

Implant Placement in the Anterior Esthetic Zone: Clinical Principles and Esthetic Outcomes

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Case History:

A young male presented with trauma-related avulsion of the maxillary central and lateral incisors. CBCT revealed sufficient apical bone but a thin facial plate (<1 mm). An immediate implant placement protocol was chosen to preserve soft tissue contours. To reduce esthetic risk and maintain interdental papilla, a single implant was placed in the central incisor position with a cantilevered lateral incisor. A screw-retained custom provisional was delivered immediately to sculpt peri-implant mucosa.

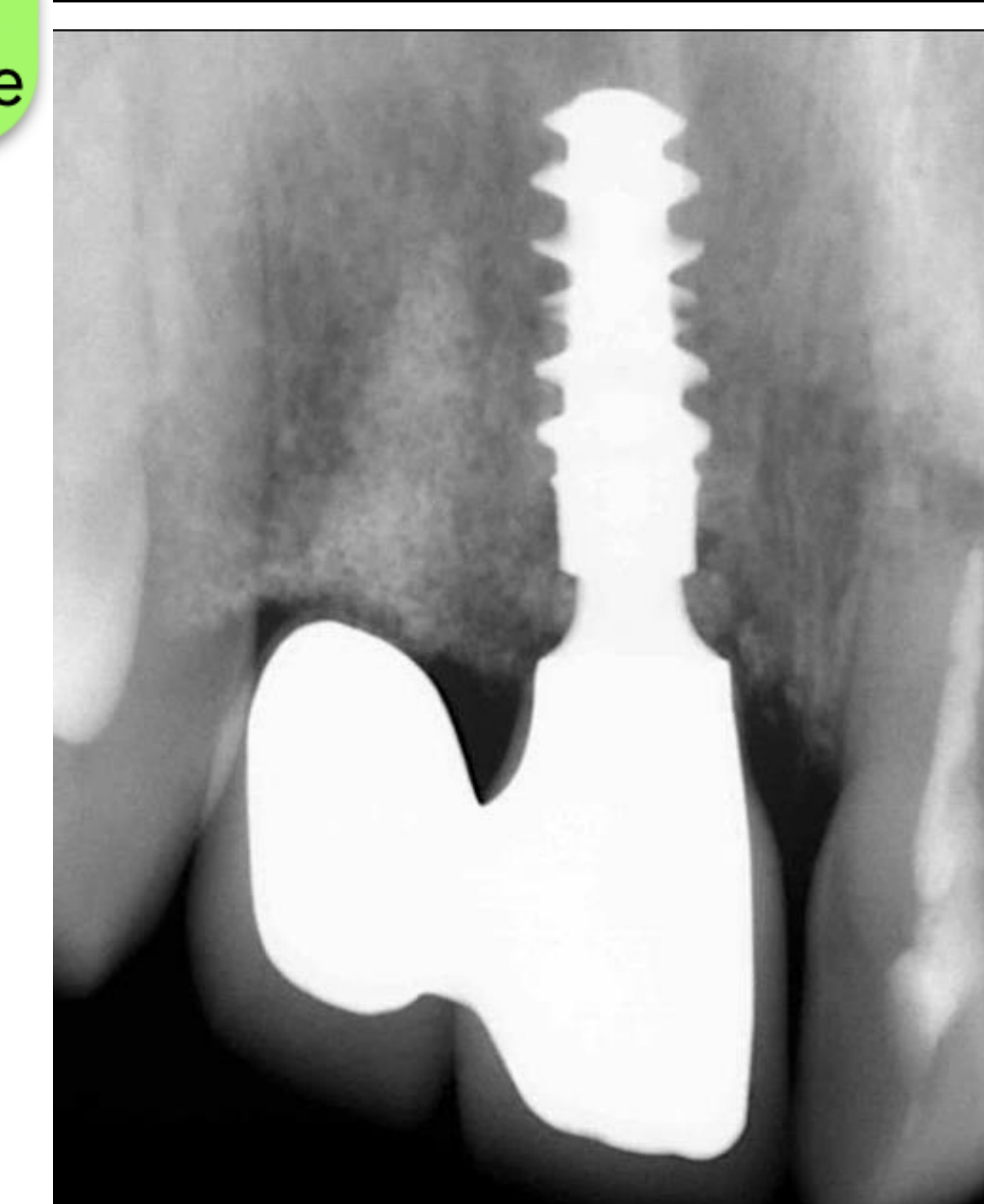
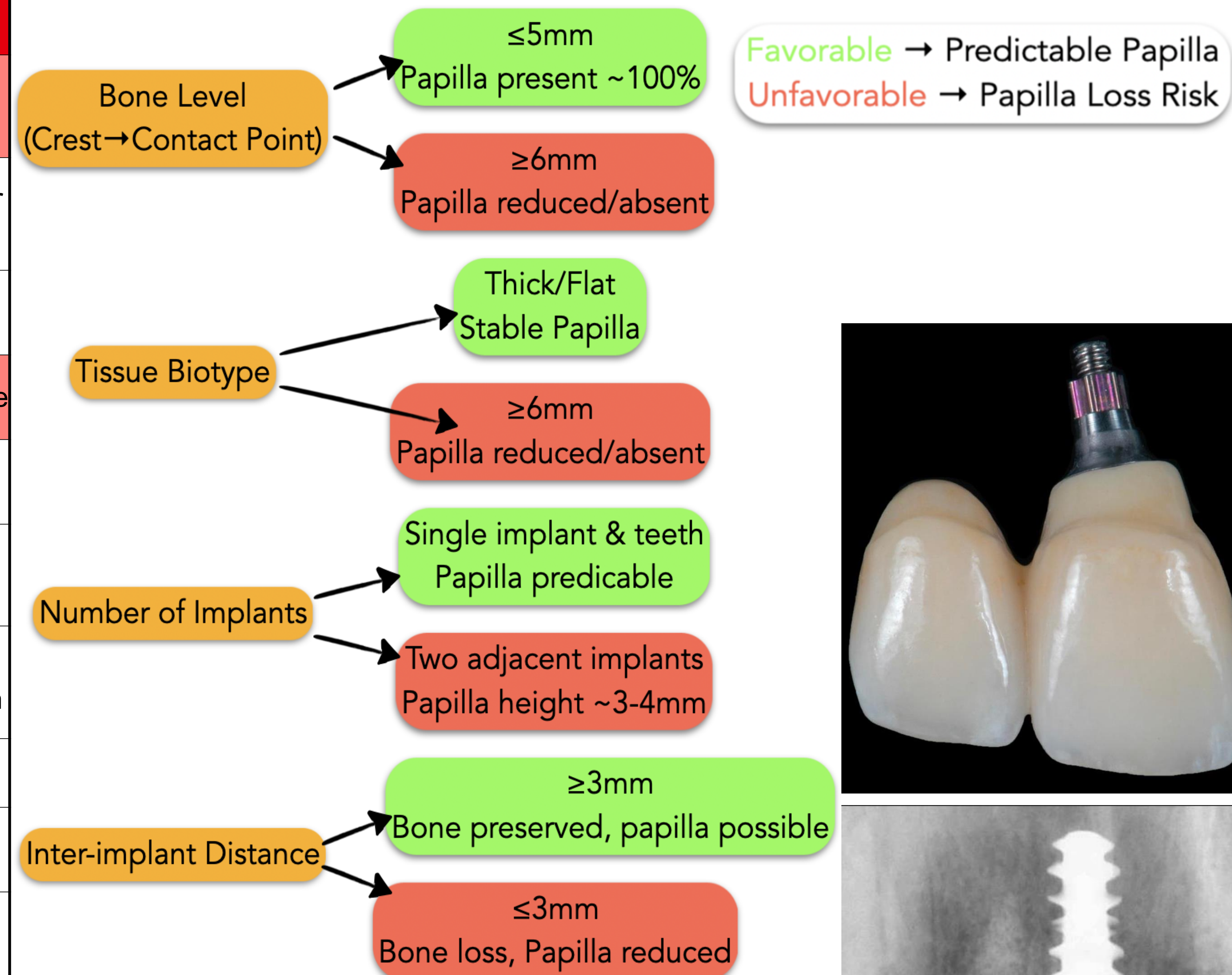


