



ORAL REHABILITATION OF A PATIENT WITH SPECIAL NEEDS

ALEX D. NGUYEN (D22489)
OKU EXCELLENCE DAY 2022

PATIENT OVERVIEW

16 y.o. female (now 17 y.o.)

CC: wants to become a patient in the clinic after being turned down by all the other dentists she has seen

MH: ASD (mild-spectrum), ADHD, GERD, depression, eczema/acanthosis nigricans

Meds: prozac (depression), pantoprazole (GERD), metoclopramide (GERD), zofran (nausea)

Allergies: grass and trees

SH: lives in a non-smoking household north of Sacramento with mother and sister; hx of domestic abuse and isolation

DH: has not been to a dentist for a very long time and hasn't been able due to abuse and lack of access to care to a clinic that would see her

Patient is accompanied by mother regularly and occasionally by grandma





CONSIDERATIONS OF PATIENTS W/ AUTISM SPECTRUM DISORDER (ASD)

- Lack of access to dental care
- Use visual pedagogies for OHI or daily work demonstrations
- Tell-show-do
- Voice modulation
- Distractions
- Be cognizant of sensory hypersensitivities
- Desensitization
- Positive/negative reinforcement
- Help come up w/ coping strategy that works for patient
- Use N2O or pharmaceuticals for management of anxiety
- Initial appointment is to gain rapport w/ patient and caretaker
- Ask caretaker about triggers/non-triggers
- Develop a routine for appointments
- Discuss w/ staff members ahead of appointment
- Have patience with your patient
- **KNOW YOUR PATIENT!**

Clinical Focus

Autism Spectrum Disorders: An Update on Oral Health Management

Roopa P. Gandhi BDS, MSD , Ulrich Klein DMD, MS

type of ASD diagnosis.¹⁷ Children with ASD who are anxious in an unfamiliar dental setting can become non-compliant for dental care and display such anxiety in the form of emotional outbursts and temper tantrums. In more severe cases,

Sensory hypersensitivities in children with autism can trigger defensive responses that may include attempts to escape from the dental environment because their senses are overwhelmed by the loud sounds, smells, or textures in a typical dental setting. An over-stimulated patient may find relief by self-stimulatory behaviors

ONE MODEL DOES NOT FIT ALL!

[Med Oral Patol Oral Cir Bucal](#), 2014 Sep; 19(5): e467–e472.
Published online 2014 Mar 8. doi: [10.4317/medoral.19566](https://doi.org/10.4317/medoral.19566)

PMCID: PMC4192569
PMID: [24608219](https://pubmed.ncbi.nlm.nih.gov/24608219/)

Behavioural aspects of patients with Autism Spectrum Disorders (ASD) that affect their dental management

[Jacobo Limeres-Posse](#),¹ [Patricia Castaño-Novoa](#),¹ [Malte Abeleira-Pazos](#),¹ and [Isabel Ramos-Barbosa](#)¹

[Med Oral Patol Oral Cir Bucal](#), 2013 Nov; 18(6): e862–e868.
Published online 2013 Aug 29. doi: [10.4317/medoral.19084](https://doi.org/10.4317/medoral.19084)

PMCID: PMC3854078
PMID: [23986012](https://pubmed.ncbi.nlm.nih.gov/23986012/)

Management of children with autism spectrum disorder in the dental setting: Concerns, behavioural approaches and recommendations

[Konstantina Delli](#),¹ [Peter A. Reichart](#),² [Michael M. Bornstein](#),³ and [Christos Livas](#)^{3,4}

In conclusion, working with patients with ASD in the dental clinic is still a challenge for the professional. There is no protocol for behavior management applicable to all patients. Information such as the type of ASD or the presence of certain concurrent pathologies can orient one to the patient's behavior, therefore it is recommend that this information is gathered in a preliminary interview with the parents/guardians of the patient. With this information, adaptation strategies ought to be designed for transition to the dental

The dental management of a child with ASD requires in-depth understanding of the autistic behavioural profile. Based on well-established behavioural guidance techniques, the therapeutic approach should be individualized for each patient. The role of continuous education of dental professionals and parents is essential in overcoming the difficulties encountered by the autistic child in the dental chair.

Limeres-Posse, J., Castaño-Novoa, P., Abeleira-Pazos, M., & Ramos-Barbosa, I. (2014). Behavioural aspects of patients with Autism Spectrum Disorders (ASD) that affect their dental management. *Medicina oral, patología oral y cirugía bucal*, 19(5), e467–e472. <https://doi.org/10.4317/medoral.19566>

Delli, K., Reichart, P. A., Bornstein, M. M., & Livas, C. (2013). Management of children with autism spectrum disorder in the dental setting: concerns, behavioural approaches and recommendations. *Medicina oral, patología oral y cirugía bucal*, 18(6), e862–e868. <https://doi.org/10.4317/medoral.19084>

Gandhi, R. P., & Klein, U. (2014). Autism spectrum disorders: an update on oral health management. *Journal of Evidence Based Dental Practice*, 14, 115-126.

