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Have a pretty radiant day!

EDITORIAL

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The inspection report from the Norwegian Radiation and Nuclear Safety Authority concerning the *Helseplattformen* IT system is a reminder that radiation protection is a shared responsibility.

Photo: Sturlason

Radiation protection serves as a safeguard for those of us working with medical radiation, while also ensuring the safety of patients undergoing examinations and treatment involving ionising radiation.

Use of radiation by public and private healthcare providers is regulated by the Radiation Protection Act of Norway and is subject to approval, which requires use to be safe, justified and optimised (1). The increasing use of radiological medical imaging is not expected to abate (2). In some countries, including Norway, CT examinations contribute to about half of the cumulative dose from medical radiation in the population (3).

However, satisfactory radiation protection in health services entails much more than applying optimised imaging protocols at the right time and providing staff with lead aprons and dosimeters. Radiation protection is not only practised within the radiology laboratory; it extends to every work surface in a radiology department and forms part of the responsibilities and duties of radiologists, radiotherapists, radiographers, medical physicists and administrative staff. Furthermore, it impacts on the referral practices in the other hospital departments as well as activities in primary care and in the specialist health service.

The recent report on St Olav's Hospital from the Norwegian Radiation and Nuclear Safety Authority clearly demonstrates how radiation protection is a major task and a shared responsibility in modern and complex hospital structures. Following a three-day inspection last November, the Authority concluded that the electronic records and patient administration system *Helseplattformen* 'does not facilitate safe and justified radiation use' (4).

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The inspection at St Olav's Hospital was prompted by a series of reports of concern and warnings about adverse events following implementation of *Helseplattformen*. Most of the reports of concern related to radiological examinations and phototherapy in the dermatology department, but there have also subsequently been warnings concerning nuclear medicine and MRI safety. The report's criticism is synthesised into five categories of non-conformance and one remark, and includes inadequate mandatory reporting on radiation use and coding errors (4).

How a health records system could lead to 'an unacceptably high risk of performing unjustified diagnostic imaging examinations' (4) is not immediately apparent. The Authority even concludes that 'the organisation of Helseplattformen AS is not conducive to safe, justified and optimised radiation use' at St Olav's Hospital (4). This in itself is a wake-up call and an important reminder. It also demonstrates that radiation protection in any health authority is not limited to the immediate context of the patient on the X-ray table but extends to the entire management structure for large-scale organisational changes at a regional level.

Ionising radiation increases the risk of cancer, but documenting the health risk from low radiation doses has been a challenge (5). In 2018, US health authorities estimated that for every 2000 CT examinations performed, one person would die from radiation-associated cancer (6). Nature Medicine recently published a European study, in which Norwegian researchers also participated, revealing that for every 10,000 children examined with CT (mean dose 8 mGy), 1–2 are likely to develop a radiation-associated haematological cancer in the subsequent 12 years (7). For most patients, the benefits will outweigh the risks, and a new report based on data from the Global Burden of Disease finds no evidence that the rising incidence of cancer among young people worldwide can be attributed to radiation exposure (8).

It is not clear from the report how many, if any, younger or older patients have undergone unnecessary duplicate CT scans and other unjustified radiological examinations at St Olav's Hospital. The situation prior to implementation of *Helseplattformen* is also unknown, but errors and duplicate examinations have inevitably occurred and are likely to occur on occasion at all radiology departments. It should also be noted that both 'reporting fatigue' and the failure to document the extent of the problem internally are criticised in the report (4).

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Listening to the experts is a wise starting point for healthcare providers, and for radiation protection. Medical responsibility for any radiological activity should rest with the radiologists.

Moreover, shortcuts and cost-cutting in this area can pose a risk to patient safety, as exemplified by South-Eastern Norway Regional Health Authority's purchase of private radiological services that turned out to be performed by doctors with no specialist certification (9). Compromising our standards in medical radiation is unwise.

As part of the Norwegian Medical Association's Choosing Wisely campaign, various medical personnel and specialists are helping to reduce overtreatment and overdiagnosis. You can contribute to sensible use of medical radiation by consulting the recommendations from the Norwegian Society of Radiation (10). Preventing referrals for low-dose radiological examinations is both good use of resources and good radiation protection practice.

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