



The Smart Dentin Grinder®

Autologous Dentin Grafting Protocol

Important note: Graft should **ONLY** be used for the patient from whom the tooth was extracted. Reuse or sterilization of the grinding chamber will not sterilize the chamber and will damage the chamber as well as the sterilization equipment. **ONE CHAMBER PER PATIENT!**

CAUTION: Rarely the tooth will get caught between the blade and the chamber and will stall the grinder. In such cases, **IMMEDIATELY TURN OFF THE UNIT**, dislodge the tooth manually and try again. Failing to do so will burn the grinder motor.

With the Smart Dentin Grinder, a few quick steps easily transform an extracted tooth into a clean bacteria-free dentin particulate ready for grafting.

Step 1: Preparing the Teeth

- The extraction of teeth and preparation of particulate dentin are done in the same clinical session.
- Use a high-speed handpiece to remove all decay, artificial material, Gutta Percha and debris from patient's extracted teeth, so that only the clean tooth remains. We recommend using surgical cutting burs.
- Dry the teeth well by air syringe. No need to decoronate or remove the enamel.



Step 2: Preparing the Smart Dentin Grinder

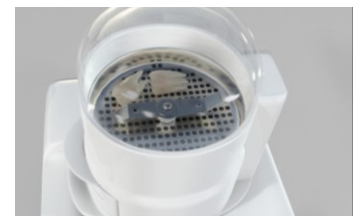
- Switch on the Smart Dentin Grinder. Switch located in the back of the unit. The **power indicator** will turn green.
- Place a chamber on the unit by turning counterclockwise until LOCK icon is aligned with Blue padlock icon.
- The **chamber ready indicator** will flash orange and will turn green. This indicates that the unit is ready. If **chamber ready indicator** does not turn green, then see **SDG Modes** section on page 2.



Step 3: Placing Teeth in the Smart Dentin Grinder

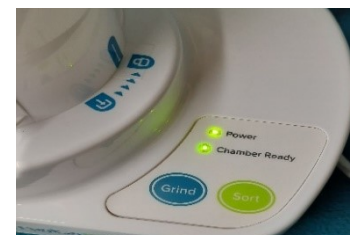
Important: Dry the prepared teeth by air syringe. Only dry teeth are ready for processing.

- Open the chamber top cap by turning clockwise and place the prepared teeth inside the chamber.
- Close the chamber cap the same way. Make sure arrow is aligned with PADLOCK icon.
- Both indicator lights should remain green for the unit to operate.



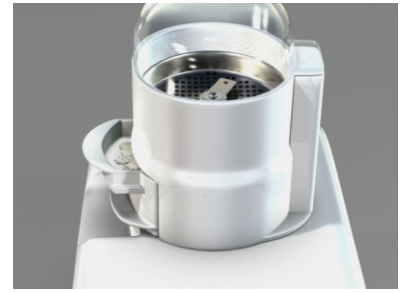
Step 4: Grind and Sort

- Press the GRIND button. The blade will pulverize the teeth for 3 seconds.
- Press the SORT button. The unit will vibrate and sort the graft for 10 seconds.
- Repeat the GRIND and SORT functions until the teeth have been fully processed.
- If the blade stalls, open the top cap and dislodge the tooth and try again. **DO NOT** attempt to just press the GRIND button since you will burn the motor.



Step 5: Extracting the graft

- CAREFULLY pull out the top drawer in the front side of the chamber which contains particles of 300-1200 micron and transfer the particulate to a sterile mixing dish.
- CAREFULLY remove the bottom drawer in the front side of the chamber which contains particles smaller than 300 microns and transfer the particulate to the same or a different sterile dish.



Step 6: Cleansing the graft

- Pour the provided DENTIN CLEANSER (RED CAP bottle) into the dish with the particulate. Fill to completely cover the particulate. Place the cap over the dish.
- Leave the particulate in the DENTIN CLEANSER solution for 5 minutes at room temperature.
- Using a sterile gauze, dehydrate the DENTIN CLEANSER solution.
- Pour Phosphate Buffered Saline (PBS – GREEN CAP bottle) into the dish to **COMPLETELY** cover the particulate. Use a sterile instrument to mix the particulate and dehydrate using a new sterile gauze.
- REPEAT THE PREVIOUS STEP of the PBS only (GREEN CAP bottle) AGAIN (only the PBS solution should be repeated). Please use sufficient amount of PBS. **This step is important in order to neutralize pH levels.**
- The particulate dentin is ready for immediate grafting.



Optional:

- To dry the graft, place the open dish with the wet particulate dentin in an Autoclave and run a Dry Cycle. Be careful, as the glass dish will be hot! The dry graft should be covered, capped and labeled. Another option is to use a hot plate until all liquid is vaporized.
- Please refer to instructions for how to store dentin graft particulate for future use.

Smart Dentin Grinder Modes:



Unit ready to run:



Chamber was previously used (at least 3 times) and can no longer be re-used. Please utilize a NEW chamber.



Chamber not loaded correctly onto unit or unit needs to be restarted (Switched on).

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Training videos: www.youtube.com/kometabio

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