

EXERCISES FOR PEOPLE WITH BREATHING DISORDERS

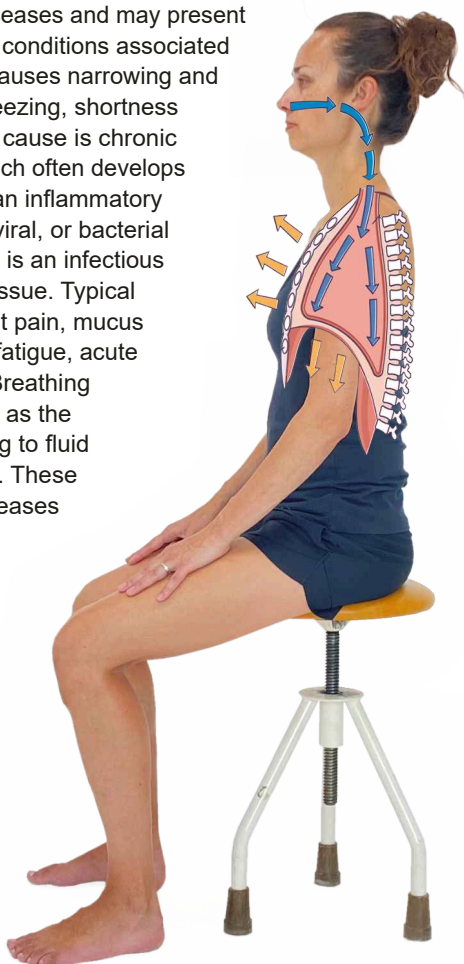


USING THE DYNAMIC NEUROMUSCULAR STABILIZATION METHODOLOGY

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Breathing disorders can occur in various diseases and may present in different ways. One of the most common conditions associated with breathing problems is asthma, which causes narrowing and inflammation of the airways, leading to wheezing, shortness of breath, and coughing. Another common cause is chronic obstructive pulmonary disease (COPD), which often develops in long-term smokers, or acute bronchitis, an inflammatory condition of the bronchi caused by a cold, viral, or bacterial infection. Pneumonia, or lung inflammation, is an infectious disease that causes inflammation of lung tissue. Typical symptoms of these conditions include chest pain, mucus production, coughing, shortness of breath, fatigue, acute infections, fever or elevated temperature. Breathing problems can also result from heart failure, as the heart cannot pump blood effectively, leading to fluid buildup in the lungs and difficulty breathing. These are just a few examples of how various diseases can affect breathing, with symptoms and severity varying depending on the individual's condition, underlying diagnosis, and associated diseases.



REHABILITATION
PRAGUE SCHOOL



In recent years, we have frequently encountered breathing disorders in patients who have had a COVID-19 infection. This disease, caused by the SARS-CoV-2 coronavirus, can present with various symptoms, including breathing difficulties. The main symptoms include:

- **Cough:** A common symptom is a dry cough, which can be chronic and persist even after the illness has passed or fluctuates.
- **Shortness of breath:** This symptom can appear even in patients with mild cases of the disease, but it is particularly significant in more severe cases. Patients describe shortness of breath as "difficulty breathing" or feeling "out of breath." The rate of breathing may increase and become shallower (the patient cannot take a deep breath) and more laborious.
- **Chest pain:** Some patients with COVID-19 report a sensation of pressure or pain in the chest.

COVID-19 can be complicated by serious conditions such as:

- **Pneumonia:** In COVID-19 patients, pneumonia is often bilateral, affecting both lungs and having long-lasting symptoms. Multiple areas of inflammation develop within the lung tissue. Clinical manifestations of COVID-19 pneumonia include difficulty breathing, shortness of breath, rapid breathing, and chest pain.
- **Acute respiratory distress syndrome (ARDS)** is characterized by severe shortness of breath caused by extensive viral damage to the lung tissue. This damage leads to fluid leakage into the lungs, which results in severe breathing problems. This critical condition often requires respiratory support and intensive care unit (ICU) admission. This complication of the primary illness typically manifests around 8 to 9 days after the onset of COVID-19 symptoms.

COVID-19 can develop into what is known as long COVID-19, where patients suffer from prolonged symptoms, including persistent shortness of breath, fatigue, and other respiratory issues, lasting weeks to months after recovering from the acute phase of the illness.

Respiratory pattern disorders, or disruptions in breathing mechanics, are also observed in people with a stiff chest and neurological diseases where the inspiratory and expiratory muscles are weakened. Rheumatic diseases, osteoporosis, spinal deformities such as scoliosis or hyperkyphosis, certain lung diseases like pulmonary fibrosis or pleural diseases, and obesity can also cause increased chest stiffness and limited mobility of the chest wall.

