The role of the radiography workforce in non-obstetric ultrasound

Ultrasound is a dynamic and evolving field with a crucial role to play in the health and treatment of millions of patients. Radiographers specialising in ultrasound (sonographers) are an important part of the hospital and community imaging team, providing and reporting on first line diagnostic examinations in many different clinical situations.

As a major imaging modality, ultrasound has a very wide range of applications aside from its well known use in pregnancy. General examples include the identification of pathology affecting the abdomen, pelvis, heart, blood vessels, neonatal brain, breast, testes, thyroid and the musculoskeletal system. It is extensively used to aid diagnosis in all age groups and is able to be used at the patient’s bedside if they are too ill to be moved.

Specific examples of its use include the diagnosis of gallstones, liver disease, urinary tract obstruction, gynaecological pathology, testicular malignancy and abdominal aortic aneurysms. Carotid ultrasound contributes to the stroke pathway and cardiac ultrasound is essential to diagnosis and management in that field. It has a major role in helping GPs to identify when mild or subtle clinical signs and symptoms may have a more sinister cause, as in ovarian carcinoma. It is therefore essential to initiatives relating to the earlier diagnosis of cancer.

Ultrasound is also widely used in the community where it can help provide diagnosis and treatment closer to home. Ultrasound does not usually require much in the way of patient preparation, so is considered an accessible and patient friendly examination.

A national abdominal aortic screening programme has been rolled out across the UK and ultrasound is central to its delivery. All men aged 65 are offered an ultrasound examination in the community to identify and then monitor abdominal aortic aneurysms before a critical size is reached. These scans are performed by assistant practitioners, supervised within the programme by qualified sonographers, or by the sonographers themselves.

Training and qualifications

Radiographers who have undertaken an accredited postgraduate certificate or diploma in medical ultrasound work as sonographers within the NHS but may also work independently or for a qualified provider. The majority of sonographers working in non-obstetric ultrasound (with the exception of vascular and cardiac applications) are from a radiography background.

Some sonographers have undertaken additional training to carry out interventional and/or invasive procedures such as biopsy, drainage of fluid collections and joint injections to relieve pain.

Requests for ultrasound examinations rise on a year on year basis, leading to long-standing problems with meeting this demand. There is also a shortage of sonographers in the UK (estimated at between 15% and 20%) and this is causing severe problems for many service providers.

There are several consultant sonographers working throughout the UK and the SCoR is aiming to expand numbers to further support service delivery and research.
All ultrasound examinations are operator-dependent and the quality of the examination is very much down to the skills of the individual performing it. It is vital that all those who use ultrasound are appropriately trained; misdiagnosis is dangerous in those who lack the necessary skills.

Summary
Non-obstetric ultrasound is the first line diagnostic examination in many different clinical situations and requests for examinations are rising year on year. Sonographers are key to the successful delivery of this important service and many are continuing to extend their scope of practice to help meet the increasing demand. Sonographers have autonomous responsibility for performing and reporting on a wide range of ultrasound examinations and, as such, are a vital part of the clinical team.