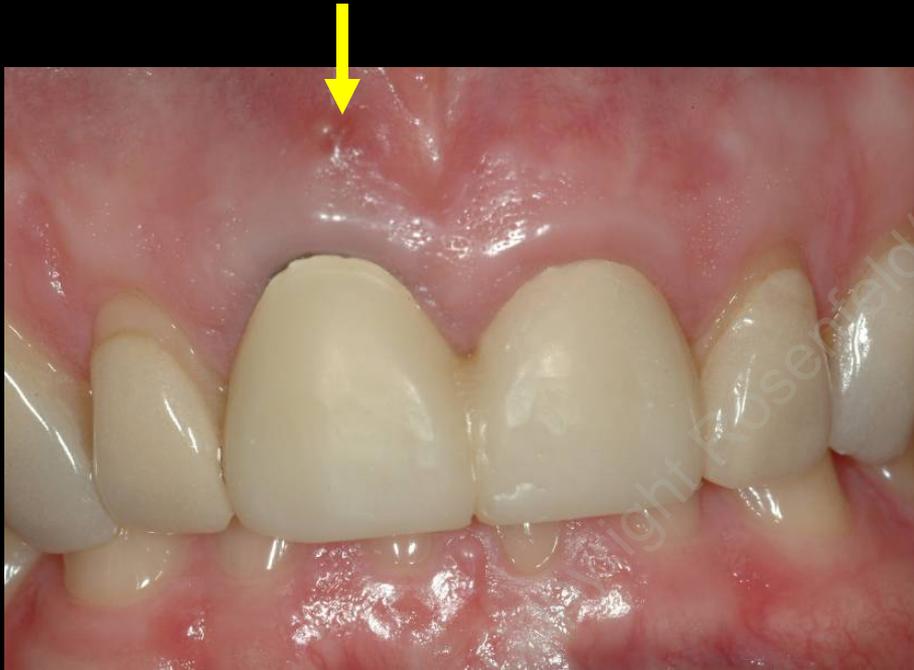


**Esthetic management of a non-restorable maxillary  
central incisor using 3D technology to accomplish  
minimally invasive implant placement**

**Guided Implant Placement for Minimally Invasive Surgery**

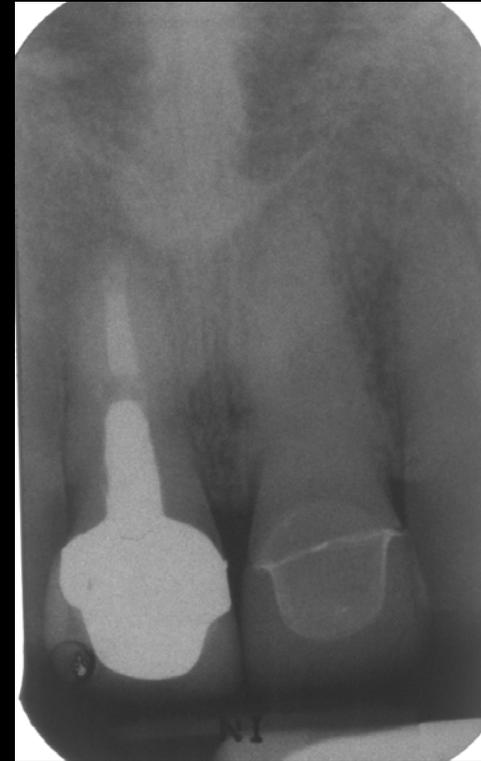
**Drs. Alan Rosenfeld and George Mandelaris  
Diplomates, American Board of Periodontology**

