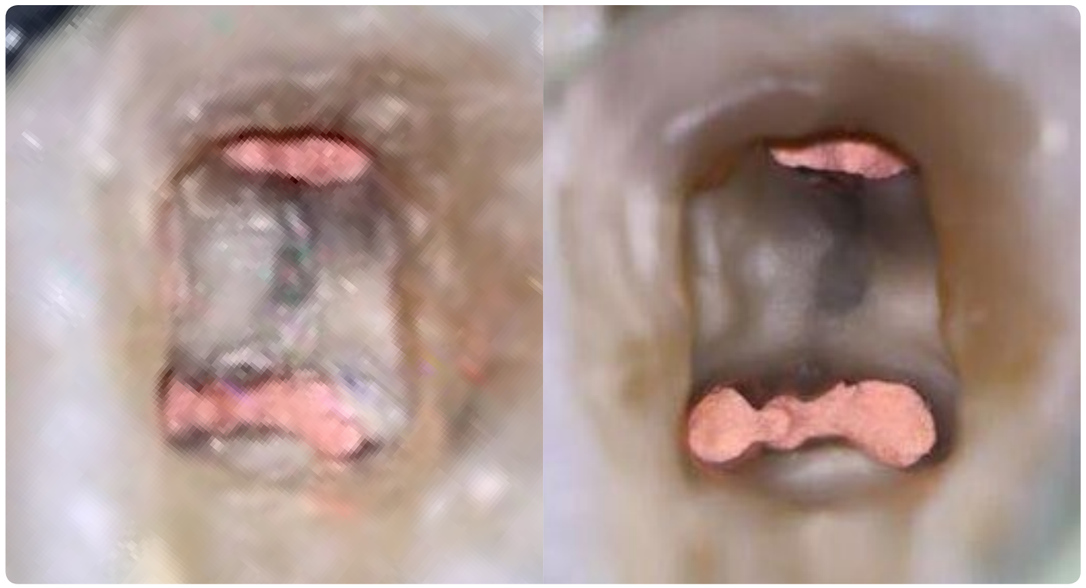
REMNANT REMOVAL

by

Freddy Belliard

Spain

ROOTS



REMNANT REMOVAL

‘After the root canal therapy is completed, we end up having obturation cement all over the pulp chamber floor, isthmuses or other retentive areas.

Blasting it with sodium bicarbonate and a curtain of water allows me not only to remove all these remnants, but without creating a mess of powder all over my operatories.

This will allow for a cleaner environment in which adhesive dentistry can be carried out under ideal conditions.’

