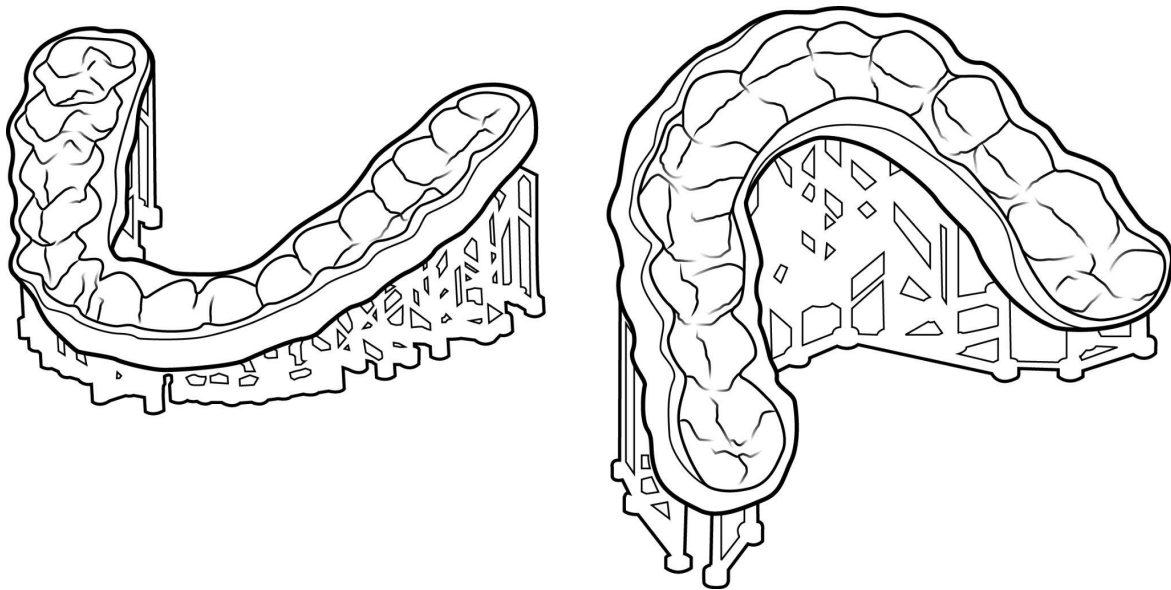


Workflow Guide:

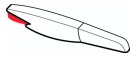
3D Printing for Night Guards



With SprintRay 3D printing, you can provide night guards to more patients for a fraction of the cost of other fabrication methods. This guide will walk you through the process of data gathering, design, fabrication, preparation, and placement.

Workflow at a Glance

1. Capture Data



Time:

10 mins

Tools:

- Intraoral scanner

2. Get AI Design



Time:

5 mins

Tools:

- Computer with internet
- Patient data
- SprintRay account



3. Create Print Job



Time:

5 mins

Tools:

- Computer with internet
- SprintRay account



4. 3D Print



Time:

60 mins

Tools:

- SprintRay Pro S 3D printer
- NightGuard Flex or Firm resin



5. Wash



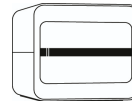
Time:

10 mins

Tools:

- SprintRay Pro Wash

6. Post Cure



Time:

8 mins

Tools:

- SprintRay ProCure 2

7. Prepare and Deliver

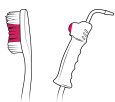


Time:

5 mins

Tools:

- Lab handpiece
- Scotchbrite wheel
- Steamer or soapy water & toothbrush



8. Finish and Polish

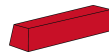


Time:

5 mins

Tools:

- Dental lathe
- Hatho and Tripoli polishing compounds
- Pumice
- Soapy water and toothbrush

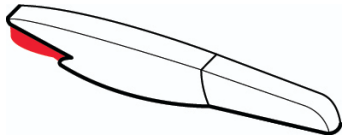


1. Capture Data

Time

10 minutes

Tools



Intraoral scanner

1.1 Scan Upper, Lower, and Bite

Perform a full scan of the patient to capture their digital anatomy. Make sure there are no holes in your scan and do your best to capture as much of the surrounding tissue as possible. Complete the bite scan in a closed, resting position for best results.

