

CREATING STRENGTH THAT LASTS

# APPLIED ANATOMY

With Yogi Aaron



# The Secret of Backbends

Muscle Activation Techniques For A Stronger & More  
Stable Body through Spinal Extension

# THE GOALS OF APPLIED ANATOMY

#1

**To engender a safe space for all yoga students.**

#2

**To minimize or eliminate  
yoga-related injuries.**

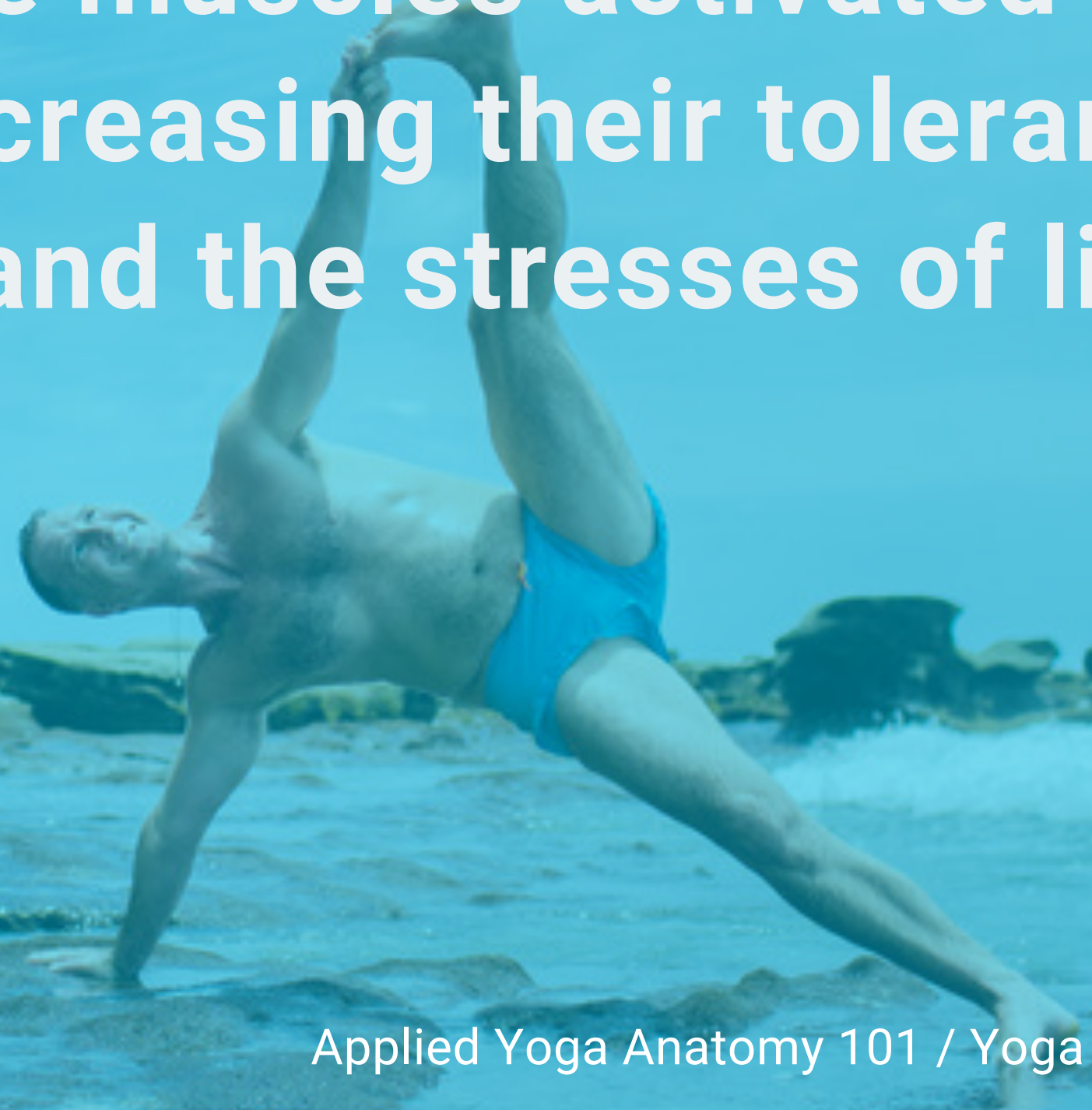
A hiker in a dark jacket and hat stands on a rocky mountain trail, holding a trekking pole. The background shows a vast mountain range under a clear blue sky. The image is overlaid with semi-transparent blue geometric shapes, including a large triangle on the right side and a smaller one on the left. The text is centered over the image.

