

Negative Effects of Stress

Chapter 2


The Big Thompson Flood in Colorado occurred over twenty years ago, but to this day, Kelly still dreams of dead bodies strewn all over the canyon, particularly one image of several people trapped in a car that was washed away when the dam broke.

For Todd, the worst part of a rescue is facing the family of a patient and explaining that their loved one must be rushed to the hospital and may be in danger of losing his or her life. As a policeman, Chad delivered five babies in the past year alone, but he almost missed the arrival of his own son because he had to work overtime. It's not uncommon for Chad to feel some guilt, resentment, and frustration over trying to balance career and family.

As many EMS professionals will share, their work experiences often defy description, nor are they the desired topic of everyday conversation among friends. Even after hundreds, if not thousands of encounters involving trauma and death, the humanness of each situation is never completely lost. After all, a callous heart is counterproductive to the work of a firefighter, police officer, lifeguard, dispatcher, EMT, or anyone involved in patient care. Additionally, stressful situations back at the station and in your personal life set the stage for an even stronger emotional impact, no matter what kind of personality you have.

Before examining ways to deal effectively with everyday stress, it is imperative to understand just how much of a toll stress takes on your emotional and physical well-being. First and foremost, you must realize that stress involves both mind and body and that there is no separation between the two. They are equally affected. Unresolved emotional stress (whether it be the boredom of a quiet 48-hour shift, the frustration of responding to repeated false alarms, or the grief of a mass casualty accident) perpetuates more feelings of stress, and physical symptoms of stress soon begin to appear. As the saying goes, “The body becomes the battlefield for the war games of the mind,” meaning that all the body’s physiological systems (such as the digestive, immune, or nervous systems) reflect the difficulties of a mind in turmoil. Effective stress management gently breaks the stress cycle and brings you to a greater sense of peace.

This chapter is divided into two parts. The first part deals with the emotional aspects of stress, including concerns with post-traumatic stress disorder (PTSD), grief, fatigue, anger, boredom, and low self-esteem. The second part of this chapter discusses the physical aspects of stress and how to minimize, if not avoid altogether, the physical symptoms that are so closely tied to emotions.



Thoughts become chemicals. They can kill or cure.

Bernie Siegel, MD



The memory of stressful events can linger in the unconscious mind, setting the stage for post-traumatic stress disorder (PTSD).

Emotional Stress

Post-Traumatic Stress Disorder

Gruesome car wrecks. Dismembered bodies. Severe burns over the entire body. Repeatedly viewing such disturbing scenes makes you vulnerable to nightmares, flashbacks, or intrusive memories that bring you back to the scene, again and again. For the purposes of stress management, trauma is best defined as a seriously distressing event that is outside the course of everyday life situations. PTSD is an emotional imbalance due to recurring memories or experiences of severe trauma. Because of the nature of your job description, you may be prone to PTSD. The most common emotional defense is *avoidance* (an ineffective coping skill for any stressor) as expressed through denial (e.g., “That wasn’t really bad, I barely remember it”). Despite the denial factor or suppression (two of the ego’s defense mechanisms), you may experience the effects of PTSD through memory flashbacks, dreams, or the manifestation of feelings associated with depression.

Symptoms of PTSD

People with PTSD tend to be edgy, irritable, nervously watchful, and easily startled, according to the *Harvard Medical Health Letter*. Some are fixated on trauma, while others repress or deny details of the event (also known as dissociation). As a rule, people who suffer from PTSD don’t sleep very well (they have less REM dream sleep), and over the course of time, their concentration skills diminish. In some cases, there are frequent outbursts of anger and violence. Reports indicate that many people use alcohol to take the emotional edge off, which may lead to a dependency on alcohol or similar substance and result in addiction. Research indicates that the most common symptom of PTSD is depression.

Why do some people, under the same circumstances, show symptoms of PTSD while others don’t? There doesn’t seem to be a clear-cut answer. Experts suggest that the reason is mostly likely a combination of various exposures to trauma, specific personality types (e.g., a stress-prone versus stress-resistant or hardy personality), personality traits (such as faith, humor, or assertiveness), or biological variability (e.g., some people produce and secrete more catecholamines, or stress neurotransmitters, than others, keeping memories more current).

Post-Traumatic Stress Relief for EMS Professionals

To release memories of traumatic events, you can debrief with your co-workers about the event or keep a journal—writing not only the details of the event, but describing your thoughts and feelings on paper as a means to consciously release these memories from your mind. Art therapy lets you express thoughts, feelings, and memories through the use of pastels, crayons, or even clay, which helps create equilibrium between the conscious and unconscious minds. Frequently, the unconscious mind, which retains thoughts, feelings, and memories from these types of events, speaks a language of color, symbol, and style unlike that of the verbal and linear conscious mind. (Art therapy and journal writing are discussed further in Chapter 3.) Either art therapy, journal therapy, or both can be powerful tools for healing PTSD.

