FALL ROUNDS 2020

GROUP 4A-3
10/28/2020

ROUNDS TEAM

- **Group Leader: Dr. Grady**
- **Specialty Leader: Dr. Hjertstedt**
- **Project Team Leader: Alex Karkazis**
- **Project Team Participants: Tiffany Joseph, Krishna Shah, Max Reisner**

PATIENT BACKGROUND

- 75 year old male
- Caucasian
- Chief Complaint: "My lower partial is hard to chew with and I've been told that I need a new bridge up top"

MEDICAL HISTORY

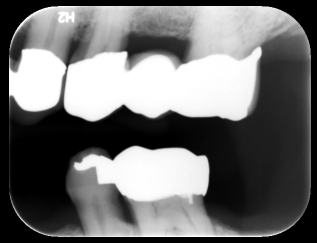
- Osteoarthritis
- Left hip replacement (2015)
- Pulmonary embolism (1982)
- Nasal polyps
- Depression

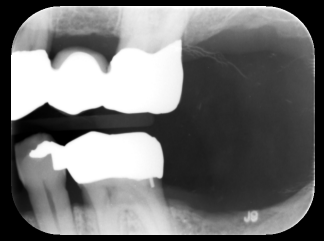
DENTAL HISTORY

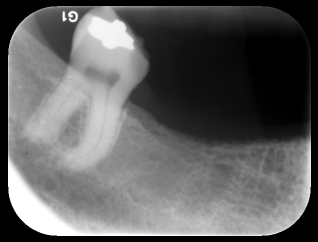
- Extractions
- Crown & Bridge
- Periodontal disease
- Mandibular removable partial denture

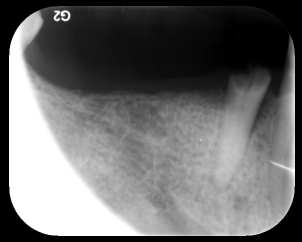
RADIOGRAPHS

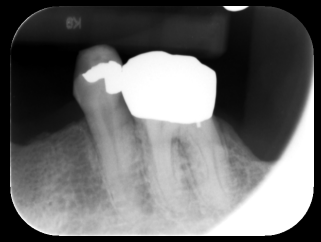




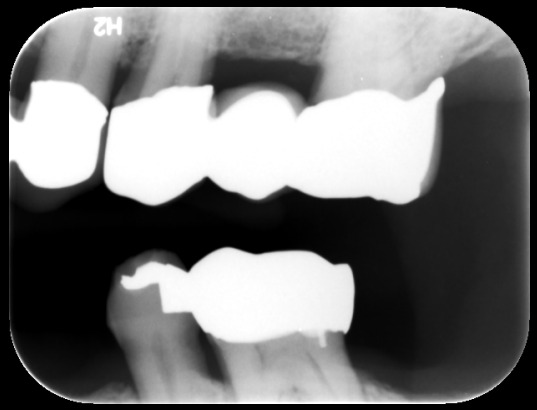







R5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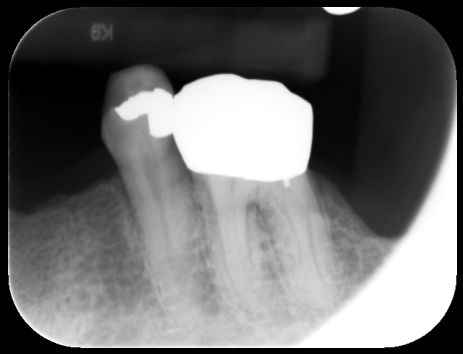

