



**DEPARTMENT OF PHYSICAL MEDICINE & REHABILITATION
AIIMS, PATNA, PHULWARI SHARIF,
BIHAR, PIN: 801507**



INFORMATION BOOKLET FOR REHABILITATION OF POST COVID-19 PATIENTS



Title/ Heading

Information Booklet For
Rehabilitation of Post COVID –
19 Patients, AIIMS PATNA

NO. OF PAGES

25

DATE, CREATED

19/05/2021

DATE, IMPLEMENTED

PREPARED BY

Dr. Sanjay Kumar Pandey, Head, Dept. of PMR
Dr. Deepak Kumar, Associate Professor, Dept. of PMR
AIIMS Patna

Signature:

Signature: *Deepak Kumar*

FINAL REVIEW BY

Medical Superintendent, AIIMS Patna

Signature:

Signature: *CSB*

APPROVAL BY

Director, AIIMS Patna

Signature:

Signature: *R Singh*

RESPONSIBILITIES OF UPDATING:

Dr. Sanjay Kumar Pandey,
Dr. Deepak Kumar

Signature:

Signature: *Sanjay Kumar*
Deepak Kumar

SR.	TOPIC	PAGE
1.	INTRODUCTION & NEED FOR REHABILITATION	4
2.	CARDIOPULMONARY PROBLEMS & BREATHING POSITION & EXERCISES	6-12
3.	EXERCISES	13-18
4.	SWALLOWING PROBLEM	19
5.	ANXIETY & STRESS PROBLEM	20
6.	ATTENTION & MEMORY PROBLEM	21
7.	ACTIVITIES OF DAILY LIVING	22-23
8.	NUTRITION	24
9.	REFERENCES	25

INTRODUCTION

FEW COMMON PROBLEMS ASSOCIATED WITH COVID 19



NEED FOR REHABILITATION IN POST COVID 19 PATIENTS:

- ✓ To tackle above mentioned problems associated with COVID 19 infection.
- ✓ To improve quality of life.
- ✓ To avoid short and long term complications after COVID 19 infection.
- ✓ To prevent new comorbidity.
- ✓ To hasten recovery.

**“KEEP YOUR FACE
ALWAYS TOWARDS
THE SUNSHINE AND
SHADOW WILL FALL
BEHIND YOU”**

- Walt Whitman

BREATHING POSITIONS AND EXERCISES FOR HEALTHY LUNG

- ❖ Do not panic
- ❖ Stay calm

POSITIONS FOR EASE IN BREATHING:

1. High side lying
2. Prone
3. Semi supine
4. Forward lean sitting
5. Forward lean standing
6. Standing with back support



BREATHING TECHNIQUES:

DIAPHRAGMATIC BREATHING/ CONTROLLED BREATHING

- Place one hand (dominant) over the mid abdomen and other (non dominant) hand over the mid chest and give minimal resistance through hand
- inhale through the nose, taking a single deep breath.
- gradually rise the hand over abdomen during the slow inspiration.
- hand over chest should not move.
- tighten abdominal muscle gradually after inspiration and start pressing abdomen by hand gently.
- Exhalation should be done through mouth, pursed lip, slowly, in relaxed fashion.



SEGMENTAL BREATHING:

- Place hands on upper chest, breathe in deep through nose and breathe out through the mouth.
- Place hands on the sides of your chest, breathe in deep through nose and breathe out through the mouth.



Pursed Lip Breathing

Inhale slowly through nose, pucker your lips and exhale through mouth for very slowly (if you take approx. 2 to 3 sec. to breathe in, take 4 to 6 sec. to breathe out)



THORACIC EXPANSION EXERCISES:

1. Breathe in through nose as you raise hands, breath out through mouth as you bring hands down



2. Clasping hands behind your head, breathe in through nose as you move elbows away and breathe out through mouth as you bring elbows together.



3. Breathe in through nose as you raise your arms above your head and breathe out through mouth as you bring arms down



DEEP BREATHING EXERCISE:

- keep chest and shoulders relaxed.
- Take a long, slow and deep breath in, through nose.
- At the end of the breath in, hold the air in lungs for 2-3 seconds before breathing out.
- Breathe out gently and relaxed, like a sigh. Don't force the air out.
- Repeat 3 – 5 times



INCENTIVE SPIROMETRY

- Incentive spirometer is a device that helps to maintain/increase the lung capacity and improve respiratory muscle strength and endurance.
- Use it for 5 to 10 minutes x 3 times per day.
- Take few normal breathe in between.
- Do not over exert.
- Clean it regularly as instructed in packaging box.
- One device is to be used by one person only, no sharing.



