Is It Biblical For Christians To Seek Counseling Or Therapy? Linda Yang, MD

As Christians, God commands us to care for our bodies. Ephesians 5:20 says, "For no one ever hated his own flesh, but nourishes and cherishes it, just as Christ does the church." Our body is God's chosen vessel; we are God's temple. 1 Corinthians 3:16-17 says, "Do you not know that you are God's temple and that God's Spirit dwells in you? If anyone destroys God's temple, God will destroy him. For God's temple is holy, and you are that temple." How can we be God's temples if we don't care for our bodies? Therefore, physically and mentally caring for our bodies is an act of worship.

The Bible teaches us to bring our adversity, trials, and tribulations to God. "Casting all your anxieties on him, because he cares for you." (1 Peter 5:7). As a Christian, you may see seeking counseling and talk therapy as lacking trust in God. I did; I was fearful and embarrassed that I would be implying God was not enough if I sought treatment. Furthermore, I felt ashamed and guilty when I shared my struggle with depression with other Christians. I got responses like, "Just pray about it" and "Your faith is just not strong enough, keep reading the Bible." So, should Christians go to therapy while casting their cares on God?

We seek medical care when we don't feel well. Yet, we are hesitant to seek mental healthcare because of the stigma associated with mental illness. Does the Bible contain any teachings about therapy and mental illness?

When the Bible was written, there was little to no scientific understanding of mental health or its treatment. Therefore, the word therapy is not in the Bible. However, we can view therapy as seeking counsel in a meeting between two or more people who resolve matters together by implementing healthy practices. The Bible says it is wise to seek counsel.

"The way of a fool is right in his own eyes, but a wise man listens to advice." Proverbs 12:15.

Proverbs 11:14 says: "Where there is no guidance, the people fall, but in the multitude of counselors there is safety."

Proverbs 13:10 reads, "*By insolence comes nothing but strife, but with those who take advice is wisdom.*" This verse says that ignoring help will only cause further problems while seeking counsel is wise.

Counseling or therapy is not a replacement for worship but an adjunct to healing. Matthew 18:20 says, "*For where two or three are gathered in my name, there am I in the midst of them.*" God advocates for us to help one another.

God does not want us to go through our struggles alone. God teaches us always to seek knowledge and lean on each other for assistance.

"*An intelligent heart acquires knowledge, and the ear of the wise seeks knowledge.*" (Proverbs 18:15)

Proverbs 27:17 says, "As iron sharpens iron, so one person sharpens another."

Galatians 6:2 reads, "*Bear one another's burdens, and so fulfill the law of Christ."* This verse builds on Jesus' Sermon on the Mount: "*Do unto others as you would have them do unto you."* It teaches us the importance of seeking help when we need it and helping others with their problems.

One can have trust in Christ and still ask for assistance. There is no biblical evidence that therapy is against the teachings of Jesus Christ. However, there is enough evidence to support fellowship and bearing one another's burdens, even if it is in the form of therapy.

Christ himself is referred to as a counselor in Isaiah 9:6 – "For to us a child is born, to us a son is given; and the government shall be upon his shoulder, and his name shall be called Wonderful Counselor, Mighty God, Everlasting Father, Prince of Peace."

The title Counselor here is the Hebrew word ya'ats which translates to "to advise, consult, give counsel, consult, purpose, devise, plan, counsellor. This is the very definition of a counselor or therapist in our modern era.

To answer the question, is it biblical for Christians to seek counseling or therapy? In my humble opinion, yes. Sometimes it is OK for us to need Jesus AND Christian counseling or therapy. We are blessed when we take action. John 13:17 says, "Now that you know these things, you will be blessed if you do them."

Five key truths the scriptures teach us about trauma and suffering

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https://hopeandhealingcenter.org/five-things-the-scriptures-teach-us-about-trauma-and-suffering-by-dr-matthew-s-stanford/

Firstly, God is present and in control of our suffering. In times of great suffering and pain, we often feel the farthest from God. Where is He? Has He forgotten me? How could He let this happen? This was also the case in the lives of great men of faith in the Bible. Look at David (Psalm 13:1), Jeremiah (Lamentations 3:8) and Job (Job 9:16). Jesus at the height of his pain cries out "My God, my God, why have you forsaken me?" (Matthew 27:46). From our limited human perspective, pain and suffering seem contrary to our idea of a sovereign God who is good and loving. We think that God blinked and couldn't stop this traumatic event, or He isn't really a loving God. We forget that Adam chose to sin and that we live in a fallen world, full of

suffering. Suffering should not cause us to question God's sovereignty, as Job so clearly understood (Job 2:10). God is sovereign despite our circumstances. He created all things and He controls all things (<u>1 Chronicles 29:11</u>; <u>Colossians 1:15-17</u>). He allows us to experience the consequences of sin while remaining fully in control of all things including Satan, who can only bring suffering into our lives if God allows it (Job 1:12). God is in control of our circumstances, and He wants to transform us into the very image of His Son.

Secondly, God is good and cares for us. We have all heard this statement, "How could a loving God allow _____?" Fill in the blank with any horribly traumatic event that occurs here on planet Earth. People often use this statement to argue against not only the love of God but also the very existence of God. But God does love us and that is evident in our redemptive history. The creator of the world made a way for disobedient, powerless creatures to come into an eternal relationship with Him. He is patient and gracious. He became one of us (John 3:16) and then sacrificed Himself for us (1 John 3:16). Self-sacrifice is the ultimate act of love (John 15:13). God is indeed good, and He longs to be in an ever deepening relationship with us.

In <u>James 1:2</u>, we are told to "consider it pure joy" when we go through difficult times. What kind of strange mental gymnastics does God want me to do? I'm supposed to be happy when

I'm in pain? No, not at all. Even Jesus was sad when he went through difficult times — at Lazarus's grave, in the garden of Gethsemane, and on the cross. **The third truth** we are called to recognize is that **through our trails and suffering we have an opportunity to draw closer to God.** James tells us that persevering through the difficult times develops a mature and complete faith (James 1:4). We are ever being conformed into the image of Christ and

suffering is a necessary part of that transformation (<u>Romans 8:29</u>; <u>Philippians 1:29</u>; <u>1 Peter</u>

Jesus understands what it is to suffer is the fourth truth. We do not worship a distant, unapproachable God. We worship a God that knows what it is to be human (<u>Hebrews 4:15</u>). He knows what it is to suffer (<u>Hebrews 2:17-18</u>). Just think about Jesus' life for a moment. He didn't experience just one traumatic event during His time on Earth. His whole life was full of suffering. We can take great comfort in the fact that God can relate to us on our level, He understands what it is to suffer.

Finally, our identity is not defined by traumatic events or suffering but is grounded in Christ.

God does not see you as a victim. He sees you as His child. The scriptures tell us that as children of God, we were chosen before the creation of the world to be holy and blameless adopted sons and daughters, lavished with grace, redeemed, forgiven, given spiritual wisdom and understanding and marked with the Holy Spirit (Ephesians 1:4-14). We are in Christ! We sit at the right hand of the Father! We have His righteousness! We must not allow tragedy or circumstances to define who we are or how we live. We have His very life within us, and we must choose to live out of that truth.

