

Get on the Ball

Warm-up:

- Should consist of dynamic movement utilizing the ball so participants can familiarize themselves with the size and feel of the ball.

Neutral Spine – the millenium buzz word

Neutral spine is the optimal and most efficient position for the spine where all four curvatures of the spine are maintained. In this position the least amount of strain is placed on the discs, ligaments and joints of the spine. It is maintained by the constant activation of the deep core muscles, specifically the transverse abdominals, the diaphragm, the anterior pelvic floor muscles and the multifidus (all of which have diverse attachments to the spine).

These muscle produce sustained (tonic) contraction, they are made up of slow twitch fibers and are therefore resistant to fatigue. They are activated under light loads and are activated first. They also have a low contraction force and a slow speed of contraction. As the Inner Unit, they are called local stabilizers and are recruited to maintain neutral spine. In this position the spine does not require excessive recruitment from the Outer Unit or global stabilizers and mobilizers, such as but not limited to, the rectus abdominus, erector spinae, obliques, adductors, lats, and gluteals. Global muscles are more superficial and are normally recruited under higher loads to control range of motion or produce range of motion.

Prone Walk Out

- Walk out to push-up position (length of lever is dependent on individual level of fitness and core strength), maintain neutral spine (transverse abdominals and anterior pelvic floor muscles activated), hands placed slightly wider than the shoulders, elbows slightly flexed, lats engaged, shoulders depressed, and legs parallel. Make sure that the pressure in the hands is minimized in the heel of the hand and emphasized on the fingers and thumb, the base of the fingers and thumbs and the palms. Externally rotate the shoulder turning the elbow crease forward, elbows remain unlocked (soft joint).

Prone Flyes

- Prone position on ball (watch comfort on this one – not good on a full stomach or full bladder, maintain neutral spine), feet in contact with the floor (base of support), arms extended to the side, palms down, elbows slightly flexed, shoulder blades depressed and not protracted, lift arms against gravity leading with the elbows and retracting the scapula toward the spine, watch for too much scapular elevation. Lightweights may be used when proper technique can be maintained.

Prone Roll-out

- On a mat place the ball and your knees on the mat, place your forearms on ball, keep ball close and maintain neutral spine throughout the entire movement. Keep shoulders depressed and lower legs down. Lean into it and roll the ball away from your body only to the point where neutral spine can be maintained, as you pull back exhale, engage your lats and your core. As strength increases, range of motion can increase by moving the ball further away.

Ab Curls

- Start seated on the ball and roll down to the desired position depending on individual strength (decline, flat or incline). Keep the lower part of the body relaxed and the heels beneath the knees (keep the weight in the heels). Keep the neck, shoulders and upper back relaxed (drawing the shoulder blades down) and place the arms in a comfortable position depending on individual strength (on your thighs, across your chest, at your temples, or arms by your ears). Contract the transverse abdominals and pelvic floor muscles, curl up to the point where gravity is still effectively acting on your abdominals (keep lower back on the ball), extend back within a comfortable range while maintaining abdominal contraction (do not hyper-extend the back to a point of discomfort or pain). For a variation and increased difficulty, try placing your feet on the wall (one leg for even more difficulty). Other progressions involve using a medicine ball or soft weighted balls.

Table Top

- From a seated position roll down keeping you're back on the ball until your low enough to place the head on the ball. Extend the hips until the body simulates a "table top" position. Neutral spine must be maintained, feet hip width apart with the heels below the knees and the weight in the heels. Upper back and shoulders on the ball maintaining neutral curvature in the neck. Only progress to a smaller base of support or add upper body variation or proprioceptive challenges (close your eyes) once you mastered the initial position. Glutes and hamstrings will also be activated in this position. May eventually add weights and variations of chest exercises or trunk rotation.

Bridge

- Opposite of tabletop. Supine position on the floor place your legs on the ball (vary position depending on individual strength). Calves on ball, knees are square, arms start wide extended out from the side palms down. Contract the core muscles and elevate the pelvis maintaining neutral spine (glutes and hamstrings will also be activated). To increase intensity change arm position or lengthen the lever by moving the ball further away, be sure to keep the knees soft when you elevate the hips.

Ab Roll-up

- In a supine position with the ball on top of you and your hands placed low on the ball and your abdominal muscles contracted, chin slightly tucked and lats engaged, roll up using your abs until the ball reaches your knees, try not to reach with your arms. Some participants will not be able to get up in this position, change their centre of gravity by using an incline with an aerobic bench; this can be a psychologically defeating exercise (and a de-motivator) if you let them struggle. To increase the intensity hold the ball up and curl at the same time, alter the exercise slightly and engage external obliques with slight trunk rotation to the left and right as you curl up.

