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Photogrammetry

Full Arch Dental Solution



Dental Photogrammetry in Modern Dentistry

Dental photogrammetry is a cutting-edge technique that is revolutionizing the way dental professionals capture and utilize patient data. This process involves taking multiple high resolution photos of a patient's mouth from different angles. These images are then uploaded into specialized software that meticulously stitches them together to create an extremely accurate 3D model of the teeth and surrounding tissues, as well as a 3D, rotatable facial image.

The primary goal of the photogrammetry workflow is to capture records necessary for creating a printed Full Arch PMMA Try-In to confirm esthetics and bite. This advanced method offers several key advantages over traditional dental impression techniques:

1. **Precision and Accuracy:** Digital models provide an unparalleled level of detail, enabling dentists to plan treatments with greater precision and accuracy.
2. **Patient Comfort**: Unlike traditional impression materials that can be uncomfortable or even distressing for some patients, photogrammetry is non-invasive and comfortable.
3. **Efficiency**: The digital nature of photogrammetry allows for quicker processing times, as the need for physical molds is eliminated, streamlining the workflow for dental professionals.
4. **Enhanced Communication**: With 3D models, dentists can better communicate treatment plans with patients, providing a visual understanding of the proposed interventions.
5. **Record Keeping**: Digital records are easily stored and retrieved, making it simpler to track patient progress over time.

Precondition

- Must Establish the Bite with patient

Equipment & Materials

- Photogrammetry System
- Photogrammetry Scan Bodies
- Intraoral Scanner
- PVS wash reline material of choice
- Healing Caps designed for IOS scanning (If patient has a denture)

Photogrammetry Workflow

1. **Take photos** (Patient must be in a standing position)
   - ☐ Full Face and smile
   - ☐ Full Face with exaggerated smile
   - ☐ Full Face profile smile (Optional)
2. **Carefully remove the patient's prosthesis or dentures** to expose the Multi-Unit Abutments (MUAs).
3. **Seat the Photogrammetry Scan Bodies** passively onto each MUA, ensuring that they fit securely without applying excessive force. This step is crucial for capturing accurate data during the scanning process.
4. **Scan using photogrammetry equipment** (ICAM)

Note: Step 5 through 8 are for dentures only. If your patient has a loaded prosthesis and not a denture jump to step 9.

5. **Place the healing caps onto the Multi-Unit Abutments (MUAs)**. Ensure that the healing caps are seated passively and securely. This step is crucial for maintaining tissue health and preparing for subsequent scanning processes.
6. **Try in the denture** to ensure full seat over the healing collars. Adjust the denture as needed for passive seat.
7. **Perform a PVS wash** (not Blue Mousse) to capture the detail of all the healing collars, ensuring that they are in occlusion. Remove the denture carefully to avoid disturbing the captured impressions.
8. **Perform a 360-degree scan** of the denture outside the patient's mouth with your Intraoral Scanner (IOS). This scan should capture the entire surface area of the denture, providing a comprehensive view that can be used to ensure the best possible fit and function.

9. **Carefully scan the tissue** surrounding the Multi-Unit Abutments (MUAs) with your intraoral Scanner (IOS). Ensure that nothing is seated on the MUAs during this process to capture a clear and precise image of the area. This step is crucial for obtaining detailed data necessary for accurate modeling and planning. If preferred, a PVS Impression can also be used as an alternative method.
10. **Carefully reseat the denture or prosthesis** onto the Multi-Unit Abutments (MUAs). Check for comfort and fit, making any additional adjustments as needed to ensure a proper and passive seating.
11. **Capture Intraoral Scans (IOS)**
    - ☐ **Denture Only**: Perform a detailed scan of the denture, focusing on the teeth and labial flange. This scan is essential for assessing the esthetics and functional alignment of the denture.
    - ☐ **Opposing**: Scan the opposing arch to ensure the occlusion is aligned correctly with the newly adjusted denture.
    - ☐ **Bite**: Capture a scan of the patient's bite to verify that the occlusion is accurate and comfortable for the patient.