Everyone Should be Doing Pilates

Pilates is a method of exercise developed by a man named Joseph Pilates in the 20th century. It is a form of strength training like no other forms of strength training. (Cleveland Clinic 2023) While activities such as crossfit, weightlifting, and powerlifting are designed to build your muscles and bulk your body, pilates is designed to strengthen your muscles in a way that makes them stronger and function to their best ability. Instead of building large and bulky muscles, your muscles are trained to become endurant and stable.
Pilates is a low impact activity, and comes with a low risk and injury rate. (Kloubec J, 2011) One of the most important principles in the pilates method is deep core engagement and intentional movement, and ensuring the breathing and movement align. Pilates is both rehabilitative and preventative and can help those with chronic musculoskeletal conditions deal with pain. Everything is connected. When the legs move, the core engages, when the side body crunches, the core engages, when the latissimus dorsi engages, the core engages. This method of movement utilizes these connections and builds strong, stable muscles that can make day to day life more comfortable, help with pain, lower childbirth complications connect mind and body.

Contraction of the transverse abdominis and back pain:

This muscle is located inferior to the umbilicus in the lower abdomen in specifically cued prior to the initiation of pilates movement. This muscle is consistently activated first in relation to most limb movement. It is hypothesized that the transversus abdominis (deep core muscles) is activated independently. (Kloubec J, 2011) This muscle is used for breathing, so when you use the pilates breathing method, the muscle is contracted- so when you add movement to breathing, the deep muscles instead of the superficial muscle is activated. Clinical settings have observed that a normal cognitive contraction of this muscle also comes with contraction of the lumbar multifidus. Pelvic floor muscles and diaphragm also contract which maintains intra abdominal pressure and allows for spinal support. Think about standing up straight and lifting your leg. In order to stay standing without falling over, your transverse abdominis muscle must contract. If you do not engage this muscle, the weight of your body is either forced to stabilize using your spine, causing or worsening back pain, or you will be left off balance and fall. Even in simple lying down leg lifts, what part of the body is supporting the weight of the legs. The actual movement of the leg “up and down” comes from the hip flexor muscles, specifically the rectus femoris, psoas major and the sartorius muscles. (Openstax 2023) But the muscles that are holding up your legs and counteracting the gravity and leverage created from the laying down position is your core. This exercise done in a way that is commonly taught that focuses solely on the “building of the 6 pack” often places stress on the lumbar spine. (Kloubec J, 2011) Not only does it not practice the correct way for the body to bear weight away from the spine, it also creates strain on the lower back. However, this exercise done correctly should have no effect on the lower back. Intentional activation of this muscle in pilates exercises creates strength in the

correct areas and creates the habit of using your muscles and the related muscles in a way that helps and prevents lower back pain and creates a more stable human.
Now, the transverse abdominis muscle cannot move your limbs. However when this muscle is engaged intentionally with the agonists that do move your limbs, the pressure of keeping your body stable is distributed to the intended limb and the core instead of your spine.

Flexibility, strength and stability:
According to the Cleveland Clinic, dynamic stretching, or stretching while moving for repetitions, and active stretching, a type of stretching involving reciprocal inhibition (when the agonist is contracted to stretch its antagonist), both improve flexibility and athletic ability. (Cleveland Clinic 2023) Active stretching is more prevalent in pilates and is used to stretch muscles while also building stability, endurance, increasing blood flow and improving posture.

Muscle Roles in Pilates motions:
A prime mover or an agonist is a muscle that is responsible for the primary movement of the limb. Take for example in a fire-hydrant move, where the athlete is on both elbows and knees. As he/she lifts a bent left leg abducting away from the body, the lateral glute muscles or the gluteus medius and gluteus minimus are active to lift the leg. Meanwhile, the base leg on the floor has muscles working too even though the leg is remaining static. The muscles that are primarily agonists (the later glute muscles as aforementioned) have now become stabilizing muscles. In order to keep the body from falling over, these muscles are not working to abduct the leg away from the body, but instead to keep the leg and the pelvis stable, while the abdominal muscles are working to keep the core and upper body stable. When this exercise is performed, you'll find that the leg that is still is burning and working more than the leg that is moving. The moving leg is not working to support and stabilize your whole body, while the still leg is actively stretching and working. (Wittbrodt, A. 2025) Pilates has many motions that emphasize the muscles working as stabilizers instead of agonists. Because of this, the muscles tend not to bulk in the way they would from lifting weights or traditional strength, but they become tones and strong and become functional.

Small weight, high reps:
Pilates is all about intentional movement. The mind muscle connection is extremely important in this method of strength training. In activities like crossfit and weight lifting, athletes are often focused on just "getting the bar over their head" or how high they can jump. However studies have found that intentional movement of weight at less than 60% of a single rep potential shows more activity in the muscle than when trying to overload the muscle. There even seems to be a threshold, where lifting and moving weight too heavy actually peaks the activity in the muscle where it will begin to progressively decline. (Calatayud J, et al. 2023), Focusing on the intensity

on which you use the muscle and specifically what muscle you're using can actually increase the activity in the muscle.

Conclusion:
Pilates is an awesome way to get your body moving and healthy. There are many health benefits to this type of intentional movement and it is popular in rehabilitative settings. It can prevent childbirth complications and back pain. If you want to work your lower body, pilates will tell you to focus on the position of your neck. If you want to work your arms, pilates will ensure a balance of muscle while also working the core and the legs. Pilates Pilates uses small amounts of weight or even body weight to strengthen the body through breathing and intentional maneuvering of the musculoskeletal system.

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