Clinical Considerations:

SAC-ERA (Esthetic Risk Assessment)			
Esthetic Risk Factors	LOW	MEDIUM	HIGH
Medical Status	Healthy, uneventful healing		Compromised healing
Smoking habit	Nonsmoker	Light smoker (<10 cig/day)	Heavy smoker (>10 cig/day)
Gingival display at full smile	Low	Medium	High
Width of edentulous span	1 tooth (≥ 7 mm)	1 tooth (< 7 mm)	2 teeth or more
Shape of tooth crowns	Rectangular		Triangular
Restorative status of neighbors	Virgin		Restored
Gingival phenotype	Low-scalloped, thick	Medium-scalloped, medium-thick	High-scalloped, thin
Infection at implant site	None	Chronic	Acute
Soft-tissue anatomy	Soft tissue intact		Soft tissue defects
Bone level at adjacent teeth	≤ 5 mm to contact point	5.5–6.5 mm to contact point	≥ 7 mm to contact point
Facial > bone wall phenotype	Thick-wall, ≥ 1 mm thickness		Thin-wall, < 1 mm thickness
Bone anatomy at alveolar crest	No bone deficiency	Horizontal bone deficiency	Vertical bone deficiency
Patient's esthetic expectations	Realistic expectations		Unrealistic expectations

Esthetic Outcomes:

Determinants of Interproximal Papilla Presence:



Conclusion:

In the anterior esthetic zone, placing two adjacent implants in a narrow edentulous span can compromise the formation of the interproximal papilla due to limited blood supply and loss of supporting bone between fixtures. In this case, a single implant with a cantilevered lateral incisor was selected to preserve soft tissue architecture and maintain natural papillary contours. This approach reduced the risk of midline tissue collapse and allowed for optimal emergence profile design.



Supporting Literature:

