Northern Devon Healthcare NHS
NHS Trust
Incorporating community services in Exeter, East and Mid Devon

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Pathology Department
N. Devon District Hospital
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Testing Times

Newsletter for Pathology Service Users

Inside this issue:-

Dr Tom Lewis: Clinical Lead for Pathology

Pathology is undergoing major changes nationally. All laboratories are looking at how to provide a modern pathology service, using latest technologies in a cost-effective way that helps clinicians deliver good patient care.

There are some important decisions that will need to be made in the immediate future. Chief amongst these are how pathology departments work with primary care, and how we work with other laboratories in the region.

In order to ensure that the clinical voice is well represented in these discussions, it has been agreed that there should be a dedicated Clinical Lead for Pathology, a post to which I was appointed last week.

I look forward to working with many of you in making sure that we that we continue to provide a high quality pathology service for North Devon.

Interpretative & Clinical Advice Email Service

ndht.Pathologynddh@nhs.net

Many phone calls to Pathology clinicians from GPs or other health care professionals in the community are for non-urgent queries.

Although we are always available to take calls, there are often issues getting through switchboard and then tracking down the right person. If we are engaged doing something else then it may be hard to deal with the call in a timely fashion. There may also be difficulties in accessing the necessary information in order to give accurate advice if we are away

"...The email account will be checked at least daily and you can expect a response within 24 hours...."

from the laboratory. If a message has been left for us to call back, then it can sometimes be difficult for us to get through at a convenient time.

In an attempt to improve the current situation, following feedback from our GP colleagues, we have created a generic Pathology e-mail to which all **non-urgent clinical queries** can be sent.

This can be used for advice from all pathology disciplines, (biochemistry, haematology, microbiology, histopathology) for queries such as:

(i) Specific clinical questions related to particular results

(ii) General questions about how to use the laboratory.

Please specify in the subject heading, which pathology department your request is addressed to.

The email account will be checked at least daily and you can expect a response within 24 hours. The address is ndht.Pathologynddh@nhs.net

We will, of course, remain available for telephone advice at all times, but hope that you will see this as a useful alternative means of contact.

Dr Tom Lewis

Clinical Lead for Pathology

Histopathology reporting delays - Now a thing of the past

The NDHT Trust has recently agreed to increase Dr Mary Alexander's post in histopathology from part-time to full-time, so the department can cope with rising demand. Since 2004, the number of requests for analysis of specimens has risen by over a third, along with a marked increase in the complexity of requests. More time is also required for attending cancer multi-disciplinary team meetings to discuss the treatment of individual patients.

As a result, Drs Davies, Bull, Ward and Alexander have cleared the outstanding waiting list. There should no longer be any significant delay in reporting non-urgent biopsy results, although during periods of annual leave or sickness, there may be a temporary wait of a few days. This increase in reporting capacity will mean a more efficient service and reduce the anxiety for patients who are waiting for their results.

Dr Jason Davies

Consultant Histopthologist

www.northdevonhealth.nhs.uk/pathology/blood-sample-collection-guides/

Blood Sample Collection Guide

We publish a list of blood tests with information on which blood tube to use, how many tubes are required and any other special instructions relevant to each test.

This 7 page document is available to download from the Pathology Handbook.

Click this link or type it in to your internet browser's address bar.

Specimen Acceptance Policy

Request Forms must be labelled with 3 key identifiers

Specimens must be labelled with 2 key patient identifiers (transfusion specimens & antenatal serology specimens need 3)

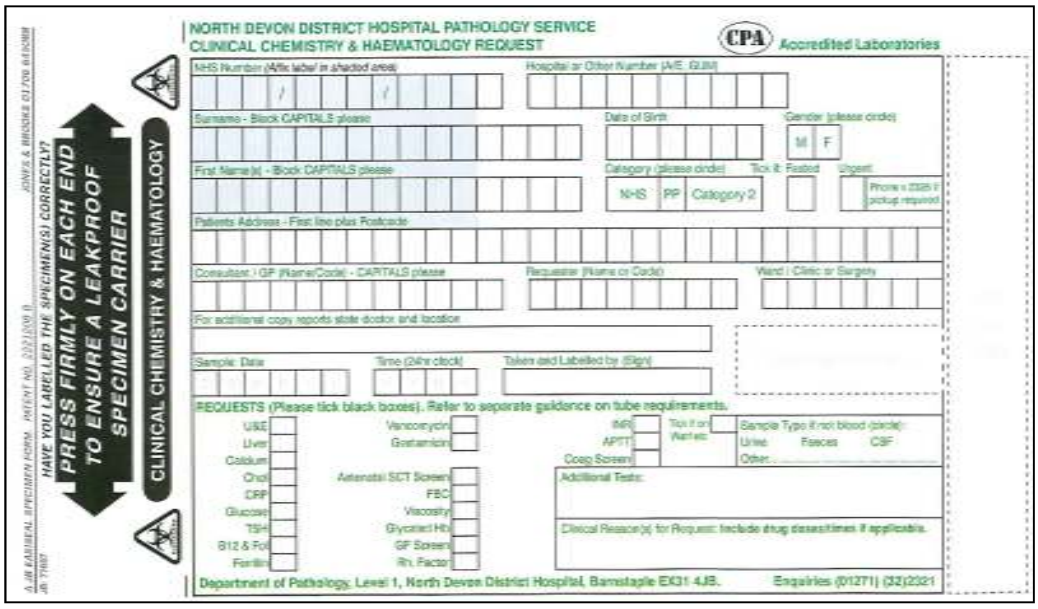
Key Identifiers:

