Making a good impression

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Complete denture success: the ‘golden triangle’

Retention

Support

Stability

An accurate record of the denture bearing tissues is needed to produce well supported, stable & retentive dentures.
Making a good impression

Focus:

- Edentulous impressions
- Any evidence
- Technical & clinical guidelines
- Practical procedures/materials

Monet [impressionist]
Making a good impression: Is there any evidence for what we do?

- Low level of evidence; expert opinion
- Standard teaching: 2 stage approach to edentulous impressions
- Although some studies show that single stage impressions produce similar outcomes
- Focus on 2\textsuperscript{nd} stage of 2 stage approach to impressions
Making a good impression

Good impressions are made and not taken!

• We need guidelines that we can use to build a good impression
• The British Society of Prosthodontics produces useful guidelines that can be applied (BSSPD.org)
• Rely on a knowledge of edentulous anatomy and the accepted parameters for denture extension. They do not specify the impression materials to be used – this is left to clinician’s choice.
Making a good working impression

• Starts with a good primary imp
• Second imps use special [lab made custom trays]
• Separating the impressions into 2 distinct steps (first & second imps) allows the clinician more control & is less fatiguing!

A good first impression can work wonders
J K Rowling
Making a good impression: ‘It’s just a first impression’

Maxillary:
1. Residual ridge, tuberosities, hamular notches
2. Functional sulci & frenae
3. Junction of hard & soft palate

Mandibular:
1. Residual ridge & retromolar pads
2. Functional sulci, fraenae, external oblique ridges
3. Lingual sulcus, lingual fraenum, mylohyoid ridge, retromylohyoid area
Making a good impression: Summary of relevance of recording anatomical characteristics

<table>
<thead>
<tr>
<th>anatomy</th>
<th>retention</th>
<th>stability</th>
<th>support</th>
<th>comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual ridge</td>
<td>Yes if useable undercut</td>
<td>Yes if well formed</td>
<td>Yes</td>
<td>Guide tooth position</td>
</tr>
<tr>
<td>Hard palate</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Surface detail</td>
</tr>
<tr>
<td>Incisive papilla</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>Guide to tooth position</td>
</tr>
<tr>
<td>Fovea palati</td>
<td>Yes</td>
<td>no</td>
<td>no</td>
<td>Guide to postdam location</td>
</tr>
<tr>
<td>Hamular notch</td>
<td>Yes</td>
<td>no</td>
<td>no</td>
<td>Posterior seal</td>
</tr>
<tr>
<td>Sulcus/frenae</td>
<td>Yes</td>
<td>Yes</td>
<td>no</td>
<td>peripheral seal assists stability</td>
</tr>
</tbody>
</table>
Making a good impression: Summary of relevance of recording mandibular anatomical characteristics

<table>
<thead>
<tr>
<th>anatomy</th>
<th>Retention</th>
<th>stability</th>
<th>support</th>
<th>comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retromolar pads</td>
<td>maybe</td>
<td>yes</td>
<td>yes</td>
<td>Posterior seal</td>
</tr>
<tr>
<td>Retromylohyoid</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>fossa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buccal shelves</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>Importance of tray</td>
</tr>
<tr>
<td>Mylohyoid ridge</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>Can contribute seal</td>
</tr>
<tr>
<td>Lingual sulcus</td>
<td>Not really</td>
<td>yes</td>
<td>no</td>
<td>Overextension = instability</td>
</tr>
</tbody>
</table>
Making a good impression. ‘First impressions are always unreliable’ Franz Kafka

To make them more reliable:

• Chose a rigid disposable stock tray that covers the anatomical landmarks & gives approx. 4mm space

• Use a viscous mix of alginate for the impression if there is a ‘reasonable’ firm ridge

• For more resorbed ridges use PVS ‘soft putty’

• For displaceable ridges use a thinner mix of alginate

• For ‘gagging’ patient use compound
Making a good impression: Second imps, material choice

• Not as important as it’s handling characteristics
• Border moulding material should be ‘self supporting’ and ‘mouldable’
• Chose impression material that flows and will record sufficient surface detail [more important in upper denture]
• For reasonable upper ridges [class III] thin mix of alginate OK
• For resorbed ridges 1.5mm spaced for PVS Heavy or regular+/- light body PVS wash
• Alginate can’t be added to so any significant deficiencies mean a repeat impression but the setting time is shorter
• Silicone materials can be added to, so impressions can be ‘built’ and deficiencies corrected but the setting times are longer.
Making a good impression: Second Imps ‘The devil is in the detail’ Flaubert

• Appropriately spaced special tray
• Upper add border material over tray edge & buccal surface in tuberosities and anterior aspect, along posterior border. Manipulate cheeks & lips
• Lower add to tray edge/lingual areas distolingually. Mould by patient movements
• Load but DO NOT OVERLOAD the tray
• Seat the impression slowly doing this too quickly builds up pressure [Hyde et al J Pros Dent 2008, 384-389]
Second impression: ‘mind-map flowchart’

- Does the tray fit well?
  - Yes: Add PVS & border mould
  - No: Overextended?
    - Yes: Trim with bur
    - No: Underextended?
      - Yes: No
      - No: No

- Make impression
  - Apply alginate - ‘thin’ mix
  - Apply adhesive & PVS heavy+/- light

- Impression OK - cover landmarks & no air blows?
  - No: Determine why: tray position, tray extension, material mixing & handling
    - REPEAT IMP
  - Yes: Decontaminate & send to lab

- Determine why: tray position, tray extension, material mixing & handling
  - ADD MATERIAL & RESEAT
Making a good impression: ‘trouble shooting’

air blows

avoiding

• prepack/syringe mix into undercuts/deep palate

managing

• Can’t add alginate to alginate! Small blows fill with wax, large blows repeat impression (aargh!)

• Silicone add silicone to deficient areas & reseat. Large blow in palate can create 2x holes & syringe PVS when imp seated
Making a good impression: ‘Hands on’

Lower imp
• Check tray fit in relation to sulcus and anatomy
• Add border material to L & R disto-lingual using bite reg.
• When set remove & add silicone to cover fit surface of tray.
• No need to overload tray remember the space is 1.5mm

Upper imp.
• Check tray fit in relation to sulcus, palate coverage, & anatomy
• Add border material to tuberosities & along posterior border
• When set remove.
• Mix alginate [adding a bit more water to reduce viscosity] add to fit surface of tray, again no need to overload the space is 3mm