Export the scans as an STL with the upper and lower arch **in occlusion**. This is the default export style for most scanners and eliminates the need for a bite scan.



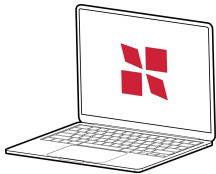
If you do not export your scans in occlusion, this treatment will not be compatible with AI design

2. Get AI Design

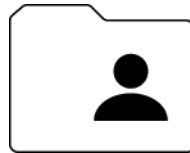
Time

5 minutes

Tools



Computer with internet
access



Patient data



SprintRay account

2.1 Submit Treatment Request

Visit dashboard.sprinray.com and sign in or sign up for a SprintRay account. Select or add your patient, then choose the 'AI Nightguard' treatment type. Set the desired parameters and upload the patient files, then submit.



AI Design is great for most cases, but choose the manual design option if your treatment needs special attention

2.2 Review and Approve Design

SprintRay AI will design the night guard in around 5 minutes. You'll receive an email notification when it's ready. Review and approve the file from your Cloud Design dashboard.

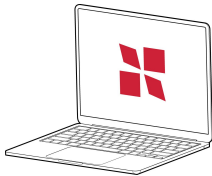
If the AI design doesn't satisfy your requirements, switch to a manual design for human intervention.

3. Create Print Jobs

Time

5 minutes

Tools



Computer with internet
access



SprintRay account

3.1 Import into RayWare

Once the night guard design has been approved, the 'Add To Print Job' button on the Cloud Design treatment page will automatically generate a build platform in [RayWare Cloud](#).

If setting up the build platform manually, select the 'Occlusal Guard' print job type. Select the printer and resin you'll be using. We recommend printing night guards at 100 microns.

Import your design. RayWare will automatically orient the model with the intaglio facing away from the build platform and with the model at an optimal 25-degree angle with supports.

3.2 Queue to Printer

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



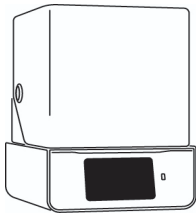
You can also use the 'Print Now' button, but be sure to thoroughly inspect your printer before you start printing.

4. 3D Print

Time

60 mins

Tools

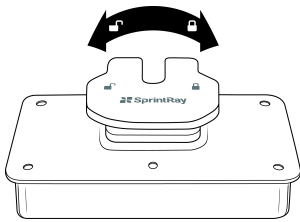


SprintRay Pro S

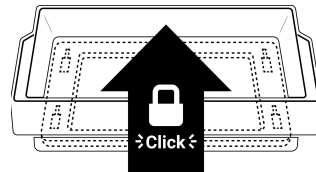


SprintRay NightGuard
resin

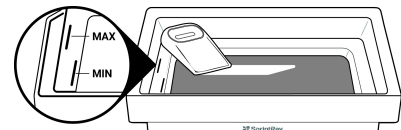
4.1 Prepare and Start the Print Job



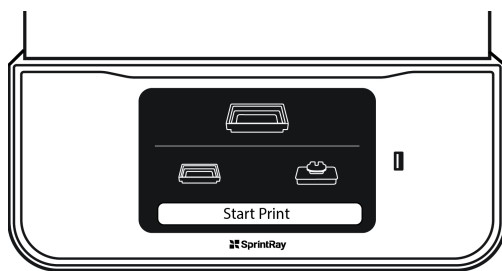
Check that the platform is
clean, locked, and ready



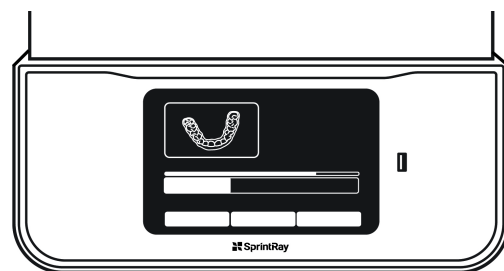
Check that the resin tank is
seated in its cradle