Stages of Death and Grieving

Most of the stress people experience results from unmet expectations or, stated differently, the death of expectations, the most obvious being the death of a human being. For you, this includes mass casualty, infant and child trauma, and in particular, the loss of a co-worker. In the 1960s, Elizabeth Kübler-Ross did pioneering research on death and the grieving process. Her work has become the hallmark of psychology in this area. Although her research was with terminal cancer patients, the stages of grieving (albeit in different intensities) are identical, regardless of the perception of the stressor involved. By recognizing these stages, we can move through the grieving process at a healthier pace and not prolong the process (as many people do). As you read through these stages, reflect on any stressor in your own life involving the loss or death of an expectation.

In her most acclaimed book, *On Death and Dying*, Kübler-Ross described the following stages of the grief process. These stages have been adapted here to include two examples: the first is the death of a close colleague; the second is perhaps a more common stressor, required overtime during the weekend. Obviously, the time spent in each stage will vary from person to person. The greater the loss, the more likely that each phase will require a longer period.

1. **Denial:** Denial is a refusal to accept the truth of a situation. Denial can also manifest itself as shock. In many cases, it is a temporary rejection of the truth. With the death of a close colleague, denial begins with shock and disbelief. In the case of required overtime, the response may be, “Not again. It must be a mistake. Not this weekend!”
2. **Anger:** The anger stage can be described as a period of rage, which may include yelling, pounding, crying, and/or deep frustration manifesting in a physical-emotional sense. Anger becomes a physical outlet for hostile feelings. Kübler-Ross typically saw anger directed not only at clinicians and family members, but also toward a higher power, even by people who claimed not to believe in one. In this stage, anger over the loss of a colleague may surface in many ways, from impatience to rage. Similarly, anger may surface when expectations for a free weekend are scratched because of additional overtime.
3. **Bargaining:** Kübler-Ross described this phase as a very brief but important one. Bargaining is an agreement between the conscious mind and the unconscious mind involving an exchange of offerings; it is primarily a negotiation for something more. With the loss of a partner or team member, it might involve questioning: “Why him (or her), why not me?” In the case of required overtime, bargaining might begin with the thought, “Hmm, perhaps I can switch with someone else.” Or, “I’ll do it this weekend, but I am out of town for the next two weekends, and I am NOT working the evening shift.” Or “God, I hope it’s a slow night. I’m exhausted already.”
4. **Depression:** This stage is best described as a quiet or passive mood of uneasiness while at the same time feeling quite overwhelmed with thoughts and responsibilities. With depression, there is very little, if any, perceived hope. With the loss of a friend, you may notice a period of emotional withdrawal and low motivation. Energy may be replaced by some level of apathy. In the case of required overtime, once the reality sets in, withdrawal may come in the form of silence, sarcasm, or similar behaviors.



Art therapy serves as a catharsis for anger and fear.

Over half the stress
you experience
is the result
of unmet expectations.



The loss of a partner can be an extremely traumatic experience.

5. **Acceptance:** If and when all previous stages of the grieving process are complete, then and only then will you arrive at the final stage of acceptance. Acceptance is an approval of the existing conditions, a receptivity to the things that cannot be changed. Acceptance is *not* giving in or giving up. It is not a surrender to the circumstances. Rather, it is a recognition of the particular situation in which you find yourself. Acceptance allows you to move on with your life. With acceptance comes hope, then faith. At this stage, there is recognition that things are better, not worse, and life goes on. In the example of extended overtime, you might say, “OK, someone’s got to do it. Let’s pitch in and make a good time of it.” In the death of a colleague, you may come to a personal understanding about death such as, “John may have passed away, but he is still with me in spirit and I can go on.”

In the acceptance stage, there is no trace of anger or pity. Kübler-Ross indicates that this stage is very difficult to arrive at, and many people don’t reach it in the course of their grieving. The process of acceptance, of resolving pent-up feelings or frustrations, is not an easy one. In fact, it can be quite emotionally painful. In her work, Kübler-Ross observed some people with a stubborn streak who would rather leave matters unresolved than face this process. Still others are unsure how best to resolve these emotions and eventually become hostages to their conscious and unconscious feelings.

You can go through these stages of grieving hundreds of times in your lifetime. Considering the rate of change in today’s world, these same stages of death and dying can be experienced daily. Because episodes of stress (both acute and chronic) involve unmet expectations, it’s not unrealistic to experience some aspect of grieving frequently. The stress associated with the stages of death is, as Kübler-Ross explains, a catalyst to provide a greater mental awareness of several or all unresolved emotions. As you pass from one stage to the next, you enter a deeper level of mental awareness and resolution. In recent years, Kübler-Ross has amended her original concept to suggest that in some cases, one of the first four stages may even be skipped and that there may be frequent backsliding to other stages. She noted that the last stage is the most difficult to arrive at and conquer, yet also the most rewarding.

