THE STRESS-PAIN CONNECTION

Breaking the Ties that Bind

Compliments of:

SOUTH ORANGE
Rehabilitation & Wellness

INTRODUCTION

Trips to the store, picking up your kids, lunch with friends, playtime with a pet — so many parts of normal, everyday life become challenging with the introduction of chronic pain. The ability to get up and go, to embrace every part of life can feel like a thing of the past.

Chronic pain, or pain that lasts longer than 6 months, is getting in the way of life for around 100 million Americans. It comes in many forms and many levels of intensity, but a large percentage of those millions experience daily neck, back, and shoulder pain. People living with chronic pain find that constant or consistent pain keeps them from enjoying time with friends and family, and from being active and healthy. It's a struggle that gets in the way of living your best life.

The causes of this condition are varied and complicated with pain stemming from injury, lifestyle choices, nerve damage, and disease. And the treatments people try to end the pain come in every method imaginable. Often, people will seek relief from drugs (over the counter and prescription), but these drugs only mask the pain and don't address the source. They can even cause other problems such as side effects and dependency. You may still be on that search for relief trying drug after drug with minimal changes. There are good days and bad days, and you hold out hope that some day it will get better.

Our bodies weren't made to breakdown and suffer from lasting pain. No matter the age, we should be able to enjoy the bending, twisting, and moving that makes us human. It might be hard now to imagine moving fluidly and freely when faced with chronic pain. Many people think pain is a natural consequence of stress, age, and lifestyle, but you don't have to live with those limitations. This guide is to help those who are experiencing aching, long-lasting pain in their back, neck, and shoulders find lasting relief.

© 2016 Forlight LLC. All Rights Reserved.

1. THE STRESS-PAIN CONNECTION

There is hope for people embattled in this daily struggle. New, emerging research shows a very strong link between stress levels and chronic back, neck, and shoulder pain. Doctors and researchers have long known that stress and pain can go hand in hand. Let's examine how the human body is built to handle stress.

Stress

When primitive humans were faced with a charging mammoth or other dangerous event, the body would trigger a "fight-or-flight" stress response. The brain would respond to the threat by pumping out stress hormones including adrenaline and cortisol. The hormones tense the muscles, slow digestion, and speed heartbeat — priming the human for a fight (or to run!).

But we don't live in that world anymore. And our fight-or-flight response is triggered way too often for things that aren't life threatening. Deadlines, bills, long hours, and other stressors are pushing us into an endless stream of stress hormones. The stress hormone imbalance shows up in high blood pressure and heart rate, muscle aches, digestive problems, and weakened immune systems. These are real, physical problems caused by stress.

New Research

We know that stress can affect us in many ways through the released body chemicals. But scientists at Carnegie Mellon University recently found and even closer link between stress and physical pain. New research shows that chronic, unending stress is linked to the body losing the ability to regulate inflammation, which can hasten the development and progression of disease.

It works like this: Inflammation is regulated in part by the stress hormone cortisol. With runaway stress, body can lose its sensitivity to cortisol, letting inflammation run rampant.

Stress and pain can often be part of a cycle where both chronic pain and chronic stress reinforce each other.

Muscle pain in the back, neck, and shoulders is especially linked to stress and the tension that stress promotes. Normally our bodies can help us function through pain using the brain to help filter out these feelings. But when stress is added to the mix, the brain's ability to deal with pain is inhibited — and we feel worse as a result.

Modern Life's Role

Because we don't live as hunter-gatherers anymore, stress is not a vital part of our survival. We live in a modern society that is at odds with our chemical makeup.

Our modern society has led us to a life of low-level everyday stress our ancestors would have rarely experienced. We live fast-paced lives full of hard work, long hours, and lots of responsibility. But your body doesn't know the difference between stress from danger and stress from long work hours. We react with the same chemicals. A lifetime of this can impact our health considerably.

© 2016 Forlight LLC. All Rights Reserved.

