



Sleep and Stress Management

Employer Health Services

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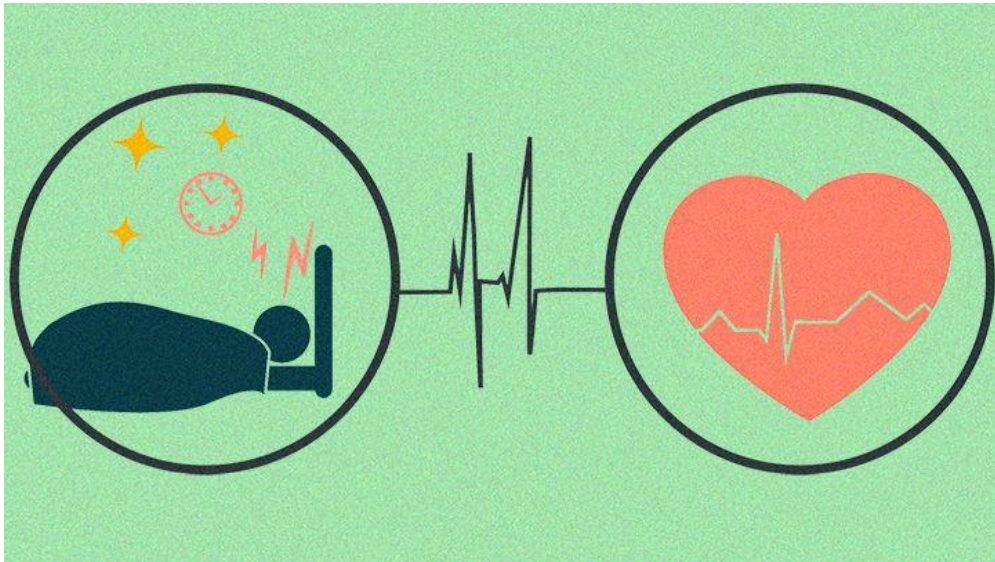


Did you know?

- 40 million Americans suffer from 70 different sleep disorders
- 60% of adults report sleep problems
- 40% of adults have sleep problems a few days per week that interfere with their daily life

How many hours of quality sleep do we need per night on average?

Answer: 7-9 hours



Inadequate sleep (≤ 4 hours) and/or excessive sleep (≥ 10 hours) are associated with increased risk of:

- **Age-related cognitive decline** (Ma et. al, 2020)
- **Cardiovascular disease & coronary heart disease** (Li et. al, 2022)
- **Advanced heart age** (calculated using sex-specific Framingham heart age algorithm) (Yang et. al, 2018)
- **Depression** (Zhai et. al., 2015)
- **Falls & frailty** (Li et. al, 2022)
- **Increased visceral adipose tissue** (Yu et. al, 2022)
- **Metabolic syndrome** (Xie et. al, 2021)
- **Negative psychological well-being** (Lee & Sibley, 2019)
- **Obesity** (Bacaro et. al, 2020)
- **Reduced productivity and workplace safety** (Ferguson et. al, 2019)
- **Stroke** (Li et. al, 2022)

Measures of Sleep Quality

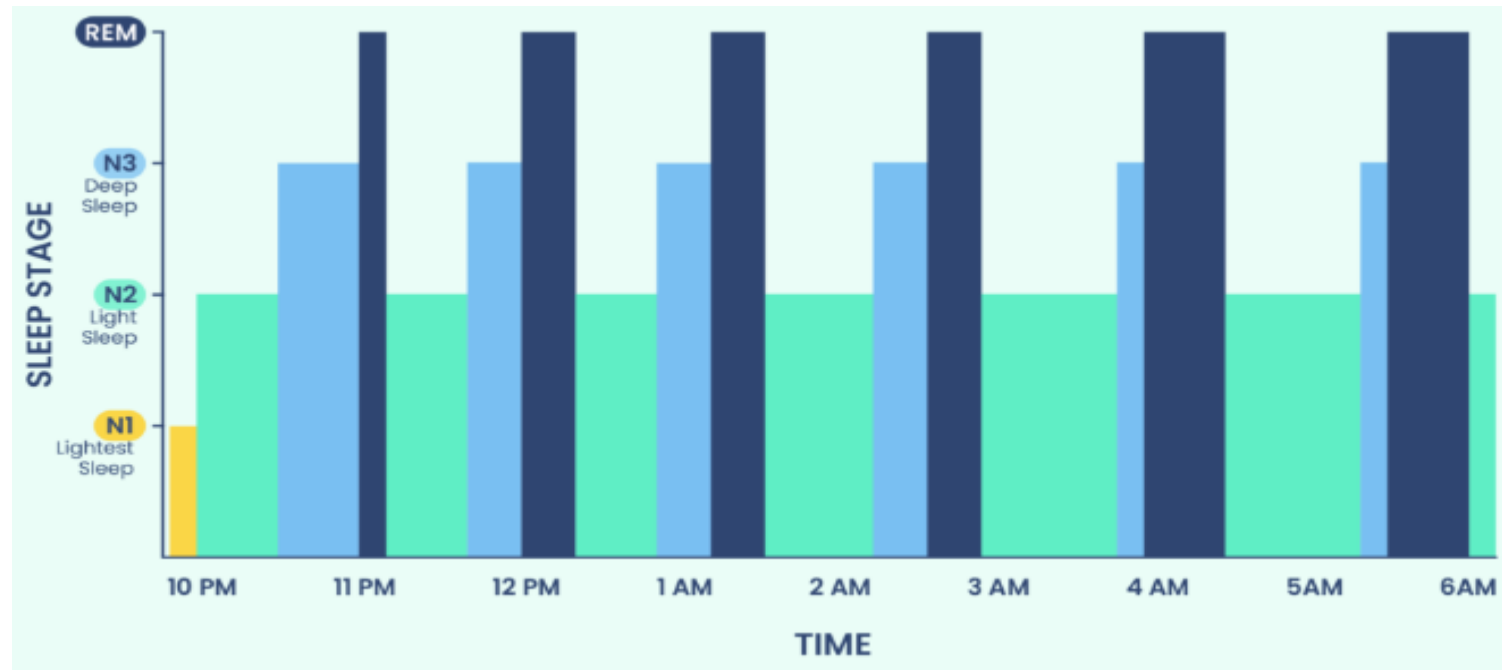
- Total sleep time (TST) – your total sleep episode, any awake time during the night gets subtracted.
- Total wake time (TWT) – the reciprocal of total sleep time.
- Total time spent in bed (TIB) – the duration spent in bed, whether asleep or awake.
- Sleep efficiency (SE) - ratio of total sleep time (TST) to time in bed (TIB) (multiplied by 100 to yield a percentage).
- Sleep onset latency (SOL) – the time it takes for an individual to fall asleep
 - Ideally should be ~15 to 20 minutes
- Sleep apnea – sleep disorder that results in repeated breath slowing/stopping followed by abruptly restarting.
- Spontaneous arousal – any awakening not related to respiratory events, limb movements, snoring, etc.
- REM sleep – a sleep stage characterized by rapid eye movement.

