



Prevention of Oral Complications Induced by Radiotherapy

頭頸部放射治療口腔併發症之預防(英文)

Head and neck cancer patients are likely to develop varying degrees of oral complications after receiving radiotherapy, including dental caries (cavities), stomatitis (oral mucosal inflammation and ulcerations), xerostomia (dry mouth), infections, tooth hypersensitivity, altered taste sensation, reduced capacity of wound healing, osteoradionecrosis (jaw bone necrosis caused by radiotherapy), muscle rigidity, and trismus (limited mouth opening). Some of these complications are irreversible, that is, they will not recover after finishing radiotherapy. Management of these oral complications has been proven extremely challenging for dentists and oral and maxillofacial (OMF) surgeons. To minimize complications, therefore, it is advised that head and neck cancer patients come to the dental department for the following preparatory work prior to receiving radiotherapy.

1. A thorough oral examination should be performed. This includes inspection of soft tissues and teeth, and radiographic examinations to check teeth, periodontal tissues (the tissues surrounding the teeth), as well as jaw bone.
2. To provide sufficient healing time and prevent potential osteoradionecrosis of the jaw bone, tooth extraction surgeries should proceed 1 ~ 2 weeks prior to radiotherapy. Tooth extraction is necessary under the following circumstances:
 - Any unsalvageable teeth caused by extensive decay or severe periodontal disease (gum disease)
 - Nonfunctional teeth
 - Any teeth at awkward angles that accumulate food debris easily

- Any teeth that are hard to clean
3. All ill-fitting dental prostheses should be removed.
 4. All cavities should be treated and filled with resin material. Root canal therapy will be also necessary for deeply decayed, restorable teeth.
 5. To reduce scattered radiation which may harm normal tissues, some metal fillings and prostheses are in need of removal.

Following are some suggestions for the patients who are undergoing or have finished head and neck radiotherapy :

1. Learn the proper tooth-brushing method and brush the teeth after every meal.
2. After thoroughly brushing the teeth at night, apply 1.0 % NaF fluoride gel in a fluoride tray over the teeth for 5-10 minutes. Spit out excessive gel after removing the tray. Do not rinse mouth until two hours later.

Please note that the fee for fluoride tray fabrication is not covered by the Taiwan National Health Insurance.

3. During the course of radiotherapy, patients should come to the dental department for weekly check-ups. Monthly check-ups are necessary after radiotherapy. If dental cavities are discovered, they should be filled immediately. Symptomatic treatment will be directed toward oral ulcers and questions will be answered during these check-ups.
4. Please do not have tooth extraction surgery or any other surgeries involving jaw bone unless your oral and maxillofacial specialist sanctions the procedure. Having these surgical procedures without prophylactic measures (such as hyperbaric oxygen) will increase the risk of developing osteoradionecrosis.

Please take good care of your teeth and come back for regular check-ups. After all, complications associated with head and neck radiotherapy are easier to prevent than to treat.