

Abstract

This project explains the importance of deep inspiration breath hold (DIBH) technique for treating left breast and chest wall tumors. General statistics, definition of gating and DIBH, inclusion and exclusion criteria, dose reduction, differences of free breathing and DIBH techniques, and expected outcome are also discussed. Breast cancer is the leading cause of female deaths in the United States, and left breast cancer diagnosis is more common than right breast cancer diagnosis. Left breast cancer diagnosis accounts for 50.8% of breast cancer diagnosis and right breast cancer accounts for the remaining 49.2%. The risk of breast cancer diagnosis in a female's lifetime is about 1 in 3 women. Radiation therapy utilizes techniques to help alleviate pain and can cure breast cancer cases. New radiation therapy techniques, such as the DIBH, offer greater potential for dose reduction and protection of vital organs from overexposure. Deep inspiration breath hold increases optimism for female patients with left breast cancer due to the reduction in chest wall complications and reactions from therapy treatments. Due to the prevalence of left breast cancer diagnosis, further research needs to be conducted to improve proper treatment and deep inspiration breath hold technique.

Keywords: deep inspiration breath hold, free breathing, breast cancer, left breast cancer, radiation therapy