

University of Pittsburgh
Mental Wellness Task Force

UNDERSTANDING AND MANAGING STRESS FOR BETTER MENTAL AND
PHYSICAL HEALTH

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"How old would you be if you didn't know how old you were?"
Satchel Paige

Session 1: January 21, 2015

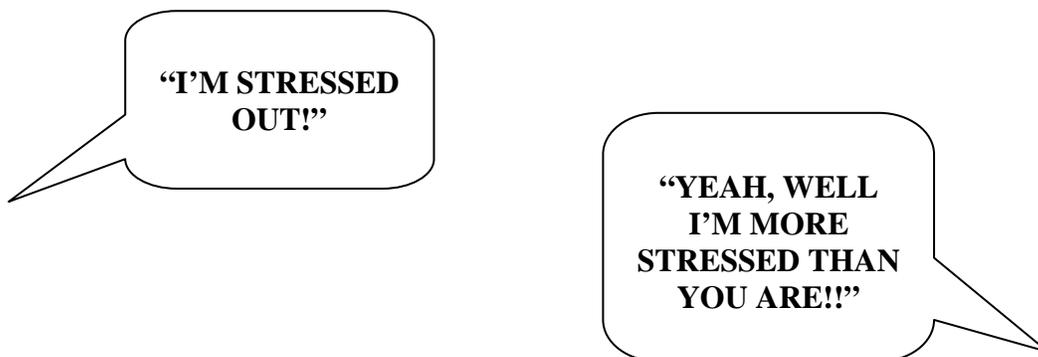
The 3 session Journey we will take will provide education:

1. So you will understand life events that influence the response of the brain to stress
2. How the brain responds to stress
3. The role of stress hormones in altering both mental and physical health
4. How to use healthy lifestyle behaviors to reduce the effect of stress on your mental and physical health

INTRODUCTION

Welcome! This session will help you learn about the interrelationship between stress and health. Health is a state of complete physical, mental and social well-being and not merely the absence of disease.

Let's take a look into what stress is.

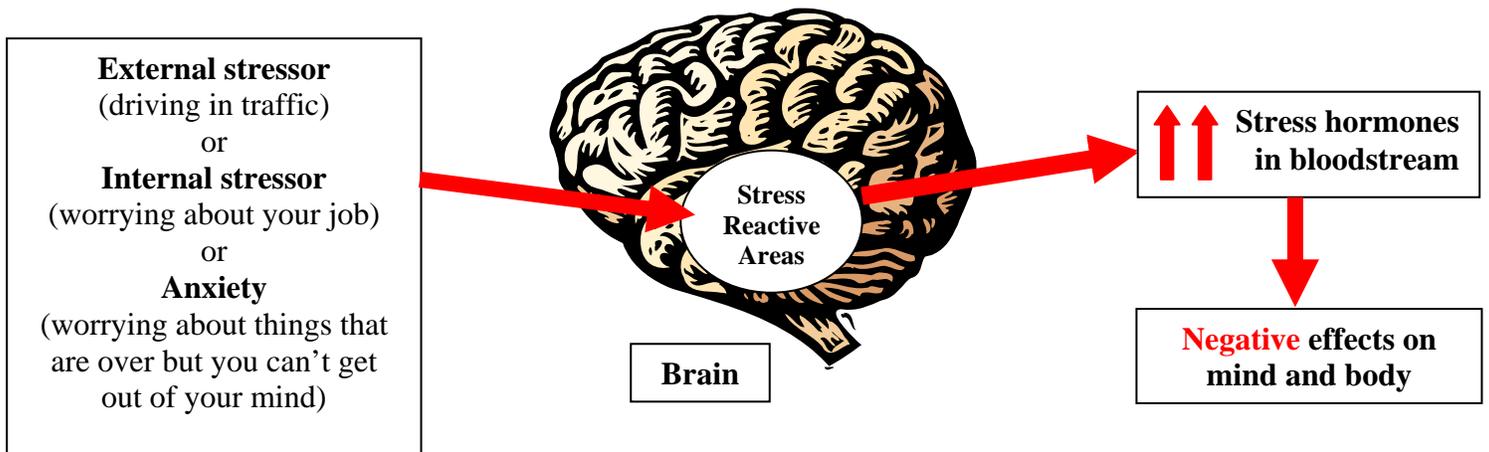


How many times do we hear people speaking like this, almost as if being under a lot of stress is a badge of honor? However, stress should be classified along with being **overweight, being sedentary rather than physically fit, having high blood pressure, and being a smoker**, for its **DANGER TO HEALTH**. Not being able to cope with stress is not something to be proud of.

