

Health

Unit 2 of 3

In this Unit we'll be exploring the unfortunate side of exercise - injury and pain. We will provide some methods that other people have found helpful in relieving pain. We'll also be talking about a different kind of exercise: relaxation! You'll read about various relaxation activities, as well as another meaning for relaxation, and you'll learn about the benefits of taking some time out of your day to truly RELAX.

PART I – INJURY AND PAIN

Exercise and/or relaxation are often undertaken to deal with an injury, pain, or health problems.

1. Have you ever had lower back pain? Do you know what caused it?

Probably most of you are going to answer YES because the amazing fact is that at least 80% of Americans will experience significant back pain during their lives. Along with headaches, it is the one type of pain everyone seems to have experienced. The two most common approaches to treating low back pain are to: (1) do flexion exercises and (2) do extension exercises. (Gee, isn't it great to have a straight answer?) Here are some more details about each approach:

Flexion exercises are meant to strengthen the *abdominals* (stomach muscles) and stretch out the muscles that extend the spine. Those small extensors can go into *spasm* when you lift too much or suddenly move the wrong way. "Spasm" is a muscle's way of getting so pissed off at being asked to do too much that it contracts tightly and won't let go. And it hurts! So slow trunk flexion (WITH KNEES BENT) is meant to gently stretch out the extensors.

Extension exercises are aimed at *disks*. These are the pads that cushion and separate the vertebrae (back bones), and they each have a little bubble inside. When there is too much bending of the spine, the pressure can force that bubble to the back of the disk, and the bulge pushes on nerve endings. This hurts too! (When the disk "ruptures", the bubble pushes out far enough to leak or tear supporting tissue; this needs immediate attention due to potential neurological damage.) Extension exercises are meant to gently put pressure in the other direction and push the disk structure back where it belongs.

2. Name one sport or exercise that could cause low back injury from too much flexing, and one that could cause low back injury from too much extending.

3. What is a job (in or out of prison) that incorporates too much flexion of the spine?

4. What is a job (in or out of prison) that incorporates too much spinal extension?

5. What is a job (in or out of prison) that incorporates too much relaxation?

6. What is a job (in or out of prison) that incorporates too much repetitive movement of a single joint?

7. Imagine the perfect job for your muscles and joints - it doesn't have to exist in the real world. Write a job description for a potential employee, including hours/week, starting time, coffee breaks, etc.

REMEMBER: When your body hurts, pay attention. There is no one perfect treatment -- everyone and every health problem is different.

Pain due to injury is often the first step leading someone to addiction. See Appendix 1 : Addiction for information on a problem affecting more and more Americans.

PART 2 - RELAXING

Relaxation is not simply the opposite of exercise; it can be an exercise too. In fact, it can be hard work.

8. How would you define relaxation?

9. Why is it important to incorporate relaxation into an exercise program?

10. Give an example of when relaxation is an exercise.

11. Think of a way to relax your body or a body part in an upright position.

The reasons to relax vary as much as the reasons to exercise -- you could have a spasm in your calf, an aching back, feel tense all over, etc. The how-to-relax methods are equally varied. Here are a few methods used to achieve relaxation:

During a massage, your muscles may be gently kneaded in an attempt to get them to loosen up. Or a massage therapist may dig into the sorest part of a tight muscle (its "trigger point") so the treatment actually hurts.

12. When would the gentle method of massage therapy be effective? When would the more rigorous method be effective? Would either have an effect on anger control as well as muscle relaxation?

Here are some more relaxation approaches where you are your own therapist:

Self-Massage

Sit in a comfortable position (elbows supported on a table if possible) with hands on the muscle bulk between neck and shoulders. Massage gently for about thirty seconds, rest, and then do a more vigorous massage.

13. Which made the muscles feel more relaxed -- deep or gentle self-massage? Did one make you feel more relaxed overall?

Deep Breathing

A major muscle group for breathing is the "intercostals" which run between your ribs. They contract to pull the ribs up so your ribcage expands, pulling air into your lungs.

