

REALITY ENDO

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2009

Obturation Devices

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(4.5)



RAVES & RANTS

- + Cordless gun
- + Swivel needles
- One continuous backfill is difficult to accomplish
- Need to dip extruded material into sealer can be a nuisance

MANUFACTURER

Discus

www.discusdental.com

PRICE

BASIC UNIT

\$1,595.00

REFILLS

Needles

\$49.95/4 (\$12.49 ea)

Pellets

Gutta Percha

\$24.99/100 (\$0.25 ea)

Resilon

\$62.25/100 (\$0.62 ea)

WARRANTY

1 year

HotShot **NEW**

DESCRIPTION

Device for extruding warm gutta percha or Resilon to backfill root canals.

BASE UNIT

Matte black with a small oval footprint measuring 7.1in/18.0cm long (including the cord) and 2.4in/6.0cm wide. The top of the unit has the recess in which the gun sits. The electrical cord connects at the rear. Only function is to charge the gun.

HANDPIECE/GUN CORDS

None – gun is cordless.

HANDPIECES/GUNS

Also clad in matte black plastic to match the base, it has the same basic design as a Centrix composite syringe, with a robust handle and finger-contoured trigger lever. It should fit most hands and is quite lightweight (65.2g). The top of the barrel near the front end has a slot for loading the gutta percha or Resilon pellets, while the backend has the connection for the plunger. The front end, of course, is where the needles attach. For recharging the battery, be sure to insert the gun fully into the base unit. According to the manufacturer, you should be able to get 1.5 hours of use from the battery before recharging is necessary, although in most office, recharging will be done after each patient.

The only controls for the entire device are on the left side of the gun, which means you are out of luck if you are left-handed. On the other hand (no pun intended!), there are actually only two buttons plus two LED displays, so even southpaws should not be terribly inconvenienced. The buttons are easily reached by your thumb (for right-handers) or index finger (for left-handers). The front green button is to turn the unit on and off, while the rear yellow button controls the temperature.

The main display is located directly below the two buttons and indicates the temperature selection, while the smaller, vertically-oriented rear display merely shows the battery charge status. This main display features red numerals, which are very easy to see against the black background.

All the evaluators liked the design, especially the cordless functionality. One evaluator thought it looked like a piece of designer jewelry, although the black finish was acknowledged as being hard to keep clean. The gun received many kudos for being easy to charge, easy to load, and comfortable to hold. It was also praised for being lightweight and reducing hand fatigue, requiring acceptable extruding pressure, and being easy to change settings.

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TIPS/NEEDLES

Available in 20, 23, and 25 gauge sizes, with the 23 and 25 gauges having swivel capability. One evaluator in particular really appreciated this swivel mechanism as a way to prevent gutta percha from extruding around the needle hub. All three sizes come in a sealed foil pouch, but even after opening the pouch, it can be sealed using the Ziploc mechanism. The needles are double-sealed in clear plastic bubbles with peel-off, paper backing. Even with all this protection, you are still instructed to clean and sterilize them before they are used. Once a needle is removed from its enclosure, however, there is no size identification. If you typically use different sizes, this lack of identification can make differentiating between the sizes more difficult than it needs to be.

Once a needle is retrieved from its enclosure, you must remove the protective plastic cap over its threads before sterilization. You are also told to store unused needles in an airtight environment because they are coated with silver and could tarnish otherwise. This requirement is a nuisance – what type of airtight container is necessary?

The needles are straight and need to be bent at your preferred angle using the needle wrench included in the kit. While most evaluators thought the gauge selection was adequate, three evaluators did not think the needles were long enough.

USE

Screw the needle into the front end of the barrel and then use the wrench, which is a circular black plastic, disc-like device, to tighten and bend it to your desired angle. The bending function is not well described in the instructions, but the needle is supposed to be placed between the tightening projection of the wrench and the secondary, adjacent nub, with the nub placed inside the bending circle. Even so, you need to be very careful when bending these needles – they can break very easily. Then retrieve the metal plunger from its foil envelope and insert it into the backend of the gun. This step is actually omitted from the directions, but is fairly intuitive. The front end of the plunger should be inserted far enough so it can be viewed from the top of the gun barrel just barely entering the pellet-loading slot.