And we rarely take time to relax and fully disengage from our worries and fears. The modern world, with its TV, Internet, email and more, is invasive, clogging our sensory inputs and adding to our stress levels. Little stresses pile up on top of each other and grow in our perceptions.

Constantly pouring stress hormones into our system can result in depression, burnout, anxiety, compromised immunity, and pain.

The Stress Response

According to the American Psychological Association's 2014 report, 75 percent of Americans reported at least one symptom of stress in the last month. The physical symptoms of pain and tension are just part of the story. We also can suffer emotional and mental responses from chronic stress.

Chronic stress can impact our mental state, too, setting us up for anxiety and depression. Stress hormones in large amounts may contribute to low energy levels and depression. The negative emotions associated with depression like self-hate and guilt can result. Stress can also trigger anxiety, which can start out small with nail biting or fidgeting and build to feelings of dread and intense worry.

Our very thoughts are subject to the effects of stress hormones. The long-lasting presence of these hormones may decrease the functioning of our brain cells in several parts of the brain, including the spots for long-term memory, problem solving, and concentration.

Other emotional responses to stress include:

- Irritability and frustration
- Anger and aggression
- Defensiveness
- Communication problems
- Withdrawal

Research has also shown a connection between chronic stress and the abuse of addictive substances. There may even be a connection to obesity when people cope with the stress through overeating. People cope with stress in many ways, and it's important to realize the negative consequences of letting stress rule your life.

Retrain Your Brain

Though sometimes it seems that reducing stress levels is an insurmountable task, you can retrain yourself to respond differently to life's stressors. You may not be able to change the things causing stress, but you can change your perception. Reducing or eliminating your stress response can improve your life in both physical and mental ways.

© 2016 Forlight LLC. All Rights Reserved.

2. THE DECISION

The first step to reducing your stress level and associated pain is a decision. It's time to tell yourself that you will not be stressed out anymore. It seems like a simple thing to do, maybe even a little silly, but it's necessary to give yourself a hard break from a life ruled by stress. Here's how:

Realize the problem: You could be in denial about how much stress you have and how much it affects you. Take time to examine your daily life, your health, and whether you have any of the symptoms of chronic stress described above.

Accept your decision: Make a decision to reduce your stress. Really believe in it. All the exercises and relaxation techniques are great, but this decision needs to be made first. You are deciding to change your life.

Believe it's possible: Stress reduction is possible. We'll guide you through several techniques to build your skills in this area, but you need to embrace the real possibility of a healthier future.

Have patience: Like anything important, this will take time, patience, and consistency. We're breaking years of bad habits and ingrained responses. Like building up muscle, it will take repetition and practice.

To really embrace this decision, write down your proclamation for a stress-free life and post it somewhere you'll see it daily. If you need a closer reminder, make a note on your phone or tie a piece of brightly colored string around your wrist. In the first few weeks, you'll need something to remind you of your decision.

3. STRESS REDUCTION TOOLS AND EXERCISES

OK, you've made this decision to reduce your stress. What next? We'll start by laying out some techniques and exercises to give you the opportunity to practice your decision to be stress free. You don't have to be perfect every day, right from the beginning. This is a marathon, not a sprint. Look for and relish in the small accomplishments and victories along the way.

© 2016 Forlight LLC. All Rights Reserved.

Assess Your Current Stress Level

It's important to know just how much work will need to be done. Go through the following stress assessment questions and think about how each question affects your life. Write down the answers and keep them on hand for later stress checkups.