Sleep Cycle

- Sleep is not uniform throughout the night – composed of multiple cycles of various individual stages.
- REM sleep – increased brain activity, important for cognitive functions.

- NREM Sleep

- N1 – lightest sleep, very brief duration
- N2 – accounts for ~half of time asleep; physical movement noted to resist being awakened
- N3 – deep sleep, difficult to awaken, critical for restoration.



What are some causes of
inadequate sleep?

What are some causes of inadequate sleep?



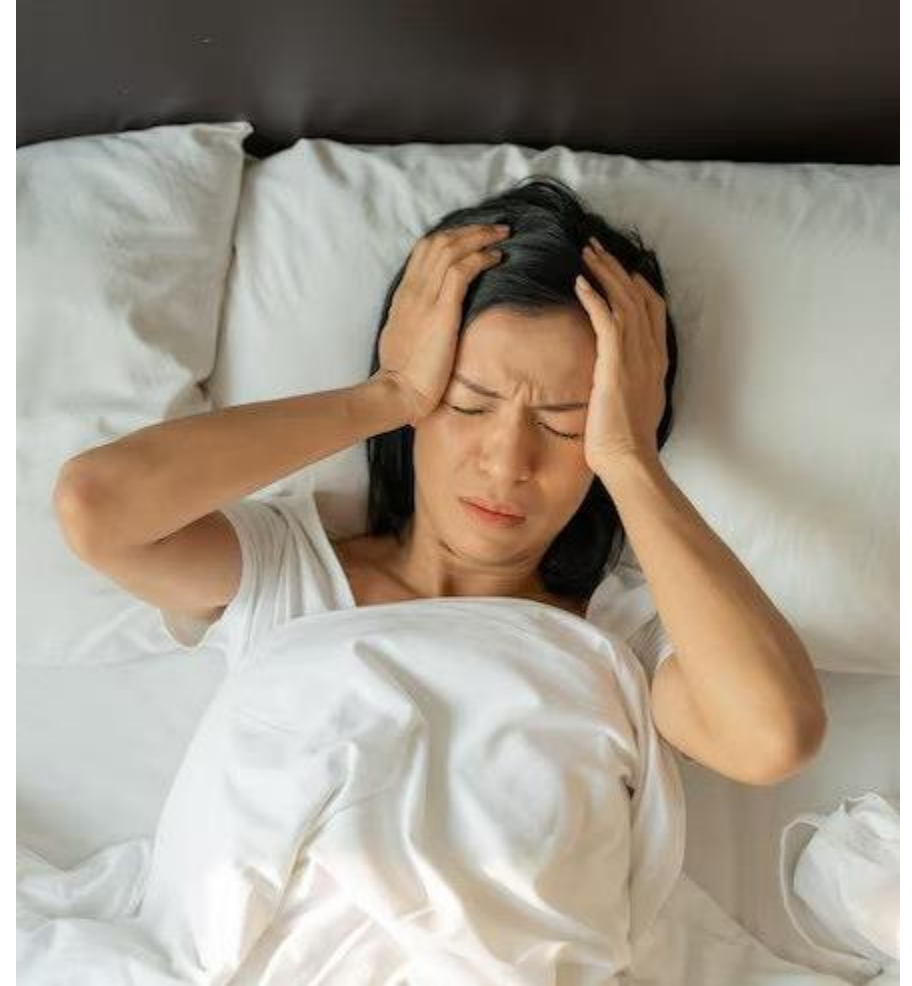
Medical causes for loss of sleep:

- Cardiovascular abnormalities**
- Metabolic function abnormalities**
- Hypertension and elevated heart risks**
- Obesity, metabolic syndrome, diabetes
- Alcohol, caffeine, drug use
- Stress (school, job, family/marriage, illness/death)

***could be caused by obesity*

Inadequate sleep can lead to...

- Slow metabolism
- Low energy
- Irritability
- Reduced interest & enthusiasm
- Impaired memory
- Lack of concentration
- Changes in hunger and appetite
 - Increased cravings for carbohydrates
 - Decreased leptin (appetite suppressing hormone)
 - Increased ghrelin (appetite stimulating hormone)



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Building a Better Sleep Routine



Daytime Practices to Promote Better Sleep



Exercise regularly

- Long-term regular resistance training improves sleep overall, especially sleep quality (Kovacevic et al., 2018)
- Cardiovascular exercise also has favorable impacts on sleep (Kalak et al., 2012)
- Exercise time of day does not matter – based on personal preference
- Increased sedentary time can increase sleep disturbances (Phillippens et al., 2022)



Eliminate caffeine in the afternoon/evening

- Caffeine is a stimulant; research has demonstrated that caffeine can prolong sleep latency, reduce sleep duration and efficiency, and worsen perceived sleep quality (Clark & Landolt, 2017)



Avoid heavy meals before bed

- Accelerates the metabolism and can cause discomfort/heartburn



Abstain from tobacco and limit/eliminate alcohol

- Study participants who smoke reported worse sleep quality than non-smokers (Purani et al., 2019)
- Alcohol may reduce sleep onset latency, but overall shows reduction in sleep quality in the research (Thakkar et al., 2015; Zheng et al., 2021)

Following a Sleep Routine



Adhere to a regular sleep schedule

- Research shows adherence to a structured sleep schedule results in more regular sleep timing, and improved alignment between sleep and circadian timing (McMahon et al., 2020)



Regularly practice a relaxing bedtime ritual

- Studies show an increase in sleep quality associated with bedtime rituals such as writing to-do lists or completion lists and reading in bed (Finucane et al., 2021; Scullin et al., 2018)



Avoid naps late in the day

- Naps in the late afternoon/evening can disrupt your nocturnal sleep pattern (Pacheco & Wright, 2022)



Use light to manage circadian rhythms

- Intensity, duration, and other characteristics of light impact the body's biological clock (Duffy & Wright, 2005)

Setting Up Your Sleep Environment



Keep it cool (60-76°F)



Eliminate noise and light (though white noise may be helpful)



Keep screens (phone, computer, television) and work materials out of your sleep environment



Maintain a clean and relaxing space



Invest in a comfortable mattress and pillow



Don't share the bed with kids/pets

How Sleep Affects Nutrition

- ▶ It allows the brain and body to rest and recover.
- ▶ Elevated risk of obesity.
- ▶ People who don't get enough sleep are more likely to increase their food consumption without an equivalent increase in energy expenditure.
- ▶ Leptin and ghrelin are thrown off even after short periods of inadequate sleep.
- ▶ Effect concentration, decision-making, and mood.