Hacking The Nervous System Strategies To Build Neuro-Resilience

Hacking The Nervous System

Trauma engages our fight-or-flight defense mechanisms, reducing our ability to focus and learn. Many people refer to this as a 'head-and-heart disconnection.' The body is simply trying to keep us safe. If the body doesn't feel safe, it will sabotage our cognitive and behavioral interventions. Therefore lecturing and reasoning will not work with traumatized children. It's also why 'Behavior Charts' won't work, as perhaps even why Talk Therapy may not work. The brainstem and midbrain will reject everything, overriding our thinking brain.

The answer is to build neuro-resilience to reconnect head and heart or knowledge with feelings. We need to be able to hack the nervous system, restore balance, and *then* our interventions will work.

Trauma increases the sympathetic nervous system, promoting release of stress hormones into the body and continuing the fight-or-flight mechanism in the brain. These tools concentrate on creating a strong vagal tone and daily practice will strengthen the parasympathetic nervous system to increase the body's ability to rest and digest. Almost all of these tools can be used anywhere.

It's always best to have multiple grounding and calming techniques in your toolbox, as what one works in one situation may not work in another. Find an exercise that is a good fit for your temperament. A technique you use more frequently may become less effective over time; it's best to use a variety of techniques to avoid being acclimated to them, and modifications/variations can help.

Hacking The Nervous System

- Strong vagal tone = Security
- Mindful breathing exercises
- Item listing
- The 5-4-3-2-1 Game
- Focus on the Five
- Task visualization
- Method of "loci"
- Hyperfocus
- Humming, singing, laughter
- Bilateral stimulation, butterfly hug, tapping
- Drinking water
- Balanced life, exercise, food
- Happy gut
- Positive relationships
- Cold ice and water
- Journaling
- Meditation
- Prayer

I. Mindful Breathing or Conscious Breathing

- A. Most of the time people don't think to breathe, it is an autonomic response. Conscious breathing is like a "reset." It has the capacity to "be the pause" to take us out of reaction and provide helpful relief. It brings the attention from the stream of thoughts and amplifying emotions to the breath. The goal of mindfulness is to bring your attention to the present moment without judgement of what you are thinking or feeling. By just focusing on the sensations of your body as you breathe in and breathe out, you can calm your body and your mind.
- B. The breath is the real engine around strengthening the parasympathetic nervous system and create a feeling of being grounded.

Breathing in fact is the easiest way to remember God's presence with us and desires for our lives. The sound we make when we breathe in is RUACH (pronounced roo-akh), it's a Hebrew word meaning breath or spirit. The *Ruach* of God is the Creator of all other non-divine *ruach*. "God. . . gives breath [*ruach*] to all living things" (<u>Numbers</u> <u>27:16, NIV</u>). As we've been created in the image of God, we've been given a moment-tomoment reminder that the Spirit is with us and within us. To do this type of full deep spiritual breathing, place one hand on your stomach. When you inhale, your hand should move out and when you exhale, this hand should move in. You can place your other hand on your heart or head when doing the head-heart connection breathing exercise.

1. The Heart Coherence Breathing (Heart Rate Variability Resonant Cardiac Breathwork) When we inhale, the diaphragm flexes, moving downward. When we exhale, the diaphragm relaxes, moving upward. The diaphragm can move by as much as 10 centimeters. However, most adults only use 1 centimeter or 10% of this range and are breathing 15-20 breaths per minute. To put it in perspective, 0% movement results in death. This underutilization of diaphragm range harms our health, our performance, and our longevity. Why? Because the diaphragm's job is to function as a "pump", where in the chest it literally pumps blood through the heart and lungs and in the abdomen it pumps both food and blood (via the mesenteric circulation) through the digestive tract. When the diaphragm is doing its job properly the "autonomic" nervous system (the nervous function that controls heart rate and vascular capacity) and the "enteric" nervous system (the nervous function of the gut) synchronizes with it! Why? Because, when the diaphragm moves optimally, it aids the heart and vascular system in moving the blood in the body, and it aids the gut in moving food through the digestive system. When the diaphragm does not move sufficiently, it impedes the action of both circulatory and digestive systems, blocking instead of facilitating normal action.



The Diaphragm Separates Chest And Abdominal Cavities

Step 1: Focus on your natural breathing and count the time of your inhale and exhale.
Step 2: Sit in a comfortable position to practice the coherent breathing technique. You are NOT pausing at the end of inhalation or expiration (maybe just one second). Gently place one hand on your stomach.

Step 3: Inhale for four seconds and then exhale for four seconds. Repeat this for one minute.

Step 4: Repeat the above step but lengthen your inhales and exhale for five seconds.

Step 5: Repeat the above step but extend the breaths to six seconds. You can skip steps 1, 3, and 4 if you feel comfortable breathing 6 seconds in and 6 seconds out (5 breaths/minute)

Step 6: Use "2 Bells" on Spotify. Inhale on high tone and exhale on low tone.

Step 7: Enhance the relaxation by imagining the awareness of your breath going to the top of your head as you inhale and the awareness of your breath going to the base of your spine, as if a wave is washing up and down inside of you. Imagine you are on your favorite shore and the waves are lapping the sides of your body.

Step 8: Work up to 5 minutes, then 10 minutes, then 15 minutes, the optimal period is 20 minutes.

Step 9: Do it once a day. If you feel anxious or stressed, do 20 minutes twice a day.Step 10: The goal is to carry the relaxed feeling into our days and to practice coherent breathing as much as possible.

During this breathing exercise, keep your hand on your stomach. Diaphragm motion should be sinusoidal. If you find your mind wandering, don't worry. Just bring your focus to your breathing again. Counting with the inhale and exhale can help ground you.

What did you notice? What changed in your body? Often, you'll notice the chatter in your mind quiet down.

2. **The 4-2-4 Breathing Tool**: Place one hand on your stomach. When you inhale, your hand should move out and when you exhale, this hand should move in. You can place your other hand on your heart if you want. Breath in through your nose for 4 counts, hold for 2 counts, and exhale for 4 counts through your mouth. This is one breath. Inhale again and repeat the cycle for 3 more breaths for a total of 4 breaths. Let's practice.



What did you notice? What changed in your body? Often, what we'll experience is our shoulders relaxing down, our jaw relaxing as well, and our ability to breathe deeply through our whole body.

- 3. **The 4-7-8 Breathing Tool**: Exhale completely through your mouth making a 'woosh' sound. Close your mouth, inhale quietly through your nose to a mental count of 4, hold your breath to a mental count of 7, then exhale completely making a 'woosh' sound to a mental count of 8. This is one breath. Inhale again and repeat the cycle for 3 more breaths for a total of 4 breaths. Let's practice.
- 4. **Balloon Breath**. Purse your lips like you are blowing air into a balloon. Then suck in the air from the imagined balloon. This is one cycle. Blow the air into your imaginary balloon again and repeat for 3 more cycles for a total of 4 cycles. Let's practice.

