

# PULPDENT ROOT CANAL SEALER

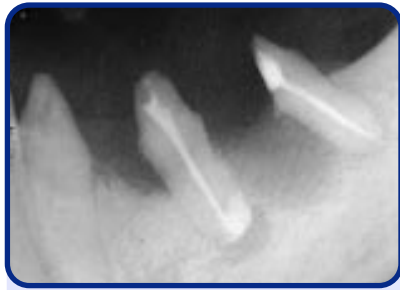


Pulpdent Root Canal Sealer is an ADA Accepted permanent root canal filling material that meets ANSI/ADA Specification No. 57-2000 for Endodontic Sealing Materials. It is specially manufactured so that a thick mix can extrude through a 30-gauge needle and into irregularities and accessory canals for complete obturation of the root canal system.

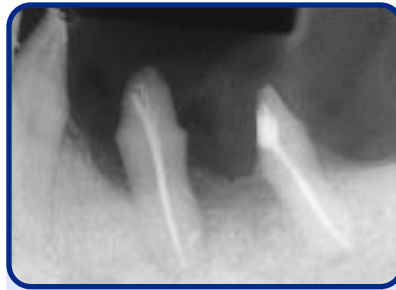
Pulpdent Root Canal Sealer resorbs with the roots of deciduous teeth and is recommended for use in both primary and permanent teeth. It is tissue compatible, bacteriostatic, radiopaque and insoluble in the root canal. Slight extrusions beyond the apex are well tolerated and often resorb within six to twelve months.

Pulpdent Root Canal Sealer sets in two to three hours, and it does not shrink upon setting, ensuring a positive seal. The sealer can be drilled for a post, and it can be removed with gates glidden and peso drills, if necessary.

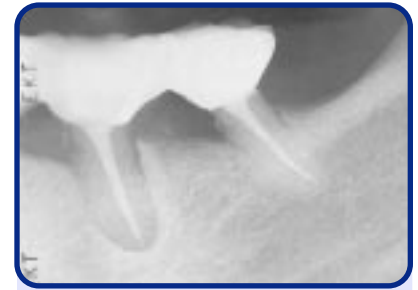
**Tissue Compatible -  
Slight Apical Extrusions Often Resorb Within 6-12 Months**



**Figure L1**  
Shows obturation of second bicuspid and distal root of hemisected first molar with Pulpdent Root Canal Sealer. Note periapical lesion and slight extrusion of sealer beyond the apex of the bicuspid.

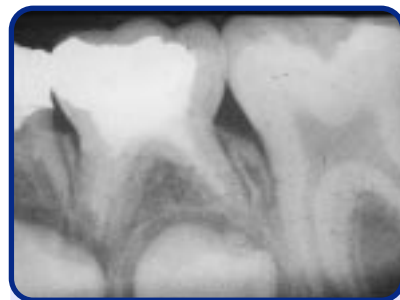


**Figure L2**  
Radiograph five months later shows resorption of extrusion and healing of periapical lesion.

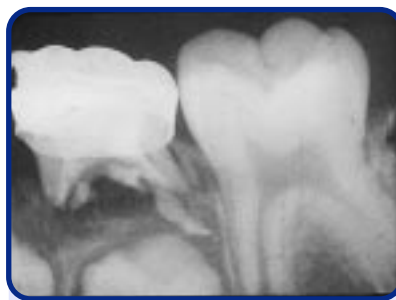


**Figure L3**  
Radiograph 4 1/2 years later shows periapical healing, bone fill and bridge in place.

**Resorbs with the Roots of Deciduous Teeth**

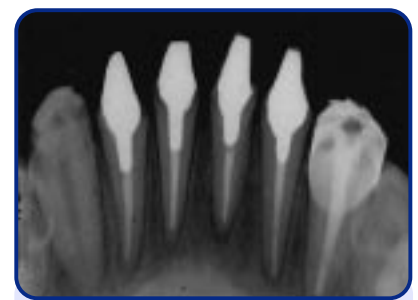


**Figure J1**  
Radiograph shows primary molar filled with Pulpdent Root Canal Sealer using the Pressure Syringe technique.