What Is the Best Diet for Sleep?



Well Balanced

A balanced diet made up largely of a variety of vegetables and fruits is able to provide a broad range of vitamins and minerals.



Mediterranean

Plant-based while incorporating lean meats and high-fiber foods.



DASH

The Dietary Approaches to Stop Hypertension, or DASH diet involves reduced salt and saturated fats along with a focus on whole foods with high levels of fiber, K, and Mg.

Better Bedtime Snacks

- Fruits contain potassium and magnesium which can increase the body's melatonin production and improve sleep quality
 - Banana & almond butter
 - Yogurt + fruit/seeds
 - Oatmeal + fruit/nuts
 - Fruit smoothie
- Chamomile Tea
- Studies show Mediterranean diet may improve sleep patterns (Scoditti et al., 2022)



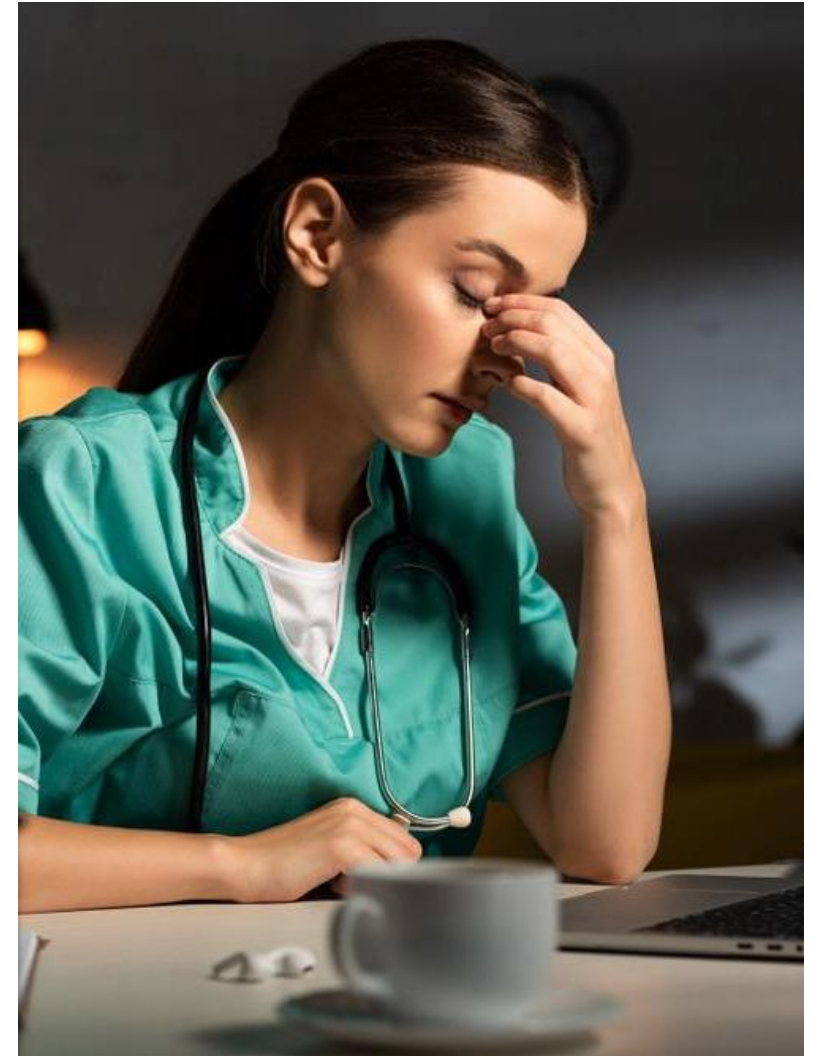
Foods to avoid before bed

- Sweets and excessive carbohydrates
- Fatty, spicy, or very acidic foods (GERD)
- Caffeine
- Alcohol



Shift Work

- 16% of the workforce (22 million employees) in the United States work non-traditional hours.
- Increased risk of sleep disorders, fatigue, irritability, indigestion, mood disorders, or chronic disease (obesity, diabetes, heart disease, cancer).
 - Shift Work Sleep Disorder (SWSD) affects 10-40% of individuals who work non-traditional hours
- Recommendations similar to those who work regular hours
 - Adhere to sleep schedule, even on days off whenever possible
 - Maintain clean, cool, dark quiet sleep environment
 - Follow a balanced diet; consider planning your meals/snacks mostly during daytime
 - Avoid caffeine, alcohol, and tobacco
 - Aim for at least 30 minutes of moderate exercise at least 5 days per week



Don't forget the role of stress!



Stress is your physical, emotional, and mental response to change, regardless of whether the change is good or bad.

Causes of Stress

External	Internal
Health crises or accidents	Worry
Work-related difficulties or job loss	Fear/uncertainty
Death of a loved one	Dwelling on the negative
Trauma	Insecurity; criticizing ourselves
Economic factors	Imagining the worst
Change in life status	Setting unrealistic goals
Daily inconveniences like traffic	Taking on too many responsibilities

Effects of Stress on the Body

BRAIN

Difficulty concentrating, anxiety, depression, irritability, mood, mind fog

CARDIOVASCULAR

higher cholesterol, high blood pressure, increased risk of heart attack and stroke

JOINTS AND MUSCLES

increased inflammation, tension, aches and pains, muscle tightness

IMMUNE SYSTEM

decreased immune function, lowered immune defenses, increased risk of becoming ill, increase in recovery time



SKIN

hair loss, dull/brittle hair, brittle nails, dry skin, acne, delayed tissue repair

GUT

nutrient absorption, diarrhea, constipation, indigestion, bloating, pain and discomfort

