

**From the Head and Neck Cancer Center, Cedars- Sinai Medical Center, Los Angeles California
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The Outpatient Management of Infected Hardware in the Oncology Patient**

Reconstruction of surgically created defects in the head and neck cancer patient may require the use of reconstructive plating devices for stabilization of freely mobile bony segments. Early immobilization decreases sheer forces on bony segments, which in turn decreases healing time, and leads to early reestablishment of normal function. Despite advances in plating technology and greater understanding of bone physiology and biomechanics, reconstructive plates are not immune to the plight of other foreign bodies. They are susceptible to both extrusion, and infection. Common causes for secondary hardware infections include non-sterile implant placement, local infection of overlying soft tissues, or ischemia secondary to adjuvant radiotherapy.

The standard treatment for infected hardware involves removal of the infected reconstruction plate and admission to the hospital to receive an extended course of microbe specific intravenous antibiotics. Removal of hardware after complex reconstructive surgery can be technically challenging, exposing the patient to potential surgical complications, further compromising their rehabilitation. In addition, many of these patients have just recently been discharged from the hospital and are extremely reluctant to be re-admitted. However, removal of infected hardware is not mandatory for all patients. We present a patient with infected hardware who was successfully managed with conservative incision and drainage and outpatient parenteral antibiotics.

Case Report:

A 52-year-old Caucasian male with a history of recurrent left parotid adenoid cystic carcinoma, status-post radical surgical resection involving total parotidectomy, lateral skull base resection, scapula free flap reconstruction, and adjuvant neutron beam radiotherapy, presents with new onset of a left submandibular mass. He was also found to have purulent draining wounds overlying the left parietal and occipital regions with associated exposed hardware and subdermal communication between the two wounds. The patient's primary tumor was diagnosed in 1978 at which time he underwent surgery and radiation for positive surgical margins. The patient was clinically in remission until 2003 when he began to complain of left facial weakness, numbness, and swelling. MRI revealed extensive tumor recurrence in the left parotid bed and carotid canal. The patient then underwent salvage surgery with reconstruction of the defect with a scapula microvascular free tissue transfer secured with titanium reconstruction plates. On presentation he was eight months post-op. His left submandibular mass was positive for malignancy by needle aspiration biopsy and his scalp wounds had been draining for four-weeks. Despite this the patient was otherwise a healthy and very active golf player. The patient wished to avoid spending any unnecessary time in the hospital. He agreed to surgical resection of his neck disease but was reluctant to have any major surgical procedures to his craniofacial region and did not desire to have his reconstruction plates removed if there was an alternative therapy.

The patient was offered incision and drainage of his scalp wounds, local wound care, with extended intravenous antibiotic therapy. He underwent an uneventful excision of his neck mass with incision and drainage of his scalp wounds and placement of a PICC line all on an outpatient basis. The patient and his wife were able to perform local wound care and received home antibiotic therapy based on intraoperative cultures. Two weeks after the initiation of treatment the patient's occipital wound had completely healed, there was no longer communication between the two scalp wounds. The parietal site began to form granulation tissue with no more active purulent drainage (Fig. 1). The patient's PICC line was removed in the second week and his wounds healed free of infection with no signs of hardware extrusion. The patient required no hospitalization during his entire management, and golfed throughout his treatment.

Fig. 1 Left parietal wound healing by secondary intention, occipital wound resolved.