1. Are you an emotional eater? Do you normally reach for unhealthy foods or eat when you're not hungry? Do you do this only when you're stressed?
2. Do you find that you sweat excessively even when you're not exercising?
3. Do you have trouble sleeping? Are you very tired at the end of the day?
4. Do you experience regular digestion problems, including irritable bowel syndrome or indigestion?
5. Do you have any symptoms of anxiety or depression including extended periods of sadness and feelings of worthlessness, impending doom, or extreme worrying?
6. Are you easily irritated or frustrated?
7. Do you take good care of your mind? (Do you spend time relaxing and doing things that make you happy?)
8. Do you take good care of your body? (Do you exercise regularly and eat a healthy diet?)
9. Do you have trouble maintaining a healthy weight?
10. Do you have tension headaches often? These would be headaches that feel like pressure and muscle tightness throughout your head and neck.
11. Do you have consistent pain through your neck, shoulders, and back?
12. Do you miss a lot of work due to illness?
13. Are any of your coping mechanisms activities like smoking, drinking, or using drugs?

If the answers to many of these questions are yes, there's some work to be done. Even if you're in the middle on some of them, you can benefit from the following stress-reduction techniques.

Reducing Stress in Mind, Body, and Spirit

Stress is a pervasive thing in our lives, so it's unsurprising that we'll need to attack it from three distinct areas. In the Mind section, we'll talk about getting our brain in shape for making real, lasting change. Body will focus on how movement can fight back against stress. Spirit will help you let go of the stress. The combination of these areas will permanently reduce your stress and its associated chronic pain.

1. Mind: Focus On a New Path

The mind is a powerful thing. It can bring us fulfillment and joy, but it can also lead us down a path of worry where each stressor compounds on itself.

Change Your Thoughts

People will often let their inner negative thoughts rule, setting up the mind for a constant stream of nightmarish what-if scenarios. If you often see the negatives in a situation and have trouble imagining good outcomes, stress is probably a part of your daily life. People under chronic stress have convinced themselves that nothing will go their way. They are constantly bracing for the worst, even when it's not there.

© 2016 Forlight LLC. All Rights Reserved.

This is a line of thinking that gets ingrained over and over again, like a well-used track on a dirt road. It becomes our default setting. The more we go there in our minds, the harder it is to think positively.

Your first step to re-aligning your mind is to banish these negative thoughts and nightmarish what-if scenarios. Since it might be old habit for you to think this way, you'll need to think of a stop word. Create a word or phrase that you can say to yourself (aloud or in your head) that stops these thoughts cold. You can even use a visual symbol like a bright red stop sign. Anything that will get your mind to stop that line of thought at allow you to reset.

Once you've stopped the thought, look at it critically. Are your scary what-if scenarios even valid? Pretend you're a detective and look for evidence that these thoughts are suspicious. Prove to yourself that these disruptive thoughts are not worth your time.

The next step is to replace these negative outcome thoughts with positive ones. When you catch yourself thinking negatively, stop yourself and think of something that is going right. It can be a little thing like spending time with a friend or a big thing like a good job. Practice this and in time your default thoughts about the future will turn from stress-filled worries to a list of hopeful positives.

Use Affirmations

Just as you created a stop word for worrying thoughts, you can create an affirmation or mantra to combat stress. It's a simple way to set a more positive outlook in your daily life.

Can a practice as simple as reciting a mantra really help? Stress researchers say yes — every thought and emotion creates chemical reactions in our brain that can either affect us negatively or positively.

What you choose to say is up to you, but it should be positive, uplifting, and calming. It can be ripped off a cat poster ("Hang in there!") or a popular TV show ("Make it Work!"), but whatever it is, make sure it works for you. Say your mantra as soon as you remember to in the morning.

Sometimes there is not much we can do to completely avoid stressful situations. They are a part of our modern world, but we need not fear them. These mantras will help you accept inevitable stressors as a part of life and move on to more productive lines of thought. That's why mantras can be a reset for the mind: You allow you to acknowledge stressors and move on. They can exist, but they do not get to rule you.

© 2016 Forlight LLC. All Rights Reserved.

Create an Atmosphere of Gratitude

Sometimes to see the beauty of life, we need to slow down and acknowledge the good parts. And many are embracing the benefits through gratitude practices. Researchers have even identified physical and psychological health benefits associated with giving thanks.

Keeping a gratitude journal is one concrete way to practice acknowledging the good things in life. As a stress-reduction technique, it can focus our energy and pave the way for better sleep, less pain, and more happiness.

