

## **Dose Evaluation in adaptive radiotherapy in head and neck cancers**

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### **Abstract**

Recent developments in radiotherapy techniques, particularly VMAT technique is a tool of choice in the treatment of tumors with complex shapes such as head and neck cancers.

Patients with head and neck cancer are prone to anatomical variations and progressive changes in their tumor masses that can distance the dose distribution of the projected goals.

The advent of imaging systems in radiotherapy treatment rooms, allows the realization of volumetric images on a regular basis during the irradiation sessions, allowing monitoring of individual anatomical variations in each patient during treatment

The preliminary study results obtained from 3D images showed the need for replanning of treatment in patients with high tumor melting or collapse of their outer contours, due to a significant weight loss during the treatment period.

The completion of this dose assessment can guide patients with head and neck cancer to adaptive radiotherapy strategy.

**Keywords:** Adaptive radiotherapy, VMAT, CBCT, head and neck cancers,