For all of the conditions mentioned above, rehabilitation is indicated, including therapy and exercises aimed at improving breathing mechanics and correcting the breathing pattern, as well as respiratory physiotherapy. These techniques help clear the airways, increase lung volumes, improve inspiratory and expiratory strength, and support the healing of lung tissue. Aerobic physical activity, aimed at improving and maintaining adequate physical fitness, also plays an important role. The intensity and forms of exercise must correspond to the patient's condition, type, and stage of their disease.

Various techniques and tools can be used in respiratory physiotherapy. Appropriate methods and tools are selected for each patient based on a thorough clinical examination. Clinical tests help assess the patient's condition and are also used to monitor the effectiveness of rehabilitation therapy.

Common tests include:

1. **Spirometry:** Measures the volume and speed of exhaled air. This test can monitor lung function and assess the effectiveness of rehabilitation exercises on the respiratory muscles.
2. **Six-Minute Walk Test:** This test evaluates the patient's aerobic capacity and physical endurance. The patient is asked to walk as far as possible in six minutes. It is useful for monitoring overall functional capacity and endurance.
3. **Peak Flow Meter:** This meter measures the maximum speed at which the patient can exhale. This simple test can be performed regularly at home using a peak flow meter (also known as an exhalation meter) to monitor daily variability in lung function.
4. **Pulse Oximetry:** Measures oxygen saturation in the blood, providing quick information on how efficiently oxygen is being transferred from the lungs into the bloodstream.
5. **Respiratory Muscle Strength Tests:** Determine maximum inspiratory and expiratory pressures, assessing the strength of the respiratory muscles.
6. **Exercise Tests with Cardiorespiratory Monitoring:** These include bicycle ergometry or treadmill tests, which monitor heart and respiratory functions to evaluate physical exertion tolerance and the effectiveness of the rehabilitation program. Nowadays, simple cardiorespiratory monitoring can be done with smartwatches, fitness trackers, and various mobile apps.

In addition to pulmonary function tests, we clinically examine the breathing pattern, which refers to how the patient inhales and exhales, how well they can control their breathing voluntarily and modify the pattern, their posture during breathing, and how they can adjust both posture and breathing based on the therapist's instructions.

Breathing is a process carried out by striated muscles, which are muscles we can control voluntarily. It is a rhythmic cycle of inhalation and exhalation with short pauses. Breathing is regulated by the respiratory center in the brainstem, which automatically adjusts the frequency and depth of breathing according to the body's needs. The resting breathing rate in a healthy adult ranges from 12 to 20 cycles per minute. Over the course of a day, a person takes approximately 17,000 to 28,000 breaths. Various factors influence breathing frequency, including physical activity, health conditions, age, and emotions. Even though breathing is an essential and constant process, it is relatively energy-efficient. The total energy cost of breathing accounts for about 5% of the body's overall oxygen consumption. During restful breathing, muscle activity is more pronounced during inhalation, when the diaphragm and intercostal muscles require energy to expand the chest. Resting exhalation is mostly a passive process with minimal energy expenditure.

The mechanical process of breathing – inhale and exhale – is managed by respiratory muscles. We distinguish between inspiratory (inhalation) and expiratory (exhalation) muscles. The primary muscle for inhalation is the diaphragm, a flat muscle that separates the chest and abdominal cavities. The diaphragm comprises two dome-shaped parts connected by connective tissue, through which large blood vessels, nerves, and the esophagus pass. During inhalation, the diaphragm contracts and flattens. This movement increases the volume of the chest cavity, causing a drop in pressure inside the lungs compared to atmospheric pressure, resulting in air flowing into the lungs. Simultaneously, the contents of the abdominal cavity are compressed, increasing intra-abdominal pressure. During restful exhalation, the diaphragm relaxes and returns to its original dome shape, pushing air out of the lungs. There is also a slight decrease in intra-abdominal pressure.

Breathing directly influences spinal stability due to its impact on intra-abdominal pressure. The diaphragm's activity also affects pressure in the lower part of the esophagus, serving a sphincter function. The breathing, stabilizing, and sphincter functions are interconnected through diaphragm activation and influence each other. When breathing is impaired, it often leads to disruptions in trunk stability and reflux, where acidic stomach contents leak into the esophagus, manifesting primarily as heartburn.

