

CI.C Acquire, interpret and report on ultrasound examinations

OVERVIEW

This standard is concerned with the imaging and interpretation of anatomical structures using ultrasound. This will be undertaken as part of a diagnostic process and the outcomes will be of sufficient quality to assist diagnosis. Users of this standard will need to ensure that practice reflects up to date information and policies. Version No 1

KNOWLEDGE AND UNDERSTANDING

You will need to know and understand:

1. The current European and national legislation, national guidelines and local policies and protocols which affect your work practice in relation to ultrasound, including:
 1. health and safety at work
 2. safe working methods
 3. control of infection
 4. use of hazardous materials (COSHH)
 5. waste disposal
 6. use of medical devices and product liability
 7. security within the workplace
 8. consent to imaging examinations
 9. patient identification
 10. data entry, utilisation, recording and transfer
2. Your responsibilities and accountability under the current European and national legislation and local policies and protocols
3. Limitations of own knowledge and experience and the importance of not operating beyond this
4. The roles and responsibilities of other team members
5. The clinical justification of the examination request
6. The information that should be given to patients:
 1. before commencing the examination
 2. during the examination
 3. on completion of the examination
7. Normal anatomy and physiology, normal variants and anatomical relationships demonstrable by ultrasound including knowledge of normal measurements
8. Recognition of abnormal anatomy and physiology demonstrable by ultrasound and the significance of such abnormality

- 9.The clinical conditions appropriate for ultrasound examination and the implications of disease processes outwith the area of study
- 10.The medical terminology relevant to the examination including abbreviations
- 11.Common pathologies of the areas to be examined
- 12.Manifestations of patients' physical and emotional status
- 13.The clinical implications of any allergy relevant to the examination, e.g. latex
- 14.Preparation of environment and equipment for ultrasound examinations
- 15.The physical processes involved in the production of an ultrasound image
- 16.The biological effects and potential risks associated with the use of ultrasound
- 17.The principles and applied knowledge of the Doppler effect and its clinical application in imaging
- 18.Artefacts on images - their causes and avoidance strategies
- 19.How the physical and chemical characteristics of tissue affect ultrasound appearances
- 20.Techniques to optimise the ultrasound image including position and patient preparation
- 21.The safe operation of ultrasound equipment
- 22.The importance of timely equipment fault recognition and local procedures for reporting these
- 23.Image capture and recording devices
- 24.Equipment capabilities, limitations and routine maintenance including the quality control processes required by the operator
- 25.The function, specification and performance characteristics of ultrasound equipment and transducers
- 26.The impact of equipment controls on image quality and production
- 27.Alternative imaging examinations
- 28.Local procedures pertaining to the examination report
- 29.Report writing techniques

PERFORMANCE CRITERIA

You must be able to do the following:

- 1.apply standard precautions for infection control and other appropriate health and safety measures
- 2.enter the identification details of the patient into the ultrasound machine or, if previously entered, check for accuracy
- 3.confirm the status of carers before the examination and, where their presence is required, adhere to local guidelines and rules
- 4.position the patient 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.recognising the patient's need to retain their dignity and self respect
 - 2.ensuring his/her comfort as far as possible
 - 3.preventing the appearance of artefacts
- 5.observe the patient's condition and well-being at all times and take appropriate action
- 6.check the acoustic coupling jelly is at an appropriate temperature and apply to the area to be examined in sufficient amount to ensure maximum transmission

- 7.select appropriate transducers for the patient and the site under examination
- 8.apply the transducer gently but firmly to the area to be examined, making adjustments to the equipment controls to optimise the image quality
- 9.observe the scanned image in real time according to local guidelines and protocols
- 10.maintain communication with the patient/carer to facilitate their understanding and co-operation with the examination
- 11.record images with appropriate annotation and measurements according to local guidelines and protocols
- 12.seek advice from appropriate others where you observe unexpected images or unusual findings that are outside your area of personal competence
- 13.inform the patient/carer of the results procedure and answer any questions or refer them to the appropriate person
- 14.produce a report which:
 - 1.provides an interpretation of the images
 - 2.suggests a diagnosis or assists in forming a diagnosis
 - 3.suggests follow-up action, where appropriate
- 15.refer to the referring clinician if an abnormality is observed on the image which is likely to require further investigation or treatment, following departmental protocols
- 16.record, collate and prepare appropriate patient documentation and images for transfer or storage according to local protocols
- 17.recognise where help/advice is required and seek it 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. This standard has replaced HCS_UPT6