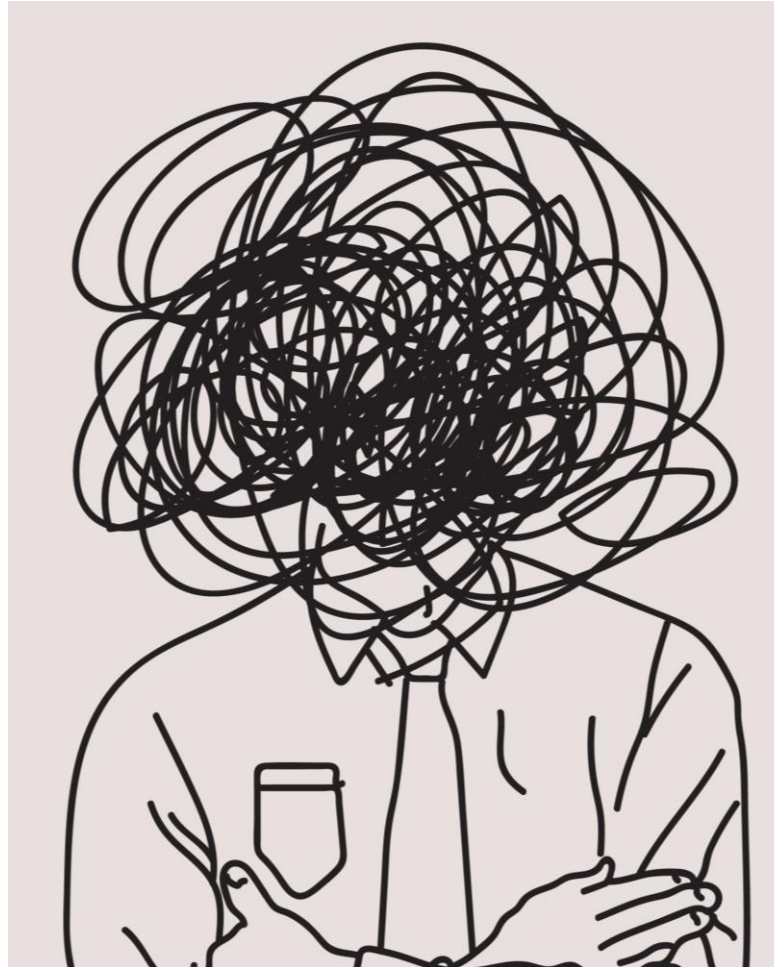
REPRODUCTIVE SYSTEM

decreased hormone production, decrease in libido, increase in PMS symptoms

Depression and Anxiety: *Signs & Symptoms*

Depression

- Difficulty concentrating, remembering details, and making decisions
- Fatigue and decreased energy
- Feelings of guilt, worthlessness, hopelessness, pessimism
- Insomnia or hypersomnia
- Irritability, restlessness
- Loss of interest in activities or hobbies
- Overeating or appetite loss
- Persistent aches or pains,
- Persistent sad, anxious, or “empty” feelings
- Thoughts of suicide or suicide attempts



Anxiety

- Difficulty concentrating, remembering details, and making decisions
- Increased respiratory and/or heart rate; hot flashes; trembling; fatigue
- Persistent nervousness, restlessness
- Tingling sensation
- Digestive issues; over- or under-eating
- Feeling of panic or danger
- Phobias; avoidance of triggers; social isolation
- Difficulty functioning at work or school
- Thoughts of suicide or suicide attempts

Unhealthy Coping Mechanisms

Anger



Wallowing



Negativity



Food



Substances



Methods for Decreasing Daily Stress

- Don't bite off more than you can chew
 - Saying "no" is not a failure!
- Get and stay organized
 - Prioritize items and track using a checklist



Methods for Decreasing Daily Stress

Be Assertive

for use with those people that cause you added stress.

- Strive to be assertive, not passive or aggressive.
- Use direct eye contact
- Use phrases like “I believe”, “I think”, “In my opinion” to show you are taking responsibility

Day	Event
1	
2	BIG GAME
3	
4	Shopping
5	
6	
7	Job Interview
8	
9	Work
10	
11	Dinner & Craft
12	
13	Parents Anniversary
14	
15	Work Making CB
16	Shop for Sam's present
17	
18	
19	SAM'S B-DAY!
20	
21	Incl w/ Mom
22	
23	
24	
25	VACATION
26	VACATION
27	Dentist Appt.
28	
29	
30	Day off
31	



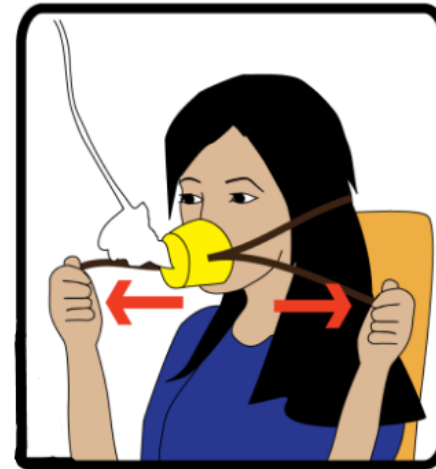
Example:

Stressful event, someone says: “I could use your help pulling together a neighborhood yard sale.”

- **Passive response:** “Well I guess I can.”
- **Aggressive response:** “No! I put one more thing on my plate! I have enough to handle without you adding one more to my list.”
- **Assertive response:** “Well, I believe it’s best that I not get involved at this time, my schedule is very full, and I won't be able to provide the level of help you'll need.”

Methods for Decreasing Daily Stress

- Maintain healthy social connections, and ask for help when you need it
 - Role of oxytocin in stress response
- Consider your standards and expectations for yourself and others
- Oxygen mask theory – you must help yourself before you can help others



