

POST COVID-19 MANAGEMENT (YOUR GUIDE TO LONG COVID-19 CARE)



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Foreword

COVID-19 has had a profound impact on many elements of human existence and society around the world. COVID-19 is an aggressive disease and has affected India, too. In comparison to the first wave, the second wave moved at a rapid pace. The Government of India had taken several steps to restrict the spread of Corona virus and to create awareness. Once recovered, patients are still at risk for many other complications such as lung disease, heart disease, mental health issues, etc. Adverse events that occur after the COVID-19 recovery may have long-term consequences.

For preventing and managing Post-COVID-19 complications, there is a need to develop a comprehensive plan to mitigate patient's clinical, economic and public health repercussions, as well as to provide support to individuals who suffer from delayed morbidity and impairment. In India, major initiatives for Post-COVID-19 care have been taken for the patients who recovered from the COVID-19 but later developed Post-COVID-19 symptoms. These Post-COVID-19 care centers provide facilities like medicines, meditation and yoga sessions (to boost their mental health) to COVID-19 recovered patients.

The infographic booklet aims to make people aware by providing knowledge and education on Post-COVID-19 complications and their management. Its purpose is to make people more aware of their health and to encourage them to ensure intake of a nutritious diet even after they have recovered from COVID-19. This booklet provides comprehensive information on Post-COVID-19 symptoms and their management at Post-COVID-19 care centers.

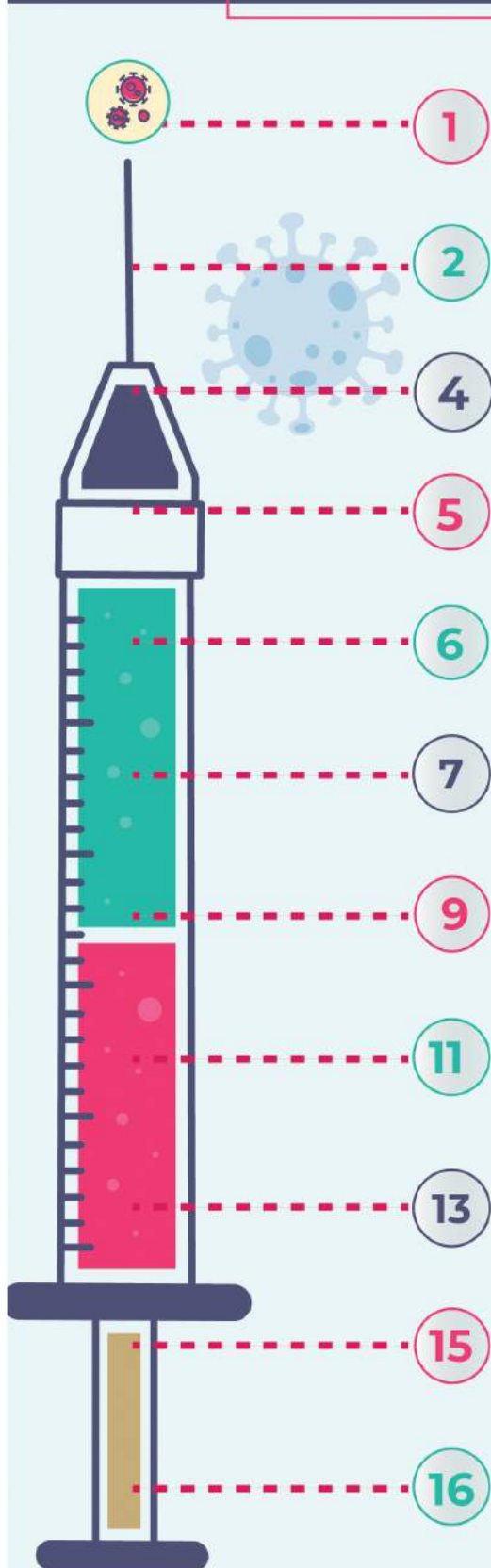
I applaud the efforts of Dr. Ravindra Khaiwal, Department of Community Medicine and School of Public Health, Post Graduate Institute of Medical Education and Research, Chandigarh and Dr. Suman Mor, Department of Environment Studies, Panjab University, Chandigarh, for bringing out the informative booklet of '**Post-COVID-19 Management**'.

I commend the efforts of all those who have contributed to make this a much valuable document.

(Sunil Kumar)

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INTRODUCTION

The majority of patients infected with COVID-19-recover within 10 days of being ill without any specific treatment.



