High Altitude Simulation Testing

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What is a high altitude simulation test?

Your doctor has suggested you have a High Altitude Simulation Test as part of the evaluation at National Jewish Health. A High Altitude Simulation Test (HAST) is a test to determine if you need supplemental oxygen when you fly on an airplane or go to a higher altitude.

The standard order is for a simulated altitude of 8,000 feet, which is the same atmospheric pressure as the cabin of a commercial airplane. This is not a barometric chamber but rather simulating various altitudes. Other altitudes can be simulated (E.g. Aspen, etc.) if ordered by your health care provider.

This test will help your doctor determine the best treatment for you.

How do you get ready for the test?

- Wear comfortable clothes.
- Take your medication as you usually do.

What is done during the test?

The technician will explain what you need to do during each test. If you have questions during the tests, please ask the technician.

During the test:

- You will do some spirometry breathing tests.
- Your oxygen level will be monitored with a pulse oximeter on your finger.
- You may also have an arterial line placed in your wrist to measure your oxygen level during the test.

Once these monitors are in place, you will breath into a mask for about 20 minutes while we measure your oxygen level. Based on these results you may breathe into a mask for another 20 minutes while inhaling oxygen through a nasal cannula.

How long will the test take?

The HAST test often takes 2 hours to complete, although sometimes people stay longer.

How do you get to your test?

If you are being seen at National Jewish Health, on the day of your scheduled test, report to room A310a in the Pulmonary Physiology Service (PPS). PPS is located on the 3rd floor of the May building. If you have questions please call the Pulmonary Physiology Unit at 303-398-1530.

Post-test care instructions of arterial catheter site

1. No heavy lifting for the rest of the day.
2. Leave the bandage on for 30 minutes. Remove the bandage and check the site for signs of bleeding.
3. If you see any bleeding from the site or a lump forming under the skin, apply firm pressure for 10 minutes.
4. If bleeding has not stopped and you are still in the clinic, return to Pulmonary Physiology Services for evaluation by a Pulmonary Physiology Services supervisor.
5. If bleeding has not stopped and you have left the clinic, seek emergency treatment.

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