

**DEPT OF CLINICAL BIOCHEMISTRY**

Title of Document: BNP FACT SHEET

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Authoriser: Dr Helena Kemp

Version N<sup>o</sup>: 1**BNP fact sheet**

The BNP (NTproBNP) assay has now been introduced at North Bristol NHS Trust to support the BNSSG Suspected Heart Failure Pathway. The following will help you understand the test and when and how to request appropriately.

**What is NTproBNP**

Brain Natriuretic Peptide (BNP) is a hormone released by the heart when the ventricles are stretched e.g. by fluid overload. The hormone then causes fluid and sodium loss in the urine and mild vasodilation. In heart failure BNP levels are raised, and increase in level according to New York Heart Association classification. If BNP is normal it generally rules out heart failure. (Negative Predictive Value 97%)

**When should I request a BNP test?**

The NICE guideline CG108 recommends that NTproBNP is measured in patients with suspected heart failure. BNP testing will not be indicated however when there is:

- A previous history of MI
- A confirmed diagnosis of heart failure
- Bradycardia or tachycardia (<60 or >100bpm)
- Atrial fibrillation
- Significant abnormality on ECG

Note: A history of previous MI and symptoms suggestive of heart failure should prompt urgent referral for Echo without delay.

**Is there anything else that can affect BNP levels?**

Left ventricular hypertrophy, right ventricular overload, ischaemia, tachycardia, hypoxaemia, PE, sepsis, COPD, diabetes, liver cirrhosis, age >70 and eGFR <60 ml/min can all increase BNP.

Obesity, diuretics, ACE inhibitors, beta blockers, angiotensin receptor antagonists and aldosterone antagonists can lead to falsely low levels although it is felt unlikely to impact on screening but should be factored into clinical judgement when interpreting test results.

**How do I do the test?**

NT proBNP is analysed by Clinical Biochemistry at Southmead Hospital. The sample should be collected into a gold top SST tube and sent to the laboratory on the day of collection.

Requests should be made electronically via the ICE system where available or by paper request.

**What to do with the results**

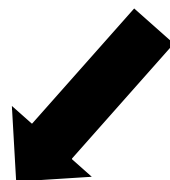
The BNSSG Suspected Heart Failure pathway recommends the cut-offs and care pathway below. Referral in the majority of cases will be to the Community Heart Failure service.

Heart failure is unlikely if the NTproBNP level is:

Men under 70yr <100pg/ml  
Women under 70yr <150pg/ml  
All 70yr or over <300pg/ml

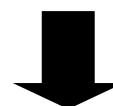
Suspected Heart Failure

- History
- Examination
- ECG

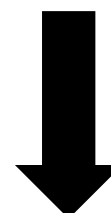
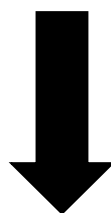


Previous MI -  
Refer for Echo and specialist opinion urgently

No previous MI -  
Order NTproBNP  
Order other baseline tests



NTproBNP result



NTproBNP Normal  
Men under 70yr <100pg/ml  
Women under 70yr <150pg/ml  
All 70yr or over <300pg/ml  
  
Consider other diagnosis

NTproBNP Raised  
Men under 70yr >100-2000 pg/ml  
Women under 70yr >150-2000 pg/ml  
All 70yr or over >300-2000 pg/ml  
  
Refer for Echo and specialist opinion

NTproBNP >2000 pg/ml  
  
Refer for Echo and specialist opinion URGENTLY