



The Smart Dentin Grinder™

Autologous Dentin Grafting Protocol

Important note: Teeth that have root canal filling are not suitable. 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.

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



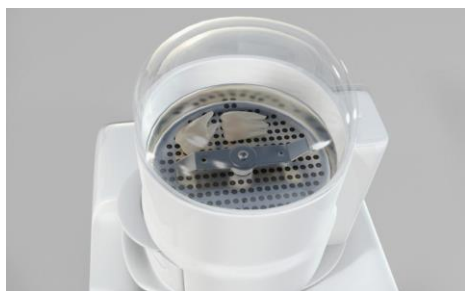
Step 2: Preparing the Smart Dentin Grinder

- Lock in place the chamber on top of the Smart Dentin Grinder by:
- Aligning the small arrow on the chamber with the one in the center of the grinder marked as 'INSERT'.
- Turn the chamber counterclockwise to lock it in position. When locked, the **LOCK** indicator arrow on the chamber is aligned with the **LOCK** indicator on the grinder.
- Switch on the Smart Dentin Grinder. Switch located in the back of the unit.

Step 3: Placing the Teeth in the Smart Dentin Grinder

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

- Place the prepared teeth inside the chamber next to the blades, up to 4 teeth at a time.
- Close the chamber cap and twist it counterclockwise so that it clicks into place.



Configuring the Grinding Time

To configure Grinding Time:

- Press the **GRIND** button. The **GRIND** indicator lights up.
- Press the **UP** or **DOWN** button as many times as needed in order to set the preferred Grinding Time.

We recommend setting grinding time to **3 seconds**.



Configuring the Sorting Time

To configure the Sorting time, in seconds:

- Press the **START** button. The **START** indicator lights up.
- Press the **UP** or **DOWN** button as many times as needed in order to set the preferred Sorting Time.

We recommend setting sorting time to **10 seconds**.

Grinding and Sorting the Teeth

- Press the **START** button to start the grinding process.
- If large particles are left in the grinding chamber, press the **START** button again to grind for another 3 seconds and to sort for another 10 seconds. Be sure that no dentin particles are left in the top grinding chamber in order to maximize the output.



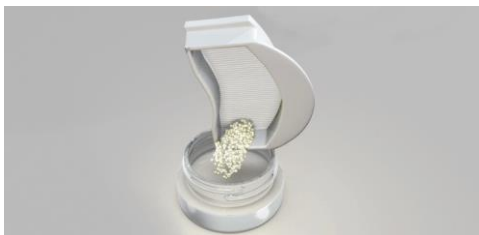
Step 4: Extracting the Chamber Drawers

- Pull out/apart the top drawer compartment, which contains particles of between 300 – 1,200 microns.
- Bottom drawer containing particles smaller than 300 microns can be added as well in case more output volume is needed.



Step 5: Cleansing the Particles

- Transfer the contents of the top drawer compartment into one of the provided sterile containers (mixing dish).
- Pour the provided DENTIN CLEANSER (**RED CAP**) into the container with the particulate. Fill to completely cover the particulate.
- Close the container's cap by turning it clockwise.
- 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**) into the container 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**) TWICE (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 container with the wet particulate dentin in an Autoclave and run a Dry Cycle. Be careful, as the glass container will be hot! The dry graft should be covered, capped and labeled. Please refer to instructions for how to store dentin graft particulate.

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Additional information: www.kometabio.com
Training videos: www.youtube.com/kometabio

Document #: 13-11-01
Patent No. US 9,457,131