PATIENT SPECIFIC CONSIDERATIONS

- Thorough medical/social history during patient and caretaker interview
- Use euphemisms
- Do not say “blood” (trigger)
- Positive reinforcement
- Making dentistry “fun”
- Give patient control and options where possible
- Tell-show-do
- Distractions
- Desensitization
- Provide patient with specific timeframe and treatment to be rendered the day of appointment
- Worked w/ primary care physician for Rx of lorazepam for dental appointments
- Have caretaker be involved in oral hygiene instructions and accountability of patient
- Recognize insights that necessitate a visit to a medical or dental specialists
- Having caretaker present during appointment to help manage patient behavior
- Loves animals, horror, bizarre phenomenon, and the color orange



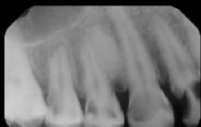
PRE-OP PHOTOS



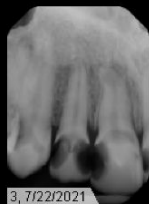
FMX (06/2021)



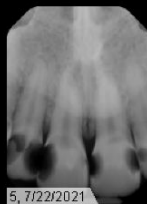
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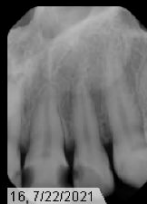
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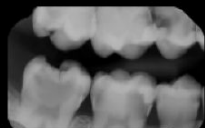
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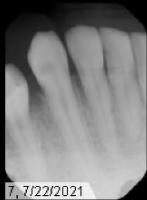
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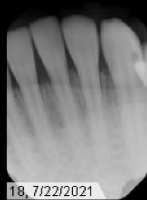
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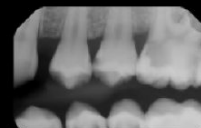
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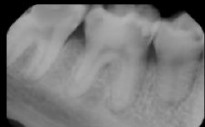
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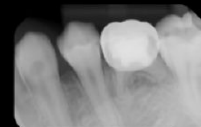
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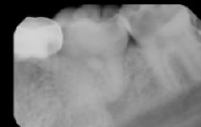
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1, 7/22/2021 9:18:02 AM



2, 7/22/2021 9:18:02 AM

PANO - 07/2021





CLINICAL EXAM

- Extraoral Exam
 - Acanthosis nigricans on neck
- Intraoral Exam
 - Non-remarkable
- TMJ Exam
 - Non-remarkable
- Caries Risk Assessment
 - ATP Meter Reading = 3450
 - Salivary pH = 7+
 - Salivary Flow = WNL
 - Brushes w/ non-fluoridated toothpaste 1x/day
 - High caries risk

HARD TISSUE EXAM

- #1 - unerupted
- #2 - OL decay
- #3 - MO & OL comp w/ recurrent decay
- #4 - MOD comp w/ recurrent decay
- #5 - DO comp w/ recurrent decay
- #6 - cervical F decay
- #7 - gross decay
- #8 - M & D decay
- #9 - M & D decay
- #10 - M caries
- #11 - cervical F decay
- #12 - DO comp w/ recurrent decay
- #13 - D decay w/ fractured D ridge
- #14 - MO comp
- #15 - gross decay
- #16 - unerupted
- #17 - missing
- #18 - MOB decay
- #19 - DOB decay
- #K - pulpotomy & SSC (ankylosed)
- #21 - DO & B decay
- #22 - cervical F decay
- #23 - NSF
- #24 - NSF
- #25 - M decay
- #26 - D decay
- #27 - cervical F decay
- #28 - D decay
- #29 - M decay
- #30 - MO comp w/ recurrent decay
- #31 - gross decay
- #32 - missing



IDEAL TREATMENT PLAN

- Urgent Phase
 - EXT #13, 15
 - CTX4 rinse
 - Fluoride toothpaste (Prevident)
 - OHI
- Disease Control Phase
 - SDF
 - Prophy
 - RCT & Post/BU:
 - #4, 5, 7, 8, 9, 12, 30, 31
 - GI/Composite:
 - #2 OL, #3 MOD, #6 F, #10 MIFL, #11 F, #18 MOB, #19 DO, #21 MOB, #22 F, #25 DFL, #26 MFL, #28 DO, #29 MO

Caries Control Cost = \$11,733
Prosthetic Cost = \$8,884
Total Cost = \$20,617
Time of Treatment = 12-18 months

Tx Notes:

- This is tx is the most conservative and cost-effective to take care of the patient's essential dental needs

- Restorative Phase
 - Crown Lengthening:
 - #4, 5, 12, 30, 31
 - #4 DOB onlay
 - #5 zirconia crown
 - #7 rapid orthodontic extrusion
 - #7 E-MAX crown
 - #8 E-MAX crown
 - #9 E-MAX crown
 - #12 zirconia crown
 - #14 zirconia crown
 - #30 zirconia crown
 - #31 zirconia crown

Maintenance Phase

- Occlusal Guard
- CTX3 rinse
- Fluoride toothpaste (Prevident)
- 6MRC



ALTERNATIVE TREATMENT PLAN #1

- Urgent Phase
 - EXT #13, 15
 - CTX4 rinse
 - Fluoride toothpaste (Prevident)
 - OHI
- Disease Control Phase
 - SDF
 - Prophy
 - RCT & Post/BU:
 - #4, 5, 7, 8, 9, 12, 30, 31
 - GI/Composite:
 - #2 OL, #3 MOD, #10 MIFL, #18 MOB, #19 DO, #21 MOB, #22 F, #25 DFL, #26 MFL, #28 DO, #29 MO
- Restorative Phase
 - Crown Lengthening:
 - #4, 5, 12, 30, 31
 - #4 DOB onlay
 - #5 zirconia crown
 - #6 veneer
 - #7 rapid orthodontic extrusion
 - #7 E-MAX crown
 - #8 E-MAX crown
 - #9 E-MAX crown
 - #11 veneer
 - #12-14 zirconia bridge
 - #30 zirconia crown
 - #31 zirconia crown
- Maintenance Phase
 - Occlusal Guard
 - CTX3 rinse
 - Fluoride toothpaste (Prevident)
 - 6MRC



