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1  "Denture, Partial, Fixed, Resin-Bonded/ (454)
2  limit 1 to english language (399)

1. Konstantinidis I. Kotsakis G. Pallis K. Walter MH.
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   Title
   A novel technique for the direct fabrication of fixed interim restorations.
   Source
   Local Messages
   ***AVAILABLE IN THE BDA INFORMATION CENTRE FROM VOLUME 5 ISSUE 4 2003 ONWARDS***
   Publication Type
   Journal Article.
   Date Created
   20130325
   Year of Publication
   2013

2. Ozcan M.
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   Title
   Air abrasion of zirconia resin-bonded fixed dental prostheses prior to adhesive cementation: why and how?.
   Source
   Local Messages
   ***AVAILABLE IN THE BDA INFORMATION CENTRE FROM VOLUME 5 ISSUE 4 2003 ONWARDS***
   Publication Type
   Journal Article.
   Date Created
   20130808
   Year of Publication
   2013

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   Title
   CAD/CAM single retainer zirconia-ceramic resin-bonded fixed dental prostheses: clinical outcome after 5 years.
   Source
   Local Messages
   ***AVAILABLE IN THE BDA INFORMATION CENTRE FROM VOLUME 5 ISSUE 4 2003 ONWARDS***
   Publication Type
   Journal Article.
   Date Created
   20130325
   Year of Publication
   2013

Abstract
This article describes an alternative technique for the fabrication of interim restorations. A thermoplastic, vacuum-formed template and translucent vinyl polysiloxane material are combined in the waxed diagnostic cast to fabricate a matrix in which the interim material can be placed. With this matrix, a variety of materials, such as dual-polymerized or light-polymerized resins, can be used in a predictable way. The major advantage of this technique is that it allows for the fabrication of accurate restorations with excellent reproduction of surface anatomy and for alterations of the tooth shape with light-polymerized materials. Copyright 2013 The Editorial Council of the Journal of Prosthetic Dentistry. Published by Mosby, Inc. All rights reserved.

Abstract
This article describes an alternative technique for the fabrication of interim restorations. A thermoplastic, vacuum-formed template and translucent vinyl polysiloxane material are combined in the waxed diagnostic cast to fabricate a matrix in which the interim material can be placed. With this matrix, a variety of materials, such as dual-polymerized or light-polymerized resins, can be used in a predictable way. The major advantage of this technique is that it allows for the fabrication of accurate restorations with excellent reproduction of surface anatomy and for alterations of the tooth shape with light-polymerized materials. Copyright 2013 The Editorial Council of the Journal of Prosthetic Dentistry. Published by Mosby, Inc. All rights reserved.

Abstract
This article describes an alternative technique for the fabrication of interim restorations. A thermoplastic, vacuum-formed template and translucent vinyl polysiloxane material are combined in the waxed diagnostic cast to fabricate a matrix in which the interim material can be placed. With this matrix, a variety of materials, such as dual-polymerized or light-polymerized resins, can be used in a predictable way. The major advantage of this technique is that it allows for the fabrication of accurate restorations with excellent reproduction of surface anatomy and for alterations of the tooth shape with light-polymerized materials. Copyright 2013 The Editorial Council of the Journal of Prosthetic Dentistry. Published by Mosby, Inc. All rights reserved.
MATERIALS AND METHODS: Thirty anterior zirconia-ceramic RBFDPs fabricated with the Cerec CAD/CAM system were inserted using either a phosphate monomer containing resin (Panavia 21 TC; N = 16) or an adhesive bonding system with a phosphoric acid acrylate primer (Multilink-Automix with Metal/Zirconia primer; N = 14).

RESULTS: During a mean observation time of 64.2 months, one debonding occurred in each group. Both RBFDPs could be rebonded successfully resulting in a five-year survival rate of 100%.

CONCLUSION: Independent of the bonding system, cantilevered zirconia-ceramic RBFDPs showed promising results during the first five years. (ClinicalTrials.gov Identifier: NCT01411592).

CLINICAL SIGNIFICANCE: Single-retainer zirconia ceramic RBFDPs present an alternative treatment option offering good esthetics, a minimally invasive preparation, a high biocompatibility and can even be used to treat juvenile patients who do not yet come into consideration for implant placement. No significant influence of the bonding system used has been detected so far.
PURPOSE: This retrospective cohort study evaluated metal-cast silan-coated three-unit resin-bonded fixed dental prostheses (RBFDPs) after at least 16 years and identified covariates affecting the survival.

