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## Determination the neutron flux on Varian CX linear accelerator at 108 Military Cental Hospital by experimental method

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Nowaday, radiotherapy accelerators is used to treating patients with electron and photon beams. However, photon beam energy is greater than 8 MV, secondary neutron beam will be created by photo-nuclear reaction ( $\gamma$ , n). The effects of secondary neutron beam on patients during radiation therapy have not been fully evaluated. In the world, previous studies were conducted by author (Hong Suk Kim, Najmeh Mohammadi, Seyed Mehdi Hashemi, H. Yucel …), the results of these studies: the neutron flux in the treatment room was in the range  $(1,17\pm0,06)x$  [10]  $^7n/$  [cm]  $^2$ . This study was performed to determine the neutron flux distribution at different positions on the treatment table with gold foil activation method at the Varian CX treatment room, using an energy level of 15 MV at 108 Military Central Hospital. Research results: neutron flux along the treatment table is about 3,97x [10]  $^3$  to 2,33x [10]  $^6$  n/ [cm]  $^2/s$ . The results are used as data to calculate the dose of neutrons affecting the patient to improve the quality of treatment.

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