COVID-19 is a unique and novel infection that has already demonstrated a range of perplexing clinical syndromes. Its legacy will be felt long after the pandemic has passed. It is vital that the respiratory community is primed to detect and manage the long-term consequences of the infection and has sufficient resources to deliver it. COVID-19 is a highly contagious virus that mainly attacks the lungs. It is transmitted through droplets created from sneezing and coughing from those infected. The virus enters the body via the nose, mouth and eyes.

Post-COVID conditions can occur in patients who have had varying degrees of illness during acute infection, including those who had mild or asymptomatic infections. Medical and research communities are still learning about these post-acute symptoms and clinical findings. As we march ahead facing the challenges of COVID-19 Pandemic, health systems and health care providers were stretched to the limit to give more and more and often at great personal risk. COVID-19 Pandemic has had a serious impact on each and every one in general and society in particular. The need of the hour is to compliance towards achieving 100% vaccination and follow COVID appropriate behaviour i.e. physical distancing, wearing mask, frequent hand wash/sanitization.

**Keywords:** Remedial Measures, COVID-19, Acute Infection, Pandemic, Asymptomatic Infections, Clinical Findings, Wearing Mask, Sanitization

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The most commonly reported symptoms of COVID-19 are:

- Continuous Cough, fever, fatigue, muscle aches, shortness of breath when moving around, sputum production, loss of appetite/taste/smell.\(^1\)

Some people may require hospitalization to treat these symptoms.

The severity and duration of symptoms for people who have COVID-19 can vary. For most people, symptoms last 7-14 days and will be very mild. To manage mild symptoms:

- Stay hydrated, if you have temperature take Tab Paracetamol,
- Advised to take rest,
- Get up and move about at regular intervals.\(^2\)

It is essential to monitor your symptoms regularly. If you get one of the following, consult the medical practitioner immediately along with previous medical records:

- Worsening shortness of breath
- A new or returning fever
- Worsening ability to concentrate
- Chest pain

*See End Note for complete author details

**ABSTRACT**

This paper describes post COVID 19 effects and the necessary remedial measures to be implemented to eradicate this pandemic. COVID-19 is a unique and novel infection that has already demonstrated a range of perplexing clinical syndromes. Its legacy will be felt long after the pandemic has passed. It is vital that the respiratory community is primed to detect and manage the long-term consequences of the infection and has sufficient resources to deliver it. COVID-19 is a highly contagious virus that mainly attacks the lungs. It is transmitted through droplets created from sneezing and coughing from those infected. The virus enters the body via the nose, mouth and eyes.

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In case COVID-19 affected, one may find that one’s symptoms last for weeks or possibly months, especially if one has been in hospital or had severe COVID-19 symptoms. This pack contains information on how to manage the following symptoms:

- Severe fatigue
- Ongoing breathlessness
- Muscle weakness
- Post viral cough
- Difficulties with memory/confusion

This might make it more difficult to do the things that one is normally able to do, such as housework, having a wash, getting dressed or walking up and down the stairs.

In addition to the physical symptoms listed above, it is very common to experience feelings of anxiety and low mood. Some people who have had treatment in hospital may also experience anxiety or unpleasant memories about their stay.

Positions to manage breathlessness

Following COVID-19, you may find you have continued breathlessness.

You should monitor this and if it gets worse, seek further review from your treating doctor.

These positions can help ease your breathlessness and can be used when resting or when mobilising.

Exercises to help manage your breathing

Breathing exercises can help you manage your breathlessness and reduce its impact on your everyday activities.

Breathing control

- Take a slow breath in through your nose
- Try to relax your shoulders and neck
- Allow the air to fill up from the bottom of your lungs to the top of your chest
- Breathe gently out through pursed lips

(As if you were going to blow out a candle) to create space for the next breath in

Breathing control while walking

This will help you walk on the flat, climb stairs and negotiate slopes. Try to keep your shoulders and upper chest relaxed and use your breathing control. Time your breathing with your stepping.

- Breathe in – 1 step
- Breathe out – 1 or 2 steps

Keep cool

Make sure you have good air circulation in the room by opening a window or door.

Use a wet flannel to cool the area around your nose and mouth this can help reduced the sensation of breathlessness.

Additional oxygen will not make you feel less breathless!

Breathe a rectangle: Find a comfortable position.

Look for a rectangle shape in the room e.g. a window, door or TV screen.

Move around the sides of the rectangle with your eyes, breathing in on the short sides and out on the long sides.

Managing your cough

A dry cough is one of the most commonly reported symptoms for COVID-19 however in some cases it may be productive of phlegm.

Strategies to manage a dry cough

- Stay well hydrated
- Sipping a soft drink – take small sips, one after the other, avoid taking large sips
- Steam inhalation – pour hot water into a bowl and put your head over the bowl. If comfortable, cover your head and bowl with a towel
- Drink warm honey and lemon or another warm drink, this can help to soothe the throat
- If you do not have a drink to hand, but need to cough, try swallowing repeatedly. This can work in a similar way to sipping water

Strategies to manage a productive cough

- Keep well hydrated
- Steam inhalation
- Try lying on either side, as flat as you can. This can help drain the phlegm
- Try moving around; this will help to move the phlegm so that you can cough it out

Exercises to help clear your chest
Following COVID-19 you may find that you have a productive cough and mucus on your chest.

