REX 4 - YEAR 2022

Incident description

A patient is treated with external radiotherapy for a lesion on the left hip. The treatment scheme prescribed is 5 * 4 Gy = 20 Gy.

The patient was installed on the treatment table based on markings delineated at simulation. Despite the lack of cross marking on the right hip, the treatment field was set on that hip instead of the left hip. The irradiation was prevented by the R&V software because of lateral table values, but after an override the patient was irradiated in this position anyway. As a result, the right hip received a non-prescribed dose of 4 Gy.

The patient, referring physician and general practitioner were informed of the error the day after.

Root cause analysis

The following root causes have been identified:

Human factor: Coordination

The RTT's at the treatment machine did not check each other adequately. Moreover, the RTT-team changed at lunch break. The RTT's at the treatment console had not positioned the patient in the treatment room.

Human factor: Verification

No check by the medical physicist when overriding abnormal table values.

Corrective actions:

1. The RTT's involved were informed and made aware of the importance of checks and verifications, especially in the case of irradiations without additional safety systems such as CBCT-imaging and/or optical surface scanning. The importance of fully completing a treatment/irradiation of a patient before changing teams was stressed.
2. A note was added in the electronic medical record of the patient as well as in the R&V software.
3. An additional fraction was added at the end of the treatment, to ensure that the left hip received 5 fractions of 4 Gy as prescribed.
4. The incident was discussed at the following team meeting of RTT's, doctors and medical physicists. The importance of concentration during patient treatment was emphasised, as well as the importance of checks and verifications and the complete completion of patient treatment/irradiation before changing teams.