**#3**

**To empower each student to have  
long term health as it relates to  
mobility.**

# #4

**To have all of the muscles activated and healthy while increasing their tolerance levels to withstand the stresses of life.**



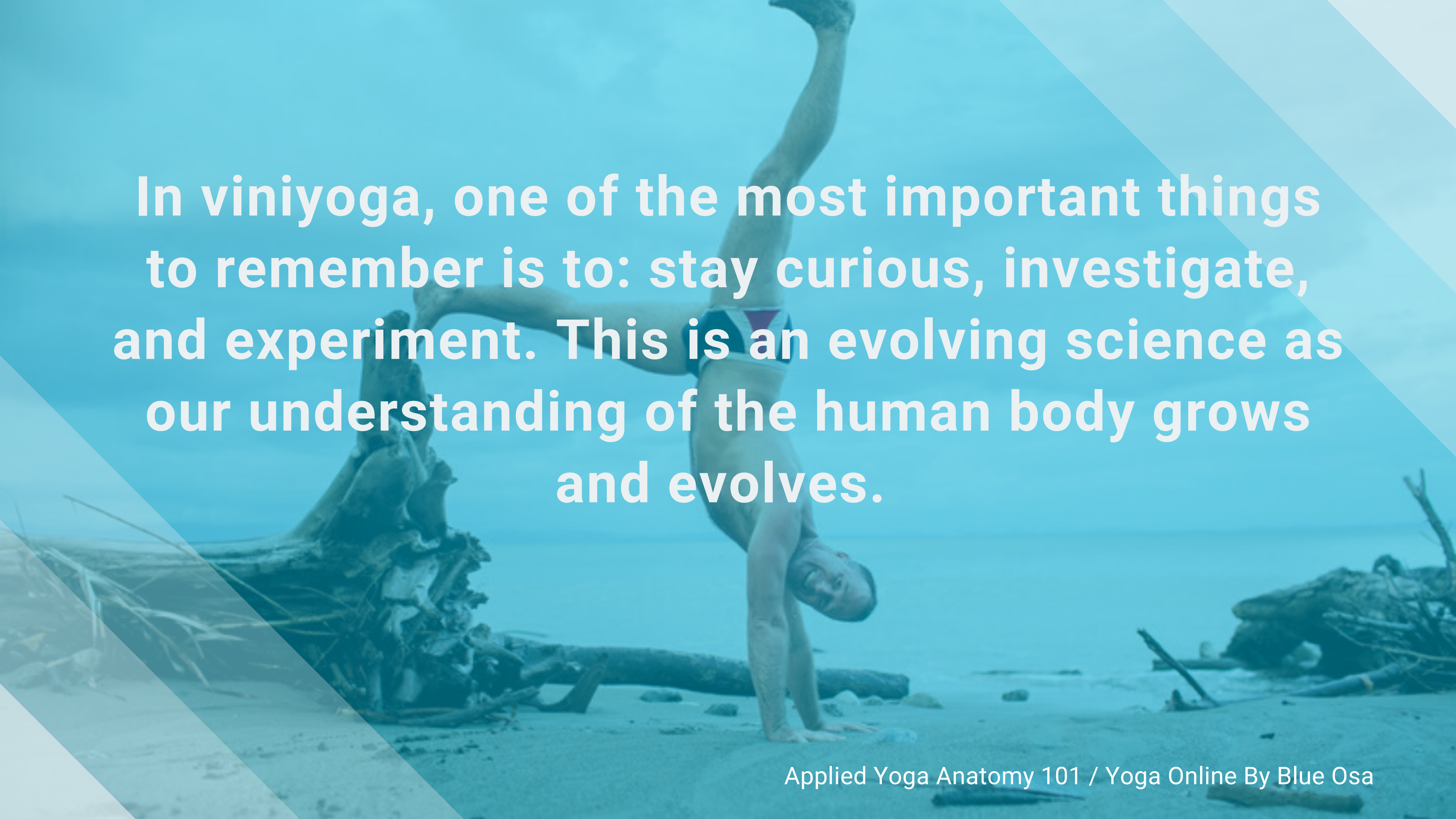


DO SOMETHING GREAT



#5

**To further the goals of the vini yoga  
tradition.**

A man in a blue and white striped bikini bottom is performing a handstand on a sandy beach. He is smiling and looking towards the camera. The background features a calm ocean and a sky with light clouds. There are several pieces of driftwood scattered on the sand. The entire image is overlaid with a semi-transparent blue filter. The text is centered in white, bold font.

**In viniyoga, one of the most important things to remember is to: stay curious, investigate, and experiment. This is an evolving science as our understanding of the human body grows and evolves.**

# THE SECRET OF BACKBENDS

A person is performing a backbend in a gym. They are wearing a blue tank top and black shorts. The background shows a gym with a blue metal structure and a wooden floor. The text is overlaid on the image in white, bold, uppercase letters.

# HOW MANY BACKBENDS ARE NEEDED TO DO TO PREPARE FOR WHEEL POSE?

**WE NEED TO FIRST ANSWER THE QUESTION:**

**WHAT THE HECK IS HAPPENING IN A  
BACKBEND?**

**EXAMPLE - BRIDGE POSE**  
**(EVERYONE DO BRIDGE POSE)**

**WHAT WAS HAPPENING  
BIOMECHANICALLY IN AS  
YOU GOT INTO BRIDGE  
POSE?**

**WHAT MUSCLES WERE  
SHORTENING/CONTRACTING  
IN BRIDGE POSE?**

## **ANSWER:**

- **THE HAMSTRINGS**