So dig out a notebook and start right now. Write down five things from the past week that you are grateful for. They can be simple things like a good cup of coffee to overarching themes like good friends or music. For heightened feelings of thankfulness, look to record gratitude surrounding:

- People rather than things
- Surprising or unexpected occurrences
- Detailed experiences where you can elaborate on why exactly you're grateful

This is really about paying attention to what's going right in your life without taking anything for granted — not even that coffee. Savor and spend time with these lists. Go back and read through them. The process of writing helps you organize your thoughts and create meaning in your life. This is not a to-do item that you just have to get through. This should slow you down from the day-to-day rush and refocus your energy in a positive fashion.

2. Body: Relief through Movement

Stress is as much connected to your body as it is to your mind. Though the idea of movement when faced with chronic pain can seem impossible, even small amounts can help relieve stress and combat pain.

Position Problems

Our body can both worsen stress and protect against it. For example, researchers found that people who maintained good posture and body position throughout a stressful research study had better mood, focus,

© 2016 Forlight LLC. All Rights Reserved.

and self-esteem than slumped participants. They concluded that maintaining good posture might be a way to build resilience against stress.

While maintaining good posture is helpful for reducing stress and avoiding pain, there's a larger body position problem that many face daily: sitting. When modern life requires us to sit for hours on end, problems including chronic back pain can result. Finding a way to incorporate less sitting into your life is important to reducing stress levels, whether it's by investing in a standing desk or taking frequent breaks that include walking and stretching. Try standing up every 20 minutes at a minimum. Add some walking or light stretching once an hour to increase the benefits. When you do stand, keep your weight spread evenly over your feet and avoid putting stress on your back by slouching.

Strength Benefits

Muscle and body strength is built from exercise, which is one of the most potent stress relievers. But you don't have to become a gym junkie to reap the benefits. Especially if you're dealing with chronic pain, you'll want to start small and build. You'll also want to pick exercise that works for your lifestyle. That could be as simple as walking (one of the best exercises!) or a sport with friends.

Building strength and endurance through exercise is one of the best ways to reduce stress because of:

- Endorphins: Physical activity pumps up the production of happiness chemicals called endorphins.
- Thought relaxation: Exercise and sports often make you forget the day's stressors and focus on the movement.
- Bonus!: Exercise can boost self-esteem, lower depression, and help you feel more in control.

Foundation Training is a great approach to remove body movement habits that are working against you and placing stress on your body. Foundation movements focus on core strength, which helps stabilize your spine, back, and pelvis.

Movement Workout 1: Stretch Yoga

We've outlined a basic stress-busting yoga and stretch workout below to get you started. You may find other exercises are more your thing, and that's OK. This is about finding what works for you.

Pre workout: Find a calming space with a non-slippery surface (like an exercise mat). Hold each pose or stretch between 10 and 20 seconds, whatever feels comfortable.

© 2016 Forlight LLC. All Rights Reserved.

Move 1 - Hamstring stretch: Stretch the hamstrings by positioning your feet a bit more than shoulder's width apart and reaching toward the ground and hold for 10 seconds, release, and repeat.

Move 2 - Downward dog (pictured top): Leave your feet where they are and bring your hands down to the ground in front of your shoulders for this foundational yoga pose.

Move 3 - Cobra: Lie flat on your stomach and use your hands to push your chest, shoulders, and head upward.

Move 4 - Pigeon stretch (pictured bottom): Cross one leg in front of your body with one leg straight behind you. Lay your upper torso across your forward leg, going as low as comfortable. Switch legs and repeat.

Move 5 - Bridge: Lie on your back with your knees bent and feet flat on the floor. Raise your hips and bottom up while keeping your arms down against the floor.

Move 6 - Triangle pose: Stand with your feet much wider than shoulder-width apart and reach down with your right hand toward your right foot and grab on at the ankle. Look and reach upward with your other arm, turning your chest up. Switch sides and repeat.

