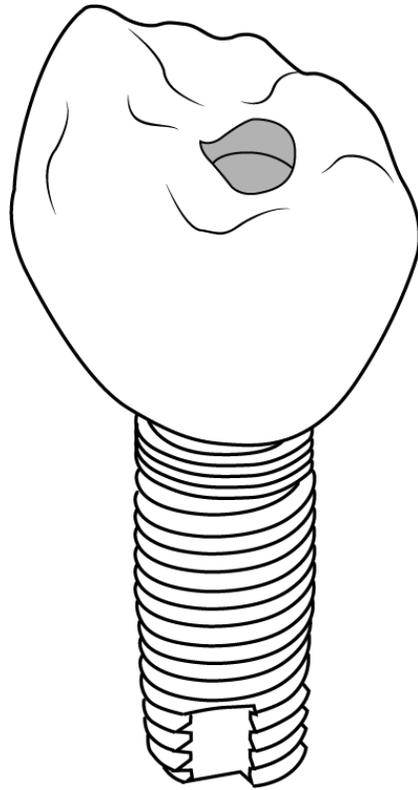


Workflow guide:

## 3D printing for implant crowns



With 3D printing, you can provide implant crowns to your patients. This guide will walk you through the post-surgical process, from data gathering to design, printing, and placement.

# Workflow at a glance

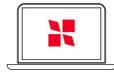
## 1. Post-surgical data capture



Tools:

- Intraoral scanner
- Scan body

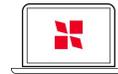
## 2. Plan treatment



Tools:

- Computer with internet
- Patient data
- SprintRay account

## 3. Create a print job



Tools:

- Computer with internet
- SprintRay account



## 4. 3D print



Tools:

- SprintRay Pro 2, Pro S, or Midas 3D printer
- Supported SprintRay resin



## 5. Wash with IPA



Tools:

- Soft towel
- Spray bottle with IPA 91%
- Compressed air
- Snippers



## 6. Post Cure



Tools:

- SprintRay cure device

## 7. Wash with IPA



Tools:

- Blue shop towel
- Spray bottle with IPA 91%
- Compressed air



## 8. Prepare the crown

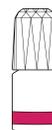


Tools:

- Lab handpiece
- Polishing wheels
- Toothbrush & soapy water
- Glazing or polishing tools



## 9. Lute the crown

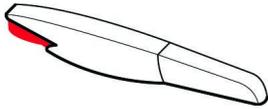


Tools:

- Preferred resin cement

# 1. Capture post-surgical scans

## Tools



Intraoral scanner



Scan body or abutment

## 1.1 Post-surgical scans

### Attach scan body to implant

Once the implant has been placed, attach the scan body to the implant before scanning the arch. This will help perfectly align the implant's position with your scan data.

If you're placing a temporary on an abutment, perform scans with the abutment installed.

### Capture upper, lower, and bite scans

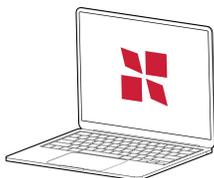
Capture the upper and lower scans with the scan body or abutment in place on the implanted arch.

Remove the scan body, then capture a bite registration scan.

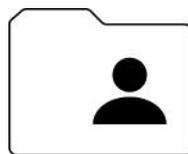
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# 2. Plan Treatment

## Tools



Computer with internet  
access



Patient scan data



SprintRay account

## 2.1 Submit treatment request

Visit [dashboard.sprintray.com](https://dashboard.sprintray.com) and sign in or sign up for a SprintRay account. Select or add your patient, then choose the '**Implant Restorations**' treatment type. On the tooth selection screen, select the 'Crown' option, then select the tooth receiving the implant crown.

### Requirements:

- The exact part numbers of implant components (scan body, abutment)
- Scan body and abutment must be compatible with each other



If the implant components are not compatible with each other or if our design software doesn't have them, we'll provide a shell temp instead

## 2.2 Review and approve design

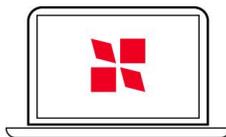
Once you submit, you'll receive an email notification when your design is complete. Sign in to Cloud Design to review and approve the design.