II. Item Listing (ice cream flavors technique)

A. Choose a pleasant category, such as flavors of ice cream, dog breeds, candy bar brands, makes and models of cars, etc.. The category should be "open" and not have a fixed number of

responses, something you enjoy or feel warmly towards, something you know fairly well or know many entries for.

- 1. Find a quiet place
- 2. Set a timer for 2-5 minutes
- 3. Select a category
- 4. Write on piece of paper your list for the category or say them out
- 5. List category members until time is up.
- 6. Let's try the ice cream flavors example now. Set a timer for 2 minutes, grab a pen and paper, and write down as many ice cream flavors as you can.

III. The 5-4-3-2-1 Game

- A. This strategy engages all 5 senses to ground someone in the present moment. Grounding activities like the '5-4-3-2-1 Game' can help our bodies realize we are safe in this space right now. Useful for anxiety and panic attacks, dissociation and trauma flashbacks, extreme sadness and loneliness. Also useful for test anxiety and can be done on the margins of a page
 - 1. Complete the steps in order from 5 things to one thing. Try to be as detailed as possible when naming each item. On a piece of paper, write down.....
 - a. 5 things you can see around you right now
 - b. 4 things you can hear right now ("fingers tapping on the keyboard" or "the overhead fan")
 - c. 3 things you can feel right now ("chair on my back" or "feet on floor")
 - d. 2 things you can smell right now (or 2 things you like the smell of)
 - e. 1 thing you can taste or 1 thing you like about yourself.
 - 2. For example, I see the rough brown tree bark outside and the tiny green leaf dangling from its branch waving in the wind. I hear the sound of the air conditioning kicking on making a rum-rum-drum sound. I feel the stretch of my canvas shoes around my toes and heel as I roll my ankles back and forth. When I bring my wrist to my nose, I smell the lavender lotion I put on earlier today sitting at my office desk. I still hmm taste the dark roast coffee on my tongue from this morning's breakfast.
 - 3. So, let's do this together. The first thing we'll do is name 5 things you see, be as detailed as possible...(wait).....now name 4 things you can hear, again be as detailed as possible....(wait).....now name 3 things you feel...(wait).....name 2 things you smell...(wait)......name 1 thing you taste.
 - 4. What did you notice? Often, just like with our breathing, our shoulders will go down and our bodies will become calm.

IV. Focus on the Five

- A. Encourages sensory awareness and promotes positive thinking
 - 1. Involves reflecting on sensory experiences that you find pleasant, calming, or nostalgic.
 - 2. Should be completed with pen and paper if possible, although you can also count off the 5 senses on your hand
 - 3. Take a pen and paper and trace the outline of your hand with your fingers spread.
 - 4. For the thumb and each finger, write the name of one sense: touch, taste, smell, sight, sound
 - 5. Above each finger, write a pleasant sensation associated with that sense
 - 6. Think about and imagine that sensation as best as you can.
 - 7. You may want to organize your responses around a particular setting or theme.

- 8. The more personal and provocative the sensations are the better.
- 9. Let's practice



V. Task Visualization

- A. Describe an everyday activity in great detail
 - 1. Take every step of the activity and break it down into its smallest parts
 - 2. Pick an activity you know how to do very well, like cooking, that is not stressful
 - 3. Describe your morning routine or a meal you love to cook or how you clean the kitchen or bathroom or a craft or repair project you know how to complete
 - 4. Can be done on paper or verbally
 - 5. Record yourself explaining the procedure if that will help you focus.
 - 6. Useful to calm another person. Ask them to walk you through a procedure that they know well, and you can ask clarifying questions to keep them focused.

VI. The Method of "Loci" (pronounced "lo-kee"), means places

- A. Mentally move from room to room
 - 1. Simply close your eyes and imagine yourself walking through a familiar space
 - 2. Remember as much as detail as possible the layout, furniture, objects
 - 3. Try to envision small details you remember, like what things feel like, smell like, look like
 - 4. Also useful to calm another person by having them talk you through each room and speaking out loud what they see there.
- B. A variation is drawing the floor plan of a space
 - 1. Take a large piece of paper and try to draw a bird's eye view of the floor plan
 - 2. Include doors, room layout, furniture, and other details in the drawing
- C. Research has shown that users of the "loci" method have increased activation of the cortex and hippocampus; these areas of the brain are involved in spatial-awareness tasks. Further research on the method of "loci" shows improvement in brain connectivity and memory skills, increasing the utilization of the prefrontal area of the brain. Use of grounding exercises like the method of "loci" may help restore brain functioning

VII. Hyperfocus

A. This strategy comes from Dr. Rick Hanson, who has found that hyperfocus on a positive thing for just 12 seconds can develop a new positive pathway in our brain. Even in the midst of

stress, if you can focus on a positive thing for 12 seconds, your perspective and energy can change for the better.

- Your brain forms neural connections constantly. It either forms new ones (like, for example, if you try something new) or strengthens old ones (like when you repeat something). It takes about 12 seconds to complete a connection between 2 neurons. New neural pathways will develop and strengthen the more you hyperfocus on something positive or it could be feeling grateful...what fires together wires together...and the old lesser fired connection will weaken.
- B. Let's try it out. Bring something positive to mind, maybe it's an image of a flower, the face of a loved one, or a sunset. Maybe your positive thing is a sound like the laughter of a child or the waves crashing on the beach. Do you have the positive image or sound in your mind? Now really bring out the details of what you are experiencing, engage all 5 senses, strengthen the image or the sound. Now keep your focus on that positive thing for 12 seconds. Count in your mind for 12 seconds or set a timer.

Think	Think of a positive image, sound, or memory
Strengthen	Strengthen it through your 5 senses
Maintain	Maintain hyperfocus for 12 seconds

Take a deep breath in....great job! What did you notice? What changed in your body? What changed in your brain?

VIII. Bilateral Stimulation

- A. Bilateral stimulation is a way to engage both sides of your brain to help calm your mind and body. Typically, you do this through rhythm, going back and forth in a pattern.
 - 1. Examples of activities that engage both sides of your brain through bilateral stimulation include walking or running or tapping or drumming.



- 2. The back-and-forth motion in walking, moving our feet right than left, right than left....and the back-and-forth motion of drumming or tapping engages our brain in a way that helps us cope with what's going on around us.
- 3. Tapping draws on the ancient Chinese practice of acupuncture, which teaches that the body's energy travels along specific pathways called meridians. Certain points on these pathways are stimulated to improve the flow of energy. The stimulation is done by inserting very thin needles (acupuncture) or by applying pressure (acupressure). Tapping

stimulates acupoints by touch rather than by the use of needles, making it similar to acupressure. Tapping sends signals directly to the stress centers of the mid-brain that says, "I am safe", "there is no threat" and the brain then takes the body out of the "FIGHT OR FLIGHT " mode.