Full Name (not preferred names)

Date of birth and

NHS (or hospital / A&E or GUM) number

New Pathology Request Forms



Following a consultation process in July 2011, we have finished redesigning the combined Biochemistry & Haematology request form and the Transfusion request form.

Only the afore mentioned request forms are changing at present. The new improvements are:-

(i) Single sheet of A5 paper.

(ii) Each request form comes attached to a self seal specimen bag.

During the consultation process, a number of questions were raised, to which we offer the following responses:-

Use of patient I.D. labels

Labels can be affixed to the new forms, but in the top left, shaded area of the form, not the top right as at present.

Space for Additional Tests & Clinical Information

There is a smaller amount of space for the 'additional tests' when compared to the current form but there are more tick boxes for tests.

The 'clinical reasons for requests' box is identical in size to the current 'clinical summary' box, however, we have removed the 'drug therapy' box as it was infrequently used. Drug therapy and clinical information now share the same space.

Lipid or Bone Profiles when only a cholesterol or calcium is required

There is no tick box for either lipid or bone profiles. Should you require a full lipid or bone profile, these will need to be written in the 'additional tests' box.

Do we use up our stock of old forms before using the new ones?

Yes.

When do we expect to start using these new forms?

It is envisaged that we will start to issue the new forms to users very soon

Please Note: New request forms must still include 3 key patient identifiers

Transfusion request forms are in a similar style to the biochemistry & haematology forms and also come with an attached bag.

Tim Watts *Operational Manager, Biochemistry & Haematology*

Devon Doctors & Path Requests: How to avoid rejection

We understand that if you are working as a Devon Doctor you do not have access to full patient ID, and therefore may not have a NHS number for the request form. However, if there is no NHS number on the form and there is no information stating that the request has originated from Devon Doctors, it will be rejected. Please ensure the request form includes "DDOC" or "Devon Doctors" on the request form to avoid the specimen being rejected.

Returning the results to the appropriate location for such requests can also be troublesome. Please also include the patient's registered GP on the request form—thanks for you help.

Cytology Fluids: White is right!

We frequently receive fluids for (non-gynaecological) cytology investigations in the wrong specimen container. Fluids for cytology (urine, pleural, cyst etc.) should be collected in a white topped, sterile universal container, NOT a red top universal container which contains boric acid. Cytology investigation involves collecting the cells from the fluid and looking at them through a microscope to diagnose or exclude disease. The boric acid in the red containers destroys the cells, rendering the analysis worthless.

Red topped universal containers are for routine microbiological urine culture only.

Gents & Vancs

Biochemistry Dept

Antibiotic assays Gentamicin and Vancomycin should be sent to the Biochemistry department for processing accompanied by a green Biochemistry request form.

They are no longer analysed by the Microbiology Department.

Quality of Service

CPA Accredited Laboratories

N.D.D.H. Pathology provides a complex, specialist diagnostic service and we pride ourselves on the high standards of quality we are able to maintain and improve on, both in the way our services are run and the technical quality assurance of the results and reports we issue. Below is a description of some of the things we are constantly doing to ensure we provide a quality diagnostic service to you, our users.

Internal Quality Control (IQC) All tests performed in our labs are regularly checked against IQC material of known values. This allows us to ensure that the accuracy precision and quality of results is maintained 24/7, as we only report patient results if the IQC values are within acceptable ranges.

External Quality Assurance Regular samples are received from external quality assurance schemes, analysed in our labs and the results are returned for marking against known values and comparison with other laboratories. This external, independent checking occurs for all tests we perform.

Internal Audit We conduct regular reviews of quality through scheduled audits using a rolling, two year audit calendar. Pathology staff participate in the audit process, examining all the stages of processing a patient's specimen – from start to finish. Where non-compliances are found as a result of this audit process they are investigated and remedial action is implemented against an agreed timescale, allowing improvement of the service.

