

Light touch and light pressure, keeping the tip parallel to the tooth surface and constantly in motion

Ultrasonic instruments have been widely used as a valuable adjunct to conventional hand instrumentation for many years. The selection of either ultrasonic or hand instrumentation should be determined by the clinician's preference and experience and the needs of each patient. The success of either treatment method is determined by the time devoted to the procedure and the thoroughness of root debridement. In practice, clinicians typically use a combination of both ultrasonic and hand instrumentation to achieve thorough debridement.

Ultrasonic instrumentation is accomplished with a **light** touch and **light** pressure, keeping the tip **parallel** to the tooth surface and **constantly in motion**. Leaving the tip in one place for too long or using the point of the tip against the tooth can produce gouging and roughening of the root surface or overheating of the tooth. The working end of the ultrasonic instrument must come in contact with the calculus deposit to fracture and remove it. The working tip must contact all aspects of the root surface to remove plaque and toxins thoroughly. Although as much as 10 mm or more of the length of the ultrasonic tip vibrates, only a small portion of it can be **adapted** to contact the curved root surface at any one time or point. As with hand instruments, a series of focused, overlapping strokes must be activated to ensure complete root coverage.

Important: Subgingival root surface roughness does not seem to interfere with healing after scaling and root planing. Thus it does not appear useful to reinstrument root surfaces with hand instruments after a clinically detectable smooth surface has been created with sonic or ultrasonic scaler.

Contraindications to the use of ultrasonic and sonic scaling devices:

- Older cardiac pacemakers
- Known communicable diseases that can be transmitted by aerosols
- Patients at risk for respiratory disease, including patients who are immunosuppressed or have chronic pulmonary disorders
- Patients with titanium implants, porcelain or bonded restorations (*unless you use plastic-tipped inserts*)