These exercises and positions can help you clear your chest. These may be recommended by your physiotherapist or nurse following COVID-19.3

Active Cycle of Breathing Technique (ACBT) exercise consists of three breathing exercises that together help to clear the mucus off your chest.4

Breathing control
• Gentle, relaxed breathing with your shoulders relaxed
• Deep breaths
  • Breath in slowly and deeply
  • Gently breath out without forcing it
  • Repeat 3-4 times only (too many can make you feel dizzy)
• Forced expiration techniques (Huff)
  • Take a medium sized breath in
  • Breath out forcefully for a short time
  • Keep your mouth open and use your stomach and chest muscles
  • Think ‘huffing’ a mirror to polish it
  • Repeat 1-2 times
  • Always finish on a cough or huff
  • Stop when your huff is dry on two consecutive cycles5
• Duration and frequency
  • Continue to do until you feel your chest is clearer
  • Clear as much mucus as you can without becoming exhausted
  • Perform for at least 10 minutes, but no longer than 30 minutes
  • If productive, 2-3 times per day

Positions to help keep your chest clear
Use the following positions, along with ACBT to help clear your chest. However:
• don’t use immediately before or after a meal
• stop if you have any side effects
• choose the position below that you feel would best drain your lungs, you can do this in discussion with a health care professional.4

Do not do this if you have:
• Nausea
• Acid Reflux
• Become significantly breathless
• Have blood in your phlegm
• Have a recent chest, spine or rib injury
• Feel wheezy

Fatigue management
When you first arrive back home you are likely to find that your energy levels fluctuate from day to day.

Walking around your home might be difficult, including managing the stairs, accessing toileting facilities and managing your daily routine.

This may result in you needing to adapt the activities that you do to enable you to conserve your energy.6

If you find your activities of daily living difficult, you may need a referral to the Pulmonologist to complete an assessment.

Whilst you recover, you may need:
• To consider a different set up such as single level living either downstairs or upstairs whilst you recover
• Specialist equipment to make things easier

With this analogy in mind it may be useful to keep a note of how tiring different activities are for you in order to help you understand the pattern of your fatigue and enable you to manage and adapt to this better.

Conserve your energy using the ‘four Ps’7
• Planning

Planning includes organising daily routines to allow completion of essential activities when you have the most energy.

E.g. many find it more helpful to perform strenuous tasks such as dressing early in the day when strength and stamina are often at their peak.

It is important to think about the task prior to performing the task and expending physical energy.1

Consider the following:
• Think about the steps that need to be completed and items required for the task.
• Prepare the required items ahead of time.
• Keep frequently used items in easily accessible places.
• Have duplicate items available to limit unnecessary trips between the bathroom, bedroom, or kitchen.
• Consider using a bag, basket, or rolling trolley to carry tools or supplies in one trip.
• Consider your weekly routine. It will be beneficial to schedule strenuous activities, such as going to the hairdresser, attending religious services, and shopping, evenly throughout the week instead of all in one day.

• Pacing

Once activities are planned, pacing allows individuals to sustain an energy level until the task is completed.2

Consider the following:
• Allow plenty of time to complete activities and incorporate frequent rests.
• Perform tasks at a moderate rate and avoid rushing. Although a task may be completed in less time, rushing utilises more energy and leaves less ‘in the bank’ for later activities.
• Allow plenty of time for rest and relaxation. Take a morning or afternoon nap prior to activities or outings to build up energy.
• Breathe easily and properly during activities. Using these techniques helps decrease shortness of breathe.
• Rethink activities with rest in mind. For example, sit instead of stand while folding clothes or preparing food. Instead of writing 25 holiday cards in one day consider writing five cards per day over five days.

• Prioritising

The third strategy is often the most challenging. When faced with limited energy reserves individuals must look critically at work, family, and social roles and keep only those roles that are necessary and pleasurable.3

Consider the following:
• Can a friend or family member assist with chores e.g. emptying the rubbish, vacuuming so you have more energy for necessary and pleasurable tasks?
• Eliminate unnecessary tasks, chores or steps of an activity. Look for shortcuts and loosen the rules.
• Be flexible in daily routines enables you to enjoy activities you would like otherwise miss because of fatigue.

• Positioning

Positioning is extremely effective, but not often considered when addressing energy conservation. Current methods of performing tasks may be using more energy than required.

Consider the following:
• Storing items at a convenient height to avoid excessive and prolonged stooping and stretching.
• Make sure all work surfaces are at the correct height. If a counter is too short, slouching and bending can occur which results in more energy expenditure.
• Use long-handled devices such as reachers or telescope cleaning tools to avoid unnecessary bending and reaching.
• Facilitate bathing - use a shower seat and a hand-held shower head.

The emotional impact

The experience of having COVID-19 can be very frightening. It is very understandable that the experience can have an emotional impact.