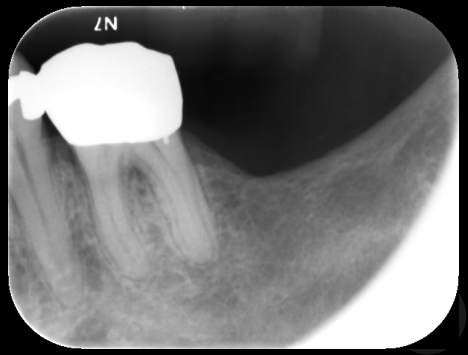

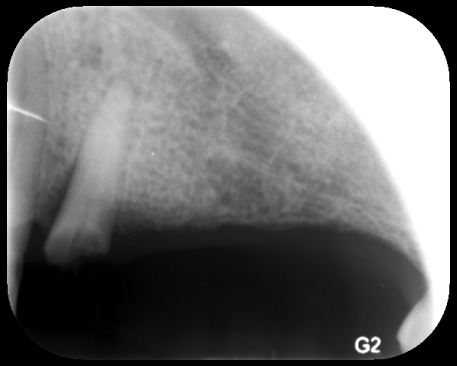
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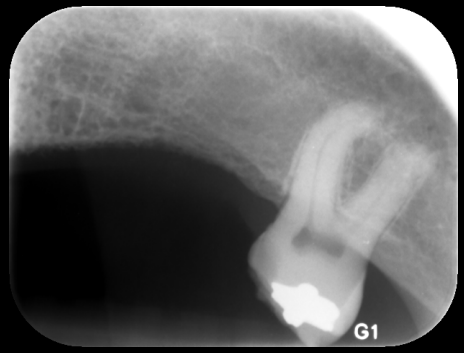
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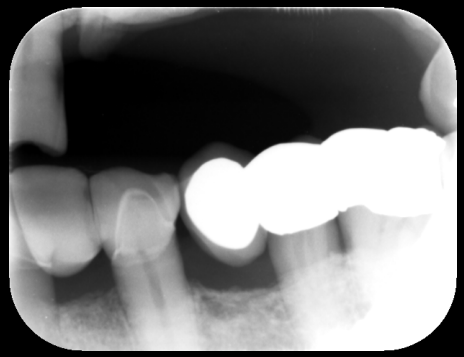
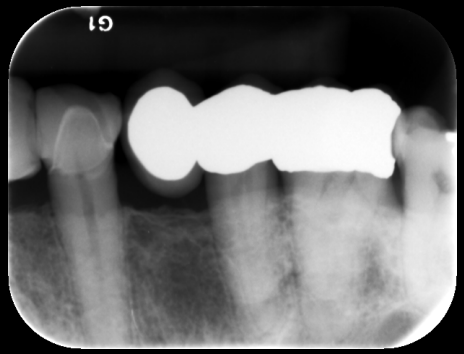
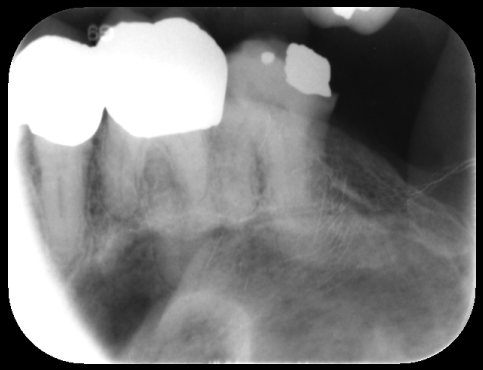