# Initial Examination



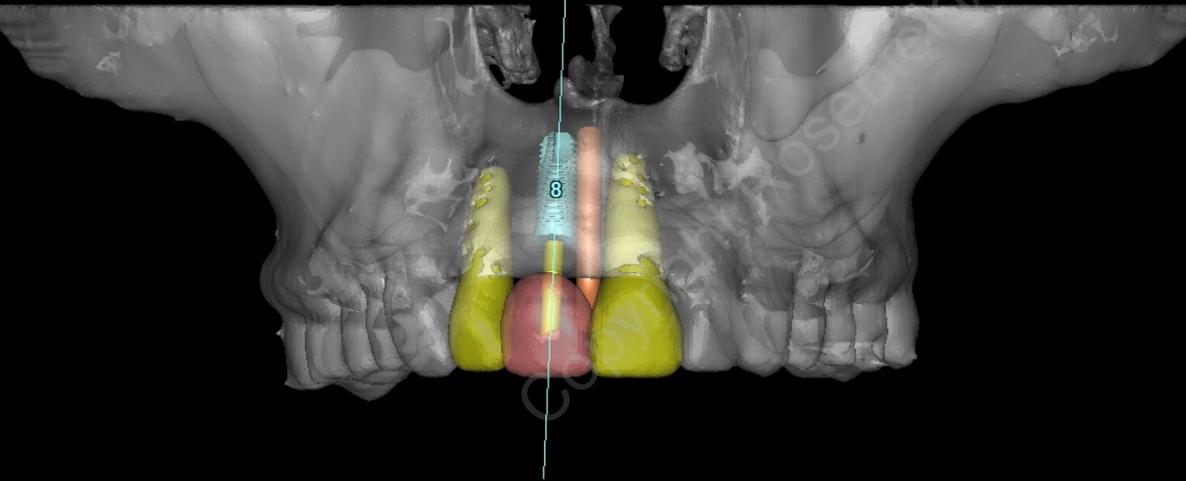
- This patient presented with a localized abscess at tooth #8 (**yellow arrow**) as a result of a failed root canal. The tooth was deemed non-restorable and its prognosis was poor.

- The collaborative treatment plan called for this tooth to be replaced by a dental implant

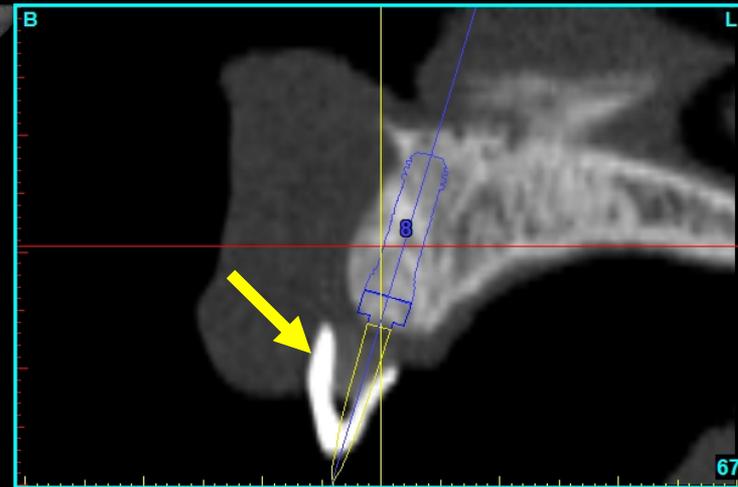


- The initial radiograph

# CT Scan Diagnostics



•Three dimensional reconstruction at 4 months post tooth socket reconstruction. Note the planned position of the implant relative to adjacent teeth and vital structures (such as the nasal cavity and nerve (orange) has been accounted for in the planning phase of therapy.



•This photo represents the cross sectional image of the tooth socket reconstruction. The implant has been toggled to look transparent. The tooth Position desired is noted by the **yellow arrow**. Excellent bone volume has been achieved from the bone graft.

# Minimally Invasive Computer Guided Implant Surgery



- This photo represents the clinical situation of tooth position #8 at 4 months post natural tooth extraction and socket bone grafting.
- Optimal soft tissue position and gingival margin form has been created BEFORE surgery by the restorative dentist.