Fill the tank to the max line
with NightGuard Flex or Firm
resin and mix to incorporate



Go to the queue and press 'Start Print'



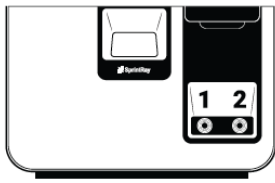
Monitor progress on the touchscreen or on
SprintRay Cloud. This print job should take
around 60 minutes

5. Wash

Time

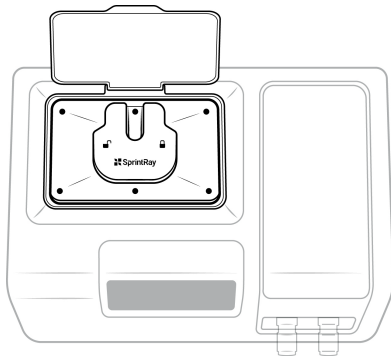
10 mins

Tools

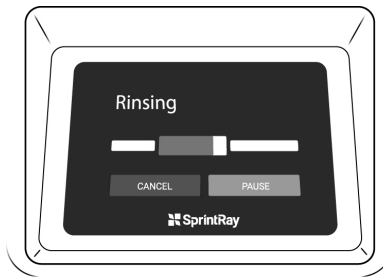


ProWash

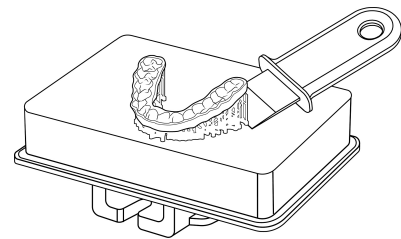
5.2 Wash the Night Guard



Transfer the build platform to ProWash



Run a standard cleaning cycle



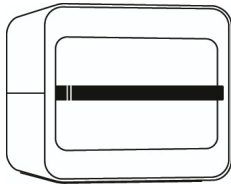
Remove the night guard from the build platform

6. Post Cure

Time

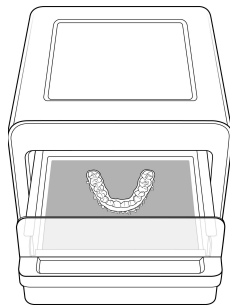
8 minutes

Tools

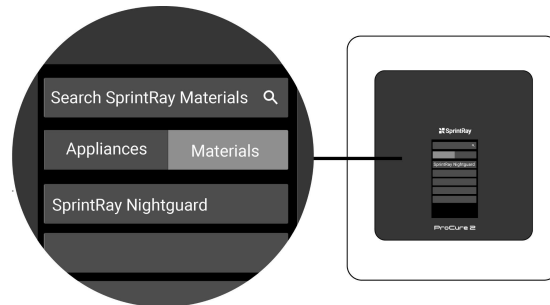


ProCure 2

6.2 Cure in ProCure 2

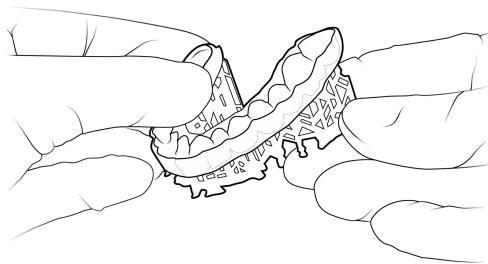


Place the night guard on the center line in ProCure 2



Select the resin you printed with, select to cure on the centerline, and press 'Start'

6.2 Remove Supports



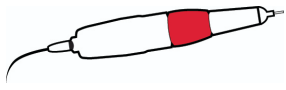
Twist the supports away from the night guard to remove. Don't worry if small support nubs are left on the guard, you'll remove them in the next step.