Move 7 - Squat stretch: Stand with your feet slightly wider than shoulder-width. While keeping your back flat, lower your hips as low as you can into a squat position. If you've spent most of your adult life sitting, this may be hard at first, but will loosen up with practice. Make sure your knees never extend out further than your toes.

Move 8 - Child's pose: End your workout by kneeling and folding your upper torso forward with your arms extended along the floor above your head. This pose is one of the biggest stress reducers of the whole workout, so don't skip it.

Movement Workout 2: Posture and Basic Movement

Besides yoga and stretching, you can practice some basic movements that will help increase your mobility. If you're dealing with stress-induced chronic pain, you may not move around much right now, but this workout is a way to ease back into the practice of moving around.

Move 1 - Hinging: Stand with feet shoulder-width apart and loosen up your hips by bending at the waist with your hands linked behind your head so your back is flat. We're going for a hinge motion, not a rounded back. Repeat 5-10 times.

Move 2 - Bending: Put your arms down and reach toward your toes (this time your back can bend). Hold this and breathe for 10 seconds.

Move 3 - Shoulder circles: Raise your arms parallel with the ground with your palms turned out perpendicular to the floor. Make 10 small circles with your arms, working on your shoulder rotation.

Move 4 - Knee raises: Stand with your hands linked behind your head. Bring one leg straight up from the

© 2016 Forlight LLC. All Rights Reserved.

knee with the rest of your leg pointing down. Repeat 10 times on each side.

Move 5 - Forward bend twist: Stand with feet wider than shoulder-width. Hold your arms out parallel to the ground. Using the right hand, reach down toward the left foot. Twist your torso by pushing the other arm straight up and keeping your head pointed up toward the sky. Repeat 10 times on each side.

Move 6 - Cat poses: Move to hands and knees with a neutral back that's parallel to the ground. For the first pose, pull your head and bottom up and allow your spine to become concave toward the ground. Then, do the opposite and bring the head and bottom down, pushing out the back. Repeat three times for each position. Return to a neutral spine before ending this move.

In addition to any workouts you'd like to try, walking is one of the best stress reduction exercises. Movement and fresh air (if you can do it outside) is a great combination for relaxation. No matter what you choose, start at or below your current comfort level to allow yourself space to grow. There's no reason to go all in on a workout on day one and then be so sore you can't move for a week.

Talk to a doctor or other healthcare professional before starting an exercise routine, especially if you haven't exercised in a long time. For most people, the Department of Health and Human Services suggests 150 minutes a week of moderate activity (like brisk walking) or 75 minutes a week of vigorous activity (weight training, cardio classes). You can choose your level according to what works best for your lifestyle.

To stick to your movement goals, try scheduling them into your calendar and keep them like you would an appointment. Or, enlist a friend that can meet you at the gym — you'll be more likely to show up.

Overall, movement should be a stress-reducing, enjoyable activity, so make time for it and make the movement something you like to do.

3. Spirit: Release Yourself from Stress

By now you've recognized that stress can be a damaging factor in your daily life. But that's not the end of the conversation. The mind-body connection continues into the realm of spirit. It's time to learn that we can only control the things that are controllable and trust that we will be able to cope with everything else.

Think about the quote "bad weather always looks worse through the window." Sometimes, the feeling of impending worries and stress weighs the heaviest of all. Release your spirit by clearing your mind of these worries using the following techniques.

Calm the Spirit through Meditation

Meditation has been used for centuries to help calm a nervous, scattered mind. It's excellent for stress reduction because it removes the focus from worry and brings you back to the present.

There are several ways to mediate and helpful apps, videos, and audio tracks to guide you. A simple way to meditate is the following:

1. Relax. Drink some tea, take a walk, or find some other way to relax before you start your meditation. Find a quiet spot to sit down and remove distractions including noise, children, or pets.

