Tooth Supported Overdentures?

- Tooth roots
  - Susceptible to caries and periodontal disease
- Able to retain bone
  - Physiologically
  - Natural implants
- Transitional approach
- Offer cost effective approach in short term for patient

Measure of success?

- Clinical Outcomes
- Patient centred outcomes
- Clinician centred outcomes

Measure of success?

- How do you record success in your notes?
- What quality standards do you employ?
- Can you quantify that success?
  - How many patients have been happy?
  - On what scale from 1 to 10?

Learning Outcomes

- Knowledge of Tooth based overdentures
  - Retention elements
- How to construct such dentures
  - Care and maintenance
- Special mention of the Evidence base of these techniques

Classical Scenario

- Two canines
- Crown-root ratio
  - Roots keep bone in the mandible & reduces resorption in the long term

Crum & Rooney 1978
Classical scenario – two roots have been endodontically treated and crowns removed.

Tooth Supported Overdentures
Treatment Planning

- Prevention strategy
- Transitional approach
- Edentulous future
- Implant supported future

Tooth Wear Case

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Not clear but most likely gastric reflux</th>
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<tbody>
<tr>
<td>Treatment</td>
<td>Endodontics UR3</td>
</tr>
<tr>
<td>Smooth edges of remaining teeth</td>
<td></td>
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<tr>
<td>Upper complete overdenture</td>
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<tr>
<td>Lower partial denture or acid etch bridge</td>
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- Generalised Non Carious Tooth Tissue Loss (NCTTL)
- More severe anterior dentition
- Caries to pulp UL1
- Inter-occlusal clearance = 7mm

Diagnosis

- Dietary analysis (erosive potential)
- Questioning about any gastric problems
- Elective RCT UL1 (caries to pulp)
- Accept NCTTL in lower; reshape UR21 UL123

Treatment Plan

- Upper overdenture, with overlay UR3, acrylic.
  Care with flange - anterior undercuts.
- Lower partial denture
- Increase VDO by 4mm, restore aesthetics
- Monitor NCTTL with serial study casts
- Review

Treatment Plan
Disadvantages of Overdentures

- More technically demanding
- Extra clinical time and stages
  - Abutment tooth preparation
  - RCT, perio, cons
- Abutment maintenance and failure
- Cost

Practical Tips

- Prevention
- Impressions
- Techniques
- Attachments

Prevention

- Failure of abutments by caries major issue
- Many overdenture patients already proven caries risk
- Fluoride and oral hygiene important preventive measures
- Fluoride gel inside dentures
  - Simple effective

Use of fluoride gel daily
5% of teeth develop caries

Prevention - caries

Non - fluoridated abutments
20% of teeth develop caries

Use of Fluoride Gel

Stannous Fluoride
Do fluoride gels reduce dental caries?

- Application of fluoride gels
  - either professionally or self-applied
- Substantial reduction in caries increment
- Independent of other fluoride sources
  - depend on application frequency

- Best on high incidence rather than low
- Are low incidence patients being overtreated?
Abutment failure

- Periodontal disease  
  - 29 %
- Periapical lesions  
  - 19 %
- Caries  
  - 17 %


CONCLUSIONS:
Study followed up some patients for as long as 22 years. Rate of tooth loss was 20.0 percent. Many of failures could have been prevented if patients had practiced better oral hygiene.

Abutment failure

- 22 vertical fractures in 17 subjects
- Overdenture teeth in maxillary arch opposed by natural teeth more likely to experience vertical fractures

Attachments

But in other patients  
they don't follow your instructions!
Magnets – Attraction or Separation?

Magnet usage

- Overdentures with tooth roots
- Implant supported overdentures

Riley MA, Walmsley AD & Harris IR

Overdentures with tooth roots

- Magnets made from
  - Iron – Neodymium – Boron

Overdentures with tooth roots

- Domed root keeper system
- Cast keepers
- Self-adjusting Magnetic Attachment

Domed root keeper system