- a. EFT Tapping Points Guidebook (in Coping Strategies Toolbox)
- b. Tapping Into Lament (in Coping Strategies Toolbox)
- B. **The Trauma Tapping Technique** was developed by Drs. Gunilla Hamne and Ulf Sandstrom in Sweden and is considered first aid for trauma. It is easy to learn and has the advantage of being primarily non-verbal. The process is a neurological intervention that helps the body quickly re-regulate itself should it get triggered or activated. This technique has been successfully used in areas that have experienced extreme violence such as Rwanda and South Sudan and in places that have had natural disasters such as the wildfires in California and tornados in Nepal. This is a tool you can use on yourself or someone else whenever you find yourself experiencing intense emotion.

Trauma Tapping Technique



Think about whatever bothers you and tap approx. 15 times on each point 1-14 Take two deep breaths and repeat Take two more deep breaths when done If needed repeat the sequence until you feel calm

C. Butterfly Hug

Handout: Butterfly Hug Instructions from Ron Huxley

- 1. The Butterfly Hug is a bilateral stimulation technique and a modification of EMDR (Eye Movement Desensitization and Reprocessing) commonly used with post-war veterans and accepted now as a standard for treating trauma. It has continued to be developed as a treatment for all types of traumas, anxiety, and emotional regulation. It is being used with both adults and children.
 - a. One of the common uses of the Butterfly Hug is with children who need emotional regulation of anxiety, shame, sadness, and anger. Use of the Butterfly Hug daily can rebuild neural networks in the brain into more positive, calm and secure thoughts and feelings.
 - b. Students in schools can to this method discretely by crossing their hands over their knees and by lightly tapping while breathing deeply. This can be done under the desk to avoid negative attention from other students. This can help students manage anxiety attacks and regulate mood when their senses are overwhelmed.

IX. Humming, Singing, Laughter

A. Humming, singing, laughing activate your vocal cords and the muscles in the back of your throat, which are connected to the vagus nerve, which connects the brainstem to the face,

mouth, throat, heart, and gut. Incorporating these activities into your daily routine can help increase your vagal tone.

- B. We also use the vagus nerve as a primitive social engagement system. An infant comes into the world with the brainstem fully functional; the rest of the brain is waiting for input, i.e., experienced-dependent. When a parent picks up a distressed baby and hold him/her close heart-to-heart, face-to-face, pat and rocks the baby rhythmically, and talks to the baby in a singing-song voice, the mother is literally downloading her regulated brain via the vagus nerve to the brainstem, face, mouth, heart, and touch to the infant's nervous system. Hundreds of these experiences will train the nervous system to be regulated on their own. This may explain why many traumatized children don't read social cues, which are largely nonverbal.
- X. Drinking water, living a balanced life, getting plenty of rest, and having good nutrition are always important.
 - A. The brain needs water for electrical conduction.
 - B. The swallowing action when drinking cold water can stimulate the vagus nerve.

XI. Happy gut: A happy gut makes a happy person.

- A. There is bidirectional communication and connection between your brain and gut.
- B. The bacteria in your gut communicate with your brain through neuronal, endocrine, metabolic, and immune signaling channels.
- C. Serotonin (the happy hormone or mood-balancing hormone) is a key player in lowering anxiety and boosting happiness. Did you know that 95% of serotonin is produced in your gut?!
- D. Dopamine is a neurotransmitter that is associated with cognition and focus, mental drive, reward, motor control, and reproductive functions. About 50% of your body's dopamine is produced in your gut!
- E. Stress can affect the health of your gut bacteria and digestion, and in turn, a disruption in your gut bacteria composition can cause or contribute to mental stress, anxiety, mood disorders and other cognitive impairments, decreased immune system functioning and chronic health issues.
- F. If the brain is perceiving high levels of stress, as in trauma, the brain's signaling to the gut can be thrown off.
- G. Psychotropic medications can also strip the gut of the good bacteria.
- H. Ways to improve gut-brain connection
 - a. Prebiotics and probiotics
 - b. Healthy diet, unprocessed foods, cut out sugar
 - c. Practice mindfulness, gratitude, meditation, yoga, any mental health practice to lower stress

XII. Positive relationships naturally result in the release of a powerful bonding hormone called oxytocin. A positive relationship is the most important factor for building resilience in a child.

- A. Hugs are simple hacks of the nervous system.
- B. Hold the child for several seconds until you feel the child exhale, or the heart rate go down. Many children don't like this, so will take some practice.
- C. Important to make face-to-face and eye contact. Many traumatized children will avoid it because it can feel threatening and cause a fight-or-flight response. When they hug us without eye contact, it's really just like hugging a vending machine; they push a button, they get their hug, and there's no connection or nervous system download.
- XIII. Cold ice and water

- A. Based on the concept that anything that reduces our tendency to see neutral situations as threatening will reduce our tendency to over-react to threats, allow us to get back to a calm baseline faster, and reduce stress and anxiety on a day to day basis.
- B. You use this when you splash your face with cold water or take a cold shower. Placing an ice pack on the back of your neck also works.
- C. While your body adjusts to the cold, sympathetic activity declines, while parasympathetic activity increases.
- D. A study from 2010 (J Physiol. 2010 Sep 15; 588(Pt 18): 3605–3613) has shown that repeated three-minute dips in cold water over a period of time significantly reduces the adrenaline-driven sympathetic response to a different stressor and increases the para-sympathetic activity that calms the body down. In other words, our natural adaptations to cope with the stress of taking a cold shower lead to less reaction to other unrelated stresses, as well as to an ability to calm down faster too. This 'cross-adaptation' effect lasts for months.

XIV. Journaling

A. See separate handout "Benefits of Journaling about Traumatic or Stressful Events"

XV. Meditation

- A. Brings your body to a state of calm, telling your vagus nerve that there is no need for a fightor-flight response, thereby increasing vagal tone.
- B. Brain scans confirm that mindfulness meditation is correlated with an increase in gray matter in the hippocampus (memory), a decrease of gray matter in the amygdala (fear center) and helps to activate the PFC (executive functions).

XVI. Prayer

- A. Brain scans show prayer involves:
 - 1. Activation of the deeper parts of the brain that are involved in self-reflection and self-soothing
 - 2. Changes in parts of the prefrontal cortex (executive function and control of emotions)
 - 3. Inactivation of parts of the brain associated with taking action.
 - 4. The link between deep reflection and a decrease in action can be a useful one while dealing with a trauma or other negative situation. This makes sense...when we're praying, we can't be lashing out or kicking walls in.
- B. Prayer focuses our thoughts on something outside ourselves, helping us to shift away from a frightened and stressed survival mode (overactive limbic system) which also shuts down our prefrontal cortex and prevents us from thinking clearly, into an "an intentional state" and ultimately reengaging our prefrontal cortex.
- C. Both meditation and prayer can trigger the release of feel-good chemicals in the brain. Source: https://www.nbcnews.com/better/health/your-brain-prayer-meditation-ncna812376
- D. See separate handout "Disciplines to Retrain My Brain and Reset My Nervous System"

What are some ways that you can reconnect your head and your heart for greater Neuro-resilience?