Once you approve, click the 'Send to RayWare' button to prepare your design for printing.

---

## 3. Create a print job

### Tools



Computer with internet  
access



SprintRay account

## 3.1 Job setup

### RayWare setup details

<b>Job type</b>	Implant crown
<b>Material</b>	Compatible material for your region
<b>Thickness</b>	100 microns
<b>Orientation</b>	Occlusion facing the platform, screw channel roughly perpendicular to platform
<b>Supports</b>	Standard supports

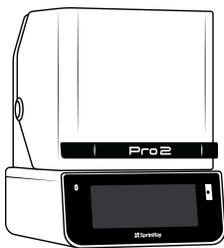


## 3.2 Queue to printer

Once you're happy with your print setup, select the 'Send to Queue' button, then choose the printer you'd like to use for this print job.

## 4. 3D print

### Tools



Pro 2 / Pro S 3D printer



Compatible material



SprintRay Midas

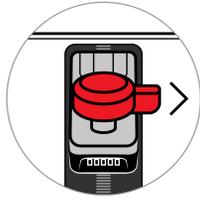


Compatible material

## 4.1 Prepare and start the print job

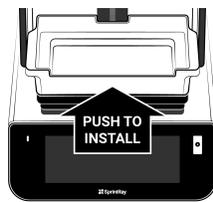
**Pro 2 / Pro S**

**Midas**

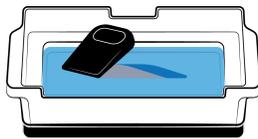


**Locked**  
Ready to print

Clean and install the build platform



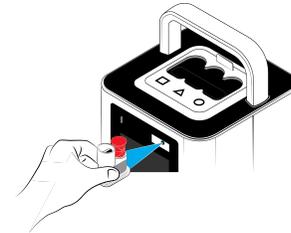
Install the resin tank



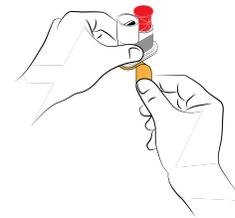
Fill and stir the resin if needed



Go to Queue and start the print job



Select job from Queue, scan the capsule



Prime capsule if indicated; remove film



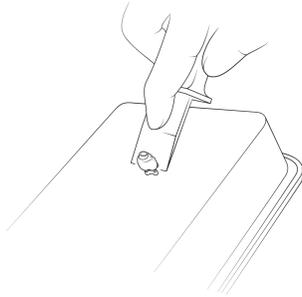
Place as directed



Start the print job

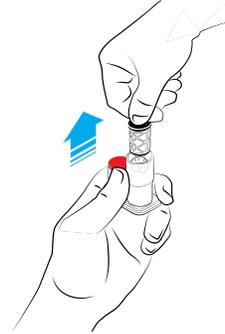
## 4.2 Remove your restoration

### Pro 2 / Pro S



Remove the build platform, then gently remove the restoration

### Midas



Gently pull the build platform out and remove the crown by hand

## 5. Clean with IPA

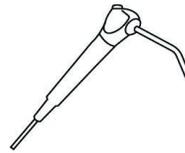
### Tools



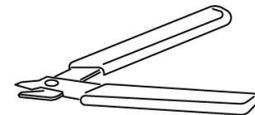
Micro applicator



Spray bottle with IPA  
91%



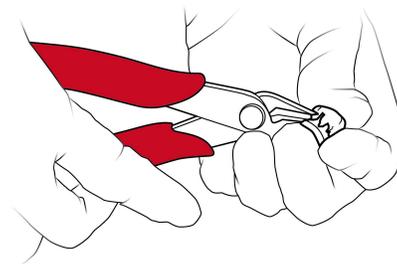
Compressed air



Snippers

### 5.1 Remove supports

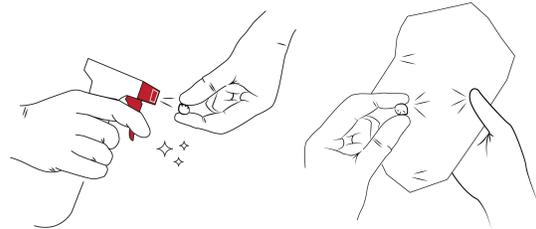
Twist the supports away from the crown to remove. If any supports remain on the crown, use flush cutters to clip them off. Don't worry if there are still small stubs left on the model, you'll remove those later.