**Figure J2**  
Radiograph shows bicuspid erupting and Pulpdent Root Canal Sealer resorbing with the roots of the primary molar.

**Permanent Filling Material**



**Figure K1**  
Pulpdent Root Canal Sealer can be used with or without gutta percha. Radiograph shows five permanent lower anterior teeth completely filled with sealer only.

**Pulpdent Root Canal Sealer  
Technical Data**

**Powder ingredients:**

zinc oxide, calcium phosphate,  
zinc stearate and barium sulfate

**Liquid ingredients:**

eugenol and Canada balsam

**Standard:**

ANSI/ADA Specification No. 57-2000  
Endodontic Sealing Material

**Mixing Ratio:**

For use with Pressure Syringe,  
mix to a thick, creamy consistency as follows:  
a minimum of 3 level scoops powder :  
3 drops liquid (or greater amounts in a ratio of 1:1)

**For use with lentulo:**

2 level scoops powder : 4 drops liquid  
(or greater amounts in a ratio of 1:2)

**Measuring Procedure:**

Fluff powder by inverting bottle.  
Measure level scoops of powder.  
Do not pack powder into scoop.  
Hold sealer liquid bottle vertically  
downward when dispensing drops.

**Working time:** 30 minutes minimum

**Setting Time:** 2-3 hours

**Storage:** Store at normal room temperature  
(72°F / 22°C) away from direct sunlight.

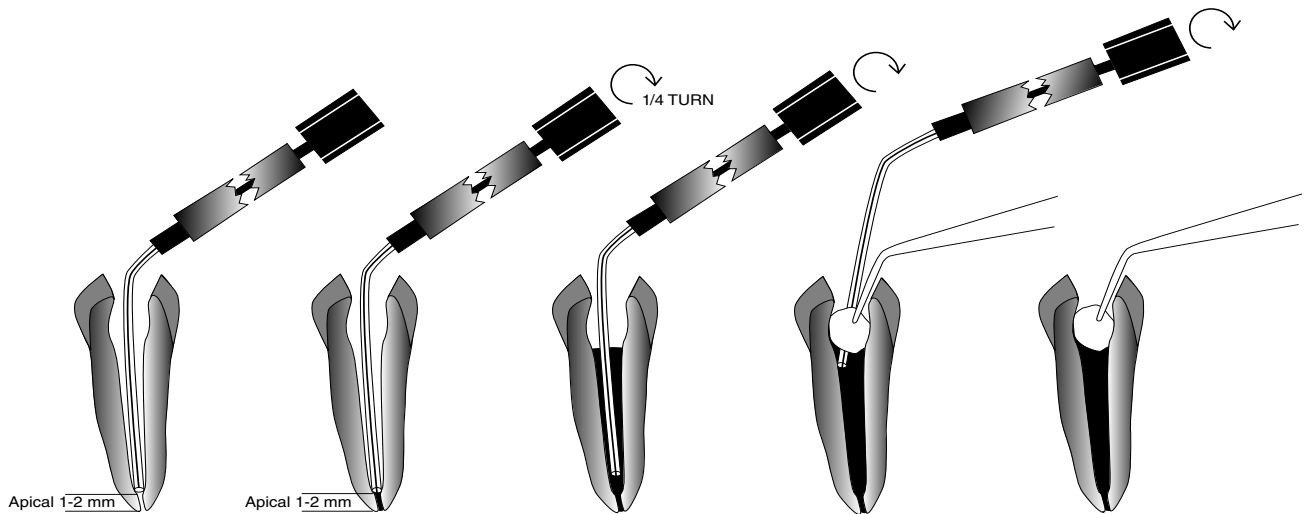
## PULPDENT PRESSURE SYRINGE



*This device, which became known as the Pulpdent Pressure Syringe, is the simplest and most accurate method of filling the apical portion of the root canal and completely obturating the root canal space.*

In the early 1960s, Greenberg and Katz designed the Endodontic Pressure Syringe, which was manufactured by Pulpdent Corporation.<sup>2,3</sup> This device, which became known as the Pulpdent Pressure Syringe, is the simplest and most accurate method of filling the apical portion of the root canal and completely obturating the root canal space. It eliminates voids and incomplete fills at the apex and along the length of a solid core and the canal walls. It also eliminates the problems associated with the inaccessibility of some posterior teeth and the difficulties encountered when filling narrow and tortuous canals.

