



Pathology Department
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NDHT Joins Peninsula Pathology Programme



Since the last issue, the Trust has joined the Peninsula Pathology (PP) programme. This is a fledgling collaboration between Torbay, Truro, Plymouth and now North Devon. There are many potential benefits of this integration. These include a capacity to keep up with ever more expensive and complex tests that cannot be carried out in individual Trusts, but for which there is probably sufficient demand in the region to develop a service and concentrate expertise. In North Devon we are seen as leaders in the way primary care and secondary care are working together in making sure that pathology services are focussed on facilitating high quality patient care. The PP collaboration is an exciting opportunity to build on

this work, and give added leverage for diagnostics to be the driver of change of many patient pathways - putting the patient at the centre of the process and always striving to provide a service that keeps this

"..clinical commissioning groups see pathology as the 'golden thread' that runs through healthcare.."

focus clear. In this light, the clinical commissioning groups see pathology as the 'golden thread' that runs through healthcare, and often a useful place to start when considering how best to design a service.

This has given us a chance to revisit the purpose of why a pathology service is important. We are still

working on articulating this, but below is our first thought on a mission statement. Any feedback from users would be much appreciated! Although sometimes this may seem like a meaningless management exercise, I think it is important in these times of considerable change that we have a clear scaffold on which to build any change.

Our mission : To provide a diagnostic service in a structure that supports safe patient care in a timely and cost-effective fashion. We aim to support the goal of enabling people to live as healthily and independently as possible, recognising the differing health needs of our local communities across Devon.

Dr Tom Lewis

Lead Clinician for Pathology

Pathology Clinical Advice Email Service

ndht.pathologynddh@nhs.net

We are more than happy to provide telephone advice to our medical colleagues, via contact numbers on the back page. If possible we try to take calls directly, but may not be able to do this, if we were in the middle of a busy outpatient clinic, ward round or meeting for example. In such cases, lab staff or a secretary will take a message.

Because we can receive a significant number of calls from primary care each day, we would be grateful if a direct return contact number could be provided to avoid the delays incurred by a u t o m a t e d G P switchboards.

For non-urgent enquiries we have introduced an NHS email advice service for all pathology disciplines which has received very positive feedback from those that have used it.

We would like to encourage greater use of this service in the future to improve ease of access to pathology clinical advice.

Dr Jason Coppell

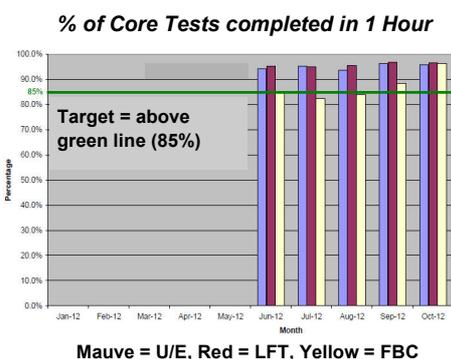
Improvement in Full Blood Count Result Turnaround Times

In June 2012 we undertook to regularly monitor the time it takes us to report Urea & Electrolytes, Liver Function Tests and Full Blood Count results to A/E, in line with a key performance indicator (KPI), from the Royal College of Pathologists.

The KPI target is that 85% of the core test results, listed above, should be available within 1 hour of receipt in the laboratory. Initial audit results showed that whilst 95%

of U/E and LFT results were reported within 1 hour of receipt, only 83% of FBC results were.

We looked at our processes and made some significant changes to the way the pathology computer was configured.



Monthly re-audits have shown a dramatic improvement to the turnaround time for FBC results, not only for A/E patients but for all locations. In October 2012, 96% of FBC results were reported within 1 hour to A/E, well within the KPI target.

Bruce Seymour,
Quality Manager

Blood bottles, labels & lids

(How to help you avoid leaking tubes and help us in the lab process blood specimens)

Wrong sized labels on blood tubes:-

Did you know that NDDH Pathology receives around 2000 bottles of blood *per day*? The vast majority of these are absolutely fine but as with all walks of life it's the troublesome minority that give us the most headaches.

One example of this is tubes received from NDHT locations which have been labelled with PAS style addressograph labels (printed on sheets in patient's notes).

Now these simply are not designed for use on blood samples as they are far too big so should not be

used for this purpose. In the lab they cause the following problems:

- Difficulty in attaching our own barcoded specimen numbers, as they end up covering some of the patient's ID.
- Badly printed labels often have parts of the patient ID missing.
- We cannot check sample integrity/fill level as the label obscures the sample.
- Samples become jammed in automated analyser racks.

