

Cardiopulmonary Exercise Testing during the Covid Pandemic

In the context of the current COVID-19 Pandemic, there are a number of specific considerations that may constitute a risk to patients and/or staff in relation to cardiopulmonary exercise testing (CPET):

1. The risk to the patient of SARS-CoV-2 (Corona virus) infection as a result of an additional visit to the hospital, especially given that many pre-operative patients have comorbidities that place them at high risk for adverse outcome from COVID-19.
2. The risk of transmission of SARS-COV-2 to the testing staff and other patients, should the testing subject be unexpectedly positive.
3. The theoretical risk of contaminating the patient from the CPET equipment, which should be avoided by appropriate cleaning of equipment as recommended by manufacturers.

The risks of exercise testing are likely to evolve over time during the pandemic as will the capacity for testing which will depend on hospital capacity and staff availability. Particularly during the surge phase, it is reasonable to defer all non-urgent testing.

As the surge phase of Covid passes, and elective services including surgery for cancer and other urgent conditions are re-instated, there will be increasing demand for pre-operative cardiopulmonary exercise testing services.

When considering cardiopulmonary testing during the pandemic, **POETTS recommend**

1. The decision to perform a cardiopulmonary exercise test should be based on an individualised risk assessment, informed by the patient's clinical status, the urgency of surgery and whether the test will alter a patient's management with regards to surgery. A best interests decision should balance the potential risks of a hospital visit and CPET against any potential benefits to the patient.
2. The patient should be informed of the specific risks of testing during the pandemic (see above) as part of the informed consent process prior to testing and may choose not to attend.
3. That where feasible a CPET test should be combined with other essential hospital visits to minimise attendance.

Patient screening prior to cardiopulmonary exercise testing

1. Consider testing all patients for active Covid infection 24-48 hours prior to CPET – do not test Covid positive patients.
2. Screen all patients for symptoms of COVID including fever, cough and anosmia – symptomatic patients should not be tested.

Personal Protective Equipment (PPE) and Infection Prevention

1. Observe social distancing and minimise the number of patients in the room whilst testing.
2. CPET is considered to be an aerosol generating procedure.
3. Testing staff should wear PPE in accordance with the recommendations for contact with a patient of unknown Covid status, undergoing an aerosol generating procedure. In the UK this would involve full PPE (FFP3 mask, gown, gloves, visor)*.
4. Ventilation: In order for dissipation of aerosol generated particles, sufficient time should be given between patients to permit 5 complete air-changes. This will be dependent on the laboratory ventilation. We recommend following local infection prevention guidance.
5. In between patients all surfaces and equipment should be cleaned using a disinfectant active against virus particles.

*Public Health England PPE Guidance for AGP: <https://www.gov.uk/government/publications/covid-19-personal-protective-equipment-use-for-aerosol-generating-procedures>