
Autonomic Testing

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What is autonomic testing?

Your referring provider has ordered autonomic testing based on physical examination and your reported symptoms. This testing will assess the function of your autonomic nervous system (ANS), which regulates involuntary body functions (blood pressure, heart rate, breathing, sweating, etc.). The results can help to determine the underlying cause of any ANS dysfunction, which is key for treatment.

What can you expect during the test?

Autonomic testing includes several tests. Depending on how the testing was ordered by your referring provider, you may be asked to perform some or all the tests below.

Cardiovascular Autonomic Testing

This group of tests is designed to assess how well your nervous system regulates your heart rate and blood pressure during different maneuvers: deep breathing, Valsalva, and tilt. Your referring provider may find these test results helpful in developing a treatment plan if you experience fainting (syncope). The specifics of this procedure may vary depending on your condition and the information needed. For all of the studies:

- You will be asked to remove any jewelry or other objects that may interfere with the test.
- You will lie down on a special bed or table that is capable of tilting to various degrees.
- ECG electrodes will be placed on your chest and attached to an ECG machine with wire leads.
- A blood pressure cuff will be placed on your arm and will be attached to an automatic blood pressure monitoring machine.

Deep Breathing

During the procedure:

- The technician will explain what you need to do during the test.
- You will be asked to lie flat on an exam table, relax, and remain still.
- You will be asked to inhale and exhale deeply 8 times in a row following guidance from a monitor. In some cases, you may be asked to repeat the series.
- A good effort during the testing is important to get accurate results.
- The technician will coach you during the test. If you have questions, please ask the technician.

What are the risks?

- You may be lightheaded for a short time following the test.

After the procedure:

- You should be able to resume your normal activities unless your referring provider instructs you differently.

Valsalva

During the procedure:

- The technician will explain what you need to do during the test.
- You will be asked to lie flat on an exam table, relax, and remain still.
- You will be asked to take a deep breath in and exhale into a special mouthpiece for 15 seconds. You will then remain still and resume normal breathing for 15 seconds.
- You will repeat this test at least once more.

What are the risks?

- You may experience headache or lightheadedness for a short time following the test.

After the procedure:

- You should be able to resume your normal activities unless your referring provider instructs you differently.

Head-up Tilt

This test will evaluate your blood pressure and heart rate at different positions while you are secured and lying on an adjustable table.

During the procedure:

- You will lie flat on the bed initially, then you will be raised to an almost standing angle while on the bed. Straps will be placed across your chest and legs to keep your body stable during the test.
- You will remain upright for up to 10 minutes to determine if symptoms such as dizziness, fainting, low heart rate, or a low blood pressure occur.
- Once test is complete, you will be lowered to a flat position and allowed to recover. Your heart rate and blood pressure will be monitored.
- When you are stable, the ECG electrodes will be removed.
- Tell the performing technician if you develop any significant signs or symptoms during the test (lightheadedness, dizziness, near passing out).

What are the risks?

- Dizziness
- Headache
- Fainting
- Weakness
- Slow/fast heart rate
- Vomiting

- Low blood pressure

If these symptoms occur, they generally resolve within minutes to hours.

After the procedure:

- You should be able to resume your normal diet and activities unless your referring provider instructs you differently. However, you should consider having someone else drive you home in case you feel weak or dizzy after the test.
- Generally, there is no special care following a tilt table test. Fluids and rest will help resolve any symptoms that you may experience.
- Your provider may give you other instructions after the test, depending on your situation.

Quantitative Sudomotor Axon Reflex Testing (QSART)

This test is designed to evaluate your autonomic nerves that control sweating. Your sweat glands will be stimulated and the amount of sweat you produce will be measured. Your referring provider may find these test results helpful in diagnosing and treating disorders like autonomic or small fiber neuropathy.

During the procedure:

- The technician will discuss the steps of the test and answer any questions you may have.
- You'll be asked to remove your shoes and socks, including compression stockings.
- The technician will wipe the skin on your left foot, left leg and left wrist with acetone.
- Four electrodes filled with acetylcholine are then placed on the areas prepped with acetone. The technician will secure these with silicone straps to ensure good seal against the skin.
- Electrodes will produce a small electrical impulse across the skin, similar to a TENS unit. Impulses will be delivered over a 5-minute period. Sweat responses in the skin are measured.
- Electrical stimulus will then be turned off at 5 minutes and electrodes will remain in place for another 5 minutes.
- Including setup and prep, this test takes approximately 45 minutes to one hour.

What are the risks?

- A mild burning discomfort may be experienced at the site of stimulation during the test. This should resolve within minutes to hours.

After the procedure:

- You should be able to resume your normal activities unless your referring provider instructs you differently.

How do I prepare for testing?

- Check in 15 minutes prior to your appointment time.
- Dress comfortably. Wear shorts or wide legged pants that can be pulled up to the knee. Do not use any lotions/creams/oils on your skin the day of the test.
- If you are currently wearing an external heart monitor, please let us know.
- NO caffeine day of procedure (including coffee, tea, decaf, energy drinks, sodas, and chocolate)
- NO nicotine patches or gum for 4 hours prior to procedure
- NO alcohol for 14 hours

- NO Benadryl or cough and cold medications for 48 hours (Robitussin, Sudafed, etc.)
- NO marijuana, CBD, or THC for 48 hours
- NO illicit / illegal substances for 48 hours
- Some medications can interfere with the test. You may be asked to stop them 48 hours to 5 days prior to your test date. Make sure your provider knows all the medications you're taking.

If you have any additional questions or concerns, please call the Neurology Team at 303-398-1355, option 4.

Visit our website for more information about support groups, clinical trials and lifestyle information.

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