External Assessments All Pathology laboratories are independently assessed by Clinical Pathology Accreditation UK Ltd on a continuous 4 year cycle, with interim assessments two years after a main assessment. Currently all labs hold "Accredited" status.

The Medicines and Healthcare products Regulatory Agency (MHRA) last visited the Blood Transfusion Department in July 2007 and we hold a current letter of compliance from the MHRA.

The MHRA is responsible for regulating and assessing and hospital blood banks and the transfusion laboratories in which they are situated.

The Human Tissue Authority (HTA) last inspected the N.D.D.H. Mortuary and associated Cellular Pathology services in February 2011, and these departments are currently licensed for the activities for which they undertake.

Pathology:

More than just a "result factory"

The NDDH Pathology service gives out much more than just sets of results. Included as part of the service is unlimited interpretative and clinical advice tailored to each patient. Consultants and clinical scientists with many years of experience in their respective fields welcome contact from users in relation to patient management relative to their pathology results.

Contact details for pathology clinicians can be found on the back cover of this newsletter, and the new clinical advice email address is shown on the front cover.

Pathology clinicians are also more than happy to visit users in their own locations to offer advice and informal teaching sessions. Please call or email to discuss your requirements.

Cover Photograph

The image under the 'Testing Times' title shows two electrophoresis patterns, the upper one normal, the lower with an abnormal, monoclonal fraction in the gamma region.

During the analysis, proteins separate according to their molecular charge and weight at a given buffer—typically into 5 zones:- Albumin, α1 globulins, α2 globulins, β globulins and gamma (γ) globulins (IgA, G and M).

In some pathological conditions a monoclonal band can be seen, usually in the γ or β regions. This may be significant or a monoclonal gammopathy of undetermined significance.

Quantification of the monoclonal fraction allows a certain interpretational significance, alongside other clinical investigations.

Tea Break Teaser

Questions—true or false

1. Immunoglobulins are produced by B lymphocytes?

2. In human secretions, e.g. teardrops, IgA is typically a found as a pentamer?

3. Samples for the investigation of cryoproteins must be collected, transported & separated at 37°C?

4. In samples that do not react with IgG, IgA or IgM antiserum on fixation, and only react with light chain antiserum (kappa/lambda), it is essential to exclude IgD or IgE paraproteinaemias?

Answers: page 6

Clinical Haematology News

Introduction

The Clinical Haematology service at North Devon District Hospital is facilitated by a team of seven Consultant Haematologists working across the North Devon District Hospital and Royal Devon & Exeter sites. There is an outpatient clinic every day, and we welcome referrals in general and malignant haematology as well as in our specialist interest areas:

Monday (PM clinic) - Dr Tony Todd: Chronic Lymphocytic Leukaemia, Lymphoma

Tuesday (AM) - Dr Paul Kerr: Stem Cell Transplantation, Lymphoma

Wednesday (AM) - Dr Loretta Ngu: Red Cell disorders, Coagulation

Thursday (AM) - Dr Jason Coppell: Thrombosis, Haemophilia, Myeloproliferative disorders

Friday (AM) - Dr Jackie Ruell: Obstetric haematology, Coagulation disorders, Acute Leukaemia

Cross-cover for absence is provided by **Dr Claudius Rudin (Myeloma, Stem Cell Transplantation)** on Monday and Thursday, **Dr Malcolm Hamilton (Acute Leukaemia, Myelodysplasia, Director UK NEQAS Haematinics)** on Tuesdays and Wednesdays, and Dr Coppell on a Friday.

Telephone Advice - NDDH

We are more than happy to provide telephone advice to physicians in primary care, via our secretary on **01271 349198**. If possible we try to take calls directly, but unless it is an emergency we are unable to do this in the middle of a busy outpatient clinic (see above). Because we receive a fair number of calls from primary care each day, we would be grateful if a direct contact number could be provided to avoid the delays incurred by automated switchboards.

Telephone Advice - RD & E

Occasionally there is no consultant present on the NDDH site due to peripheral clinics in Stratton or other service commitments. If you are having difficulty contacting the duty consultant, please make contact with another member of the team via the Exeter Secretaries (**01392 402462 / 402850 / 402922 / 402468**).