Using the Pressure Syringe, the practitioner fills the apex first and then back fills the remaining root canal space. The screw type syringe provides complete control and accuracy, assuring precise placement at the apex and total obturation of the root canal. The Pressure Syringe slowly extrudes the filling material, and the flow of material can be stopped instantly. A thick mix of Pulpdent Root Canal Sealer flows through a 30-gauge needle providing access to even the narrowest canals. The needle can be bent in any direction to facilitate access.



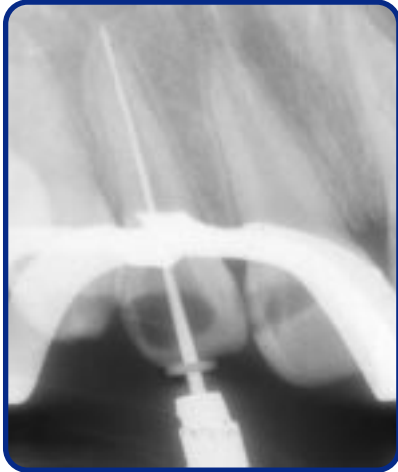
### **Indications for Use of the Pressure Syringe**

- For complete obturation of the root canal in permanent and primary teeth with Pulpdent Root Canal Sealer alone as a single system root canal filling material.
- For placement of sealer in the apical third of a permanent tooth when Pulpdent Root Canal Sealer is used in conjunction with gutta percha.
- For the obturation of areas of internal resorption in permanent and primary teeth.
- For the obturation of large canals in traumatized or incompletely formed teeth with large apices. (First attempt apexification with Pulpdent Paste, TempCanal or Multi-Cal calcium hydroxide paste.)
- For complete obturation of the root canal space from the retrograde approach.

# PULPDENT PRESSURE SYRINGE - INSTRUCTIONS FOR USE

**1**

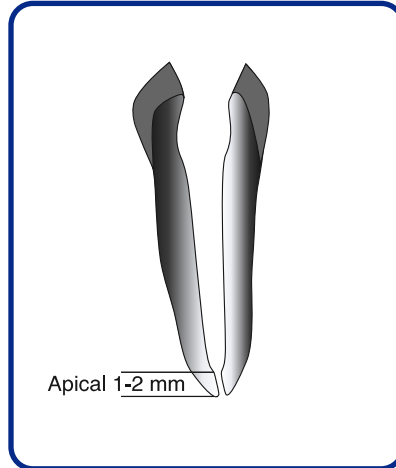
## Determine Root Length



Using good endodontic procedures, take a diagnostic radiograph with a radiopaque stop to determine the root length.

**2**

## Prepare Canal



Open the root canal to a size 35-40 file to a distance 1-2 mm from apex. Taper the canal walls to a funnel shape. Prepare the apical 1-2 mm with parallel walls. Make sure the apex is patent. For completely formed teeth, it is best not to open the apex beyond a size 20-30 file.

**3**

## Select Pressure Syringe Needle



Select a Pulpdent Pressure Syringe needle, place a radiopaque stop on it, and place the needle in the canal so that it wedges within 1-2 mm from the apex. A 30-gauge needle corresponds to a size 35-40 file. Place the needle with the radiopaque stop back into the color plastic sheath.



### COMPARISON CHART OF INSTRUMENTS & NEEDLES

| FILE SIZE IN THE<br>APICAL 1-2 mm | PRESSURE SYRINGE<br>NEEDLE GAUGE |
|-----------------------------------|----------------------------------|
| 15-30                             | 30 (DARK BLUE)                   |
| 40                                | 27 (YELLOW)                      |
| 50                                | 25 (RED)                         |
| 60-80                             | 22 (LIGHT BLUE)                  |
| 90-110                            | 18 (GREEN)                       |

**4****Measure Sealer Powder and Liquid**

Invert powder bottle to fluff the powder. Maintaining a 1:1 ratio, dispense a minimum of 3 scoops of powder and 3 drops of liquid onto a mixing pad. For accurate measurement, level the scoop of powder with a spatula, but do not pack the powder into the scoop.

