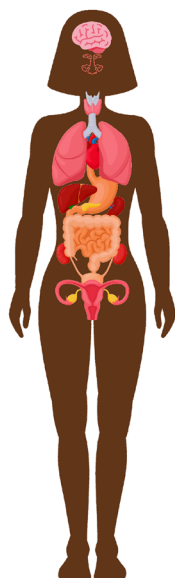


# Key takeaways: drawing on expert opinion to optimise care for long COVID

Dr Harsha Master, Dr Ashish Chaudhry, Dr Nicholas Gall, Dr Louise Newson, Dr Sarah Glynne, Dr Paul Glynne



**Neurological:** headaches, dizziness, pins and needles

**Neuropsychiatric:** anxiety, brain fog, sleep disruption

**Ear, nose, and throat:** dysphonia, loss of smell and taste, sore/tight throat, nasal congestion

**Respiratory:** breathlessness, cough, chest tightness

**Cardiovascular:** chest pain, tachycardia/palpitations, exercise intolerance, breathlessness

**Autonomic:** tachycardia, dizziness, thermal dysregulation, PoTS

**Gastrointestinal:** food intolerances, abdominal pain, diarrhoea, nausea, reflux, bloating

**Constitutional:** fatigue and PEM, myalgia, night sweats, fever

**Reproductive:** change in periods, symptoms of peri/menopause

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## Lifestyle measures for recovery

- Minimising stress
- Sleep optimisation—consistent daily wake and sleep times, avoiding blue light from electronic screens for at least 1 hour before going to bed, and minimising alcohol and caffeine intake
- Pacing, and avoiding the boom-and-bust cycle (see right)
- Improving diet—a Mediterranean-style diet could be considered.<sup>7-9</sup>



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## Clinical assessments to rule out alternative diagnoses<sup>1,6</sup>

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>■ Medical history—look for red flags</li> <li>■ Blood oxygen saturation at rest and on exertion (consider 1-minute Sit-to-Stand Test)</li> <li>■ Blood pressure (lying and standing)</li> <li>■ Pulse (lying and standing)</li> <li>■ Temperature</li> <li>■ Physical examination</li> <li>■ Blood tests               <ul style="list-style-type: none"> <li>□ FBC, U&amp;E, LFTs, CRP, TFTs, haematinics, and HbA<sub>1c</sub></li> </ul> </li> <li>■ Consider other tests, such as an early morning cortisol test, bone studies, a magnesium level test, and autoimmune tests, if indicated</li> </ul> | <ul style="list-style-type: none"> <li>■ Consider BNP if the patient is short of breath and PoTS is suspected</li> <li>■ Consider oestradiol, testosterone, and SHBG in women (to calculate Free Androgen Index)</li> <li>■ CXR</li> <li>■ ECG</li> <li>■ Consider a home postural heart rate test/the NASA Lean Test to assess for orthostatic intolerance</li> <li>■ In women, consider asking them to complete a menopause symptom questionnaire—an example is available on the <i>balance</i> website<sup>[A]</sup> and on the <i>balance</i> app.<sup>[B]</sup></li> </ul> |
|--|---|

[A] *balance* website. Menopause symptom questionnaire. [balance-menopause.com/uploads/2021/10/Menopause-Symptoms-Questionnaire-1.pdf](https://balance-menopause.com/uploads/2021/10/Menopause-Symptoms-Questionnaire-1.pdf)

[B] *balance* website. *balance* app. [www.balance-app.com](https://www.balance-app.com)

## Red-flag symptoms<sup>1,2,6,10-12</sup>

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>■ Acute and progressive dyspnoea</li> <li>■ Blood oxygen saturation &lt;94% at rest</li> <li>■ Desaturation on exertion</li> <li>■ Deterioration in mental health</li> <li>■ Exertional chest pain</li> </ul> | <ul style="list-style-type: none"> <li>■ Tachycardia at rest or on minimal exertion</li> <li>■ Exertional syncope</li> <li>■ Focal weakness</li> <li>■ Expressive dysphasia</li> <li>■ New-onset confusion.</li> </ul> |
|--|--|

## Management of associated conditions<sup>3,12-20</sup>

- Mast cell activation syndrome—a combination of H1 and H2 antihistamines may significantly reduce symptom burden<sup>[A]</sup>
- Dysautonomia<sup>[B]</sup>—increasing salt and water consumption may be beneficial. Medications that slow the heart rate, such as beta-blockers or ivabradine, can also be considered if very symptomatic. Staying active by gradually increasing the length and intensity of exercise may aid recovery; ‘seated’ exercise or swimming may be better tolerated, and gentle weight training may also help
- Menstrual changes and the menopause—more than one-third of those who menstruate and contract long COVID report menstrual changes; HRT, including testosterone, can effectively treat symptoms of hormone deficiency, and may considerably improve quality of life for many women with long COVID.