LITHIUM DISILICATE

by

Lorenzo Vanini

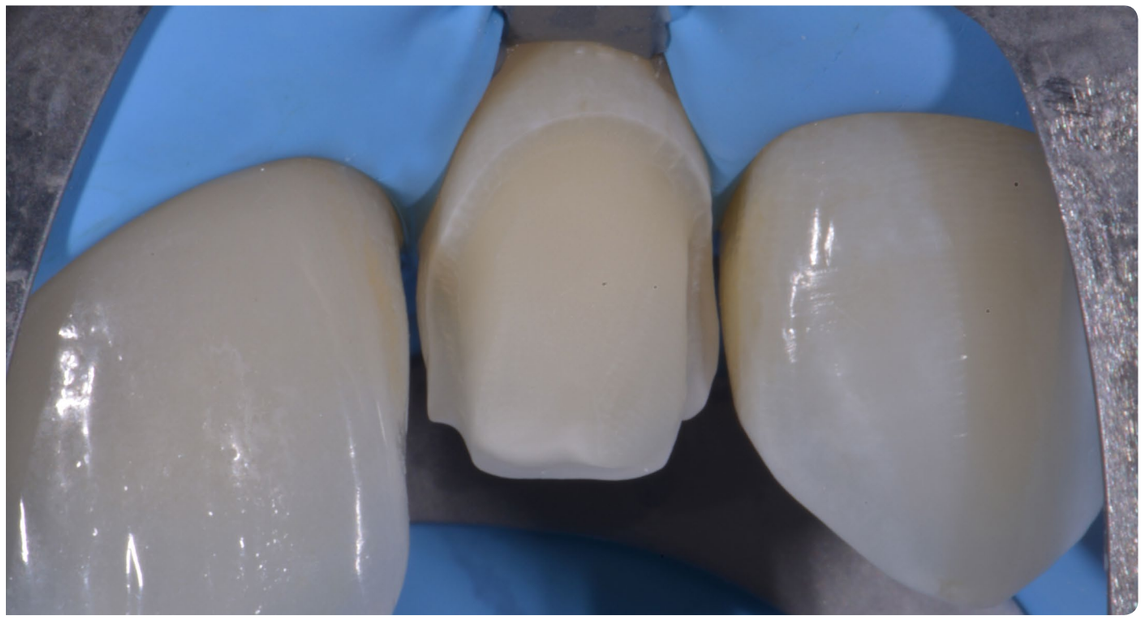
Italy

CARIOUS LESSION

by

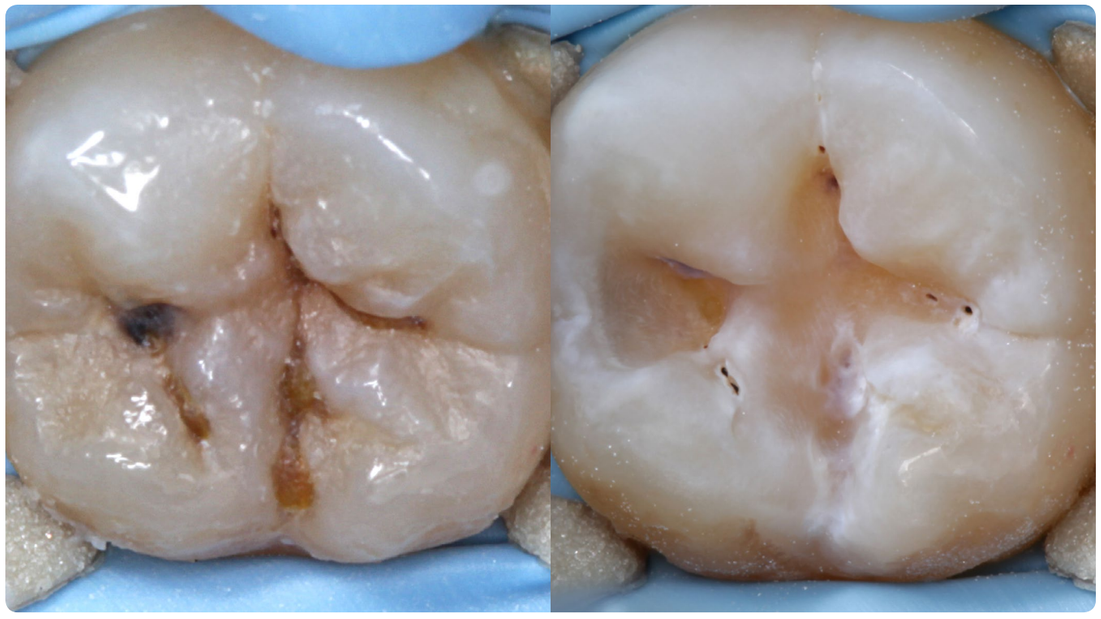
Louis Mackenzie

UK



LITHIUM DISILICATE

Particle abrasion with 53 micron Aluminium Oxide to remove bonding resin used for temporaries, to clean adhesive surfaces and improve bond strengths before cementing four disilicate veneers.



CARIOUS LESSION

Minimally invasive cavity preparation of a carious lesion on the occlusal surface a mandibular third molar using AquaCare 29µm Aluminium oxide air abrasion powder.

