**Restoring spirometry in occupational health surveillance**

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LUNGS AT WORK

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1. With the current state of the COVID-19 epidemic in the UK, now is a reasonable time to consider - with caution - returning to routine spirometry in occupational health surveillance.
2. The British Thoracic Society (BTS) and the Association for Respiratory Technology and Physiology (ARTP) have produced excellent guidance[[1]](#footnote-1). While it is aimed primarily at clinical care, rather than health surveillance, the principles are similar.
3. As with all surveillance (‘screening’), it is important to consider the risks and benefits of spirometry in the occupational setting.
   * is there a good reason to do spirometry now, rather than postpone it?
   * can you prioritise employees for whom spirometry will potentially impact their duties at work?
   * rather than undertake spirometry on all employees, might you restrict it to those with respiratory symptoms (such as breathlessness; for *cough*, see below)?
4. Those responsible for providing spirometry are required to have risk-assessed the process and ensured that all aspects are safe for both staff undertaking and employees attending the testing, including supply of appropriate PPE.
5. Spirometry should not be undertaken if the employee has any symptoms of COVID-19 infection at the time of the test, or if they are known to have recently (within previous 10 days) been in contact with a confirmed case.
6. Infection control measures should be used, as follows:

* all tests must be undertaken using a single use antibacterial + antiviral filter.
* the spirometer must be cleaned between employees per manufacturer’s COVID-specific instructions. As a minimum this should involve cleaning the outer casing of the transducer and the outer part of the spirometer itself with alcohol wipes.
* operators will need PPE consisting of gloves, apron, visor and type IIR (‘surgical’, fluid-resistant) mask.
* a perspex screen between employee and operator offers an additional physical barrier for protection.
* if available, use a room with mechanical air circulation or ventilate as able (e.g. open windows).

1. While spirometry itself is now *not* considered to be an APG, the cough that may be provoked by spirometry is. Coughing associated with spirometry occurs predominantly after a forced and prolonged expiratory manoeuvre. Pre-spirometry screening should include a question about current cough.
2. Prior to spirometry, employees can be advised what to do if they feel that they are going to cough:
   * they should try to stay on the mouthpiece, if possible, and cough into the bacterial/viral filter.
   * you may wish to ask them to wear a simple surgical facemask that can be lowered below the chin during spirometry, and then moved over the mouth immediately afterwards to catch any cough droplets.
3. The BTS/ARTP guidance includes some helpful advice on how to reduce the risk of cough after spirometry. It includes the potential for using two separate manoeuvres:
   * a slow VC to estimate vital capacity (in place of FVC).
   * after this, a second, forced manoeuvre lasting just 2 seconds or so, to measure FEV1.

1. https://www.brit-thoracic.org.uk/covid-19/covid-19-resumption-and-continuation-of-respiratory-services/ [↑](#footnote-ref-1)