Other primary inspiratory muscles include the external intercostal muscles (musculi intercostales externi). During increased breathing demands, such as vigorous physical activity, neck and other chest and back muscles assist with inhalation. These are referred to as accessory inspiratory muscles. Accessory respiratory muscles are often overused and strained when the breathing pattern is disturbed, which can manifest as musculoskeletal pain and postural issues. Exhalation is mainly passive, aided by the internal intercostal muscles (musculi intercostales interni). For instance, when exhalation needs to be strengthened, abdominal and back muscles are activated during coughing.

The next part of this brochure describes therapeutic procedures (or self-therapy, i.e., methods for how patients can treat themselves) and exercises aimed at improving breathing patterns and respiratory parameters.

PRINCIPLES OF AUTOTHERAPY

1. Exercise in a calm environment.
2. Wear comfortable clothing during the exercises.
3. Exercise in a non-irritating (non-painful) position.
4. Be fully aware of the targeted body area and the specific goal of the exercise.
5. Exercise slowly.
6. Exercise regularly.
7. Always maintain regular breathing during the exercises.

8. Respect your body – listen to it. If you experience discomfort or pain, stop the exercise, adjust your starting position according to the instructions, and then attempt the exercise again to achieve the desired effect.
9. Choose exercises individually, but it is recommended to follow the described set for maximum benefit.
10. Special respiratory therapy tools should be used after proper training by a therapist.

PREPARATION OF SOFT TISSUE

Before beginning exercises, it is essential to relax the soft tissues, such as the skin, subcutaneous tissue, and the fascia surrounding muscles and influencing muscle activity. Soft tissues must be flexible enough to allow full-range movement. Specific manual techniques and self-mobilization exercises are used to maximize the effect of exercise.

Soft tissue release techniques are particularly important for individuals with long-standing respiratory problems. These people often have fixed incorrect chest postures (e.g., a so-called barrel chest), which soft tissues adapt to by shortening. Exercises aim to change the mechanics of breathing and optimize the position of the chest and spine. Soft tissues must adapt to prevent pulling the chest back into its previous incorrect position (a common issue is the chest being lifted toward the ears).

When working with different structures of the musculoskeletal system, various manipulations of different durations and pressures are applied to target specific tissues or structures.

The skin and subcutaneous tissue are the most superficial layers, followed by the fascia, which encases the muscles. Underneath them are the muscles themselves, which attach to bones via tendons.

Upon initial contact with the skin, areas of tension may show differences in temperature, skin texture, and tissue mobility. This affects muscle tension and consequently alters the load on the joints and skeletal system. Therapy focuses on areas with limited mobility, adjusting the direction of applied force to restore full mobility of the soft tissues.

This restriction in mobility is referred to as a barrier – the point where the tissue resists further movement. After applying constant pressure for some time, you may feel the tissue begin to release and allow more movement – this is known as the melting phenomenon, a sign that tension is being released.

Because of the body's interconnectedness (through muscle spasms, joint blockages, and altered soft tissue mobility), dysfunctions can spread to functionally related, often distant areas of the musculoskeletal system. Therefore, working on soft tissue function has a significant effect and is an essential preparation before active exercises to re-educate the breathing pattern.

STARTING POSITION – SITTING



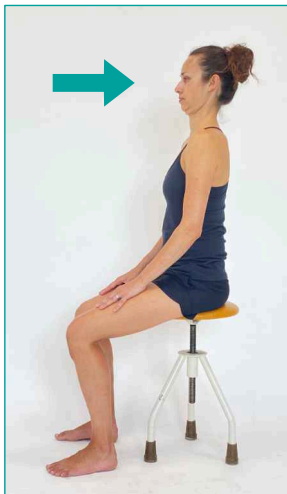
- A stable chair of adequate height, with hips higher than knees.
- Symmetrical weight distribution on the right and left hips.
- Knees and feet are shoulder-width apart.
- Ankles are slightly behind the knees.
- Feet are in contact with the floor.
- Head, chest, and pelvis are aligned horizontally above each other.



A stable sitting position enables proper activation of the respiratory muscles, especially the diaphragm, and helps to balance the activation of all trunk muscles.

SETTING KEY SEGMENTS: HEAD, CHEST, PELVIS

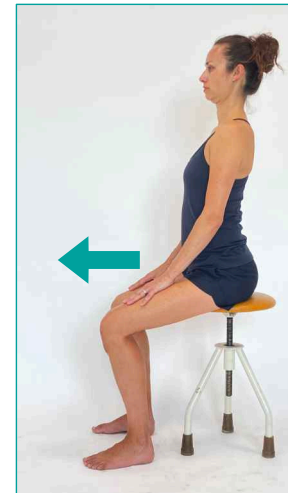
Head Positioning – Move the head as far forward and backward as possible, then try to align the head to the neutral, centered position.



