MINIMUM TRAINING RECOMMENDATIONS FOR THE PRACTICE OF MEDICAL ULTRASOUND IN PAEDIATRIC NEPHROLOGY

Introduction

The medical use of ultrasound remains highly operator dependent. An appropriate level of training in ultrasound techniques is required in order to ensure that renal biopsy is performed safely. The European Federation of Societies for Ultrasound in Medicine and Biology has proposed minimum training requirements for the practice of medical ultrasound in Europe. Clearly the levels of training and expertise suggested by this Society are beyond those required for the limited use of ultrasound for the purposes of renal biopsy. This document is intended to provide guidance for trainees and trainers specifically in relation to the use of ultrasound for the purposes of renal biopsy.

During the grid training programme competency assessments will take place. These will include direct renal biopsy observational assessment.

Training

Theoretical Training

Preliminary theoretical training should cover the physics of ultrasound, levels and sophistication of equipment, image recording, reporting, artefacts and the relevance of other imaging modalities to ultrasound. This element of training will be achieved by attending a formal course to be run as part of the national Paediatric Nephrology trainee education programme. Such a course would be held in September or October of each year, that is within the first three months of a new national training grid post being commenced. It is proposed that attendance at this course would be compulsory for all new grid trainees.

Practical Training

Initial practical training will also be provided during the compulsory training course. This training will be provided by a trained paediatric radiologist. Ongoing training will be conducted in individual centres by a supervisor who has had at least two years’ experience in the technique of ultrasound guided renal biopsy.

All patients will undergo a formal renal ultrasound scan by a fully trained and competent ultrasonographer employed by the Radiology Department of that hospital.

Competencies to be acquired

1. All major renal pathology should have been identified by the formal renal ultrasound scan undertaken prior to the renal biopsy.

2. The paediatric nephrology trainee will be required to have a basic ultrasound knowledge and will be able to:

   i. Perform a limited ultrasound examination of the kidneys in different planes.
   ii. Recognise normal renal ultrasonic anatomy and common normal variants.
   iii. Measure renal length and cortical depth and interpret age/height based nomograms.
iv. Recognise and be able to assess a gross degree of collecting system dilatation.

v. Recognise renal cysts.

vi. Recognise abnormal renal parenchymal lesions.

vii. Recognise renal stones.

3. The trainee is expected to be able to recognise gross abnormality in the renal ultrasound scan in order to be able to guide the renal biopsy needle to the most appropriate site for the purposes of biopsy.

4. The trainee is expected to adapt techniques for biopsy of native kidneys to renal transplant biopsy.

5. Ongoing practical training will be provided by the nephrologist or radiologist in the appropriate training centre. The minimum training requirement for the purposes of a log book is ten native kidney biopsies and five renal transplant biopsies within a twenty four month full time training period.

6. Competency assessment sheets must be completed on a minimum of five renal biopsies performed.

7. All trainees must be aware that the level of ultrasound experience provided by this very limited training is not sufficient for them to be considered to be independent ultrasound practitioners.

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