













Impression Taking TroubleShooter

<p>Problem: Premature set</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Abrupt change from heavy to light-body material • Muted detail around margin 	<p>Cause</p> <ul style="list-style-type: none"> • Set time of wash/tray material not synched • Exceeded working time of material 	<p>Solution</p> <ul style="list-style-type: none"> • Begin mix of heavy and light viscosity concurrently • Verify set times for heavy and light viscosities match • Observe working time of materials
<p>Problem: Deformation/dimensional change</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Crowns too tall/short • Open contacts • Crown will not seat 	<p>Cause</p> <ul style="list-style-type: none"> • Insufficient mix of material • Impression removed too early • Tray movement after seating • Insufficient material elasticity • Fluid absorption during disinfection process 	<p>Solution</p> <ul style="list-style-type: none"> • Verify material is adequately mixed before seating and completely set prior to removal • Use passive force to maintain tray position when using open-bite technique • Verify no tooth contact with tray sides or impingement in closed-bite technique • Choose material with adequate elasticity • Follow disinfection protocol carefully
<p>Problem: Tearing at margin</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Visible tears at margin • Lack of flash extending apically around entire preparation 	<p>Cause</p> <ul style="list-style-type: none"> • Material has insufficient tear strength • Presence of severe undercuts • Insufficient sulcular expansion 	<p>Solution</p> <ul style="list-style-type: none"> • Use material with adequate tear strength • Consider blocking out undercuts, especially in cases with gingival recession • Ensure at least .5 mm sulcular expansion
<p>Problem: Surface inhibition or “non-set”</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Unset or mottled surface around preparation • Lack of detail • Shiny/wet appearance 	<p>Cause</p> <ul style="list-style-type: none"> • Contamination due to latex gloves; direct contact with material or residue left on teeth • Contamination due to temporary materials or composite • Expired material or exceeded material shelf life 	<p>Solution</p> <ul style="list-style-type: none"> • Use latex-free gloves when handling VPS material • Rinse preparation area thoroughly after using other restorative materials • Use automated mixing device to minimize exposure to contaminants • Do not use expired material
<p>Problem: Poor model detail</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Small bubbles/indentations in cast • Powdery cusps 	<p>Cause</p> <ul style="list-style-type: none"> • Release of hydrogen gas from VPS impression after pouring cast • Tooth contact with mesh lining of closed-bite impression tray 	<p>Solution</p> <ul style="list-style-type: none"> • Follow manufacturer instructions regarding any delays for pouring models after taking impression • Place cotton roll on contra-lateral side when using closed-bite trays to prevent direct tooth contact with tray; this prevents water from leaching through tray after cast has been poured

<p>Problem: Voids in wash material</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Visible voids in wash material around tooth preparation 	<p>Cause</p> <ul style="list-style-type: none"> • Bubbles incorporated into material during mixing or loading syringe • Bubbles incorporated while syringing material intraorally 	<p>Solution</p> <ul style="list-style-type: none"> • Use automix systems • Syringe material intraorally in continuous stream around each preparation; do not lift syringe tip from material
<p>Problem: Insufficient or excessive compression</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Insufficient: wash material flows away from preparation area • Excessive: wash material displaced from preparation area; “burn through” 	<p>Cause</p> <ul style="list-style-type: none"> • Insufficient compression of wash material from adjacent tooth/tray or heavy-body material • Excessive compression of wash material due to high viscosity of tray material 	<p>Solution</p> <ul style="list-style-type: none"> • Use tray viscosity material with greater compressive force, or use custom tray • Use tray material with lower viscosity to avoid displacing wash material
<p>Problem: Incomplete margin</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Voids or “jumps” on margin 	<p>Cause</p> <ul style="list-style-type: none"> • Inadequate tissue management • Contamination from intraoral fluids • Insufficient compression of wash material 	<p>Solution</p> <ul style="list-style-type: none"> • Use Expasyl™ retraction paste to open sulcus and help maintain dry field • Use hydrophilic wash material • Select tray viscosity with adequate compression
<p>Problem: Voids in tray material</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Visible voids in set impression • Tearing of impression • Poor fit at seating 	<p>Cause</p> <ul style="list-style-type: none"> • Introducing bubbles when filling tray; layering material • Introducing bubbles when mixing material by hand 	<p>Solution</p> <ul style="list-style-type: none"> • Keep tip buried in material during filling • Fill in continuous path; do not layer material • Use automated mixing machine for tray viscosity
<p>Problem: Tooth contact with tray</p> 	<p>Evidence</p> <ul style="list-style-type: none"> • Visible impingement 	<p>Cause</p> <ul style="list-style-type: none"> • Incorrect size tray • Tray seating not aligned with dentition 	<p>Solution</p> <ul style="list-style-type: none"> • Verify tray has enough room for 2 mm of impression material between tooth and tray walls