Our specimen archiving system does not get on at

all well with them as they fool its tube recognition software.

So please, don't use these NDHT PAS labels on your samples!

(Note: labels received from GP practices are OK as they are specifically designed for blood tube use).

Leaking Blood Tubes:-

Another tube related issue is the lid becoming detached after blood has been put in from a syringe. This is a health and safety issue as well as requiring patients to be re bled if their samples have leaked.

Please use the Vacutainer system as it is designed

wherever possible to minimise this issue.

If you have to use a syringe then please use a transfer device for getting the blood from it into the bottle. These are a completely safe (but costly) device.



For more details on Transfer devices or other issues please call me on 01271 370232, NDDH ext. 3232.

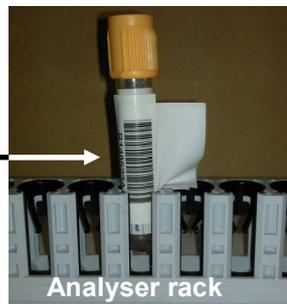
Tim Watts,
Operational Manager
Haematology & Biochemistry

How not to label specimen tubes:



Large PAS ID labels fixed around the tube will not fit into analyser racks and obscure the fill level of the blood.

Labels have to be removed along with part of the patient ID.



Analyser rack



Tube lid
Crinkled label
Lab barcode does not sit flat

This label, vertically attached, is sticking the lid to the tube, causing our automatic decapping machine to malfunction, possibly spilling the sample.

Crinkled labels mean our analyser barcodes are misread on analysers. This can cause a delay in reporting results for this patient and slows the general workflow in the lab.

These are mock ups of real samples we receive which cause significant operational difficulty and delay in reporting patient results. So please, don't use these NDHT PAS labels on your samples!

Bence-Jones Protein

In order to report an accurate Bence-Jones Protein result, it is necessary to have a sample that is sufficiently concentrated. If the sample is too dilute, it could result in a false negative result being reported. Historically the lab would run the sample and if albumin was not present – “? EMU” was reported. To reduce time & money spent on unsuitable samples being analysed, a

new protocol has been introduced. If the urine creatinine & total protein indicate a dilute sample a repeat will be requested. Please contact the lab if any clarification is required (01271 322345).

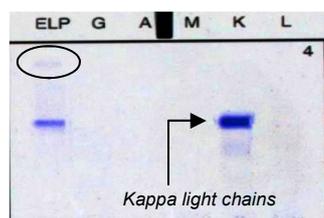


Fig: Shows a fixation of a suitably concentrated urine sample (albumin present at the top of the gel—circled). Positive for Kappa Light chains.

Update on Andrology: Specimens and Reference Ranges

Semen samples for infertility investigation:

Since changing over to the new WHO guidelines (2012), following feedback from users, we have improved on how we report the normal reference range and explain the definition of 'vitality' to be the percentage of live spermatozoa.

Post vasectomy samples:

WHO guidelines also recommend

reporting the presence of motile spermatozoa in post vasectomy samples, the need to reject those which arrive in non toxicity tested containers and also, specimens greater

Normal reference ranges for spermatozoa are:

(Key: ≥ Greater than or equal to)

Total motility (progressive and non progressive) ≥ 40%

Progressive motility: ≥ 32%

Volume ≥ 1.5mls

Concentration: ≥ 15x10⁶/ml

Total count: ≥ 39x10⁶/ml

Vitality (%live) ≥ 58%

than 4 hours old; we have been lenient up to now to allow for patients to use up the old kits but will enforce this rejection criteria from January 2013.

Cheryl Revell
Senior Biomedical Scientist

Blood collection specimen audit—Holsworthy's story

On 15th November, a small group of laboratory staff were let out for the morning and travelled to Holsworthy Medical Centre with the aim of looking at the blood collection process from the point where a patient is called for phlebotomy from the waiting area. We wanted to see if there was scope for streamlining and improving the process, which now incorporates the use of a new centrifuge.

Tom Lewis, Clinical lead

for Pathology who was part of the visiting team summarised the findings:-

"a) It was nice to be so welcomed and meet staff that took pride in their service, while remaining enthusiastic about continuous service improvement.

b) In general the processes look quite streamlined already, but we identified a few things that might (and I stress might!) improve the service.

c) Looking at the pathways in this way makes us think about all sorts of things that might be barriers to wider implementation if we haven't got answers up front - so thank you!"