Correct Chest Positioning – Move the chest as far forward and backward as possible. Afterward, try to bring the chest to a neutral, centered position.



Correct Pelvic Positioning – Tilt the pelvis forward and then backward. Afterward, try to bring the pelvis to a neutral, centered position.



RELEASING SOFT TISSUES OF THE NECK AND CHEST

The starting position is a correct seated posture with an upright spine. The head, chest, and pelvis are aligned horizontally above each other.

Releasing Tissues on the Right Side of the Chest



- Place both palms on the front part of the right side of the chest and gently pull diagonally downward.
- Apply pressure using the entire surface of your palms.
- Maintain the pressure for at least 20 seconds.
- You can tilt your head back and look upward to the left for a greater stretching effect.



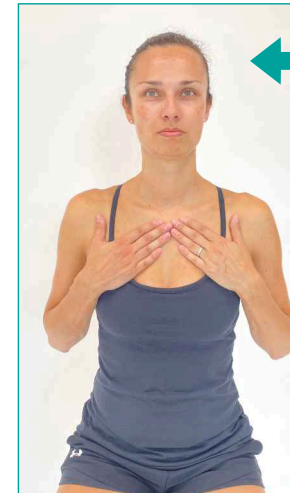
Releasing Tissues on the Left Side of the Chest



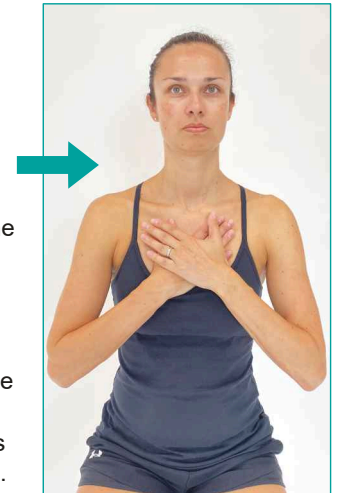
- Place both palms on the front part of the left side of the chest and gently pull diagonally downward.
- Apply pressure using the entire surface of your palms.
- Maintain the pressure for at least 20 seconds.
- You can tilt your head back and look upward to the right for a greater stretching effect.



Releasing Tissues on the Front of the Chest



- Place both palms on the front part of the chest near the sternum and gently pull diagonally downward.
- Alternatively, place one palm on top of the other on the sternum and then apply pressure diagonally downward.
- Apply steady pressure using the entire surface of your palms for about 20 seconds.



PREPARING JOINT CONNECTIONS

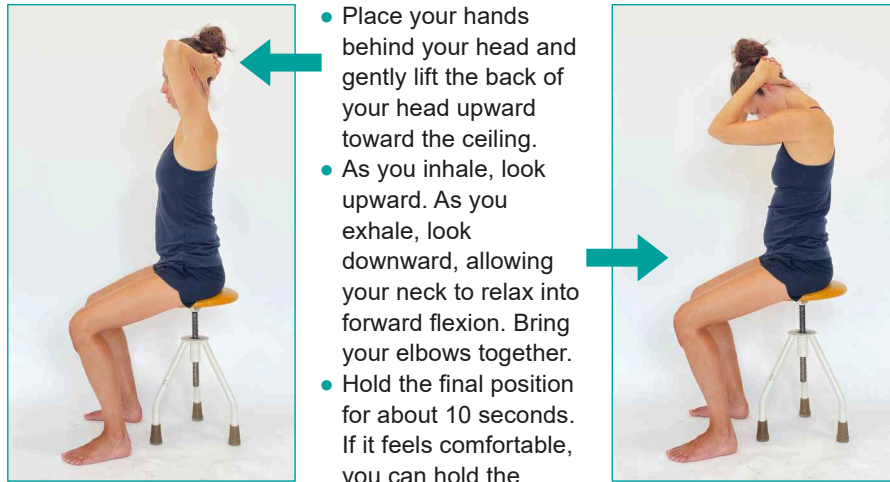
Just as with soft tissue release, joint mobilization can enhance the effectiveness of active exercises by improving the overall impact of therapy. Joints should facilitate the proper transmission of mechanical forces between nearby bones and distant segments. When forces are transmitted optimally, the joint apparatus, bones, cartilage, ligaments, and tendons are all loaded appropriately. This also ensures proper muscle function, allowing them to work efficiently and economically while maintaining a full range of motion.

SPINAL SELF-MOBILIZATION EXERCISES

The starting position is a seated posture following all the previously mentioned parameters:

- A stable chair.
- The chair should be of the appropriate size and height.
- Neutral positioning of key segments: head, chest, and pelvis.
- Repeat each exercise 3-5 times.

