

NT-proBNP

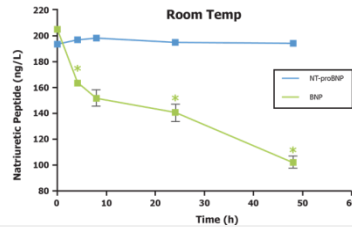
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Intended Use¹

- An aid in the diagnosis of individuals suspected of having congestive heart failure
- Risk stratification of patients with acute coronary syndrome and congestive heart failure
- Use as an aid in the assessment of increased risk of cardiovascular events and mortality in patients at risk for heart failure who have stable coronary artery disease

72-hour Sample Stability²



NT-proBNP is stable in EDTA plasma for 3 days at room temperature or longer at 4° C

BNP tends to decrease more rapidly with the sharpest drop in the 1st 7 hrs

Practical Considerations for Use of Natriuretic Peptide Testing³

In patients presenting with acute dyspnea:

- Natriuretic Peptide (NP) levels should be interpreted as a continuous variable.
- The knowledge of each individual patient's baseline NP level may further improve physician diagnostic accuracy.
- Elevations in NT-proBNP levels may be observed in states other than left ventricular congestive failure, including: acute coronary syndromes, right heart strain/failure (including pulmonary embolism and cor pulmonale), critical illness, renal failure and atrial fibrillation as well as advanced age.
- Low NP levels with or without heart failure may be observed with high body-mass index.

In patients admitted to hospital with decompensated heart failure:

- Studies have shown NP levels should be measured routinely on admission and prior to discharge when the patient is considered optivolemic.
- While a drop in NP level in response to treatment is important, the final NP level seems to be the most accurate predictor of death or readmission.

Natriuretic Peptide Levels Across Stages of Heart Failure⁴

	Stage A	Stage B	Stage C	Stage D
BNP (ng/L)	11 (5 – 19)	20 (10-40)	165 (52 – 378)	404 (182-1,102)
NT-proBNP (ng/L)	43 (26-85)	88 (43-224)	1,136 (379-2,824)	4,394 (1467-10,184)

BNP and NT-proBNP values (median, 25th – 75th percentile) in patients classified according to AHA/ACC classification

Summary Points:

- It is generally accepted that both BNP and NT-pro-BNP provide essentially the same diagnostic information. Both BNP and NT-pro-BNP are valuable diagnostic tools for CHF
- NT-proBNP has better in vitro stability making it a better choice when used in an ambulatory outpatient setting. Both BNP and NT-pro-BNP are fine in an emergency ER setting.
- Medication Interferences: ARNI's (angiotensin receptor-neprilysin inhibitor) like Ernestril, can cause BNP levels to appear elevated, leading to potentially erroneous treatments. NT-proBNP levels are not affected by neprilysin and therefore can ensure you will have most accurate clinical picture to provide the best care.
- Rising peptide levels predict a higher likelihood of HF-related complications and death, while falling levels are associated with decreased risk.
- Trend information of peptide levels over time provide a more comprehensive picture of patient risk than single tests.

References

¹ proBNP II Package Insert (2015-02, V 8.0)

² Yeo KT et al. Multi-center evaluation of the Roche NT-proBNP assay and comparison to the Biosite Triage BNP assay. *Clinica Chimica Acta*. 2003; 338:107-115..

³ Maisel A et al. State of the art: Using natriuretic peptide levels in clinical practice. *European Journal of Heart Failure*. 2008;10:824-839.

⁴ Emdin M, et al. Comparison of BNP and NT-proBNP for early diagnosis of heart failure. *Clin. Chem*. 2007; 53:1289-1297.

⁵ Masson, S., et al.: Prognostic Value of Changes in N-Terminal ProBNP in Val-Heft (Valsartan Heart Failure Trial). *JACC*. 2008;52:997-1003.