On the other side, people with medical conditions such as diabetes, chronic respiratory disease, cancer, etc., are more likely to be severely infected & have to be hospitalized.

However, many patients experienced the COVID-19 condition (symptoms) after completing treatment or after the discharge from the health care facility.



People who continue to have mild to moderate symptoms after a COVID-19 recovery are said to have Post COVID-19 Syndrome or Long COVID-19 Syndrome (Long COVID).

Post-acute COVID-19 is defined as lasting more than three weeks after the beginning of the first symptoms, while chronic COVID-19 is defined as lasting more than 12 weeks.

CORONAVIRUS



Long covid is a multisystem illness that can emerge after a relatively minor acute illness. It is therefore critical to investigate Post COVID-19 effects.

POST COVID-19 SYMPTOMS

Adverse events that occur over the course of COVID-19 & its treatment may have long-term consequences.



Fatigue, pain, arthralgia, lower physical capacity & daily activities are the most generally reported physical health concerns Post COVID-19 recovery.



Anxiety, despair, post-traumatic stress disorder & obsessive-compulsive disorder (excessive thoughts that lead to repetitive behavior) are among the most common mental health issues after the recovery of COVID-19.



ANXIETY



DEPRESSION



SOCIAL ANXIETY



SLEEP DISORDER

Post COVID-19 ARDS (acute respiratory distress syndrome), dyspnoea on exertion, hyper reactive airway, persistent cough is more common which commonly recover in 6-8 weeks. ARDS can induce irreversible scarring of the lung tissue, which can lead to long-term respiratory issues.



Black Fungus

Lung Infection



POST COVID-19 SYMPTOMS

Other common symptoms include headache, gastrointestinal disturbances, menstrual problems, extreme weakness, rashes etc



HEADACHE



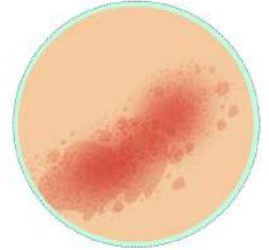
GASTROINTESTINAL
DISTURBANCES



EXTREME
WEAKNESS



MENSTRUAL
PROBLEMS



RASHES



Patients who had a more severe type of COVID-19 symptoms or who had a pre-existing sickness are more likely to take longer to recover.

Older people, & those with major medical illness such as diabetes, immunodeficiency disorder, malignancies, or chronic diseases, are at risk of experiencing Post COVID-19 sequelae.



COVID-19 infection is also linked to a high prevalence of extrapulmonary consequences (such as heart & kidney), resulting in long-term illness, disability & fatality in survivors.

POST COVID-19 FOLLOW UP

AT THE HEALTH FACILITY LEVEL



Post covid follow up : after discharge for first 2 weeks, weekly telephonic follow up, after that every 2 weeks telephonic, if no major issues, physical if there is some problem. 6 weeks to 3 months telephonic follow up is adequate, if no problems.

Only 20% of discharged patients will need physical follow up. routine investigations (haemogram, biochemistry), CXR, Pulmonary function test are needed. HRCT and ECHO cardiography only if symptoms referable to heart and lungs.

Individual patients may require tailor made follow up with different specialities. Psychiatric/psychological assesment if disabling sympoms may be needed.

After the completion of home isolation, patients who are continued with symptoms should visit the nearest health care facility.

Subsequent treatment & follow-up visits may be coordinated with the nearest qualified health care facility.

PostCOVID-19 treatment, 'patient's with recurrent infection require critical care support with more stringent follow-up.



AT COMMUNITY LEVEL



Individuals who have recovered should share their positive or negative experiences with their known (friends/ family/ relatives) to raise awareness & to break myths.

For the recovery & rehabilitation process, seek the help of community-based self-help groups, civil society organizations, & skilled specialists.

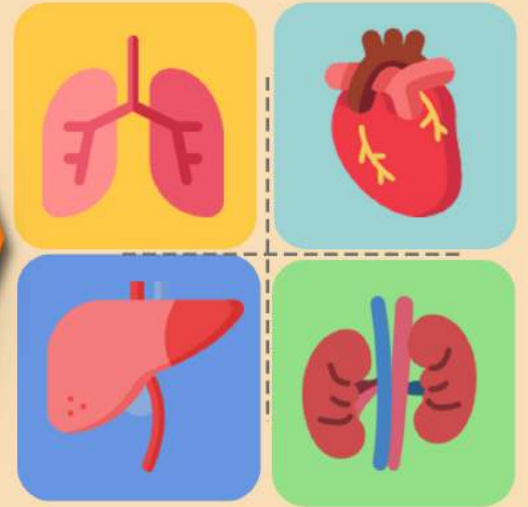
Friends, family, community health workers & counsellors should psycho-socially assist patients.