MATERIALS AND METHODS: A total of 37 patients with 42 RBFDPs placed by one operator between 1986 and 1993 were recalled and invited for a clinical examination in conjunction with scrutiny of clinical records.

RESULTS: Thirteen RBFDPs were lost to follow-up after an average of 58.5 months (SD = 39.4) and considered unaccounted for, 10 failed prior to the research recall and had a survival of 130.2 months (SD = 68.3), and 19 were still in function with a mean survival of 236.2 months (SD = 24.7). The estimated, cumulative survival via Kaplan-Meier analysis of the total number of 43 RBFDPs resulted in 95% (SE = 4%) survival after 5 years, 88% (SE = 6%) after 10 years and 66% (SE = 9%) after 20 years. No covariates were found having a significant effect on the survival rates.

CONCLUSIONS: RBFDPs have an acceptable clinical survival although lower than conventional FDPs and single implants. They should therefore be considered as a temporary provision, as a provision for geriatric or medically-compromised patients because of the simplicity of the provision, as a less expensive alternative, and for patients where the amount of bone loss impedes the use of dental implants.

Publication Type
Journal Article.
Date Created
20130617
Year of Publication
2013
<7>
Unique Identifier
23767113
Status
MEDLINE
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Title
Technique tips—an extracted tooth used as a pontic.
Source
Local Messages
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Publication Type
Journal Article. Research Support, Non-U.S. Gov't.

PURPOSE: To evaluate the fracture strength of inlay-retained, surface-retained, and cantilevered fiber-reinforced adhesively fixed dental prostheses in the anterior region.

MATERIALS AND METHODS: Thirty-two sound human right central incisors and canines were divided into four groups. Test groups were as follows: group 1, both teeth had deep cavity preparation; group 2, both teeth had shallow cavity preparation; group 3, only the canine teeth had deep cavity preparation; group 4, no preparation was made on the abutment teeth. Lateral pontics were restored with FRA-FDPs. All restorations were subjected to fracture loading from the lateral pontic. The restorations were tested in a universal testing machine (LRX Material Testing Machine) with a crosshead speed of 1 mm/min. One-way ANOVA was used for statistical analyses. Fracture modes were examined visually.

RESULTS: The highest (667.3 +/- 90.4 N) and the lowest (409.3 +/- 158.1 N) debonding values were found for groups 4 and 3, respectively.

CONCLUSIONS: Different preparation designs (inlay-retained, surface-retained) had no significant effect on fracture strength of FRA-FDPs in the anterior region. However, a cantilever design exhibited significantly lower fracture strength. Delamination of the veneering composite was observed as the primary failure type after fracture tests.
RESULTS: At the end of the study, 34 RBFDPs (83%) were still functioning with a mean follow-up of 6.3 years. According to the Kaplan-Meier survival curve, the overall and functional survival probabilities were calculated as 76% and 83%, with mean survival times of 6.8 years and 7.2 years, respectively. All clinical parameters monitored throughout the follow-up period predominantly revealed clinically acceptable results. Breslow test statistics presented nonsignificant differences with better results for the RBFDPs placed in the mandible of female recipients younger than 30 years of age. The most common failure noted with the RBFDPs was fracture of the occlusal veneering composite restoration over the retainer of a single abutment, leading to a predisposition of the restoration to partial debonding.

CONCLUSION: Within the limitations of this prospective cohort study, it can be concluded that cast-metal slot-retained RBFDPs utilizing the interlocking mechanism of a resin composite to obtain additional retention from the abutment cavities show acceptable clinical success rates, and can be considered a minimally invasive, economical, and time-saving treatment alternative for the prosthetic rehabilitation of single missing first molars.

PURPOSE: This case series study evaluated the clinical outcomes of cantilevered veneer-retained fixed partial dentures (VRFPDs) fabricated with IPS e.max Press veneer-retained fixed partial denture: case series of 35 patients.

Abstract
PURPOSE: This case series study evaluated the clinical outcomes of cantilevered veneer-retained fixed partial dentures (VRFPDs) fabricated with IPS e.max Press for single-tooth replacement in the anterior arch.
MATERIALS AND METHODS: A total of 35 patients were treated with VRFPDs, including 17 cases in the maxilla and 18 in the mandible. The patients were evaluated at baseline and annually from October 2005 to July 2011 for the integrity of the VRFPDs, proximal contacts, occlusal relationships, pulp vitality, and tooth mobility. The degree of satisfaction was indicated with a visual analog scale.