Then open the shrink-wrapped plastic box holding the gutta percha pellets (our unit did not come with Resilon). Opening this box needs to be carefully as the clear plastic top fits very tightly over the white plastic base holding the pellets. Otherwise, you could find the pellets flying everywhere except into the gun slot where they belong. The pellets are precut cylinders measuring 15mm long x 3mm in diameter.

Place a pellet into the front part of the slot and then use the plunger to manually push it forward into the heating chamber. You are supposed to be pushing until you are halfway between the two red rings on the back section of the plunger, but since the front red ring disappears as you are pushing, we found this guidance to be too ambiguous. It is curious why the plunger was not marked more precisely, since this maneuver is fairly critical to the proper functioning of the device. In any event, we pushed the plunger forward until it encountered resistance, which was roughly corresponding to the aforementioned halfway point between the red rings.

Then you turn on the unit by pressing the power button. The selected temperature will then be displayed. In our test unit, 230 degrees C was displayed when the unit was turned on. Since the recommended temperature for gutta percha is 200 degrees C (one evaluator actually preferred 230 to increase the flow of the gutta percha), we repeatedly pushed the temperature control button, strangely designated with an H (maybe for heat?), to scroll through the other selections (150 and 180) until 200 was visible. While the material is heating, the temperature displayed will increase quickly until the final selection is reached. This is like preheating an oven, although it happens much faster.

One evaluator found the temperature settings too limiting and preferred to have more control. Another evaluator commented that during difficult procedures, the unit may power off by itself during the procedure. An audible signal that warns the user before self shut down would be useful in avoiding the frustration of not having the unit up to temperature when needed most.

Activate the trigger to make sure the heated gutta percha is flowing through the needle and then place a thermal protection cap over the heated nose section of the gun to protect the patient from being burned. Although the heat of the nose section can still be felt through this translucent plastic cone, only one evaluator thought the heat could be objectionable to a patient. Nevertheless, caution is advised.

Insert the needle into the root canal as far as possible without having it bind and then start extruding, followed by mechanically packing it with a plugger. All evaluators thought the consistency of the warm gutta percha to be acceptable although one evaluator preferred the technique of dipping a small amount of gutta percha into sealer, injecting and condensing, followed by the same sequence several times until the canal is fully obturated. One evaluator thought retracting the plunger to add another pellet was somewhat difficult. Another evaluator thought Resilon was somewhat tacky.

MAINTENANCE

Needles can be sterilized and reused, but cleaning their lumens prior to autoclaving seems to be an exercise in futility. One evaluator even thought the manufacturer was joking about reusing the needles! To clean the heat chamber, you are supposed to remove the needle (after allowing the unit to cool down), turn the gun on again to 200, activate the trigger to express any remaining gutta percha, and turn it off. Once it is cool again, remove the plunger and insert the supplied pipe-cleaner-like brush through the plunger orifice to remove any residual material. This sounds easy but pushing the brush through the gun takes significant pressure and the residual gutta percha is then embedded in the bristles of the brush.

DIRECTIONS

Coated paper booklet is reasonably easy to follow, but omits some previously mentioned items that could have leveled the learning curve.

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STRENGTHS Cordless gun, fits well in your hand, simple controls, swivel needles, small footprint, cool black color, easy extrusion, easy loading, provides consistent results.

WEAKNESSES Continuous backfill is difficult. Most users need to extrude intermittently, which is not as convenient. Bending needles can result in breakage. Two evaluators wanted longer needles. Advice to reuse needles is ludicrous. One evaluator commented that if a rubber stopper is used on the tip, the stopper must be removed first before using the wrench to loosen the nut that locks tip in place due to small opening in wrench that will not allow stopper to pass through. Unset sealer can be difficult to remove from black exterior of gun. One evaluator felt the handle could be somewhat thick or bulky for those with small hands. Unit goes to sleep in the middle of a procedure without any warning. Cleaning can be cumbersome.

BOTTOM LINE Hard to beat the cordless gun for convenience, but a simpler backfill technique would be appreciated.

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