E-mail Advice Service

In addition we are currently participating in a pilot of the pathology NHS email advice service (as referred to by Dr Tom Lewis in this issue of 'Testing Times'). We hope that this will make it easier for you to obtain advice in the future. Please state which pathology department you are addressing in the subject heading, e.g. Haematology, Biochemistry Microbiology, Histopathology etc. The email address is: **ndht.Pathologynddh@nhs.net**

Heritable Thrombophilia Screening Service

The heritable thrombophilia screening service has been rationalised to bring it into line with recent national guidance. There are few occasions where testing for inherited thrombophilia is indicated; a copy of our information sheet is reproduced below and on the following page. The laboratory will act as gatekeeper for these requests and if insufficient clinical details are provided or if the request is outwith guidelines, samples will be frozen and stored for one month to allow further discussion to take place. Dr Coppell and Dr Ruell are always pleased to discuss thrombophilia questions, but often it is helpful to see patients with complex histories in the clinic for counselling and guidance.

Best Wishes for the New Year.
Dr Jason Coppell - Lead Consultant Haematologist

Guidelines for Testing for Heritable Thrombophilia

Background

Heritable thrombophilia describes an inherited tendency to develop venous thrombosis (DVT and/or PE)[1]. Deficiencies of the naturally occurring anticoagulants antithrombin, protein C and protein S have been linked with familial venous thrombosis. The factor V Leiden (1691G>A, R506Q) and prothrombin (20210G>A) gene variants are associated with an increased risk of venous thrombosis (see Table 1 for relative risks).

Continued on next page

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Guidelines for Testing for Heritable Thrombophilia

When to test

Some tests for heritable thrombophilia (assays of antithrombin, protein C and protein S) are affected by the acute post-thrombotic state and by anticoagulant use[2]. Consequently, thrombophilia testing should be delayed until at least 6 weeks after cessation of anticoagulant therapy. Thrombophilia testing should be avoided during pregnancy and in patients using combined oral contraceptives or hormone replacement therapy.

Who to test

Which patients should be considered for thrombophilia testing?

Thrombophilia results are often difficult to interpret and can be misleading. Please use the contact numbers below to discuss, or consider referring the patient to the Haematology clinic if appropriate.

A - Patients with symptoms of thrombophilia

Please note: Testing for heritable thrombophilia is NOT indicated in UNSELECTED patients presenting with venous thrombosis[1].

It is recommended that thrombophilia screening should be undertaken in the following patients:

1 **Unprovoked** venous thromboembolism before the age of 40 years

2 Recurrent **unprovoked** thromboembolism

3 Thrombosis in unusual sites

4 **Unprovoked** venous thromboembolism in a patient whose first degree relative meets criteria 1-3

5 Women with unexplained late fetal loss or ≥3 spontaneous early miscarriages (it is important to exclude cardolipin antibodies and lupus anticoagulant in these cases)

6 Unexplained skin necrosis, especially if taking vitamin K antagonists (e.g. Warfarin)

7 Children and neonates with purpura fulminans

B - First degree relatives WITHOUT symptoms of thrombophilia

Testing asymptomatic first degree adult relatives (siblings, parents, offspring if ≥16 years) of patients with a history of venous thrombosis may be indicated in some circumstances. Identification of family members at risk for venous thrombosis may provide the opportunity for short-term targeted thrombophylaxis in periods of increased thrombotic risk (e.g.. surgery, trauma or immobilization).

Recommendations for testing unaffected family members[1]:

- The testing of asymptomatic relatives of patients with low risk thrombophilia (such as factor V Leiden or prothrombin gene variants) is **NOT** indicated
- The testing of asymptomatic relatives of patients with high risk thrombophilia (deficiency of antithrombin, protein C or protein S) should only be considered in selected thrombosis-prone families. Please discuss with a Consultant Haematologist before taking samples.
- The absence of a proven heritable risk factor reduces the utility of thrombophilia testing and wherever possible the affected family member(s) should be tested first. If this is not possible, a negative result in the asymptomatic relative should be interpreted with caution since it does not exclude an increased risk of venous thrombosis.

Samples for testing:

Please send 3 coagulation tubes (blue topped bottles) requesting a 'Thrombophilia Screen' to the Haematology laboratory. We aim to provide a customised clinical / laboratory report for every thrombophilia screen, so full clinical details are essential. Samples with insufficient clinical details or those that do not meet guidelines for testing will be stored for one month, to allow time for the requestor to supply further information or discuss the request with a Consultant Haematologist.

If you have any questions about heritable risk factors for thrombophilia please contact

Dr Jason Coppell (Consultant Haematologist on 01271 349198 or jcoppell@nhs.net),

Dr Jackie Ruell (Consultant Haematologist on 01271 349198 or Jackie.Ruell@rdeft.nhs.uk) or

Dr Sian Ellard (Consultant Molecular Geneticist on 01392-402910 or Sian.Ellard@rdeft.nhs.uk).