- **THE GLUTES**
- **THE ERECTOR MUSCLES IN THE SPINE**

**QUESTION - AS A RESULT OF THOSE MUSCLES CONTRACTING, WHICH MUSCLES LENGTHENED?**



# The Old/Current Paradigm

# **TRADITIONALLY / TYPICALLY:**

**FORWARD BENDS = STRETCHING THE BACK BODY  
(STRETCHING THE LOWER BACK AND HAMSTRINGS)**

**BACKBENDS = STRETCHING THE FRONT BODY (OPENING UP  
THE HEART, STRETCHING THE THIGHS, AND SO ON.)**

# **WHAT KIND OF POSES DO PEOPLE USE TO "NORMALLY" PREPARE FOR BACKBENDS**

- **EVERYTHING YOU CAN THINK OF**
- **SHOULDER OPENERS**
- **THIGH OPENERS**
- **CHEST OPENERS**

# IN APPLIED ANATOMY:

In muscle activation, we are learning that "openers" is another word for "stretching," and when we stretch a muscle or contract a muscle beyond its **capable** range of motion, it becomes stressed and "shuts down." Alternatively, the muscles lose their ability to contract on demand.

# IN APPLIED ANATOMY:

We address and improve the function of the body.

Forward bends = strengthening the front body

Backbends = strengthen the back body.

# MUSCLES FOR BACK (TRUNK) EXTENSION

Quadratus Lumborum - costal  
and spinal fibers

Multifidus

Longissimus

Iliocostalis

Spinalis, Semi Spinalis

Trapezius (lower, middle, upper)

Intertraversarii, Interspinales  
lumborum

# What about the shoulders?

For the conversation today, the shoulders are a vast topic and need time to be addressed. If shoulder/neck problems are present, the information presented will help immeasurably. Many/most shoulder problems originate from weak back extensors/trunk stabilizer muscles.