General Fatigue

The human body is designed for periodic stress and adapts well to it. In fact, some stress, like exercise, is actually good for the body. However, the body also craves relaxation, or homeostasis. Without adequate relaxation, the body’s physiology is thrown out of balance. When the body is kept in a high state of physiological arousal, specific physiological systems are taxed beyond their means, and eventually certain organs become susceptible to some level of dysfunction. Not only does repeated stress exhaust your sense of energy, but research shows that it also depletes the stores of vitamins and minerals necessary for energy production. The first sign that your body is headed in this direction is a sense of general fatigue. When fatigue sets in, the following can happen: (1) your focus on work is divided and compromised, (2) your attention span is reduced, (3) your ability to retain information is greatly limited, and (4) your decision-making process is significantly compromised. Many times, specific thoughts become magnified and distorted, making mountains out of molehills, and this too can make you feel



overwhelmed both on and off the job. All of these factors can lead to mental and emotional fatigue. Over time, you can begin to lose interest in your work and become less motivated. Ultimately, both the quality of work and the quality of life suffers. More sleep doesn't necessarily mean less fatigue. Fatigue is a function of many things, including poor nutrition and mental, physical, and emotional exhaustion.

Anger and Frustration: The Fight Response

What pushes your buttons and angers or frustrates you? Generally speaking, the same things that frustrate most everyone. More specifically, a random poll elicited these answers: faulty alarms, incompetent partners, the average annoying citizen, false alarms, simple or long-distance transports, arrogant communication problems with citizens or physicians, required overtime, low pay, poor advancement opportunities, and insufficient funds for new equipment, just to name a few. These may all be valid reasons to feel frustrated, but the question is how to move beyond those issues that are beyond your control. A closer look at anger can help.

Anger is a healthy emotion, but only in minuscule amounts. First and foremost, anger is a survival emotion. Second, anger is an energizing emotion; however, anger is meant to last only seconds, supporting the adage that when you get mad, you should count to ten, then let it go. As a rule, most people don't let it go. They hang on to anger as a means of exerting some level of control, usually over

Fatigue is a function of many things, including poor nutrition and mental, physical, and emotional exhaustion.

For Your Information

Mismanaged Anger Styles

- 1. The somatizer:** The somatizer is someone who suppresses his or her anger and rarely, if ever, shows it. As a result, anger manifests itself in the body (*soma* means "body" in Latin) as physical symptoms such as migraine headaches, hypertension, ulcers, or temporomandibular joint dysfunction. An example might be a dispatcher who never shows any frustration but has a lot of physical ailments (e.g. migraines).
- 2. The self-punisher:** The self-punisher is someone who denies himself or herself a proper outlet for anger and instead substitutes for it (usually in the form of guilt) through excessive eating, sleeping, sex, exercise, or shopping.
- 3. The exploder:** The exploder is someone who, when angry, erupts like a volcano and spills the emotional equivalent of hot lava in everyone's path. Road rage is a prime example. Explosive anger is expressed as a form of intimidation and is most typically used against people who will not retaliate (e.g., domestic violence).

Exploders typically make the headlines through violent acts; however, swearing and hand gestures are also characteristics of explosive behavior.

- 4. The underhander:** The motto of an underhander is "Don't get mad, get even." As a form of intimidation, the underhander vents anger in what are perceived to be socially acceptable ways, such as sarcasm or showing up late for meetings, again as a control measure. An example might be a command officer manipulating a situation to make himself or herself look better for a promotion.

It should be noted that almost everyone has several of these tendencies; however, one style will typically dominate behavior. While it is good to acknowledge your anger and feel it when situations arise, it is inappropriate to mismanage anger, as the consequences are serious for everyone involved. For anger management to be effective, anger must be acknowledged and resolved quickly, not harbored indefinitely.



road to relaxation

Creative Anger Management Skills

Based on the works of Carol Tavris, Harold Weisinger, and Redford Williams and in the spirit of self-help twelve-step programs to modify unhealthy behaviors, the following suggestions are provided to help you learn to manage your anger more creatively.