Some of the actions to be completed are (i) the production of a clear, visual procedure that all practice staff can refer to when required and (ii) written guidance relating to the maintenance, use, troubleshooting and health and safety issues for the centrifuge.

We hope that this process of reviewing and streamlining the process could potentially be shared with other practices in the future.

Thanks to Jane and team at Holsworthy for having us.

Bruce Seymour

How Holsworthy's centrifuge is benefitting patients, the Practice and the Laboratory

As part of the visit to Holsworthy (see article above), I undertook to assess the impact of the recently acquired centrifuge.

Increased Phlebotomy Session Time

Before it was installed, the phlebotomy session ended at 11:30 each day, in time for the 11:40 courier pick up. After installation, phlebotomy sessions now end at 13:00, allowing more patients to be bled and taking pressure off of the phlebotomists.

Blood Collection is Possible Outside of Phlebotomy Sessions

Should a patient need to have a blood specimen taken after the blood clinic has ended, this is now possible, without noticeable deterioration in the quality of the sample.

No Repeat Visits to the Practice for Patients Requiring Blood Tests

Because blood specimens can be taken outside of

routine phlebotomy sessions patients benefit from not having to return the next day for phlebotomy. Some patients have to travel up to 12 miles to the practice, and having the centrifuge has now removed the need for a second journey. Patients have reported they are very pleased with this improved service.



Stabilised Pathology Specimens

Gold top specimens are centrifuged up until 11:00. From 11:00 to the courier pick up at 11:40, there is no need to spin them, as they are soon on their way to the lab. All gold top specimens

are centrifuged post courier pick up until 11:00 next day.

As a result, there is no problem with potassium or other unstable analytes deteriorating overnight. Blue and purple top tubes do not require centrifugation.

Quiet as a Mouse

The centrifuge is slightly larger than a sheet of A4 paper and about 15-20cm high. It takes 7 minutes to centrifuge up to 6 blood tubes and is extremely quiet when running.

Overall the staff and patients have been very pleased with the benefits and improvements having the centrifuge has made.

We hope that other local GP practices will see the benefits in having a centrifuge and will consider installing one in their own premises.

Bruce Seymour,
Pathology Quality Manager

Cover Photograph

The image under the 'Testing Times' title shows a histological preparation of skin, stained with Haematoxylin & Eosin (H/E). The section shows a malignant melanoma with abundant melanin deposits (brown colour).

The histological staging of a melanoma is the process of determining the size / depth of the melanoma and if / how far it has spread. Most melanomas are less than 1mm thick and this group are less likely to grow back or require further treatment.

The tumour-node-metastasis system (TNM System), is a widely used system for staging of skin cancer. The 'T' represents the thickness of the tumour in mm and whether it is ulcerated. The 'N' refers to whether or not the tumour has spread to the nearby lymph nodes. The 'M' signifies whether or not the cancer has metastasised (spread) to other parts of the body.

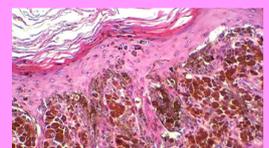
More information on melanoma can be obtained from the British Association of Dermatologists: website: www.bad.org.uk

Tea Break Teaser

True or False

1. People with a damaged immune system have an increased chance of getting a melanoma.
2. About 1 in 10 people with a melanoma have family members who have also had one.
3. There are three types of treatment of proven benefit for primary melanomas, antiviral drugs, surgery & radiotherapy.
4. Patients who have had a melanoma could find it difficult to obtain a passport.

Answers: page 6



Total Vitamin D (25-Hydroxyvitamin D)

Total Vitamin D (25-Hydroxyvitamin D) assay is now available within the Biochemistry Department at NDDH. The assay is performed on a weekly basis and is to be used as an aid in the assessment of vitamin D sufficiency.

Background Information

Vitamin D is a secosteroid that is made in the skin by exposure to sunlight. Vitamin D is biologically inert and must undergo two

successive hydroxylations in the liver (to form 25-hydroxyvitamin D) and kidney to become the biologically active 1,25-dihydroxyvitamin D.