Caries Control Cost = \$11,733
Prosthetic Cost = \$11,506
Total Cost = \$25,372
Time of Treatment = 12-18 months

Tx Notes:

- This is a more aggressive tx if patient is more esthetically driven and desire #13 edentulous area to be treated

ALTERNATIVE TREATMENT PLAN #2

- Urgent Phase
 - EXT #13, 15
 - CTX4 rinse
 - Fluoride toothpaste (Prevident)
 - OHI
- Disease Control Phase
 - SDF
 - Prophy
 - RCT & Post/BU:
 - #4, 5, 7, 8, 9, 12, 30, 31
 - GI/Composite:
 - #2 OL, #3 MOD, #10 MIFL, #18 MOB, #19 DO, #21 MOB, #22 F, #25 DFL, #26 MFL, #28 DO, #29 MO
- Restorative Phase
 - Crown Lengthening:
 - #4, 5, 12, 30, 31
 - #4 DOB onlay
 - #5 zirconia crown
 - #7 decoronation
 - #6-8 layered zirconia bridge
 - #9 layered zirconia crown
 - #11 veneer
 - #12-14 zirconia bridge
 - #30 zirconia crown
 - #31 zirconia crown
- Maintenance Phase
 - Occlusal Guard
 - CTX3 rinse
 - Fluoride toothpaste (Prevident)
 - 6MRC

Caries Control Cost = \$11,733
Prosthetic Cost = \$11,762
Total Cost = \$23,495
Time of Treatment = 12-18 months

Tx Notes:

- This tx plan consider decoration to maintain the space and bone at #7 until an implant is possible and needed in the future followed by FPD tx for edentulous sites

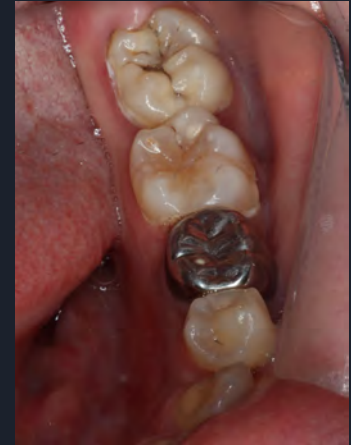
2 WEEKS FOLLOWING SDF APPLICATION #1



2nd application of SDF was performed, but no photos were taken

SDF was not applied to anterior teeth due to esthetics and developmental psychology

Alternatively, decided to perform endodontic tx for anterior teeth first due to this to stabilize



SILVER DIAMINE FLUORIDE (SDF)

Effectiveness of silver diamine fluoride in caries prevention and arrest: a systematic literature review

Violeta Contreras, Milagros J Toro, Augusto R Elías-Boneta, Angeliz Encarnación-Burgos

PMID: 28475081 PMCID: PMC5535266

[Free PMC article](#)

> Int J Paediatr Dent. 2020 Jul;30(4):514-522. doi: 10.1111/ipd.12624. Epub 2020 Feb 17.

Parental acceptance of silver diammine fluoride in children with autism spectrum disorder

Shijia Hu ¹, Beau Meyer ², Bieri Wen Pui Lai ³, Pui Ling Chay ⁴, Hwei Jin Tong ¹

Affiliations [+ expand](#)

PMID: 32012376 DOI: 10.1111/ipd.12624


Clinical studies have demonstrated the effectiveness of SDF in childhood caries prevention and arrest. Semiannual applications of SDF at 38% concentration have been recommended.³⁴ SDF has been suggested for difficult-to-treat lesions and patients with high caries risk, including those with medical or behavioral complications, those who require multiple treatment visits, or those without access to dental care.³⁵

not commonly reported by investigators. Few side effects were reported in the studies reviewed for the present SR. In the selected studies that used 30% and 38% SDF, adverse events such as black stains and oral lesions were reported.^{38,44} This finding suggests that lower SDF concentrations might reduce the onset of adverse events; however, these levels are less effective in arresting caries.

Conclusion: Parents of children with ASD had similar acceptance of SDF use compared to parents of neurotypical children. Children with ASD had higher levels of dental fear. Parents of younger children are more likely to accept SDF as an alternative to GA in both groups.

Contreras, V., Toro, M. J., Elías-Boneta, A. R., & Encarnación-Burgos, M. A. (2017). Effectiveness of silver diamine fluoride in caries prevention and arrest: a systematic literature review. *General dentistry*, 65(3), 22.

Hu, S., Meyer, B., Lai, B. W. P., Chay, P. L., & Tong, H. J. (2020). Parental acceptance of silver diammine fluoride in children with autism spectrum disorder. *International Journal of Paediatric Dentistry*, 30(4), 514-522.



