

## Lung Ultrasound for COVID within the TICC-19 Pathway

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### Introduction:

To use the TICC-19 pathway it is necessary for the patient to have some form of imaging<sup>1</sup>. This can be chest x ray, CT or lung ultrasound.

### Problem:

For the local GPs at the hot hub without access to CXR or CT, the patients needed to be referred in to the hospital for imaging. The reason for needing to image patients is to determine those patients with COVID pneumonia, as they have a higher risk of deterioration so benefit from follow-up in the COVID Ambulatory Clinic<sup>2</sup>.

### Solution:

We taught GPs how to do lung ultrasound to recognise 'normal' and 'abnormal' within the TICC-19 triage pathway. In order to do this in the midst of the COVID pandemic, we developed a focused teaching programme (described below) for GPs to learn lung ultrasound quickly.

### The Teaching Programme:

The teaching programme consists of two parts:

#### Part 1:

- 30 minutes of theory delivered as a lecture (also now available on youtube<sup>3</sup>).
- 30 minutes of scanning 'normal' (medical students etc).
- 30 minutes of scanning 'abnormal' using EVE<sup>4</sup> and images of COVID on lung ultrasound we've recorded.

#### Part 2:

- 10 scans (each of which is reviewed remotely in near real time by either the Ultrasound Fellow (Joe Nunan) or POCUS Lead (Andy Walden). This is made possible by using Butterfly IQs and the associated Butterfly Cloud.<sup>5</sup>
- A triggered assessment.

The clinician is then signed off as competent to ultrasound scan lung within the TICC-19 triage pathway. The clinician can recognise normal (A lines and lung sliding) and abnormal (any B lines, subpleural consolidation etc) using a 12 point scan.

### Future considerations

- 1) Recognition of the teaching programme and TICC-19 pathway more widely as a way to reduce COVID admissions.
- 2) To train more GPs in the use of lung ultrasound, even from further afield.
- 3) Given the enthusiasm of the GPs to learn POCUS, we intend to develop our POCUS training facilities at the Royal Berkshire Hospital.

### References:

1. [https://ticc19.com/wp-content/uploads/2020/04/COVIDTriagedocument-14\\_5\\_20\\_Website.pdf](https://ticc19.com/wp-content/uploads/2020/04/COVIDTriagedocument-14_5_20_Website.pdf)
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3. [https://www.youtube.com/watch?v=EgYVRRt5wFc&list=PL2xYkTwlgB2aecKQ1I2Ho\\_OQc6k8uABx](https://www.youtube.com/watch?v=EgYVRRt5wFc&list=PL2xYkTwlgB2aecKQ1I2Ho_OQc6k8uABx)
4. <https://www.intelligentultrasound.com/bodyworks-eve-point-of-care-ultrasound-pocus/>
5. <https://www.butterflynetwork.com/>