RESULTS: During a mean observation time of 46.57 months, 35 VRFPDs on vital abutment teeth did not exhibit postoperative sensitivity or secondary caries. No fractures or chipping of the restorations occurred within the course of the evaluation. No patient complained of food impaction. One cantilevered pontic needed adjustment on the incisal edge due to premature contacts after the 3-year recall examination.

CONCLUSION: Cantilevered IPS e.max Press VRFPDs should be considered a minimally invasive, single-tooth restorative strategy in the anterior or first premolar area. Longer observation periods are necessary before this type of restorative design can be recommended as a general conservative procedure.

Publication Type
Case Reports. Journal Article.

Date Created
20130311
Year of Publication
2013

Unique Identifier
23404005
Status
MEDLINE

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Title
Clinical evaluation of conventional cantilever and resin bonded cantilever fixed partial dentures: a comparative study.

Source

Abstract
INTRODUCTION: Ever since the introduction of the minimal preparation fixed partial dentures, the major concern of the clinicians has been its longevity.

AIMS AND OBJECTIVE: The objective of the present study was to compare the clinical performance of resin bonded cantilever bridges with conventional cantilever bridges for a period of 1 year and to evaluate the periodontal changes of abutment teeth using radiographic approach.

MATERIALS AND METHODS: Fourteen patients with missing first or second premolar were selected for the study. The patients were divided into 2 groups, conventional cantilever group and resin bonded cantilever group.

RESULTS: The results were analyzed using Student's t test and Mann-Whitney U test. The clinical success rate for both the groups was 100%. The amount of bone loss at 6 months for conventional group was 0.11 mm and for resin bonded bridge group was 0.10 mm. The amount of bone loss at 1 year for conventional cantilever group was 0.14 mm and for resin bonded fixed partial denture group was 0.16 mm. There was no statistical difference between both the groups. The results showed that the resin bonded cantilever bridges can be used for the treatment of missing posterior tooth.

Publication Type

Date Created
20130213
Year of Publication
2012

Unique Identifier
23420968
Status
MEDLINE

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Title
Resin-bonded fixed partial dentures past and present—an overview.

Source

Abstract
Resin-bonded fixed partial dentures have been in use for over 30 years, since the concept was first introduced in the 1970s. Initial efforts in this field suffered frequent early debond, but advances in metal alloys, treatment of the fitting surface and bonding techniques have made the resin-bonded fixed partial denture a predictable treatment modality. Design principles have also evolved. Originally these restorations were retained purely through adhesion, but now minimal preparation of the abutment teeth may be undertaken to optimise mechanical resistance and retention forms. This
facilitates delivery of a more predictable medium- to long-term restoration. Alternative materials such as ceramic, zirconia and fibre-reinforced composite resin have emerged for retainers. While these alternatives show promise, they are not without their disadvantages and do not yet have long-term data regarding their use for this application.

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Markov models in dentistry: application to resin-bonded bridges and review of the literature. [Review]

INTRODUCTION: Markov models are mathematical models that can be used to describe disease progression and evaluate the cost-effectiveness of medical interventions. Markov models allow projecting clinical and economic outcomes into the future and are therefore frequently used to estimate long-term outcomes of medical interventions. The purpose of this paper is to demonstrate its use in dentistry, using the example of resin-bonded bridges to replace missing teeth, and to review the literature. We used literature data and a four-state Markov model to project long-term outcomes of resin-bonded bridges over a time horizon of 60 years. In addition, the literature was searched in PubMed Medline for research articles on the application of Markov models in dentistry.

MATERIALS AND METHODS: Fifteen patients (10 males, 5 females) in the age range of 40-65 years with pathologically migrated, unsalvageable teeth were treated by splinting the extracted teeth immediately with the stable adjacent teeth. After 12 weeks, all the patients were explained various treatment options available for replacement of the lost teeth. The patients were asked to fill out a simple closed ended questionnaire citing the various difficulties encountered during this transitional period, selection of further treatment modalities and the reasons for their choice. The feedback obtained was then analyzed statistically.

RESULTS: Hundred percent of patients were happy with the esthetics; however, 60% of them were dissatisfied with the function that it provided. The primary problem being apprehension of splint fracture and difficulty while incising and the data was found to be statistically significant (P=0.01**). All patients demanded a permanent treatment option following this with a fixed prosthesis. None of the patients were interested in the implant supported prosthesis due to cost, treatment time involved, and need for surgery.

CONCLUSION: The concept of immediate pontic placement is surely a viable treatment option and promises an excellent transient esthetic solution for a lost tooth as well as enables good preparation of the extraction site for future prosthetic replacement.
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2012

Unique Identifier 22867803
Status MEDLINE
Authors Minami H. Minesaki Y. Suzuki S. Tanaka T.
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Title Twelve-year results of a direct-bonded partial prosthesis in a patient with advanced periodontitis: a clinical report.

Abstract Prosthodontic treatment for patients with advanced periodontitis is a therapeutic challenge. A minimally invasive technique is preferred to preserve the remaining mobile abutment teeth. This report describes the initial clinical treatment and 12-year follow-up of a direct-bonded prosthesis reinforced with a cast metal framework, used as a conservative treatment option to replace periodontally involved maxillary lateral incisors. Copyright 2012 The Editorial Council of the Journal of Prosthetic Dentistry. Published by Mosby, Inc. All rights reserved.
Publication Type Case Reports. Journal Article.
Date Created 20120807
Year of Publication 2012

Unique Identifier 22864202
Status MEDLINE
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Title Fracture resistance of direct inlay-retained adhesive bridges: effect of pontic material and occlusal morphology.

Abstract This study evaluated the effect of a) pontic materials and b) occlusal morphologies on the fracture resistance of fiber-reinforced composite (FRC) inlay-retained fixed dental prostheses (FDP). Inlay-retained FRC FPDs (N=45, n=9) were constructed using a) resin composite (deep anatomy), b) natural tooth, c) acrylic denture tooth, d) porcelain denture tooth and e) resin composite (shallow anatomy), as pontic materials. In addition resin composite beams were fabricated (N=30, n=10): i) ‘circular’, ii) ‘elliptic I’, and iii) ‘elliptic II’. There was no significant difference between the fracture resistance of Groups a, b, c, and d (598, 543, 539, 509 N, respectively) (p>0.05) (One-way ANOVA). Fracture resistance of Group e (1,186 N) was significantly higher than those of other groups (p<0.05) (Tukey’s test). No significant difference was found between Group i (1,750 N) and Group ii (1,790 N). Not the pontic material but the occlusal morphology affects the fracture resistance of FRC FDPs.
Publication Type Journal Article.
Date Created 20120806
Year of Publication 2012

Unique Identifier 22659339
Status MEDLINE
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Title Randomized clinical trial on single retainer all-ceramic resin-bonded fixed partial dentures: Influence of the bonding system after up to 55 months.
OBJECTIVES: This study evaluated the clinical outcome of all-ceramic resin-bonded fixed partial dentures (RBFPDs) with a cantilevered single-retainer design.

METHODS: Thirty anterior zirconia ceramic RBFPDs were inserted using either a phosphate monomer containing resin (Panavia 21 TC; N=16) or an adhesive bonding system with a phosphoric acid acrylate primer (Multilink-Automix with Metal/Zirconia primer; N=14).

RESULTS: During a mean observation time of 41.7 months one debonding occurred in each group. Both RBFPDs could be rebonded successfully resulting in a three-year survival rate of 100%.

CONCLUSION: Independent of the bonding system cantilevered zirconia ceramic RBFPDs showed promising results during the first three years.

CLINICAL SIGNIFICANCE: Single-retainer zirconia ceramic RBFPD present an alternative treatment option offering good aesthetics, a minimal invasive preparation, a high biocompatibility and can even be used to treat juvenile patients who do not yet come into consideration for implant placement.

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Publication Type
Comparative Study. Journal Article. Randomized Controlled Trial. Research Support, Non-U.S. Gov't.

Date Created 20120731
Year of Publication 2012

Unique Identifier 22724106
Status MEDLINE
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Title A clinical case report on indirect, posterior three-unit resin-bonded FRC FPD.

***AVAILABLE IN THE BDA INFORMATION CENTRE FROM VOLUME 5 ISSUE 4 2003 ONWARDS***

PURPOSE: This paper describes a clinical, conservative approach and the details of cavity preparation for the replacement of a maxillary first premolar using a minimally invasive preparation combined with the adhesive approach.

MATERIAL AND METHODS: A patient with a missing first premolar was treated with a 3-unit indirect fiber-reinforced composite (FRC) fixed dental prosthesis (FDP). The preparation on the canine was a slot combined with modified wing to increase the amount of fiber in the restoration. Glass fiber (Vectris; Ivoclar Vivadent) was used in an anatomical shape for the framework and incrementally veneered with resin composite (Adoro; Ivoclar Vivadent). The cavities were prepared by etching enamel and dentin with orthophosphoric acid, priming the dentin, and applying a three-step adhesive system and dual-cured luting resin (Variolink II, Ivoclar Vivadent). Finally, the indirect FRC FDP was finished and polished with 15-m diamond burs (Composhape, Intensiv) and a polishing kit.

RESULTS: The patient was satisfied with the esthetics and function of the restoration, which has served without repair for 5 years. At the 5-year clinical follow-up, the restoration was found to be clinically successful.

CONCLUSION: The correct cavity-preparation technique in combination with the FRC system could enhance the long-term survival of an inlay FDP.

Date Created 20121019
Year of Publication 2012

Unique Identifier 22612833
Status MEDLINE
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Title CAD/CAM treatment for the elderly--a case report.
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**Abstract**

BACKGROUND: When elderly develop signs and symptoms of Alzheimer's disease they lose their independence and neglect dental hygiene. Dentists are increasingly confronted by seniors who are in need but who have limited access to dental care. Caretakers and family are also often confronted with behaviour problems besides the dental problems.

OBJECTIVE: To report the importance of shorter and lower impact treatment for seniors when caretakers and family are confronted with a behavioural problem in addition to the dental problem.

MATERIALS AND METHODS: In this case report, the oral management of a patient with Alzheimer's disease was described using chairside computer-aided design/computer-aided manufacturing (CAD/CAM) technology while constructing a bonded bridge.

DISCUSSION: The case report emphasises the importance of interaction with the patient and added a treatment method for patients with limited cognitive skills who become easily agitated or aggressive.

CONCLUSION: The fabrication of a full ceramic bonded bridge utilising the Cerec 3D chairside CAD/CAM technology in an Alzheimer patient has been shown to be a feasible, precise, aesthetic and durable solution. It added a technique for intervening with patients with limited tolerance for dental procedures, which improves the quality of life of both patient and family.

**Impact of tooth replacement strategies on the nutritional status of partially-dentate elders.**

Source

Abstract
OBJECTIVE: To investigate the impact of tooth replacement on the nutritional status of partially dentate older patients, and, to compare two different tooth replacement strategies; conventional treatment using removable partial dentures and functionally orientated treatment based on the shortened dental arch.

BACKGROUND: Amongst older patients, diet plays a key role in disease prevention, as poor diets have been linked to numerous illnesses. Poor oral health and loss of teeth can have very significant negative effects on dietary intake and nutritional status for elderly patients. There is evidence that good oral health generally, has positive effects on the nutritional intake of older adults.

MATERIALS AND METHODS: A randomised, controlled clinical trial was designed to investigate the impact of tooth replacement on the nutritional status of partially dentate elders. Forty-four patients aged over 65 years completed the trial, with 21 allocated to conventional treatment and 23 allocated to functionally orientated treatment.

Nutritional status was assessed at baseline and after treatment using the Mini Nutritional Assessment (MNA) and a range of haematological markers.

RESULTS: At baseline, relationships were observed between the number of occluding tooth contacts and some measures of nutritional status. As the number of contacts increased, MNA scores (R = 0.16), in addition to vitamin B12 (R = 0.21), serum folate (R = 0.32) and total lymphocyte count (R = 0.35), also increased. After treatment intervention, the only measure of nutritional status that showed a statistically significant improvement for both treatment groups was MNA score (p = 0.03). No significant between group differences were observed from analysis of the haematological data.

CONCLUSION: In this study, prosthodontic rehabilitation with both conventional treatment and functionally orientated treatment resulted in an improvement in MNA score. Haematological markers did not illustrate a clear picture of improvement in nutritional status for either treatment group. 2011 The Gerodontology Society and John Wiley & Sons A/S.
In this case report, we describe the successful long-term treatment of a patient with dental agenesis. The initial treatment plan included an orthodontic phase to provide adequate space for replacing missing lateral incisors with implants. However, because of some complications encountered after 2 years of orthodontic treatment, a revised treatment plan was considered to achieve functional and esthetic goals. The patient was completely satisfied 5 years after being treated with two 2-unit cantilevered resin-bonded fixed partial dentures supported by the cuspid. This conservative treatment plan was cost-effective without having any significant biological cost.