

## **A Fun Test of your Running Knowledge:**

### **True or False**

1. Over 80% of runners will sustain an injury.
2. If a runner gets injured they should stop all running and physical activity for 4-6 wks.
3. A pregnant woman should stop running during her third trimester.
4. A runner should do dynamic stretching before their run and static stretching after their run.
5. The two most important muscles for runners are your quadriceps (thigh muscle) and your gastrocnemius (calf muscle).
6. If a runner sustains a non-traumatic injury that does not resolve within 7-10 days they should seek out medical attention by a physical therapist via Direct Access.
7. 30% of running forces are absorbed at the knee and 15% of that is transmitted up to the hip.
8. An efficient runner has a running speed of 180 steps in one minute and takes 12 breath cycles during that minute time.
9. The most common site for lower body injuries for a runner is the foot/ankle.
10. There are several health benefits related to running.

**Answers:**

1. **True:** Research shows that 82% of runners will sustain a running related injury. Typically runners do not have a major trauma but instead sustain micro traumas that are ignored and eventually turn into injuries. This is usually due to increasing mileage too quickly, increasing intensity of a workout too quickly, pushing through the soreness, not training the weak muscles/stretching the tight muscles, and/or improper gait mechanics.
2. **False:** Some injuries may require runners to modify their runs or stop running for a short period of time. However, corrective exercises can typically be started immediately. For example, if you have a leg injury the runner can start working on improving their core strength. An individualized program can be developed for the runner by a physical therapist to help get the runner back to their normal running routine as quickly and safely as possible.
3. **False:** If you have been running your whole pregnancy and have been cleared by your Ob/Gyn it is completely safe to continue running throughout your entire pregnancy. Babies born to Mom's that ran their entire pregnancy are usually lighter in weight but have normal Apgar scores.
4. **True:** Dynamic stretching increases blood flow to the muscles, facilitates the neurological system, and gets the body ready for the run. Static stretching does the opposite and has shown to impair explosive performance for up to 24 hrs; which is why this is best post-run.
5. **False:** The two most important muscles for a runner are your core and glutes. These muscles provide stability for the runner, help to prevent injury, and improve your efficiency with running. Running is basically doing continuous single leg jumps or squats. If you lack good core and glute control your leg will suffer micro traumas and your running mechanics will falter. You need both strength and endurance in these muscles to sustain your run. A physical therapist can assess the strength in these muscles and develop an individualized treatment plan to improve these crucial muscles.
6. **True:** A physical therapist will be able to assess your injury, do a whole body examination to determine your muscle imbalances, flexibility restrictions, nerve restrictions, and determine the root of your injury. They will also be able to do a running analysis and guide you through improving your running mechanics to avoid injury and improve efficiency.
7. **False:** 60% of running forces are absorbed at the ankle and 40% of those forces are transmitted up to the knee. That is why it is so important to have good eccentric control at the foot and knee to avoid injury and absorb these forces along with a strong core to help with stabilization.
8. **True:** This optimizes elastic recoil and allows deep breaths to re-oxygenate muscles.
9. **False:** The knee is the most common injury site for runners, generally termed "Runner's knee" but is also known as patellofemoral pain syndrome. This is often caused by weak quadriceps and gluteal muscles, which can lead to over pronation (excessive inward foot rolling) and cause poor tracking of the knee. Running with too much forward lean can also contribute to it.
10. **True:** Running has many benefits associated with it, including: weight loss, postponing the effects of aging, reducing the loss of muscles and bones, enhancing the levels of growth hormones, reducing risk of stroke and heart attack, reduces risk for diabetes by maintaining a balanced amount of carbohydrates and sugar in the blood, reducing risk for hypertension (high blood pressure), reduces cholesterol levels, helps improve the process of blood clotting, strengthens the immune system, and it improves stress and mood (mental health).