How to Intervene in the Caries Process: Early Childhood Caries – A Systematic Review

Julian Schmoeckel ¹, Kristina Gorseta ², Christian H Splieth ³, Hrvoje Juric ²

Affiliations + expand

PMID: 31910415 DOI: [10.1159/000504335](https://doi.org/10.1159/000504335)

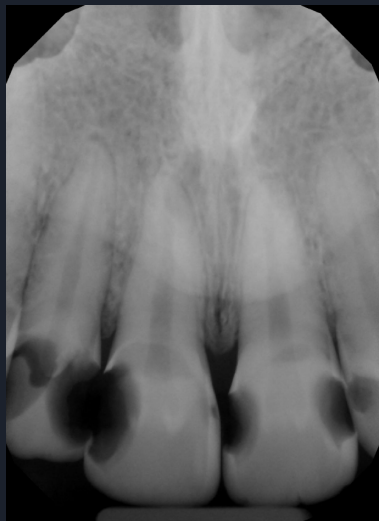
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ally. SDF solution applied once or twice a year could arrest active caries lesions involving dentine with a success rate of 79 and 91%, respectively [Duangthip et al., 2015]. Adverse effects such as black stains were reported in studies using 38% SDF [Duangthip et al., 2015].

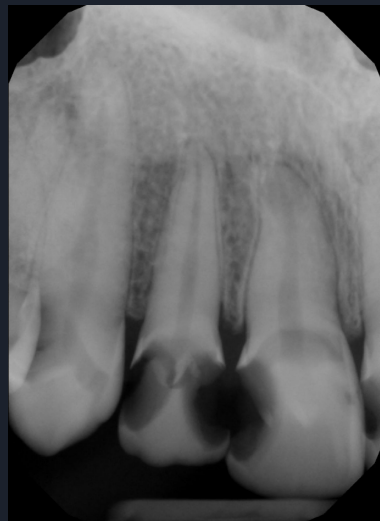
2018; Chu et al., 2002]. The included studies showed that at least 63.6% [Gao et al., 2016] up to 81.2% [Autio-Gold and Courts, 2001] of enamel carious lesions were inactivated after fluoride varnish application. For cavitated lesions, fluoride varnish was effective in 30% of cases [Duangthip et al., 2018; Lo et al., 1998]. Sodium fluoride varnish has a moderate effect in remineralizing and/or arresting early enamel carious lesions (Table 2) [Gao et al., 2016; Autio-Gold and Courts, 2001; Sitthisettapong et al., 2012; Memarpour et al., 2015], and a lower effect for cavitated carious lesions [Divaris et al., 2013; Duangthip et al., 2018]. Moreso, by brushing with fluoride toothpaste (1,000 ppm), the arrest of ECC may be achieved [Lo