Further information is available on the genetics website

http://www.rdehospital.nhs.uk/prof/molecular_genetics/default.html

References

[1] Baglin et al. (2009) British Committee for Standards in Haematology Guidelines: Page 1-19 (http://www.b-s-h.org.uk/)

[2] Walker et al. (2001) British Journal of Haematology, 114:512-528

[3] Middledorp and van Hylckama Vlieg (2008) British Journal of Haematology, 143:321-335

	Antithrombin Deficiency	Protein C Deficiency	Protein S Deficiency	Factor V Leiden variant	Prothrombin variant
Prevalence in general population	0.02%	0.2%	0.03-0.13%	3-7%	0.7-4%
Relative risk for 1st venous thrombosis	5-10	4-6.5	1-10	3-5	2-3
Relative risk for recurrent venous thrombosis	1.9-2.6	1.4-1.8	1.0-1.4	1.4	1.4
Relative risk for arterial thrombosis	No association	No consistent association	No consistent association	1.3	0.9
Relative risk for pregnancy complications	1.3-3.6	1.3-3.6	1.3-3.6	1.0-2.6	1.1-1.2

Table 1. *Frequency of thrombophilia and relative risk estimates for various clinical manifestations.*[3]

NB. This information on Heritable Thrombophillia has also been reproduced in a printer friendly format, attached at the end of this edition of 'Testing Times'.

GP Pathology Satisfaction Survey: Results

In October 2011 a four page questionnaire, designed to elicit General Practitioners views about the N.D.D.H. Pathology Service, was sent to approximately 250 general practice staff (GPs, practice nurses, etc.) based at the GP practices in our catchment area. Eighty replies were received (32%), predominantly from GPs.

Preliminary analysis of the responses shows:-

84% of the clinical advice given is considered "always very useful" and is given in a courteous and helpful way

General advice appears to be easy to obtain and is given in a courteous and helpful way for all departments.

Specimen transportation continues to cause the highest levels of perceived dissatisfaction .

32% rate current arrangements as "Good", 55% as "Okay" and 10% as "Poor". The most common request is for later collections, particularly on Fridays so more patients can be bled. However respondents also requested more results to be available by the time the surgeries close to "help keep patients out of hospital, " and to avoid abnormal results being phoned to Devon Doctors out of hours service. If specimen pick up times were later in the day, a much higher number of results would only be available after surgeries close and more "abnormals" would have to be phoned to Devon Doctors. What we try to achieve is a balance within the resources which are available.

34% of users consider that the majority of results are always turned around in an acceptable time, with 65% saying "Most of the time." Following feedback from the last user satisfaction survey, we have extended the routine opening times of Biochemistry & Haematology, Mon-Fri. This ensures that the vast majority of routine test results are available to GP practices within 12 hours of being received in the laboratory.

76% of GP users agreed that lab staff should always add clinically appropriate, extra tests on to requests, the remainder would agree only after discussion.

Conversely, 88% of users would prefer that we did not reject clinically inappropriate tests (not labelling errors), without discussing the case first. Only 6% said "yes" we could reject such tests all of the time and 6% said we should never reject them.

As you will see from page 1, we have already implemented two improvements which a number of you suggested - a clinical advice email service, and a faster turnaround time for non-urgent Histology reports.

A full report of all the results of the survey will be made available to GP practices soon. Thank you to all those who returned a survey.

Bruce Seymour

Pathology Quality Manager

Sweets, pens, notebooks and used plasters…..

….are just some of the items we have found in amongst pathology specimens when we take receipt of them!

Other unexpected items received have included a hand brush, used cotton wool, unused needles & holders and bulldog clips.

We try to return some of the more significant objects such as a set of patient medical notes and some dictaphone tapes, but others like ECG electrode tabs, scissors and used medical instruments are either discarded or stored for a period of time, just in case the owner contacts us.

Haemolysed Samples - In Depth

Haemolysed and contaminated samples are a cause of frustration for clinical and laboratory staff and are potentially harmful to patient care.

At best, repeat samples must be taken and at worst, incorrect treatment decisions can be made due to erroneous results.

An article published in the Annals of Clinical Biochemistry November 2011 (Ann Clin Biochem 2011; **48**: 562–565), looked at phlebotomy in the A&E department in SWBH NHS Trust. The findings are summarised below:

1) Comparison of haemolysed samples in the A&E Department and hospital inpatients: Emergency Medicine – all areas 10.7%, Emergency Medicine – Majors 24% Hospital inpatients - 2.9%.

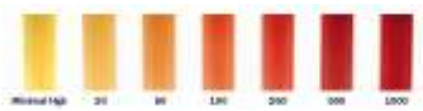
2) Order of fill first of evacuated tubes: Serum tube – Biochemistry 55%, Potassium-EDTA – Haematology 41%

Serum tube first but more blood added after EDTA tube filled 4%.