If you would like to work on strengthening weak or damaged shoulders, please contact me. I am work with people to curate special muscle activation techniques for shoulder injuries.

In the Applied Anatomy training, we will cover the shoulders more extensively.  
Coming soon!.

# Key Muscles To Activate When Backbending

1. Longissimus
2. Trapezius (lower, middle, upper)
3. Glutes



# POP QUIZ

WHAT IS OUR GOAL?

TO STRETCH THESE MUSCLES?

OR

TO INCREASE THEIR ABILITY TO  
CONTRACT?



# POP QUIZ

## ANSWER

We always want to improve a muscle's ability to contract (and contract on demand.)



A muscle's ability to contract on demand is usually dependant on the neuro connection between the brain and the muscle.

**Our goal?**

To improve that connection.

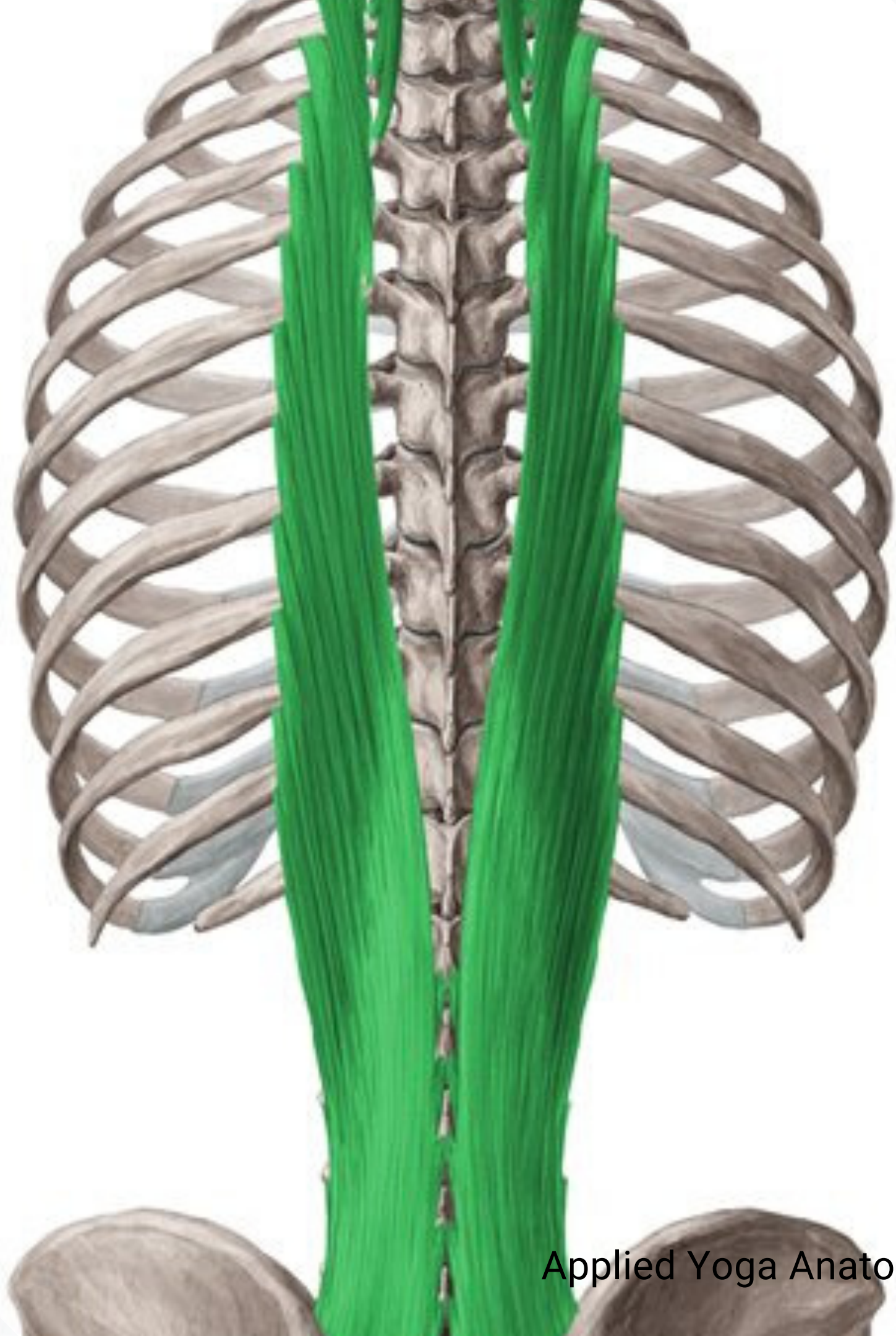
# Longissimus

(Lumber)

**Origin:** Spinous processes of all lumbar and sacral vertebrae through fascial attachment

**Insertion:** Inferior borders of 9-12 ribs (just lateral to transverse processes)

# Longissimus



# Main job

- Extension of the spine (the biggest of all the spinal erector muscles)
