Finding Balance

3. The Body Under Stress

Sometimes the best way to understand that an experience really **is** normal and natural is to know a little about how it works—the science underneath it. In the case of the human stress system, this can also be a good way to start learning how to make it do what you want it to do.

The **stress system's** official name is the "autonomic nervous system," and it has two arms:

- The **fast system** (whose official name is the sympathetic[1] nervous system) rules our "fight or flight" responses
- The **slow system** (whose official name is the parasympathetic nervous system) is in charge of slowing us down and returning to balance—"rest and reset"

The stress system uses several brain areas and organs in the body to trigger or pump out the chemicals it needs to respond to stress and threat, and to keep the body and brain in balance. (More about the brain in Section 4 and Appendix C. More about the chemicals in Section 5.) When you think about the brain's role in our stress responses, it's helpful to divide the important parts of the brain into two main "brains":

- The **survival brain** that triggers responses for dealing with threat—often using the fast-system, fight-or-flight chemicals (like adrenaline)
- The **higher brain** that calms us down—often using the slow-system rest-and reset chemicals—and helps us think about options and choose our reactions

[1] You won't have to remember the technical names "sympathetic" and "parasympathetic," but if you want to, you can keep them straight by remembering that the sympathetic system is **sympathetic** to your need to fight back or escape danger—or by thinking of the parasympathetic system as a **para**chute, because it brings you down gradually.

Keeping in Balance

If the stress system's first job is to keep us alive, its second job is to keep itself—and us—in balance. Many of its functions are organized around balance, including:

- The fact that the stress system has two opposite arms (the fast system and the slow system) that can balance one another out, the way your arms would balance your body if you were walking along a narrow board
- The "feedback loops" that run between the fight-or-flight chemicals and the rest-and-reset chemicals (with high levels of one chemical designed to trigger the opposite chemical, which then tells the first chemical to slow down)
- The fact that several parts of the higher brain know how to "talk to" the survival brain and provide more information, so the survival brain can calm down

Think of the way we grow strong muscles—by stressing them, then resting them, over and over again. In the same way, our stress systems are designed to go back and forth between stress and calm, between the fast system and the slow system. It's often this back-and-forth motion that helps us grow resilient stress systems, so we can handle stress and return to balance quickly. Many people who have strong resilience skills have learned them all through their lives, often by going back and forth between times of higher and lower stress, and between times of mild or moderate threat and safety.

Think of a situation where you've gone back and forth between times of mild or moderate **physical** stress and times of rest. What were the effects on you?

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Think of a situation where you've gone back and forth between times of mild or moderate **mental or emotional** stress and times of rest. How did that affect you?

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What could you change in your life or your actions today to build in more balance, more of a "swing" back and forth between mild or moderate stress and rest?

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When Things Go Out of Balance

When there's only mild or moderate stress or threat—and it doesn't last too long—the fast system and the slow system play well together. That's what our bodies were designed to do. But if the threat is extreme or long lasting, the survival brain often takes over and refuses to listen to anyone else. It blows through all the feedback loops that are supposed to keep things in balance. It just wants to keep pumping adrenaline and other fight-or-flight chemicals, and store intense memories of threat and pain, so it can pull them out later and warn you if the danger seems to be returning. Your survival brain just wants to protect you, and this is the only way it knows how to do that.

Meanwhile, the slow-down system just wants to send out chemicals that will shut you down, numb you out, and keep you from thinking about or remembering what's happening. If they build up over time, some of these chemicals can be cause as many problems as the speed-up chemicals sent out by the fast system.

As it's used here, the word "threat" doesn't have to mean a threat to physical safety. It might mean a threat to a loved one, your freedom, your sense of hope, honor, financial well being, etc. And if you're around somebody else whose stress system is working overtime, it will ramp up your stress system, too.

What if the threat is extreme, but the situation doesn't give you a chance to react in the fight-or-flight way your survival brain wants you to react? When the situation adds that element of helplessness, the speed-up and slow-down systems can both go into overdrive at once. You can also experience a "freeze response," an ancient survival reaction that all but shuts down several body systems. The freeze might not last too long, if you're well trained in responding under pressure. But some experts believe that even a brief freeze experience can leave a lot of tension behind in your body that can cause problems later if you don't stretch it out or let it "shake itself out" naturally.[2]

Even one threatening event—like a car crash—can put anybody's stress system in overdrive and affect the way it works for a long time. If the stress and threat happen over and over for months or years, as they often do in the war zone or on the home front, it's no wonder many people's stress systems go out of balance.

What does your body need?

No matter which areas of life they affect, stress effects get their intensity from your physical stress system. The next page lists a few of the many physical things you and your loved ones can do to help get your stress systems back in balance.

[2] Peter Levine (*Waking the Tiger: Healing Trauma*) has written some good books about the freeze response and ways of dealing with it, and many of the "gurus" in the trauma field admire his work.

- **Breathing:** Most of the oxygen your brain needs for clear thinking and problem solving comes from the bottom of the lungs, but most people—especially if we've been through high stress—breathe very shallowly. It's important to take slow, deep breaths, feel the air going in and out, and notice what's going on in your body. And smoking definitely robs you of oxygen, because it clogs up the "pipes" in your lungs.

  What could you do differently here?_____

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- **Sleep:** Sleep problems can come from depression, anxiety, or nightmares—things you might need extra help (like a doctor or a counselor) to deal with. But they can also come from some of the things you put in your body. How much caffeine do you take in (coffee, cola, chocolate, energy drinks)? How much sugar (candy, cookies, soda/pop)? Alcohol? Street drugs? Over-the-counter drugs or prescription meds? Not taking meds you're supposed to take? For many service members and veterans, caffeine may be the biggest source of insomnia. It's a powerful drug. Sleep problems can also come from habits like having lively discussions right before bedtime; watching TV in bed; or using TV, X-Box, computers, or other electronic devices late at night. (Appendix B has some tips for getting better sleep.)

  What could you do differently here?_____

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- **Healthy food, not overdoing alcohol or caffeine:** What you eat, how often you eat, and how much you eat can have powerful effects on the amount of fuel and oxygen that get to your body and brain. Too much sugar, too much alcohol or caffeine, too little protein, too much or too little food, going too long between meals, or eating too close to bedtime can all set your stress system on edge, raise your levels of stress chemicals, and make it harder to think clearly and solve problems.

  What could you do differently here?_____

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- **Exercise:** Almost any exercise—fast or slow—is great for the stress system. Fast exercises (like running, sports, fast dancing) give you strength and energy, burn the adrenaline and other chemicals that make you anxious, turn on the calming chemicals, and increase your stamina. Slow exercises (like Tai Chi, yoga, stretches) can calm you down and give you a physical sense of balance. Some experts say that side-to-side exercises (like walking, dancing, horseback riding) can even help the different parts of your brain learn to communicate better. Repetitive exercises soothe the deep, primitive parts of your brain. Things like team sports that make you think and work with others can help you balance your body, brain, and relationships.

  What could you do differently here?_____

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