Upper Cervical Spine Mobilization into Forward Flexion

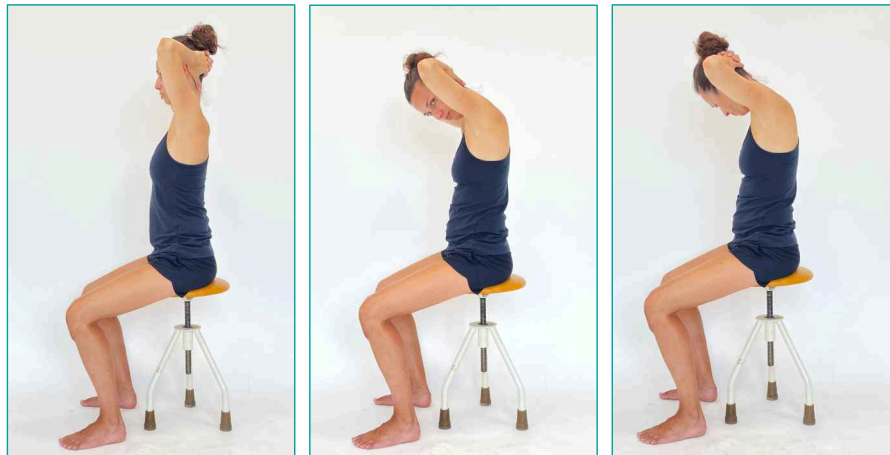


- Place your hands behind your head and gently lift the back of your head upward toward the ceiling.
- As you inhale, look upward. As you exhale, look downward, allowing your neck to relax into forward flexion. Bring your elbows together.
- Hold the final position for about 10 seconds. If it feels comfortable, you can hold the

position longer while breathing normally. Avoid holding your breath.

- The goal is to stretch the back of the neck.

Upper Cervical Spine Mobilization into Rotation



- Start in an upright position with your hands behind your head and elbows apart. Gently bend forward.
- Slowly rotate your head under your hands to one side and then to the other.
- The goal is to stretch the back and sides of the neck and release tension in the upper cervical spine, both on the right and left.
- Breathe naturally throughout the exercise, avoiding breath-holding.
- You can use breathing synergies: During mobilization to the right, inhale while looking to the left and exhale while rotating to the right.

Upper Thoracic Spine Mobilization into Forward Flexion

- Begin by bringing your head and upper chest into a forward bend.
- Wrap your arms around your torso, with your palms gently spreading the back and sides of the rib cage.
- Hold the final position for approximately 10 seconds. You can stay in the position for up to 30 seconds if it feels comfortable.
- The goal is to stretch the back of the upper chest and release tension in the intercostal spaces (between the ribs).
- Breathe naturally throughout the exercise, avoiding holding your breath.
- You can enhance the mobilization by synchronizing breath and gaze: as you inhale, look upward; as you exhale, look downward.



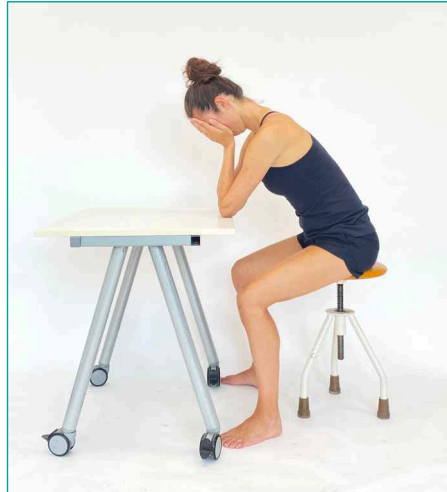
Spinal Mobilization into Rotation

- Place your left hand on your right knee and your right hand behind your body.
- As you inhale, look to the left; as you exhale, rotate and look to the right.
- Hold the final position for approximately 10 seconds. You can stay in the position for up to 30 seconds if it feels comfortable.
- Breathe naturally throughout the exercise, avoiding breath-holding.
- Afterward, switch sides and repeat the exercise on the opposite side.