1. **Know your anger style.** Is your anger style predominantly passive or active? Are you the type of person who holds anger in, or are you the kind of person who explodes? Are you a somatizer, exploder, self-punisher, or underhander? Become aware of what your current style of anger is. Take mental notes on what pushes your buttons and how you react when you get angry. Remember, recognition is the first step in changing behavior.
2. **Learn to self-monitor your anger.** Keep track of your anger in a journal or on a calendar. Write down when you get angry and what precipitates the feeling. Are there some predictable trends to your angry feelings? Ask yourself why? After you have made several entries, look for patterns of circumstances or behaviors that lead to this critical mass or boiling point of your anger.
3. **Learn to de-escalate your anger.** Rather than respond immediately, count to ten, step outside for a moment, get a drink of water, take some deep breaths, use some mental imagery to relax, and calm down. Research shows that the initial anger response is quickly followed by a long simmering process. Give yourself 10 to 20 seconds to diffuse. Take a moment to collect and regroup your mental faculties. No rational conversation can take place when someone shouts. Instead, take a time-out and remove yourself from the scene momentarily to cool off. Time-outs can help validate your feelings and give you a full perspective on the circumstance. Remember, though, that a time-out must be immediately followed by a "time-in." Find a way to let out some steam creatively and then take the next step.
4. **Learn to out-think your anger.** What are some ways to resolve this situation in a constructive way so that you and everyone involved feels better? Anger carries much energy with it. How can you best use this energy? Learn to be constructive rather than destructive.
5. **Get comfortable with all your feelings and learn to express them constructively.** People who are at most risk for stress-related diseases and illnesses are usually unable to express their feelings openly and directly. In other words, don't ignore, avoid, or repress your feelings. Anger is like a toxic acid. It needs to be treated. And it is treated by creative (constructive) expression. Try practicing the words, "I am angry!" just to verbalize your feelings. A creative approach would be to say, "I feel angry when you do..." rather than saying "I hate you when you do ..."
6. **Plan in advance.** Some situations can be identified as potential provocations of anger, and you can then create viable options to minimize your exposure to them. This is especially true of interactions with people (e.g., staff meetings, traffic, long lines at the post office). Try to plan your time wisely and work around the types of situations that are prone to light your fuse.
7. **Develop a strong support system.** Find a few close friends in whom you can confide or give vent to your frustrations. Don't force them to become allies; rather, allow them to listen and perhaps give you an insight or an objective perspective. By expressing yourself to others, you begin to process bits of information, and a clearer understanding of the situation will usually surface.
8. **Develop realistic expectations for yourself and others.** Many times anger surfaces because your expectations that you place on yourself are too high. Anger also arises when you expect too much from others such as team members, partners, and command leaders. Learn to reappraise your expectations and validate your feelings before you blow your top. Learn to reassess a situation by fine-tuning your perceptions and you will minimize anger episodes.

- 9. Learn problem-solving techniques.** Don't paint yourself into a corner without any options. Implement alternatives to situations by creating viable options to your problems. To do this, you must be willing to trust your imagination and creativity. You must also take risks with the options you have created and trust the choices you make. If your mind got you into this attitude, use your mind to get you out of it. And remember, problem-solving techniques do not include revenge or retaliation.
- 10. Stay in shape.** Staying in shape means balancing your mental, emotional, physical, and spiritual well-being. Studies show that people who are in good shape bounce back from anger episodes more quickly than those who are not. Exercise is a beneficial step in the catharsis process to absolve feelings of anger. (Additional techniques are discussed in Chapter 4.) Eat good whole foods, exercise regularly, give yourself alone time or solitude, and learn to laugh more. Laughter is a great stress reducer, and gives you a better perspective on the situation at hand. Remember, though, that while laughter is the best form of medicine, anger vented in sarcasm is neither creative nor healthy for anyone.
- 11. Turn complaints into requests.** Pessimists tend to complain, whine, and moan. Anyone can complain. Constant complaining indicates that you see yourself as a victim, unable to affect change. When you are frustrated with a partner, team member, or family member, rework the problem into a request for change with the person(s) involved. Seek opportunities rather than problems. Take a more optimistic outlook on how you perceive situations. This will help you frame your request.
- 12. Make past anger pass.** Learn to resolve issues that have caused pain, frustration, or stress. Resolution involves an internal dialogue to work things out in your own mind and an external dialogue to resolve issues with others. Learn to forgive both yourself and others for inappropriate behavior. Forgiveness is an essential part of anger management. Set a statute of limitations on your anger and follow it.

other people. But this display of control is an illusion; instead, anger becomes the controller. This is not good for the mind, body, or spirit.

Anger shows up in a great many ways, including impatience, guilt, envy, jealousy, indignation, hostility, sarcasm, and rage. Every time you get mad, it is because of an unmet expectation (you thought your partner would show up on time and she didn't, or you thought you had a normal shift and now you're assigned overtime, or you thought there would be a backup team and there wasn't). Research shows that the average American gets angry about 15 to 20 times per day. It is important to remember that all unresolved anger becomes a control issue. But rather than gaining control, you become controlled by your anger and give your power away. Creative anger management is about resolving anger feelings and restoring a sense of personal power.

For years, anger was considered a taboo subject, even in stress management programs and books. Only fear was addressed regarding emotional stress. But what's placed on the back burner eventually boils over. Therefore, the issue of anger merits considerable attention. Today, aspects of the fight emotion are being looked at and seriously addressed. One thing is certain: people don't deal with anger very well. There are many cultural, social, and parental reasons, but in general, people tend to mismanage their anger rather than deal with it and resolve it correctly. There are four distinct styles of mismanaged anger: the somatizer, the self-punisher, the exploder, and the underhander.



Boredom can lead to just as many problems as overstimulation does.

