

## The Devastating Consequences of Injury Shock

CHARLIE was running hard toward the soccer ball when he collided with his opponent. They both crashed to the ground. Momentarily stunned and with the wind knocked out of him, twenty-eight-year-old Charlie took a few minutes to climb to his feet.

Charlie thought little of the soreness in his neck and chest over the next few days. But then a month passed. He came to see me because his sore neck was not getting better. He was feeling extremely anxious and was having terrible trouble sleeping. His asthma, which had been under control for years, was bothering him again. Charlie's other practitioners were mystified. Charlie was stuck in injury shock. As I describe later, once I treated his injury shock, his symptoms resolved fairly quickly.

I see countless patients like Charlie who cannot get well after trauma or injury, and no one can tell them why. While some treatments and drugs give them temporary relief, nothing sticks. Like Charlie, these patients come in exhausted, irritable, anxious, and depressed. Some are in terrible pain. Some, like Charlie, cannot sleep. Others sleep too much and still wake up tired. Despite exemplary diets, rigorous exercise programs, and dozens of visits to medical specialists, their health deteriorates. Their lives have become a blur of exhaustion and pain.

I became most successful at helping patients like Charlie when I recognized that injury had catapulted their nervous systems into a state of injury shock. To help them heal, I had to work to remove any remnants of this injury shock.

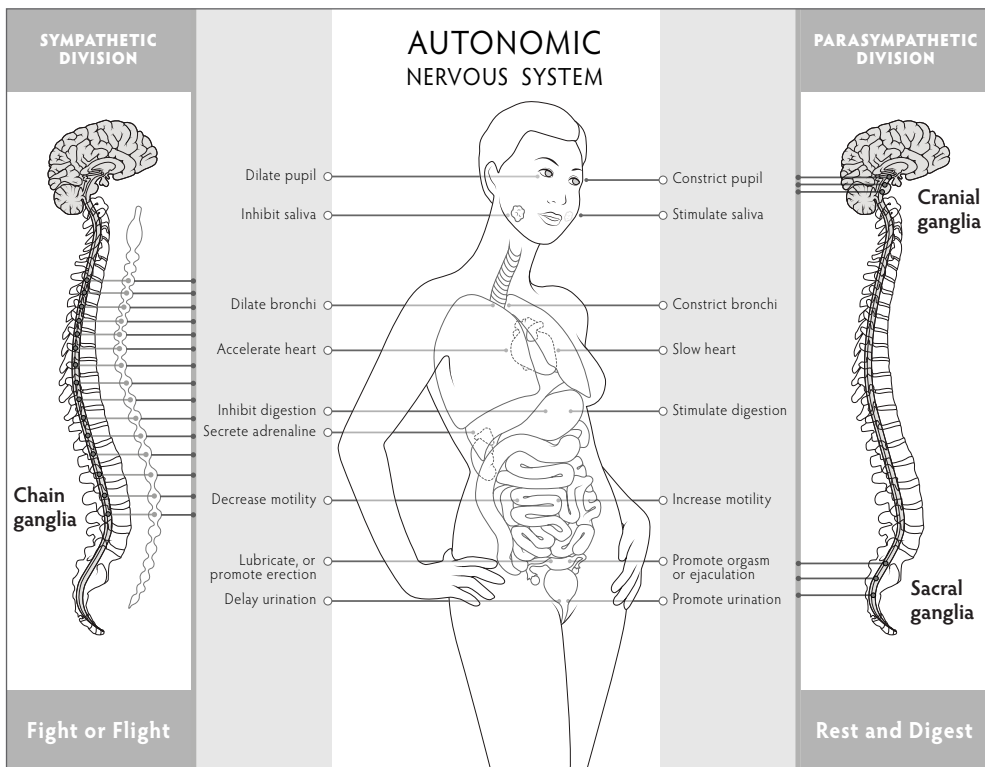
I am not talking about the kind of shock that paramedics and emergency

room physicians deal with. That kind of shock involves a life-threatening collapse of the cardiovascular system and is a true medical emergency. What I call injury shock is different. It is the inability of the nervous system to restore itself to balance in the aftermath of a trauma. For someone to heal from trauma, the first order of business must be to calm the nervous system and restore it to balance. Once I do that, my patients recover much more quickly, whether from an old trauma or new.

## THE BODY'S RESPONSE TO DANGER

To understand injury shock, we need to look at how the nervous system responds when we are faced with danger or trauma.

Inside us, a powerful internal system called the *autonomic nervous system* (ANS) regulates heart rate, breathing, blood pressure, immune response, digestion, reproduction, and millions of other critical processes that go on without our conscious control. The ANS is the key player in the body's response to trauma and danger and in the orchestration of healing afterward.



Together, the sympathetic and parasympathetic nervous systems control much of what goes on inside our bodies.

The autonomic system has two parts. The *sympathetic* pathway is like the gas pedal, instantaneously readying the body's fight-or-flight response in the presence of danger or threat. Working together with and balancing the sympathetic pathway is the *parasympathetic*, or rest-and-digest, pathway. This pathway acts like the brake on our hypervigilant reaction to danger. It calms down the sympathetic pathway and restores the nervous system to balance. When these two pathways work in harmony, the body is able to deal with the emergency presented by the trauma and then mobilize the body's healing processes afterward. But when they do not work in harmony, a cascade of pain, inflammation, and chronic ill health will result.

## THE SYMPATHETIC NERVOUS SYSTEM: Fight-or-Flight

When a person is faced with danger or trauma, the brain instantly activates the sympathetic nervous system (SNS). Within seconds, the body biochemically shifts into hyperdrive. The SNS signals the adrenal glands to release the stress hormones epinephrine (adrenaline) and norepinephrine (noradrenaline) into the bloodstream. Steroid hormones called glucocorticoids, which include cortisol, flow into the blood. The stress hormones create dramatic changes in the body so it can deal with the threat to survival:

- The heart beats faster and harder.
- Blood flow to the brain, the gut, and the skin is constricted as blood is diverted to the powerful skeletal muscles to ready them for action. Blood pressure rises.
- The alveoli in the lungs dilate and breathing becomes rapid and shallow in preparation for increased oxygen demand from the major skeletal muscles. This breathing pattern pours adrenaline into the body and diminishes pain to enable escape from danger despite grievous injuries.
- The pupils of the eyes dilate to take in as much

## Symptoms of Injury Shock

- Fatigue
- Depression
- Anxiety and panic
- Insomnia
- Shortness of breath
- Digestive disorders
- Chronic pain
- Reproductive impairment
- Frequent infections
- Inflammation
- Mental confusion
- Slow healing

