

## Core Stability: The Cornerstone

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Core Strength is just as important in dogs as it is in humans. The core is the cornerstone or, stable base from where the limbs can work efficiently, is support for organs, and assist in other daily tasks. When core muscles are weak other muscles compensate, causing muscle dysfunction, overloading, leading to potential injury, and decreased mobility.

The core muscles consist of the diaphragm, multifidus, iliopsoas, pelvic muscles, and abdominals. Core muscles in humans consist of the same muscles along with Quadratus Lumborum. **Diaphragm** is involved in breathing, and supports organs, **Multifidus** is involved in rotation, and is a spinal stabilizer against gravitational and inertial forces generated by the trunk and limbs. **Pelvic muscles** are involved in defecation, urination. **Iliopsoas** is a hip flexor, external rotator, adductor of femur. Spinal stabilizer when hindlimb is flexed, or caudal traction on trunk when hindlimbs are extended. **Abdominals** stabilize the trunk to prepare for upper limb activity and supports visceral organs.

Signs of core weakness include lack of endurance, swaying back, swinging side to side, arched back, problems holding standing, or sitting position with proper posture, dog prefers to sit instead of stand, and poor balance and posture.

Improving Core Strength will provide a strong base for limbs to move efficiently without stressing joints, or muscles leading to injury, decreasing pressure on spine, improving coordination, balance, posture, endurance, and bodily functions.

Core Strengthening can be performed on land, and water. Benefit of water is decreased stress on joints, works a lot of muscles, and the different properties of water (buoyancy, resistance, drag) to aide in conditioning.

The following exercises can be performed in the pool, on the pool stairs, platform in pool, upon entry, or before entry. Wherever it is safest, and upon dog size and stability.

1. Stand up for 10 seconds without shifting, sitting, or moving.
2. Stand up and use toy or treat, or hand signal, and have dog lift head up, so weight is shifted on back legs, then head down so weight is shifted on front legs, then head side to side.
3. Weight shifting dog side to side, front to back in standing.
4. Walking forward, and backward on stair, or platform.
5. Side stepping as dog steps down into the pool using toy or treat.
6. Swimming dog at various speeds, directions, changing directions such as circles in different directions. Holding swim vest and having dog swim forward, backwards, side to side.
7. Having dog stand or sit on a boogie board so muscles must work to maintain balance with instructor holding board.
8. Weaving through upright poles in water or jumping to different stable platforms in water (side to side, or at a diagonal).

The following exercises can be performed on land.

1. Sit-stand-down: switching between these positions and have dog hold each position for a few seconds.
2. Doggie squats- stand then command sit right away.
3. Back legs on platform and dog steps down with front paws then back onto platform.
4. Dog in standing use treat to entice dog to turn torso to the right so nose reaches butt without moving feet. Repeat to other side.
5. Walking dog up and down hill, or stairs, or over broomsticks.

In conclusion, improving core stability through land, and water exercises will provide a well-rounded program, which will decrease risk of injury. “Dr. Cook recommends 3 to 4 land exercises each day, and different exercises on alternate days, but at least every other day. Also, to clear exercises with Vet.”

References:

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4. DOGS 4 motion Jana Gams July 28,2020
5. Martial ARFS OWE open water exercises.
6. The Dogs Core: Center of Gravity! Its role in activity, and weight distribution exercises