- Lateral bending of the spine
- Depression of the ribs

the longissimus is one of the longest and biggest muscles controlling spinal movement. Therefore, it a vital muscle for spinal stability.

If this muscle is not working, other muscles get recruited. If those muscles are not functioning or are overused, there is an opportunity for injury.

# Trapezius muscles

**Origin:** Spinous processes of all thoracic spine, the nuchal ligament of the neck

**Insertion:** The spine of the scapula

# Traps





# Traps



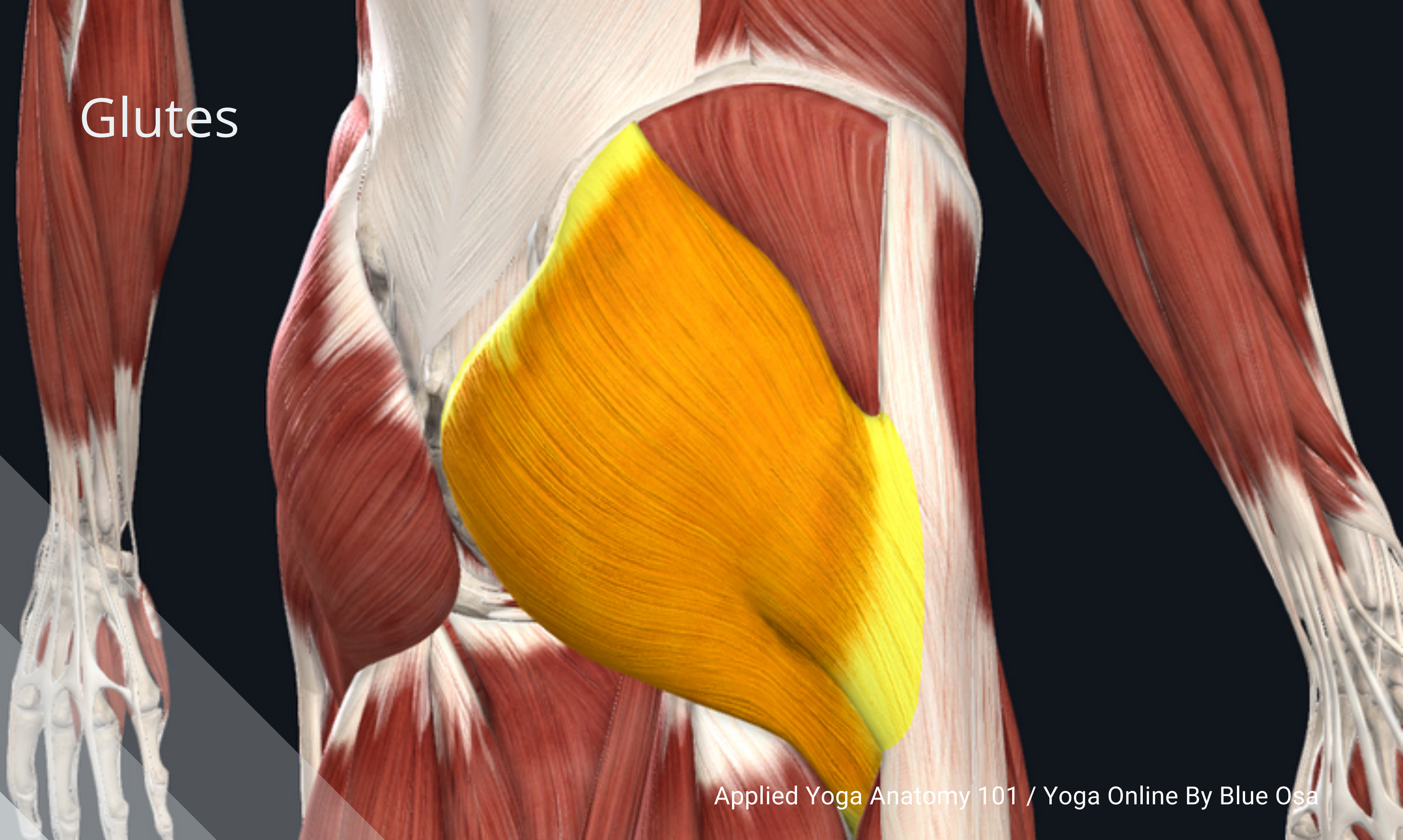
- One of the main jobs of the trapezius muscles is to reinforce spinal extension (ability to sit up straight and bend backward in the upper back)
- Stability of the neck.
- The trapezius muscles attach to the shoulder blades. If the trapezius is not activated, shoulder instability is inevitable.