3) Variation in phlebotomy technique practised in the Majors area of A&E:

Cannula with syringe 38%; Cannula with evacuated tubes and adaptor 42%;

Syringe & needle into vein 14%; Evacuated tubes system conventionally used 6%.



Haemolysis chart for serum or plasma (mg/dL)

Why are the findings important?

Haemolysis can falsely increase values for some plasma constituents such as potassium and falsely lower others such as hs Troponin T.

Potassium-EDTA contamination of the serum can increase the potassium concentration directly and also lead to chelation of metal ions. Calcium concentrations can be erroneously lowered.

In vitro interferences can be reduced by correctly utilizing evacuated tube systems, instead of syringes.

Haemolysis of samples from A&E is a regular occurrence within our own Trust.

Another cause of *in vitro* haemolysis which occurs regularly from sources outside the hospital is due to prolonged storage of samples or storage in incorrect conditions.

All clinical staff should endeavour to use best practice at all times to minimise *in vitro* errors.

Laboratory staff have a duty of care to ensure that haemolysis or possible contamination is reported in a timely manner and to make certain that *in vivo* haemolysis is not ruled out.

Helen Melville

Senior BMS Biochemistry

Withdrawal of Faecal Occult Blood Testing From January 2012

The decision to withdraw faecal occult blood testing from 1 January 2012 is based on the following factors:

1. Traditional guaiac-based faecal occult blood tests are insensitive and non-specific.

The traditional guaiac-based faecal occult blood (gFOB) test is subject to interference from dietary animal haemoglobin in meat giving rise to false positive results. More seriously, its diagnostic sensitivity for colorectal cancer is very low, of the order of 20-30% (23.8% in a recent survey: *J Gastroenterol* 2010; 45: 703-12, which is representative of many previous publications). This means a negative gFOB test can provide false reassurance of the apparent absence of disease in cases of advanced bowel cancer.

2. The gFOB test has no place in the NIHCE referral guideline (2005: CG27 for referral for lower GI cancer.

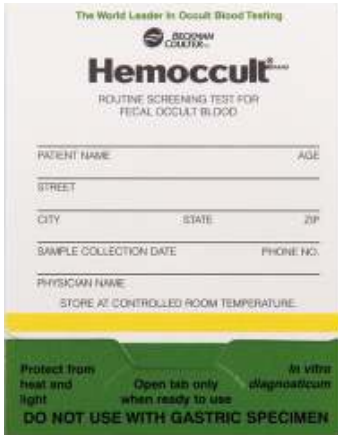
The *only* recommended investigation is the full blood count.

3. The faecal occult blood test has no place in the investigation of iron-deficiency anaemia

A British Society of Gastroenterology guideline document for the management of iron-deficiency anaemia (attached) states:

"Faecal occult blood testing is of no value in the investigation of IDA …, being insensitive and non-specific".

References are contained in the guideline document.



FOB cards will be withdrawn from Jan 2012

4. The only evidence-based application for FOB testing is in the screening of asymptomatic populations using a more sensitive immunochemical method, which is now provided by the NHS Bowel Cancer Screening Programme.

Immunochemical faecal occult blood tests (iFOB) tests use an antibody to human haemoglobin and an immunochemical detection method, and are both more sensitive (2-3x) and more specific than the gFOB tests. iFOB tests are now provided in Scotland via the NHS Bowel Cancer Screening Programme, although in England and Wales only the guiac assay is offered.

In England, men and women aged 60-69 will be screened as part of the national programme. Individuals over 70 have access to iFOB screening simply by calling the BCSP helpline number (0800 707 6060 – England) for a screening kit to be sent to them.

5. All the specialist clinicians at RDE and NDDH with an interest in GI cancer agree that faecal occult blood testing has no place in the referral process

We surveyed all the consultant gastroenterologists and all the colorectal surgeons before taking this decision, and there was unanimous agreement that provision of the gFOB test to primary care was unnecessary and could be dangerously misleading.

6. Many other hospitals have withdrawn their service, and the National External Quality Assessment Scheme for Faecal Occult Blood Testing is scheduled to close down

In 2009, the organizers of the NEQAS scheme for FOB testing asked all participants to "*strongly advise participants to seriously consider the cessation of Occult Blood Testing*", for the reasons stated above. In the past year, over 50 participants have withdrawn their services and it is likely that 2011 will be the last year the scheme is available, which would leave us with no external validation of performance for what is already a poor test.

Dr. John O'Connor, Consultant Biochemist

Plasma Lactate

A reminder of requirements for lactate assay

Samples (blood and CSF) should be collected in the **grey topped** Vacuette bottles and sent to Biochemistry as soon as possible together with a telephone call to the department (ex. 2345 09:00 – 17:30 or bleep 031 out of hours) as the plasma must be removed from the red cells within 20 minutes of collection.