The two most important forms are vitamin D₃ (cholecalciferol) and vitamin D₂ (ergocalciferol). In contrast to vitamin D₃, the human body cannot produce vitamin D₂ which is taken up with fortified food or given by supplements. Although synthesis by the

skin is the more important source of vitamin D, dietary intake of vitamin D₂ or vitamin D₃ may be critical when exposure to sunlight is lacking.

As 25-hydroxyvitamin D (25-OH-D) has a relatively long half-life (2 – 3 weeks) and is the most abundant form of vitamin D, it is this which is most often measured to assess vitamin D status.

Monitoring: replacement is a slow process due to the long half-life and at least 3

months should elapse before a repeat is requested.

For patients that are vitamin D replete, monitoring should be on an annual basis.

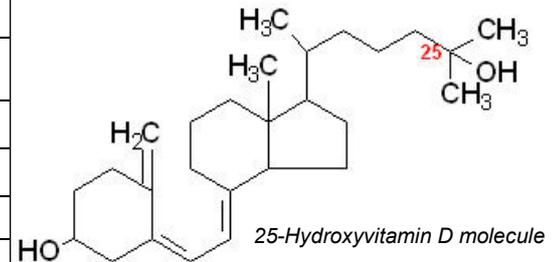
For any further advice please contact the Biochemistry department on 01271 322345.

Helen Melville,

Senior Biomedical Scientist

Patient Preparation	None
Sample Requirements	Serum, minimum 3.5ml, gold top tube.

Result	Interpretation
<10 nmol/L	Suggest vitamin D replacement.
10-35 nmol/L	Suggest vitamin D supplementation.
36-60 nmol/L	Adequate. For optimal bone health, concentrations at the upper end of the reference range may be preferable and advice regarding diet and safe sun exposure may be appropriate.
>60 nmol/L	Optimal



Infections Diseases in Pregnancy Screening

A recent audit of the IDPS specimens we have received (Syphilis, Hep B, HIV and Rubella) has shown that from a total of 990 specimens received, 20 (2%) were rejected due to labeling issues.

REASON FOR REJECTION	No.
STICKY LABEL ON TUBE	13
NO TESTS ON FORM	5
SPECIMEN UNLABELLED	1
SPECIMEN MIS-LABELLED	1

Please remember that these blood tubes MUST be hand written with patient's ID, in line with national guidance and accompanied with a completed "Infectious Diseases in Pregnancy Screening" form, available from Pathology Supplies—01271 322324.

The old, red Virology forms are no longer in use.

Units, units, units...singing in harmony?

By now you will doubtless be aware that we have changed our method of reporting HbA1c, or glycated haemoglobin which is used in the monitoring, control and latterly the diagnosis of diabetes.

You may wonder why we did this, apart from to cause confusion! Well, the International Federation for Clinical Chemistry (IFCC) mandated a standardised reference assay as long ago as 1994. Much research followed, until in 2001 various methods were deemed acceptable, including ours, with the upshot being the

new reporting method implemented recently. It took a while, but software changes and proper calibration material had to be invented first!

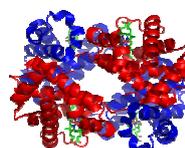
It won't end there...further moves are afoot to harmonise Pathology across the globe. A look at www.pathologyharmony.co.uk will tell you that the next change will be to the haemoglobin level, the

units of which will change from g/dL to g/L – meaning a 10-fold increase in the numerical value reported, so a Hb of 12.5 g/dL (as now) will be reported as 125 g/L. This will take effect sometime early in the new year alongside the rest of the SW Peninsula – as long as GP practice systems will accept the new units that is!

The same change will apply to the MCHC as well. These are nationally mandated changes, so we can't avoid them I'm afraid.

You have been warned!

Tim Watts, Operational Manager Haematology & Biochemistry



Adult Haemoglobin Molecule

CRPs in DMARD monitoring: *Are they necessary?*

As this subject had been repeatedly talked about during Pathology Road shows, I undertook an audit of CRP requesting in DMARD patients amongst the 23 GP practices.