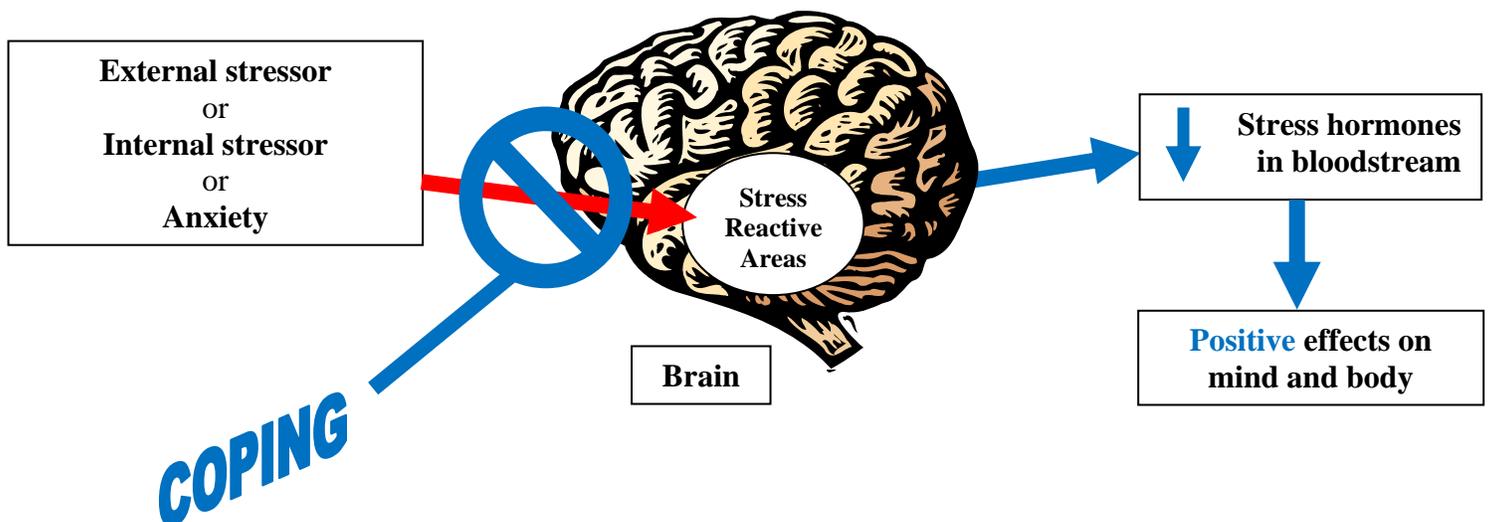
It would be wonderful to be able to say that you have stress in your life but that you use the behaviors and techniques you will learn as the badge of honor so that you will be a healthy lifestyle role model for other adults and children.

Q. What is stress?

- Stress results when something that happens to you or something that you observe exceeds the capability of your mind to deal with the event effectively.
- When you believe that you cannot cope with the demands or perceived consequences of the event, stress-reactive areas of your brain become activated and the concentration of stress hormones in blood increases.
- The mental and physical health effects of stress are due to the elevation of stress hormones that occur when the stress reactive areas of the brain are activated.



- **Coping** with stress means that you use behaviors and techniques to keep the stress reactive areas of the brain calm.



To increase your knowledge of stress, you are going to learn about its effects on physical and mental health. These are possible effects and do not happen to everyone who experiences stress. Some people experience more health changes than others, and some have little if any health changes.

WHY-Because different people have different stress coping skills. The 3 sessions provided by the Mental Wellness Task Force will help you increase your ability to cope with stress.

Therefore, just because you have a lot of stress in your life, do not assume that the following health changes are happening to you. The mental and physical health effects caused by stress are balanced by your stress coping skills.