Boredom

Depending on where you work, EMS emergency calls fall in the categories of either feast or famine. Holidays, full moons, and natural disasters notwithstanding, calls for emergency assistance tend to be punctuated by periods of intense calm. If you just sit around and wait for the alarm to go off, the waiting game can be a bit unnerving. As one fireman stated, “Ninety percent of the time you sit around waiting for the ten percent of the time that you are called out to make a rescue.” Lifeguards admit that between rescues, there are long, tedious, and monotonous periods. As one rescue worker said, “While it’s nice to have a break from the action every now and then, extended periods of doing nothing can drive you nuts.” Sitting around with

nothing to do is boring, but so are “boring calls.” These include simple transports, putting people back into bed, and other similar situations—important tasks, but without much excitement. Boredom is a combination of poor mental stimulation and poor attitude. Too little mental stimulation, just like sensory overload, can be quite stressful. In the short term, boredom can lead to potential accidents; in the long term, it challenges one’s sense of self-worth and leads to low self-esteem. The basic solution to boredom is to keep your mind occupied without taxing it and to alter your (potential) negative attitude of victimization. One way to do this might include creative problem solving. (Creative problem solving is discussed in more detail in Chapter 3.)

Low Self-Esteem

High self-esteem is often described as a sense of strong self-worth and high self-acceptance. Low self-esteem is reflected in a sense of low self-worth and poor self-acceptance, always finding fault within. The things you say, the clothes you wear, and your behavior reflect your sense of self-esteem. In the North American culture, so strongly influenced by the Puritan work ethic of “worth equals work,” self-esteem is often tied solely to your occupational status, work productivity, or paycheck. When occupational stress hits a critical level, your self-esteem can crumble. People with low self-esteem generate feelings of powerlessness, frustration, depression, and victimization, leading to burnout.

Whereas people with low self-esteem are more susceptible to the pressures of stress, people with high self-esteem display confidence and enthusiasm and tolerate frustration well.

Because a strong sense of self-esteem is critical to effective stress reduction, the primary goal in stress management programs is to help you develop and nurture high self-esteem. The four basic elements of self-esteem are connectedness, uniqueness, empowerment, and models. All of these factors need to be present and systematically cultivated throughout your life to ensure a sense of high self-esteem.





road to relaxation

Components of Self-Esteem

High self-esteem is made up of these four components:

1. **Connectedness:** A feeling of bonding and acceptance from your friends, peers, and colleagues and a sense of satisfaction that your relationships are significant and are nurtured and affirmed by others.
2. **Uniqueness:** A feeling that you have qualities that make you special and unique and that these qualities are respected and admired by others as well as by yourself.
3. **Empowerment:** A sense that you can access your inner resources to create new opportunities and use your resources and capabilities to gain and keep a sense of control in your life.
4. **Models:** Selecting people (mentors, heroes, or role models) who have certain characteristics that you would like to enhance in yourself and using these people as mentors to help you reach your highest human potential.

The following are some tips for raising your self-esteem on the job:

1. **Disarm your negative critic:** Challenge the voice inside your head that feeds put-downs and negative comments to your conscious mind. Tell yourself that you are doing a good job on the job. A critic who has only a negative side is unbalanced and dangerous to your self-esteem.
2. **Give yourself positive reinforcements and affirmations:** Remind yourself of your good qualities with truthful positive statements. Write them down, and look at the list and repeat them to yourself often in the course of a day.
3. **Avoid “should haves”:** Don’t place a guilt trip on yourself for unmet expectations. Learn from the past, but don’t dwell on it. Look for new opportunities to grow.
4. **Focus on the qualities that make you special:** Explore your own identity and do not place all your self-worth in your job or your paycheck.
5. **Avoid comparing yourself to others:** Respect your own uniqueness and learn to cultivate it. At the same time, ask yourself who your role models are, what traits you admire in those people, and how you can foster those traits in yourself.



Praise from colleagues helps nurture connectedness, a pillar of high self-esteem.



road to relaxation

Positive Affirmation Statements

1. I am calm and relaxed.
2. I have confidence in myself.
3. I am an essential member of my rescue team.
4. I am making a difference in this world.
5. I radiate success!
6. I am worthy of being respected.
7. Your positive affirmation statement: _____.



Hobbies not only serve to help build self-esteem, but actually help to nurture a sense of creativity, which often transfers back to problem-solving techniques at work.

6. **Diversify your interests:** Don't put all your eggs in one basket. Diversify your life by having many interests so that if one aspect (such as work) becomes troubled, other areas (your family or hobbies) can compensate and help you cope.
7. **Strengthen your connectedness:** Widen your network of friends inside and outside the profession. Acknowledge special places that recharge your energy, and strengthen your bonds throughout your environment. Nurture these relationships.
8. **Avoid self-victimization:** Martyrs are often admired, but begging for pity and sympathy gets old, and the effects are short lived. Don't make a habit of this; it quickly gets tiresome.
9. **Reassert yourself and your value before and during a stressful event:** Strategies used to combat stress successfully are useless unless you have a strong feeling of self-worth and self-value. Although self-esteem is abstract, it should be attended to every day, like brushing your teeth and eating. It is that important!

