Electromyography (EMG) – tetany test

Information for Patients

What kind of examination is this?

The primary purpose of the tetany test is to detect neuromuscular hyperexcitability by recording discharges typical of tetany. These discharges are accompanied by a characteristic sound during the examination and a muscle contraction felt by the patient.

What are the contraindications?

- permanent orthopedic devices (e.g., a cast) that prevent access to the muscle being examined
- foreign object in the tested limb
- prosthesis of the tested limb
- high blood pressure (above 160 mmHg)
- bleeding disorders or other clotting abnormalities
- use of anticoagulant medications – see details below under “How to prepare”
- diagnosed epilepsy with poorly controlled seizures

How to prepare?

- The examined part of the body should be washed thoroughly with soap and water on the day of the examination.
- Creams, ointments, emulsions, lotions, oils, etc. should not be applied to the area to be examined.
- Anticoagulant medications should be discontinued 24 hours before the test. – If you are taking acenocoumarol or warfarin, you must present a current INR result before the test. – *Note: taking acetylsalicylic acid (aspirin) is not a contraindication for the tes*
- Electrolyte supplementation, especially with magnesium, calcium, potassium, or vitamin D, should be discontinued at least 5–7 days before the examination (ideally 2 weeks prior).
- If you have a pacemaker or an implantable cardioverter-defibrillator (ICD), a written statement from your cardiologist confirming this is required.

How is the examination performed?

The examination is conducted with the patient lying down. A compression band is applied to the patient’s arm, a grounding electrode is placed on the patient’s wrist, and a single and sterile needle electrode is placed between the thumb and forefinger, which allows recording of the potentials typical for the tetany.

The examination lasts up to 15 minutes and consists of several stages. A pressure cuff is placed on the patient’s upper arm, a grounding electrode is attached to the wrist, and a sterile disposable needle electrode is inserted between the thumb and index finger. This needle allows the registration of electrical potentials characteristic of tetany.

The test takes up to 15 minutes and consists of several stages. For 10 minutes, the arm is compressed by a blood pressure cuff, which causes numbness in the hand—sometimes experienced as pain.

Electromyography (EMG) – tetany test

Information for Patients

In the final 2 minutes of compression, the patient performs hyperventilation by taking deep breaths in and out, following the doctor's instructions. After this, the cuff is released. When the pressure is released, the patient typically feels warmth spreading through the arm and tingling in the fingers.

This is a crucial stage of the test—this is when the characteristic polyphasic potentials of tetany are most likely to be recorded. After 5 minutes of observation, the electrode is removed.

The test results are available immediately after the procedure.

Additional information:

After the test, the examined limb should be rested. In some cases, small bruises (petechiae) may appear on the skin below the site of compression on the arm, as well as pain or bruising in the area of the examined muscle.