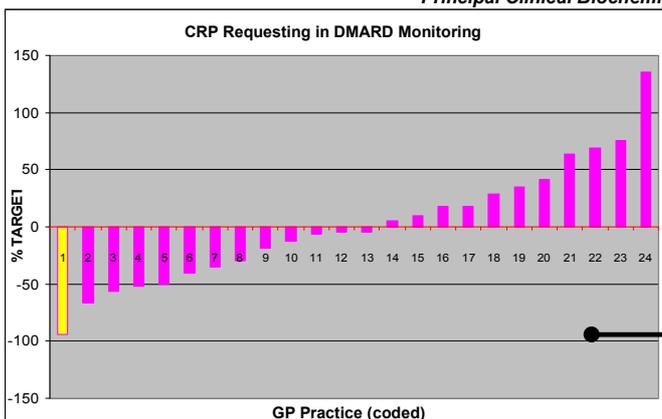
Given that the 'shared care guidelines' suggest a three monthly interval for CRP monitoring, in one year the maximum number of requests would be 4 (or less) per patient. I audited a 12 month period when the total CRP requesting burden amounted to just under 11,000 requests for those patients that had a clinical summary of DMARD or the drug specified. The total number of CRP requests from both primary and secondary care in North Devon is just over 74,000 per annum and I suspect the figure I was looking at was an under-representation of DMARDs as many requests are lacking clinical information.

The 11,000 were then assigned to one of the 23 practices and the number of patients represented per practice calculated – giving a range of 18 to 154 patients per practice, with a range of 0 to 28 requests per patient per annum.

A target number of (4 x the number of DMARD patients) was calculated and compared to the actual number of samples received. The results were a surprising variation ranging from -329 to +315 (-66% to 136%), a surprise considering that all are working from the same guidelines. It was equally worrying that the target was a generous estimate given that many patients had no CRPs requested during the year, suggesting that even those practices showing a negative bias may be over requesting.

I suggest that many unnecessary CRPs are being requested, simply because the patient is identified as a DMARD candidate. For example, in one practice a particular patient had 32 CRPs requested in one year (not all had been identified as DMARDs). I was expecting to see raised and highly irregular pattern of CRP results to necessitate such close scrutiny but analysis of the results revealed that only four of the 32 were above the reference range, and the highest of these was a paltry 14!

Andrew Lansdell,
Principal Clinical Biochemist



GP Order Comms Project

The Trust, in partnership with primary care has embarked on a Pathology primary care order communications project. It is envisaged that this technology will be a real enabler with respect to service improvement, patient experience and improved quality of care.

Dr Darunee Whiting (Northam) and Dr Oliver Hassell (Brannam) have kindly agreed to be a part of the selection team to champion the GP requirements in regards to product evaluation and selection. Other members of the evaluation team consist of GP commissioning and I.T along with Trust Pathology and I.T staff.

Additional contributors to the process are local GPs such as Paul Lovell, Tim Chesworth and Dave Lee.

Product demonstrations are well under way and it is expected that site visits will commence early in the New Year. We are hoping to pilot the chosen system at 3 GP sites (each using a different GP computer system) once the order comms application has been configured, this

could be as early as April/May 2013.

There are many positives in regards to linking care pathways to agreed testing protocols as well as being able to view all results whether they have been tested in primary or secondary care. It will be possible to choose to import secondary care results into primary care systems which should facilitate hitting QoF targets. It is an exciting development and the benefits should be wide ranging and well received. More news will be forthcoming via the GP forum and newsletters.

Neil Schofield
Head of Business Development



What is 'Order Comms?'

It is a way of ordering diagnostic tests electronically from a PC. Order comms links into GP, Pathology and Electronic Patient Record computer systems and can generate barcode labels to attach to specimens before they are dispatched to the lab.

Testing Times- Back Issues

All previous issues of the Testing Times newsletter are available from the Pathology Handbook web pages (see address/link below).



<http://www.northdevonhealth.nhs.uk/pathology/>

Troponin turnaround times for A/E patients

Andy Lansdell, Principal Clinical Biochemist has audited 456 requests for Troponin T from A/E patients over September and October 2012 and found that the average time from blood collection from the patient to the result being available was 1 hour 16 minutes.

This time includes portering the specimen from A/E to the lab, labelling the specimens and centrifugation (approx. 10 minutes) and time spent on the analyser (approx. 25 minutes).

Troponin 'add-on' requests (on specimens already re-

ceived in the lab) are re-sulted, on average, 57 minutes after the request has been received.

We regularly monitor turnaround times (TATs) for all tests. Contact Bruce Seymour on 01271 335758 with any specific requests for TAT analysis.