7. Smoothen and Try-in

Time

5 minutes

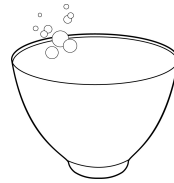
Tools



Lab handpiece



Scotch-brite wheels

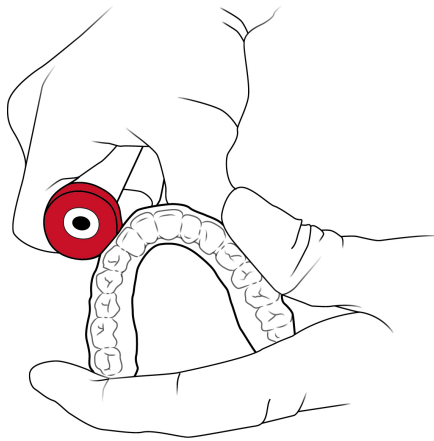


Bowl of soapy water

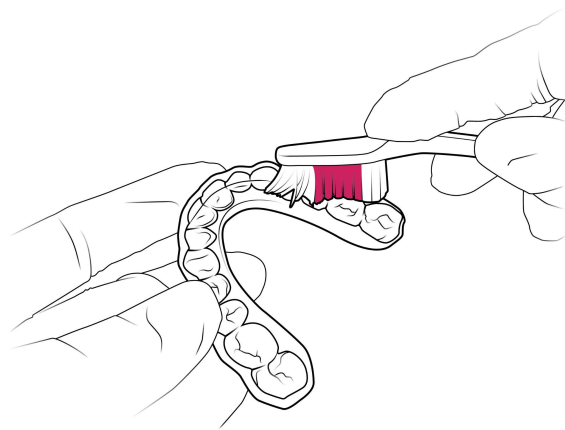


Toothbrush

7.1 Smoothen and Polish

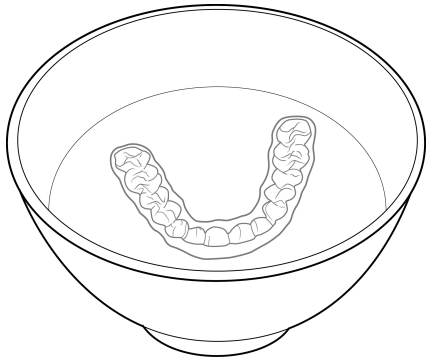


Use low RPM with a scotchbrite wheel or carbide bur to remove any stumps left over from supports. Use 10,000-12,000 RPM.

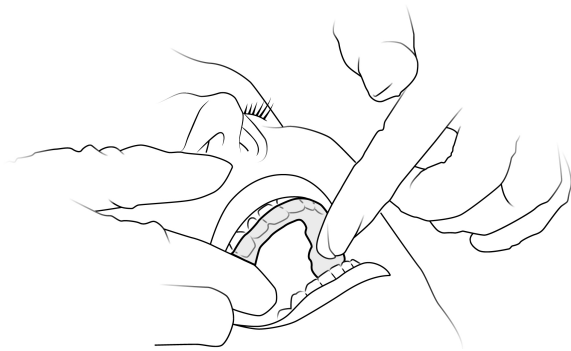


Use a steamer and or give the night guard a rinse with warm soapy water. Brush with a toothbrush to remove residue.

7.2 Patient Try-in and Adjustment



Soak the guard in a bowl of warm water (no hotter than 50C) for 15 seconds to soften.



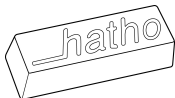
Seat the guard and let the patient try the appliance. Adjust chairside to adjust contacts.

8. Finish and Polish

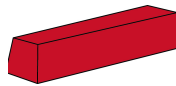
Time

5 minutes

Tools



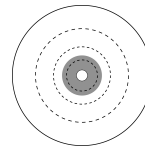
Hatho beige



Tripoli polish



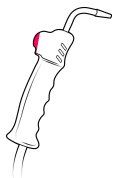
Dental lathe



Muslin wheels



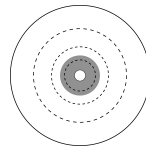
Pumice



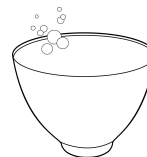
Steamer
(optional)



Hatho pink
(optional)



Cotton buff
wheel (optional)