REAL BIOCONSERVATIVE SOLUTION

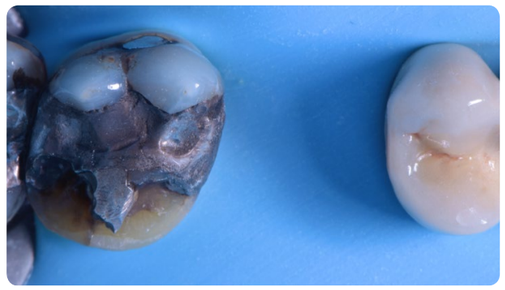
by

Thomas Taha

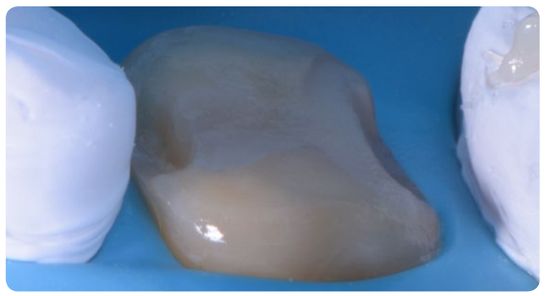
UK

Find out more:
www.drth.co.uk

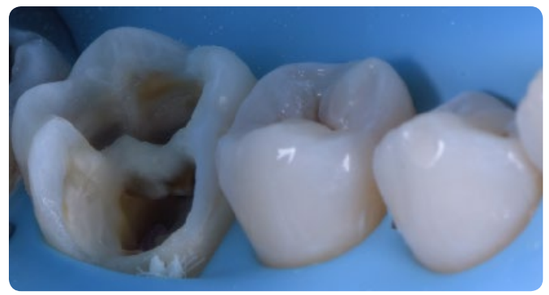
CASE 1: This 54yr old patient wanted little to no tooth preparation done to cover up the developmental pits and discolorations.



CASE 2: Shows a large fractured amalgam restoration on a first molar.

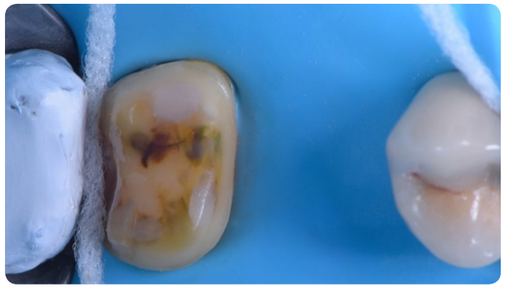


CASE 3: Onlay preparation on lower molar after deep margin elevation [29µ aluminum oxide and Sylc].



CASE 4: Cavity preparation after abrasion (53µ aluminium oxide) on lower first molar, post root canal therapy.

No drilling and with just the use of 29µ aluminium oxide (AquaCare) to remove staining and prepare surface for direct bonding.

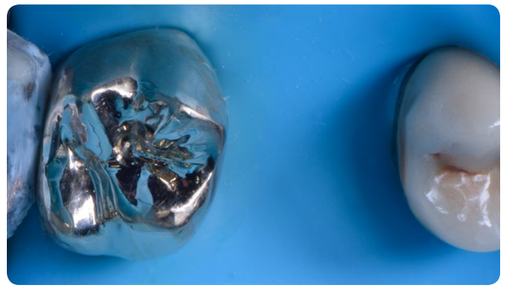


After tooth preparation [29µ aluminium oxide and Sylc] and immediate dentine sealing.

Photograph after immediate cementation of lithium disilicate onlay.

Cavity restored provisionally with direct fiber reinforced composite.

Direct composite bonding used to restore and create natural and functional smile.



Gold onlay placed to allow maximum long-term strength and function.

Occlusal view showing biomimetic integration.