NSRCT #7, #8, #9

ENDO DX: SYMPTOMATIC IRREVERSIBLE PULPITIS
PERIAPICAL DX: SYMPTOMATIC APICAL PERIODONTITIS



PRE-OP - 06/2021



POST-OP - 10/2021

NSRCT #4 & #5

ENDO DX: SYMPTOMATIC IRREVERSIBLE PULPITIS
PERIAPICAL DX: SYMPTOMATIC APICAL PERIODONTITIS



PRE-OP - 06/2021



POST-OP - 11/2021

NSRCT #12

ENDO DX: SYMPTOMATIC IRREVERSIBLE PULPITIS
PERIAPICAL DX: ASYMPTOMATIC APICAL PERIODONTITIS



PRE-OP - 06/2021



POST-OP - 01/2022

NSRCT #30

ENDO DX: SYMPTOMATIC IRREVERSIBLE PULPITIS
PERIAPICAL DX: SYMPTOMATIC APICAL PERIODONTITIS



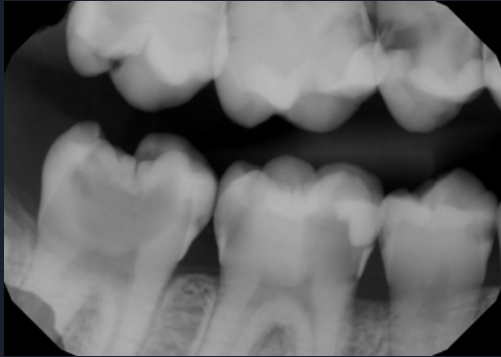
PRE-OP - 06/2021



POST-OP - 11/2021

NSRCT #31

ENDO DX: SYMPTOMATIC REVERSIBLE PULPITIS
PERIAPICAL DX: NORMAL APICAL TISSUES



PRE-OP - 06/2021



DIRECT PULP CAP -
01/2022

#18 MOB & #19 DOB



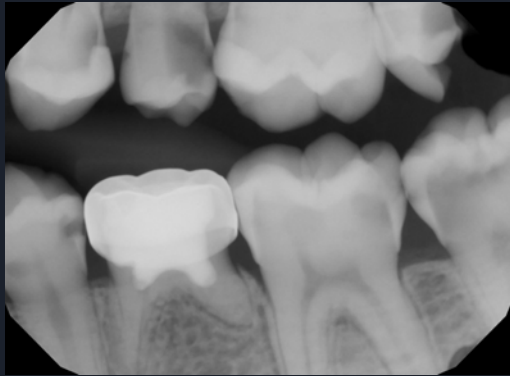
NSRCT #18 & #19

#18 ENDO DX: SYPTOMATIC IRREVERSIBLE PULPITIS/PULPAL NECROSIS

#18 PERIAPICAL DX: SYMPTOMATIC APICAL PERIODONTITIS

#19 ENDO DX: SYMPTOMATIC IRREVERSIBLE PULPITIS/PULPAL NECROSIS

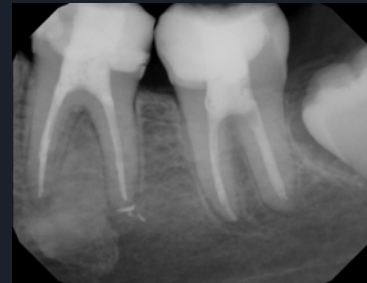
#19 PERIAPICAL DX: CONDENSING OSTEITIS



PRE-OP - 06/2021

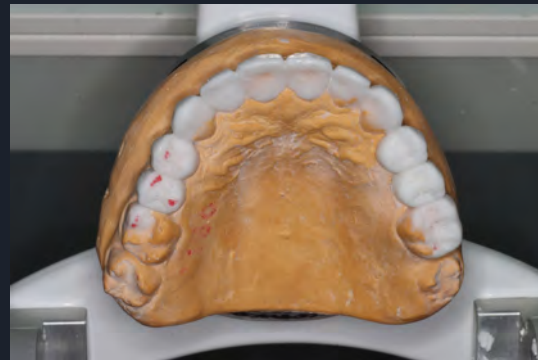


POST-OP 03/22



POST-OP - 03/22

SMILE DESIGN



#2 OL & #3 MO



TREATMENT MODALITIES FOR #7

Single-tooth implant treatment in the anterior region of the maxilla for treatment of tooth loss after trauma: a retrospective clinical and interview study

Lars Andersson ¹, Zina Emami-Kristiansen, Jan Högström

Affiliations + expand

PMID: 12752533 DOI: 10.1034/j.1600-9657.2003.00168.x

professional. Given that the patients have finished growth and a careful treatment planning and timing are performed, the functional and esthetical outcome of single-tooth implant treatment today is excellent and can be recommended for replacing tooth losses after trauma in the anterior region of the maxilla.

> Dent Traumatol. 2009 Jun;25(3):346-9. doi: 10.1111/j.1600-9657.2009.00788.x.

Decoronation of an ankylosed permanent incisor: alveolar ridge preservation and rehabilitation by an implant supported porcelain crown

Shabtai Sapir ¹, Ariel Kalter, Minda Rose Sapir

Affiliations + expand

PMID: 19583582 DOI: 10.1111/j.1600-9657.2009.00788.x

become so pronounced that they compromise future prosthetic treatment. The purpose of this article was to present a case of preservation of the alveolar ridge for implant rehabilitation by utilizing decoronation for the treatment of a young permanent central incisor. An implant was inserted, without any bone augmentation procedures, followed by prosthetic porcelain crown rehabilitation. We conclude that treatment of an ankylosed young permanent incisor by decoronation may maintain the alveolar bone ridge width, height and continuity, and facilitate future rehabilitation with minimal, if any, ridge augmentation procedures.

> Int J Oral Maxillofac Implants. Mar-Apr 2012;27(2):411-20.

Implant site development by orthodontic forced extraction: a preliminary study

Francesco Amato ¹, A Davide Mirabella, Ugo Macca, Dennis P Tarnow

Affiliations + expand

PMID: 22442782

Conclusions: OISD was a viable treatment for these hopeless teeth to regenerate hard and soft tissues. Its efficacy was about 70% for bone regeneration and 60% for gingival augmentation. The residual attachment level on the tooth was not a limitation. OISD might be a valuable treatment option to regenerate tissues for implant site development in patients in need of conventional orthodontic therapy.

RAPID ORTHODONTIC EXTRUSION

Systematic Review

Tooth preservation or implant placement: A systematic review of long-term tooth and implant survival rates

Liran Leviri DMD¹✉, Michal Halperin-Sternfeld DMD, MSc²

Use of orthodontic extrusion as aid for restoring extensively destroyed teeth: a case series

Giuseppe Troiano¹, Bruno Parente², Luigi Laino¹, Mario Dioguardi¹, Gabriele Cervino¹, Marco Cicciù¹, Domenico Ciavarella¹ and Lorenzo Lo Muzio¹

¹Department of Clinical and Experimental Medicine, Foggia University, Foggia, Italy

²Department of Human Pathology, University of Messina, Messina, Italy

When assessing the general loss rate of teeth and implants over follow-up periods of at least 15 years, we found a range of 3.6 to 13.4 percent for tooth loss and a range of 0 to 33 percent for implant loss. This might imply a generally higher rate of implant loss than of tooth loss, which supports the conclusion of Holm-Pedersen and colleagues⁸⁸ that implant survival will not surpass tooth survival over the long term. In addition, an implant can serve as a replacement for an extracted tooth at any point, regardless of the length of time the tooth had been maintained. This enables the clinician to preserve the tooth for as long as possible. However, tooth extraction is a definitive and irreversible treatment. The decision to extract a tooth is subjective, requiring the clinician to conduct an extensive observation of all the factors involved.

