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The reduction of radiation exposure dose to medical personnel by using breathing circuit in brain CT scan requiring manual ventilation

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Radiation protection sometimes called radiological protection and used to protect people from the harmful effects of exposure to ionizing radiation. After the rapid development of medical equipment including CT. Radiation doses of medical exposure are now the largest source of exposure to man-made radiation. Radiation protection can be divided into occupational radiological protection, which is the protection of workers in situations where their exposure is directly related to their work or required by their work. Thus, it is necessary to reduce occupational radiation exposure as much as possible by employing prevention strategies, such as proper time, distance and shielding technique. The patient in serious or critical condition could not have any self-breathing. In this case, medical personnel conduct manual ventilation at the side of the patient to monitor the oxygen saturation. According to the references, many x-ray scattering are distributed around the gantry during brain CT scan, which is similar to the location where medical personnel perform manual ventilation. So medical personnel are exposed to radiation exposure during brain CT scan requiring manual ventilation. Because the radiation dose is reduced according to the distance inverse square law, the use of the breathing circuit can reduce the radiation dose by moving medical personnel about 42 inches away from the source of ray. The purpose of this study was to assess the reduction effect of radiation exposure dose to medical personnel by using breathing circuit in brain CT scan requiring manual ventilation.

Biography

Gyu Suk Nam has graduated from Korea University and majored in Radiologic Technology. He is working in Radiology department, Seoul National University Bundang Hospital for eight years.

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