

Stage 1 | Assessment and treatment planning

Step 4

Fabrication of the surgical drill template

Assessment and treatment planning

Step 4 | Fabrication of the surgical drill template

Overview



Assessment and treatment planning



Step 1 | Patient's expectations,
history and examination



Step 2 | Treatment planning



Step 3 | Consultation and consent



Step 4 | Fabrication of the surgical drill template

Surgical procedures



Step 1 | Implant surgery



Step 2 | Post-operative review and suture removal

7–10 days

Prosthetic procedures



Step 1 | Impression-taking



Step 2 | Fabrication of the final prosthesis



Step 3 | Insertion of the final prosthesis

6–8 weeks

Aftercare and maintenance



Step 1 | Review visit



Step 2 | Maintenance visit

2 weeks

3–6 months
(or as necessary)



In clinic with patient



Office / Lab work

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Assessment and treatment planning

Step 4 | Fabrication of the surgical drill template

Introduction



Introduction

A custom-made surgical drill template (also known as a surgical stent or acrylic guide) supports surgical and prosthetic planning. It helps to facilitate preparation of the implant bed to help you carry out the desired positioning and angulation of the implant during surgery. It is constructed in relation to the remaining natural dentition and residual alveolar ridges.

A custom-made surgical drill template helps you to accurately position the implant during surgery.



Learning objectives



Understand the importance of a diagnostic wax-up, which helps in the fabrication of a surgical drill template.



Be able to communicate with the dental lab on the specific requirements of fabricating the surgical drill template for the implant placement visit.



Know how to assess a surgical drill template intraorally.



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1. Requirements
for a surgical drill
template



1. Requirements for a surgical drill template

The surgical drill template should:

- be stable and rigid when positioned in the mouth
- be easy to place and remove
- be transparent
- be produced with a solid or robust material which does not distort during use
- not interfere with tissue reflection or the external cooling process during surgery

Important features of a surgical drill template.

2. Fabrication of a surgical drill template

A conventional surgical drill template can be produced with the vacuum-formed template components. The surgical drill template should be fabricated using the diagnostic wax-up of the proposed implant crown. Surgical drill templates can also be created out of acrylic resin.

Surgical drill templates can be produced conventionally with a vacuum-form process or from acrylic resin.



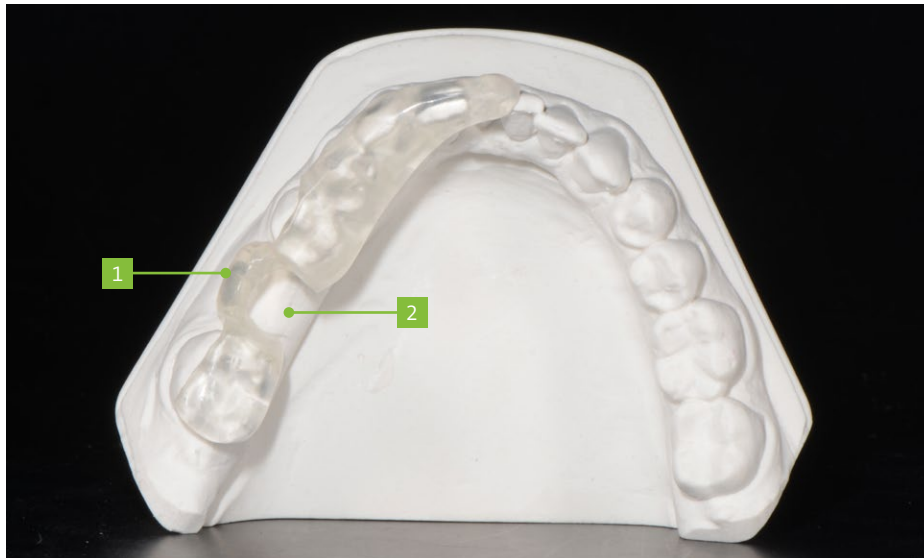
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3. Example of a surgical drill template

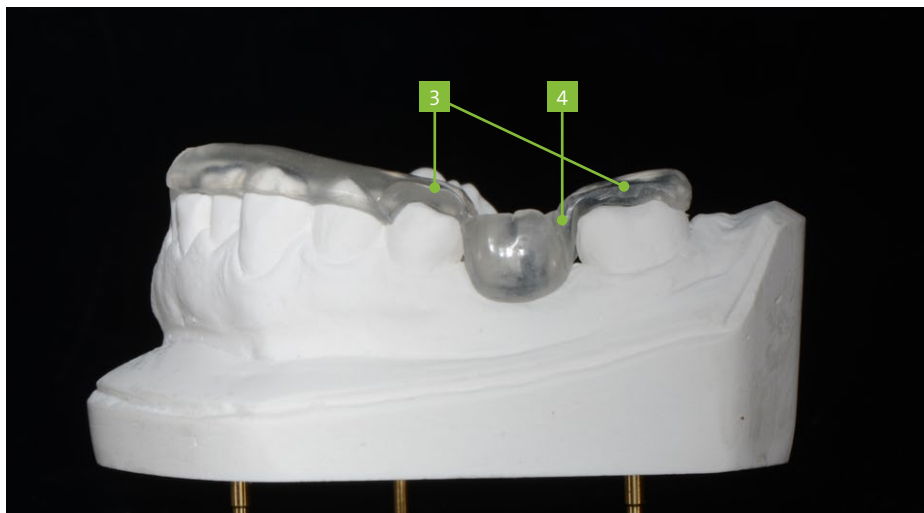


3. Example of a surgical drill template made of acrylic resin



- 1 The buccal contour gives you information about the bucco-palatal position of the implant and future gingival margin.
- 2 Palatal/lingual parts can be trimmed off to allow better visualization and easy access for drills. This wide opening allows external cooling during implant bed preparation.

Design features of a surgical drill template



- 3 Coverage of at least two adjacent teeth is necessary for stable positioning of the surgical drill template.
- 4 Connectors should have a minimum thickness of 2 mm for stability and rigidity.



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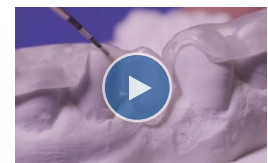
3. Example of
a surgical drill
template



- 1 Visualization of surrounding landmarks (e.g., buccal aspect of the neighboring teeth) helps you to place the implant in the correct mesio-distal position.
- 2 Information about the prospective crown margin of the restoration can help you to visualize the final tooth position during implant placement.
- 3 The surgical drill template should not interfere with tissue reflection when a flap is raised during surgery.



[Video: Assessing the fit of the surgical drill template](#)





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