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Steps for Analog Workflow to Transfer Accurate Information to the Dental Lab for Final Anterior Implant Restoration

Starting with a well-seated provisional restoration in place after osseointegration, tissue healing, and optimal soft tissue shaping, the goal is to capture the implant position, emergence profile, occlusal relationships, and aesthetic details for the lab to fabricate the final restoration (typically a custom abutment and crown for anterior aesthetics). This assumes a fixture-level impression for a custom abutment. Use high-quality materials and verify accuracy at each step to minimize errors.

1. **Clinical Evaluation and Documentation:** Assess the provisional for proper occlusion, aesthetics, function, and tissue health. Confirm the emergence profile supports ideal gingival contours. Take shade measurements using a shade guide (e.g., Vita Classical) under natural and controlled lighting. Capture high-resolution intraoral and extraoral photographs (e.g., frontal, lateral, occlusal views) to document soft tissue architecture, smile line, and color nuances for lab reference.

2. **Record Opposing Arch and Bite Registration:** If not already available, take elastomeric impression of the opposing arch. With the provisional in place, record the bite using a rigid material (e.g., polyvinyl siloxane bite registration paste) to capture centric relation and excursive movements accurately.

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3. Remove Provisional and Prepare for Impression: Carefully remove the provisional crown and temporary abutment (unscrew if screw-retained or gently tap off if cement-retained, avoiding tissue trauma). Clean the implant interface.

4. Attach Impression Coping and Verify Seating: Select an appropriate fixture-level impression coping (e.g., open-tray for higher accuracy in anterior cases to prevent distortion). Seat it onto the implant and hand-tighten. Take a periapical radiograph to confirm full seating without gaps.

5. Customize Impression Coping to Transfer Emergence Profile: To accurately replicate the soft tissue contour shaped by the provisional:

- Attach the removed provisional to a lab analog on a tissue verification jig extraorally.
- Mix light-body impression material and use it to capture the subgingival and emergence contours of the provisional.
- Remove the provisional from the analog and attach the impression coping to the analog.
- Inject bulk flowable resin into the molded space in the impression around the coping. Allow it to set fully.
- Unscrew, trim excess material, and polish the custom coping to ensure smooth contours that match the provisional's emergence profile.

6. Seat Custom Coping and Take Final Impression: Place the customized impression coping back onto the implant in the mouth. Load a custom or stock tray with elastomeric

impression material (e.g., polyether or PVS—heavy body in the tray, light body syringed around the coping and tissues). Use an open-tray technique: Seat the tray, allow material to set, then unscrew the coping through the tray access hole before removal. Inspect the impression for detail, bubbles, or distortions—retake if necessary.

7. **Reinsert Provisional:** Reattach the temporary abutment and provisional to protect the site and maintain tissue contours during lab fabrication.

8. Prepare and Send Materials to the Lab: Package and send:

- The final impression (with custom coping embedded).
- A compatible implant analog (for the lab to insert into the coping).