Abdominal Wall Pain from Nerve Entrapment

- Poorly recognized condition among the medical community involving the nerves of the abdominal wall, often confused with IBS or irritable bowel syndrome.
- Patients often undergo extensive evaluation prior to coming to this diagnosis and can spend, on average, over a thousand dollars from multiple endoscopies, imaging, and office visits.

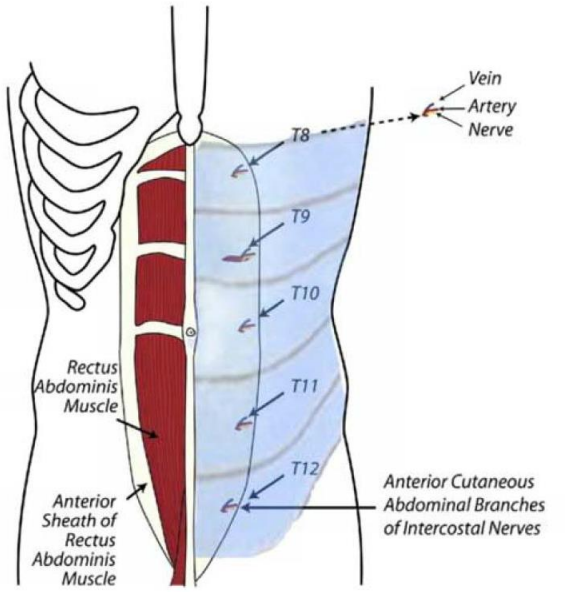
How does this condition work?

Nerves of the abdominal wall take sharp turns, one of them at a 90-degree angle through a rigid, connective tissue ring.

Two situations commonly occur that lead to nerve injury, usually at this sharp turn.

- In one situation, people gain weight and the abdomen increases in size. This then leads to the nerve becoming "entrapped" in this rigid connective tissue ring.
- The other common situation is seen in people with recent abdominal surgeries. As scar tissue is forms, it can also "entrap" these nerves.

Collateral nerve endings can make the pain radiate, usually around to your sides. These nerves are also targeted during treatment.



Arrows T8-T12 show approximately where cutaneous nerves turn to provide sensation for the abdominal wall.

Figure: Journal of Clinical Gastroenterology (adapted from Elsevier)

What are the risk factors?

This condition seems to be more prevalent in females, those that are overweight, have had previous abdominal surgery, pregnancy, or sports injury.

How do you test for it?

A physical exam can be suggestive, and it is accurate in about 80-85% of cases. Your provider will apply some pressure where the pain is most intense and have you do a sit up or crunch. If pain is coming from the abdominal wall, at the very least, this will slightly increase your pain. If there is an increase in the pain, this is suggestive of abdominal wall pain.

Imaging and endoscopy are helpful to rule out other conditions but cannot make the diagnosis.

What is the treatment?

Treatment involves injection of lidocaine at the point of most pain. A very thin needle is used to inject just underneath the abdominal wall, targeting the nerves involved. This can involve injecting in a circular fashion around the point where pain is the worst.

The great news is that relief is often instantaneous. Your provider will have you guide them as to where any residual pain may be. If there is residual pain, this can be targeted by changing the angle of the injection.

If the initial injection is successful, this greatly supports the diagnosis of abdominal wall nerve entrapment. If the pain returns, your provider may elect to use a liquid steroid mixed with lidocaine to provide relief for a longer period of time. If a third injection is required, you may need a referral to Pain Management as they will be able to provide a more targeted relief program.

What do I need to do in preparation of my injection?

Nothing. No sedation is needed for this procedure so you do not have to stop eating the night prior. No bowel prep is needed either.

Where is the procedure performed?

It is performed in the office and generally takes about 10-15 minutes.

Is there any risk to this procedure?

Any injection comes with a risk; however, the injection is superficial and will not involve your deeper organs. Injection site infection, bleeding, or increased pain can occur but the risk of these is extremely small.

REFERENCE

Glissen Brown JR, et al. Chronic Abdominal Wall Pain: An Under-Recognized Diagnosis Leading to Unnecessary Testing. *J Clin Gastroenterol.* 2016;50:829-835

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