Q. What are the negative effects of an elevation of stress hormones on the mind?

- You have difficulty thinking clearly and focusing
- You become depressed and have the ‘blues’
- Your ability to remember things may decrease at a younger age than would occur if you could cope with stress

Q. What are the negative effects of an elevation of stress hormones stress on the body?

- Your heart beats more rapidly
- Blood pressure increases
- There is an accelerated accumulation of cholesterol into the blood vessels of the heart with narrowing of the blood vessels
- Blood platelets clump together and may plug up a blood vessel in the heart
- The ability of the body to resist infectious disease decreases
- The ability of the body to heal wounds decreases
- Autoimmune diseases such as psoriasis, multiple sclerosis, rheumatoid arthritis, and inflammatory bowel disease may become more active.
- Diabetes is more difficult to manage
- Weight is more difficult to manage because you tend to eat foods that are not healthy
- Telomeres (caps on the end of your chromosomes) become shorter and are associated with greater risk of disease
- The amount of grey matter in the brain (where brain cells are located) may decrease
- Epigenetic changes (alteration of the function of some of your chromosomes) may occur increasing the risk of disease development

Q: What are the different kinds of stress?

- **ACUTE STRESS** is unanticipated, has sudden onset, and short duration.
 - An example of an acute stress is when someone says something to you that upsets you. You may then respond by saying something back to them that is out of character for you. You respond in the uncharacteristic way because the stressor causes an elevation of stress hormone, which interferes with your ability to think clearly.
- **CHRONIC STRESS** is the stress of daily life events.

Q: Is stress always bad?

Some aspects of the stress response are not always bad. If you were stressed because of a dangerous situation, the changes in your body would help you flee to safety. When you experience stress, blood flow to muscle

increases, and the concentration of sugar in blood increases. This gives us the strength and energy to escape danger.

However, stress doesn't have to be as dramatic as fleeing from a tiger. Waiting for the result of a medical test, knowing if you passed a course, and trying to balance your check book can each produce a stress response. You know what causes you stress.

Q. What causes you stress?

Think about what causes you stress. Take your time; there is no hurry.

Make a list of some things that cause you stress. You may want to ask someone who is close to you if they notice what causes you stress. This may differ from what you think causes you stress.

When you were thinking of things that cause you stress, did you feel tension in your head? Did you feel tightness in your forehead, jaw, or chin? What about the back of your neck, your shoulders, somewhere else? Were you aware of your face flushing, your heart speeding up, your body temperature feeling either cold or hot? Did you find yourself holding your breath, sighing, grinding your teeth, and clenching your fist? Did you feel a knot in your stomach?

If you experienced one of the above effects on your body, you experienced the way your body responds to stress. Sometimes our body will respond to stress, even though our brain does not make us aware it perceives something as stress. When this occurs our body will often experience one of the changes mentioned above above.

Q: If stress is capable of impairing our health why not just avoid it?

Sometimes we can avoid stress. If we know that someone is angry with us, we can avoid seeing them until they calm down. However, much of life's stress is unavoidable. Divorce, losing one's job, an angry employer, children that get into trouble, caring for a relative with a serious disease, preparing for an exam at school, are all examples of stress that cannot be avoided.

Q: How will learning coping skills help me?

Coping mechanisms help to protect mental and physical health. Coping behaviors serve to prevent or control the response of the mind to stress. Let's review:

- Stress disrupts the chemical and physiological balance of the body by activating stress reactive areas of the brain and increasing the release of stress hormones into the bloodstream.
- Coping mechanisms reduce the ability of stress to disrupt the function of the body by lowering the concentration of stress hormones.

There is a trigger-point in each individual below which stress does not disturb the chemical and physiological balance of the body. The trigger-point differs in each individual. What determines the trigger-point is the

individual's perception of the stressor, its intensity and its duration. Often an event is not perceived as a stress unless it has significance to the individual. Coping mechanisms may be considered the anesthesia that reduces the response of the mind to stress.

Q. What are some of the BENEFITS of increasing my ability to cope with stress?

- Greater peace of mind
- More patience
- Less anger
- Fewer temper outbursts
- Better interpersonal communication
- More harmonious relations with family members
- Improved parenting skills
- More restful sleep
- Decreased use of medications for pain
- Decreased use of medications for sleep
- Decreased use of medications for anxiety
- Decreased or ceased cigarette smoking
- Weight loss
- Improvement in sense of well-being
- Better ability to manage difficulties
- An improved self-confidence during stressful situations
- An improved ability to concentrate
- Less muscle tension
- Lower blood pressure
- Slower heart rate
- Better immune function
- Less risk of heart disease
- Less risk of stroke
- Less risk of viral infection
- A less aggressive course to autoimmune diseases and possibly cancer
- Better ability to think clearly
- Greater enjoyment of people and things
- Less depression

Q: Is there only one way that I can use my mind to lower the concentration of the stress hormones in my blood?

There are several techniques that you can use to get your mind to decrease the concentration of stress hormones in blood.