2. Get comfortable. Any position will do, but make sure it's one you can hold for at least 5 minutes.

© 2016 Forlight LLC. All Rights Reserved.

3. Breathe. Your breathing should be even and slow. Focus on the breath going in and out of your body.

3. Focus. If you're listening to guided meditation, focus on the speaker's voice. If you're playing an audio track (like waves crashing or forest noises), focus on sound. If you like silence, focus on how the air you breathe in is cooler than what you breathe out. Focus, but don't fight to keep attention. If your mind starts to wander, calmly redirect it back to your focus. Don't fight thoughts that come to you, but don't follow them. Simply leave them where they are and return to your clear mind.

4. Practice. Clearing your mind is hard for beginning meditators. Even if you manage to clear your thoughts just 10 percent of the time you're meditating, that's good for a beginner. If your mind starts to stray, it's not a failure to stress out about. Just return your focus and continue on. Try meditating for 5 minutes for the first few times and increase to 10, 15, and 20 as you improve.

Mediating has many physical and mental benefits including improved blood pressure, better concentration, improved pain management, and a stronger immune system.

Delegate to a Higher Power

For many people, an important part of dealing with chronic pain and stress is to delegate some of your worries to the universe, a higher power, or your God. Imagine and visualize releasing your stress to the universe by simply opening up your hands.

This practice will lighten your load a bit and show you that you don't need to have the answers to every single thing right this second. Send your stressors out to the universe and have faith that your higher power will see you through.

Faith is a tool many people use to overcome chronic stress and pain. If you are a person of faith, use that connection to find inner peace for your spirit.

Other Options

If stress-reduction techniques along aren't enough to end your back, neck, and shoulder pain, consider a few more options:

- Supplement: Vitamins D and K2 can help strengthen bones.
- Grounding: Proponents say the practice of touching bare skin and feet to natural earth can decrease inflammation. Being in nature can do wonders for stress reduction, so take your shoes off and walk through wet grass or sand.
- Drink water: Your bones, muscles, and soft tissues need water. Combat stiffness in your body by staying hydrated.
- Quit smoking: Smoking can reduce blood flow to the spine and create an environment for back pain.
- Sleep: Stress may make sleep hard to come by, but a lack of it is linked to increased neck and back pain. That pain makes it harder to fall asleep and a harmful cycle develops. If you have trouble sleeping, try a firmer mattress or switching up your position to the side for a neutral spine. Also think about adding more magnesium to your diet via food sources or a supplement. Magnesium is a mineral used for many body processes and it's absolutely vital for relaxing muscles and restful sleep.

Track Your Progress

Find some way to keep an eye on your stress levels during your day. Keep a journal, write observations in your calendar, or stick notes to a bulletin board. Once you've made your decision to banish stress, start tracking it right away by:

Taking the stress assessment at the beginning of this guide again at 30, 60, and 90 days. Make sure to

© 2016 Forlight LLC. All Rights Reserved.

record your process each time and look back to see how you've progressed. Assess how far you've come at each milestone.

Celebrating victories. Treat even small stress reductions as victories. Accomplishments in this area will help you continue to make changes.

Tracking hard numbers. You may want to track some numerical factors like blood pressure, weight, and number of days with pain. This can give you some hard data to show the effects of your stress-reduction.

4. START NOW

All these suggestions can be tools for your recovery from the chronic pain associated with stress. They are for you to use as you see fit. They should fit in into your life and the wishes you have for your future. The goal here is to be able to get up, go out, and enjoy life like you would before stress and pain.

Reducing stress will help pain relief, but there are benefits beyond that. Stress is so pervasive in our modern world that its reduction can help us be better friends, mothers, fathers, employees, and human beings. We'll live better, healthier lives free from crippling worry. And you don't have to scrub every speck of stress from your life to reap these benefits. Even small changes can make a lasting impact.

So you've made a decision to reduce your stress and end the hold that pain has over you. It's time to make progress each day and start the journey toward a better life.

© 2016 Forlight LLC. All Rights Reserved.