Department of Family Medicine and Community Health



The Power of Breath: Diaphragmatic Breathing

Diaphragmatic breathing is sometimes referred to as belly, deep, relaxed, or abdominal breathing. It optimizes use of the main muscle of breathing, the diaphragm, resulting in slower, deeper breathing. It can be an important skill in a patient's self-management toolbox. With practice, most clinicians can teach it to their patients in 5-10 minutes.

In contrast to shallow breathing, diaphragmatic breathing is marked by expansion of the abdomen rather than the chest during the in breath. With shallow breathing, also known as thoracic or chest breathing, minimal breath is drawn into the lungs, usually through the use of the intercostal muscles and not the diaphragm. When lung expansion occurs lower in the body, breathing is described as "deep" and corresponds with observed or felt movement of the abdomen outward with inhalation. For use of this technique in chronic pain self-management, refer to "Diaphragmatic Breathing to Assist with Self-Management of Pain."

Ways Diaphragmatic Breathing Can Be Useful

Diaphragmatic breathing:

- Shifts a person from a place of passivity to a place of activity; they are "doing something" about their symptoms
- Introduces training in increasing calm and relaxation
- Provides a simple way to quiet high-arousal states caused by pain or other symptoms and the emotions that it elicits
- Is extremely portable
- Costs nothing except an initial investment of time
- Can be used to manage other life stressors
- Can be used during difficult procedures, such as injections, imaging studies, etc.
- Provides a positive distraction
- Can be used to interrupt negative patterns of thought
- Demonstrates that clinicians consider non-pharmacologic interventions important for health

Physiological Effects

Shallow breathing often accompanies stress, anxiety, and other psychological difficulties. This is typically a result of sympathetic over-arousal, commonly referred to as the "fight or flight response." With practice, diaphragmatic breathing lead to a reversal of fight or flight, to a quieting response modulated by the parasympathetic nervous system. It has a number of physiologic effects:

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- Inhalation at a rate of 6-10 breaths per minute causes increased tidal volume while maintaining optimal minute ventilation. The increase in tidal volume causes cardiopulmonary baroreceptor stretch which in turn leads to decreased sympathetic outflow and subsequently decreased peripheral vascular resistance.^{1,2}
- Diaphragmatic breathing increases heart rate variability (HRV), which is a proxy measure of the balance of sympathetic and parasympathetic influence on the heart. Reduced HRV portends a poor prognosis in a variety of clinical contexts, including post-MI, ischemic heart disease, congestive heart failure, and diabetes with autonomic neuropathy.¹⁻³

Clinical Research

Hypertension

The antihypertensive mechanisms of slow, deep breathing have not been fully elucidated. Effects on chemoreceptors, baroreceptors, central cardiovascular and respiratory control centers, and the autonomic nervous system are thought to contribute. Essential hypertension is thought to involve chemoreceptor hypersensitivity causing an excess of sympathetic nervous system activity. The chemoreceptor reflex is mediated by specialized neurons in the central and peripheral vasculature which respond to changes in the concentration of carbon dioxide. Increased carbon dioxide causes an increase in minute ventilation and sympathetic outflow, while decreased carbon dioxide causes a decrease in minute ventilation.⁴ As noted above, slow, deep breathing stimulates baroreceptor activity through increased stroke volume promoting vasodilation.^{1,2} Slow deep breathing is thought to promote baroreceptor inhibition of chemoreceptors, leading to decreased sympathetic tone, increased vasodilation, and decreased blood pressure.

Additionally, it is hypothesized that slow deep breathing exerts an autonomic balancing effect at centers of cross-talk between cardiovascular and respiratory control centers in the central nervous system.⁵ Device-assisted slow breathing has the most robust evidence for the management of hypertension. The RESPeRATE device has been studied the most extensively. It consists of a belt worn around the thoracic rib cage that monitors respiratory rate. This information is relayed to a small electronic device which emits musical tones used to pace the patient's breathing. In 2013, the American Heart Association issued a scientific statement about the use of complementary and alternative therapies for hypertension management, wherein the committee states, "Device-guided breathing is reasonable to perform in clinical practice to reduce blood pressure."⁵ Based on study protocols, the American Heart Association recommends fifteen-minute sessions at least three to four times per week.⁵ Further research is needed to ascertain whether slow deep breathing without the use of an assistive device will yield similar antihypertensive effects.

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School of Medicine and Public Health Congestive heart failure (CHF)

Inspiratory muscle strength is an independent predictor of survival in heart failure. Decreased inspiratory muscle strength and endurance leads to a variety of derangements including inefficient ventilation and preferential blood shunting to respiratory muscles—and away from exercising limbs. This leads to decreased exercise tolerance in patients with CHF. Inspiratory muscle training leads to increased inspiratory muscle strength and endurance, which brings about more efficient ventilation and increased exercise tolerance.⁶

Chronic obstructive pulmonary disease (COPD)

In patients with COPD, hyperinflation places the diaphragm in a state of chronic partial stretch. This mechanical disadvantage leads to increased work of breathing and relative respiratory muscle weakness. Inspiratory muscle training has been shown to increase inspiratory muscle strength and endurance, decrease dyspnea and improve exercise capacity and health care related quality of life.⁷

Asthma

A 2009 systematic review found that training in diaphragmatic breathing lead to short term and long term improvement in health care related increased quality of life. One of the included studies also demonstrated physiologic improvements including higher end-tidal carbon dioxide, decreased resting respiratory rate, and increased FEV1% following the diaphragmatic breathing intervention, but these results were not consistent across studies.⁸

Hot flashes

In 2012, Sood and colleagues published a randomized controlled trial investigating the effectiveness of slow-paced breathing for the management of hot flashes. The intervention group used audio recordings either once or twice per day to pace the breathing at a slow rate of six breaths per minute, while the control group used audio recordings once per day to pace breathing at a normal rate of 14 breaths per minute. All groups saw a statistically significant decrease in vasomotor symptoms. There was no difference between groups. The authors hypothesize that the "control" group may actually have demonstrated a treatment effect of monitoring the breath for 10 minutes daily.⁹ Other studies have shown similarly promising results.¹⁰

However, also in 2012, Carpenter and colleagues published a randomized-controlled trial wherein paced slow breathing showed a clinically significant (50% or greater) reduction in hot flash symptoms in only 38% of the intervention group. The intervention did not perform better than the active control and usual care.