Once separated, the analysis is carried out immediately. If this is not possible, lactate is stable in the plasma for 48h at 2 - 8 °C. Haemolysed samples will need to be repeated.

Lactates can be analysed on a blood gas sample. The ONLY place where this can be performed is in ICU. Other gas analysers within the hospital do not have the required module on board. Thank you for your assistance.

Helen Melville
Senior BMS Biochemistry

"The only recommended investigation is the full blood count."

Withdrawal of FOB testing

Testing Times—Back Issues

All previous issues of the Testing Times newsletter are available from the Pathology Handbook web pages at:-

http://www.northdevonhealth.nhs.uk/pathology/pathology-users-newsletters/

These are currently six back issues available.

We aim to provide you with the latest news and information so that you can get the best possible service from us. To help achieve this, the 'Testing Times' is published approximately three to four times a year and is packed with information which we hope you will find useful and helpful.

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Pathology Computer Manager	
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Pathology Supplies/Consumables	
Debbie Martinelli & Marcus Milton	*Tel: 2342 (322342)*
N.D.D.H. Switchboard	*Tel 0 (322577)*

Internal telephone extensions are shown above. Numbers in brackets are the direct dial numbers from outside the hospital. Barnstaple area code is 01271.

Laboratory Opening Times

The laboratory is fully staffed from 09:00 to 17:30 Monday to Friday and on Saturday between 09:00 and 12:30 for all departments except:-

Cellular Pathology
Pathology I.T Dept.
Point of Care Testing
} 08:30 to 17:00 Mon-Fri only

Mortuary/Bereavement—08:30 to 16:00 Mon-Fri only

Outside of these times there is an on-call service in operation for Biochemistry, Haematology, Microbiology and the Mortuary departments. Contact the on-call staff via the N.D.D.H. Switchboard on ext. 0 (or 01271 322577 externally) - see below for more details on how to contact the on-call biomedical team.

Getting Advice Out of Hours

CLINICAL ADVICE:-

Biochemistry & Haematology & Microbiology

Clinical Advice from a Pathology Consultant can be obtained outside of normal hours by contacting the N.D.D.H. switchboard—dial 0 from inside the hospital or 01271 322577 and ask for the consultant you require.

GENERAL ADVICE

There are three on-call biomedical scientists (one each for the biochemistry, haematology and microbiology departments) .

<u>The on-call staff request that you do not directly phone the laboratory during on-call periods</u> as they are frequently unable to take calls due to being in other parts of the laboratory, collecting specimens for example.

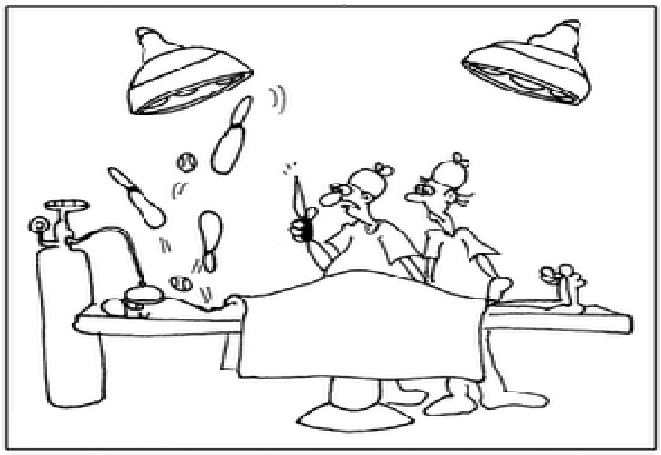
However, on-call staff can be contacted as follows:

Biochemistry & Haematology: By bleep—ask switchboard to bleep the biomedical staff required.

Microbiology:

Through Switchboard only.

And finally……



"Drat. I must've hit the juggler vein."

We hope that you have found this newsletter interesting and helpful. If you would like to see information on a specific topic in the next newsletter, please contact the Pathology Quality Manager, Bruce Seymour on ext. 2324 (or 01271 322324), email bruce.seymour@ndevon.swest.nhs.uk with any requests.

Answers: 1—TRUE, *B lymphocytes produce immunoglobulins.* ***2– FALSE,*** *IgA is not seen as a pentamer in human secretions, IgM typically forms pentamic polymers.* ***3-TRUE.*** *Specimens need to be collected, transported and separated at 37°C for a valid analysis.* ***4-TRUE,*** *further investigation is required in these cases.*

Guidelines for Testing for Heritable Thrombophilia

Background

Heritable thrombophilia describes an inherited tendency to develop venous thrombosis (DVT and/or PE)[1]. Deficiencies of the naturally occurring anticoagulants antithrombin, protein C and protein S have been linked with familial venous thrombosis. The factor V Leiden (1691G>A, R506Q) and prothrombin (20210G>A) gene variants are associated with an increased risk of venous thrombosis (see Table 1 for relative risks).