**5****Mix Sealer**

Using a metal spatula, mix sealer to a creamy, putty-like consistency. The sealer should be pliable enough to form a homogeneous mass.

**6****Fill Needle Hub with Sealer**

Remove the white cap from the Pressure Syringe needle and completely fill the hub of the needle with the thick mix of Pulpdent Root Canal Sealer. This can be easily done by using a spatula or plastic instrument or by placing the needle hub over the sealer and pressing it against the mixing pad. Pack the sealer tightly into the needle hub, eliminating air pockets.

**7****Thread Needle onto Pressure Syringe**

Make sure the barrel and screw plunger are separated. Thread the needle onto the Pressure Syringe barrel and hand tighten using the color plastic sheath as a holder. This transfers the sealer into the syringe barrel. To place additional sealer in the Pressure Syringe, unscrew the Pressure Syringe Needle, fill the hub again, and place it back on the Pressure Syringe.

8

### Insert Screw Plunger



Slip the handle onto the barrel so that it bends away from the patient's mouth, and insert the screw plunger into the Pressure Syringe barrel.

9

### Start Flow of Sealer



Remove the color plastic sheath from the Pressure Syringe needle. Turn the screw plunger clockwise until sealer begins to extrude at the end of the needle.

10

### Insert Needle into Canal



Using the root canal stop as your guide, place the needle into the root canal 1-2 mm from the apex. It should wedge in the apical portion of the canal. The needle can be bent for easy access, but do not crimp the needle.

11

### Seal the Apex First



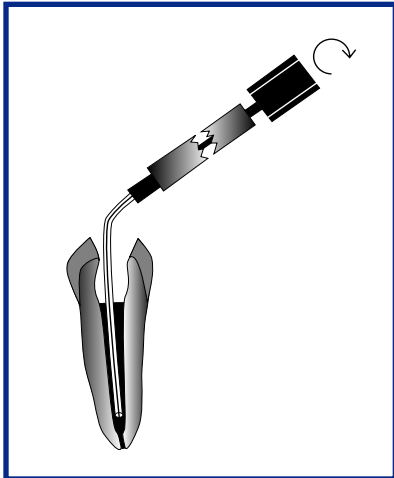
The screw plunger knob has four lines 90° apart indicating one-quarter turn. Turn the screw plunger one-quarter turn clockwise and wait 5 seconds. This fills the 1-2 mm at the apex. A radiograph can be taken at this time to check for a proper apical seal.

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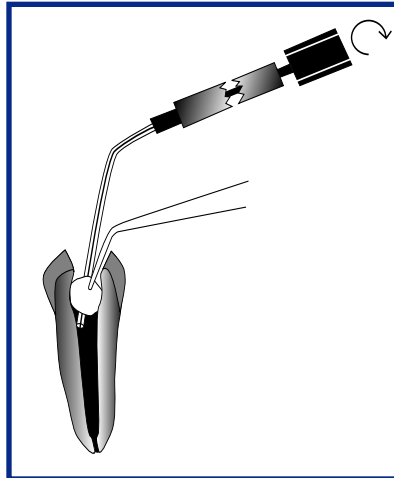
### Withdraw Needle Slightly



Before filling the remaining root canal space, withdraw the needle slightly to break contact with the canal walls. This assures that additional sealer will not be forced through the apex.

**13****Fill the Canal**

Continue to turn the screw plunger slowly until sealer flows into the access cavity.

**14****Withdraw Needle Completely**

Hold a cotton pellet in the access cavity against the side of the needle, and slowly withdraw the needle while continuing to turn the screw plunger. This will fill the space previously occupied by the needle. Use an instrument to force the cotton pellet into the canal to create additional vertical condensation.

**15****Empty the Syringe**

Remove and discard the needle. Remove excess sealer from the Pressure Syringe by turning the screw plunger clockwise as far as it can go.

**16****Clean the Syringe**

Immediately after use, separate the screw plunger from the barrel by turning the plunger counterclockwise. Use Wonder Orange Cleaning Solution to clean the screw plunger and barrel. A pipe cleaner can be used to help clean the inside of the barrel. When the Pressure Syringe is clean, the screw plunger should spin freely in the barrel.