Insomnia

In 1995, Choliz published results from a randomized controlled trial wherein voluntary hypoventilation brought about drowsiness and subsequently sleep in the treatment group.¹¹ The proposed mechanism of action was hypercarbia leading to sedation, though this hypothesis was called into question by results of a follow-up study which showed hypoventilation produced a protracted state of hypocarbia.¹² Subsequently, in 2006, the American Academy of Sleep

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Medicine published guidelines for the behavioral and psychological management of insomnia, wherein "relaxation" is recommended as a stand-alone treatment for insomnia based on review of the evidence, though breathing exercises are not specifically mentioned.¹³

Depression and anxiety

In a 2005 series of papers, Brown and Gerbarg present a neurophysiologic model for the therapeutic use of a yogic breathing practice for the management of depression, anxiety, and stress. They also present a systematic evidence review which supports the use of yogic breathing for the management of stress, anxiety, and depression.^{14,15} In 2009, Descilo and colleagues published results from a non-randomized trial evaluating a yogic breathing intervention with and without exposure-based therapy for survivors of the 2004 South East Asian tsunami. There were clinically significant improvements on the Beck Depression Inventory-21 and the Posttraumatic Checklist-17 in the groups receiving the breathing and the breathing plus exposure therapy interventions, but not in the control group.¹⁶ In 2012, Katzman and colleagues published a small nonrandomized study evaluating a yoga breathing exercise program for the treatment of generalized anxiety disorder in treatment-resistant outpatients. The response rate was 73%, and 41% of patients achieved clinical cure.¹⁷

Pain

A 2010 randomized controlled trial demonstrated that slow breathing can modulate experience of painful stimuli and negative affect. Women with fibromyalgia were compared to healthy controls. Each study participant was exposed to mildly and moderately painful thermal stimuli during periods of breathing at her normal rate and at half her normal rate. Healthy controls experienced less pain intensity and improvements in negative affect with slower breathing. Women with fibromyalgia did not reliably demonstrate these responses with slower breathing.¹⁸

In a 2005 study of chronic low back pain, patients with chronic low back pain were randomized to a breath therapy or physical therapy intervention. Patients in both groups experienced statistically and clinically significant improvements in pain intensity and self-reported overall health. The interventions performed equally well. These studies suggest that slow, paced breathing can be a useful self-regulatory tool for the management of pain.¹⁹ An experimental study found that deep and slow breathing associated with relaxation resulted in the modulation of sympathetic arousal and pain perception.²⁰

Oxidative stress

Oxidative stress is a risk factor for heart disease and many other adverse health outcomes.²¹ Hyperglycemia is known to induce oxidative stress in diabetic and healthy subjects.^{22,23} There is evidence that oxidative stress is reduced with diaphragmatic breathing. In a 2011 retrospective cohort study, data were analyzed from 16 male competitive cyclists before and after a 900calorie meal. Half of the subjects sampled engaged in 40 minutes of postprandial diaphragmatic breathing, while the other half of the subjects sat quietly reading a magazine following the meal. In the diaphragmatic breathing group, postprandial blood glucose was lower, post-prandial insulin was higher, and post-prandial circulating antioxidants were higher than controls.²⁴

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This same sample of athletes underwent testing to determine effect of diaphragmatic breathing on exercise-induced oxidative stress. Blood and saliva sampling was completed before and after an eight-hour period of strenuous exercise. Similar to the above results, exercise-induced oxidative stress was attenuated by diaphragmatic breathing. After exercise, participants in the diaphragmatic breathing group demonstrated lower levels of circulating reactive oxygen metabolites, higher levels of circulating antioxidants, lower levels of circulating cortisol, and higher nocturnal melatonin levels as compared to controls who sat quietly reading.²⁴

Five Steps to Teaching Diaphragmatic Breathing

Step 1: Observation

Observe patients' breathing while they are seated for a minute or so. It is helpful to have them place one hand on the abdomen and another on the chest. To reduce performance anxiety, you could have them close their eyes or distract them with a different activity to allow you to observe comfortably.

- Ask them to breathe normally, just as they would in their life outside the clinic.
- Observe the movements of the hands including whether there is more movement in the upper hand (chest) or the bottom hand (abdomen).
- Notice if their breathing rate is fast, slow or somewhere in between. Observe whether the breathing pattern is smooth or choppy.

Step 2: Education

The acronym DASS—Deep, Abdominal, Slow and Smooth—describes the goal pattern. If patient's breathing pattern is shallow, fast or choppy consider discussing or demonstrating:

- The importance of the diaphragm muscle as the main muscle of breathing.
- Breathing as it relates to the sympathetic and parasympathetic nervous systems.
- What diaphragmatic breathing looks like (the provider can use DASS breathing to demonstrate to the patient).
- The role of stress, and how it can lead to shallow chest breathing. Clinicians can acknowledge symptoms and conditions that are significant stressors and can influence their breathing patterns.
- Taking time with the exhalation assists in activating the quieting response mediated by the parasympathetic nervous system.

Step 3: Instruction

Teaching several different techniques and finding what works best for each individual can be helpful. If an examination table is present, training can begin with patients lying down. Each technique can be practiced for a minute or so to give the patient ample time to determine what works best. *Note: Some individuals become much more anxious when they focus on their breathing, and other techniques may be more appropriate.* (Refer to other relaxation techniques described in "<u>Mind and Emotions Overview</u>"). Here are four simple diaphragmatic breathing techniques that can be tried:

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Technique 1

Start simply by having them place a hand on the abdomen and gently attempt to breathe under that hand. If this is too effortful or they are "trying too hard" (over breathing or too forceful), move on to other techniques or see if they can reduce effort.

Technique 2

This next technique encourages deeper breaths. Have the patient breathe in for a count of "2" (with each counted number taking a second) and out for the count of "3". If this feels too fast, try slowing it to breathing in for "3" and out for "4." Adjust the numbers so that the exercise is comfortable and not stressful. The elongation of the outbreath can often create an opportunity for a deeper next breath.

Technique 3

In this technique, the individual inhales normally. On exhalation, the goal is to focus on exhaling all of the air completely out of their lungs. Then, rather than quickly inhaling again, they pause and wait until the body wants to breathe again. They should let any sense of effort drop away.

Technique 4

Imagery can be helpful to some patients. The patient imagines a breathing hole (like a whale's or dolphin's) in the bottom of each foot. With each breath, they imagine breathing in through the bottom of their feet and up to their abdomen. On the exhalation, this is reversed as they imagine breathing out the bottom of their feet.

Step 4: Evaluation of techniques and assignment of at-home practice

Many patients will say that the above activities were challenging or felt "different," due to the fact that they habitually engage in shallow breathing. This is perfectly normal, and as they become more accustomed to deeper breathing, it will feel more natural. *Note: Any sense of feeling light-headed is a sign of trying too hard or over breathing, and effort should be decreased. Changing techniques might prove more helpful.*

- Ask the patient which of the techniques worked and was easiest for them, or which they enjoyed the most. Encourage them to practice this technique at home.
- Practice 5-10 minutes, twice daily, in a comfortable position. Many patients have sleep disruptions. Times when a person is having difficulty falling asleep or experiencing intermittent awakening are additional practice opportunities. Diaphragmatic breathing may assist with increasing comfort or falling back to sleep.
- In addition, ask them to practice off and on throughout the day and in a variety of positions (this is to encourage generalization). It is also helpful to have them practice at times of relatively low stress until they become accustomed to it.

What to do if all of this proved difficult or extremely taxing for the patient.

Have the patient practice at home, lying on the belly if possible. Not all pain patients are capable of lying on their stomachs, but most can for the few minutes needed to become aware of their breathing. Lying down on the belly typically allows people to feel the diaphragm muscle

even when breathing with minimal effort. This can be practiced for five minutes, focusing on the sensation of deeper breathing. Following this, they can turn over on their back and recall the sensations experienced when they were on their belly.

