

DENTAL TREATMENT WITH PAST RADIATION TREATMENT— PATIENT EDUCATION

For patients treated previously for cancer with radiation, there is a risk of developing osteonecrosis (bone cell death) of the jaw or other complications after dental treatment. In some patients who have undergone radiation therapy, the ability of the bone to heal may be altered and can interfere with the jaw's ability to heal normally. This risk is increased in certain procedures like tooth extraction, tissue surgery, implant placement, or other invasive procedures that cause involve the bone.

Additionally, prior radiation therapy brings about side effects such as decreased salivary flow, “radiation caries”, and other problems not ordinarily seen with patients who have not received this treatment.

It is important for your dentist know the amounts of radiation you have received and the treatment areas in the head and / or neck. If the area of proposed treatment is within the area previously irradiated, it may be advisable or necessary to undergo hyperbaric oxygen therapy (HBO) before any invasive procedure. HBO is known to improve blood supply and oxygenation in bone and reduce the risk of post-operative complications – but it is not a guarantee. HBO is performed in a hospital outpatient clinic over several weeks.

After your dental procedure, long-term follow up with your medical doctor, dentist and/or oral and maxillofacial surgeon may be required to check the status of your healing. Even if there are no immediate complications from the proposed dental treatment, the area is always subject to infection and breakdown at any time due to the unstable condition of the bone. Even the smallest trauma from a toothbrush, chewing hard food, or denture sores may set off a complication. Despite all precautions, including HBO pre-treatment, there may be delayed healing, osteonecrosis of the jaw (osteoradionecrosis), loss of bone and soft tissues, infection, jaw fracture, oral-cutaneous fistula (open draining wounds), or other significant complications.

The risk of osteonecrosis can be increased by certain medical conditions including diabetes, immune suppression, cancer, as well as social habits like tobacco and alcohol use.

If osteonecrosis should occur, treatment may be long and difficult. Ongoing intensive therapy could include hospitalization, further hyperbaric oxygen therapy, taking antibiotics for a long time, and surgery to remove any dead bone. Reconstructive surgery may be needed, including bone grafting, metal plates and screws, and/or skin flaps and grafts.