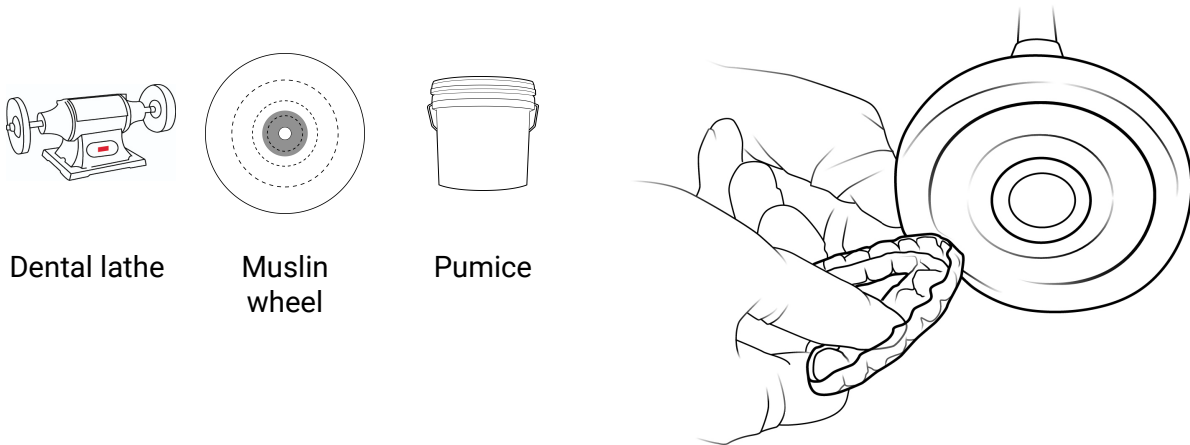
Bowl of soapy
water



Toothbrush

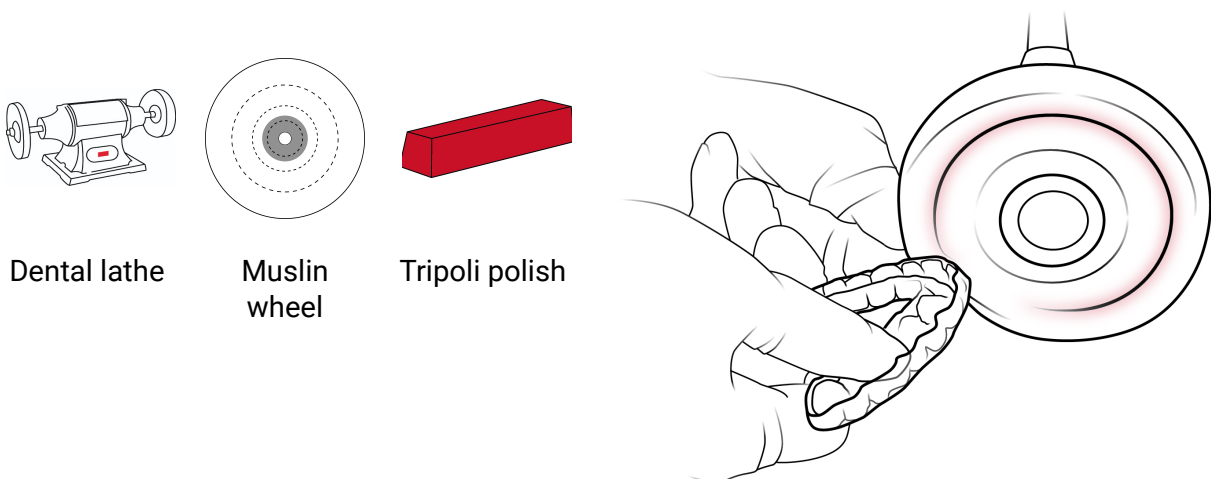
Pre-polish with Pumice

Use a muslin wheel and pumice on a dental lathe with firm, consistent pressure. Reach all areas of the guard. Keep the wheel damp and the pumice flowable.



Polish with Tripoli

Use a fresh muslin wheel and Tripoli. Use firm and consistent pressure, reaching all areas of the guard. Once finished, apply again and repeat using light pressure.