Whether you have had mild or more severe symptoms, these are some common difficulties that you may be having:
• Feeling anxious when breathless
• Worries about health or about family or friends getting ill
• Feeling low in mood
• Poor sleep

If you were treated in hospital, you may also experience:
• unpleasant images from your stay, that might seem to come ‘out of the blue’
• nightmares
• Feelings of panic with any reminders of hospital.

The following may help
• Avoid watching too much news or social media if it is making you feel anxious, try limiting yourself to looking at the news once a day
• Speak to family and friends
• Try to do activities that you find enjoyable and relaxing
• Don’t be too hard on yourself if there are some things that you are finding harder to do, remind yourself that recovery takes time
• Focus on what is in your control like eating well

**Relaxation Technique**

Relaxation is an important part of energy conservation. It can also help you to control your anxiety, improve the quality of your life and reduce pain and discomfort. Below are two relaxation techniques you can use to manage anxiety and help you relax.  

**Picture yourself somewhere calm**

Think of somewhere relaxing and peaceful. It could be a memory of somewhere you've been or a made up place.

Close your eyes, and think about the details of this place. What does it look like:
• What colours and shapes can you see?
• Can you hear any sounds?
• Is it warm or cool?
• What does the ground feel like?

Spend some time imagining each of these.

**Managing your diet post COVID-19**

You may find your taste changes during and for a period of time following COVID-19. However it is important to eat and remain well hydrated.

**What makes food and drink important?**

When our body is fighting an infection it needs more energy and more fluids to help; so we need to eat and drink more than we usually would if we were well.

When our body is recovering from an infection it needs more building blocks (from protein foods) to repair and enough vitamins and minerals help the process along.

**What can you do to make the most of your food and drink?**

Continuing to choose foods higher in protein together with gradually getting back to normal activity levels will help to rebuild your strength...

Aim to have 3 hand size items from this Protein group daily

Beans, pulses, fish, eggs, meat and other proteins. Eat more beans and pulses, less red and processed meat.

Aim to have 3 thumb size items from Dairy products such as Soya drink, semi skimmed milk etc.

*If you want to gain weight choose the full fat and full sugar versions.*

**How can you get enough vitamins and minerals?**

Aim to have 5** handfuls from this fruit and vegetable group each day. Eat with the rainbow; Different colours provide different vitamins and minerals.

**If this is difficult you may want to buy a daily multivitamin & mineral supplement; Your treating Doctor will advise you.**

**Physical activity advice following COVID-19**

Spending time in hospital or being ill at home with COVID-19 can result in a significant reduction in muscle strength, particularly in your legs.

This can be for a number of reasons, but mainly due to inactivity.

It’s not harmful to get out of breath when doing physical activity, this is a normal response.

However if you are too breathless to speak, slow down until your breathing improves. Try not to not get so breathless that you have to stop immediately, remember to pace your activities.

You might have been given some exercises to do in hospital or in the community by a physiotherapist.

Make sure you keep doing these regularly however if you are unsure, contact the prescribing therapist.

Do not overdo it, try to increase your activity levels slowly.

**Social life and hobbies**

When you’ve been seriously ill, you may feel differently about things and you may not want to do things you used to enjoy. You may:

• not feel like seeing lots of people at once
• find it difficult to concentrate
• find it hard to follow a TV programme.

<table>
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<tr>
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</tr>
</tbody>
</table>
Your concentration will get better and your memory will usually improve.

Physical activity advice – how hard should it be?

Breathlessness scale

When you are doing physical activity, it is ok to feel moderately breathless.

Smoking and COVID-19

- Smoking tobacco products increase your risk of infection due to the harm caused to your immune system and lungs.
- Smoking is linked with poorer outcomes in COVID-19.
- It's never too late to stop.
- By stopping you can see benefits within 24 hours.

What to do if my symptoms do not improve

The length of time that it takes to recover from COVID-19 varies from person to person, for some it will be days, others weeks or months.

The more severe your symptoms, the longer it might take for you to return to what is normal for you.

If however after 6-8 weeks, you are still experiencing symptoms, contact your treating doctor for further review.

Getting Psychological support

Feeling anxious or low in mood is very normal when recovering from COVID-19.

However, if it feels like it is going on too long or you are finding it hard to cope, you can consult your family doctor for advice.

Conclusion

Post-COVID conditions can occur in patients who have had varying degrees of illness during acute infection, including those who had mild or asymptomatic infections. Medical and research communities are still learning about these post-acute symptoms and clinical findings. As we march ahead facing the challenges of COVID-19 Pandemic, health systems and health care providers were stretched to the limit to give more and more and often at great personal risk. COVID-19 Pandemic has had a serious impact on each and every one in general and society in particular. The need of the hour is to compliance towards achieving 100% vaccination and follow COVID appropriate behaviour i.e. physical distancing, wearing mask, frequent hand wash/sanitization.

End Note

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Conflict of Interest: None declared

Disclaimer: The information shared, is solely intended, for the benefit of young Physicians and is contributed from the archives of what we have learnt from the views, thoughts, and opinions expressed by our great teachers. Any updates in the present context may please be verified.

References