STAIN REMOVAL

by

Peet Van der Vyver

South Africa

STAIN REMOVAL

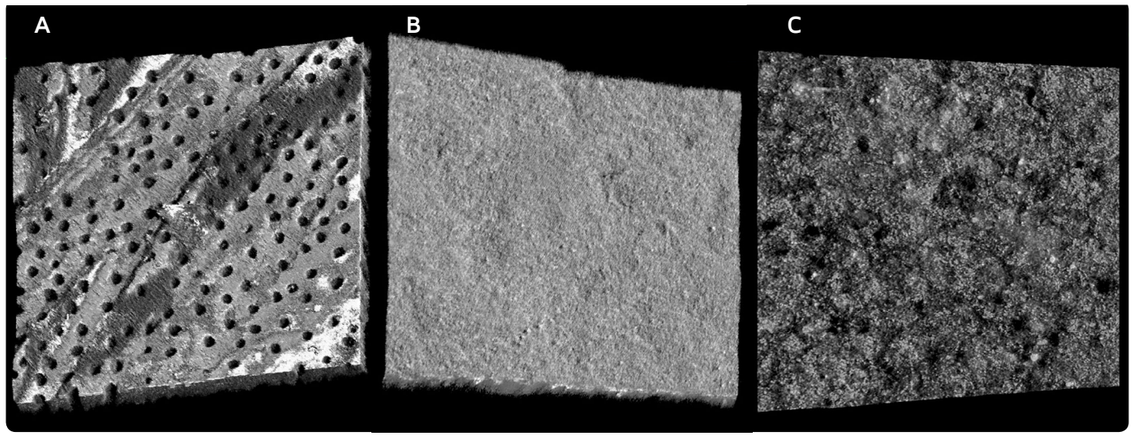
'Air polishing with a sodium bicarbonate to remove staining.

THERAPEUTIC EFFECTS

by

Salvatore Sauro

Spain



THERAPEUTIC EFFECTS

A: Dentine before air-abrasion. Note a smear layer-free surface with many patent dentinal tubules. (Confocal 3D topographic image)

B: Dentine treated using aquacare and Sylc bioglass. Note the presence of a smear layer occluding the dentinal tubules and covering the entire dentine surface. (Confocal 3D topographic image)

C: Dentine treated using aquacare/Sylc and conditioned with a universal adhesive in self-etching mode.

Note that smear layer partially covering the dentine surface; a Bioglass-rich smear layer is still available for conversion into apatite at the resin-dentine interface.

However, most of the dentinal tubules are totally occluded; the risk for post-operative sensitivity here is very low. (Confocal 3D topographic image)

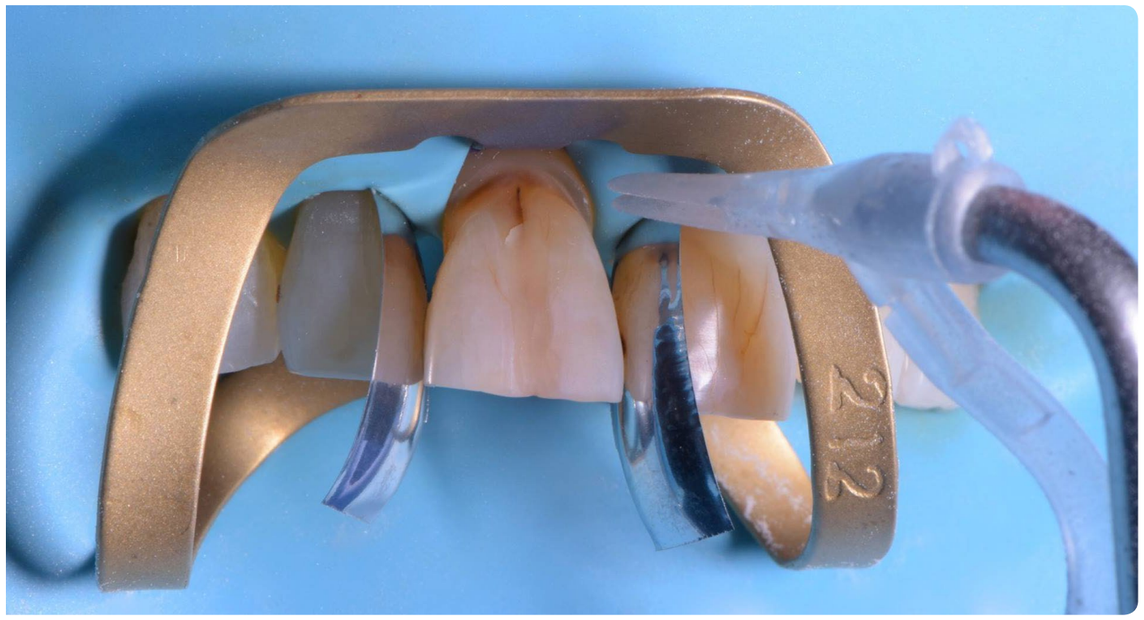
iTIP

by

Thomas Taha

UK

Find out more:
www.drth.co.uk



iTIP	A stable 212 rubber dam clamp with iTip cleaning

PERI-IMPLANT MUCOSITIS

by

Andrew Thorpe

Australia

Find out more:
beyondacceptable.com

Peri-implant mucosotis	Peri-implant mucositis / early peri-implantitis on 21 is present. This implant is 6 years old. There is bleeding and suppuration. Minor bone loss present that occurred in a year.

