Forest Lake Smiles Adopts Updated Digital Workflow for Prosthetic Fabrication

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Edentulism and extensive tooth loss present significant functional and anatomical challenges, affecting masticatory efficiency, speech articulation, and facial muscle support. When multiple natural teeth are lost to severe decay, periodontal disease, or trauma, the underlying alveolar bone gradually resorbs, altering lower facial height and joint mechanics over time. Removable prosthetics remain a non-surgical, time-tested way to restore arch integrity and distribute occlusal forces across remaining ridge structures. At Forest Lake Smiles, clinicians use detailed oral evaluations and tissue mapping to assess structural suitability before recommending a prosthetic approach.

In June 2026, the practice replaced its alginate-based impression protocol with an intraoral optical scanning system integrated directly into its computer-aided design workflow for removable appliances. Where the prior process relied on physical trays and setting materials to capture arch anatomy, the updated protocol records gingival contours and palate topography as a digital surface map, which is then used to plan vertical dimension and jaw relation records before any physical appliance is processed. The change was implemented alongside staff training on scanner calibration and a validated digital design pipeline shared between the practice and its fabricating laboratory.

The published research on digital impressions is more mixed than marketing materials often suggest, and Forest Lake Smiles' protocol reflects that nuance. A 2022 crossover study in the Journal of Prosthetic Dentistry found that maxillary denture bases from digital scans performed comparably to conventional impressions in some retention measures (Chebib et al., J Prosthet Dent, 2022). At the same time, more recent clinical work published in the same journal in 2026 found that digital scans can produce reduced border extension and less accurate adaptation at the peripheral seal compared with conventional border-molded impressions, particularly in areas of movable soft tissue. Because of this, Forest Lake Smiles' updated protocol still incorporates manual border refinement where scans alone are insufficient, rather than relying on scanning as a full replacement for clinical judgment.

Selecting between complete and partial prosthetic configurations depends on clinical criteria including

remaining dentition health, mucosal tissue thickness, and jawbone density. Complete removable prostheses replace an entire arch and rely on mucosal support and border molding for retention. Removable partial prostheses use acrylic or cast-metal frameworks that anchor onto healthy adjacent teeth to fill gaps and limit drifting of the remaining dentition. Clasp design and occlusal balancing directly affect how much lateral load is transferred to abutment teeth, a relationship documented in prosthodontic biomechanics literature going back decades; the American College of Prosthodontists' patient-facing overview of complete and partial dentures outlines these distinctions for people weighing their options.

Biological adaptation and tissue healing are critical to long-term success, and physiological responses vary by patient. After placement, oral musculature adapts to the new appliance during speech and chewing. When immediate prostheses are placed right after extractions, ongoing bone remodeling requires periodic relining as ridge contours change over the following months. Clinicians monitor these transitions at follow-up visits to confirm tissue pressure stays evenly distributed across the basal seat area.

Routine maintenance remains essential for oral mucosal health and appliance longevity. Daily cleaning with soft brushes and non-abrasive cleansers helps prevent plaque buildup and fungal irritation beneath the prosthetic base, and regular exams allow the clinical team to check tissue health, occlusal wear, and border fit over time.

Forest Lake Smiles is a general and restorative dental practice in Forest Lake, Minnesota. Patients evaluating dentures in Forest Lake, MN can learn more about the updated workflow or request a consultation at www.forestlakesmiles.com/services/dentures.

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