- Inhale through mouth piece and exhale after removing mouth piece from mouth.
- Exhale through mouth piece and inhale through nose (turn the devise upside down)

Physical Exercises

Benefits:

- Improve flexibility, muscle strength and endurance
- Reduce stress and elevates mood
- Improve balance and coordination
- Improves respiratory complains

Exercise Rules:

- 1) Always warm-up and stretch.
- 2) Comfortable clothes
- 3) At least 2 hour after a heavy meal & avoid heavy exercise in empty stomach
- 4) Remain well hydrated
- 5) Exercise in comfortable environment, don't over exhaust

Precautions:

Stop exercising immediately, and contact doctor if you feel

- 1) Sick or nausea
- 2) Breathless
- 3) Dizzy
- 4) Chest tightness
- 5) pain

CHOOSING PROPER EXERCISE INTENSITY

- 1) Can speak the whole sentence without stopping → can exercise harder
- 2) Cannot speak at all → too hard, reduce exercise intensity
- 3) Can speak with one or two pauses in a sentence → right level

WARM UP EXERCISES

1. Shoulder Shrugs
2. Shoulder Circles
3. Side Bends
4. Knee Lifts
5. Ankle Taps
6. Ankle Circles

Duration = 5 minutes
Repetition = 2-4 times



shoulder shrug



shoulder circles



side bend



knee lift



ankle tap



ankle circle

STRETCHING EXERCISES

- 1) Side Stretch
- 2) Shoulder stretch
- 3) Hamstrings stretch
- 4) Calf stretches
- 5) Quads stretch
- 6) Back stretch

**HOLD THE STRETCH
FOR 15 TO 20 SECONDS**

2 TO 4 REPEATATION

5-10 MINUTES TOTAL



Side stretch



shoulder stretch



hamstring stretching



calf stretch



Quads stretch

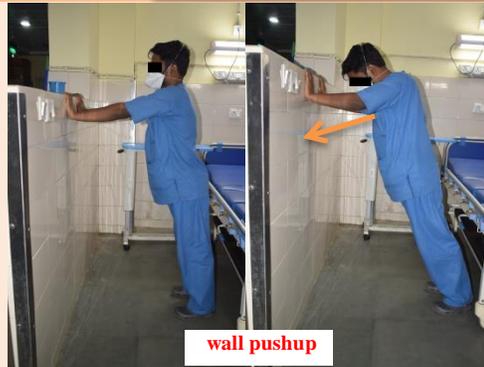


back stretch

STRENGTHENING EXERCISE:

1. Biceps curl
2. Wall push up
3. Dips
4. Wall squat
5. Quads drill
6. Heel rise
7. Lateral arm raise
8. Bridging exercise
9. Leg raise

- ✓ 3 sessions/week
- ✓ 3 sets 10 repetition of each exercise
- ✓ Rest 1-2 min between each set
- ✓ Reduce number of repetitions if breathless
- ✓ Increase weights if you get better with the exercise
- ✓ Use water bottles if dumbbell are not available



ENDURANCE AND FITNESS EXERCISES

1. Walking
2. Step up
3. Spot marching
4. Cycling/jogging/treadmill

3 to 5 session/week

10 to 20 minutes/ day total



Step up



Spot marching/ march like a soldier



Cycling

COOL DOWN EXERCISES

- Duration: 5 to 10 mins
- Slow pace walking on the spot: 2mins
- Repeat warm up exercises and stretching exercises.

Swallowing Problems

Instruction :

- 1) Eat or drink in **upright** position
- 2) Remain upright for 30 mins after meal
- 3) Try different consistencies of food (thick/thin)
- 4) **Avoid** hard food
- 5) **Concentrate** while eating and don't hurry.
- 6) Take **small bites** of food, chew well
- 7) Eat **smaller meals**, empty mouth before next bite & sip water in between
- 8) **Avoid** extreme hot/cold and spicy food.
- 9) **Avoid** meal within 1 hour before exercise
- 10) If you cough or choke, **take a break** to recover
- 11) Use straw for drinking water if necessary

Exercise to improve swallowing

1. Lip seal
2. Chin tuck & swallow



Lip sealing exercise

Managing Anxiety/stress

- 1) Get enough quality sleep.
- 2) Choose darker and silent environment for sleeping,
- 3) Avoid using mobile phone from at least 30 min before sleeping
- 3) Minimizing nicotine and alcohol, avoid if possible.
- 4) Eat sufficiently and healthy, avoid junk and spicy food, eat simple and light at dinner.
- 5) Be physically active, don't sit idle for prolonged time.
- 6) Talk, text to your friends and relatives.
- 7) Listen to music, watch favorite TV show, read to improve mood
- 9) Practice meditation, deep breathing techniques, positive thinking
- 10) Engage in brain exercises like puzzles, chess and other gaming.

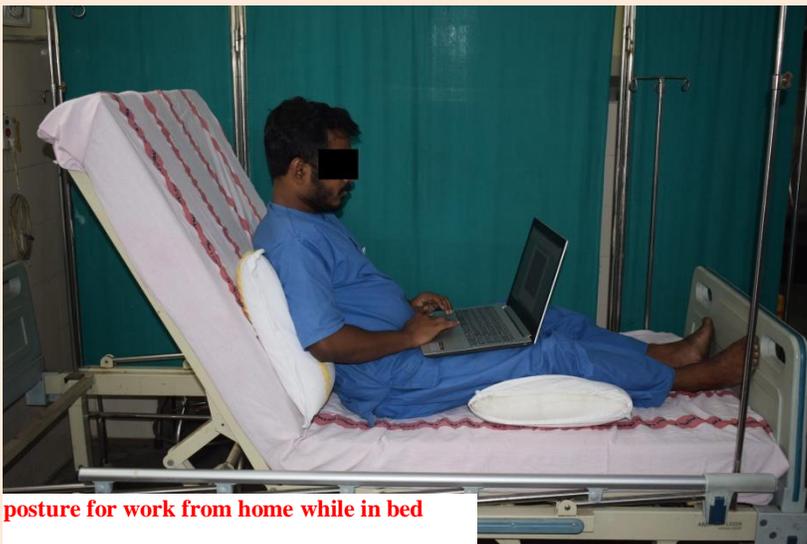
Attention, Memory Problems

Activities to do:

1. Story narration, quiz.
2. Computer games
3. Rehearse
4. Memory games
5. Reminders, to do lists, Flash cards
7. Describing pictures

Activities of Daily Living:

- 1) Decide tasks
- 2) Avoid over exhaustion at task
- 3) Sit down during and in between tasks if tired
- 4) Do light tasks between heavier ones
- 5) Take Help if needed
- 7) Manage gradual return to work
- 8) Get support for childcare, and return to hobbies slowly



posture for work from home while in bed



1) Toileting:

- Keep bucket/mug/toilet paper within reach
- Wear loose elastic clothing
- Bedside commode or urinal may be used

2) Bathing:

- Keep things required within reach
- Use of chair or stool, hand held shower

3) Dressing:

- Layout clothes required
- Comfortable snugly fitting clothes
- Dress lower body first without forward bending

4) Grooming:

- Organize items within your reach
- Sit in a chair/stool or lean forward supporting yourself on your elbows on the sink or table if possible

5) Meal preparation:

- Plan simple meals
- Use minimum utensils
- Assemble ingredients at a place
- Slide items instead of lifting
- Soak utensils before scrubbing and let them dry in open

NUTRITION

- 1) Follow a simple, affordable, balanced and locally available diet
- 2) Include fresh fruits, green leafy vegetables
- 3) Consume more proteins over carbs/fats
- 4) Avoid excess salt and oily foods
- 5) Drink plenty of water
- 6) Avoid consumption of junk food/ street food
- 7) Stick to the diet which was advised for medical reasons prior to COVID infection



REFERENCES

- 1.WHO Europe Support for rehabilitation self management after covid 19 related illness 2020 booklet.
- 2.Pulmonary Rehabilitation: the obstructive and paralytic condition.Hanley & Belfus, INC./Philadelphia. by John R. Bach.
- 3.Murray, T., Carrau, R.L., Chan, K. (2018). Clinical Management of Swallowing Disorders. Boston: Plural Publication. 4th edn.
4. Therapeutic Exercises foundation and techniques 5th edition by Carolyn Kisner.
- 5.Cash's text book of chest, heart and vascular disorders for Physiotherapist 4th edition by Patricia Downie.
- 6.Physical Rehabilitation. 7th edition by Susan B. O'Sullivan.

**CONTACT US FOR ANY
QUERY**

(9AM-5PM)

MOBILE NO.

9546992688

VISIT OUR OPD.

DEPARTMENT OF PMR,

PMR BUILDING

(BEHIND OPD BLOCK)

AIIMS, PATNA,

PHULWARISHARIF, BIHAR,

PIN : 801507