7
DAYS



POST COVID-19 SYMPTOMS & CHILDREN

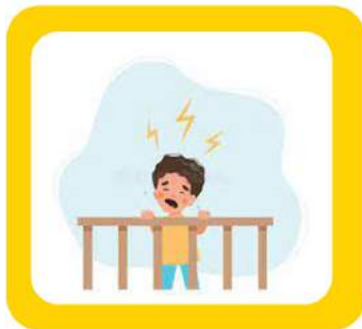
Children who have experienced a mild or asymptomatic coronavirus infection are more likely to develop MIS-C, a few weeks after contacting COVID-19. MIS-C is a condition in which a child's heart, lungs, liver & kidneys are severely inflamed.



It is a dangerous but uncommon disease & most children who have been identified with MIS-C have recovered quickly with medical treatment.



Children who are the most vulnerable encounter greater difficulties & are more likely to succumb to them. If not handled, the worry & stress-induced by COVID-19 may worsen their sense of insecurity & lead to even more significant mental health concerns. They may behave in a different way such as some may become silent while others may express anger.



Sleeping & eating difficulties



Being reclusive or violent



Fears & apprehensions about being alone



Sadness, excessive crying or crying for no apparent reason

Domestic violence & child abuse are more likely in families when there is high stress due to social isolation, economic difficulties & loss of livelihood. As a result, extra attention & care is required.



COVID-19 PSYCHOSOCIAL SUPPORT FOR CHILDREN



Talk to your kids about what's going on in a way they can understand.



Telling tales, singing with them & playing games & dance are all simple ways to comfort & relax kids.



Praise them constantly for their positive qualities, such as bravery, kindness & helpfulness.



Allow children to express their emotions by allowing them to talk about them.



• To understand the implications of the COVID-19 on the psychosocial well-being of children, caregivers must have patience with children & be aware of their feelings.

• Child Welfare Committee/District Child Protection Unit NIMHANS 08046110007.

AVOID



Children may experience increased worry & require specialist support if someone in the family/child care facility becomes ill & transported to the hospital, or if a death occurs. Call **CHILDLINE 1098** or speak with a trained counsellor.



POST COVID-19 NUTRITIONAL GUIDELINES



Depending on the patient's nutritional status, enough calories must be delivered.

Obese patients frequently suffer from respiratory problems, weakened immune systems, increased inflammation & decreased muscular strength. These people are more susceptible to pneumonia & heart stress.

To stay healthy small, frequent meals are recommended.

Spread out your calorie consumption throughout the day.

NUTRITIOUS DIET

FRESH FOOD



FRUITS



VEGETABLES



Any supplements only to be taken after consultation with physicians.

Fruits & vegetables 2 to 3 servings per day

To maintain good hydration drink plenty of water. You can take milk, juices & other fluids to nourish you.

POST COVID-19 NUTRITIONAL GUIDELINES

- Regular physical activity or exercise as prescribed by your physician:
- Every morning or evening, go for a walk at a suitable pace that you can bear.
- Start breathing exercises to improve your lung's health. Also practice Yoga Sana, Pranayama & Meditation every day.



After COVID-19 recovery, the patient's initial follow-up appointment should be within 7 days of discharge.

07 DAYS LEFT



- Do not take medication (or self-medicate) without the prescription of a doctor.**

Drink plenty of lukewarm water.



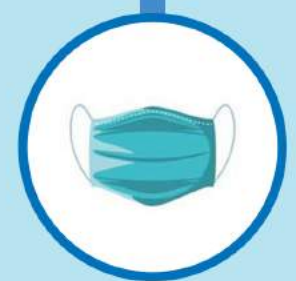
Take sound sleep & proper rest.



Do not take alcohol & avoid smoking.



Continue to follow COVID-19 guidelines



- Take a well-balanced, nutritious diet. Ideally, freshly cooked soft foods that are easy to digest.