When to test

Some tests for heritable thrombophilia (assays of antithrombin, protein C and protein S) are affected by the acute post-thrombotic state and by anticoagulant use[2]. Consequently, thrombophilia testing should be delayed until at least 6 weeks after cessation of anticoagulant therapy. Thrombophilia testing should be avoided during pregnancy and in patients using combined oral contraceptives or hormone replacement therapy.

Who to test

Which patients should be considered for thrombophilia testing?

Thrombophilia results are often difficult to interpret and can be misleading. Please use the contact numbers below to discuss, or consider referring the patient to the Haematology clinic if appropriate.

(A) Patients with symptoms of thrombophilia

Please note: Testing for heritable thrombophilia is NOT indicated in UNSELECTED patients presenting with venous thrombosis[1].

It is recommended that thrombophilia screening should be undertaken in the following patients:

1. **Unprovoked** venous thromboembolism before the age of 40 years
2. Recurrent **unprovoked** thromboembolism
3. Thrombosis in unusual sites
4. **Unprovoked** venous thromboembolism in a patient whose first degree relative meets criteria 1-3
5. Women with unexplained late fetal loss or ≥3 spontaneous early miscarriages (it is important to exclude cardiolipin antibodies and lupus anticoagulant in these cases)
6. Unexplained skin necrosis, especially if taking vitamin K antagonists (e.g. Warfarin)
7. Children and neonates with purpura fulminans

(B) First degree relatives WITHOUT symptoms of thrombophilia

Testing asymptomatic first degree adult relatives (siblings, parents, offspring if ≥16 years) of patients with a history of venous thrombosis may be indicated in some circumstances. Identification of family members at risk for venous thrombosis may provide the opportunity for short-term targeted thrombophylaxis in periods of increased thrombotic risk (eg. surgery, trauma or immobilization).

Recommendations for testing unaffected family members[1]:

- The testing of asymptomatic relatives of patients with low risk thrombophilia (such as factor V Leiden or prothrombin gene variants) is **NOT** indicated.
- The testing of asymptomatic relatives of patients with high risk thrombophilia (deficiency of antithrombin, protein C or protein S) should only be considered in selected thrombosis-prone families. Please discuss with a Consultant Haematologist before taking samples.

The absence of a proven heritable risk factor reduces the utility of thrombophilia testing and wherever possible the affected family member(s) should be tested first. If this is not possible, a negative result in the asymptomatic relative should be interpreted with caution since it does not exclude an increased risk of venous thrombosis.

Samples for testing:

Please send 3 coagulation tubes (blue topped bottles) requesting a 'Thrombophilia Screen' to the haematology laboratory. We aim to provide a customised clinical / laboratory report for every thrombophilia screen, so full clinical details are essential. Samples with insufficient clinical details or those that do not meet guidelines for testing will be stored for one month, to allow time for the requestor to supply further information or discuss the request with a Consultant Haematologist.

If you have any questions about heritable risk factors for thrombophilia please contact Dr Jason Coppell (Consultant Haematologist on 01271 349198 or jcoppell@nhs.net), Dr Jackie Ruell (Consultant Haematologist on 01271 349198 or Jackie.Ruell@rdeft.nhs.uk) or Dr Sian Ellard (Consultant Molecular Geneticist on 01392-402910 or Sian.Ellard@rdeft.nhs.uk). Further information is available on the genetics website RD&E NHS FT - Molecular Genetics.

References

[1] Baglin et al. (2009) British Committee for Standards in Haematology Guidelines: Page 1-19 (http://www.b-s-h.org.uk/)

[2] Walker et al. (2001) British Journal of Haematology, 114:512-528

[3] Middledorp and van Hylckama Vlieg (2008) British Journal of Haematology, 143:321-335

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	Antithrombin Deficiency	Protein C Deficiency	Protein S Deficiency	Factor V Leiden variant	Prothrombin variant
Prevalence in general population	0.02%	0.2%	0.03-0.13%	3-7%	0.7-4%
Relative risk for 1st venous thrombosis	5-10	4-6.5	1-10	3-5	2-3
Relative risk for recurrent venous thrombosis	1.9-2.6	1.4-1.8	1.0-1.4	1.4	1.4
Relative risk for arterial thrombosis	No association	No consistent association	No consistent association	1.3	0.9
Relative risk for pregnancy complications	1.3-3.6	1.3-3.6	1.3-3.6	1.0-2.6	1.1-1.2

Table 1. Frequency of thrombophilia and relative risk estimates for various clinical manifestations.[3]