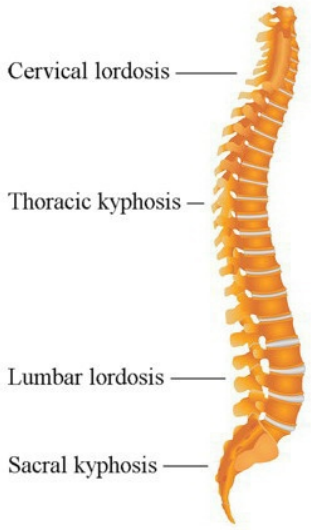
Green Light Reflex

WHAT IS THE GREEN LIGHT REFLEX?

In the first few months of life we are unable to crawl or sit up by ourselves. We have spent nine months curled up in the fetal position and have yet to gain control of the extensor muscles of our neck and back, which allow us to lift up our head, arch our lower back, and ultimately move.

Around three months of age, we are able to lift our head off the ground when lying on our stomach. A few months later, the extensor muscles in our back are activated, allowing us to crawl, sit up, and eventually stand and walk.

Once we are using the extensor muscles of our neck and back on a regular basis, the cervical and lumbar curves in our spine begin to develop. These are called *lordotic* curves, and they curve in the opposite direction as the *kyphotic* curves of the thoracic and sacral portions of the spine.



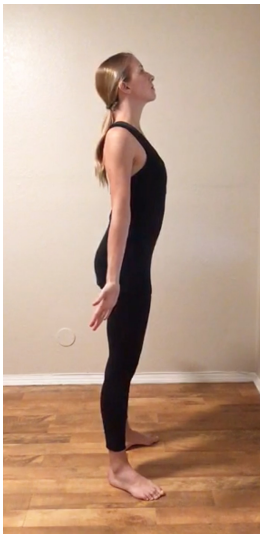
The natural kyphotic and lordotic curves of the spine are essential to our spine's ability to absorb shock; they allow the spine to function like a big spring. If we didn't have these curves, our vertebrae would be stacked on top of each other in a straight line, and compressive forces would cause a great deal of damage and pain.

In infants, the contraction of the extensor muscles of the back and neck in response to the instinctive desire to become mobile is called the ***Landau Reflex***. But even after we learn how to stand, walk and run, our extensor muscles automatically contract every time we want to get up and go; this is the **action response**. We arch our back, lift our head, pull our shoulders back, and stick out our chests.

Our action response is also triggered by eustress, or positive stress, such as giving a presentation or meeting our new boss. Whenever we want to make a good impression and be on our game, we instinctively contract our back muscles so that we stand up straight, look taller, and appear to be confident. This posture prepares us both physically and psychologically for action.

Thomas Hanna coined the term **Green Light Reflex** to refer to the action response. "Green light" means go, and the action response is our instinctive way to prepare for action, attention or confrontation. In your Somatics teaching, you can use the terms Green Light Reflex and action response interchangeably; both can be described as **a tightening of the muscles in the back of the body in preparation for action.**

GREEN LIGHT REFLEX POSTURE



The full expression of the Green Light Reflex or action response is:

- head tipped upward and pulled back
- shoulders pulled back and down, and chest sticking out
- arms rotated laterally (outward)
- arched lower back and anterior pelvic tilt
- hips rotated laterally (outward)
- knees locked
- feet pointing outward and pronated

It is not common to see someone in the pure Green Light Reflex posture. Most people will balance out the weight of their body in some way; for example, they might pull their head forward to balance out the weight of their body being pulled backward by the reflex. Most people also experience all three reflexes (Green Light, Red Light, and Trauma) during their lives, so they will exhibit elements of all three patterns in their posture.

ANATOMY OF THE GREEN LIGHT REFLEX

Listed below are the muscles primarily at work in the Green Light Reflex or action response. While these muscles do more actions than what is described, listed below are the actions that they perform in the Green Light Reflex/action response.

Upper trapezius: Extend the neck and head

Levator scapula: Extend the neck and head, and downwardly rotate the scapula

Middle trapezius: Adduct the scapula

Rhomboids: Adduct and downwardly rotate the scapula

Deltoid (posterior fibers): Laterally rotate the shoulder

Infraspinatus: Laterally rotate the shoulder

Teres minor: Laterally rotate the shoulder

Lower trapezius: Depress the scapula

Extensors (Erector spinae group, Transversospinalis group, Intertransversarii, Interspinalis): Extend the vertebral column

Quadratus lumborum: Assist to extend the vertebral column

Latissimus dorsi: Extend the shoulder and vertebral column

Iliopsoas: Laterally rotate the hip, and tilt the pelvis anteriorly when standing

Gluteus maximus: Extend and laterally rotate the hip

Gluteus medius: Extend and laterally rotate the hip

Lateral hip rotators (Piriformis, Quadratus Femoris, Obturator Internus, Obturator Externus, Gemellus Superior, Gemellus Inferior): Laterally rotate the hip

Quadriceps femoris group: Extend the knee

Hamstrings: Extend and laterally rotate the hip

Gastrocnemius and Soleus: Plantar flex the ankle

CAUSES OF GREEN LIGHT POSTURE

You will commonly see Green Light posture present in people with the following traits, lifestyles, or physical training:

- Type A personality
- Motivated, confident, outgoing, positive, tense, always on-the-go
- High stress job
- Job which requires heavy or repetitive lifting
- Training in dance or gymnastics
- Military training

CONDITIONS RESULTING FROM GREEN LIGHT POSTURE

Green Light posture causes or contributes to the following conditions:

Back tightness and pain
Shoulder tightness and pain
Neck tightness and pain
Headaches
Disc problems
Hyperlordosis
Sciatica & piriformis syndrome
Sacroiliac joint problems
Achilles tendinitis
Tight hamstrings and calves
Plantar fasciitis
Bunions