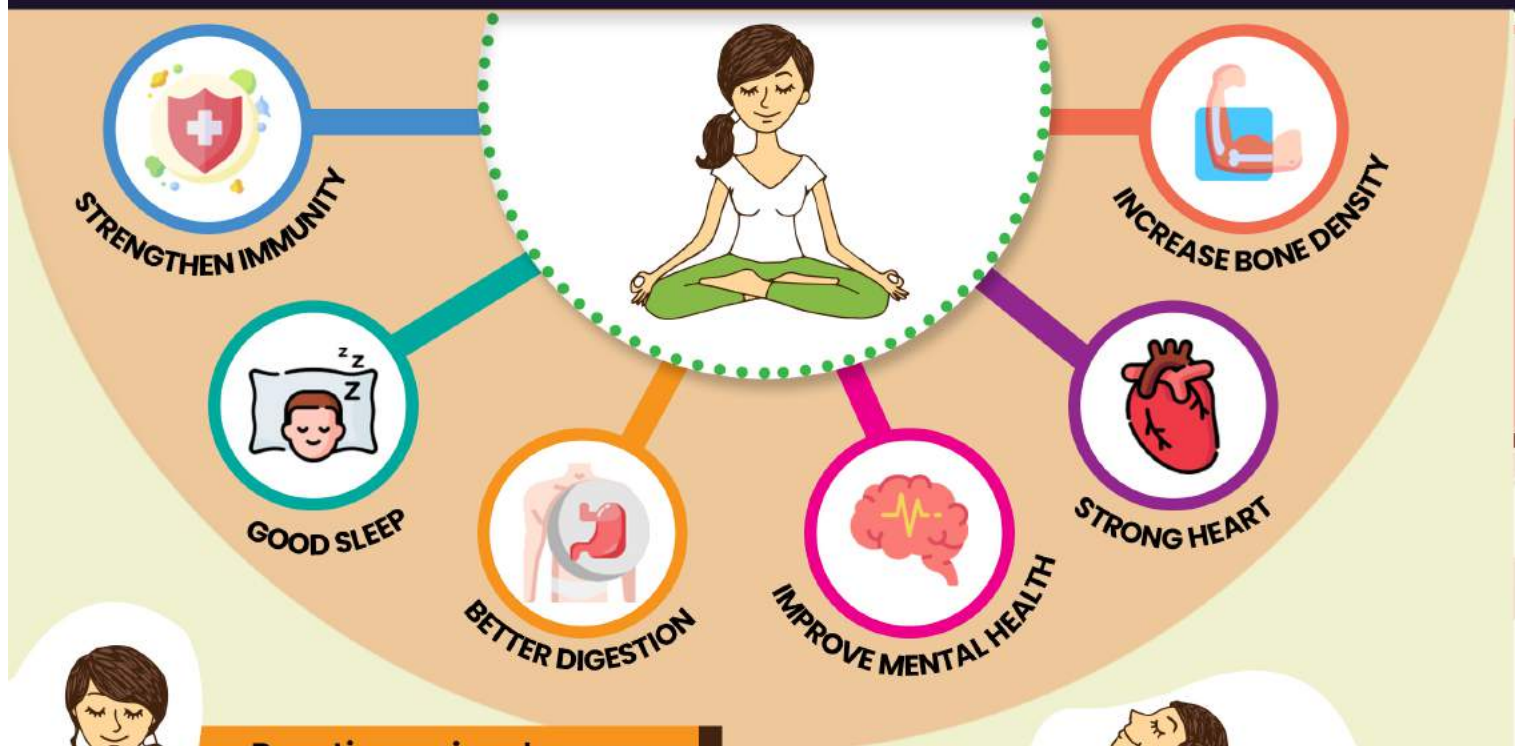
- If health improves, regular domestic work to be done, also regular professional work to be resumed in a graded manner.



- Self-health monitoring at home should be continued such as temperature, blood pressure, blood glucose.

- If dry cough or sore throat persists after the COVID-19 treatment, then do gargles with lukewarm saline water & take medication prescribed by your doctor.

POST COVID-19 MANAGEMENT & YOGA



Practice simple yoga steps to boost your health & well-being

While practicing Yoga, do not over-exercise & slowly extend your capabilities



Yoga offers healing movements to help the pulmonary & respiratory systems recover, depending on the severity of COVID-19 symptoms & co-morbidities. Yoga practice is a highly effective way of reviving the fatigued body & calming the agitated mind.

Practicing asanas yoga (body positions & stretching) helps holistic well-being. Asanas can be done sitting, standing & recumbent positions.



Consult your breathing exercises during COVID & Post COVID-19 recovery phases as they help to improve lung function.



POST COVID-19 MANAGEMENT & YOGA

STEP-1



First of all, sit in a comfortable cross-legged position.

STEP-2



Close the right nostril with your right thumb.