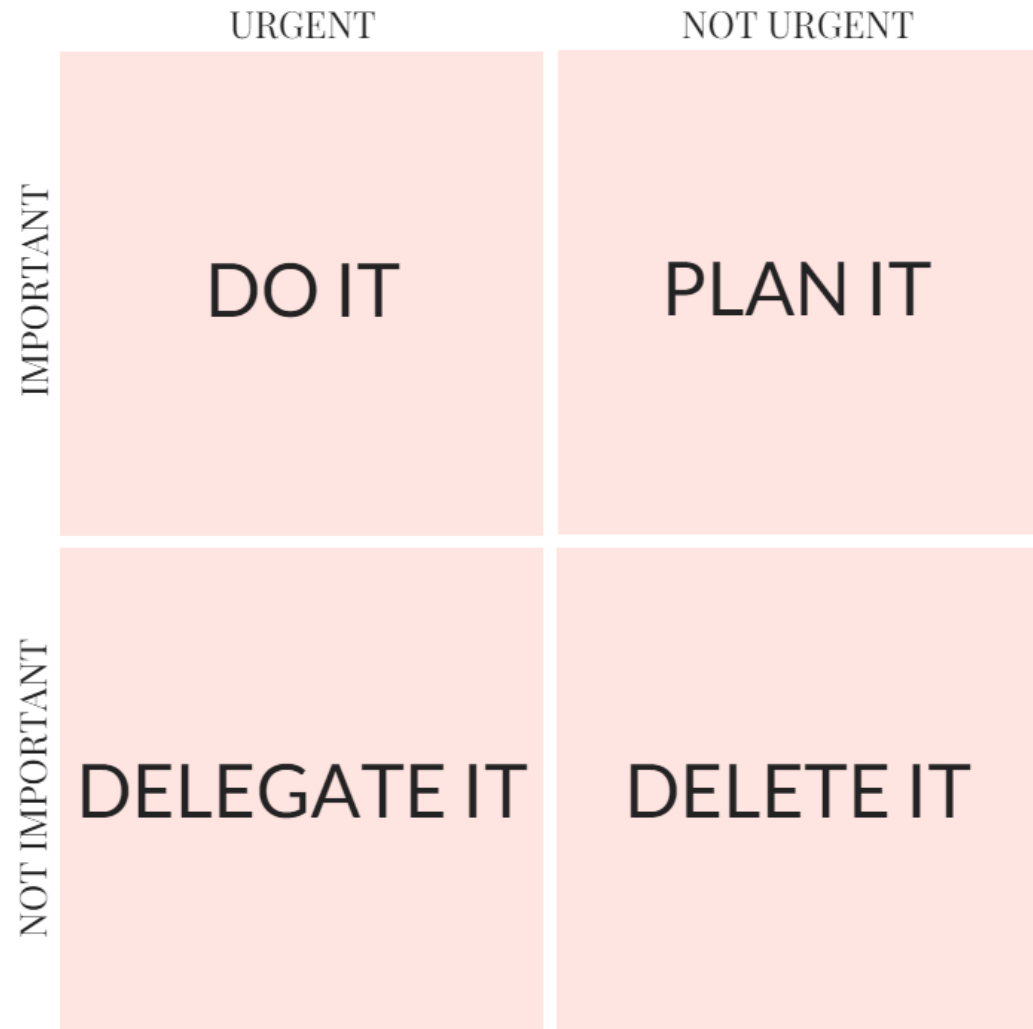
Methods for Decreasing Daily Stress

Constructive thinking

- Negative thinking: “I can’t handle one more day of this exercise. I think I’ll just quit. It’s too hard.”
- Positive thinking: “I am going to take this one day at a time. I know that exercise is good for me, and I’ll have good days and bad days. I’ll just work at the pace I can that day.”

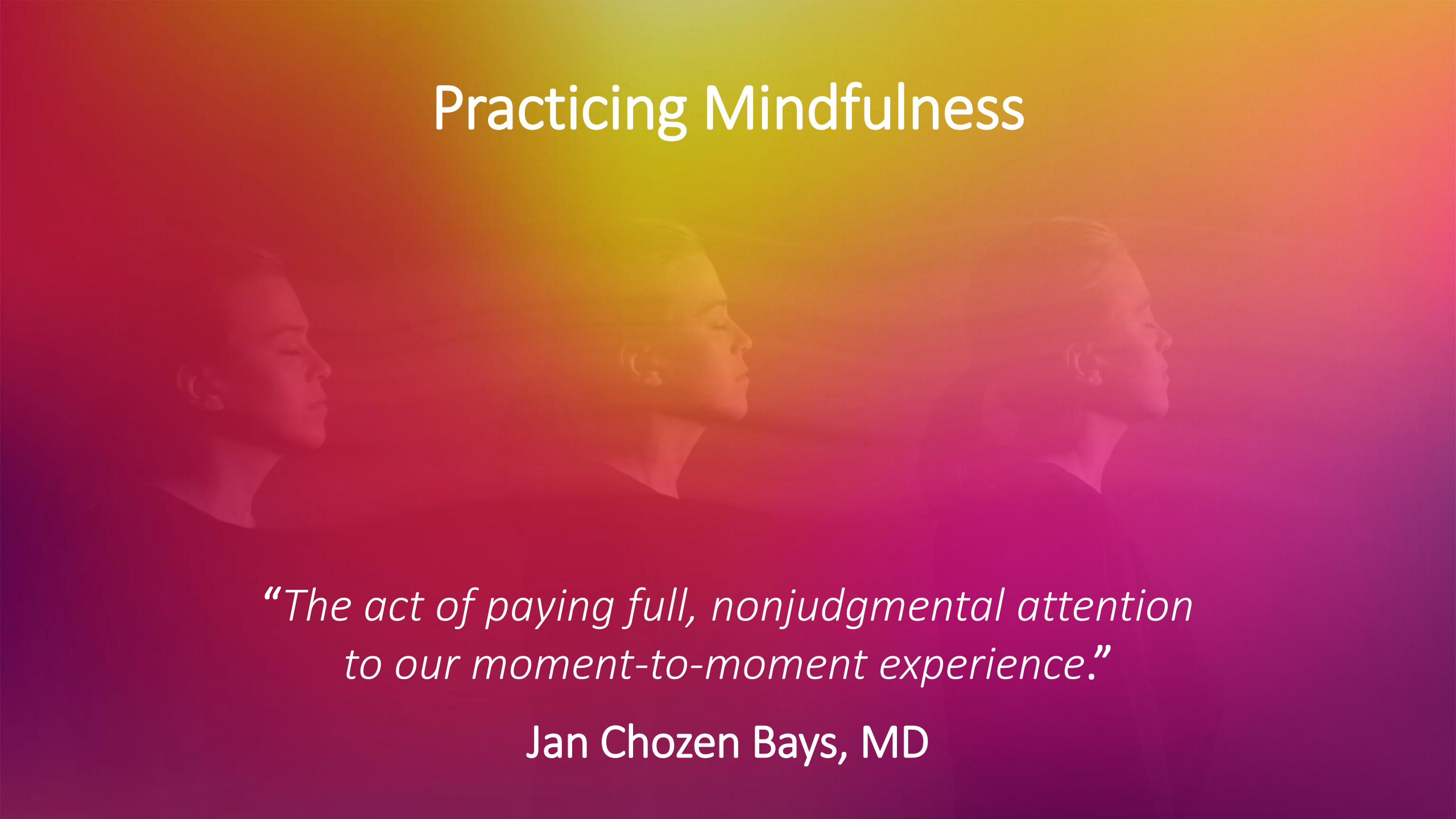


Try the Eisenhower Decision Matrix



HOW TO PRIORITIZE YOUR TO DO LIST WITH THE EISENHOWER DECISION MATRIX

Practicing Mindfulness

The background of the slide is a vibrant, multi-colored gradient transitioning from purple on the left to yellow and orange on the right. In the center, three people are shown in profile, facing right, with their eyes closed in a meditative state. They are semi-transparent and blend into the background. The quote is centered below them in a white, italicized serif font.

