

# Short Course in Lung Ultrasound & COVID-19

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Point of Care UltraSound of the Lung (POCUS) has been used to aid the diagnosis of pleural effusions, pulmonary oedema and pneumothorax in acute and critical care. At the onset of the COVID-19 pandemic it was reported that Lung Ultrasound (US) could be reliably used to assist in diagnosis of COVID-19 whilst also decreasing resource utilisation. This efficient, safe and economically viable imaging option could be used to aid management of critically ill patients and assist in the rapid triage of patients within healthcare environments such as field hospitals, community care and ward settings. However, this POCUS technique is not widely used within Wales. Providing the necessary training to upskill US practitioners to identify lung pathology, including COVID-19 related findings was a significant challenge. Due to the national lockdown, social distancing and the need to safeguard NHS staff, traditional clinical training was no longer a viable option. This training delivery was rapidly designed and implemented early in the pandemic employing Simulation US and other available resource to prepare US trained clinicians for potential use.

## Challenge:

How to put together a coherent training package in a COVID-19 safe environment accommodating clinicians from across Wales, who may be using these newly acquired skills in patients who may have COVID-19 to aid patient management.

## Design:

Simulation Ultrasound is core to this development. NIAW and **Intelligent Ultrasound** plc (IU) have worked together since the Imaging Academy opened in 2018. **IU** offered NIAW the opportunity to borrow a **BodyWorks Eve** simulator with their newly developed COVID-19 US Lung scenarios. A blended learning package was developed by three NIAW clinicians, two Consultant Radiologists and one senior Sonographer, with a booked hour long 1:1 simulation training session supervised by an experienced US practitioner. This was supported by a pre-session preparation with suggested existing on-line learning material. This allowed practitioners to gain hands on experience in recognising and diagnosing COVID-19 cases while minimising risk to staff.

## Implementation:

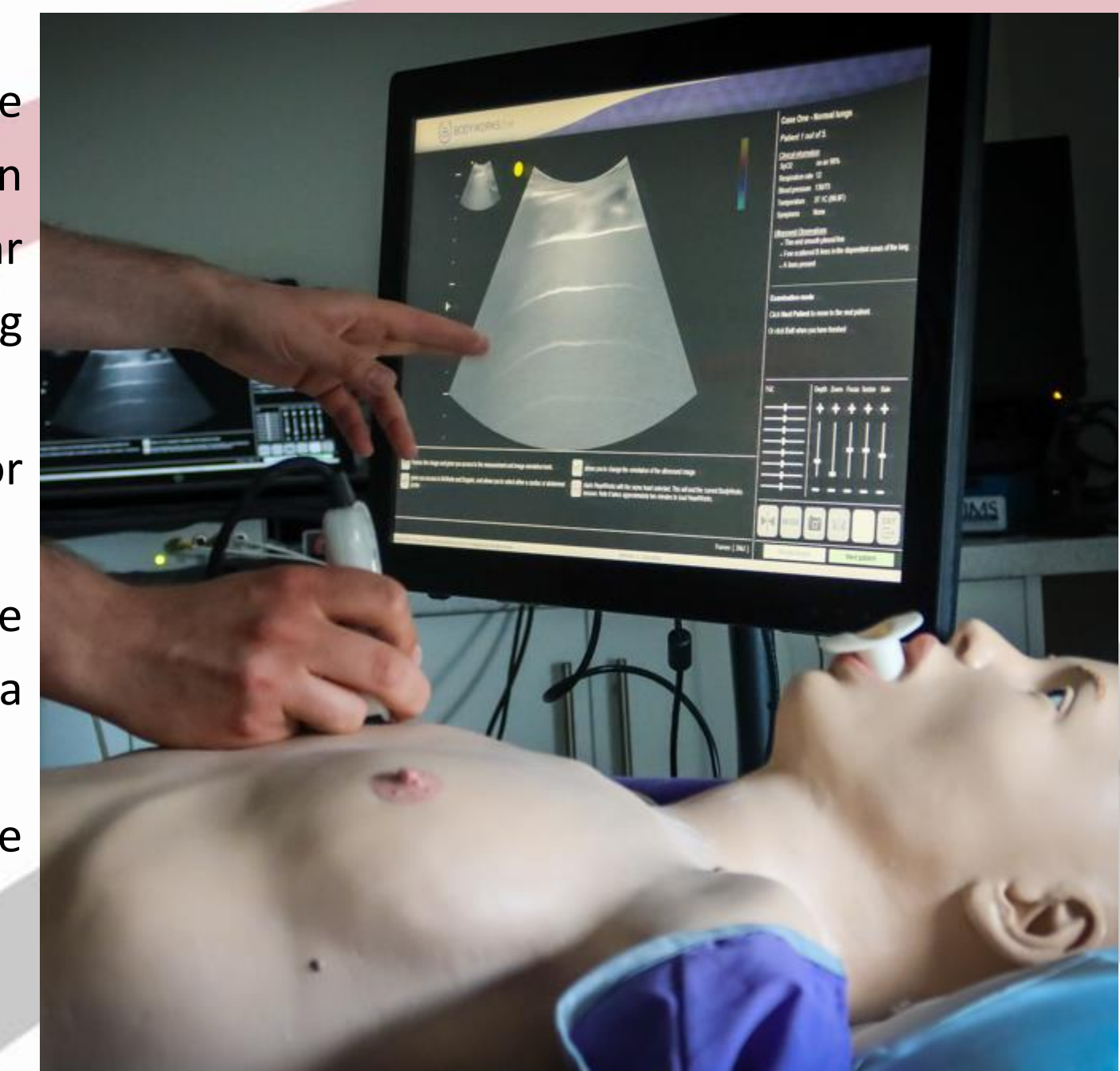
The course was primarily advertised via website, social media, HEIW and HB postgraduate departments. Course registration & bookings were accessed via the NIAW website, providing an appointment for the training session.