STEP-3



Inhale deeply through the left nostril.

STEP-4



Close the left nostril with the ring finger of your right hand as you release the right nostril. Exhale slowly through your right nostril.

POST COVID-19 EXERCISES



SEATED KNEE EXTENSION

Sit upright on a chair

Start with your knee bent, lift your foot in the air & straighten your knee

If you find it too easy-hold the leg up for 10 seconds



SIT-TO-STAND

Stand up & sit down from a chair without using your arms to help &

If you find it too easy-lower the height of the chair or bend your legs until your bottom just touch the seat & then stand back up

If you find it too hard-increase the height of the chair



SIDEWAY LEG LIFT

lie on a bed on your side bend your bottom leg & keep your leg straight

Lift towards the ceiling

Slowly lower the leg down towards the bed

If its too easy- hold the leg up for 10 seconds

SEATED TRICEP DIP



Sit upright on a chair with your hands on the arm rest.

Push through your hands to straighten your elbows & then slowly return to the starting position.

IF YOU FIND IT TOO EASY-move your feet further away.

SHOULDER PRESS

Sitting or standing, start with your elbow bent & your fist facing up.








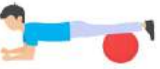

Punch to the ceiling, straightening your elbow.

IF YOU FIND IT TOO EASY-hold a weight in your hands, such as a tin of beans or peas.

IF THIS EXERCISE IS TOO HARD-just bend & straightens your elbow.



POST COVID-19 EXERCISES

		MON	TUE	WED	THU	FRI	SAT	SUN
	WK 1							
	WK 2							
	WK 3							
	WK 4							
	WK 5							
	WK 6							
	WK 7							
	WK 8							
	WK 9							

FREQUENTLY ASKED QUESTIONS

1. Who is the most vulnerable group to COVID-19-related illness?

People over the age of 60, as well as those with underlying medical issues such as:

- High blood pressure,
- Heart & Lung disease,
- Diabetes,
- Obesity or Cancer

are more likely to acquire serious COVID-19 complications.



2. For how long a patient may acquire Black Fungus (mucormycosis) after recovery from COVID-19?

The length of time following COVID-19 recovery has nothing to do with mucormycosis. Patients with diabetes, cancer, kidney problem, cardiac patients & those on high-dose steroids have a predisposition for organisms to get entrance to their bodies & present as a disease. Not everyone will become infected with fungi.



3. Why are older people & people with chronic illnesses more vulnerable?

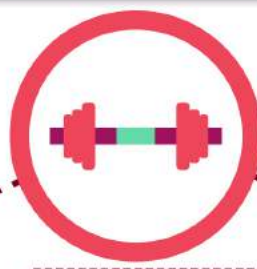
This is due to the fact that as we age, our immune system weakens, making it more difficult for older persons to combat infections. Chronic diseases become increasingly common as people get older & they can weaken the immune system, leaving older people more susceptible to significant problems.



REVITALIZE YOUR HYGIENE HABITS



EAT FRUITS & VEGETABLES



EXERCISE MORE OFTEN



TAKE PROPER MEDICATION



REST & PROPER SLEEP



FREQUENTLY ASKED QUESTIONS

Can SARS-COV-2 RNA be detected in patients following COVID-19 clinical recovery?

SARS-CoV-2 RNA is not found in many recovered people's upper respiratory tract specimens. However, after clinical recovery some patients detected positive in the RT-PCR test. Studies have examined that in some persons it can be detected for weeks but with higher CT (cyclical threshold) values i.e. low concentration of viral RNA.

What is the prevalence of post-acute COVID-19 syndrome?



It is found that after their initial COVID-19 illness, 50% of hospitalized patients & one-third of outpatients had at least one persistent COVID-19 like symptom. Fatigue, joint pain, chest pain, palpitations, breathlessness, & various mental health signs such as anxiety, headache, irritation & cognitive impairment are all common residual symptoms after the COVID-19 recovery.

How long will I be protected after getting vaccinated?

It is yet unknown how long the immunological response lasts in vaccinated people. As a result, it is strongly advised that masks, handwashing, physical separation, & other COVID-19 appropriate behaviors be continued.



How long does immunity last post COVID-19 recovery?