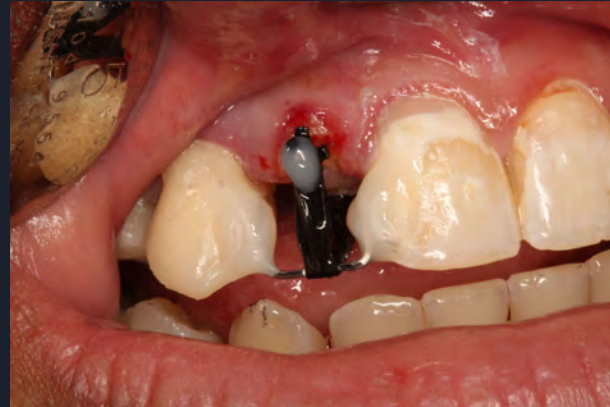
the clinical practice [17,18]. Although, implants present a high survival rate, some patients refuse their use [19]. When possible clinicians should prefer the recovery of strongly destroyed teeth above all in young patients, so as to perform implants in a more mature age [20,21].

is very high. In our experience, one of the most important problems following the orthodontic extrusion is the amount of root remaining in the bone. In fact, this could lead to a disadvantageous root/crown ratio and increase the risk of fracture. In these situations the risk of fracture

Levin, L., & Halperin-Sternfeld, M. (2013). Tooth preservation or implant placement: a systematic review of long-term tooth and implant survival rates. *The Journal of the American Dental Association*, 144(10), 1119-1133.

Troiano, G., Parente, B., Laino, L., Dioguardi, M., Cervino, G., Cicciù, M., ... & Muzio, L. L. (2016). Use of orthodontic extrusion as aid for restoring extensively destroyed teeth: a case series. *J Transl Sci*, 2(5), 252-5.

#7 RAPID ORTHODONTIC EXTRUSION



Andersson, L., Emami-Kristiansen, Z., & Högström, J. (2003). Single-tooth implant treatment in the anterior region of the maxilla for treatment of tooth loss after trauma: a retrospective clinical and interview study. *Dental Traumatology*, 19(3), 126-131.

Sapir, S., Kalter, A., & Sapir, M. R. (2009). Decoronation of an ankylosed permanent incisor: alveolar ridge preservation and rehabilitation by an implant supported porcelain crown. *Dental Traumatology*, 25(3), 346-349.

Amato, F., Mirabella, D., Macca, U., & Tarnow, D. P. (2012). Implant site development by orthodontic forced extraction: a preliminary study. *International Journal of Oral & Maxillofacial Implants*, 27(2).

Filippi, A., Pohl, Y., & Von Arx, T. (2001). Decoronation of an ankylosed tooth for preservation of alveolar bone prior to implant placement. *Dental Traumatology*, 17(2), 93-95.

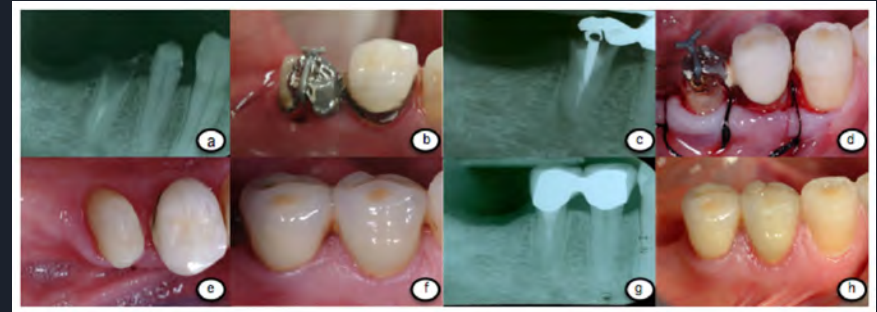
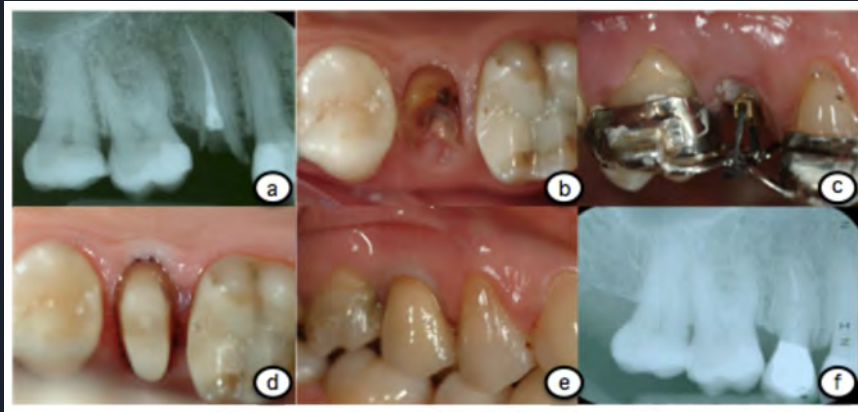
RAPID ORTHODONTIC EXTRUSION

Use of orthodontic extrusion as aid for restoring extensively destroyed teeth: a case series

Giuseppe Troiano¹, Bruno Parente², Luigi Laino¹, Mario Dioguardi¹, Gabriele Cervino², Marco Ciccì², Domenico Ciavarella¹ and Lorenzo Lo Muzio¹

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#7 RAPID ORTHODONTIC EXTRUSION



2 WEEK EXTRUSION



SPLINT FOR 4 WEEKS

CONSERVATIVE RESTORATIVE APPROACH



Mastercast was created by myself with Carlos' help without sending to the dental laboratory



BIOMIMETIC DENTISTRY

Complications and survival rates of inlays and onlays vs complete coverage restorations: A systematic review and analysis of studies

Georgia I. Vagropoulou, Georgia L. Klifopoulou, Stefania G. Vlahou, Hiroshi Hirayama ... See all authors ▾

First published: 17 July 2018 | <https://doi.org/10.1111/joor.12695> | Citations: 17

A further statistical analysis of the collected data demonstrated caries to be the main biological complication presented by all types of restorations, with a mean failure rate of 19.94% (95% CI: 0.14-0.33), followed by a root and/or tooth fracture incidence of 11.34% (95% CI: 0.068-0.32). Endodontic reasons exhibited the third higher failure percentage among the other biological complications with a failure rate of 8.05% (95% CI: 0.06-0.14). A 4.76% (95% CI: 0.03-0.20) rate for sensitivity was also recorded.