Pathology Department

Contact Details

Divisional General Manager – Clinical Support Services

Sharon Bates Tel: 3811 (311811)

Biochemistry Department

Dr John O'Connor, Consultant Clinical Biochemist Tel: 01392 402944
Andrew Lansdell, Principal Clinical Biochemist Tel: 2419 (322419)
Tim Watts, Operational Manager Biochemistry & } Tel: 3232 (370232)
Haematology Departments }
General Biochemistry Laboratory Enquiries Tel 2345 (322345)

Haematology & Blood Transfusion Department

Lead Consultant Haematologist, Dr. Jason Coppell Tel: 3198 (349198)
Sally Williams, Haematology Secretary Tel: 3198 (349198)
Melanie Bonnyer/Cathie Peters, Haematology CNS Tel: 3198 (349198)
Tim Watts, Operational Manager } Tel: 3232 (370232)
Haematology & Biochemistry Departments }
Maggi Webb, Blood Transfusion Manager Tel: 2327 (322327)
Kathleen Wedgeworth I.V. Fluids/Transfusion CNS Tel: 2440 (322440)
General Haematology Laboratory Enquiries Tel 3229 (322329)
General Transfusion Laboratory Enquiries Tel 2327 (322327)

Microbiology Department

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Dr David Richards, Consultant Microbiologist Tel: 2320 (322320)
Dr Tom Lewis, Consultant Microbiologist Tel: 2384 (322384)
Microbiology Secretary Tel: 3199 (349199)
Colin Parkin, Head Biomedical Scientist Tel: 3278 (370278)
General Microbiology Laboratory Enquiries Tel 2347 (322347)

Cellular Pathology Department

Dr Nicolas Ward, Consultant Histopathologist Tel: 3197 (349197)
Dr Jason Davies, Consultant Histopathologist Tel: 3197 (349197)
Dr Andrew Bull, Consultant Histopathologist Tel: 3197 (349197)
Dr Mary Alexander Consultant Histopathologist Tel: 3197 (349197)
Histopathology Secretary Tel: 3197 (349197)
Lee Luscombe, Head Biomedical Scientist Tel: 3754 (311754)
General Cell. Path. Laboratory Enquiries Tel 2340 (322340)
Mortuary Manager Tel: 3754 (311754)
Bereavement Support Office Tel: 2404 (322404)

Pathology Computer Manager

Julian Bishop Tel 2324 (322324)

Pathology Quality Manager

Bruce Seymour Tel 5758 (335758)

Point of Care Manager

David O'Neill Tel: 3114 (349114)

Pathology Specimen Reception Manager

Ruth Teague Tel: 2796 (322796)

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. } 08:30 to 17:00 Mon-Fri only
Point of Care Testing }
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) .

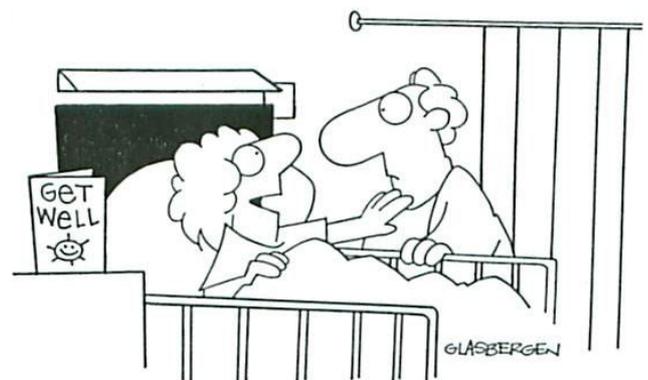
The on-call staff request that you do not directly phone the laboratory during on-call periods as they are frequently unable to take calls due to being in other parts of the laboratory, collecting specimens for example.

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.....



"There was a tunnel and a bright white light
and a souvenir shop! I brought back
T-shirts for the kids!"

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. 5758 (or 01271 335758), email

Answers: 1—True: E.g. as a result of an HIV infection or taking immunosuppressive drugs, perhaps after an organ transplant. 2—TRUE. Fair skin is inherited. dysplastic naevi can run in families, as can a tendency to have large numbers of ordinary moles. 3-FALSE: At present, the only proven treatment for primary melanoma is surgical. Other treatments including radiotherapy and various drugs have been tried, but with limited success only. 4-FALSE: However, it can be difficult to obtain life or health insurance, particularly for the first five years after a diagnosis. It can also be difficult to obtain a mortgage.