- Some have a rapid onset and are useful when you need a quick calming effect. An excellent example is deep breathing or the techniques of humor and chanting.
- Others train your mind to become less responsive to stress and readjust your mind so that your baseline level of stress hormones is lower. Regular relaxation results in long-term physiologic changes that counteract the harmful effects of stress throughout the day. Examples are meditation and guided imagery.

Q: Do I need to do all of the things that you will teach me?

For certain people and certain sets of symptoms, one technique works better than others. The program you are participating in is designed to give you a chance to experiment with different techniques. For many, a combination of techniques becomes part of a personal health regimen. For others, one or two of the techniques prove to be most helpful. Be aware that not every technique may be suitable for you. Different individuals will

be more comfortable and find it easier to do different techniques. THERE IS NO RIGHT OR WRONG WAY. WHAT IS IMPORTANT IS DOING IT!!!!

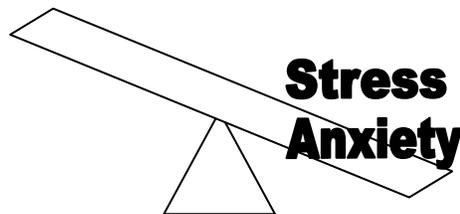
Q. What else is important to know about the techniques we will practice?

- The techniques are not external—they are always within us to call upon when we need them. What we do here is simply to bring them to your awareness for use. Then practice, time, and patience are all that is needed.
- Have no fixed expectations or goals—otherwise the cure becomes the stressor! Allow the techniques to just happen....and observe the difference.

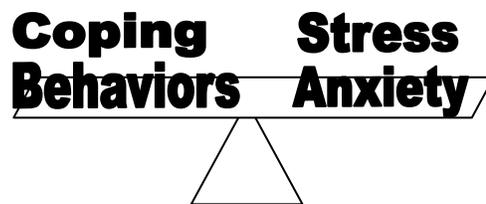
BEHAVIORS TO HELP YOU INCREASE YOUR ABILITY TO COPE WITH STRESS

The following provides information about behaviors that will help you change the way your brain responds to stress. Less of a response of the stress reactive areas of the brain mean that the stress hormones will not go up as high and that stress will have less of an effect on your health.

- Imagine a See-Saw. One end of the see-saw is pushed down by the stress and anxiety that you experience in your daily life.



- To get the see-saw back into balance, the other end must be pushed on by behaviors that will restore your equilibrium. Scientists call this 'homeostasis'.



- These behaviors will help prevent an elevation of stress hormones when one experiences a stressor.
- Keeping stress hormone levels low is associated with an enhanced quality of mental and physical health.

A way many people have found helpful to remember the behaviors that are important to get the see-saw back into balance is to think of the word **RELAX**:

Reflection: Enjoying participation in spiritual or religious activities, or simply taking time to reflect on the things that add meaning, purpose, and joy to your life *helps to reduce the negative influence of stress on health*

Expectations: Being high in optimism, seeing the glass as half full rather than half empty *helps to reduce the negative influence of stress on health*

Laughter: Having a sense of humor and being able to laugh at some of the things you do *helps to reduce the negative influence of stress on health*

Acquaintances: Being socially active and spending time with people you enjoy being with *helps to reduce the negative influence of stress on health*

Exercise: Being physically active (walking as often as you can) and not just sitting around watching television or playing games on a computer **helps to reduce the negative influence of stress on health**

Let's take a closer look at each of these behaviors and how to increase these behaviors in your daily life.

REFLECTION: INCREASING YOUR PARTICIPATION IN RELIGIOUS ACTIVITIES OR INCREASING YOUR ENJOYMENT OF ACTIVITIES THAT CALM YOU (some consider this as spirituality)

- Religiosity
 - If you consider yourself a religious person, enjoying prayer and attendance at religious services is associated with an enhanced quality of health.
 - Religiosity also may provide enhanced opportunity of socialization
 - To increase your religiosity:
 - If you find comfort in prayer, make an effort to pray each day.
 - If interested, seek guidance from your religious leader on how to become more involved in your religious community.
- Spirituality--Your own way to RELAX
 - You do not have to be religious to be spiritual. Spirituality is how one finds ways to relax. It may be through listening to pleasing music, reading a book you enjoy, going for a walk, being physically active, spending time with friends, meditating, or seeing beautiful objects in nature. Spirituality is personal and cannot be measured. It is what an individual finds relaxing. Relaxation produces a lowering of stress hormone levels, which enhances your quality of health.
 - To increase your spirituality:
 - Reflect on your own spirituality and what you enjoy doing to relax and calm yourself. Try to increase the amount of time you spend in spiritual activities.