M7


G1



G5

G3

H5

H1

R2

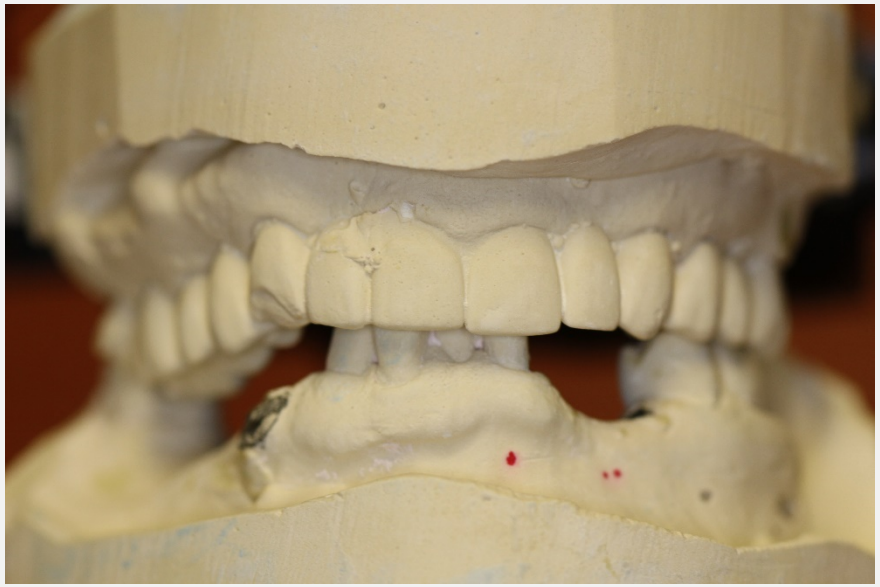
H1

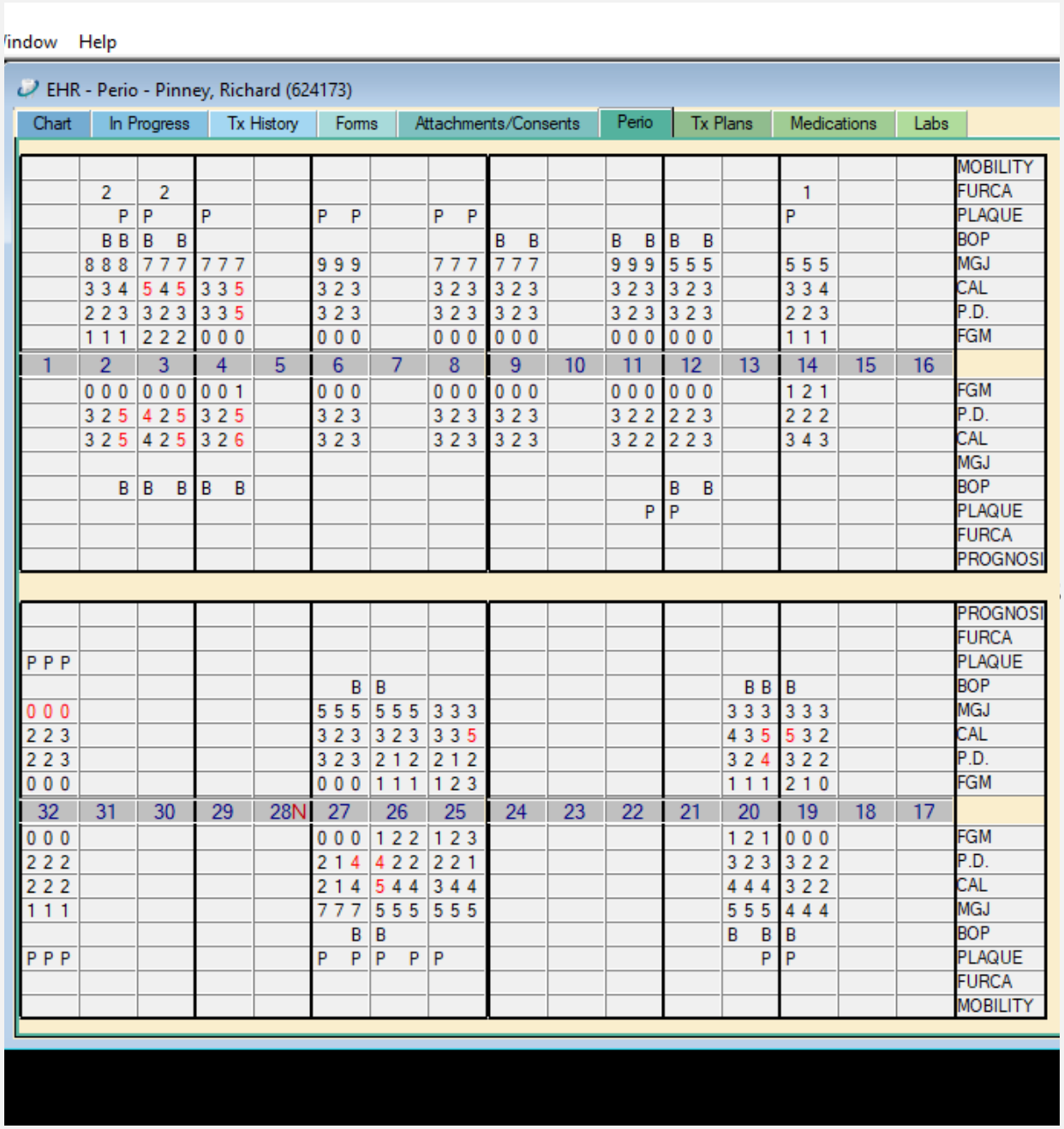
RADIOGRAPHIC FINDINGS

- Caries: 19, 20, 24, 27, 32
- Gross Caries: 28
- Furcation: 19
- Widened PDL: 3, 19
- Bone levels: <2 or 2-4 mm

