cardiopulmonary imaging, submaximal and maximal exercise testing, pulmonary function, cognitive assessment, blood tests, electrocardiogram and questionnaires on mental health and physical function.

Results 113 participants (aged 39±9, 86% male) were recruited; Hospitalised (n=35), community-symptomatic (n=34), community-recovered (n=18) and control (n=26), 159±72 days following acute illness. Hospitalised and community-symptomatic groups were older (p<0.003), with a higher body mass index (p<0.001), and worse mental health (anxiety,p=0.011; depression,p<0.001; post-traumatic stress, p<0.001), fatigue (p<0.001), and quality of life scores (p=0.001), with a mean of 2±2 and 2±1 symptoms, respectively. Hospitalised and community-symptomatic participants also performed less well on sub-maximal (p<0.001) and maximal exercise testing, with hospitalised individuals displaying impaired ventilatory efficiency (p<0.001), less work at the anaerobic threshold and at peak (both p<0.001), and significantly reduced forced vital capacity (p=0.004). Clinically significant abnormal cardiopulmonary imaging findings were present in 6% of hospitalised participants, lower than those seen in other studies. Those who recovered from community-based, mild-moderate COVID-19 had no significant differences from controls on any parameter.

Conclusions Recovered SP who suffered mild-moderate COVID-19 do not differ from an age, sex and role-matched controls. This is reassuring for the vast majority of individuals who have had acute COVID-19 not requiring hospitalization. Individuals who were hospitalised or continue to suffer symptoms may require a specific, comprehensive clinical and occupational assessment prior to a full return to duty.

### Abstracts

**Improvements in Orthostatic Tolerance with Physical Training Are Augmented with Heat Acclimation and Associated Plasma Volume Expansion: A Randomised Controlled Trial**

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Results Eight animals reached experiment endpoint (infected=5, control=3). All five infected animals demonstrated radiographic non-union on x-ray and uCT. Bioluminescence, at fracture site in infected cohort, peaked at week 8. Post-mortem micro-computed tomography (mCT) was used to assess fracture union; in-vivo bioluminescent imaging to assess persistence of Xen36 infection; tissue samples were processed for bacterial colony forming unit counts and histology to assess for fracture healing and infection.

Conclusions This study has developed an infected fracture non-union animal model. Use of bioluminescent bacteria allows for non-invasive and real-time monitoring of infection. This model is more representative of the military casualty than previously reported models and could be used to evaluate therapeutic strategies for prevention and management of infected fracture non-union.