Incident description

Patient X is referred to the radiotherapy department for treatment of the prostate/prostate bed. He began treatment on 30/01/2023. The patient undergoes daily CBCT imaging.

Patient Y has also been referred to the radiotherapy department for treatment of the prostate/prostate bed. He began treatment on 01/02/2023. He also undergoes daily CBCT imaging. He has two hip prostheses, which are clearly visible on the images taken when simulating his treatment on the CT-SIM.

On 9/02/2023, patient X is positioned on the table of the linear accelerator. The patient identification procedure is not applied and the name, first name and date of birth of patient X are not checked, either in the waiting room or when leaving the changing cabin. At the console of the linear accelerator, the RTT opens patient Y's computer file instead of patient X's. The CBCT is launched and, once the CBCT images have been acquired, a matching of the images is performed and validated by the RTTs, although patient Y's simulation images clearly show two hip prostheses, whereas the CBCT images of the patient on the treatment table do not. Since the treatment protocol specifies that the bladder must be full and the rectum empty, the RTTs focus on these items and not on the matching. During the first fraction of a radiation treatment, the matching is checked online by a physician, but during subsequent fractions, the verification is being done offline. A procedure for matching images to help and support the RTTs does not exist either. The RTTs realise that the treatment has been administered to the wrong patient once the patient has left the treatment room and the next patient has been called in.

Although the department has bought and installed an automatic patient identification system (facial recognition), it isn't operational yet. This is due to the fact that the hospital's IT department has to integrate it into the radiation therapy Record & Verify system, which requires close collaboration between the various firms involved.

Root cause analysis

The following root causes have been identified:

Technical factor:
An automatic identification system is installed in the department but not yet operational.

Organisational factors:
- The patient identification procedure was not applied.
- The patient's date of birth does not appear on the home page of the patient's computerized record.
- There's no "support" (badge, bracelet, ...) to verify the patient's identity.
- There's no procedure for matching images.

Human factor:
The RTTs received insufficient or no training in image matching.

Patient related factor:
Patient has comprehension difficulties.

Corrective actions:

1. The patient identification procedure was revised and refreshed for the whole team. Extra vigilance was required.
2. Addition of a column on the home page of the patient's computerized record to display his/her date of birth.
3. Educate patients to bring their appointment card.
4. Development and implementation of standard operating procedures for image matching for each indication.
5. Planification of internal and external training for image matching.
6. Commissioning of the installed automatic identification system and training of users.