Ceramic fractures represented the most common technical complication, with a failure rate of 52.29% (95% CI: 0.35-0.71), followed by loss of retention with a 17.37% (95% CI: 0.14-0.25) rate. Chipping of the ceramic material accounted for 11.51% (95% CI: 0.06-0.37) of the total failures of all different types of restorations.



Deepa N Shah

The Biomimetic Restorative Approach

In comparison, partial coverage restorations are much more conservative, resulting in up to 30% loss of coronal tooth tissue, compared with up to 75% for full coverage preparations.^{11,12} Partial coverage restorations using ceramics or composite resins have been shown to behave in a more biomimetic manner by restoring tooth

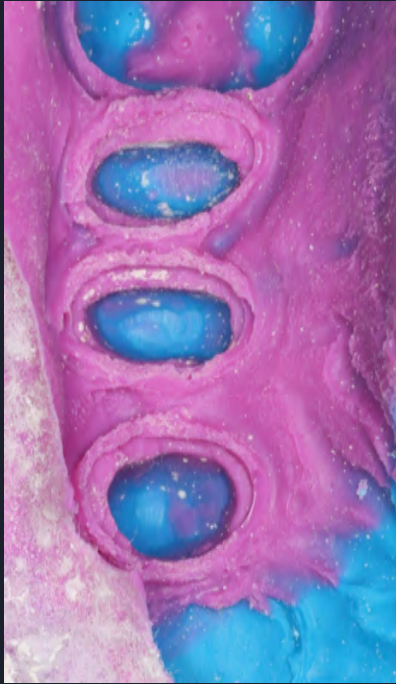
- Recreate a system where occlusal loads can be dissipated through the tooth by using adhesive dentistry to bond the restoration to the underlying tooth structure (mimicking the EDJ).
- Preserve and protect the remaining tooth structure by adopting a minimally invasive approach using carefully designed partial coverage restorations.
- Maintenance of pulp vitality by adopting a minimally invasive approach using carefully designed additive, adhesive and partial coverage restorations.
- Recapture the natural tooth aesthetics using tooth-coloured materials with high aesthetics qualities – glass-based ceramic (and composite resin materials).



Shah, D. N. (2021). The Biomimetic Restorative Approach. Dental Update, 48(1), 13-20.

Vagropoulou, G. I., Klifopoulou, G. L., Vlahou, S. G., Hirayama, H., & Michalakis, K. (2018). Complications and survival rates of inlays and onlays vs complete coverage restorations: A systematic review and analysis of studies. Journal of oral rehabilitation, 45(11), 903-920.

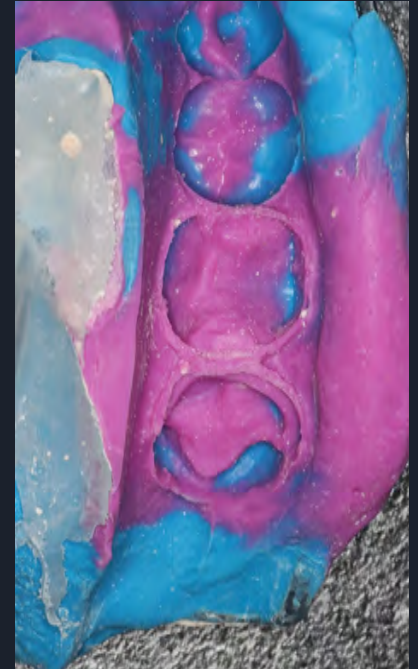
FINAL IMPRESSIONS



PHASE 1 - #4/5/6/30



PHASE 2 - #7/8/9/12/13/18/190



SHADE MATCHING #7/8/9/12/13/18/19

Incisal $\frac{2}{3}$ = 2L1.5



Gingival $\frac{2}{3}$ = 2R1.5



MID-TREATMENT PHOTOS



POST-OP PHOTOS







1-WEEK POST-OP PHOTOS

FINAL TREATMENT PLAN



- Urgent Phase
 - EXT #13, 15
 - CTX4 rinse
 - Fluoride toothpaste (Prevident)
 - OHI
- Disease Control Phase
 - SDF
 - Prophy
 - RCT & Post/BU:
 - #4, 5, 7, 8, 9, 12, 30, 31
 - GI/Composite:
 - #2 OL, #3 MOD, #10 MIFL, #18 MOB, #19 DO, #21 MOB, #22 F, #25 DFL, #26 MFL, #28 DO, #29 MO
- Restorative Phase
 - Crown Lengthening:
 - #4, 5, 30, 31
 - #7 rapid orthodontic extrusion
 - Layered Zirconia Crowns
 - #4/5/6/7/8/9/12/13
 - #10 Composite MIFLD
 - #11 Composite MIFLD
 - E-MAX Crowns
 - #18/19/30
- Maintenance Phase
 - Occlusal Guard
 - CTX3 rinse
 - Fluoride toothpaste (Prevident)
 - 6MRC & Prophy

Caries Control Cost = \$11,733
Prosthetic Cost = \$12,601
Total Cost = \$24,334
Time of Treatment = 8 months

Tx Notes:

- Many changes made to allow to follow the most conservative approach to tx as treatment changed midway through

THE DENTAL JOURNEY



She has been so proud of herself the last 3 weeks, always coming in to tell me she brushed & used her Waterpik (all of her own initiative - this is a HUGE milestone). Catarina seems to be very sore & in pain. A type of pain that she was not mentioned in the last 3 weeks. Except for that upper left molar that has been a continuous sharp pain. But now she said her whole mouth hurts. I was thinking that most likely this is due to the cleaning. What do you think?

Thank you for understanding today. Up until a year ago, Catarina had daily meltdowns for hours over simple things like noises/light (sensory issues). I am in amazement and can't believe she has been tolerating the ongoing appointments (what I know is extremely overwhelming for her). A year ago she would never spoken up (advocating for herself) to say she was 'stressed out'. She would have just been a 'melted puddle' on the floor for hours. Even though it seemed impossible to get her out of the chair today, I knew forcing her would have made it much worse for everyone involved. Your compassion resulted in her feeling more confident in her ability to be in control. I knew she would eventually do it if we pleaded with her. But like you said that may have ended in Dr. Grill being overly frustrated. I've never seen Catarina mad at anyone, she is overly kind to the point of pleasing others before herself. Anyways thank you again for making it a little bit easier, she cried herself to sleep in the car & went start to bed when she got home. Tomorrow is a new day. We will see you on Wednesday.

I've never seen Catarina connect with someone (outside the family) on a level where she has not only listened but insisted on following through too. You & your "words of wisdom" (altruistic personality) have certainly connected with her in a way where she feels not only safe but sociable (not an easy feat, even for those of us that are with her every day). From the standpoint of a parent of an ASD child, our dream is to see them feel safe/secure while interacting with others (two-way conversation - HUGE milestone). You have managed to accomplish both in very little time. A priceless gift few have in this world. Thank you for everything you have done and continue to do. We are so grateful & deeply touched by your compassion & kindness.

I can't tell you how grateful I am for the impact you have made on her life! She has accomplished HUGE milestones (talking/advocating for herself/hygiene & oral care). I can't believe the changes she has made. Something you & I do in our regular routine proves to be a momentous challenge for her (I have to remind & help her with almost everything she does). You can be happy (satisfaction of contributing to Catarina growing emotionally & socially) to know she is now obsessed with brushing/flossing her teeth. Something you can be very proud of.

her not to pull off the white slime as it may be a scab healing. Otherwise, she has not been complaining about any pain. Tonight she was bragging to her Grandma about how she is addicted to flossing. 🙌🐱

Catarina insisted I send you proof 🙌 She said, "tell me if he says anything".

See attached pic



PATIENT'S PERSONAL JOURNEY

REFLECTIONS

- Be accommodating to your patient and communicate well
- Treatment plans are plans and plans are meant to be changed
- Opinions are important, but too many is dangerous
- Follow evidence-based dentistry
- Look at the overall well-being of your patient and refer as necessary
- Teamwork makes the dream work
- Be open about treating patients with special needs
- The end goal is putting your patient on the path to a lifetime of dental health
- There is not a one-size fits all healthcare model for all patients
- Learning and growing is a bi-directional in a patient-doctor relationship
- Know your patient
 - “Not all patients will be doctors, but eventually, all doctors will be patients.”
 - Hear what they hear
 - See what they see
 - Feel what they feel



Patient will now be finishing school, graduating, and starting her first job



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 - Dr. Nikhil Malhan
 - Dr. Ambele Ouberke
 - Periodontics:
 - Dr. Gary Grill
 - Laboratory
 - Carlos Correa
 - Olga Matveyeva
- Administrative Staff:
 - Gigi Maranan
 - Zandro Alcantara
 - Maria Bran
- D2 Student Provider
 - Stone Mao
- Patient's Mother and Family
- Honorable Mentions:
 - Dr. Turoff, Dr. Fa, Dr. Gerges, Dr. Noble, Dr. Dexter, Dr. Fong, Dr. Brown, Dr. Andrews, Dr. Steinborne, Dr. Mashkoor, Dr. Oh, Dr. Masangkay

Your guidance and support throughout this journey for the patient and me as the provider has been pivotal to getting us where we are today. Thank you for having so much compassion and patience in all you do!



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5. Student Name: _____ #989 _____

Program: _____ Class Year _____

6. Student Name: _____ #989 _____

Program: _____ Class Year _____

7. Student Name: _____ #989 _____

Program: _____ Class Year _____

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8. Enter your abstract text here (300 word max) :

This patient presented to the Dugoni clinic in 2021 in need of a full mouth rehabilitation. It was discovered that the patient has a significant combined medical and social history that would create challenges in her treatment and management thereafter. In dental management of a patient with special needs, a multidisciplinary approach is recommended to better support the patient throughout their dental journey and establish a dental home for them. With a patient presenting with such complexities, managing and shaping behavior is critical to deliver the quality of care needed to support a lifetime of dental health.

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Dr. Michael Tiller, Dr. Namrata Nayyar, Dr. Mark Stevenson, Dr. Adham Azim, Dr. Nikhil Malhan, Dr. Bianca Aboubakare, Dr. Bernadette Fa, Dr. Mary Turoff, Carlos Correa, Gigi Maranan, Maria Bran, Stone Mao DDS
2023

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