COVID-19 immunity can remain at least 6 months, & possibly longer, for individuals who recover



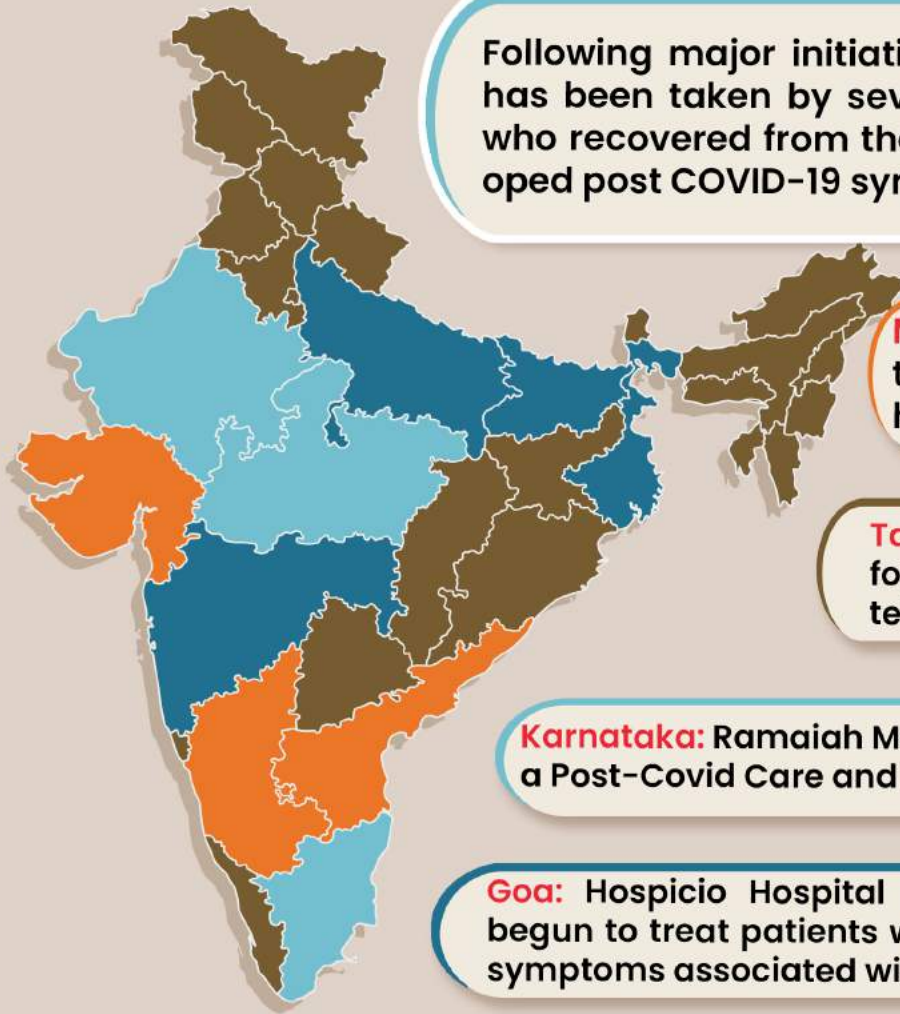
Which vaccine could be taken after post-COVID?

Whatever vaccine is available you may take that.



MAJOR INITIATIVES FOR POST COVID-19 SUPPORT

Following major initiatives for Post COVID-19 care has been taken by several states for the patients who recovered from the COVID-19 but have developed post COVID-19 symptoms.



Madhya Pradesh: To examine the post COVID-19 recovery health status

Tamil Nadu: Post COVID-19 care for recovered patients through tele-medicine services

Karnataka: Ramaiah Memorial Hospital has launched a Post-Covid Care and Rehabilitation Centre

Goa: Hospicio Hospital in Margao, South Go, has begun to treat patients who are still recovering from symptoms associated with prior COVID-19 infection

Haryana: Post COVID-19 care center 'Umang' in all govt. hospitals, Panchkula

Punjab: Amritsar at the Government Medical College & Hospital (GMCH)

Odisha: Post COVID-19 care Center offers tele consultancy & also teaches yoga to COVID-19 recovered patients

Maharashtra: First post COVID-19 care center at Majiwada, to treat patients recovered from COVID-19

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DISCLAIMER

This document is prepared jointly by the Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh, India & Panjab University (PU), Chandigarh, India, to minimize the post COVID-19 suffering & health consequences. The information presented is based on the current knowledge & needs to be updated with the emerging evidence.

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POST COVID-19 MANAGEMENT



This booklet aim to educate the public about the post COVID-19 management after the recovery from COVID-19 infection. It focuses on the symptoms that appear after the COVID-19 recovery & Post COVID-19 follow-up so that timely treatment can be taken to minimize the health issues.

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