

## Clinical User's Guide

### SET UP

#### How DetecTar Works

DetecTar's fiber-optic probe reads light reflected off tooth structure and transmits it to an internal computer for analysis. DetecTar sounds a tone when it detects the unique spectral signature of subgingival calculus.

#### Initial DetecTar System Self Check

After connecting the sterilized DetecTar probe to the unit cable, always check the connection by using the test disk as described below.

- Place the lens directly on a white test disk at a slightly inclined angle and press the test button.
  - A single, brief tone means DetecTar is ready for use.
- If no tones or multiple tones are heard during the self check, proceed as follows:
- Check all connections.
  - Make sure the probe is not at a 90-degree angle; alter angle so the probe is slightly inclined.
  - Check that the probe is fully connected to the cable. When the unit is new, it may be necessary to slightly moisten the large "O" ring with water, silicone or water-based gel for a full connection.
  - If you are working without a water connection, you may remove the small "O" ring on the metal cannula, which protrudes out of the cable connection and into the probe. This will allow for easier insertion and removal of the probe.
  - If necessary, clean and polish the probe tip using two to three figure 8's on the polishing pad included in the maintenance kit.
  - Ensure the probe's glass fiber-optic connectors are clean and intact.
  - Point the tip of the probe toward a bright light, looking inside the probe to check for tiny points of white light on the top surface of the white connector posts (Fig. 1). Gently clean these tips with a cotton swab slightly moistened with alcohol.

### STERILIZATION

A sterile probe must be used for each patient. The probe is the only DetecTar component that may be sterilized.

**DO NOT PLACE THE DETECTAR PROBE IN AN ULTRASONIC CLEANER OR A CHEMCLAVE OR DRY HEAT STERILIZER.**

Clean the probe by gently removing blood and DEBRIS, then sterilize as directed:

- Autoclave: 135°C for 10 minutes
- Statim from Scican (or similar): 20 minutes on the plastic cycle (121°C, 15 psi)

## CLINICAL HINTS

### Subgingival Calculus Detector

- DetecTar is calibrated to detect the optical signature of subgingival calculus **only** (Fig. 2).
- DetecTar reads most subgingival calculus (burnished, spicules, black, white and ledges), as small as 0.1mm.

### Patient Selection

- Although DetecTar reads most subgingival calculus, it is most effective for periodontally involved patients (class II and above) with pockets greater than 5mm.
- Patients scheduled for regular recall prophylaxis may not benefit from the DetecTar due to the lesser calcification of subgingival deposits.
- DetecTar is also very effective for checking site-specific areas on any patient who has had scaling and root planing, and who have localized areas that are not responding to treatment.

### Periodic System Self Checks

- Check the probe periodically during the course of treatment to ensure no debris has dried or adhered to the lens.
- Periodic self tests are especially important during the appointment when working on patients with excessive inflammation and plaque.
- Use the same technique as described in the "Initial DetecTar System Self Check" to check the lens and ensure it remains clear of tissue and debris allowing adequate light transmission.
- Should multiple beeps occur, gently wipe the tip with moistened gauze and re-test. If the unit emits multiple beeps a second time, use the polishing pad included in the maintenance kit to gently remove any debris adhering to the lens.

### Initial Exam

- DetecTar is an excellent tool for patient education. Educate patients on how DetecTar emits an audible tone when calculus is detected.
- Only about 50% of subgingival calculus will be detected when DetecTar is used during the initial exam, due to subgingival plaque, debris, biofilms and newer, less calcified deposits and plaque overlaying older, more calcified deposits.
- DetecTar works best if teeth are lightly polished and excessive plaque build-up is removed before the exam begins. This keeps excessive plaque from interfering with the fiber optic lens.
- DetecTar is not intended to be used initially as a "mapping tool" for calculus.
- DetecTar has millimeter markings and can be used in the same manner as a traditional periodontal probe.

### Scaling and Root Planing Treatment

- For best results, use an Ultrasonic scaler prior to using DetecTar for detecting calculus deposits. This disrupts any biofilm and partially calcified deposits that may interfere with the light transmission or obscure burnished or tenacious calcified deposits.
- When using the probe for detection, begin at the bottom of the pocket, and work toward the gingival margin. Work slowly and methodically around each tooth.
- Position the probe at 5-20 degrees with the tip against the tooth surface (Fig. 3 and 4).
- Slowly sweep from the bottom of the pocket toward the gingival margin in a 2-3mm tight zigzag motion (Fig. 5). For the best calculus detection, work slowly and keep the angle of the probe at 5-20 degrees. For deeper pockets, re-check using varying angulations.
- Rinse pocket with air-water spray to flush out any loose or residual particles of calculus.
- Periodically, wipe the probe tip to ensure a clean optic fiber lens.

