

The role of the radiography workforce in obstetric ultrasound



The Society & College of Radiographers

Since its first reported use in obstetrics in the UK, ultrasound has become an invaluable aid to the diagnosis and management of pregnancy-related problems. There are very few other imaging options available because of the need to avoid the use of ionising radiation in pregnancy. Radiographers specialising in ultrasound (sonographers) are an important part of the hospital imaging team, using independent judgement to produce high quality diagnostic information and optimise patient care.

As well as being highly skilled in operating sophisticated technology, sonographers have advanced knowledge and understanding of psychological, sociological and cultural factors and their relevance and impact upon the management of patients undergoing obstetric ultrasound examinations.

Ultrasound has an important role in assisted conception techniques (IVF) and monitoring for the first signs of a pregnancy becoming established. It is utilised from the earliest stage of the first trimester of pregnancy to determine whether a multiple pregnancy is present, obtain an accurate assessment of gestational age by way of fetal measurement, determine whether the fetus is alive and to exclude rarer types of pathology that can be associated with early pregnancy problems.

Later in the first trimester, ultrasound is used to investigate problems such as early bleeding and pelvic pain which could indicate an ectopic pregnancy.

It can also be used to reassure and reduce anxiety in women who have had previous miscarriages. As part of the National Screening Programmes, all women in England, Wales and Scotland are offered a test to provide them with a risk score for the fetus having Down's syndrome. If the risk score is significant, the mother will be offered an invasive test such as Chorionic Villus Sampling (CVS) – sampling of the placenta (which is essentially fetal tissue) – or amniocentesis; both of these being guided by ultrasound.

Also as part of the National Screening Programmes in England, Wales and Scotland, all women are offered an ultrasound scan between 18 weeks and 20 weeks, six days to identify fetal structural abnormalities. It is possible to identify a wide range of abnormalities – some are unfortunately not compatible with life while others, if identified early, can lead to better outcomes as the baby can be delivered in a specialist centre with all necessary facilities. There is a particular effort at the moment to try and identify fetal cardiac abnormalities which have had relatively low pick up rates to date.

Later in pregnancy, ultrasound can be requested for various important clinical reasons although there are no further routine scans that are offered to all. Examples are as follows:

- Monitoring the growth of the fetus. This is particularly important where a small or large baby is suspected, if the mother has had problems in previous pregnancies, is a teenager or is of a high BMI. The National Institute for Health and Clinical Excellence (NICE) has also produced guidelines for diabetic mothers, multiple pregnancy and for hypertension in pregnancy which contain guidelines on the use and role of ultrasound.
- Assessing fetal presentation, for example, whether the fetus is presenting by the head, breech or otherwise.

The radiography workforce delivers diagnostic imaging and radiotherapy services in a range of health and social care settings across the UK. Radiographers are pivotal to delivering fast and reliable diagnoses of disease, as well as curative and palliative treatment and care for patients with cancer. A large majority of patients will be referred for imaging during their treatment and radiographers are key to the delivery of successful clinical outcomes.

The Society and College of Radiographers (SCoR) is a professional body and trade union. With more than 90% of the radiography workforce in membership, it represents the entire profession. It shapes the healthcare agenda and leads opinion on a wide range of professional issues, setting standards and developing policies that are adopted and acclaimed by governments and health professionals worldwide.

The SCoR pioneers new ways of working and ensures that its members work in a safe and fair environment. Its activities are designed to ensure that patients receive the best possible care.

The SCoR believes that:

- Every patient must have the right diagnostic examination, at the right time, undertaken by the most appropriate person, using the right equipment to the best possible standard and with timely results to inform the outcome.
- Every cancer patient must be able to be in control of decisions about their care and have access to the most effective treatment, delivered at the right time and by the most appropriate person.

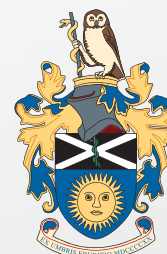
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- Identifying where the placenta is located in the event of bleeding before delivery. This is important as it could indicate that the placenta is lying close to, or across the birth canal. This is termed placenta praevia and could lead to severe maternal blood loss as well as fetal death. Ultrasound can accurately locate the placenta and thus provide obstetricians with this vital information.

Training and qualifications

Radiographers who have undertaken an accredited postgraduate certificate or diploma in medical ultrasound usually work as sonographers within the NHS but may also work independently or for a qualified provider. Over 70% of sonographers working in obstetric ultrasound are from a radiography background (other professionals working in this field include midwives, nurses and clinical scientists).

Some sonographers have undertaken additional training to perform invasive procedures.

There is a long-standing shortage of sonographers in the UK (estimated at between 15% and 20%) and this is causing severe problems for many service providers.

All ultrasound examinations are operator dependent and the quality of the examination is very much down to the skills of the individual. It is vital that all those who use ultrasound are appropriately trained.

Summary

Obstetric ultrasound has become an invaluable aid to the diagnosis and management of pregnancy-related problems. Sonographers are an important part of the hospital imaging team, using independent judgement to produce high quality diagnostic information and optimise patient care.

As well as being highly skilled in operating sophisticated technology, sonographers have advanced knowledge and understanding of psychological, sociological and cultural factors and their relevance and impact upon the management of patients undergoing obstetric examinations.

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