B

CI.E.2019 Produce Magnetic Resonance images (MRI) for diagnostic purposes

OVERVIEW

This standard is concerned with the use of Magnetic Resonance imaging (MRI) equipment and procedures to produce images for diagnostic purposes. Key people are those involved in the individual's care and others involved in provision of services.Users of this standard will need to ensure that practice reflects up to date information and policies.Version No 2

KNOWLEDGE AND UNDERSTANDING

You will need to know and understand:

1. legal, organisational and policy requirements relevant to your role, the role of others in your organisation and the activities being carried out
2. the relevant national and local standards, guidelines, policies and procedures that are available and how and when they should be accessed
3. the importance of respecting individuals' culture, privacy, dignity, wishes, beliefs and decisions
4. the limitations of your own knowledge and experience and the importance of operating within your scope of practice
5. the roles and responsibilities of other team members
6. the importance of obtaining valid consent in line with national and local guidelines
7. clinical appropriateness of the examination request and the action to take when the request is not appropriate
8. the gross, surface and cross-sectional anatomy of the areas to be scanned
9. the relevant physiology of the areas to be scanned
10. the medical terminology relevant to the examination, including abbreviations
11. the common normal variants and their appearance on Magnetic Resonance images
12. contra-indications to Magnetic Resonance scanning, including absolute and relative
13. the importance of assessing for presence of ferro-metallic objects/prostheses and implanted medical devices and the appropriate action to take if these are identified
14. contraindications to MRI contrast agents including the clinical implications of any allergy relevant to the examination
15. common pathologies of the areas to be scanned and their appearance on Magnetic Resonance images
16. manifestations of individuals' physical and emotional status
17. when additional images are required to aid diagnosis and to enhance the examination

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18. controlled access areas and safety requirements in the MRI environment in line with current MRI safety guidelines
19. how to adapt communication styles, ask questions, and listen carefully in ways which are appropriate for the needs of the individual
20. methods of communicating difficult and complex information to individuals and key people
21. the importance of providing individuals and key people with opportunities to ask questions and increase their understanding
22. the information that should be given to individuals before, during and on completion of the examination
23. the physical principles of Magnetic Resonance scanning, techniques and protocols
24. the technical and diagnostic quality requirements of the image
25. artefacts on images - their causes and avoidance strategies
26. factors which influence the decision to repeat images or take additional images
27. alternative imaging examinations
28. the safe operation of the Magnetic Resonance scanner and accessories in use
29. the safe use of quality assurance equipment, recording results and taking appropriate action
30. how to deal with spillages and the action to take if spillages occur in line with national MRI safety guidance
31. equipment capabilities, limitations and routine maintenance including the quality control processes required by the operator
32. the importance of timely equipment fault recognition and local procedures for reporting these
33. procedures for preparation of the individual, environment and equipment for Magnetic Resonance scanning
34. procedures relating to recording, collating and preparing appropriate information, documentation and images for transfer or storage according to local protocols
35. how to keep full, accurate and clear records in line with organisational procedures

PERFORMANCE CRITERIA

You must be able to do the following:

1. apply standard precautions for infection prevention and control and other appropriate health and safety measures
2. ensure all necessary preparations have been made by the individual and staff before starting the procedure
3. check and prepare the equipment required for the examination
4. communicate with the individual / key people to facilitate their understanding of and co-operation with the examination
5. ensure the environment is conducive to maintaining the privacy and dignity of the individual
6. check the identification details before commencing the procedure in accordance with local policies and procedures
7. introduce yourself and other members of staff present during the examination
8. establish the individual's ability to understand the procedure with the help of key people if necessary

9. communicate with the individual / key people to facilitate their understanding of and co-operation with the examination
10. establish the individual's capacity to understand the procedure with the help of key people if necessary
11. respect the individual's privacy, dignity, beliefs and decisions
12. obtain valid consent for the procedure in accordance with national and local guidelines
13. clearly explain the procedure and possible outcomes, including risk, benefits and limitations
14. check for Magnetic Resonance imaging safety by use of the department Magnetic Resonance imaging safety check list which will include checking for the presence of ferro-metallic objects/prostheses and implanted medical devices
15. take appropriate action if any of these are found to be present
16. check for any contraindications for the proposed procedure and take appropriate action in response to identified risks
17. examine previous relevant images and clinical information, where available, to ensure that the correct procedure and techniques are employed
18. assess the individual's clinical and physical condition prior to the start of the examination with a view to proceeding
19. check individuals of child-bearing potential for pregnancy or possible pregnancy, if appropriate to the examination, and take action in accordance with local protocols
20. confirm the MRI safety status of key people before the examination and, where their presence is required, adhering to local guidelines
21. enter the identification details of the individual into the Magnetic Resonance scanner or, if details have previously been entered, check them for accuracy
22. accurately select all sequences required for the scan according to local protocols for the procedure, assess and any required modifications and take appropriate action
23. position the individual, provide any hearing protection and adjust their clothing according to the protocols for the examination to be performed in a manner which allows an optimal outcome to be achieved while:
    1. ensuring their comfort as far as possible
    2. preventing the appearance of artefacts
24. correctly and safely position appropriate Radio Frequency (RF) coils, cables and monitoring equipment
25. check the room prior to taking the scan to ensure that only essential protected persons remain and that all local rules have been adhered to, taking appropriate action where necessary
26. commence the scan and monitor the individual's condition, compliance and wellbeing throughout the procedure and take action appropriate to their needs
27. create multi-planar reformats (MPR) from the relevant datasets as appropriate
28. review the images on completion of the scan to ensure they are technically acceptable and suitable for diagnostic purposes
29. review images for clinical acceptability, take appropriate action, including further imaging if required
30. provide the individual with information relating to the procedure and aftercare where necessary
31. explain the process for obtaining results
32. following the preliminary imaging examination, inform the appropriate person if an abnormality is observed on the image which is likely to require further investigation or treatment
33. optimise, record, collate and prepare appropriate information, documentation and images for transfer or storage according to local protocols
34. verify that the images have arrived/been stored according to local protocols

35.recognise where help or advice is required and obtain this from appropriate sources

ADDITIONAL INFORMATION

This National Occupational Standard was developed by Skills for Health. This standard links with the following dimension within the NHS Knowledge and Skills Framework (October 2004):Dimension: HWB6 Assessment and treatment planning