

CRITICAL FACTORS AFFECTING THE CLEANING PROCESS	COMMENTS	RECOMMENDATIONS
<b>TIME</b>	<p>In general, the longer the time period that soiled articles are soaked in a cleaning solution the easier it is to remove the soil. HOWEVER instruments should not be soaked in aqueous solutions for excessive periods of time because of the following reasons:</p> <ol style="list-style-type: none"> <li><b>Bacterial growth:</b> Solutions contaminated with biological soils are capable of supporting bacterial growth that can contaminate instruments.</li> <li><b>Water &amp; oxygen corrode metals:</b> Prolonged soaking or leaving instruments wet can lead to corrosion (even clean rinse water will cause corrosion).</li> </ol>	<ol style="list-style-type: none"> <li>Where possible soak instruments for a maximum of 30 minutes prior to washing.</li> <li>Dry instruments immediately after washing.</li> <li>Change contaminated detergent solutions regularly throughout the day.</li> </ol>
<b>MECHANICAL ACTIVITY</b>	<p>Mechanical activity or energy must be applied to the cleaning process to adequately remove adhering soils. Energy input can take the form of brushing, ultrasonic baths, or pressure jets.</p>	<ol style="list-style-type: none"> <li>Do NOT rely on passive cleaning.</li> <li>Immerse instruments in the cleaning solution and brush thoroughly.</li> <li>Wash in an ultrasonic cleaner.</li> </ol>
<b>TEMPERATURE</b>	<p>High temperatures will improve the removal of fats and lipids. HOWEVER high temperatures can denature proteins making them highly insoluble and in effect 'cook' them onto the surface. The denatured proteins are then very difficult to remove.</p> <p>After washing in a detergent solution the final rinse should be hot. A final hot rinse will remove detergent residues and suspended soils far better than a cold rinse.</p>	<ol style="list-style-type: none"> <li>Before washing pre-rinse instruments in clean tepid water at or below 35°C.</li> <li>Detergent washing water should be at or below 35°C.</li> <li>Final rinse should be warm to hot.</li> </ol>
<b>CHEMICAL ACTIVITY</b>	<p>Cleaning agents contain a number of chemicals that work together to aid in the removal of soils. Surfactants help to solubilise fats and proteins by emulsification.</p> <p>Mild alkaline agents have a number of functions; they increase the solubility of proteins and fatty acids and help to keep soils suspended in solution thus preventing redeposition onto the surface. They also remove calcium, improving the washing process and preventing insoluble calcium deposits.</p> <p>Alkaline builders also help prevent corrosion of metal. Corrosion of steel is at a minimum in mild alkaline solutions (pH 8.5-10) compared to neutral or mild acid solutions.</p>	<ol style="list-style-type: none"> <li>Use a mild alkaline detergent containing non-ionic surfactants.</li> </ol>