Put your hands near the bottom of your rib cage and take a slow, deep breath. Make your ribs push against your hands. Your hands should exert a steady pressure but allow the ribs to lift as far as they can. Hold that for a second, then let the air flow out by itself while you relax your arms. Because the ribs have to push against your hands, this is a way to actually strengthen those intercostal muscles and increase their efficiency.

14. How did you feel after taking about five deep, slow breaths? Why would this be an exercise to help with relaxation?

15. What muscle is contracting when you breathe out forcibly?

Contract-Relax

Use your hands to repeatedly, slowly, and strenuously grip and release an object (like a ball or towel). When a muscle is pushed to work extra hard, it relaxes to a greater extent. It's one more way to experience and control relaxation.

16. Why would an exercise involving the muscles of your hands make your upper body relax?

The Butterfly

We've saved the best for last because frankly this one strikes us as silly -- but we're willing to be proved wrong. It's called the "Butterfly Hug" and we wouldn't let anyone else see you try it because they'll think you've gone off the deep end. Stand and wrap your arms around yourself. Now wiggle your fingers for one minute.

17. Well -- how did this make you feel?

18. Why would someone be comforted and more relaxed after a butterfly hug?

There are many practices from different cultures built around the idea of relaxing your mind and body. Below are a few examples.

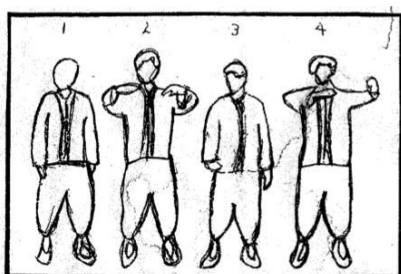
Yoga:

In yoga, you assume certain positions, many at the extremes of some joint ranges, such as sitting with legs crossed with feet are up on the thighs (if you are flexible enough!). The idea is that holding yoga positions helps you focus on the body's "energy centers", releasing your own body's healing force.



Tai Chi

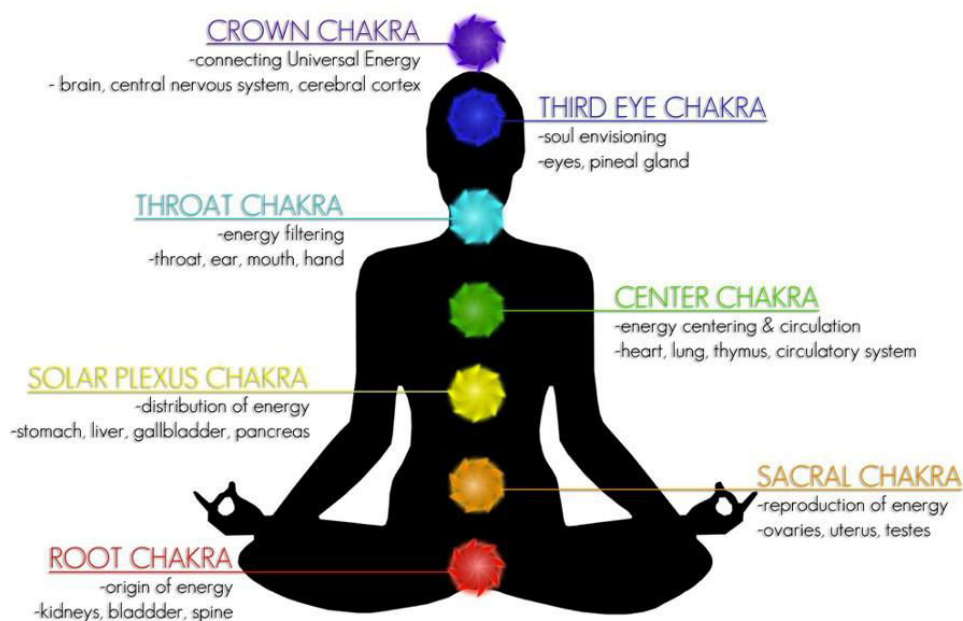
Tai Chi has the same goal as yoga, but instead of assuming static positions, you go through a series of very slow movements. CG member Willie M. has provided descriptions and drawings of Tai Chi positions below.