“The act of paying full, nonjudgmental attention to our moment-to-moment experience.”

Jan Chozen Bays, MD

Be A Stress Detective

- **Recognize** and **Acknowledge** your physical and behavioral responses to stress.
- Pay Attention to your body's clues:
 - Some people become **angry**
 - Others **space out**
 - Other **freeze up**





Situation 1: I become **ANGRY** and **ANXIOUS** with stress

You will respond best to stress relief activities that **calm** you.

- Walk
- Massage
- Read
- Listen to music
- Light a candle
- Savor a hot coffee or tea
- Call a good friend
- Play with a pet
- Work in your garden
- Take a long bath



Situation 2: I become DEPRESSED and WITHDRAWN with stress

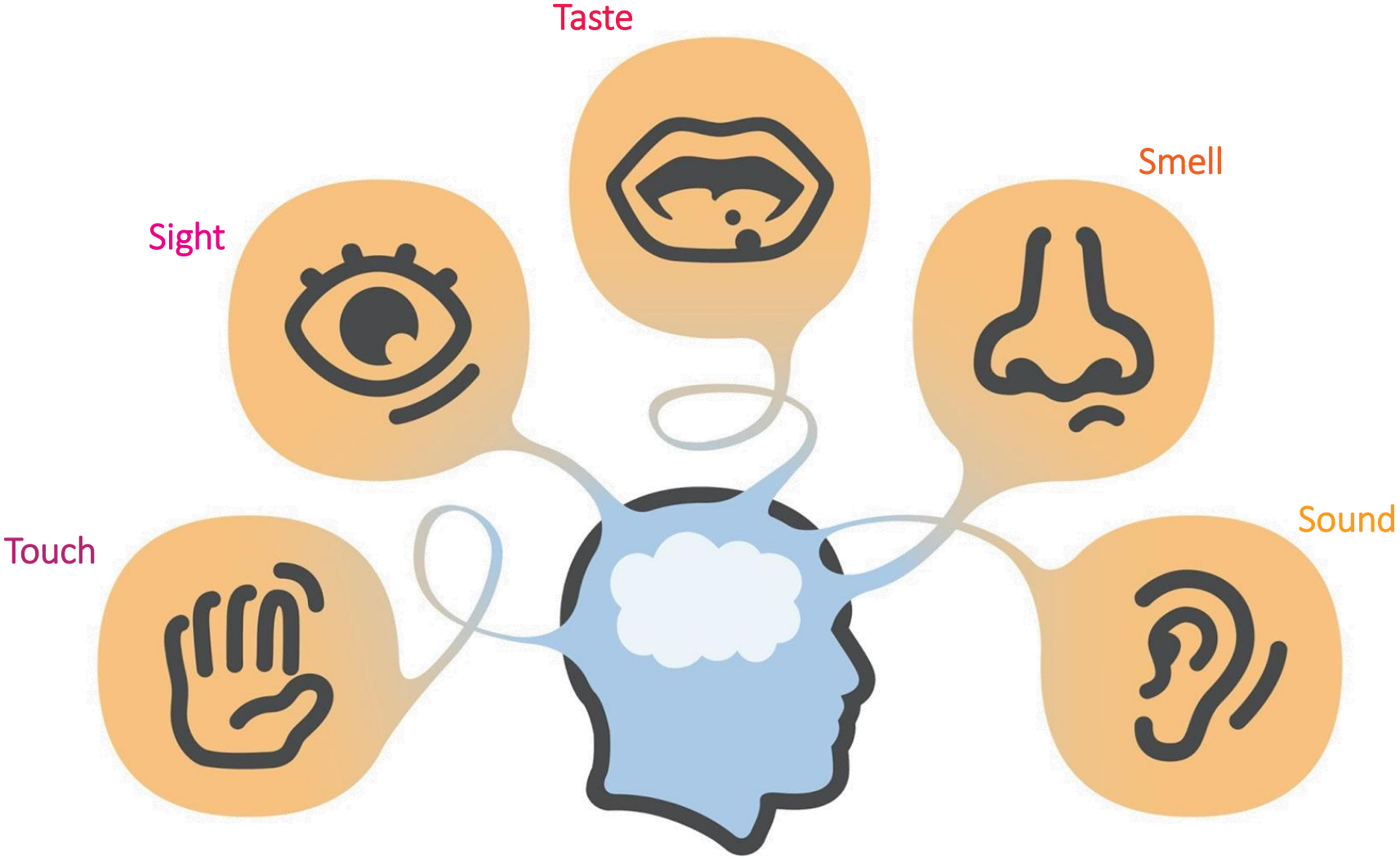


You will respond best to stress relief activities that **stimulate** you.

