

Overview

This standard covers performing, interpreting and reporting on ultrasound images of anatomical structures. Imaging may be undertaken as part of a screening, diagnostic or monitoring process. Key people are those involved in the individual's care and others involved in provision of services, including chaperones. Users of this standard will need to ensure that practice reflects up to date information and policies.

Performance criteria

You must be able to:

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. ensure the environment is conducive to maintaining the privacy and dignity of the individual
5. check the identification and clinical history details before commencing the procedure in accordance with local policies and procedures
6. introduce yourself and other members of staff present during the examination
7. review any previous relevant imaging where available
8. enter the identification details of the individual into the ultrasound machine or, if previously entered, check for accuracy
9. obtain valid consent for the procedure in accordance with national and local guidelines
10. respect the individual's privacy, dignity, beliefs and decisions
11. confirm the appropriateness of key people before the examination in accordance with local guidelines
12. communicate with the individual / key people to facilitate their understanding of and co-operation with the examination
13. establish the individual's capacity to understand the procedure with the help of key people if necessary
14. clearly explain the procedure and possible outcomes, including risk, benefits and limitations
15. check for any contraindications for the proposed procedure and take appropriate action in response to identified risks
16. ensure the individual is in an appropriate and comfortable position for the examination, ensuring clothing is suitably adjusted to facilitate the examination
17. select and prepare the appropriate imaging technique, transducer and initial scanning parameters for the individual and the site under examination
18. apply sufficient acoustic coupling gel to the area to be examined to ensure optimal sound transmission
19. make adjustments to the equipment controls to optimise the image quality and recognise the appearance of ultrasound

artefacts

20. ensure power levels and insonation time are kept to a minimum in accordance with national and international safety guidelines
21. acquire and interpret appropriate ultrasound images and produce a report in accordance with your scope of practice and in-line with national and local guidelines and protocols
22. observe and be aware of the individual's condition and well-being at all times and take appropriate action in response to any signs of discomfort and/or distress
23. take appropriate steps to minimise the risk of work-related disorders
24. maintain communication with the individual / key people throughout the procedure
25. record images with appropriate annotation and measurements according to national and local guidelines and protocols
26. extend the procedure as appropriate to confirm or supplement any initial findings
27. seek advice from appropriate others where you observe unexpected appearances or unusual findings that are outside your area of personal competence
28. provide the individual with information relating to the procedure and aftercare where necessary
29. explain the process for obtaining results
30. advise a referral to the appropriate person if an abnormality is observed which is likely to require further investigation or treatment, following national and local guidelines and protocols
31. record, collate and prepare appropriate information, documentation and images for transfer or storage according to local protocols
32. verify that the images have arrived/been stored according to local protocols

Knowledge and understanding

You 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 and how to do so
4. the limitations of your own knowledge and experience and the importance of operating within your scope of practice
5. preparation of the environment and equipment for ultrasound examinations
6. local policy and protocol for arranging and working with a chaperone
7. the physical processes involved in the production of an ultrasound image
8. the biological effects and potential risks associated with the use of ultrasound
9. the principles and applied knowledge of the Doppler effect and its clinical application in imaging and diagnosis
10. artefacts on images - their causes, value, limitations and minimisation strategies
11. the effect of sound propagation through different tissues
12. techniques to optimise the ultrasound image including position and preparation of the individual
13. the safe operation of ultrasound equipment
14. the potential for work-related disorders and how to minimise the risk
15. the importance of timely equipment fault recognition and local procedures for reporting these
16. image capture and recording devices
17. equipment age and capabilities, limitations and routine maintenance, including the quality control processes required by the operator
18. the function, specification and performance characteristics of ultrasound equipment and transducers
19. the clinical conditions appropriate for ultrasound examinations and

- the implications of other disease processes relevant to the area of study
20. the clinical justification of the examination request and an understanding of limitations
 21. the contraindications associated with each investigation and the implications of proceeding with due consideration of related risks
 22. the clinical implications of any allergy relevant to the examination
 23. the importance of obtaining valid consent in line with national and local guidelines
 24. methods of communicating difficult and complex information to individuals and key people
 25. the importance of providing individuals and key people with opportunities to ask questions and increase their understanding
 26. the information that should be given to individuals before, during and on completion of the examination
 27. how to adapt communication styles, ask questions, and listen carefully in ways which are appropriate for the needs of the individual
 28. normal anatomy and physiology, normal variants and anatomical relationships demonstrable by ultrasound including knowledge of normal measurements and predisposing factors of the individual
 29. how to acquire the best possible diagnostic images for a range of type and size of individual
 30. recognition of abnormal anatomy and physiology demonstrable by ultrasound and the significance of such abnormality
 31. the pathological processes and their appearance on ultrasound, relevant to the examination undertaken
 32. manifestations of an individual's physical and emotional status
 33. the impact of equipment controls on image quality and production, and safety indices
 34. local procedures pertaining to the examination report
 35. report writing techniques including medical terminology and standard abbreviations relevant to the examination
 36. alternative imaging examinations, diagnostic and interventional techniques, and other relevant investigations
 37. referral pathways, follow-up procedures and support resources for the individual
 38. procedures relating to recording, collating and preparing appropriate information, documentation and images for transfer or storage according to local protocols

39. how to keep full, accurate and clear records in line with organisational procedures

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External Links

This standard links with the following dimension within the NHS Knowledge and Skills Framework (October 2004):
Dimension: HWB6 Assessment and treatment planning

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