NT-pro BNP

B-type natriuretic peptide (BNP) belongs to the family of bioactive peptides that affect sodium and water balance. Because of the greater mass of ventricular tissue, the majority of BNP secretion is derived from the ventricles, especially from left ventricle. Any stretching of heart chambers increase BNP secretion. The physiological role of BNP is an antagonist to the rennin-angiotensin system. The BNP is synthesized as a prehormone pro-BNP which is than cleaved to BNP (biological active form) and NT pro BNP (biological inactive form).

Why the NT-pro BNP Test is Performed?

In a doctor's office, it is performed when a person has symptoms that could be due to heart failure.

In the emergency room, NT-pro BNP test is ordered when someone is in crisis and/or has symptoms that could be due to heart failure and doctors need to quickly determine if a person is suffering from heart failure or some other medical problem.

This test is also performed to monitor the effects of therapy for heart failure.

How the Test is Performed and How to Prepare for the Test?

For the test a blood sample is needed without any special preparation.

What does the test result mean?

In primary health care:

NT-pro BNP < 125pg/ml heart failure is excluded. Symptoms are likely due to something other than heart failure.
NT-pro BNP >125pg/ml heart failure is possible. Need cardiac ultrasound study.

In hospitalized patients:

NT-pro BNP <300pg/ml heart failure is excluded. Symptoms are likely due to something other than heart failure.
NT-pro BNP >300pg/ml - <age adjusted level. The so-called gray zone. Heart failure is possible, there is a need to continue the research; heart failure treatment can be started.
NT-pro BNP > age adjusted level. The probability is high; starting the treatment of heart failure is needed.
NT-pro BNP > 10000pg/ml heart failure very likely and likely severe; close monitoring is required.

In patients with chronic heart failure:

NT-pro BNP <400pg/ml patient is adequately treated.
NT-pro BNP> 400pg/ml patients is not adequately treated.

NT-pro BNP age adjusted level

< 50 year 450 pg/ml
50-75 year 900 pg/ml
>75 year 1800 pg/ml

Other pathologies, which increases NT-pro BNP;

- pulmonary thromboembolism;
- chronic obstructive pulmonary disease:

Alternative Names
No alternative names

Useful Information
NT-pro BNP level is increased in the following conditions:

- increased with age;
- renal failure;
- hypothyroidism;
- valve pathologies;

NT-pro BNP level is decreased in the following conditions:

- After receiving medications (ACE inhibitors, spironolactone, during vasodilation);
- hyperthyroidism;
- After correction of valvular pathology;
- Obesity;

After treatment with beta blockers the NT-pro BNP level is increased for a few weeks and then it decreases again.