

DRAFT FOR REVIEW — Not Doctor-approved for training. VERIFY items must be cleared before competency use.



IN-HOUSE LABORATORY

Cypress & Katy, TX

Document ID: SOP-LAB-080

Version 0.1 DRAFT | Target effective 09/10/2026

Direct-Print Retainers

SprintRay Retainer — Lab Manufacturing Procedure

Smile Avenue Family Dentistry — In-House Laboratory

SprintRay Retainer — Lab Manufacturing Procedure

Document ID	SOP-LAB-080
Version	0.1 DRAFT
Effective (target)	09/10/2026
Owner	Lab Technician (process owner)
Related	Station Job Aid SOP-LAB-080-JA
Status	DRAFT FOR REVIEW

Start: Case received in Medit Lab with scan QC

End: Retainer bagged and logged in SEAZONA for outbound delivery

1. Purpose

This procedure standardizes in-house manufacturing of SprintRay direct-print retainers so every case meets the same quality, safety, and traceability standard before leaving the lab.

2. Scope

In scope: Medit Lab intake → scan QC → design (SprintRay Cloud Design AI Retainer preferred per IFU; VERIFY practice path) → RayWare / Pro 2 → ProWash S → NanoCure → finish → lab clean → bag & SEAZONA.

Out of scope: Chairside scanning; clinical delivery/adjust; vac-form retainers on printed models (see SOP-LAB-110 for models); nightguards (SOP-LAB-020); non-SprintRay printers.

3. Roles

Role	Responsibility
Clinical Assistant / Office	Sends case via Medit Lab; receives bagged retainer
Lab Technician	Scan QC; design import/export/approve; manufacture; finish; bag; SEAZONA
Trainer / Lead Lab Technician	Competency observation and sign-off
Doctor	Indication, Rx, try-in/delivery, remake authorization

4. Practice Configuration

#	Item	Smile Avenue setting
1	Printer	Pro 2 only
2	Cure unit	NanoCure — Retainer preprogrammed profile (do not invent minutes); allow cool before remove
3	Case intake	Medit Lab
4	Design	VERIFY — SprintRay Cloud Design AI Retainer preferred (IFU); outside CAD STL also acceptable
5	Wash	ProWash S — IPA $\geq$ 91% — standard cleaning cycle; basket wash with intaglio facing propeller preferred
6	Design QC thickness	$\geq$ 0.6 mm (IFU)
7	Lab clean before bag	Soap + brush + warm water; dry. Cleaning — not chemical disinfection.
8	Design approval before print	Lab Technician
9	Case log	SEAZONA

5. Safety

- Treat uncured Retainer as sensitizer. Ventilate; PPE.
- Do not bag under-cured retainers. Do not handle hot retainers without protection — heat can deform.
- Prefer support removal **after** cool post-cure to protect shape/surface.
- Cure waste resin fully. Do not use expired resin. Do not store filled tank on printer cradle when idle (IFU).

6. Materials & Equipment

Resins

- SprintRay Retainer

- IPA $\geq$ 91%
- Mineral oil (optional finish clarity)

Equipment stack

Step	System
Intake	Medit Lab
Design	VERIFY — Cloud Design AI Retainer or outside CAD
Nest / print	RayWare → Pro 2
Wash	ProWash S
Cure	NanoCure — Retainer
Case log	SEAZONA

Design QC targets

Area	Minimum
Appliance thickness	$\geq$ 0.6 mm

7. Process Controls

Gate	Do not proceed if	Proceed when
Intake	Missing / unreadable	Case open with ID / Rx
Scan QC	Holes / wrong arch	Scans usable
Printer	Not Pro 2	Pro 2 only
Design	Not approved; < 0.6 mm	QC-A pass
Resin	Expired	In-date; shaken 1 min
Pre-cure	Wet	Fully dry
Cure	Wrong profile / hot remove deforming	Retainer profile complete + cooled
Outbound	Failed QC-E	Bagged + SEAZONA

8. Procedure

A. Intake & scan QC

1. Open case in **Medit Lab**.
2. Verify ID, arch, Rx notes, due date.
3. Scan QC; **QC-SCAN** pass/fail.

B. Design (VERIFY path)

4. Preferred per IFU: SprintRay Cloud Design → AI Retainer treatment; upload scans; receive design. Alternately import outside CAD STL.
5. Export STL; Lab Technician **approves**.
QC-A: ≥ 0.6 mm; coverage matches Rx; STL labeled.

