ASSESSMENT OF PATIENT ORGAN DOSES IN CT VIRTUAL COLONOSCOPY FOR BOWEL CANCER SCREENING

S. Schopphoven[1], K. Faulkner[2], H.P. Busch[1]
[1]Department of Radiology, Bruder Krankenhaus, Nordallee 1, Trier, Germany
[2]Quality Assurance Reference Centre, Unit 9, Kingfisher Way, Silverlink , Wallsend, Tyne and Wear, NE28 9ND, UK

Justification and optimisation form the basic elements for the radiological protection of individuals in the case of medical exposures. Justification includes the assessment of patient organ doses from which radiation risks may be deduced. Medical radiation exposures are only justified in the case of a sufficient net benefit. For screening examinations, such as CT virtual colonoscopy, this implies that patient organ doses should be relatively low to minimise the radiation detriment, where as European Unions image quality should be sufficient to maximise potential diagnostic benefits. The Medical Exposures Directive places special attention on medical exposures as part of health screening programmes and examinations involving high individual doses to the patient, both of which apply to CT virtual colonoscopy. Technique factors were recorded for a series of patients having virtual colonoscopy on a CT scanner. In addition, the dose length product was assessed. Patient organ doses were deduced using a CT dose calculation program. The typical effective dose was 7.5 mSv for male patients and 10.2 mSv for female patients. The effective dose is higher for female patients as some gender specific organs are irradiated during virtual colonoscopy.

E-mail presenting author: