

The Lunge Matrix – originally invented by Physical Therapist Gary Gray

These should be performed as the initial warm up before even doing a slow run. For each version, it is recommended that five lunges are performed on each leg (10 in total).



1. Front Lunge

In this lunge, you are preparing for forwards & backwards movement (the sagittal plane). The front knee needs to stay in alignment with the front foot (same goes for back knee & back foot), but there is often debate as to whether the front knee should pass the toes. Personally, I see stopping the front knee from passing the toes as a way of helping quad dominant runners from using the posterior muscles more, discouraging excessive arching of the lower back and getting a better stretch in the all too often tight hip flexors.

2. Front lunge with a twist

The action of twisting over the front leg (moving your body through the transverse plane) increases the stretch in the hip flexor of the back leg. By challenging your balance it engages the core (including the glutes) and increases proprioception (your body's ability to sense movement within joints and joint position). It will take some practice so break it down into stages.



3. Side lunge

This lunge moves your body through the frontal plane and in doing so targets the abductors and hip-stabilizing muscles. Aim to keep the fixed leg straight. Personally, I recommend rotating the lifted foot out to 45 degrees so that the knee moves in line with the foot.

4. Back and to the side Lunge

With this lunge, the traveling back foot turns 90 degrees to the side, again allowing the knee to move in alignment. By traveling in a combination of the frontal plane and sagittal plane, you are preparing for the often forgotten rotational demands of running.



5. Backward lunge

The backwards lunge is more challenging than the others but in essence involves the same muscle movement sequencing that is needed in running. It demands more core stability, hip extension and glute recruitment than the other lunges, decreasing hip and ankle stiffness. Or as Coach Jay says "...a great way to explain to your butt that you're about to use it."