CLINICAL FINDINGS

- 2 defective restoration
- 3,4,5 supraeruption
- 12 defective restoration
- 19 D recurrent decay
- 20 D recurrent decay
- 24 DL caries
- 24-27 incisal wear
- 27 D decay
- 28 gross decay
- 32 MO caries
- 32 mesial tipping
- Mandibular torus (lower right)




Window Help
EHR - Perio - Pinney, Richard (624173)
Chart
In Progress
Tx History
Forms
Attachments/Consents
Perio
Tx Plans
Medications
Labs
MOBILITY
FURCA
PLAQUE
BOP
MGJ
CAL
P.D.
FGM
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
FGM
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CAL
MGJ
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P.D.
FGM
32 31 30 29 28N 27 26 25 24 23 22 21 20 19 18 17
FGM
P.D.
CAL
MGJ
BOP
PLAQUE
FURCA
MOBILITY

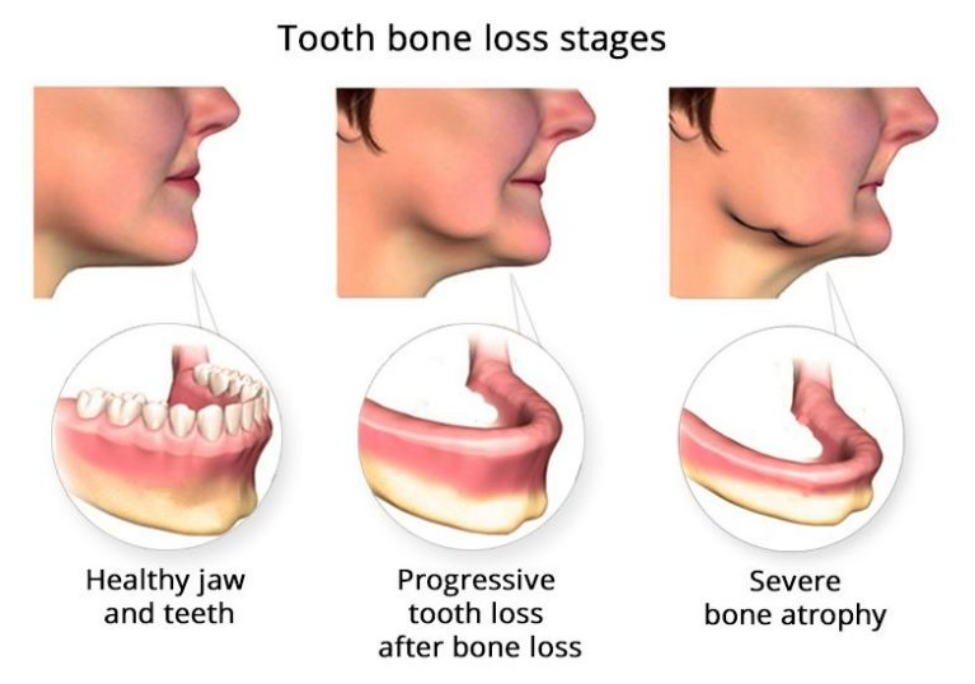
DIAGNOSIS

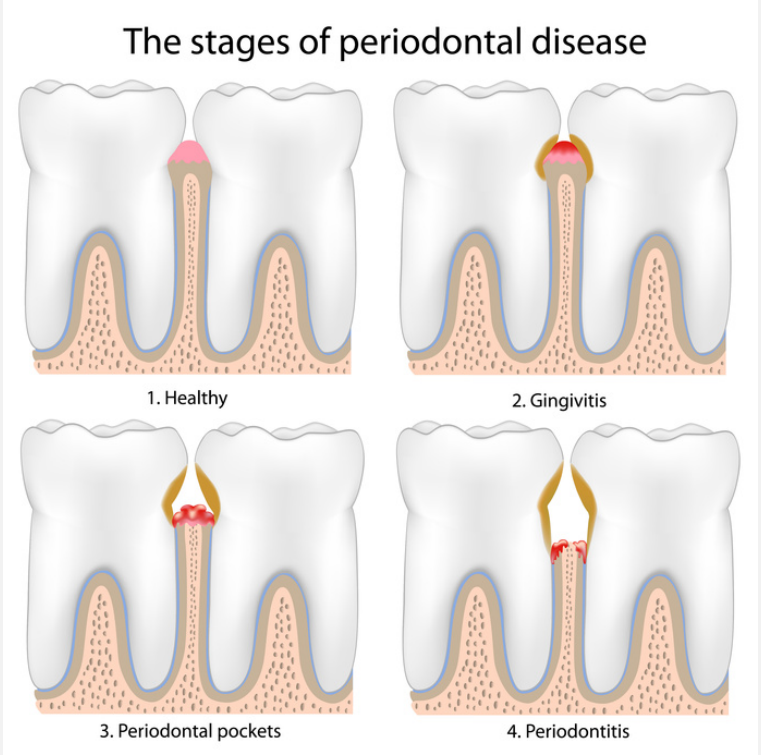
- Periodontal: Stage II Periodontitis, Grade B Progression
- Soft Tissue: WNL