[A] The effectiveness of antihistamines for the treatment of long COVID is being further investigated in the STIMULATE-ICP trial at University College Hospital; note: prescribing of antihistamines for long COVID is off licence

[B] Refer to the full article at [GinP.co.uk/456989.article](https://ginp.co.uk/456989.article) for recommendations on drugs for treating dysautonomia associated with long COVID

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## Learning points from the HCT Long COVID Assessment and Rehabilitation Service

- Because long COVID is a diagnosis of exclusion, it is important that patients are first assessed by their own GP, undergo appropriate investigations if indicated, and have an **acute pathology ruled out** before being referred to a long COVID clinic
- A **jointly led service** (between AHPs and GPs) that offers a combination of medical assessment and rehabilitation seems to work best in facilitating recovery
- It is beneficial to appoint a **specialised rehabilitation coordinator** to triage patients at first entry—this ensures that an early holistic assessment of need is completed in order to organise a personalised package of care that includes medical review, if needed, and coordinated rehabilitation and support
- It may be helpful to use a questionnaire such as the **COVID-19 Yorkshire Rehabilitation Scale**<sup>21</sup> to document symptoms, symptom severity, and functional disability; it is also useful to do a comparison of a patient's pre- and post-COVID functioning to assess the impact of long COVID on their daily life
- Patients with complex symptoms should be discussed at a regular **multidisciplinary team meeting**; this will also enable shared clinical decision making, and allow for further learning and reflection
- The multidisciplinary team should include, but not be limited to, a GPwSI in COVID-19, specialists in pulmonary rehabilitation and chronic fatigue, an occupational therapist, a physiotherapist, a speech and language therapist, an IAPT practitioner, and a psychologist
- Ongoing unexplained symptoms warrant further review—a **GPwSI in COVID-19** can offer a more detailed holistic medical assessment and coordinate a patient's care; patients can also be referred for further investigations, such as CT scans, lung function tests, 24-hour cardiac monitoring, echocardiography, stress testing, MRI, and for further specialist review
- As well as the physical implications, clinicians must consider the **functional, emotional, psychological, and financial** impacts of COVID-19—clinics should work in an integrated way with secondary care, mental health services, social care, occupational health, and the voluntary sector
- Early review by specialists in **pulmonary rehabilitation** can identify and treat disordered and dysfunctional breathing patterns—this can help to improve breathlessness, cough, fatigue, and anxiety
- A **slow-stream rehabilitation approach** has been found to work best—patients often struggle with fatigue and brain fog, and can feel overwhelmed if referred to multiple teams at the same time
- The cause of **brain fog** can be multifactorial, and performing cognitive tests too early is not always beneficial—fatigue services, occupational therapists, and psychologists are well placed to assess both cognition and fatigue after other causes (such as sleep apnoea and perimenopause or menopause) have been ruled out and associated conditions addressed
- **Exercise** should be re-introduced cautiously, and only once an acute pathology has been ruled out—doing too much too soon can trigger a relapse.

## Useful resources

- HCT website—[www.hct.nhs.uk](http://www.hct.nhs.uk)
- WHO: *Support for rehabilitation: self-management after COVID-19-related illness*—[adobe.ly/3MHkeuo](https://adobe.ly/3MHkeuo)
- SOM: *COVID-19 return to work guide*—[som.org.uk](http://som.org.uk)
- NHS England website: *Your COVID recovery*—[www.yourcovidrecovery.nhs.uk](http://www.yourcovidrecovery.nhs.uk)
- Chaudhry A, Master H: *Top tips: managing long COVID*—[GinP.co.uk/455742.article](http://GinP.co.uk/455742.article)
- Newson L, Glynne S: *Long COVID and female hormones*—[bit.ly/3MyXX2a](https://bit.ly/3MyXX2a)
- Newson Health Menopause Society: *HRT easy prescribing guide*—[bit.ly/3yJf9b](https://bit.ly/3yJf9b)
- Glynne S, Ellice-Flint E: *Long covid, diet and hormones*—[bit.ly/3yWSrIX](https://bit.ly/3yWSrIX)
- PoTS UK website—[www.potsuk.org](http://www.potsuk.org)
- Physios for ME website: *COVID-19: post viral fatigue syndrome, long COVID & myalgic encephalomyelitis*—[www.physiosforme.com/covid-19](http://www.physiosforme.com/covid-19)
- RCOT website: *How to conserve your energy*—[www.rcot.co.uk/conserving-energy](http://www.rcot.co.uk/conserving-energy)

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Note: At the time of publication (June 2022), some of the drugs discussed in this article did not have UK marketing authorisation for the indications discussed. Prescribers should refer to the individual summaries of product characteristics for further information and recommendations regarding the use of pharmacological therapies. For off-licence use of medicines, the prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices ([bit.ly/38w9KPw](https://bit.ly/38w9KPw)) for further information.