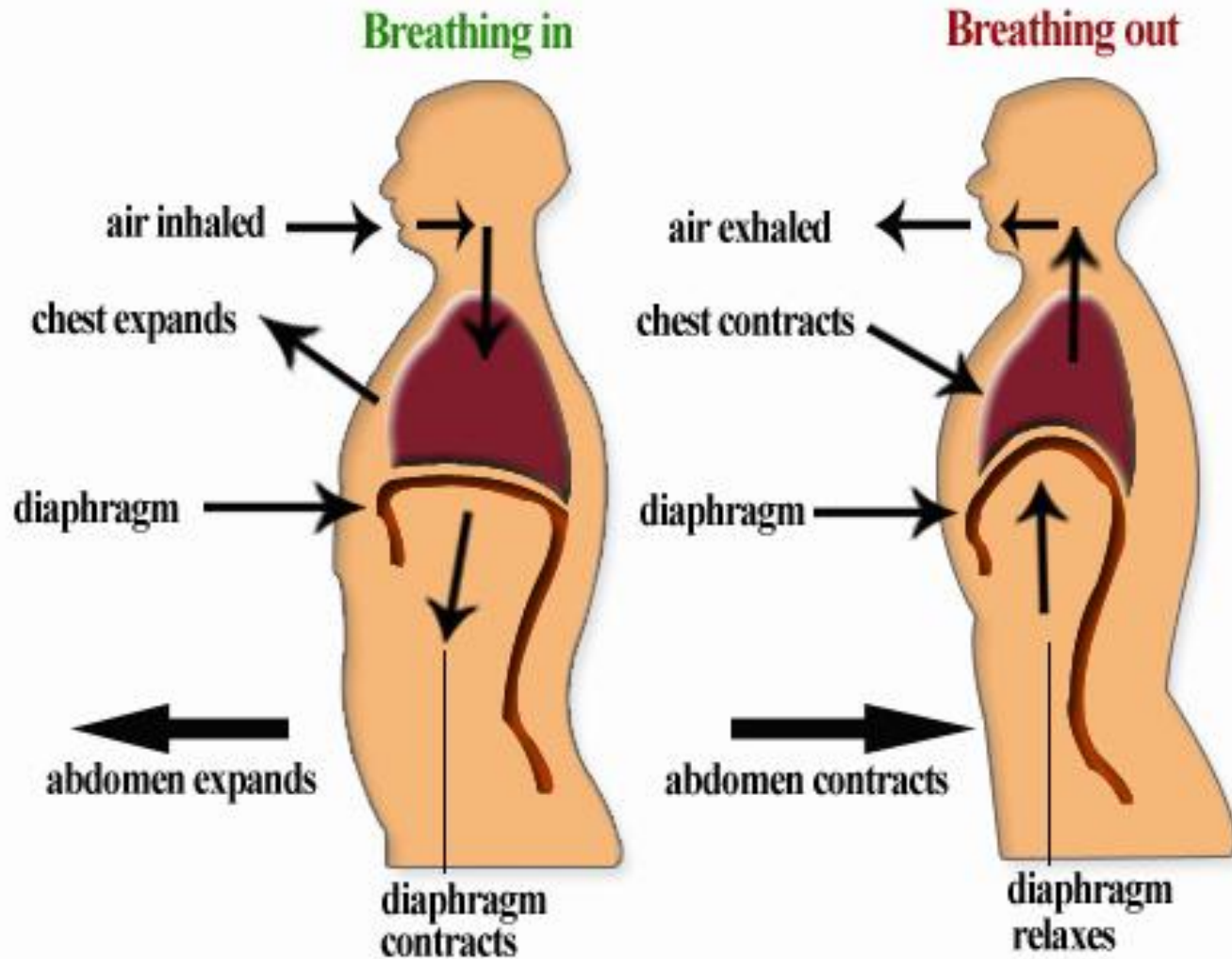
- Laughter; watch a comedy
- Time with friends
- Exercise (proven to elevate mood)
- Aromatherapy: inhale lemon, ginger, peppermint or coffee beans



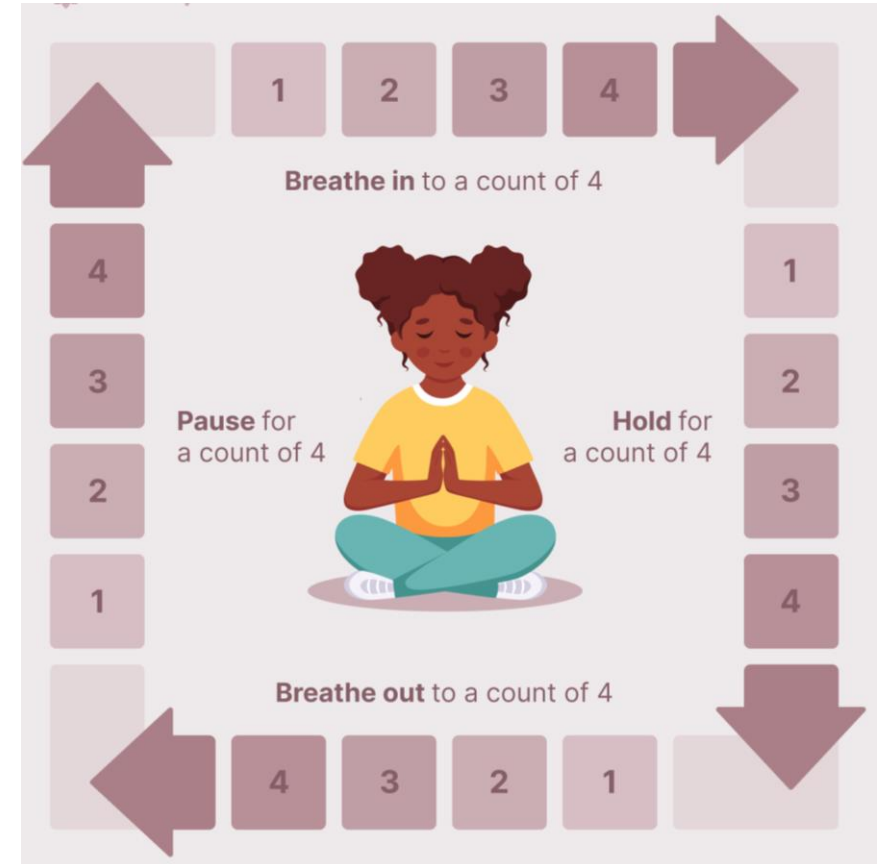
Use the tools you were given...