The goal is for the individual to practice feeling the sensations and experience of diaphragmatic breathing until they become habituated to it. Twice-daily practice should aid in their learning. Eventually, once more comfort and familiarity has been achieved, another goal will be to do diaphragmatic breathing while sitting up.

Step 5: Follow-Up

Follow-up is critical to the integration of this activity, and it can be challenging for the busy clinician; making use of a team approach and working with other team members becoming skilled in teaching these techniques can be helpful. Even brief attention from a clinician communicates to patients that these approaches are important and that they should follow through. Breathing patterns can be a very strong habit forged over many years and change needs time and reinforcement. Consider the following for follow-up:

- Review the exercise to determine if the patient still understands the practice. Have them demonstrate slower, deeper abdominal breathing.
- Discuss how and when they are using it (e.g. when awake in the middle of the night due to pain, when upset or distressed about finances, after a challenging conversation, etc.) and encourage continued use. Reinforce the ways that it might help them, even if it helps more with decreasing emotions related to symptoms rather than the symptoms themselves.
- Explore how they can apply these skills more generally in their lives, which is a final important part of following up with training. Ask them to consider other times when they could use the skill, such as when they are in a doctor's waiting room, driving the car, off and on throughout the day, etc.
- Remember the goal. Slower deeper breathing without effort is optimal for breathing most of the time, except perhaps during certain limited situations where sympathetic arousal (the fight or flight response) is truly helpful.

Summary

Breathing can be a useful tool for quieting sympathetic arousal. It has a number of positive physiological effects, and a number of potential clinical benefits. The five easy steps to teaching diaphragmatic breathing are:

- 1. Observation
- 2. Education
- 3. Instruction
- 4. Evaluation and homework
- 5. Follow-up in future appointments

For a clinician self-practice activity, refer to "Breathing."

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"The Power of Breath" was adapted for the University of Wisconsin Integrative Health Program from the original written by Shilagh A. Mirgain, PhD, Janice Singles, PsyD,,and Adrienne Hampton, MD (2016).

References

- 1. Sharma M, Frishman WH, Gandhi K. RESPeRATE: nonpharmacological treatment of hypertension. *Cardiology in Review*. Mar-Apr 2011;19(2):47-51. doi:10.1097/CRD.0b013e3181fc1ae6
- Tomich GM, Franca DC, Diorio AC, Britto RR, Sampaio RF, Parreira VF. Breathing pattern, thoracoabdominal motion and muscular activity during three breathing exercises. *Braz J Med Biol Res.* Oct 2007;40(10):1409-17.
- Kulur AB, Haleagrahara N, Adhikary P, Jeganathan PS. Effect of diaphragmatic breathing on heart rate variability in ischemic heart disease with diabetes. *Arq Bras Cardiol*. Jun 2009;92(6):423-9, 440-7, 457-63.
- 4. Levitzky MG. Control of Breathing. Pulmonary physiology. 8th ed. McGraw-Hill; 2013.
- 5. Brook RD, Appel LJ, Rubenfire M, et al. Beyond medications and diet: alternative approaches to lowering blood pressure: a scientific statement from the american heart association. *Hypertension*. Jun 2013;61(6):1360-83. doi:10.1161/HYP.0b013e318293645f
- 6. Cahalin LP, Arena R, Guazzi M, et al. Inspiratory muscle training in heart disease and heart failure: a review of the literature with a focus on method of training and outcomes. *Expert Rev Cardiovasc Ther*. Feb 2013;11(2):161-77. doi:10.1586/erc.12.191
- Hill K, Cecins NM, Eastwood PR, Jenkins SC. Inspiratory muscle training for patients with chronic obstructive pulmonary disease: a practical guide for clinicians. *Arch Phys Med Rehabil*. Sep 2010;91(9):1466-70. doi:10.1016/j.apmr.2010.06.010
- Prem V, Sahoo RC, Adhikari P. Effect of diaphragmatic breathing exercise on quality of life in subjects with asthma: A systematic review. *Physiother Theory Pract.* May 2013;29(4):271-7. doi:10.3109/09593985.2012.731626
- 9. Sood R, Sood A, Wolf SL, et al. Paced breathing compared with usual breathing for hot flashes. *Menopause*. Feb 2013;20(2):179-84. doi:10.1097/gme.0b013e31826934b6
- 10. Freedman RR, Woodward S. Behavioral treatment of menopausal hot flushes: evaluation by ambulatory monitoring. *Am J Obstet Gynecol*. Aug 1992;167(2):436-9.
- 11. Choliz M. A breathing-retraining procedure in treatment of sleep-onset insomnia: theoretical basis and experimental findings. *Percept Mot Skills*. Apr 1995;80(2):507-13. doi:10.2466/pms.1995.80.2.507
- 12. van den Hout M, Kroeze S. An untenable rationale for treating insomnia. *Percept Mot Skills*. Aug 1995;81(1):316-8. doi:10.2466/pms.1995.81.1.316
- Morgenthaler T, Kramer M, Alessi C, et al. Practice parameters for the psychological and behavioral treatment of insomnia: an update. An american academy of sleep medicine report. *Sleep*. Nov 2006;29(11):1415-9.
- Brown RP, Gerbarg PL. Sudarshan Kriya yogic breathing in the treatment of stress, anxiety, and depression: part I-neurophysiologic model. *J Altern Complement Med*. Feb 2005;11(1):189-201. doi:10.1089/acm.2005.11.189
- 15. Brown RP, Gerbarg PL. Sudarshan Kriya Yogic breathing in the treatment of stress, anxiety, and depression. Part II--clinical applications and guidelines. *Journal of Alternative and Complementary Medicine*. Aug 2005;11(4):711-7. doi:10.1089/acm.2005.11.711
- Descilo T, Vedamurtachar A, Gerbarg PL, et al. Effects of a yoga breath intervention alone and in combination with an exposure therapy for post-traumatic stress disorder and depression in survivors of the 2004 South-East Asia tsunami. *Acta Psychiatr Scand*. Apr 2010;121(4):289-300. doi:10.1111/j.1600-0447.2009.01466.x