C. Nest (RayWare)

6. Import STL; select Retainer appliance type; material **Retainer**; Pro 2.
7. Orientation: intaglio **away**; $\sim 10^\circ$ from anterior; layer thickness typically ~ 170 μm default; default supports.
8. Queue to Pro 2.

D. Print

9. Shake **1 minute**; pour; assign material; print; log lot.
QC-B: Fully formed; no delamination.

E. Wash & dry

- .0. ProWash S standard cycle, IPA $\geq 91\%$; prefer basket with intaglio toward propeller; remove promptly; dry fully (compressed air).
QC-C: Clean + dry.

F. Post-cure

- 1.1. NanoCure **Retainer** profile. Allow to **cool** before removing from device.
- .2. Prefer support removal after cool cure; silicone bur to smooth.
QC-D: Cured; shape intact; no tack.

G. Finish, clean, bag

- .3. Optional: thin mineral oil on occlusal / support nubs + cotton buff for sheen/clarity.
- .4. Soap + brush + warm water; dry.
- .5. Bag + label + SEAZONA outbound.
QC-E: Pass required for release.

End of SOP-LAB-080. Clinical delivery is outside this procedure.

9. Case Log (SEAZONA)

Field	Entry
Date	
Patient / case ID	
Arch	☐ Max ☐ Mand ☐ Both
Scan QC	☐ Pass ☐ Fail
Design path	☐ Cloud Design AI ☐ Outside CAD (VERIFY)
Design approved by (Lab Technician)	
Retainer lot	
Printer	Pro 2 ☐
NanoCure profile	Retainer ☐
QC-SCAN + A-E	☐ Yes
Bagged for outbound	☐ Yes — time __

10. Quality Checkpoints

ID	When	Pass	Fail action
QC-SCAN	Intake	Usable scans	Return
QC-A	Pre-print	≥ 0.6 mm + approved	Redesign
QC-B	Post-print	Complete	Remake
QC-C	Post-wash	Clean + dry	Re-wash/dry
QC-D	Post-cure	Cured + cooled shape OK	Remake / salvage
QC-E	Outbound	Finish + bag + SEAZONA	Hold

11. Remake Criteria

Finding	Action
Failed scan QC	Do not manufacture
Incomplete / delamination	Remake
Deformed from hot handling	Remake
Under-cured / wrong profile	Hold; remake if needed
Light nubs only	Salvage
Unsure	Escalate

12. Competency

Requirement	Sign-off
Read SOP-LAB-080 and JA	Tech _ Date ____
Demonstrates intake through bagged outbound	Trainer _ Date ____
3 observed cases	1. ____ 2. ____ 3. ____
Unsupervised authorization	_ Date ____

13. Troubleshooting & Escalation

Problem	Action
Cloudy after deburr	Mineral oil coat (optional per IFU)
Soft / tacky	Confirm dry + Retainer NanoCure profile
Deformed	Likely removed hot — remake; cool fully next time

SprintRay Support: 1-800-914-8004.

14. References

- SprintRay Retainer IFU-025_4 (effective 07/29/2026)
- Local IFU archive: `/workspace/sprinray-ifu/all/Retainer.txt`

Smile Avenue Family Dentistry — In-House Laboratory · Internal use only

SOP-LAB-080 DRAFT FOR REVIEW · Target effective 09/10/2026 · Supersedes prior draft revisions

Review annually or when SprintRay IFU / equipment changes. Confirm all VERIFY items before training use.

