

## **Post-Acute COVID-19 Syndrome (PACS)**

In primary care we are starting to see a rise in unexplained symptoms following Acute COVID-19. Many patients are experiencing prolonged and distressing symptoms which are lingering on or arising several weeks to months after exposure to COVID-19. This is being called PACS. There is currently little guidance available to manage patients with the condition.

**Here are 12 tips to help gain an understanding of what you might need to consider if you come across this in practice.**

1) Consider PACS in anyone who is having a prolonged recovery, after either confirmed or suspected COVID-19 symptoms, whether they were admitted to hospital or managed in the community.

2) Remember a negative test or antibody test does not exclude COVID-19. During the first wave, many people did not have tests available or did not meet the criteria for testing at that time. Consider the possibility of false negative results.

3) Listen to your patients. Be sympathetic and explore their concerns. Many patients with a prolonged recovery post COVID-19 were previously very fit and well, with no significant past medical history.

4) Whilst many patients do recover (often slowly) with rest, support and symptomatic treatment, some do not. Consider further investigations and onwards referral if recovery is prolonged, symptoms persist and are significantly affecting activities of daily living. It is useful to do a comparison of their pre and post COVID-19 function to assess severity.

5) Common presenting features include

- Ongoing shortness of breath on exertion,
- Reduced exercise tolerance,
- Fatigue,
- Dizziness,
- Pain – commonly chest pain, headaches, muscle pains, joint pains
- Palpitations,
- Insomnia
- Problems with memory and concentration.

Less common problems include persistent altered smell/taste, vocal disturbance, rashes, persisting fever, gastrointestinal problems, new onset diabetes and deterioration of pre-existing conditions.

6) Think laterally. All symptoms can be multifactorial and interlinked e.g., dizziness can be caused by a tachyarrhythmia, but could also be caused by exertional desaturations. Consider cardiological, respiratory, neurological, autonomic e.g., Postural Orthostatic Tachycardia Syndrome (POTS) and psychological causes and investigate accordingly.

7) Undertake a clinical assessment including basic observations, physical examination, blood tests screening including a Full blood count, Urea and Electrolytes, Liver function tests, Haematinics, Thyroid function tests, Vitamin D. Chest x-ray, ECG and BNP to be considered if ongoing dyspnoea, cough or palpitations. Consider and rule out common conditions as you normally would, and do not assume all symptoms are related to PACS.

8) Do exclude red flag symptoms, such as those found in TIA/Stroke, Pulmonary Embolism, Ischemia, and Myocarditis, cases of all which have been seen Post-COVID-19. If suspected, assess and manage via usual pathways.

9) Oxygen saturations at rest may not always be reliable. Consider a 1-minute sit to stand test to demonstrate exertional desaturation.

- To perform this test, the patient should be seated upright on a chair without rests.
- The patient sits with their knees and hips flexed to 90°, feet placed flat on the floor, hip-width apart, and the hands placed on their hips, and asked to go from sit to stand as many times as they can in 1 minute.
- Each sit to stand should be observed carefully to ensure that a complete sit to stand is achieved.
- Oxygen saturations, pulse, and perceived exertion (using Borg exertion or breathlessness scale) at rest and immediately after 1 minute should be recorded.
- The test should be terminated promptly if any adverse symptoms such as severe shortness of breath, chest pain, syncope or dizziness develop.
- A drop in oxygen saturations of >3% (e.g., 97%-94%) is significant, is a positive test and warrants exclusion of Pulmonary Embolism.

10) Think holistically and consider the emotional and psychological impact of this condition. Anxiety, depression, PTSD resulting from the physical illness itself, or from isolation, socio-economic issues, stigma or discrimination are common. Remember you are just as much an expert as anyone else, as there is very little guidance. Recommend lifestyle advice including rest, sleep hygiene, healthy diet, Vitamin D and multivitamins. Focus management on treatable symptoms. Consider advice on pacing and alternative therapies. Signpost to helpful resources. These simple measures may significantly improve quality of life.

11) Refer patients to a PACS Clinic if available. Patients are commonly triaged using detailed screening questionnaires. They may require further medical assessment and investigations such as CT scans, lung function tests, 24-hour tape and ECHO, or referral for more specialised review. They can also be referred to other interventional services, ideally within the same integrated multidisciplinary team, such as Pulmonary Rehabilitation or Chronic Fatigue, Clinical Psychologists and Wellbeing services in order to start their rehabilitation journey.

12) Be an advocate for your patients and acknowledge the uncertainty that we are all facing. COVID 19 is a new illness and we are still learning about its course and long-term complications and implications.

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