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- #1: Stand relaxed with your feet about shoulder width apart.
 - #2: Bend your elbows slightly and lift your arms slowly to shoulder height in front with hands and fingers horizontal and relaxed. Concentrate awareness on your forearms.
 - #3: Slowly lower your hands to your thighs, with the fingers of your right hand pointing down and your left palm facing down.
 - #4: Raise your arms to shoulder height, with left elbow only slightly bent.

Reiki

Reiki involves promoting healing through "life force energy". This energy is believed to flow through the hands, and so Reiki can often involve someone else placing their hands on or close to your body (usually a Reiki Master). However, Reiki also emphasizes that YOU must take an active part in your healing by promoting harmony and peace.



Meditation

This practice involves training your mind to focus on clearing yourself of stress and chaos. Yoga and Tai Chi fall under this broad category. Meditation can be practiced by anyone, almost anywhere (although you may get strange looks at some places.) Professionals have long talked about the benefits of meditation, including a sense of peace and balance. **Guided meditation** involves fixating on a mental image/place that you find relaxing, and really trying to immerse yourself in this image/place by experiencing the smells, sights, sounds, etc. **Mantra meditation** centers on focusing on a calming thought, phrase, or word. **Mindfulness meditation** is based on concentrating on the present moment, such as the flow of your breath.

These are just a few of many relaxation techniques. Do any pique your interest?

19. Have you tried any of these methods before? If so, did it help calm you? If not, would you consider trying these now?
20. Which method (yoga, tai chi, or Reiki) looks the most effective at de-stressing and relaxing you and why?
21. Think of your own relaxation technique and describe it.
22. Do you think relaxation is more, less, or equally important as exercising?

PART 3 – ANOTHER KIND OF RELAXATION

Anger makes relaxation very difficult. It's easy to tell yourself to stop being angry, harder to actually succeed. Calbraith (the incarcerated author of *Practical Reformation*) discussed relaxation and "serenity." This is how he approached his problem with anger:

I'd historically regarded any theft of my goods, services, resources, security.. as a hostile act, an act of war. When people and events conducted war against me, I'd felt obligated to engage in the conflict. In this respect, people and events ruled my life...

23. If another prisoner steals from you, do you feel that same sense of being at war?

You would think that a prisoner who aggressively protested and went after the thief would be the one in charge.

24. Why would "engaging in the conflict" result in being ruled by others?

25. The last time you got angry, what was your reaction? Did your reaction make the situation better or worse?

CG members answering the question, "What do you do to relax and calm down?" have come up with many different approaches. Here is a recent answer:

"A good way to cool down your temper in here is to work out strenuously and deal with the stressful factor. Play a musical instrument. Strive to engage in intellectually stimulating correspondence and a positive interaction helping others."

26. Which of these activities would help you relax, and which would be least helpful? Explain. Can you think of other ways to relieve stress and calm down?

APPENDIX 1

Addiction

Addiction is dependence on a substance, requiring increasingly more to feel the effects, and producing significant withdrawal when use stops. This applies to the use of alcohol, opiates and nicotine. Here is the Webster Dictionary's definition: a "compulsive need for and use of a habit-forming substance characterized by tolerance and by well-defined physiological symptoms upon withdrawal". Often addiction starts as intermittent drug use, then becomes regular drug use, then abuse, then addiction, then repeated relapse.