## 5.2 Spray and wipe

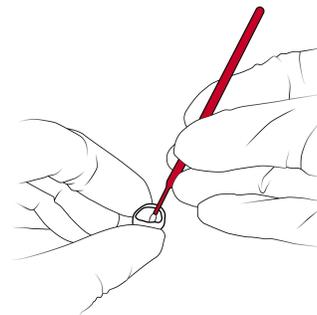
For most clinics, we recommend washing the crown by hand. Resins with high ceramic content can develop a chalky surface if left in contact with IPA for too long.

Wipe all surfaces of the restoration with a soft towel to remove excess resin on the surface of the restoration. Spray the crown with IPA, then wipe with a towel to dry.



Use a micro applicator to clean the implant hole thoroughly.

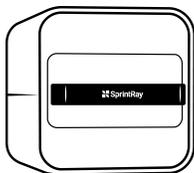
Spray with IPA one more time, then thoroughly dry with compressed air. Do not let IPA stand on the restoration. Repeat if necessary.



*Do not let IPA stand on the surface of the restoration for more than 30 seconds, otherwise it may develop a chalky surface finish that will require sandblasting*

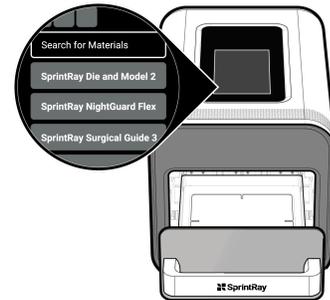
## 6. Post cure

### Tools



SprintRay curing device

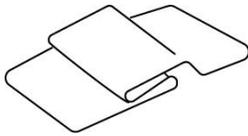
Place the crown in your SprintRay curing device and select the curing profile for your resin. Use NanoCure for best results.



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## 7. Clean with IPA

### Tools



Soft lint-free towel



Spray bottle with IPA 91%

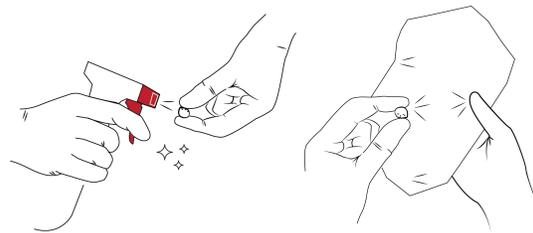


Compressed air

### 7.1 Spray and wipe the restoration

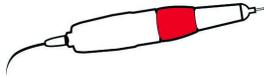
Spray the restoration again with IPA, then wipe it clean with a soft towel.

Use compressed air to thoroughly dry.



## 8. Characterize

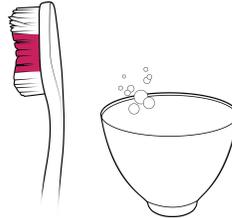
### Tools



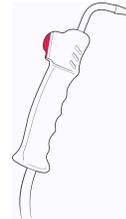
Lab handpiece



Crosscut bur



Toothbrush and  
soapy water



Steamer (optional)

### 8.1 Remove support stubs

Use a lab handpiece with a crosscut bur to remove any remaining stubs left by the support structures until the surface is smooth and uniform.

### 8.2 Characterize - validated partner workflow

Follow the workflow below for your preferred finishing type.

#### Staining/glazing protocol



Scan QR code for instructions or visit:  
[sprintray.com/staining-protocol](https://sprintray.com/staining-protocol)

#### Polishing protocol



Scan QR code for instructions or visit:  
[sprintray.com/polishing-protocol](https://sprintray.com/polishing-protocol)

### 8.3 Disinfect

If available, disinfect the crown using a steamer, then brush lightly with dish soap before placement. Make sure that the crown is completely dry before cementation.

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## 9. Cementation

### Tools



Preferred resin  
cement

### 9.1 Cement the crown

If cementing to a Ti-base abutment, use your preferred dedicated resin cement designed for Ti-base cementation for best results. If cementing to an abutment, follow a standard cementation protocol. Always consult the IFU for your material.