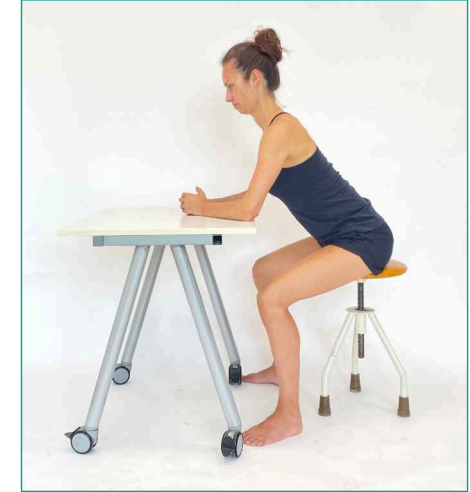
Upper Cervical Spine Mobilization While Seated

- Sit at a stable table.
- Bend forward so your elbows rest on the table, with your palms supporting your forehead.
- Your hips should be evenly supported on the seat, and your head should rest comfortably in your hands.
- Inhale through your nose, filling your entire torso down to your lower abdomen.
- While inhaling, you can look upward with your eyes but avoid lifting your head.
- As you exhale, look downward, allowing your head to lower gently.
- Hold the final position for 10-20 seconds, breathing freely without holding your breath.
- With each repetition, the stretch in the cervical spine may gradually increase.



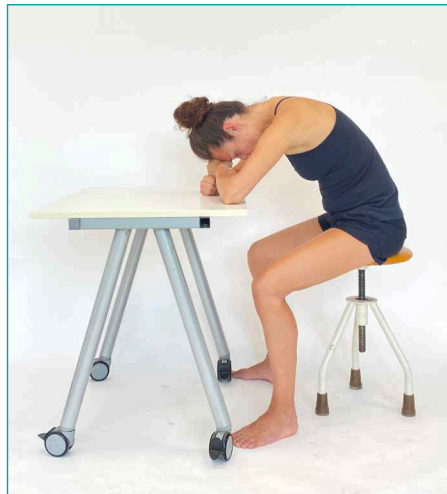
Upper Thoracic Spine Mobilization While Seated

- Sit at a stable table.
- Bend your torso forward so your elbows and forearms rest on the table.
- Ensure your hips are evenly supported on the seat, and keep your head aligned with the spine.
- Inhale through your nose, filling your entire torso down to your lower abdomen.
- As you inhale, look upward with your eyes, but avoid lifting your head.
- As you exhale, gently arch your upper body backward.
- Hold the final position for 10-20 seconds, breathing freely without holding your breath.
- With each repetition, the backward arch of the torso can gradually increase.



Lower Cervical Spine Mobilization While Seated

- Sit at a stable table.
- Bend your torso forward so that your elbows rest on the table, with your hands in fists stacked on top of each other, supporting your forehead.
- Your hips should be evenly supported on the seat, and your head should rest comfortably on your fists.
- Inhale through your nose, filling your entire torso down to your lower abdomen.
- As you inhale, look upward with your eyes (do not lift your head). As you exhale, look downward, allowing your head to lower gently. Hold the final position for 10-20 seconds, breathing freely without holding your breath.
- With each repetition, the stretch in the cervical spine may gradually increase.



Lower Thoracic Spine Mobilization While Seated

- Sit at a stable table.
- Lean your torso forward so that your palms rest on the table.
- Ensure your hips are evenly supported on the seat, and keep your head aligned with the spine.
- Inhale through your nose, filling your entire torso down to your lower abdomen.
- As you inhale, look upward with your eyes, but avoid lifting your head.
- As you exhale, gently arch your lower torso backward.
- Hold the final position for 10-20 seconds, breathing freely without holding your breath.
- With each repetition, the backward arch of the torso can gradually increase.



LOCALIZED BREATHING

The technique of localized breathing helps improve body awareness, allowing us to better target the breath into specific areas of the torso that need it. At the same time, it serves as an indirect technique for mobilizing joint connections in the trunk. The starting position is seated, but the technique can also be performed in other exercise positions, depending on the individual's current condition, fitness level, and tolerance. This will be further explained in the next chapter, titled Stimulation of Optimal Breathing Pattern Based on DNS Methodology.

Upper Chest Breathing



- Place both palms on the part of the rib cage to be stimulated – either on one side or on both sides.
- The palms should be flat and resting on the targeted area.
- The goal is to feel the breath moving into the area under the collarbone, with symmetrical expansion of the upper chest to both the right and left sides with equal intensity.



- Closing your eyes may help you better sense this area of the body.
- The movement under your palms should be forward and upward. Be cautious not to lift the entire chest upwards during inhalation.

Lower Chest Breathing

- Place both palms on the lower part of the rib cage.
- The palms should be flat and resting on the targeted area.
- The goal is to feel the breath moving into the lower chest area.
- Focus on the symmetrical expansion of the lower rib cage during inhalation, as indicated by the arrows in the diagram.



- Remember that the entire rib cage should not lift upwards with the inhale. The area beneath your palms should only expand sideways.