## Innovation & Practical Tips:

The innovation is primarily the US Simulator and the development of a fit-for-purpose training package early on in the pandemic. There was a time pressure as there was a clear demand for such training despite its future practical use being unclear. Practical tips and shared learning are:

- Outline the process from booking to training completion for smooth implementation
- Structured standardised training has enabled course sustainability - the training is now able to be delivered by a wider group of eight US skilled experienced clinicians
- Be prepared to use existing online material if of suitable quality for expediency
- Initial practice of course delivery was essential
- Ongoing feedback is essential
- Early involvement of experienced Health & Safety trained professional(s)



## Feedback:

Despite the difficulties related to COVID-19 social distancing restrictions, NIAW were able to safely facilitate the training of 67 clinicians from across NHS Wales. Attendees include Respiratory Physicians, Intensivists, Anaesthetists, Medical Physicists, Acute Physicians, Echocardiographers, Emergency Physicians, Sonographers & Radiologists. Feedback has been very encouraging:

**57.9%** of clinicians have since used the training with COVID patients

**79.8%** of clinicians have used the skills learnt with non-COVID patients

**68.4%** of clinicians felt that the training made an impact on their practice

**100%** of participants would recommend the training to others

**93.8%** of clinicians would be interested in attending further simulation training at the Academy.

This project has extended beyond its initial aims to support clinicians in the management of COVID-19, has provided opportunity for improving US knowledge and technique. The course has stimulated significant enthusiasm for POCUS Lung overall. A POCUS Lung network is now being established to enable continued shared learning. NIAW has also established new partnerships with Health Boards and Professional groups to further develop POCUS training within NHS Wales.

The course continues to be available.

## References:

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- Intelligent Ultrasound, 2020. COVID-19 Ultrasound Training For Front Line Clinicians Using Bodyworks Eve Ultrasound Simulator. [image] Available at: <<https://www.youtube.com/watch?v=sz2EvlpYMji&feature=youtu.be>> [Accessed 19 November 2020].