

CLINICAL

with

BENEFITS

THE DEEP DIVE

BNP

CONTEXT CHANGES THE NUMBER

BNP and NT-proBNP reflect myocardial wall stress. They can support heart failure, but an elevated value does not make the diagnosis by itself.

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A HIGH BNP SUPPORTS THE STORY — IT DOESN'T TELL IT ALONE.

1 • UNDERSTAND WHAT IT MEANS



Myocardial wall stress

- Pressure or volume loading stretches the ventricle and stimulates natriuretic peptide release.
- The result tells you cardiac stress is present — not why.

Heart failure

- Heart failure is one cause of elevation, not the only cause.
- Right-heart strain and systemic illness can raise it too.

THE PEPTIDE TELLS YOU STRESS.
THE PATIENT TELLS YOU WHY.

2 • READ THE NUMBER



Interpret the value in clinical context.

Rule out

- A low value is generally more useful for making acute HF less likely.
- Acute HF rule-out**
BNP <100pg/mL
NT-proBNP <300pg/mL

Rule in

- A high value requires context and does not independently confirm HF.

Assay matters

- BNP and NT-proBNP are related but not interchangeable.
- Interpret the assay that was actually measured.

LOW HELPS RULE OUT.
HIGH STILL NEEDS A CLINICAL STORY.

3 • LOOK FOR WHAT SHIFTS IT

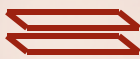


Factors that can alter BNP / NT-proBNP levels:

- Renal dysfunction / older age / atrial fibrillation can raise baseline values.
- PE / pulmonary hypertension / RV strain can raise levels through right-sided wall stress.
- Sepsis / critical illness can increase myocardial stress.
- Obesity can suppress BNP and NT-proBNP.
- Nephrylsin inhibition can affect BNP differently from NT-proBNP.

BASELINE + TRAJECTORY MATTER.

4 • APPLY THE CONTEXT



Common causes of elevated BNP / NT-proBNP:

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|--|--------------------------------------|
| • Acute or chronic heart failure | • Pulmonary embolism |
| • Atrial fibrillation | • Pulmonary hypertension / RV strain |
| • Valvular disease | • Renal dysfunction |
| • Cardiomyopathy | • Advancing age |
| • Acute coronary syndromes / myocardial stress | • Sepsis / critical illness |

CLINICAL PEARL



A high BNP supports the story only when the rest of the patient tells the same story.

DON'T MISS



- Know which assay was measured.
- Ask what could be shifting the value.
- Look for actual congestion.
- Compare with baseline when available.
- Treat the patient and underlying physiology — not the peptide in isolation.