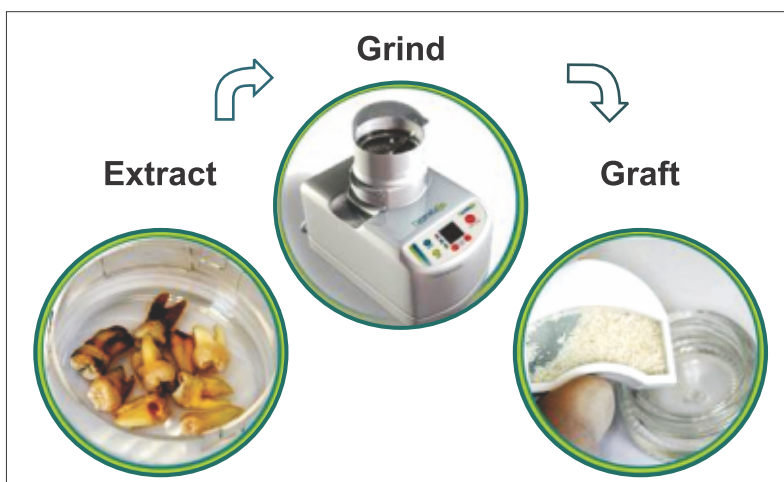


The Smart Dentin Grinder

Use extracted teeth to create superior quality, autologous dentin graft, chairside within 15 minutes

- Substantially reduces healing time
- Leverages autologous graft qualities
- Maintains bone mass and ridge height for many years
- Provides excellent aesthetics and gingival performance
- Reduces cost of graft
- Eliminates adverse effects of rejection and disease transmission
- Provides superior care



The Two Phase Graft System

The two phase graft system provides an immediate active bone mass through dentin-graft fusion and a second phase replacement-resorption to achieve optimal grafting results.

- Freshly extracted tooth undergoes ankylosis (fusion) when placed back at the site in the form of graft particulate.
- Autologous graft is considered as the GOLD standard in grafting.
- Tooth and bone composition is almost the same. Dentin graft offers denser stronger graft.



| | Dentin Graft (autologous) | Allograft Xenograft | Synthetics |
|---|---------------------------|---------------------|------------|
| PHASE 1: FUSSION (ANKYLOSIS) ↑ 3 – 6 weeks from time of grafting | | | |
| Immediate fusion with site bone | 5 | | Some |
| Minimal graft loss | 5 | | Some |
| Lamellar bone behavior | 5 | | |
| No rejection | 5 | | 5 |
| Quicker implant stability | 5 | | 5 |
| Superior gingival response | 5 | | |
| No disease transmission | 5 | | 5 |
| PHASE 2: REPLACEMENT RESORPTION ↑ 6 weeks to 9 years from grafting | | | |
| Slow, predictable resorption | 5 | | |
| Strong scaffold to support bone regeneration | 5 | 5 | |
| Cortical bone behavior | 5 | 5 | |
| Bone ridge maintenance beyond 3 years | 5 | Few | |



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SmartDentinGrinder™

Tissue Engineering Bone Grafting Process

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 not will damage the chamber as well as the sterilization equipment.

With Smart Dentin Grinder, a few short 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 tungsten bur to remove all cavities, artificial material and debris from the extracted teeth, so that only the clean tooth remains. Dry the teeth well by air syringe..



Step 2: Preparing the Smart Dentin Grinder

- Place the chamber on the top of the smart Dentin Grinder.
- Align the small arrow on the chamber with the one in the center of the grinder.
- Turn the chamber counter clockwise to lock it in position. When locked, the LOCK indicator arrow on the chamber is to the right of the arrow in the center of the grinder.
- Switch on the Smart Dentin Grinder.



Step 3: Placing the Teeth in the Smart Dentin Grinder

Important: Dry the prepared teeth by air syringe. Only dry teeth are ready to grind.

- Place the prepared teeth on the grinding sieve next to the blades.
- Close the chamber cap and twist it counter clockwise so that it clicks into place.

Configuring the Grinding Time

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

We strongly 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** and/or the **DOWN** button as many times as needed in order to set the preferred Sorting Time.

We recommend setting sorting time to **20 seconds**.

Grinding and Sorting the Teeth

- Press the **START** button to start the grinding process.
- If large pieces are left in the grinding chamber, press the **START** button again to grind for another 3 seconds and to sort for another 20 seconds. Be sure that no dentin particles are left in the grinding chamber. **If the tooth gets stuck under the blade IMMEDIATELY TURN OFF THE UNIT and dislodge the tooth manually.**



Step 4: Extracting the Chamber Drawers

- Pull out/aprt the top drawer compartment, which contains particles of between 300 1,200 microns.



Step 5: Cleansing the Particles

- Pour the contents of the top drawer compartment into one of the provided containers (Dappen dish).
- Pour the provided cleanser into the container with the particulate. Fill to cover the particulate.
- Close the container cap by turning it clockwise.
- Leave the particulate in the cleansing solution for 10 minutes at room temperature.
- Using a cotton gauze, absorb the cleansing solution.
- Pour Phosphate Buffered Saline (PBS) into the container.
- Fill approximately half the container. Shake the container gently and leave for 2-3 minutes.
- Using a cotton gauze, absorb the excess PBS solution.
- 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. Leave the particulate dentin in the Autoclave until graft is dry, typically 5 minutes. Be careful, as the glass container will be hot! The dry graft should be covered and capped.

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