# Glutes (Max)

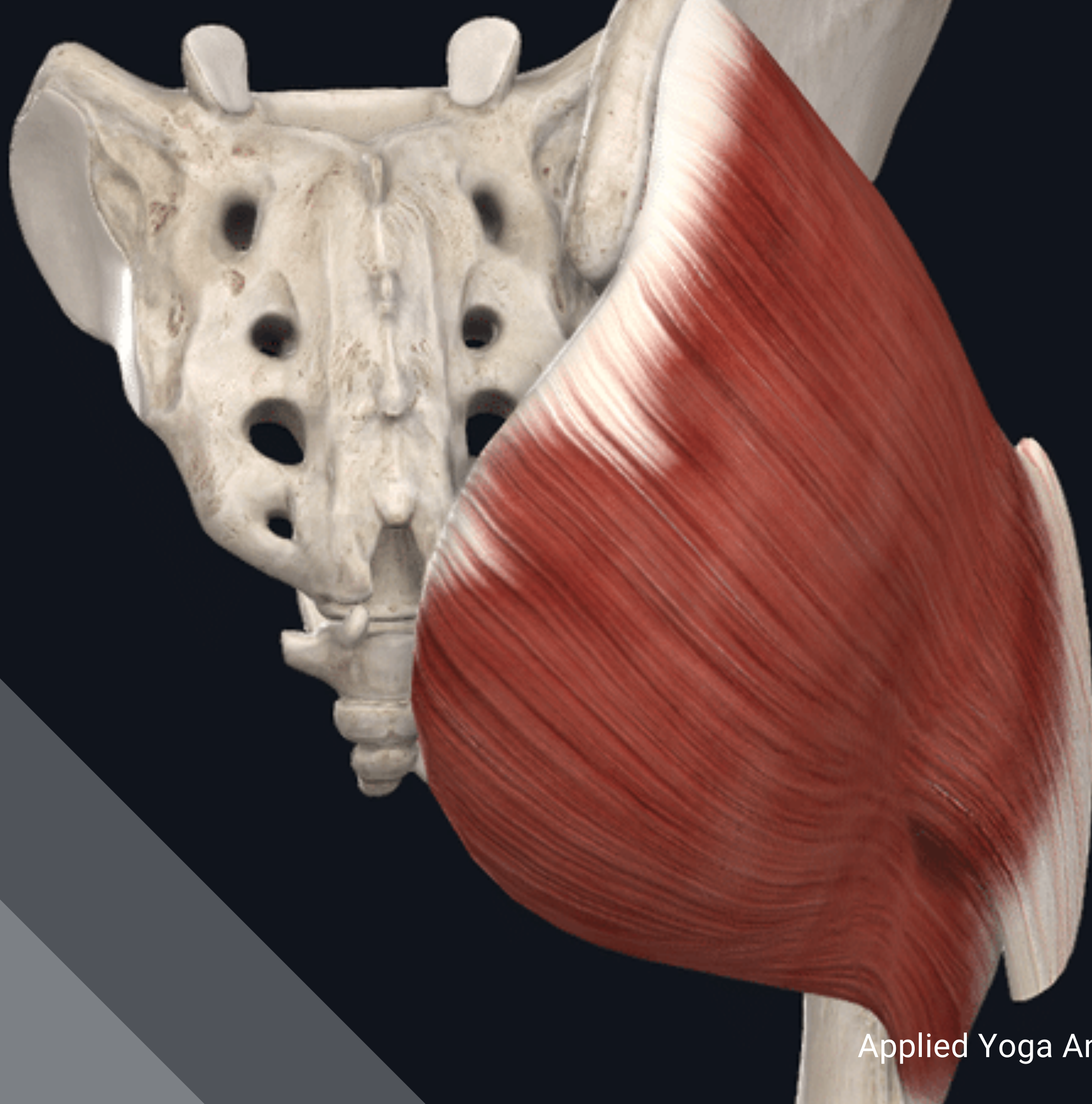
(Key Hip Extensors)