Combination of Upper Chest and Lower Chest Breathing



- Place one palm on the chest just below the collarbone and the other on the lower ribs of the opposite side.
- Both palms should be flat on the targeted areas.
- The goal is to breathe simultaneously into the upper chest (subclavicular area) and the lower chest.
- The area under the upper palm should move slightly forward during inhalation, but the chest should not lift upward.
- The chest wall under the lower palm should expand outward to the side.



- Afterward, switch hands and repeat the exercise on the opposite sides of the chest.

Diaphragmatic Breathing



- Place both palms on the lower part of the abdomen.
- The palms should rest flat on the targeted area.
- The goal is to feel the breath in the lower abdomen.
- Ensure symmetrical expansion of the right and left sides of the lower abdomen.
- The movement in this area should be forward, pressing gently against your palms.
- Be mindful not to let the torso move up and down; it should remain stable during inhalation and exhalation. Keep the shoulders relaxed.



- Place both palms under the ribs, with the thumbs on the lower ribs pointing backward and the fingers pointing forward on the abdomen.
- The palms should rest flat on the stimulated area.
- The goal is to feel the breath expand the entire abdomen – forward, to the sides, and backward.
- Ensure symmetrical expansion of the right and left sides of the abdomen.
- The movement should occur forward, sideways, and backward.
- Be mindful that the torso does not move up and down; it should remain stable during inhalation and exhalation. Keep the shoulders relaxed.



- Place both palms lower on the abdomen, with the thumbs under the ribs pointing backward and the fingers resting on the lower abdomen pointing forward.
- The palms should rest flat on the stimulated area.
- The goal is to breathe into the entire abdomen, particularly the "lower" part, moving it forward, to the sides, and backward (under the thumbs).
- Ensure symmetrical expansion of the right and left sides of the abdomen.
- Remember that the torso does not move up and down; it should remain stable during inhalation and exhalation. Keep the shoulders relaxed.

STIMULATION OF OPTIMAL BREATHING PATTERN BASED ON DNS METHODOLOGY

Dynamic Neuromuscular Stabilization (DNS) uses breathing for functional diagnostics and therapy. The way a person breathes provides information about their ability to activate not only the respiratory muscles but also the muscles involved in trunk stabilization. Trunk stabilization affects the activity and load of the entire musculoskeletal system, thereby influencing the efficiency of movement as a whole. DNS emphasizes practicing the correct breathing pattern in various positions and modifications. The goal is to automatically and spontaneously utilize the correct breathing pattern in the activities of daily living and during leisure activities, including sports.

The exercises described below are based on so-called developmental positions, which are the positions that a healthy child learns during the first months and years of life. These positions form the foundation of spontaneous movement patterns that individuals use throughout their lives.

LYING ON YOUR BACK

- Lie on your back with your legs resting on the mat.
- Keep the head, chest, and pelvis in a neutral position – you may manually adjust the chest into the correct position, as described in the seated posture.
- Breathe regularly and calmly.
- Inhale through your nose, allowing the breath to flow into your chest and then further into your abdomen, where you can feel it under your hands placed on your belly.
- During exhalation, let the abdominal wall relax naturally at first.
- With further repetitions, try to maintain a slight tension in the abdominal wall against your palms during exhalation. Use your fingers, initially placed on the front of the abdominal wall and later on the sides and back of the torso, to check the activation of the abdominal wall during exhalation.





- The starting position and activation of breathing are the same as in the previous exercise.
- Add the movement by lifting one leg.
- Ensure the position of the torso remains stable during the exercise, with attention to maintaining symmetrical weight distribution between the right and left sides of the pelvis.
- Continue to breathe regularly throughout the exercise.
- The abdominal wall should remain engaged, with mild, constant pressure under your fingers. The abdominal wall must not relax during the exercise.
- After completing the movement with one leg, switch to the other leg.



- The starting position and breathing activation are the same as in the previous exercise.
- Lift both legs off the mat, creating approximately a 90-degree angle at the hips, knees, and ankles.
- Ensure the torso remains stable during the exercise and that the weight is distributed symmetrically between the right and left sides of the pelvis.
- Continue to breathe regularly throughout the exercise.
- Keep the abdominal wall engaged, aiming for a constant mild pressure under your fingers. Do not allow the abdomen to fully relax during the exercise.



- Continue to breathe regularly throughout the exercise.
- Keep the abdominal wall engaged, aiming for a constant mild pressure under your fingers. Do not allow the abdomen to fully relax during the exercise.

- The starting position and breathing activation are the same as in the previous exercise.
- Both legs are lifted and supported by a resistance band or yoga strap, which is looped around the hips and feet.
- Press your feet against the strap while simultaneously pressing your pelvis toward the mat.

