Trauma Reflex

WHAT IS THE TRAUMA REFLEX?

When one side of the body is injured or feels pain, such as when we step on a nail or touch a very hot pan, an automatic nervous system response called the *flexor reflex* is triggered. The flexor muscles on the injured side of the body contract to pull the affected area away from the source of pain. Then the crossed-extensor reflex immediately kicks in, activating the extensor muscles on the opposite side of the body so that our weight remains balanced and we don't fall over.

The flexor reflex is extremely helpful during acute pain or injury because it helps us avoid pain and further damage to our body. However, when it is activated constantly by chronic pain or a prolonged healing process from an injury, we can easily develop muscular patterns **t**hat stay with us permanently. What begins as a protective postural mechanism becomes a habitual muscular pattern, causing misalignment, dysfunctional movement, and further pain.

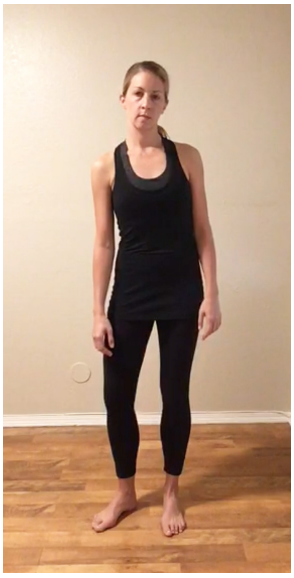
This reflexive, protective response to injury will always be experienced on one side unless our injury or pain is directly in the center of our body, such as in our abdomen or along our spine. For example, after abdominal surgery we will tend to stand with rounded posture in order to protect our abdomen, which has effectively gone through trauma. Likewise, if our spine is injured our back muscles will tighten up in order to limit movement.

Thomas Hanna observed the effects of the flexor reflex in his clients. He referred to the reflex as the Trauma Reflex because it was most often present in people who had suffered a trauma to one side of their body. They had tilted and often rotated posture, uneven hips and shoulders, and different patterns of muscular contraction on each side of the body. Many of these clients had sciatica or pain in their hip, knee and ankle joints, while others had frozen shoulder, bursitis or carpal tunnel syndrome.

In your Somatics teaching, you can use the terms Trauma Reflex and flexor reflex interchangeably; both can be described as **a tightening of the flexor muscles on one side of the body in order to protect or immobilize the body.**

TRAUMA REFLEX POSTURE

Common postural expressions of the Trauma Reflex or flexor reflex are:



- spinal curvature: either in one direction (a C-curve) or in two opposite directions (an S-curve)
- spinal rotation
- kyphosis or lordosis (typically more pronounced on one side) resulting from spinal rotation
- head tilted to one side
- one shoulder lower than the other
- one hip higher than the other
- one hip rotated inward and the other hip rotated outward

There is a wide variety of ways in which people react to and compensate for the Trauma Reflex. If the reflex is pulling their body strongly to one side, then they will instinctively balance out their body in some way by pulling to the opposite side. Some people balance themselves out so well that they can have significant spinal curvature but no obvious imbalance in their hips or shoulders.

ANATOMY OF THE TRAUMA REFLEX

Listed below are the muscles primarily at work in the Trauma Reflex or flexor reflex. Other muscles will be involved as well depending on compensatory patterns in the upper and lower body.

Muscles that laterally flex the spine: Erector spinae group, Quadratus lumborum, Internal and external obliques, Intertransversarii, Latissimus dorsi

Muscles that laterally tilt the pelvis: Quadratus lumborum, Iliopsoas

Muscles that rotate the spine: Internal and external obliques, Multifidi, Rotatores

CAUSES OF TRAUMA POSTURE

You will commonly see Trauma Reflex Posture present in people with the following traits, lifestyles, or physical training:

- Suffered an injury or chronic pain on one side of the body
- Had surgery on one side of the body
- Engages in athletic training that uses the dominant side of the body more than the non-dominant side
- Engages in repetitive physical activities that use the dominant side of the body more than the non-dominant side (this includes long hours spent at a computer using the mouse with one hand, habitually crossing the legs the same way, or carrying a bag on the same shoulder every day)

CONDITIONS RESULTING FROM TRAUMA REFLEX POSTURE

Trauma Reflex Posture causes or contributes to the following conditions:

Scoliosis
Functional leg length discrepancy
Sciatica
Back tightness and pain
Disc problems
Shoulder tightness and pain
Frozen shoulder
Bursitis in the shoulder or hip
Thoracic outlet syndrome
Tennis elbow
Carpal tunnel syndrome
Neck tightness and pain
Hip, knee and ankle pain