SFHR10
Analyse and interpret treatment verification images

Overview

This standard covers verification of radiotherapy processes. It includes verification

1. both before and during a course of treatment
2. using images acquired with a simulator, megavoltage portal imaging systems and plain films

The level of practice is practitioner. Although an assistant practitioner may have acquired the images, the decision-making required whilst undertaking this function requires the professional practice of a state-registered member of staff. It is expected that they would be working within their professional code of practice and within their scope of practice.

Users of this standard will need to ensure that practice reflects up to date information and policies.

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Performance criteria

You must be able to:

- P1 assess relevant images and clinical records to confirm the location(s) of the region(s) of interest and their quality for verification purposes
- P2 confirm the identity of the patient, images and clinical records
- P3 critically appraise the image(s) against relevant planning information
- P4 make any required adjustments according to local protocols

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Knowledge and understanding

You need to know and understand:

K1 the legislation and protocols relating to radiotherapy in the areas of:
- K1.1 current radiation protection regulations
- K1.2 local protocols for data entry, utilisation, recording and transfer
- K1.3 local treatment planning protocols
- K1.4 national and local guidelines for radiotherapy planning and treatment

K2 the importance of recognising, and not working beyond, the limitations of your own knowledge and experience

K3 local protocols for verifying and validating treatment

K4 the relevant anatomy, including sectional and functional

K5 concurrent and malignant disease progression, and the potential impact on physiological systems

K6 the principles of radiobiology, including:
- K6.1 the effects of radiation on the cell cycle
- K6.2 the dose and fractionation regimes

K7 TCP/NTCP

K8 the principles of radiotherapy physics, including:
- K8.1 the interaction processes with matter
- K8.2 the production and utilisation of images

K9 the following:
- K9.1 the principles of radiotherapy planning
- K9.2 contra-indications to the procedure
- K9.3 image manipulation and interpretation
- K9.4 the principles of localisation and verification in preparation for radiotherapy
- K9.5 the interpretation of treatment plans
- K9.6 critical organ tolerances
- K9.7 set-up tolerances
- K9.8 the advantages, disadvantages, risks and benefits of planned radiotherapy
- K9.9 the impact of treatment parameters, or changes to treatment parameters, on the treatment process

K10 equipment capabilities and limitations

K11 the efficiency and efficacy of patient immobilisation and positioning devices

K12 the principles of radiotherapy, including:
- K12.1 patient positioning and immobilisation in order to optimise reproducibility of treatment delivery
- K12.2 selection of appropriate treatment technique for optimum delivery

K13 the roles and responsibilities of other team members

K14 critical appraisal techniques

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Additional Information

External links

This standard links with the following dimension within the NHS Knowledge and Skills Framework (October 2004):

Dimension: HWB7 Information collection and analysis

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