SIDE-LYING POSITION



- Lie on your side with your head resting on an arm, a pillow, or a block. The lower legs are stacked on each other at a 90-degree angle.
- Keep the head, chest, and pelvis in a neutral position.
- Breathe regularly and calmly.
- Inhale through your nose, allowing the breath to expand into the chest and the abdomen, where your fingers are placed. ①
- During exhalation, allow the abdominal wall to relax naturally at first.
- Gently press the outside of the lower elbow and knee into the mat while noticing the increased pressure of the abdominal wall against the fingers of the top hand. This gentle pressure should remain even during exhalation. The pressure is mild and steady, with regular breathing. ②
- Stay in this position for at least 5 breathing cycles, gradually increasing the duration. Switch sides and repeat.



- Lie on your side with your head resting freely on the ground, a pillow, or a block. Your lower legs are stacked on each other at a 90-degree angle.
- Keep the head, chest, and pelvis in a neutral position.
- Breathe regularly and calmly.
- Raise your head so it aligns with your spine. Place both palms together and apply light pressure. Press the lower elbow into the mat while the upper elbow points toward the ceiling. ③
- Lift the top knee to align it with the upper hip. ④
- Inhale symmetrically into the lower chest and the entire abdomen, maintaining a mild, consistent activation of the abdominal wall.
- Hold the position for at least 5 breathing cycles, and gradually increase the duration as needed. Switch sides and repeat.

- The starting position and breathing activation are the same as in the previous exercises.
- Lift the top leg and extend it into



- a straight line with the torso, then return it to the starting position after a brief pause.
- If you are comfortable, you can add a rhythmic movement of the top leg, alternating between bending and extending. Start with just three repetitions and gradually increase the number as you progress.

Breathing in the All-Fours Position



- Place your hands directly under your shoulders, supporting yourself on spread fingers.
- Knees should be under the hips, about shoulder-width apart.
- Keep your head aligned with your spine, which should remain neutral, and ensure your torso is held horizontally parallel to the floor.
- Inhale through your nose, allowing the breath to expand into your chest and then further into your abdomen.
- During exhalation, let the abdominal wall relax naturally at first.
- With each repetition, try to maintain a slight tension in the abdominal wall even during exhalation. You can also use a TheraBand, resistance band, or yoga strap wrapped around your waist, breathing against the resistance and maintaining tension in the band even during exhalation.
- Perform at least 5 breathing cycles, rest for a few seconds, and repeat the exercise.



- Place your supporting hand directly under your shoulder, with your fingers spread out.
- The opposite supporting knee should be positioned under the hip.
- Extend the other leg backward, with the toes resting on the mat.
- Keep your head aligned with your spine, the spine neutral, and your torso horizontal above the floor.
- Inhale through your nose, allowing the breath to flow into your chest and abdomen.
- During exhalation, let the abdominal wall relax naturally at first.
- With each repetition, try to maintain slight tension in the abdominal wall during exhalation. You can check this by placing a hand on the side of your torso to monitor the tension.
- Perform the exercise on both sides.
- Practice 5 to 10 breathing cycles, rest for a few seconds, and repeat the exercise.

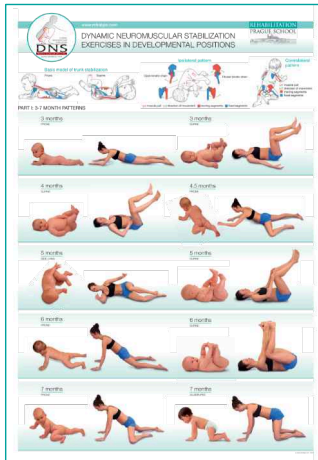


CONCLUSION

Breathing is a vital function of our body that impacts not only physical health but also emotional well-being. Proper breathing habits can significantly improve quality of life, especially for individuals with respiratory issues. This brochure provides a comprehensive overview of techniques and exercises that can help improve breathing patterns and strengthen respiratory muscles. These exercises should be performed regularly to meet each individual's specific needs. By following the recommended techniques and approaches, you can achieve a notable improvement in your breathing capacity and overall health.

For even better results, we recommend incorporating exercises in developmental positions according to the Dynamic Neuromuscular Stabilization (DNS) method, which is based on a child's natural development. These positions facilitate a proper breathing pattern and can effectively improve overall body stability and coordination. Remember to consult with a specialist about your health and exercise regimen, who can help you develop a personalized plan to achieve optimal results.

Posters - Exercises in Developmental Positions



Posters and other materials can be ordered on the website:
www.rehabps.com/posters.html

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