

# REIRRADIATION OF HEAD AND NECK CANCERS. SURVIVAL OUTCOME AND PROGNOSTIC FACTORS

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## BACKGROUND

Locoregional recurrences and second primary tumors in the head and neck cancers represent a clinical challenge. Salvage resection is often sufficient for a small proportion of patients. Additionally, as therapeutic approaches are limited, reirradiation is a high effective therapeutic option. Patients who develop recurrent or new primary head and neck cancer in a previously irradiated site have poor prognosis. The link between survival outcome and several prognostic factors by reirradiation has become established.

## PURPOSE

To review the prognostic factors, which influence the survival outcome in head and neck cancer patients after reirradiation.

## METHODS- MATERIALS

A systematic review of the literature was conducted using the NIH Pubmed search engine and the following Key Words: reirradiation in head and neck cancer, prognostic factors, survival outcome.

## RESULTS

Salvage surgery remains the treatment of choice for recurrent or second primary cancers in previous irradiated anatomical areas. De Crevoisier et al. reported the long results of salvage surgery prior to reirradiation in a small series of patients. To address this, a trial phase III randomized 130 patients to surgery with or without adjuvant doses of 60 Gy and concurrent 5-FU/ hydroxyurea. Progression- free survival was significantly improved in the adjuvant therapy arm with an increase in acute and late complications. However, no overall survival benefit has been detected so far. Several studies have reported that second primary tumors have better response to irradiation than recurrent tumors due to their lower radioresistance. Another important prognostic factor is the delivered dose in reirradiated tumors. Actually, locoregional recurrences arise in previously high dose irradiated volumes from radio-resistant clonogens. So high-dose irradiation should be offered. The role of the anatomical site of the tumor has been analyzed by several researchers. Thus, patients with nasopharyngeal or laryngeal carcinoma are most likely to benefit radiotherapy than patients with hypopharyngeal cancer. Multiple studies have demonstrated an overall survival benefit from reirradiation in patients with a low volume of disease. Most studies have shown better local control and survival for patients with disease stage T1–T2 than stage T3–T4. Spencer et al. reported that time interval since prior irradiation is another important prognostic factor. They reported that 1 year survival rate of patients treated within 3 years of prior radiotherapy was 35% compared with 48% for patients treated for >3 years for prior radiotherapy.

## CONCLUSIONS

The prognosis following local relapse is very poor without retreatment. Salvage additional radiotherapy with or without chemotherapy is reported to be advantageous for local control. When considering reirradiation important prognostic factors, such as interval from previous radiation, tumor stage and tumor bulk should be taken into account next to the reirradiation dose.

## REFERENCES

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