Physical Effects of Stress



www.StressLessEMS.com

The association between stress and disease is not a new one. For centuries physicians have suspected that emotions can significantly affect a patient's health. In the early 1970s, it was suggested

that up to 50% of all disease and illness were stress-related. Recent findings about mind-body interactions estimate that up to 80% of all health-related problems are either caused or aggravated by stress. The list of such disorders is nearly endless, from the common cold to cancer, from canker sores to hemorrhoids. Clinical science has verified what was intuitive knowledge for generations: Emotions can either enhance or hinder the immune system, thereby greatly affecting your state of health.

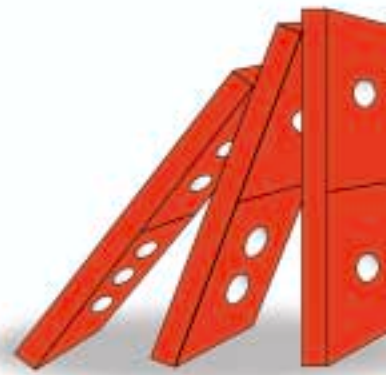
To understand the relationship between stress and disease, it is important to know that several factors must come together to create or aggravate an illness. These include, but are not limited to, stress-promoting attitudes (unresolved anger and fear) and their effects on the nervous system, the hormonal system, and the immune system.

Research originally indicated that the repeated rush of hormones released in the fight or flight response target specific organs and cause them to dysfunction. Researchers also discovered that these same stress hormones actually destroy white blood cells, thereby lowering the body's resistance to disease and illness. Various studies now show that the human body is more complicated than was once thought. There is a direct link between emotions and the functions of white blood cells that bypasses the nervous and hormonal systems altogether. The work of people such as Norman Cousins; Bernie Siegel, M.D.; Dean Ornish, M.D.; Deepak Chopra, M.D.; Joan Borysenko, Ph.D.; Larry Dossey, M.D.; and Andrew Weil, M.D. indicate that physical health is indeed often a reflection of emotional health.

Some of the more common disorders now known to be related to the effects of chronic stress on the nervous system, the hormonal system, or the immune system are listed below. All of these illnesses have been shown to be significantly affected by a variety of relaxation techniques. (Relaxation techniques are discussed in Chapter 4.)

Aches and Pains

- **Tension headaches:** Muscle tension is the number one symptom of stress. It is most likely to appear as tension headaches, clenched jaws, stiff necks, and lower back pain. Tension headaches, the most common symptom, are produced by muscle contractions of the forehead, eyes, neck, and jaw. Most people are unaware of increased muscle tension until pain begins in the front of the head.
- **Migraine headaches:** A migraine headache is caused by an increase of blood flow and chemical secretions to the head. Symptoms can include a flash of light followed by intense throbbing, dizziness, and nausea. It is interesting to note that migraines usually do not occur in the midst of a stressor, but rather hours later. In many cases, migraines are thought to be related to an inability to express anger and frustration.
- **Temporomandibular joint dysfunction:** Repeated contraction of the jaw muscles (often during sleep) can lead to a problem called temporomandibular joint dysfunction (TMJ). Other symptoms include muscle pain, clicking or popping sounds when chewing, and tension headaches and earaches. Like migraines, TMJ may be associated with the inability to express feelings of anger.



Nervous system Hormonal system Immune system

Three symbolic dominos representing the body's reaction to physiological stress.



Stress can target the mandibular joint, causing temporomandibular joint dysfunction (TMJ).

Headaches are an obvious symptom of stress.



Insomnia is a common symptom of chronic work-related stressors

Stomach Troubles

- **Ulcers and colitis:** Both the stomach and the colon are prone to ulceration and bleeding, resulting in ulcers and colitis. These conditions are not caused by foods, as once thought, but by a virus called *Helicobacter*. However, not everyone with the virus contracts ulcers, and some people get ulcers without having the virus. Stress has always been associated with ulcers, and may help create an environment conducive to the development of ulcers and colitis. Bleeding from the stomach causes nausea and vomiting. Internal bleeding from the gastrointestinal track can cause several health related problems.
- **Irritable bowel syndrome:** Irritable bowel syndrome (IBS) is characterized by repeated bouts of abdominal pain or tenderness, cramps, diarrhea, nausea, constipation, and excessive gas. Although symptoms may vary from person to person, this stress-related disorder is most commonly associated with anxiety and depression.

Nervous Anxiety

- **Insomnia:** The inability to sleep is a sure symptom of an overactive nervous system. Excessive neural stimulation to the brain and muscle tissue can cause extreme restlessness in the day or at night.
- **Bronchial asthma:** The bronchioles are tubes that carry air into the lungs. During an asthma attack, the tubes begin to fill with bronchial fluid, resulting in the person choking and gasping for air. Asthmatic attacks can be severe enough to hospitalize or kill a person and are often linked to anxiety.
- **Allergies:** An allergic reaction is initiated when a foreign substance such as a chemical, food, pollen, or dust enters the body. However, these substances are not necessary to trigger an allergic reaction. The mere memory of an attack will repeat the symptoms. It is now known that allergic reactions are more prevalent and severe when subjects are prone to anxiety. Over-the-counter medications (containing antihistamines) and allergy shots are the most common approach to dealing with allergies. Relaxation techniques are also known to minimize the effects of these foreign substances.
- **Rheumatoid arthritis:** Rheumatoid arthritis, a joint and connective tissue disease, occurs when joints swell, causing the joint tissue to become inflamed. Within time, fluid may actually enter the cartilage and bone tissue, causing further deterioration of the joint. There is speculation that rheumatoid arthritis has a genetic link as well as an association with stress. Typically, the severity of arthritic pain is related to episodes of stress, particularly to suppressed anger.

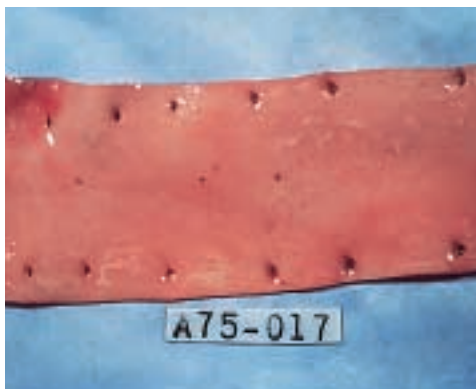


Disease and Illness

- **The common cold and influenza:** It is no coincidence that you are most likely to catch a cold when you are most stressed. When your immune defenses are down, you are more likely to succumb to nearby germs. Current findings support the idea that colds are definitely related to stress. When the immune system is suppressed, the chances of catching the flu are also greater.
- **Coronary heart disease:** Two factors link the stress response to the development of coronary heart disease. The first is high blood pressure (>145/90 mm Hg), or *hypertension*. High blood pressure is known to produce damage to the inner lining of the coronary vessels that supply the heart muscle with oxygen. The second factor involves the release of *cortisol*, which increases blood cholesterol levels, from the adrenal gland. Unfortunately, cholesterol acts as a bandage to repair damaged vessel walls, ultimately causing more damage to the arteries and reducing the flow of blood.

There are three stages of coronary heart disease. First, a fatty streak appears along the lining of the vessel wall; next, the plaque builds up; and finally, the arteries harden like lead pipes.
- **Cancer:** Cancer affects one out of every four Americans. The American Cancer Society defines cancer as “a large group of diseases all characterized by uncontrolled growth and spread of abnormal cells.” When normal cells mutate into abnormal cells, the body treats them like a foreign substance. One function of white blood cells is to search out and destroy these mutant cells. If, for some reason, the number of white blood cells (lymphocytes and macrophages) is too low, an abnormal cell may go undetected, and the likelihood of a tumor increases. Research suggests that the body produces about six mutant cells per day. Under normal conditions, white blood cells can do their job well. Under stressful conditions, mutant cells can go undetected and become cancerous tumors. (It should be noted that there is still much to be discovered regarding the relationship between stress and cancer.)

Prolonged stress can have a negative impact on your health. Prolonged grief, anger, or even boredom can undermine the body’s physiological systems, most notably the integrity of the immune system. Current research indicates that as much as 85% of all disease and illness is stress-related. EMS professionals are potentially at a greater risk due to the exposure of repeated trauma and post-traumatic stress disorder. Remember, the body becomes the battlefield for the war-games of the mind.



Coronary heart disease can start as early as age 5, causing damage to the inner lining of artery walls, as shown in the second photo. Cholesterol deposits, which attempt to heal damaged tissue, actually thicken the passage, thus decreasing the diameter of the vessel for blood circulation. The greater the amount of thickness, the greater the blockage to that vessel, resulting in a heart attack.

stress | strategies

Exercise 1



Recognizing Anger

This quick exercise can help you understand how anger surfaces during a working day and how you might mismanage it. Check any of the following descriptions that apply to you when you get angry. Next, if applicable, try to identify your most common mismanaged anger style.