Hamstring Curl

- This is a more difficult exercise. In the bridge position, place your lower legs or feet flat on ball, extend the legs make sure to keep knees soft, neutral spine, wide base of support (arms wide, palms down). As you dig your legs/feet into the ball flex the knees to about 90 degrees (without dropping the pelvis), repeat. This exercise requires a great deal of hamstring gluteals and core strength as well as balance. You might start by holding the position for 20 or 30 seconds prior to progressing to the hamstring curl.

Squats

- Place the ball against the wall; place the small of your back on the ball and lean into it. Your feet should be slightly forward hip width apart (i.e. inline with your ASIS). Weight should be on the foot pads (should be able to lift the toes slightly at the bottom of the ROM), squat down until the knees are about 90 degrees and you where you can maintain neutral spine. Contract the glutes as you push through up and into the ball to an upright position. Try one leg (technique above must be maintained or the exercise is compromised an injury may result) or add weights/medicine ball for more difficulty

Calf Raises

- Facing the wall, chest (upper body) leaning into the ball (approximately 45 degree angle depending on gastroc/soleus/achilles flexibility). Keep body stiff, place the hands on the ball, maintain neutral spine, rise up onto the balls of the feet and be careful not to invert the foot, go back down but not all the way. For additional challenge do one leg at time.

Toe Raises

- Facing away from the wall with the mid back against the ball and your feet forward of your hips. Plantar flex (press your toes down to the floor). Keep your body still, maintain neutral spine and lift the toes rising up onto the heels maintaining a neutral position at the ankle. Slowly lower the foot back down without touching the toes back to the floor.

Inner Thigh

- Stand behind the ball, place your hands on the ball as you straddle the ball (adductor flexibility is an issue, modify where needed), keep knees and hips aligned, that is don't have someone point the toes out while the knees are facing down and the hips out. Somewhat like riding a horse. Push the inner part of the thigh and knees into the ball and hold for a count of 4-8 seconds depending on your participants ability (repeat).

Prone Hip Extension

- In a Prone position on the ball with the hands on the floor and body weight centred on the ball (do not let too much weight forward into the hands, the risk of hyper extension of the lumbar vertebrae is increased). Hips are flexed, knees are soft, knees square, activate the glutes and hamstrings and extend the hip joint. Hinge from the hip joint, there should be minimal movement of the back, maintain neutral spine.

Obliques

- A wall is needed for this exercise. Place the ball "about" two feet from the wall, sit on the ball with one glute, put the bottom foot forward and the top leg back. Lay the side of the upper body onto the ball as you extend our legs slightly. The bottom arm can extend down to the floor to support you until you adjust to the right position. Stack your hips and your shoulders above each other, knees are soft and your torso is in the middle of the ball. Top arm starts along side the body and the bottom arm will lift as your rise off the ball contracting your obliques. Be aware not to tense up through the lower body. Progressions involve lengthening the arm position, feet moving closer together, rotating the torso as you lift and lower.

Back Extension

- Need a wall for this one. Lying prone on the ball with the ball beneath the pelvis hips blocked to stop the hip from flexing. Keep the base of support wider to start and closer as balance improves. Arm position will vary depending on strength; relaxed at the side of the body, crossed at the chest (Genie arms), hands at the temples (double salute), or overhead (superman). Flex the trunk forward over the ball and then roll up and contract the abs as the body is "peeled off" of the ball. Extend the back to neutral. Although the glutes and the hamstrings will also be activated try to relax them as much as possible by thinking about sinking your pelvis into the ball and by not pushing your legs into the wall). This exercise can become a dead lift if the position is altered slightly - move the ball further down onto the thighs, freeing the hip joint to flex, neutral spine and slight knee flex must be maintained throughout the range of motion. Weights could be added provided technique can be maintained.

Cool Down

Slow controlled free flowing movement on the ball targetting areas that were worked and areas that require more stretching such as the low back, hip flexors, hamstrings and shoulders. Stretching on the ball has a calming effect due to the weightlessness and fluid movement felt while on the ball.

The variety of exercises that you can do on the ball is limitless; just use your imagination and creativity. The key is to "Get on the Ball"; you have to use it in order to teach it effectively. Have a "ball" on the ball!

For comments, questions, suggestions please feel free to contact,

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