

SFHR6

Perform simple treatment dose calculations for external beam radiotherapy



Overview

This standard relates to the production of dosimetric parameters for individual patients based on point dose calculations. This applies to the use of one or more of megavoltage, orthovoltage, superficial x-rays and electrons.

Users of this competence 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 collate the relevant patient data and patient treatment related data and check for validity, consistency and completeness
- P2 check the relevance and validity of the treatment prescription against agreed departmental protocols e.g. where elements of the treatment prescription, especially dose-related elements, appear to be outside normal values to achieve the intended purpose of radiotherapy
- P3 prepare the relevant patient data and patient treatment related data in a form appropriate for calculation
- P4 check the integrity and appropriateness of the data charts / tables selected and apply the correct computer programmes / algorithms and corrections, according to departmental protocols, in order to calculate the treatment monitor units / time
- P5 record all calculations, calculation results and treatment instructions according to departmental protocols to provide sufficient detail for the method and results to be verified sufficiently to satisfy an independent check and for the results to be used for treatment
- P6 check accuracy of your calculations before handover for independent checking
- P7 enter all relevant calculation results and treatment instructions into the treatment machine record and verification system, where appropriate
- P8 recognise situations where you need to seek advice / support from appropriate sources and respond appropriately, e.g. where the complexity required exceeds your personal level of competence or where there is reason for concern about the patient's suitability for the prescribed treatment

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Knowledge and understanding

You need to know and understand:

- K1 relevant departmental protocols and policies and their application with respect to dose prescription
- K2 local protocols for data entry, utilisation and transfer
- K3 relevant pathology and regional functional and sectional anatomy
- K4 the criteria for acceptable dose to the planning target volume and maximum allowed dose to organs at risk dependent on disease site
- K5 relevant principles of radiation physics relating to dose calculation including local dosimetry system
- K6 image manipulation, processing, interpretation and virtual simulation
- K7 the use of calculation data and charts
- K8 the data required for treatment calculation
- K9 how to critically appraise treatment calculations against planning/patient information
- K10 the range and extent of independent checks required
- K11 verification methods and techniques and how to apply them
- K12 the capabilities and limitations of treatment machines

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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: IK2 Information collection and analysis

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