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- 17. Katzman MA, Vermani M, Gerbarg PL, et al. A multicomponent yoga-based, breath intervention program as an adjunctive treatment in patients suffering from generalized anxiety disorder with or without comorbidities. *International Journal of Yoga*. Jan 2012;5(1):57-65. doi:10.4103/0973-6131.91716
- 18. Zautra AJ, Fasman R, Davis MC, Craig AD. The effects of slow breathing on affective responses to pain stimuli: an experimental study. *Pain*. Apr 2010;149(1):12-8. doi:10.1016/j.pain.2009.10.001
- 19. Mehling WE, Hamel KA, Acree M, Byl N, Hecht FM. Randomized, controlled trial of breath therapy for patients with chronic low-back pain. *Altern Ther Health Med*. Jul-Aug 2005;11(4):44-52.
- 20. Busch V, Magerl W, Kern U, Haas J, Hajak G, Eichhammer P. The effect of deep and slow breathing on pain perception, autonomic activity, and mood processing--an experimental study. *Pain Med*. Feb 2012;13(2):215-28. doi:10.1111/j.1526-4637.2011.01243.x
- 21. Li H, Horke S, Forstermann U. Oxidative stress in vascular disease and its pharmacological prevention. *Trends Pharmacol Sci.* Jun 2013;34(6):313-9. doi:10.1016/j.tips.2013.03.007
- Ceriello A, Bortolotti N, Crescentini A, et al. Antioxidant defences are reduced during the oral glucose tolerance test in normal and non-insulin-dependent diabetic subjects. *Eur J Clin Invest*. Apr 1998;28(4):329-33.
- Tessier D, Khalil A, Fulop T. Effects of an oral glucose challenge on free radicals/antioxidants balance in an older population with type II diabetes. *J Gerontol A Biol Sci Med Sci*. Nov 1999;54(11):M541-5.
- 24. Martarelli D, Cocchioni M, Scuri S, Pompei P. Diaphragmatic breathing reduces postprandial oxidative stress. *J Altern Complement Med*. Jul 2011;17(7):623-8. doi:10.1089/acm.2010.0666

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Diaphragmatic Breathing

The diaphragm is the most efficient muscle of breathing. It is a large, dome-shaped muscle located at the base of the lungs. Your abdominal muscles help move the diaphragm and give you more power to empty your lungs. Diaphragmatic breathing is intended to help you use the diaphragm correctly while breathing to:

- Strengthen the diaphragm
- Decrease the work of breathing by slowing your breathing rate
- Decrease oxygen demand
- Use less effort and energy to breathe

Diaphragmatic breathing technique



1. Lie on your back on a flat surface or in bed, with your knees bent and your head supported. You can use a pillow under your knees to support your legs. Place one hand on your upper chest and the other just below your rib cage. This will allow you to feel your diaphragm move as you breathe.

2. Breathe in slowly through your nose so that your stomach moves out against your hand. The hand on your chest should remain as still as possible.



3. Tighten your stomach muscles, letting them fall inward as you exhale through pursed lips. The hand on your upper chest must remain as still as possible.

When you first learn the diaphragmatic breathing technique, it may be easier for you to follow the instructions lying down, as shown on the first page. As you gain more practice, you can try the diaphragmatic breathing technique while sitting in a chair, as shown below.

To perform this exercise while sitting in a chair:

1. Sit comfortably, with your knees bent and your shoulders, head and neck relaxed.



2. Place one hand on your upper chest and the other just below your rib cage. This will allow you to feel your diaphragm move as you breathe.

3. Breathe in slowly through your nose so that your stomach moves out against your hand. The hand on your chest should remain as still as possible.

4. Tighten your stomach muscles, letting them fall inward as you exhale through pursed lips. The hand on your upper chest must remain as still as possible.

Note: You may notice an increased effort will be needed to use the diaphragm correctly. At first, you'll probably get tired while doing this exercise. But keep at it, because with continued practice, diaphragmatic breathing will become easy and automatic.

How often should I practice this exercise?

At first, practice this exercise 5-10 minutes about 3-4 times per day. Gradually increase the amount of time you spend doing this exercise, and perhaps even increase the effort of the exercise by placing a book on your abdomen.

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Benefits of Journaling about Traumatic or Stressful Events

(The Book of Psalms was King David's Journal)

"You keep track of all my sorrows. You have collected all my tears in your bottle. You have recorded each one in your book. My enemies will retreat when I call to you for help. This I know: God is on my side! (Psalm 56:8-9, NLT)

God has a bottle and a book of His people's tears. He observes them with compassion and tender concern; He is afflicted in their afflictions and knows their souls in adversity. As the blood His saints, and their deaths, are precious in the sight of the Lord, so are their tears, not one of them shall fall to the ground. The tears of God's persecuted people are bottled up and sealed among God's treasures; and, when these books come to be opened, they will be found vials of wrath, which will be poured out upon their persecutors, whom God will surely reckon with for all the tears they have forced from His people's eyes; and they will be breasts of consolation to God's mourners, whose sackcloth will be turned into garments of praise. God will comfort His people and give to those to reap in joy who sowed in tears. What was sown a tear will come up a pearl.

Journaling helps us to organizes our thoughts and process our feelings.

- Helps us to establish healthy coping skills by giving us an outlet to release and process painful emotions and thoughts associated with past traumatic experiences.
- Putting pen to paper gives us the opportunity to express our thoughts and find clarity on a specific subject or event, and to process our feelings safely and honestly less chaotically, in a more organized and coherent fashion. Often, victims of trauma have a challenging time making sense and remembering a series of events or event over an extended period.
- Provides a safe place to get the toxicity of trauma out of our system. Rarely are we granted a safe place to feel and express our emotions from traumatic experiences. Silence is one of the primary reasons depression, anger, and anxiety exist.
- Allows us to express ourselves without interruption, judgement, or having our truth questioned by others.
- Increases our ability to label and express our emotions.
- Studies have shown the act of journaling ALONE can reduce cortisol levels by as much as 68%. This can increase our belief in our capacity to manage stressful situation.
- Helps to increase our self-awareness and confidence. As we can gain more clarity from
 putting our thoughts and feelings onto paper, the natural by-product is gaining more
 knowledge of ourselves. Increasing our self-awareness can help break age-old patterns of
 unhealthy thoughts and behaviors that often contribute to the vicious cycle of trauma. This
 process alone can help dismantle unhealthy narratives and increase self-confidence.
 Increasing self-awareness and self-confidence are two vital components of healing from past
 trauma.
- Enables us to connect with others because we are connecting with ourselves.
- Helps with self-reflection and understanding who we really are inside. It is a terrific way to keep track of what we have already overcome so we always remember who we are and WHOSE we are. Through journaling, you are documenting your ability to survive and recording the grace and faithfulness of God in your life.

No temptation has overtaken you that is not common to man. God is faithful, and he will not let you be tempted beyond your ability, but with the temptation he will also provide the way of escape, that you may be able to endure it. (1 Corinthians 10:13, ESV)

Journaling improves your memory and mood

- Journaling is one of the best ways to improve memory retention over time. Recording our positive thoughts and feelings, hopes, and dreams helps keep them alive, so they are not forgotten over time.
- Increases our working memory (the ability to remember and work with a large amount of information on your mental desktop)
- Improves our mood and give us a greater sense of overall emotional wellbeing and happiness.

Journaling improves our immune system and helps with weight management (by lowering our cortisol levels):

- People who do not talk or write about traumatic events are more prone to a variety of health problems. People who do not disclose their emotions are more likely to suffer from somatic symptoms (conditions for which no physical cause can be found).
- Journaling improves immune system functioning and strengths our immune cells.
- Improves our liver and lung function.
- Helps us fight off certain illnesses and diseases, have less doctors' visits, and miss work less.
- Studies have also shown less symptoms of asthma and rheumatoid arthritis with journaling.
- Helps us recover from physical injury.
- Helps with our waist training because high cortisol levels add undesirable weight to our tummy area.