

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-110

Version 0.1 DRAFT | Target effective 09/10/2026

Models (study / thermoform)

SprintRay Die & Model 2 / Study Model White 2 — Lab Manufacturing Procedure

Smile Avenue Family Dentistry — In-House Laboratory

SprintRay Die & Model 2 and Study Model White 2 — Lab Manufacturing Procedure

Document ID	SOP-LAB-110
Version	0.1 DRAFT
Effective (target)	09/10/2026
Owner	Lab Technician (process owner)
Status	DRAFT FOR REVIEW

Start: Case received in Medit Lab with scan QC

End: Model bagged and logged in SEAZONA for outbound delivery (or lab-hold for thermoform / wax-up use)

1. Purpose

This procedure standardizes in-house printing of SprintRay dental models (Die & Model 2 and Study Model White 2) for study, aligner/retainer thermoform masters, bleaching trays, and wax-ups.

2. Scope

In scope: Medit Lab intake → scan QC → model design/export (VERIFY path) → RayWare / Pro 2 → ProWash S → NanoCure → finish clean → bag & SEAZONA (or documented lab hold).

Out of scope: Patient-worn appliances printed on these resins (models are not definitive intraoral devices beyond IFU model uses); direct-print retainers (SOP-LAB-080); non-SprintRay printers.

3. Roles

Role	Responsibility
Clinical Assistant / Office	Sends case via Medit Lab; receives bagged model when outbound
Lab Technician	Scan QC; design approve; print; wash; cure; clean; bag/hold; SEAZONA
Trainer / Lead Lab Technician	Competency observation and sign-off
Doctor	Indication / model purpose; remake authorization

4. Practice Configuration

#	Item	Smile Avenue setting
1	Printer	Pro 2 only for this path
2	Resins	Die & Model 2 or Study Model White 2 per Rx / purpose
3	Cure unit	NanoCure — exact Die & Model 2 or Study Model White 2 profile
4	Case intake	Medit Lab
5	Design	VERIFY — outside CAD or SprintRay Cloud Design / model builder
6	Wash	ProWash S — IPA ≥ 91% — standard preprogrammed cycle
7	Layer thickness	Typically 100 µm default
8	Orientation	Intaglio / anatomy facing away from platform (accuracy)
9	Design approval before print	Lab Technician
10	Case log	SEAZONA

5. Safety

- Treat uncured model resins as sensitizers. PPE + ventilation.
- Do not use for indications outside IFU model uses. Do not place incompletely cured resin intraorally.
- Cure waste resin fully. Do not use expired resin.

6. Materials & Equipment

Resin	Typical use
Die & Model 2	Dies, precision models, thermoform masters
Study Model White 2	Study / presentation / thermoform masters (white)

Equipment: Medit Lab → design (**VERIFY**) → RayWare → Pro 2 → ProWash S → NanoCure → SEAZONA.

7. Process Controls

Gate	Do not proceed if	Proceed when
Design	Not approved / wrong resin for purpose	QC-A pass
Printer	Not Pro 2	Pro 2
Pre-cure	Wet	Fully dry
Cure	Wrong profile	Exact Die & Model 2 or Study Model White 2 complete
Outbound / hold	Failed QC-E	Bagged or documented lab-hold in SEAZONA

8. Procedure

A. Intake & scan QC

1. Medit Lab: verify ID, arch(es), model purpose (study / thermoform / die / wax-up), resin choice, due date.
2. **QC-SCAN.**

B. Design (VERIFY)

3. Create/receive model STL; hollow/base settings per practice (**VERIFY** hollow defaults).
4. Lab Technician **approves**. **QC-A:** Purpose match; resin noted; STL labeled.

C. Nest

5. Model appliance type; Die & Model 2 or Study Model White 2; anatomy away from platform; ~100 µm; default supports; Pro 2.

D. Print

6. Shake **1 minute**; pour; assign shade/material; print; log lot. **QC-B.**

E. Wash & dry

7. ProWash S standard cycle; dry fully. **QC-C.**

F. Post-cure

8. NanoCure **Die & Model 2** or **Study Model White 2** exact profile. Remove supports. **QC-D.**

G. Finish, clean, bag / hold

9. Soap + brush + warm water; dry.
10. Bag for outbound **or** place in lab hold for thermoform workflow; log status in SEAZONA. **QC-E.**

End of SOP-LAB-110.

9. Case Log (SEAZONA)

Field	Entry
Date / case ID	
Purpose	☐ Study ☐ Thermoform ☐ Die ☐ Wax-up ☐ Other
Resin	☐ Die & Model 2 ☐ Study Model White 2 + lot
Design approved by (Lab Technician)	
NanoCure profile	Die & Model 2 ☐ / Study Model White 2 ☐
Disposition	☐ Bagged outbound ☐ Lab hold
QC pass	☐ Yes

10. Quality Checkpoints

ID	When	Pass	Fail action
QC-SCAN	After Medit Lab intake	Scans usable	Return to office
QC-A	Pre-print	Approved design + correct resin	Return to design
QC-B	Post-print	Complete geometry	Remake print
QC-C	Post-wash	Clean + dry	Re-wash/dry
QC-D	Post-cure	Fully cured; supports clean	Remake / salvage
QC-E	Before outbound / hold	Finish + clean + bag or documented lab-hold + SEAZONA	Hold release

11. Remake Criteria

Finding	Action
Failed scan QC	Do not manufacture — request new scans
Incomplete print / critical voids / delamination	Remake print
Printed on non-Pro 2	Remake on Pro 2
Wrong resin for purpose / wrong NanoCure profile	Hold; correct or remake
Light support nubs only	Salvage — finish and re-check QC-E
Unsure	Stop and escalate to Doctor / lab lead

12. Competency

Requirement	Sign-off
Read SOP-LAB-110	Tech _ Date ____
Demonstrates Die & Model 2 and Study Model White 2 paths	Trainer _ Date ____
Completes 3 observed cases to bagged outbound or documented hold	1. ____ 2. ____ 3. ____
Trainer attests ready	Trainer _ Date ____
Lab lead authorizes unsupervised production	_ Date ____

13. Troubleshooting & Escalation

Problem	Action
Bad scans	QC-SCAN fail → return to office
Print failure	Remake; filter resin; verify material assignment
Soft after cure	Confirm dry part and exact Die & Model 2 or Study Model White 2 profile
Wrong model resin for thermoform vs study	Confirm Rx; remake if needed

SprintRay Support: 1-800-914-8004.

14. References

- SprintRay Die & Model 2 IFU-004_8 (effective 06/25/2024)
- SprintRay Study Model White 2 IFU-005_8 (effective 06/25/2024)
- Local IFU archive: `DieModel2.txt` , `StudyModelWhite2.txt`

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

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