Addiction actually changes the circuits in the brain. All drugs and alcohol increase a hormone in your brain called dopamine which increases cravings for that particular substance. This dopamine rush can rewire your brain to want more drugs according to University of Cambridge neuroscientist Wolfram Schulz. He calls the cells that make dopamine "the little devils in our brain". If an addict is shown a photo of their drug for only 38 milliseconds (one tenth the time it takes to blink) the reward area of the brain is stimulated!

An opioid is from the poppy plant, a gummy substance from the seed pod. 90% of heroin is made in Afghanistan. Prescription opioids are morphine, Vicodin, Percocet and OxyContin to name a few. Fentanyl, which a cheaper opioid, is now mixed in heroin and is more lethal. Carfentanyl, an anesthetic for elephants, is 10 times more potent than morphine and is contributing to deaths from overdose as well.

Treatments for addiction include the following:

Methadone binds to the opioid receptors in the brain and lasts in the body for 24 hours, (vs. heroin which lasts 2-3 hours). It helps decrease withdrawal symptoms, and is usually dispensed at special methadone clinics.

Suboxone partially binds to the brain receptors and decreases withdrawal symptoms. This medication is often prescribed in a doctor's office.

Vivitrol, also available at a doctor's office, is given most commonly as a shot that lasts 28 days. It binds to brain receptors so that if someone uses an opioid, it will not have any effects. The risk is that if addicts try to get high on Vivitrol by repeatedly using an opioid, they could overdose.

Twenty-one million people world-wide have drug or alcohol addiction; it is more common than cancer. Over one billion smoke tobacco. Tobacco is highly addictive and is comparable to heroin or cocaine. When smoked, it goes from the lungs to the brain in 7 seconds.

20-50 % people addicted to drugs and alcohol have depression and/or anxiety. Childhood abuse is a factor that increases the risk of developing alcohol and drug addiction, making an addict's path to recovery more challenging. Receiving help for depression/anxiety, and the support of caring friends, AA/NA mentors and hopefully family members are all important components of treatment.

The following 12 questions on addiction provide further food for thought. You do not need to respond to them with this unit.

How else would you define addiction?

Imagine the different paths that might lead one to addiction.

Do you think addiction is due to environmental factors, or genetic or both?

What happens to people's health when they have an addiction?

What are the specific health risks to IV drug use?

Why would anyone smoke when they know that it causes cancer?

With so much to lose why do people turn to their addiction so easily?

What role do you think mental health plays in addiction?

Come up with a treatment plan for nicotine addiction.

Come up with a treatment plan for alcohol addiction.

Come up with a treatment plan for opioid addiction.

List all the reasons you can think of to stay clean and sober.

APPENDIX 2

Feedback for Health Unit 2 assignments

3-6. Examples (in order) are loading trucks, painting ceilings, babysitting someone's parakeet, typing. (I bet you didn't come up with that third one!)

8-9. Include both the physical and mental in defining relaxation. Neither the body nor mind are designed for constant movement or concentration. A balance makes both work better.

10. Relaxation is an exercise if a muscle is tight and painful, and the sufferer learns to focus on the muscle in order to be able to consciously decrease its tension. Yoga is both exercise and relaxation. Relaxation is hard work for a child with spasticity (cerebral palsy) who has to control the flailing, excess movement enough to move more naturally. Another example is trying to wind down after a confrontation.

12. The gentle method of massage could be effective in decreasing tension in muscle groups, or the body in general. The rigorous method can work to increase the muscle tone of the trunk for improved posture and energy level, or to focus on a specific muscle to reduce spasm or tightness.

15. The abdominal (stomach) muscles contract when breathing out forcibly.
16. When exercising the muscles of your hands, the muscles of the upper body are tensing to stabilize the upper arm; that way, the hand has something to push against. Using the hands to vigorously squeeze a towel/ball could get pent up hostility out of your system and also make the muscles work hard so they relax to a greater extent when you stop.
24. You can be "ruled by others" if you act in response to their actions instead of being able to stop caring what others think or expect of you.

Remember: First names only & please let us know if your address changes

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