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CAD/CAM Denture Workflows – the Clinician Perspective

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This lecture gives the clinician's perspective regarding workflow options for providing patients with CAD/CAM dentures.

In recent years, new treatment methods for edentulous patients with removable dentures have emerged, incorporating digital technologies aimed at both the dentist and dental technician.

The digital denture system from Ivoclar offers various procedures for designing and fabricating CAD/CAM removable dentures. The workflow starts with anatomical impressions and an initial bite registration (Centric Tray). To determine the occlusal plane, an innovative extraoral registration device (UTS CAD) is used. Impressions and preliminary bite registrations are then digitized, and custom bite plates with a gothic arch tracing device (Gnathometer CAD) are digitally designed and manufactured. The individualized trays facilitate functional closed-mouth impressions of the upper and lower jaws. The occlusal plane is verified using the extraoral registration device and the relationship between the jaws is established via the gothic arch tracing device. Anterior esthetics are addressed via shade choice and tooth form. All the relevant data including the impressions, jaw-relation and esthetic determination are digitized via scanning. Digital dentures can be designed and fabricated using additive or subtractive techniques. For a streamlined workflow resulting in a monolithic denture, an innovative two-coloured PMMA disc (Ivotion) can be utilized. Ultimately the digital dentures are fitted to the patient.

The open digital denture system allows for individual modifications to accommodate the diverse needs of patients and clinicians. Intraoral scanning devices can e.g. be integrated into the workflow to create reference or duplicate dentures or if the clinician requires a try-in denture to confirm design prior to final production - these can also be made.