PERI-IMPLANT MUCOSITIS

by

Andrew Thorpe

Australia

Find out more:
beyondacceptable.com

Implant Dent. 2012 Oct;21(5):390-3.

Effectiveness of implant surface decontamination using a high-pressure sodium bicarbonate protocol: an in vitro study.

Nemer Vieira LF[1], Lopes de Chaves e Mello Dias EC, Cardoso ES, Machado SJ, Pereira da Silva C, Vidigal GM Jr.

Author information

Abstract

OBJECTIVES: To evaluate the effectiveness of a high-pressure sodium bicarbonate spray protocol to decontaminate implant surfaces intentionally inoculated with bacteria.

MATERIALS AND METHODS: Twenty commercially pure titanium implants, 10 with machined surfaces and 10 with rough surfaces, were inoculated with Streptococcus sanguis and then submitted to a decontamination protocol using a high-pressure sodium bicarbonate spray device for 1 minute under aseptic conditions.

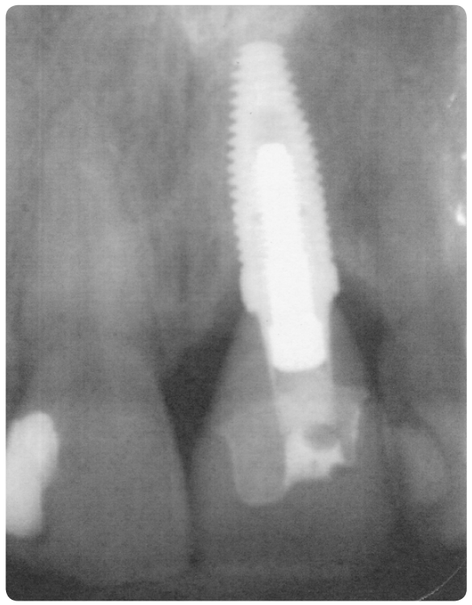
RESULTS: After the application of the decontamination protocol, all bacterial cells were removed from the tested implants, regardless of surface roughness.

CONCLUSION: The results suggest that regardless of the implant surface roughness, the protocol using high-pressure sodium bicarbonate spray for 1 minute, under aseptic conditions, was effective in removing all the viable bacterial cells.

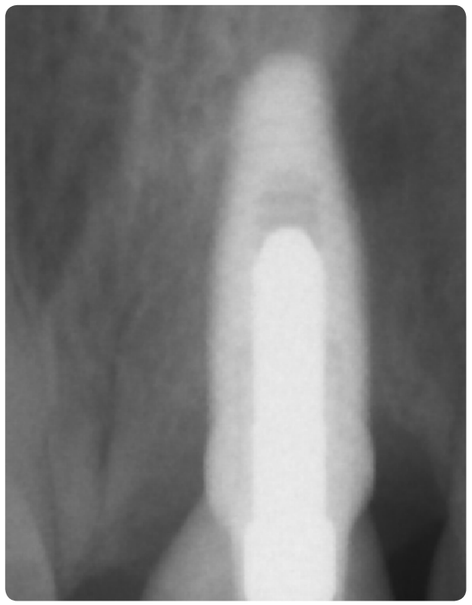
Peri-implant mucosotis

The issues come and go for the last year or so. Periodontist has been managing this and the perio but a sudden flare up has come on the 21. This is a new tip that was sent by Veloplex to try on their machine for inter proximal cleaning, and I realised it would fit in this pocket.

Used with sodium bicarbonate to flush out the area. This was then flushed with Chlorhexidine, flushed again with sodium, and one last CHX intrasulcular.



Radiograph from around 2015.



This is today 20/4/2017.

Loss is evident on the distal.

Radiograph orientation is a bit off but tells the point. There is one from 2016 but I don't have a digital copy. Stable since first DX in 2016 radiographically.