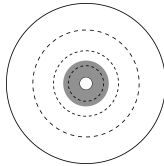


High Shine

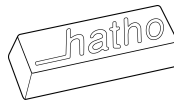
Use a fresh muslin wheel and Hatho beige. Use firm and consistent pressure, reaching all areas of the guard. Achieve a uniform shine across the full appliance.



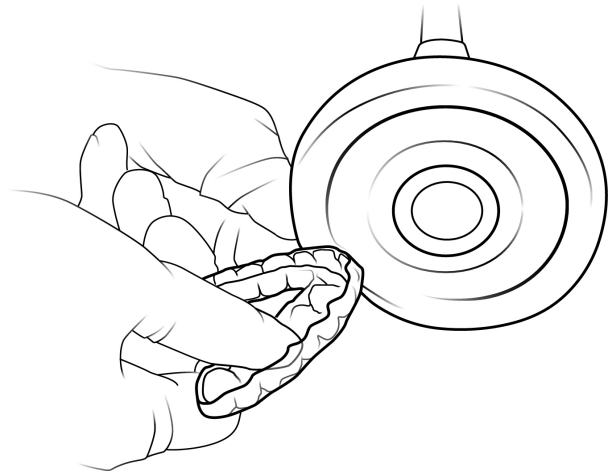
Dental lathe



Muslin wheel



Hatho beige

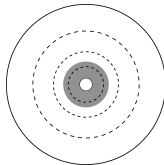


High Gloss (Optional)

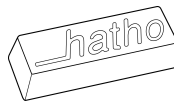
Use a cotton buff wheel and Hatho pink. Use consistent pressure, reaching all areas of the guard until you achieve a mirror finish.



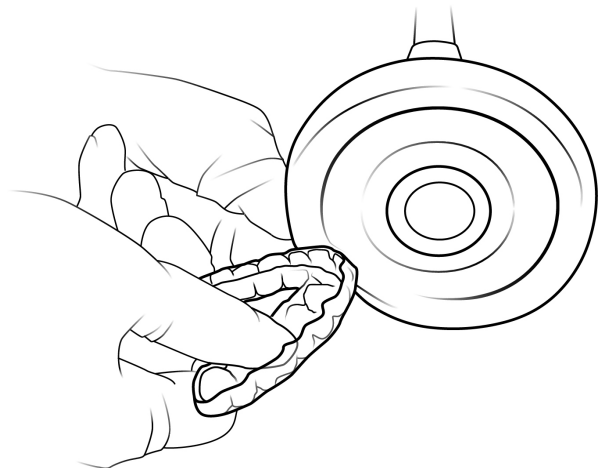
Dental lathe



Cotton buff wheel

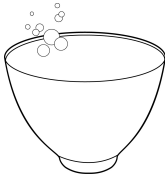


Hatho pink



Clean

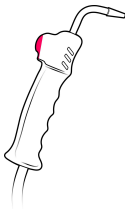
Use a toothbrush with warm soapy water and/or a steamer to clean the guard before delivering it to the patient.



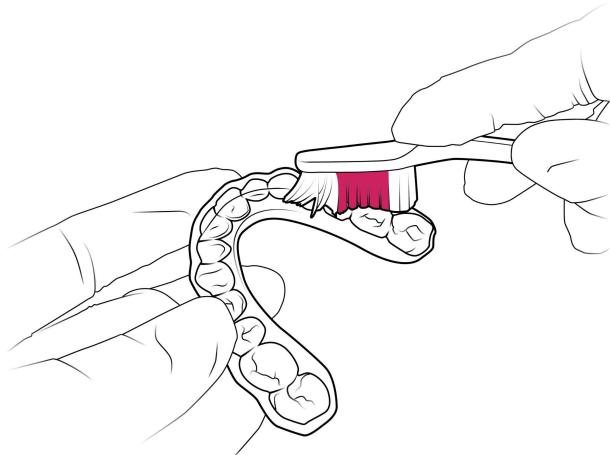
Bowl of soapy water



Toothbrush



Steamer



Your night guard is now ready for delivery.