

HEAD AND NECK
ULTRASOUND TRAINING-
THE HULL EXPERIENCE

This came about as there was a recognised need to reduce the head and neck ultrasound waiting list.

In 2006 the head and neck waiting list was at 11 weeks with one session per week being performed by a Consultant head and neck Radiologist.

Enquiries were made by Dr Salvage, the Head and Neck Radiologist, through the British Society of Head and Neck Imaging on how other sonographers were being trained. It was established that this was not happening anywhere in the UK, therefore a training package had to be formulated.

The training package was adapted from the Royal College of Radiologists training portfolio for registrars.

It identified areas of specific training relevant to head and neck ultrasound examinations.

Training was to consist of:

- at least one ultrasound list per week for 6-9 months with 5-10 examinations performed by the trainee under supervision per session.
- A minimum of 250 examinations should be undertaken.
- A log book listing the types and numbers of examinations undertaken should be kept.
- Training should be supervised by an experienced head and neck ultrasonologist.
- Trainees should attend the Swansea Head and Neck Ultrasound course and read appropriate text books and literature.
- During the course of training the competency assessment should be completed as this will determine in which area or areas the trainee can practice independently.

Knowledge Base

- Physics and technology, ultrasound techniques and administration
- Embryology and developmental anatomy of the head and neck region
- Sectional and ultrasonic anatomy
 - - thyroid and parathyroid glands
 - - salivary glands
 - - lymph nodes
 - - (superficial) muscles of the head and neck
 - - major vessels of the head and neck
 - - laryngeal and tracheal skeleton
 - - floor of mouth

Pathology in relation to ultrasound

- - thyroid: colloid/haemorrhagic/nodular degeneration, differentiated and undifferentiated carcinoma, lymphoma, thyroiditis
- - parathyroid: adenoma
- - salivary glands: dilated ducts, calculi, ranula/sialocele, auto-immune sialadenitis, lymphadenopathy, cysts, tumours
- - lymph nodes: reactive, abscess, malignant, lymphoepithelial cysts
- - neck: cellulitis, venous thrombosis, arterial atheroma, changes after surgery, changes after radiotherapy
- - other masses: developmental, lipoma, stitch granuloma, sebaceous cyst, inflammatory/abscess, neuroma, laryngo/pharyngocele,

Competencies to be Acquired

General

- Perform a thorough examination of the area, recognising normal anatomy and common normal variants
- recognise abnormalities which need referral to a more experienced ultrasonologist and/or for further investigation
 - - recognise abnormalities which need referral for FNAC
 - - be aware of alternative diagnostic methods including clinical examination and imaging techniques
 - - recognise comparative accuracy of alternative techniques
 - - recognise when to proceed to other imaging examinations following ultrasound examination
 - - assess the appropriateness of ultrasound requests
 - - appropriately categorise and prioritise requests for head and neck ultrasound
 - - a short presentation at a departmental general ultrasound meeting on an aspect of head and neck ultrasound should be delivered on completion of the training

Thyroid

To be able to:

- - recognise the benign features of degenerate nodules
- - recognise the features of malignant nodules
- - recognise the levels of uncertainty in the exclusion of thyroid malignancy
- - recognise the features of lymphoma/undifferentiated thyroid malignancy
- - recognise the features of different types of thyroiditis
- - recognise when colour Doppler can be helpful

Parathyroid

To be able to:

- - perform a thorough ultrasound examination of the neck for parathyroid glands
- - recognise a likely parathyroid adenoma and the occasional haemorrhagic/cystic changes in them
- - be able to localise a parathyroid adenoma if one is identified
- - recognise when it is necessary to refer the patient for further investigation

Salivary Glands

To be able to:

- - recognise the features of obstructive sialiectasis and calculus obstruction
- - recognise the features of a ranula
- - recognise the features of a sialocoele/cyst
- - recognise the features of auto-immune sialadenitis
- - recognise lymphadenopathy
- - recognise the features of a typical pleomorphic adenoma
- - recognise the features of a typical adenolymphoma (Warthin's tumour)
- - recognise when a salivary gland mass does not have the typical features of either of these

