

Newsletter

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A Stitch in Time

While not a 'true' injury, a side stitch can be one of the most debilitating problems an athlete can face during a race. They can literally bring you to your knees and leave you unable to continue racing. The good news is that in many cases they are easy to get rid of.

The Anatomy

A 'stitch' is a spasm of the diaphragm – a large, flat muscle that separates the abdominal cavity from the lungs.

During light breathing (that which we do unconsciously) it's really just the diaphragm moving up and down to expand and contract the lungs. When we start breathing harder, the rib cage and surrounding muscles are involved. Since the diaphragm forms the ceiling of the abdominal cavity it also serves as an attachment for many organs. The liver, hangs from the diaphragm, and is often the culprit in a side stitch. The liver is a large organ, the heaviest organ that is suspended from the diaphragm, and when we run the vertical motion of running causes the liver to tug downwards on the diaphragm (you may have noticed that we rarely get a stitch when we swim or bike, because there is little or no vertical motion involved with these two activities, and the liver isn't getting bounced around). Compound the organ bouncing with the extra effort of heavy breathing and the diaphragm will often spasm, giving you pain. A stitch can sometimes refer to the shoulder region, because the diaphragm gets it's nerve supply from the Cervical Nerves_{3,4,5} which also supply pain and sensation to the shoulder area so there can be some reflex pain to that area.

Signs and Symptoms

- Pain usually begins with heavy breathing, but may continue even after normal breathing resumes
- Pain which is often sharp and stabbing in nature, which affects the side of the rib cage
- Most common on the right side but it may also affect the left side
- When severe, a stitch will often refer pain to the shoulder or neck region
- More common while running than with swimming or biking

What To Do About It

Most (but not all) stitches occur on the right side because that's where the liver resides. The trick to fighting off a stitch is to change your rate and pattern of breathing. When you get a RIGHT sided stitch you need to EXHALE (breath out) when your LEFT foot hits the ground. It is difficult to consciously breathe, so you will have to think about this while you're running. Once you start to breathe in this pattern, the stitch should subside. It works in the majority of runners. If the stitch is on the left, you can try the opposite but left sided stitches can be a bit more difficult to abate for some reason. If the above breathing pattern doesn't work, then try other breathing patterns such as breathing twice as often (lots of smaller breaths) or taking deeper breaths, running faster or slower, anything you can do to change your rate of breathing is advisable. That's your best bet to get rid of them.

Now, you may have found that certain situations are more likely to trigger a stitch, in which case you should take precautions to avoid those scenarios. If you find, for example, that drinking liquids before

running will affect you, you should make sure that you don't drink to much so that there isn't any water sloshing around in your stomach during the run. Also, you may need to walk on the run while you drink because if you are swallowing too much air with each gulp of water it may contribute to the stitch. Remember, everyone is different so you may have to find a solution unique to you.

Finally, a one-time stitch is usually nothing more than a bother, but if they become recurrent or chronic (i.e. – they linger long after the offending event has subsided) you should consider visiting a therapist who has experience with athletes and diaphragm problems.