- Hard tissue: Missing teeth, caries

PROBLEM LIST

- Homecare
- Esthetics
- Missing Teeth
- Caries
- Gross caries
- Crowding
- Existing mandibular RPD is defective
- Periodontal disease

HOW DOES ALVEOLAR BONE CHANGE AS WE AGE?



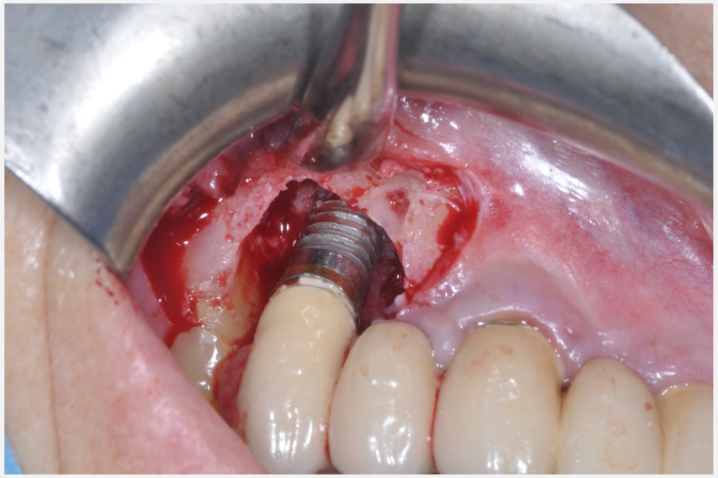


- Loss of teeth results in resorption of alveolar bone
  - loss of teeth related to disease or trauma
- Periodontitis and osteoporosis contribute to alveolar bone loss
- Aging is not direct cause of alveolar bone loss
  - age is a factor not the cause
- Alveolar bone will become thinner, because of reduction of mandible

D2 PATHOLOGY QUESTION

WHAT IS PERI-IMPLANTITIS?

- Inflammation of hard and soft tissues that surround an implant
- Cause marginal bone loss
- Increased pocket formation around the implant
- Poor osseointegration between bone and the implant.



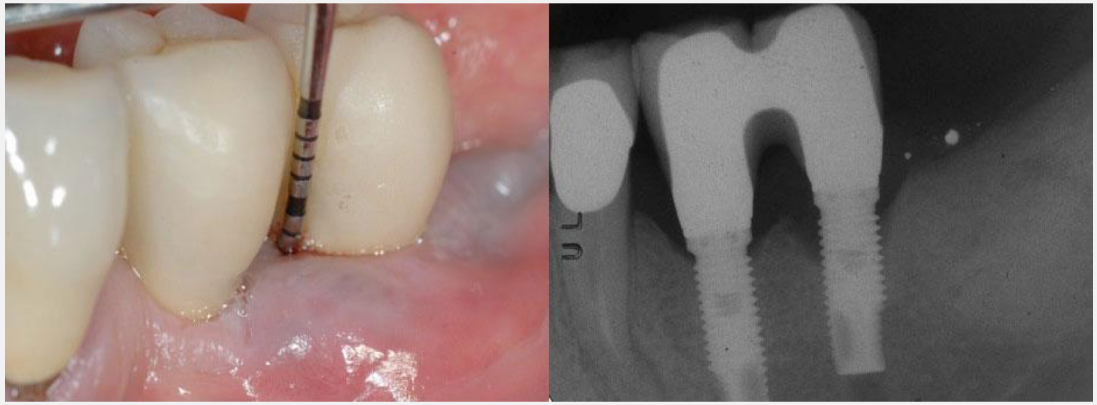
CAUSE AND CLINICAL PRESENTATION

Causes:

- Plaque
- History of periodontitis
- History of implant failure
- Design of implant
- Soft tissue defect
- Diabetes and smoking

Clinical Presentation:

- Peri-implant signs of inflammation (swelling, redness, BOP)
- Radiographic bone loss after healing was shown
- Increased probing depth after implant placement



TREATMENT

- Non- Surgical
  - Mechanical removing
  - Using antibiotics and antiseptics
- Surgical Methods
  - Resective Surgery
  - Implantoplasty
- Chemical Agents
  - Hydrogen Peroxide
  - Saline
  - Citric Acid

D3 PICO

- **Clinical Question: What treatment options are available to replace missing mandibular teeth?**

PICO FORMAT

P: Geriatric patients missing mandibular teeth

I: Implant assisted RPD

C: Conventional RPD

O: Long term patient satisfaction

PICO FORMATTED QUESTION

- In geriatric patients who need replacement for missing mandibular teeth, do implant assisted RPDs have higher patient satisfaction long-term compared to conventional RPDs?

CLINICAL BOTTOM LINE

- Implant assisted RPDs should be offered to patients as the treatment of choice over a conventional RPD.
- Implant assisted RPDs can alleviate many of the problems linked to conventional RPDs
- Patients can expect increased stability, less ridge resorption, increased retention, reduced stress to natural tooth abutments, reduced need for clasps

SEARCH BACKGROUND

- **Date(s) of Search: 9/30/20, 10/19/20**
- **Database(s) Used: NCBI**
- **MESH terms:** Dental prosthesis, Implant-supported; Denture, partial, removable; Tooth loss; Dental prosthesis design; Jaw, edentulous, partially

ARTICLE 1 CITATION, INTRODUCTION

- Citation: Chatzivasileiou K, Kotsiomiti E, Emmanouil I. Implant-assisted removable partial dentures as an alternative treatment for partial edentulism: a review of the literature. Gen Dent. 2015 Mar-Apr;63(2):21-5. PMID: 25734282.

- Study Design: Systematic Review of Randomized Control Trials

- Study Need / Purpose: To review and present the existing knowledge about critical aspects of implant assisted removable partial dentures.

ARTICLE 1 SYNOPSIS

- Method: Review of studies on restoring a partially edentulous maxilla or mandible with an RPD with at least 1 implant
- Results:
  - 37 articles reviewed
  - 96% to 100% survival rate – 9 months to 7 years
  - Increased patient satisfaction
  - More favorable biomechanical properties

ARTICLE 1 SYNOPSIS

- Conclusions: Implant assisted RPDs should be considered when planning prosthodontic treatment for partially edentulous patients

- Limitations:
  - More robust studies need to determine long term survival of implant assisted RPDs
  - Design guidelines need to be created

ARTICLE 1 SELECTION

- Reason for selection: This review looked at different aspects of implant assisted RPDs
- Applicability to your patient: Implant assisted RPDs and conventional RPDs are compared
- Implications: An implant assisted RPD should be considered when treatment planning for our patient

ARTICLE 2 CITATION, INTRODUCTION

- Citation: Omura AJ, Latthe V, Marin MM, Cagna DR. Implant-assisted removable partial dentures: practical considerations. Gen Dent. 2016 Nov-Dec;64(6):38-45. PMID: 27814254.