EXPECTATIONS: INCREASING YOUR FEELINGS OF OPTIMISM

- Optimism is the tendency to take a favorable or hopeful view of whatever comes your way. It is seeing a glass as half-full instead of half-empty.

- Being optimistic is associated with less illness, including heart disease, and more rapid recovery from disease.
- To increase your optimism when you are facing one of life's many obstacles:
 - Remember all of the good things that you do and that you are a good person whose company others enjoy. Sometimes the glass does look half-empty, but remember that this is only temporary as a half-empty glass of water can be filled with other things. In other words, even if you made a mistake, use other things that you are proud of to fill your half-empty glass.
 - Each day, write about the good things you did and the interactions with others that you enjoyed. You can keep this in your journal to refer to when you are down in the dumps.
 - Realize that when you are being blamed for not doing well, it is often the person that is unhappy with you that is having the problem.
 - Remember that not being optimistic can have a negative effect on your health. Accept that sometimes you make mistakes, we all do, but that your identity encompasses more than the brief time you were wrong.
 - IT IS OK TO MAKE MISTAKES; YOU DO MORE GOOD THAN BAD.

LAUGHTER: INCREASING YOUR SENSE OF HUMOR

- A sense of humor and being able to laugh helps to keep stress hormone levels low when experiencing stress. When we are worried or feeling down in the dumps, having someone who makes you laugh helps to restore balance.
- An individual with a good sense of humor may not perceive an event as stressful as would someone without or with a low sense of humor. Possibly the brains of individuals with a good sense of humor are wired differently than are the brains of individuals who lack a sense of humor.
- Benefits of laughter include a better functioning immune system, lower heart rate, less risk of coronary artery disease, and lower blood pressure.
- Interestingly, individuals with a good sense of humor are usually high in optimism. Having a positive outlook and a sense of humor are excellent stress buffers.

ACQUAINTANCES: PARTICIPATION IN SOCIAL INTERACTIONS

- Individuals who enjoy interacting with others have less stress hormone elevation when they experience stress than individuals who are lonely. Of course, there are individuals who are content without a social support system. This does not apply to them. Having social support and interactions may contribute to our sense of well-being by adding 'meaning' to life by being wanted and appreciated by others.
 - Individuals who engage in social interactions through marriage, close friends, religious beliefs, and group associations have lower mortality rates than do individuals without such interactions.
 - To increase your social interactions:
 - Participate in a volunteer program to do something to help other individuals.
 - Join a local club or interest group.
 - Make an effort to reconnect with old friends or family members.

INCREASING YOUR PHYSICAL FITNESS

- There is strong evidence that inactivity increases risk of:
 - Cardiovascular disease
 - High blood pressure
 - Colon cancer
 - Non-insulin dependent diabetes mellitus
 - Osteoporosis
 - Obesity
 - Depressive illness
 - Lipid disorders
 - Fall-related injuries in older adults
 - Functional decline in older adults

- Sleep problems
- Stroke
- Gall bladder disease
- Possibly breast cancer
- To increase your physical fitness:
 - If you are currently inactive, a great way to start is to take a walk. As a general rule, if you are walking and can whistle while you are doing it, we would encourage you to do it a bit more vigorously. If you cannot hold a conversation, slow down. Find a pace that allows you to hold a conversation but not be able to whistle. Go for a walk whenever you can.
 - If you already exercise, ask a friend to be your workout partner to keep you in a weekly routine. You can also motivate yourself by signing up to participate in a local charity 5K run/walk. If you like, join a fitness class at the local gym. Whatever you decide, develop a schedule to suit your needs and interests.

The RELAX behaviors we just learned will help you keep your stress hormone levels low and increase your mental and physical health.

Prescription: Spend some time reflecting on these behaviors and how they apply to your life:

Reflection:
Expectations:
Laughter:
Acquaintances:
Xercise:

Contemplate your strengths and weaknesses with regard to these behaviors.

1. Think of ways to increase these behaviors into your life.
2. Look at your schedule and determine a way to participate in each of these behaviors as often as you can.
3. Write down your long term goals to increase these behaviors and how you are going to achieve your goals.

Remember: We cannot make the stress in your life go away but we can change the way your brain responds to stress. By being better able to cope with stress you will have less of an elevation of stress hormones. It is the elevation of the stress hormones that alters your mental and physical health.