

**Case Description:** Male Throat Cancer patient with Late-Radiation Osteoradionecrosis of the Mandible

**Introduction:** 70 year old male patient with radiation to throat \_\_\_\_\_\_years prior. Residual complaints include loss of teeth and inability to endure or tolerate surgical replacement of teeth with implants.

**Case:** This 70 year old patient experienced necrosis of his mandible post-radiation, including loss of mandibular bone mass & blood vessels necessary to nourish mandibular bone. He was referred by his oral surgeon for hyperbaric oxygen therapy. He completed \_\_\_\_hyperbaric sessions at \_\_\_ ATA for \_\_\_ minutes each (interrupted by a \_\_\_\_\_ day holiday) before oral surgery and \_\_\_\_ sessions at \_\_\_ ATA for \_\_\_\_minutes each after oral surgery. The treatment protocol was so successful that the oral surge was able to remove all four teeth and replace with four implants in one surgical procedure instead of multiple as originally planned.

**Discussion:** Hyperbaric oxygen therapy has been shown to restore blood supply by growth of new capillaries and restore the mandible’s ability to growth bone to secure tooth replacement in a jaw suffering from the late effects of radiation. The traditional Marx protocol includes 20 hyperbaric therapy oxygen treatments pre-surgery and 10 hyperbaric oxygen therapy treatments post mandible surgery. This patient required modification by increased number of hyperbaric treatments due to long-planned travel. The healing mechanisms of hyperbaric oxygen therapy were evidenced by this patient’s ability to successfully tolerate oral surgery with multiple tooth implants.

**Conclusion:** Hyperbaric oxygen therapy implementing the Marx protocol is an effective treatment for this patient for post-radiation damage \_\_\_\_\_years after radiation to the throat.