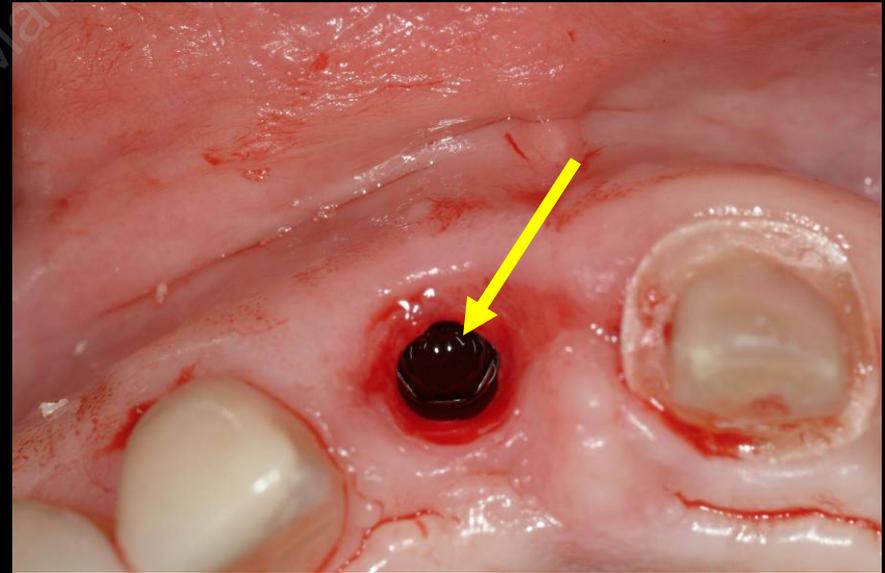


- The CT scan generated surgical guide is in place for precise and accurate implant site positioning.
- This surgery will occur without opening the gum tissue and using a minimally invasive, 3D technology driven approach to treatment which ensures patient safety and accuracy in outcomes.

# Minimally Invasive Computer Guided Implant Surgery



- This photo shows the implant osteotomy site being guided by the surgical guide and without opening the gum tissues.

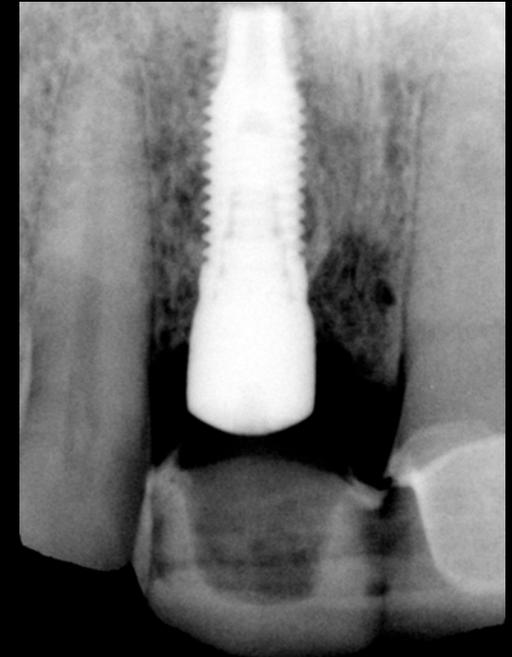


- The implant has been placed without opening the gum tissue. The **yellow arrow** highlights the top of the implant.

# Minimally Invasive Computer Guided Implant Surgery



- The patient's temporary bridge is re-cemented, similar to the first surgery. This is the extent of the surgery.



- X-ray taken directly after surgery to verify and confirm accurate positioning of the implant.

# Minimally Invasive Computer Guided Implant Surgery

## Final Prosthetic Outcome

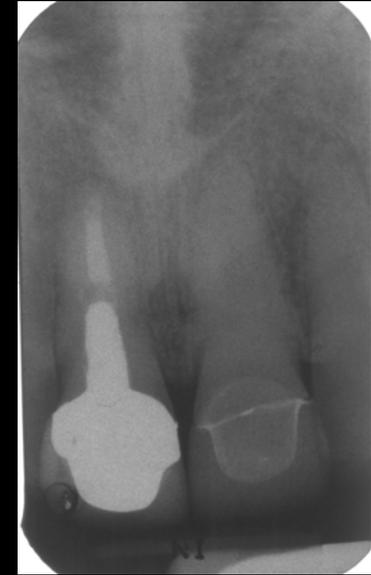


**Can you tell which is the implant?**

# Minimally Invasive Computer Guided Implant Surgery



**BEFORE**



**AFTER**