- Study Design: Systematic Review of Randomized Control Trials

- Study Need / Purpose: Analysis of aspects of diagnosis, treatment planning, clinical management, laboratory execution, and maintenance to obtain optimal results with implanted assisted RPDs

ARTICLE 2 SYNOPSIS

- Method: Review of articles that detail diagnostic, treatment planning, clinical, laboratory, and maintenance considerations for successful implant assisted RPDs
- Results:
  - Increased retention, increased stability, reduced ridge resorption, diminished stress to natural tooth abutment, better esthetics
  - Prevention of combination syndrome
  - Create Class III RPD out of Class I or II

ARTICLE 2 SYNOPSIS

- Conclusion: Implant assisted RPDs show better support, comfort, esthetics; and should be offered as the treatment of choice when compared to conventional RPDs
- Limitations: More long-term studies are need to analyze the survival of implants used in implant assisted RPDs

ARTICLE 2 SELECTION

- Reason for selection: This article showed situations when an implant assisted RPD would be the most beneficial for a patient over a conventional RPD
- Applicability to patient: Benefits of implant assisted RPDs over conventional RPDs to the patient are shown
- Implications: An implant assisted RPD can alleviate many of the issues presented with a conventional RPD

ARTICLE 3 CITATION, INTRODUCTION

- Citation: Mijiritsky E. Implants in conjunction with removable partial dentures: a literature review. Implant Dent. 2007 Jun;16(2):146-54. doi: 10.1097/ID.0b013e3180500b2c. PMID: 17563505.

- Study Design: Systematic Review of Case Control Studies

- Study Need / Purpose: Review literature regarding the use of implants with RPDs to evaluate evidence based indications for an implant assisted RPD rather than a conventional RPD

ARTICLE 3 SYNOPSIS

- Method: Review of articles focusing on the use of implants in conjunction with RPDs
- Results:
  - Helps eliminate lack of stability, retention, and poor esthetics
  - Reduces combination syndrome
  - Improves fulcrum line location and reduces rotational force towards tissue
  - Increased patient satisfaction
  - Reduced bone loss
  - Increased patient compliance

ARTICLE 3 SYNOPSIS

- Conclusions: The use of implants to improve unfavorable RPD design and esthetics is a viable solution for increased functionality and satisfaction in a partially edentulous patient
- Limitations: Further research with controlled prospective clinical trials is needed to assess longevity

ARTICLE 3 SELECTION

- Reason for selection: This article reviewed benefits of including implants in an RPD design
- Applicability to your patient: Benefits of implant assisted RPDs over conventional RPDs are shown
- Implications: Increased functionality and patient satisfaction can be seen when implants are incorporated into an RPD design

LEVELS OF EVIDENCE

- [x] **1a** – Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control Trials (RCTs)
- [ ] **1b** – Individual RCT
- [ ] **2a** – Systematic Review of Cohort Studies
- [ ] **2b** – Individual Cohort Study
- [ ] **3** – Cross-sectional Studies, Ecologic Studies, "Outcomes" Research
- [x] **4a** – Systematic Review of Case Control Studies
- [ ] **4b** – Individual Case Control Study
- [ ] **5** – Case Series, Case Reports
- [ ] **6** – Expert Opinion without explicit critical appraisal, Narrative Review
- [ ] **7** – Animal Research
- [ ] **8** – In Vitro Research

STRENGTH OF RECOMMENDATION TAXONOMY (SORT)

■	**A** – Consistent, good quality patient oriented evidence
□	**B** – Inconsistent or limited quality patient oriented evidence
□	**C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening

CONCLUSIONS: D3

Based on the above considerations, how will you advise your D4?

- When discussing treatment options with the patient you should present an implant assisted RPD as the first treatment option.
- An implant assisted RPD will alleviate issues associated with a conventional RPD and lead to higher patient satisfaction.

CONCLUSIONS: D4

- Home care and regular perio recall
- Ownership of treatment
- Implant assisted RPD is the best treatment option to replace key missing tooth (#22)

DISCUSSION QUESTIONS

- Does the patient's manual dexterity play a factor in determining the treatment?
- What factors determine how many implants should be placed in an implant supported RPD?
- How do home care recommendations differ between a conventional RPD and an implant supported RPD?
- Is periimplantitis primarily caused by a combination of factors? Or, is there one factor that plays a major role in periimplantitis?
- Where are the most optimal sites to place implants for an implant-assisted RPD?

DISCUSSION QUESTIONS

- How long does an implant assisted RPD take to put into place compared to a conventional RPD?
- Is implant placement contraindicated in patient who have a history of periimplantitis?
- What is the most effective treatment for periimplantitis?
- What factors can cause alveolar bone to weaken?

THANK YOU