



Primary Care Laboratory Interface Group (PLIG)

25th September 2017

Dear Colleague

Pilot of a Heart Failure Diagnosis referral pathway in NHS Lothian

We are writing to let you know that a new heart failure referral pathway will be piloted in primary care from the 2nd October 2017.

From all locations please refer via SCI Gateway section: NRIE > Cardiology > Heart Failure, and send bloods according to the ICE Heart Failure Diagnosis order-set.

Patients who meet specific criteria can be referred via a dedicated SCI Gateway referral pathway, which makes use of the NT-proBNP test (sensitive in exclusion of heart failure, please see information attached below).

Referrals will be reviewed by the heart failure (HF) team on a daily basis.

Following receipt of your referral, the Heart Failure (HF) team will triage patients into one of two categories:

1. *Suitable for NT-proBNP testing.* The NT-proBNP result will be returned to both the HF team and the GP. **Please note that the result will be actioned by the HF team.** Very high levels will be reported immediately to the HF team for action. If NT-proBNP test is positive the patient will be invited to HF clinic for ECG and echocardiography. If negative, then heart failure is highly unlikely and the patient will be discharged from the service with a letter of explanation to the GP.
2. *Direct to heart failure clinic* for ECG and echocardiography, where the likelihood of heart failure is sufficiently high to justify this.

The proposed timescale from point of referral to being seen in clinic/discharged from the pathway will be 3 weeks. This period may be shorter or longer if felt clinically appropriate, depending both on the symptoms

and the result of the NT-proBNP test (high levels generally suggesting more severe failure).

To make the SCI Gateway referral, select the Cardiology drop down menu for Royal Infirmary of Edinburgh at Little France (regardless of geographic location, as all referrals will be triaged centrally) where a new option for **Heart Failure** will be available. A heart failure **advice email** will be available for queries on HeartFailureTeam@nhslothian.scot.nhs.uk. A flow diagram detailing the pathway is attached and this will be available in the cardiology section of RefHelp once the pathway is launched.

This new service is being piloted in response to NICE and SIGN guidance on the diagnosis of heart failure in primary care. Following a recent audit, we have evidence to support the use of a cardiologist-led triage system as the initial port of call for further investigation as an effective use of resources. A limited fund has become available to NHS Lothian Laboratories to fund the NT-proBNP assay.

We will be evaluating the success and sustainability of the pathway on an ongoing basis and welcome comments from you, your team and your patients about their experience of it. The pathway will be piloted for up to 12 months and the expectation is that the improved service to patients and GPs will justify the additional laboratory costs of NT-proBNP testing. Availability of longer term secure funding will depend on the outcome of the initial pilot.

Further information regarding NT-proBNP testing in NHS Lothian is provided below.

Please contact sjenks@nhs.net if you have any queries concerning the contents of this letter.

Yours faithfully,

SJenks

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NT-proBNP testing

Background information

N-terminal prohormone of brain natriuretic peptide (NT-proBNP) is an inactive metabolite of brain natriuretic peptide (BNP). BNP is a peptide hormone released by the ventricular myocardium in response to stretch and is a useful marker of fluid overload and heart failure. BNP causes natriuresis, diuresis and vasodilation. Both BNP and NT-proBNP levels can be measured but NT-proBNP is more stable and therefore more suitable for measurement on primary care samples.

NT-proBNP is a sensitive test for detecting heart failure but levels can also be increased in many other conditions including hypertension, MI, AF, valvular heart disease, atrial fibrillation, severe COPD, pneumonia, pulmonary embolus, renal impairment, sepsis and cirrhosis. Levels also rise with age and are higher in women than in men. Its use in diagnostic pathways is therefore as a rule out test with low levels effectively excluding heart failure as a diagnosis whilst a high NT-proBNP level cannot be assumed to indicate that a patient has heart failure and further confirmatory testing with echocardiogram is required.

A NT-pro BNP level of **<125 pg/ml** will be used initially as a rule-out threshold in Lothian. Other higher thresholds are in use in other health boards across Scotland and this threshold will be kept under review and may be increased during the pilot as data from our local population becomes available.

Funding for NT-proBNP testing in Lothian

Two previous attempts have been made by the Primary Care Laboratory Interface Group to secure funding to make NT-proBNP testing freely available for primary care in NHS Lothian. Based on data from NHS England approx. £110,000 p.a. funding would be required and the impact of testing on echocardiogram requests, cardiology appointments and patient outcomes has not always been positive. Hence it has been decided in NHS Lothian to pilot having the test available in a more limited way whilst aiming to maximise the benefits on the patient pathway.

Data will be collected during the pilot before a decision is taken as to whether this is the optimum patient pathway, and consideration will continue to be given to seeking ongoing funding to enable NT-proBNP to be made freely available to primary care. Both GP and patient feedback during this pilot will be vital in helping ensure the correct decision is made.

Practicalities of requesting NT-proBNP

NT-proBNP samples are taken in brown-top serum gel tubes. Request labels for this test will be available on ICE / GPOC as part of a 'Heart failure diagnosis' orderset which includes FBC, U&E & a sample to be stored for possible NT-proBNP measurement. If your patient has had recent blood tests including FBC, U&E then it is not essential to request this orderset. If ICE is not available please request FBC, U&E & NT-proBNP (1 red topped and 2 brown topped tubes) using a paper request form.

On receipt at the lab all requests for NT-proBNP will be stored whilst awaiting instruction from the heart failure team for a period of up to six weeks.

Please note NT-proBNP will only be measured once the instruction to do so has been received from the heart failure team.