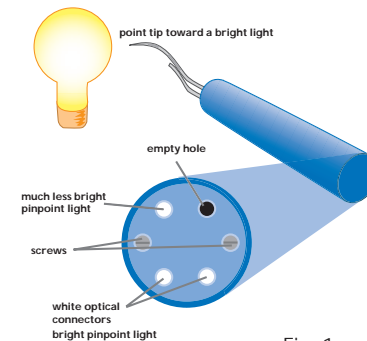


Fig. 1

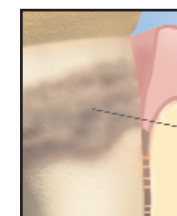


Fig. 2  
Subgingival Apical to Margin  
Brown/Black Ca, Mg, F Mineral content is from the crevicular fluids

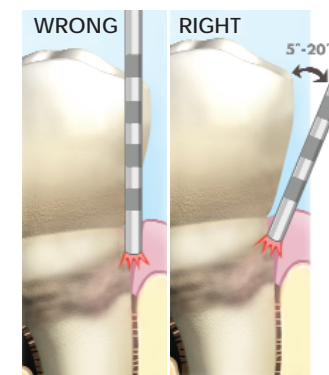


Fig. 3

Fig. 4



Fig. 5

## TROUBLE-SHOOTING TIPS

Problem	Solution
<b>Seating/Connecting the Probe</b>	<p>Line up the notch on the DetecTar probe (female receptacle) with the notch on the cable (male receptacle). Connect the probe and cable by gently pushing the two together. Do not apply extreme force * they should connect easily.</p> <p>Do not twist the probe and cable connection to assemble or disassemble. Twisting to connect or remove the probe from the cable will damage the fragile fiber-optic connectors.</p> <p>If you are working without a water connection, you may remove the small "O" ring on the metal cannula, which protrudes out of the cable connection and into the probe. This will allow for easier insertion and removal of the probe.</p>
<b>No Power</b>	<p>Check that DetecTar's power switch is turned "ON" and the indicator light is on.</p> <p>Check that the power cord is firmly plugged into an electrical outlet with power.</p> <p>Check that the power cord is firmly plugged in to the AC transformer.</p> <p>Check that the AC transformer is firmly plugged into the receptacle at the back of DetecTar.</p>
<b>Beeps Outside the Mouth, Near Amalgam, Metal Crowns and Metal Collars</b>	<p>DetecTar is calibrated for use in the sulcus. Beeping outside the mouth or near metal is caused by light reflection.</p> <p>Depress the foot pedal control after the tip of the probe is placed in the sulcus.</p> <p>Inspect the tip of the probe to see if it is clean. Follow instructions for the Initial Self Test.</p> <p>Clean the probe tip with moistened gauze. If needed, polish the tip of the probe with polishing paper.</p>
<b>Light at tip of DetecTar Probe is ON but There is No Sound When Detecting</b>	<p>Confirm that the foot pedal is firmly plugged into the outlet at the back of DetecTar.</p> <p>Check and adjust the sound signal tone (high, normal, no signal).</p>
<b>No Light at Tip of DetecTar Probe</b>	<p>Check all electrical and probe connections.</p> <p>Check power is on (power light).</p> <p>Point the tip of the probe toward a bright light, looking inside the probe to check for tiny points of white light on the top surface of the connector posts. Gently clean these tips with a cotton swab slightly moistened with alcohol.</p>
<b>Following Ultrasonic Scaling, Probe is On the Calculus But is Not Beeping</b>	<p>Confirm DetecTar's sound signal tone is on.</p> <p>DetecTar detects only fully calcified subgingival calculus. Less calcified deposits, plaque and rough cementum or dentin surfaces will not cause a signal. Use the ultrasonic scaler in that area a second time.</p> <p>If tactile exploration feels rough, but DetecTar doesn't beep, there is no calculus.</p>
<b>Probe Indicates Calculus but Tactile Exploration Probe has Found None</b>	<p>Burnished surfaces of calculus may not be detected by traditional methods, but are detected by DetecTar.</p>
<b>Self Test Worked, but No Indication of Calculus in the Mouth</b>	<p>Check that the foot pedal control is firmly plugged into the outlet on the back of DetecTar.</p> <p>Patient may be a regular recall patient and not have fully calcified subgingival deposits.</p> <p>See "Patient Selection" on reverse side.</p>