

ABSTRACT

This study aims to understand and determine the amount of radiation dose received by patients who underwent scanning using a CT-Simulator in cases of Head and Neck cancer in the Radiotherapy Unit of Prof. Dr. I.G.N.G. Ngoerah General Hospital, where the results of this study will be submitted as a standard protocol for head and neck cases in the Radiotherapy Unit. This study was conducted by setting exposure factor parameters that are different from the routine protocols commonly used, the exposure factors in question are the use of tube voltage and current, as well as slice thickness. The value of the exposure factor used varies, depending on the patient's body shape and before setting the exposure factor value, a scanning process will be carried out on the phantom to determine the quality of the image produced from the use of the exposure factor. The patient selection criteria were patients with clinical head and neck cancer, aged 18-65, who would undergo CT-Simulator scanning in March-April 2026. This study not only maintained image quality despite reduced tube current, but also provided an online patient registration system that captures not only patient data but also radiation dose levels, a frequent topic of questioning by the Bapeten team during field inspections. This is expected to enable prompt action when such issues arise.

Keywords: Diagnostic Reference Level (DRL), Head and Neck Cancer, CT-Simulator