**Attachments:** Originates from the gluteal (posterior) surface of the ilium, sacrum and coccyx. It slopes across the buttock at a 45 degree angle, then inserts into the iliotibial tract and the gluteal tuberosity of the femur. **Actions:** It is the main extensor of the thigh, and assists with lateral rotation.

Glutes



# Glutes



The gluteus maximus muscle is located in the buttocks and is one of the strongest (and most important) muscles in the human body. It connects to the coccyx, or tailbone, as well as other surrounding bones. The gluteus maximus muscle is responsible for the movement of the hips and thighs.

Lower back pain is hardly EVER a result of lower back issues. The ISSUES are coming from somewhere else. Many people mistakenly believe that lower-back pain is caused by a problem with their lower back.

All movements of the spine require other parts of the body to work as well.

When bending forward to pick a weight up from the ground, for example, the ankles, knees, and hips should also bend to help lower the torso. Similarly, as the spine moves from side to side during walking, the legs and hips should also move from side to side (i.e., adduct and abduct) to help provide a good base of support for the spine as it moves.

The gluteal muscles play a key role in helping to take the stress off the spine during movements. (A shock absorber.)

For example, much of the rotational movement stress experienced by the spine during sporting activities is moderated by the gluteus maximus muscle.

When the spine rotates over the leg on one side of the body (e.g., when taking a backswing or follow-through in golf, tennis, or baseball), the hip and leg should also rotate to take the stress off the lower back.

The gluteus maximus muscle attaches to the structures of the spine and pelvis and to the leg. If the gluteus maximus muscle is not working properly, stress from rotational movements is instead transferred to the lumbar spine and may manifest as pain in the lower back.



## **3 POSES - 3 MUSCLES TO AVTIVATE**

- **LONGISSIUMUS** - SUPERMAN POSE WITH LEGS LIFTED
- **TRAPS** -SUPERMAN POSE (WITH LEGS ON THE GROUND AND ARMS RAISED FORWARD, MOVING IN AND OUT OF CACTUS)
- **GLUTE MAX** - BRIDGE POSE

**LET'S GET TO WORK AND  
ACTIVATE THESE MUSCLES.**



**3 EASY POSTURES TO  
MAKE A PART OF  
YOUR DAILY ROUTINE**

# Remember the golden rule:

engage for 6 seconds and repeat 6 times

ONCE YOU ARE FINISHED, DO

WHEEL POSE OR BOW POSE