Deep Breathing

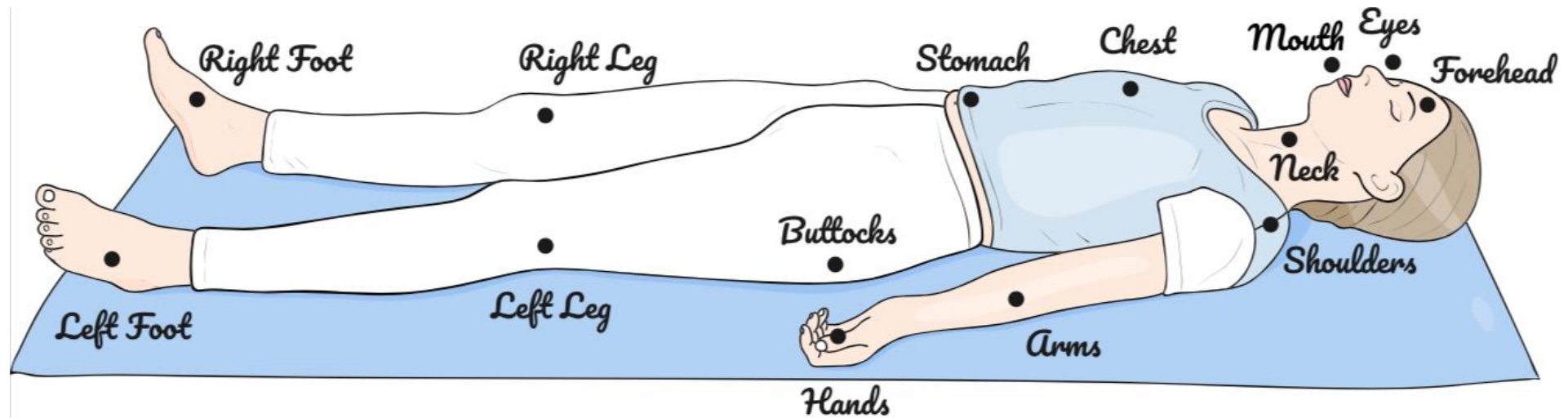


Square Breathing:



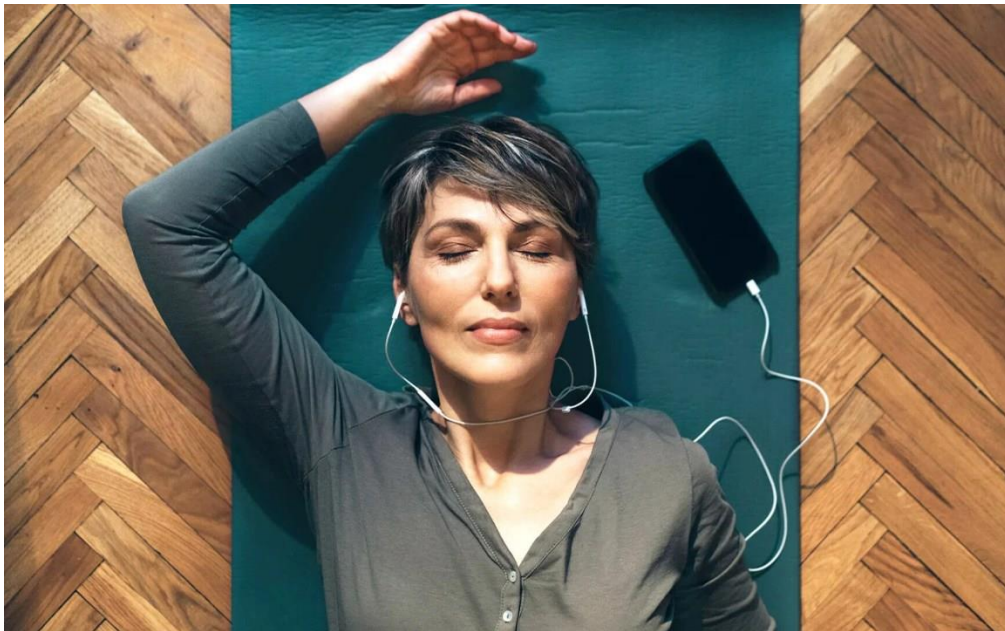
Progressive Muscle Relaxation

- ▶ Tensing and relaxing each muscle group one at a time
- ▶ Can do this on your own or listen to a verbal guide
- ▶ Generally, takes 20 minutes
- ▶ Relaxes muscles, lowers blood pressure, lowers heart rate, & lowers respiration




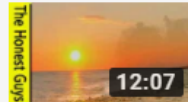




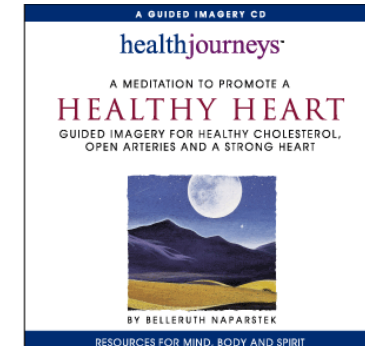
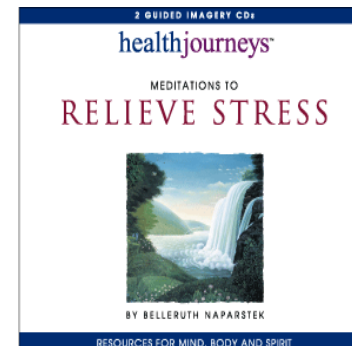
Guided Imagery

- ▶ Self-guided meditation
- ▶ Belleruth Naparstek is a psychotherapist and guided imagery professional who is a great resource on this topic.



Free on YouTube:

	GUIDED SLEEP MEDITATION - The Sanctuary The Honest Guys - Meditations - Relaxation
	GUIDED MEDITATION - "The Seat" The Honest Guys - Meditations - Relaxation
	GUIDED SLEEP MEDITATION - Journey to the Stars. Sleep Talkdown 1 HOUR The Honest Guys - Meditations - Relaxation
	GUIDED MEDITATION - Deep Relaxation The Honest Guys - Meditations - Relaxation
	Guided Meditation - Blissful Deep Relaxation The Honest Guys - Meditations - Relaxation
	GUIDED MEDITATION - "The Summer Meadow" The Honest Guys - Meditations - Relaxation



A psychologist walked around a room while teaching stress management to an audience. As she raised a glass of water, everyone expected they'd be asked the "half empty or half full" question. Instead, with a smile on her face, she inquired: "How heavy is this glass of water?"

Answers called out ranged from 8oz. to 20oz.

She replied, "The absolute weight doesn't matter. It depends on how long I hold it. If I hold it for a minute, it's not a problem. If I hold it for an hour, I'll have an ache in my arm. If I hold it for a day, my arm will feel numb and paralyzed. In each case, the weight of the glass doesn't change, but the longer I hold it, the heavier it becomes."

She continued, "The stresses and worries in life are like that glass of water. Think about it for a while and nothing happens. Think about it bit longer and they begin to hurt. And if you think about them all day long, you will feel paralyzed – incapable of doing anything."

Remember to put the glass down.



Summing it all up

- Chronically elevated stress levels can lead to increased health risk
- There is no way to completely avoid stress in life - use healthy coping mechanisms to help your body respond appropriately to stress
- Use your stress to energize you and to help your body rise to challenges
- You can trust yourself to handle life's challenges and you don't have to handle them alone
- Chasing meaning is better for your health than trying to avoid discomfort

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