Lymph Nodes

To be able to:

- - recognise the normal ultrasonic anatomy
- - recognise reactive lymphadenopathy
- - recognise malignant lymphadenopathy
- - recognise the features favouring metastatic lymphadenopathy
- - recognise the features suggesting lymphoma
- - recognise the features of lymphoepithelial cysts

Neck

To be able to:

- - perform a thorough ultrasound examination of the neck
- - recognise the normal ultrasonic anatomy and common normal variants
- - recognise the features of cellulitis
- - recognise the features of venous thrombosis
- - recognise the presence and features of arterial atheroma
- - recognise post surgical and radiotherapy changes

Other Masses

To be able to:

- - localise demonstrated neck masses in relation to other structures
- - recognise the features of developmental cysts
- - recognise the features of lymph/haemangiomas
- - recognise the features of a lipoma
- - recognise the features of a stitch granuloma
- - recognise the features of a sebaceous cyst
- - recognise the features that are not typical of any of the above, including inflammatory masses, neuromas and indeterminate masses

Maintenance of Skills

- Having been assessed as competent to practice there will be a need for CPD and maintenance of practical skills.
- If ultrasound practice in this specialist area is intermittent then no more than 3 months should elapse without the practitioner using his/her ultrasound skills and at least 100 examinations should be performed per year
- If the practitioner has regular ultrasound sessions at least 200 examinations per year should be performed, there should be regular meetings with radiological colleagues and the radiologist named as the “ultrasound mentor”.
- Practitioners should:
 - - include ultrasound in their ongoing CME
 - - audit their practice
 - - participate in multidisciplinary meetings
 - - keep up to date with relevant literature

Competency would be assessed using an evaluation sheet, which covers each of the previously described sections.

- In addition to the assessment sheet, three patients are to be scanned by the trainee whilst being observed by the assessor.
- Areas to be assessed will include;
- Evaluation of the request card
- Expected ultrasound findings
- Scanning technique
- Evaluation of images
- Conclusion of findings in the form of a written report.

- The training took 2 years to complete.
- 273 examinations were performed.
- Several BMUS head and neck study days and courses have been attended.

So, how did I find the training?

Was it worth it?

Yes!

How has the service improved?

We now have two head and neck Radiologists and two head and neck sonographers.

In 2006 the waiting list for an ultrasound examination of the head and neck was 11 weeks, it is now between 2 and 4 weeks.

In 2006, there was one list per week for both outpatient and in patient examinations.

We now have daily lists and daily access for ward patients.

We work in conjunction with the head and neck cancer clinic and lump clinic, with direct access from both these clinics.

We are hoping to start a one stop clinic, but funding is a problem.

There is no differentiation between examinations performed by either the radiologists or sonographers.

Number of examinations performed.

	2006	2007	2008	2009	2010	2011	2012
Rad		697	687	407	546	620	643
Son		113	530	852	781	1067	1286
Total	823	810	1217	1259	1330	1687	1929

Role extension.

- Started in 2009, I started training to perform FNAC of head and neck lesions.
- Initially this was by using a phantom, once my mentor was confident in my technique I then proceeded to perform closely supervised FNAC on patients.
- January 2011 started on the image guided interventional procedures module at University of Leeds School of Healthcare, which was successfully completed in July 2011.

Within our Trust it was not necessary to obtain Trust Board approval for FNAC training as it had been agreed and documented at the monthly operations group meetings where it was identified as a requirement within the role of head and neck imaging. There is a scheme of work and a lead radiologist.

No patient group directive (PGP) is needed as local anaesthetic is not used.

I now independently perform FNAC on suspicious lesions within the head and neck. I have a written scheme of work to follow, which was developed in conjunction with the head and neck radiologists

I hope to start to train to perform core biopsies, but we perform very few in our department and the numbers are proving difficult to obtain.