- | | | |
|--|--|--|
| <input type="checkbox"/> anxious | <input type="checkbox"/> threaten others | <input type="checkbox"/> depressed |
| <input type="checkbox"/> buy things | <input type="checkbox"/> overeat | <input type="checkbox"/> frequent lateness |
| <input type="checkbox"/> start dieting | <input type="checkbox"/> never feel angry | <input type="checkbox"/> trouble sleeping |
| <input type="checkbox"/> tight, clenched jaw | <input type="checkbox"/> excessive sleeping | <input type="checkbox"/> bored |
| <input type="checkbox"/> careless driving | <input type="checkbox"/> nausea, vomiting | <input type="checkbox"/> chronic fatigue |
| <input type="checkbox"/> skin eruptions | <input type="checkbox"/> abuse alcohol/drugs | <input type="checkbox"/> easily irritable |
| <input type="checkbox"/> explode in rage | <input type="checkbox"/> sexual difficulties | <input type="checkbox"/> cold withdrawal |
| <input type="checkbox"/> backache | <input type="checkbox"/> headaches | <input type="checkbox"/> busywork (clean, straighten) |
| <input type="checkbox"/> sarcasm | <input type="checkbox"/> hostile joking | <input type="checkbox"/> sulk, whine |
| <input type="checkbox"/> accident-prone | <input type="checkbox"/> hit, throw things | <input type="checkbox"/> guilty and self-blaming |
| <input type="checkbox"/> complain and whine | <input type="checkbox"/> high blood pressure | <input type="checkbox"/> tension headaches |
| <input type="checkbox"/> frequent nightmares | <input type="checkbox"/> harp/nag | <input type="checkbox"/> muscle tension (e.g., shoulders, leg, fist) |
| <input type="checkbox"/> intellectualize | <input type="checkbox"/> name call | <input type="checkbox"/> stomach upsets (e.g., gas, cramps, colitis) |
| <input type="checkbox"/> cry | <input type="checkbox"/> smoke | |

MISMANAGED ANGER STYLES

When I mismanage my anger, I typically express myself in the following way (check one):

1. Exploder
2. Self-punisher (guilt)
3. Underhander (revenge, sarcasm)
4. Somatizer (suppress anger feelings)

My average number of anger episodes per day is ____ .

Exercise ②



Appraising Self-Esteem

Self-esteem is often described as your sense of self-value, self-acceptance, and self-love. When your self-esteem is high, stress seems to roll off your back. When your self-esteem is low, you attract stressors like a magnet. To nurture your self-esteem, you need to address four specific areas: uniqueness, empowerment, role models, and connectedness. Take a moment to see how strong these areas are in your life right now.

I. Uniqueness. List five things about yourself that make you feel special and unique:

- 1.
- 2.
- 3.
- 4.
- 5.

II. Empowerment. List five areas or aspects of your life in which you feel you are in control or are self-empowered:

- 1.
- 2.
- 3.
- 4.
- 5.

III. Role Models. Who are your role models or mentors? Name five people who have one or more characteristics that you wish to emulate, include, or strengthen as part of your own personality and describe what that trait is.

- 1.
- 2.
- 3.
- 4.
- 5.

IV. Connectedness. Social support groups can be crucial to your health status. It is very important to have a sense of belonging in your life. Who (and this can include animals) do you feel you have a sense of belonging to?

- 1.
- 2.
- 3.
- 4.
- 5.

Exercise 3 
Checking Physical Symptoms

Look over the list of stress-related symptoms and circle how often they have occurred in the past week, how severe they seemed to you, and how long they lasted. Then reflect back on the past week's workload and see whether you notice any connection.

	How Often (number of days in the past week)	How Severe (1 = mild, 5 = severe)	How Long (1 = 1 hour, 5 = all day)
1. Tension headache	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
2. Migraine headache	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
3. Muscle tension (neck and/or shoulders)	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
4. Muscle tension (lower back)	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
5. Joint pain	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
6. Cold	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
7. Flu	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
8. Stomachache	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
9. Stomach/abdominal bloating/distention/gas	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
10. Diarrhea	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
11. Constipation	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
12. Ulcer flare-up	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
13. Asthma attack	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
14. Allergies	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
15. Canker/cold sores	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
16. Dizzy spells	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
17. Heart palpitations (racing heart)	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5

Exercise 3



Checking Physical Symptoms—continued

	How Often (number of days in the past week)	How Severe (1 = mild, 5 = severe)	How Long (1 = 1 hour, 5 = all day)
18. TMJ	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
19. Insomnia	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
20. Nightmares	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
21. Fatigue	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
22. Hemorrhoids	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
23. Pimples/acne	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
24. Cramps	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
25. Frequent accidents	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5
26. Other (please specify):	0 1 2 3 4 5 6 7	1 2 3 4 5	1 2 3 4 5

Score: Take a look at the entire list. Do you observe any patterns or relationships between your stress levels and your physical health? A value over 30 points (in all 3 areas combined) could indicate a stress-related health problem. If it seems to you that these symptoms are related to undue stress, they probably are. You should seek medical treatment when necessary, and you may want to consider the regular use of relaxation techniques to help lessen the intensity, frequency, and duration of these episodes.

Score _____

- 0 - 10 points** : low stress reaction
- 11 - 20 points** : moderate stress reaction
- 21 - 30 points** : moderately high stress reaction
- Over 30 points** : high stress reaction*

* It might be a good idea to seek some counseling about this.