

Bouncing Back From COVID-19

Your Guide to Restoring Movement



JOHNS HOPKINS
MEDICINE

Rehabilitation Network

The Impact of COVID-19 on Recovery and Rehabilitation

As COVID-19 attacks the body and mind — our rehabilitation efforts aim to restore the whole person, helping you return to your previous quality of life.

Common impairments of COVID-19 include weakness, fatigue and shortness of breath with activity, and difficulty with walking and performing daily tasks. When you experience these physical impairments, it can lead to stress, which negatively affects the mind. Fear and depression can both impact the health of the body.

Early intervention through exercise and activity aimed at treating the whole person will play an important role in the recovery process and can be started at home during self-isolation.

The Solution: Start Moving

Movement heals the body and is a way to restore the mind and soothe emotions. By engaging in movements that the human body is already used to, we can begin the process of recovery and healing with exercises and movements.

There are five layers of human movement that repair and optimize the whole person's health in body and mind.

The Five Layers of Human Movement Are:



Breathe Deep

Breathe deeply, filling the lungs up from the bottom to the top



Turn On Vestibular System

The vestibular system controls balance and sensory input from the body and is turned on by moving our head and eyes



Cross Your Body

Engage in crossbody patterns such as crawling, marching or walking



Build Strength

Increase muscle strength

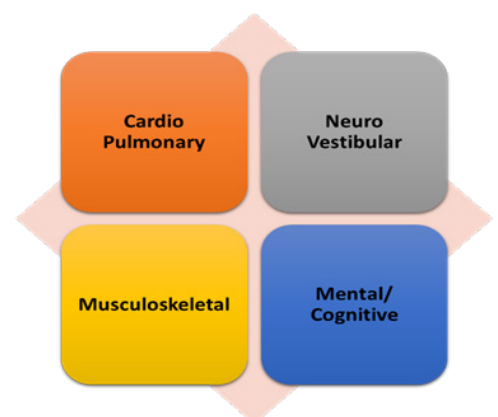


Gain Endurance

Increase tolerance for physical activity and movement

Our movement patterns develop during childhood and throughout our lifetime. Movement patterns depend on the body systems to work well. Exercises that strengthen the entire person will help the body to repair and recover. The exercises address these body systems:

- Cardiopulmonary (heart and lungs)
- Neuro-vestibular (balance and coordination)
- Musculoskeletal (muscles and joints)
- Mental/cognitive (brain and thinking)



The Method: 3 Phases of Rehabilitation

The following phased rehabilitation program is targeted at one purpose — to help you return to your way of life and enjoy full health. The program consists of three exercise phases that are simple to complete. The phases contain exercises that address your current level of activity and the layers of movement. In other words, you can start where you are in any of these phases:









Beginning Phase



Building Phase



Being Phase

	 Beginning Phase	 Building Phase	 Being Phase
 Breathe Deep	<ul style="list-style-type: none"> • Deep breathing: on back and on stomach • Humming or singing 	<ul style="list-style-type: none"> • Deep breathing: sitting and standing 	<ul style="list-style-type: none"> • Deep breathing: standing and throughout all activities
 Turn On Vestibular System	<ul style="list-style-type: none"> • Eye nods: sitting and looking up and down, right and left • Bed rolling 	<ul style="list-style-type: none"> • Head nods: sitting • Head rotations: sitting • Rocking in chair • Rocking to stand 	<ul style="list-style-type: none"> • Rocking on hands and knees • Windshield wipers
 Cross Your Body	<ul style="list-style-type: none"> • Cross-crawl touches in bed 	<ul style="list-style-type: none"> • Seated cross-crawl touches/marches 	<ul style="list-style-type: none"> • Bird dog • Standing cross-crawl touches
 Build Strength	<ul style="list-style-type: none"> • Yawn to smile 	<ul style="list-style-type: none"> • Bicep curls with weights with deep breathing • Shoulder elevation/ bilateral shoulder presses with breathing 	<ul style="list-style-type: none"> • Standing heel raise: hold on counter, integrate arms reaching overhead when on toes • Mini squats at counter with breathing • Wall push-ups
 Gain Endurance	<ul style="list-style-type: none"> • Cardio: 5 min. 	<ul style="list-style-type: none"> • Cardio: 10 min. 	<ul style="list-style-type: none"> • Cardio: 30-45 min.



PRECAUTIONS

Do not begin exercises if:

- You have a fever
- You have any shortness of breath or difficulty breathing while resting
- You have any chest pain or palpitations (“fluttering” of heart in chest)
- You have new swelling in your legs

STOP exercise immediately if you develop any of the following symptoms:

- Dizziness
- Shortness of breath more than normal
- Chest pain
- Cool, clammy skin
- Excessive fatigue
- Irregular heartbeat

Seek medical help immediately for chest pain, shortness of breath and dizziness that does not resolve with rest or any change in mental status from your normal capacity.



BEGINNING PHASE



Breathe Deep

3 Minutes Total

**1
Minute**

Deep Breathing While On Your Back

Deep breathing restores lung function by using the diaphragm. Breathing through the nose strengthens the diaphragm and encourages the nervous system to operate in a mode of restoration and relaxation.

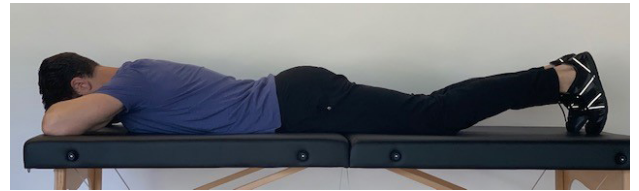
- Lie on your back, bend your knees so that the bottom of your feet are resting on the bed.
- Place your hands on top of your stomach or wrap them around the sides of your stomach.
- Close your lips and place your tongue on the roof of your mouth.
- Breathe in through the nose and pull air down into your stomach where your hands are. Try to spread your fingers apart with your breath.
- Slowly exhale your breath through the nose.
- Repeat deep breaths for one minute.



**1
Minute**

Deep Breathing While on Stomach

- Lie on your stomach and rest your head on your hands to allow room for yourself to breathe.
- Close your lips and place your tongue on the roof of your mouth.
- Breathe in through your nose and pull air down into your stomach. Try to focus on your stomach pushing into the mattress as you breathe.
- Slowly exhale breath through the nose, repeating deep breaths for one minute.



**1
Minute**

Humming or Singing

Humming is also calming and soothing, it reduces stress and can help one recover.

- Sit upright on the edge of your bed or in a sturdy chair.
- Place your hands around the sides of your stomach.
- With your lips closed and your tongue on the roof of your mouth, breathe in through your nose and pull air down into your stomach where your hands are. Try to spread your fingers apart with your breath.
- Once your lungs are full, keep your lips closed and exhale while humming, making the “Hmmmmmm” sound. Notice how your hands lower back down.
- Inhale through your nose, and then exhale through your nose while humming.
- Repeat for one minute.



Turn on Vestibular System

3 Minutes Total

**30
Seconds**

Eye Nods Up and Down While Sitting

- Sit upright on the edge of your bed or in a sturdy chair.
- Move your gaze up and then down, keeping your head still.
- Repeat for 30 seconds.



**30
Seconds**

Eye Nods Right and Left While Sitting

- Sit upright on the edge of your bed or in a sturdy chair.
- Move your gaze left to right, keeping your head still.
- Repeat for 30 seconds.



2 Minutes

Bed Rolling

This creates a gentle rotation in the thoracic and cervical spine, opens the rib cage and frees up shoulder mobility.

- Lie on your back in a comfortable position.
- Look to the right with your eyes.
- Rotate your head to the right.
- Roll your body to the right so that you are on your side.
- Take a deliberate breath or two.
- Look to the left with your eyes.
- Rotate your head to the left.
- Roll your body to the left until you end up on your left side.
- Take a deliberate breath or two before rolling to the right again.
- First the eyes, then the head, then the body.
- Roll from side to side at a relaxed pace for two minutes.



Cross Your Body

1 Minute Total

1 Minute

Cross-Crawl Touches Laying Down

- Lay down on a firm surface and support your head if needed.
- Start with your arm at your side, or if able, you can start with your arms overhead.
- Take your right hand and touch your left thigh. If able, lift your left thigh up to meet your right hand.
- Release the touch and return your right hand overhead.
- Take your left hand and touch your right thigh. If able, lift your right thigh up to meet your left hand.
- Release the touch and return to your start position.
- Work these touches back and forth, from side to side, for one minute.



Strength Building

1 Minute Total

1 Minute

Yawn to Smile

- Sit upright on the edge of your bed or in a sturdy chair.
- Reach your arms overhead and create a big stretching yawn.
- Finish by smiling for three seconds.
- Repeat for one minute.





Gain Endurance

5 Minutes Total

5
Minutes

Endurance Activities

- For five minutes, walk at a pace where you can speak in full sentences.
- **The goal is to walk for five minutes without stopping.** Initially, you may need to take breaks as needed until you can walk five minutes continuously. If walking is too difficult, try performing some light marching in place, holding onto a counter for support if needed.
- Walk 3-5 times per day



BUILDING PHASE



Breathe Deep

2 Minutes Total

1
Minute

Deep Breathing While Sitting

- Sit upright on the edge of your bed or in a sturdy chair.
- Place your hands around the sides of your stomach.
- Close your lips and place your tongue on roof of your mouth.
- Breathe in through your nose and pull air down into your stomach where your hands are. Try to spread your fingers apart with your breath.
- Slowly exhale your breath through the nose.
- Repeat deep breaths for one minute.



1
Minute

Deep Breathing While Standing

- Stand upright and place your hands around the sides of your stomach.
- Close your lips and place your tongue on roof of your mouth.
- Breathe in through your nose and pull air down into your stomach where your hands are. Try to spread your fingers apart with your breath.
- Slowly exhale your breath through the nose.
- Repeat deep breaths for one minute.





Turn on Vestibular System

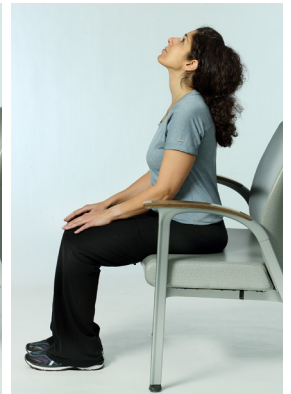
3 Minutes Total

30
Seconds

Head Nods: Looking Up and Down While Sitting

This strengthens the body from the center.

- Sit upright on the edge of your bed or in a sturdy chair.
- Close your lips and place your tongue on the roof of your mouth.
- Inhale through your nose and look up with your eyes, then lift your head up as far as you comfortably can.
- As you exhale through your nose, look down with your eyes and lower your chin towards your chest.
- Try to match the movement of your eyes and head to the rhythm of your breath, nodding your head up as you inhale and lowering your head down as you exhale. This should be a relaxed, easy breath.
- Repeat for 30 seconds.

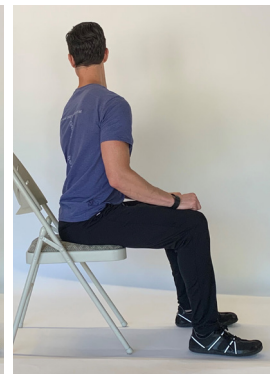


30
Seconds

Head Nods: Looking Left and Right While Sitting

This engages the core and neck muscles.

- Sit upright on the edge of your bed or in a sturdy chair.
- Close your lips and place your tongue on the roof of your mouth.
- Look to the right with your eyes and rotate your head to the right as if to look behind your right shoulder.
- Look to the left with your eyes and rotate your head to the left as if to look behind your left shoulder.
- Rotate your head as far as your neck will comfortably allow without causing pain.
- Repeat for 30 seconds.

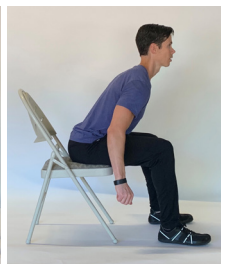


1
Minute

Rocking in Chair While Sitting

This turns on the vestibular system and creates a strong, reflexive relationship between the core and neck muscles. Rocking also calms and soothes emotions, it can help a person enter a mode of restoration and relaxation or bring them out of panic mode.

- Sit upright on the edge of your bed or in a sturdy chair.
- Fix your gaze on an object directly in front of you and level with your eyes.
- Keeping your gaze fixed and your head level with the horizon, inhale and lean back in your chair.
- Exhale and lean forward towards the object.
- Inhale as you lean back, exhale as you rock forward.
- You are essentially rocking back and forth while your eyes stay fixed on an object straight in front of you.
- Repeat for one minute.



1 Minute

Rocking to Stand

This develops overall coordination in the body as it strengthens the legs.

- Sit upright on the edge of your bed or in a sturdy chair.
- Fix your gaze on an object directly in front of you and level with your eyes.
- Keeping your gaze fixed and your head level with the horizon, inhale and lean back in your chair.
- Exhale and lean forward and stand up.
- Sit back down.
- Inhale, lean back.
- Exhale, lean forward and stand.
- Repeat for one minute.



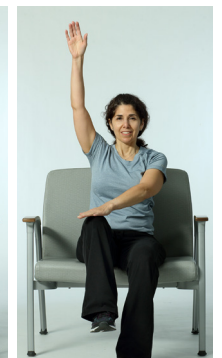
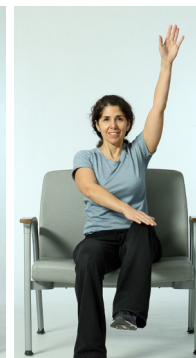
Cross Your Body

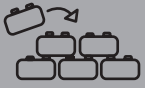
1 Minute Total

1 Minute

Seated Cross-Crawl Touches

- Sit upright on the edge of your bed or in a sturdy chair.
- Reach your arms up overhead.
- Take your right hand and touch your left thigh. If able, lift your left thigh up to meet your right hand.
- Release the touch and return your right hand overhead.
- Take your left hand and touch your right thigh. If able, lift your right thigh up to meet your left hand.
- Release the touch and return your left hand overhead.
- Work these touches back and forth, from side to side.
- Repeat for one minute.





Strength Building

2 Minutes Total

1
Minute

Breathing Bicep Curls

- Grab two cans of soup, water bottles or 1-2 pound dumbbells.
- Sit upright on the edge of your bed or in a sturdy chair.
- Hold your cans by your sides with your elbows straight.
- Inhale through your nose and try to pull air down into your stomach.
- As you exhale through pursed lips, curl the cans up towards your shoulders.
- Once the cans are as high as you can curl them, slowly lower the cans as you inhale through your nose.
- Try to match your breath with the motion of your arms.
- Exhale as you curl up, inhale as you lower the arms down.
- Repeat for one minute.



1
Minute

Breathing Shoulder Press

- Start without any weight, but if this is too easy, hold water bottles or two 1-2 pound dumbbells.
- Sit upright on the edge of your bed or in a sturdy chair.
- If using cans or weights, hold them level to shoulders.
- Close your lips and place your tongue on the roof of your mouth.
- Inhale through your nose and pull air down into your stomach.
- As you exhale through pursed lips, press the cans straight up overhead.
- Once the cans are overhead, slowly lower the cans back down as you inhale through the nose.
- Try to match your breath with the motion of your arms.
- Exhale as you press up, inhale as you lower the cans down.
- Repeat for one minute.



Gain Endurance

10 Minutes Total

10
Minutes

Endurance Activities

- For 10 minutes, walk at a pace where you can speak in full sentences.
- **The goal is to walk for 10 minutes without stopping.** Initially, you may need to take breaks as needed until you can walk 10 minutes continuously.
- Walk 2-3 times per day.



BEING PHASE



Breathe Deep

1 Minute Total

1
Minute

Deep Breathing While Standing

- Stand upright and place your hands around the sides of your stomach.
- Close your lips and place your tongue on roof of your mouth.
- Breathe in through your nose, pulling air down into your stomach where your hands are. Try to spread your fingers apart with your breath.
- Slowly exhale breath through nose.
- Repeat deep breaths for one minute.



Turn on Vestibular System

3 Minutes Total

2
Minutes

Rocking On Hands and Knees

This activates the vestibular system, restores the reflexive posture of the spine and integrates all major moving joints of the body through coordinating rhythmic movement. Rocking also soothes the emotions and helps one enter a mode of restoration and relaxation.

- Get on your hands and knees (this can be done on a bed).
- Hold your head up and fix your gaze on the horizon.
- Close your lips, place your tongue on the roof of your mouth, and breathe through your nose.
- While keeping a “proud chest” rock back towards your feet. Rock back as far as you comfortably can without dropping your head or rounding your back.
- Then rock forward until your weight is back over your hands.
- Rock back and forth at a relaxed pace for two minutes.



1 Minute

Windshield Wipers

Windshield wipers are a form of rolling. They create a gentle rotation in the thoracic and cervical spine. This motion opens the rib cage and frees up shoulder mobility.

- Lie on your back and place your arms perpendicular to your body.
- Close your lips and place your tongue on the roof of your mouth, and breathe through your nose.
- Bend your knees and pull your knees up towards your chest (your feet will be in the air).
- Look to the right with your eyes and head and then rotate your legs over to the right. Try to keep your shoulder blades on the floor.
- Look back to the left with your eyes and your head and then rotate your legs over to the left. Keep your knees pulled up towards your chest as you rotate your legs over.
- Work this motion from side to side at a relaxed pace for one minute.



Cross Your Body

2 Minutes Total

1 Minute

Bird Dog

This coordinates opposing limbs to move together. Crossbody patterns strengthen the entire nervous system and tie the body together by creating a reflexively strong center.

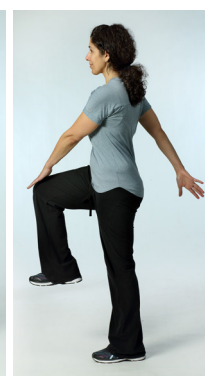
- Get on your hands and knees (this can be done on a bed).
- Hold your head up and fix your gaze on the horizon.
- Close your lips, place your tongue on the roof of your mouth, and breathe through your nose.
- While keeping a “proud chest” lift your right arm and your left leg up and apart from each other. Then lower them down together.
- Lift your left arm and your right leg up and apart from each other. Then lower them down together.
- Work this back and forth, from side to side, at a relaxed pace for one minute.

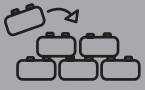


1 Minute

Standing Cross-Crawl Touches

- Stand up straight.
- Close your lips, place your tongue on the roof of your mouth, and breathe through your nose.
- If able, lift your left knee up and touch it with your right hand, and then lift right knee up and touch it with your left hand. If you have the mobility, touch your right elbow to your left knee and your left elbow to your right knee.
- Work this slowly from side to side, touching opposite limbs together, for one minute.





Strength Building

3 Minutes Total

1
Minute

Standing Heel Raise

- Stand up straight and place your hands on a countertop for balance.
- Close your lips and place your tongue on the roof of your mouth.
- Breathe in through your nose and lift your heels off the ground (stand on your toes).
- Exhale through your nose and lower your heels back down to the ground.
- Try to match your breath with the motion of your feet. Exhale as your heels lift up, inhale as your heels lower down.
- If you have the balance and ability, let go of the countertop and lift your arms overhead as you lift your heels off the ground and lower arms as your heels come back down to the ground.
- Do this for one minute at a relaxed pace.



1
Minute

Breathing Mini-Squats

- Stand up straight and place your hands on a countertop for balance and support.
- Close your lips and place your tongue on the roof of your mouth.
- Breathe in through your nose and try to pull air down into your stomach.
- Exhale through your nose and squat down to a comfortable level. Keep your heels down and keep your knees behind your toes as you lower down.
- Slowly stand back up and inhale through your nose. Squeeze your buttock muscles as you stand up.
- Try to match your breath with the motion of your squat. Exhale as you squat down, inhale as you stand up.
- Repeat for one minute.



1
Minute

Wall Push-ups

- Stand about three feet away from a wall and face the wall.
- Place your feet shoulder-width apart.
- Lean forward, placing your hands on the wall, shoulder-width apart.
- Close your lips and place your tongue on the roof of your mouth.
- Breathe in through your nose and, bending your elbows, lower your chest towards the wall.
- Exhale through your nose and push your body away from the wall.
- Try to match your breath with the motion of your push-up. Inhale as you lower yourself to the wall, exhale as you push yourself away from the wall.
- Repeat for one minute.





Gain Endurance

30-45 Minutes Total

30-45
Minutes

Endurance Activities

- For 30-45 minutes, walk at a pace where you can speak in full sentences.
- **The goal is to walk at least 30 minutes without stopping.** Initially, you may need to take breaks as needed until you can walk at least 30 minutes continuously.
- Start by walking on flat surfaces. As you progress and gain endurance, try challenging yourself by walking on hills and inclines.
- Walk five times per week.

Need more help recovering from COVID-19?

Whether a new or existing Johns Hopkins patient, you have the option to have a video appointment (telemedicine) with a Johns Hopkins Rehabilitation Network provider. If you do not have a referral for care, that is okay. Our outpatient clinics are open and our providers are ready to help you. After a telemedicine evaluation, our providers will determine whether an in-person visit is needed or if appointments can continue by video or phone.

To learn more about telemedicine, visit hopkinsmedicine.org/telemedicine.



To learn more about the Johns Hopkins Rehabilitation Network, please visit hopkinsmedicine.org/pmr

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Contributing Authors

Jennifer Zanni, PT, DScPT

Board Certified Specialist in Cardiovascular and Pulmonary Physical Therapy, Johns Hopkins Rehabilitation Network

Peiting Lien, PT, DPT

Board Certified Specialist in Neurological Physical Therapy, Johns Hopkins Rehabilitation Network

Ken Johnson, PT

Director of Outpatient Rehabilitation Therapy Services, Johns Hopkins Rehabilitation Network

Raghukul Pandey,

Senior Research Officer, Johns Hopkins Bloomberg School of Public Health

Tim Anderson

Author and Co-Founder, Original Strength Systems, LLC

Dani Almeyda, MS

Author and Education Director, Original Strength Systems, LLC



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