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

February 2015
Edition No. 12

CPA Accredited Laboratories 0606, 1103, 1104 and1105

Pathology Department
N. Devon District Hospital
Raleigh Park
Barnstaple
EX31 4JB

# Testing Times

Newsletter for Pathology Service Users

**Inside this issue:-**



## Pathology Clinical Advice Email Service

ndht.pathologynddh@nhs.net

For non-urgent clinical enquiries please use our NHS email Clinical Advice Service which covers all pathology disciplines.

Whilst we are more than happy to take phone calls from our medical colleagues we would like to encourage greater use of this service to improve ease of access to pathology clinical advice, should we be unavailable to speak with you directly at the time you call.

### Specimen Acceptance Policy

**Request Forms must be labelled with 3 key identifiers**

**Specimens must be labelled with 2 key patient identifiers, one of which must be the patient's full name, (transfusion specimens & antenatal serology specimens need 3)**

**Key Identifiers:**

**Full Name (not preferred names)**

**Date of birth and**

**NHS or NDDH hospital number, GUM 'alias' number.**

## GP Order Communications Project

The order communications project has been a very good example of joint team working with the Trust/GP's and CCG Diagnostics team. Since plans and business cases were approved some 18 months ago, it is now really coming together in the final implementation phase with over 70% of GP pathology requests coming in via order the Comms system.

Since the implementation commenced in May 2014. (Fremington being the 1st) there are now 15 practices live. The minimal order sets that have been jointly developed have been well received and the positive feedback on the system is very encouraging.

By March/April this year we expect the roll out to be complete and we are already beginning to see that by focussing on the quality and patient needs, costs are reducing. Order comms is a key tool in helping to deliver the Pathology Optimisation programme, so we look forward to building on the progress so far.

***Neil Schofield***
***Head of Commercial & Business Development***

## NDHT Pathology Services—Retain Accreditation

During May and June 2014 three of the four individual pathology disciplines were visited by an assessor from Clinical Pathology Accreditation Limited as part of the rolling 4 year assessment cycle.

The assessor spent a day each in Biochemistry, Cellular Pathology and Haematology/Blood Transfusion to assess the level of compliance with the 'Standards for the Medical Laboratory.'

As with all external assessments, there is a degree of interpretation of the standards involved, leading to a small number of documents requiring changing along with a few other minor improvements we had to make.

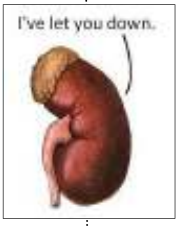
All of the required changes have been implemented and the labs have been confirmed as having maintained their CPA 'Accredited' status.

Accreditation is an assurance to you, the user of the Pathology Service, that it has been independently assessed to the required standard for quality of service.

The Microbiology Department had already been through this process in December 2013—so all NDHT labs are currently accredited.

## Coming Soon—Acute Kidney Injury Risk Flagging

Acute Kidney Injury (AKI) is a major clinical issue affecting patient outcomes and length of stay in hospital. Early detection and scoring of AKI risk has been recognised by the National Institute of Healthcare and Clinical Excellence (NIHCE) as a significant factor in improving care so has mandated laboratories to provide this routinely from March 2015.




We are pleased to say that after many hours testing algorithms we are on target to deliver this vital functionality. We have recently upgraded our laboratory computer system to facilitate this.

Once we have thoroughly re-tested the calculations we will be able to report AKI risk where appropriate as zero or levels 1 to 3 depending on severity.

# Dartington Crystal Comes to the Rescue

The blood film staining system in the pathology department at North Devon District Hospital has been in constant use over the last 30 years.

*Blood Film Staining Machine*

Sadly the tireless years of usage have meant the glass stain baths – specifically shaped to sit within the machine – have slowly deteriorated and in some cases have broken.

It looked like the machine would need to be put into retirement or replaced as the original supplier was not able to support this model and or provide replacement glass parts for it.

A new replacement machine could have cost up to £12,000 and would not have been able to produce results of such a high quality.

The Northern Devon Healthcare NHS Trust turned to Dartington Crystal in Torrington.

Never a company to turn down a challenge, Dartington was able to take one of the remaining staining bath vessels and reproduce a number of replica pieces in hand-made crystal.

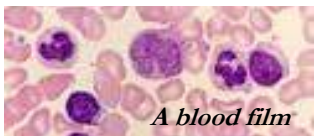
*New Staining Baths*

As a result the staining system should now give many years of continued service to the people of North Devon by providing top-quality blood films for the diagnosis of disorders such as anaemia, leukaemia and even malaria.

Tim Watts, blood sciences manager at NDDH, said: "It was a great relief to us to find a source for these specialist replacement parts.

"While this type of glassware is not what you associate the name of Dartington with, it is great that the solution could be found on our doorstep."

Dartington MD Neil Hughes said: "We already provide many local organisations with their business gifts and presentation needs but it was a special pleasure to help our local hospital in their hour of need."



*A blood film*

# Specimens are Precious

***please label them carefully***

How often, I wonder, do you have a patient who is critically ill or difficult to bleed because of collapsed veins, or is a new born baby who is very distressed?

Collecting enough of a specimen to send to the lab for testing from such patients can be very difficult and you would probably not want to have to go back to the patient to do it again.

You might have spent a lot of effort to collect that specimen or the urgency makes it very important that the specimens are accepted and processed by the lab.

**If specimens are difficult to collect, or very urgent, I urge you to take that bit of extra care when labelling them**, as without the

- Correct full name
- DoB
- Hospital (or NHS) No.

on the request form and

- Correct full name
- DoB **or** Hosp/NHS No.

on the specimen we have to reject them.

We do not want to reject specimens, and with a little extra care when labelling many of the rejected specimens we see could be avoided.

Many thanks.

***Bruce Seymour***

***Pathology Quality Manager***

# Microbiology Department News...

Over the past year, the out of hours service for processing specimens has changed. The Microbiology laboratory hours have remained the same and the lab still closes at 5.30pm but urine specimens and any fluids received after this time and before 9.30pm are processed by the on-call biomedical scientist along with a review of all blood cultures. This improves turnaround times for these specimens (95% of urine results are sent out the next day) and allows the processing of samples received out of hours. This helps to support the later opening hours of GP surgeries if transport of specimens were addressed.

***Dr Gail Speirs, Consultant Medical Microbiologist***

## Hello And Good Bye

After over 40 years service in Barnstaple Pathology Laboratory, we announce the recent retirement of **Colin Parkin**, Microbiology Laboratory Manager. Colin retired at the end of August 2014. Colin worked his way up through the grades from a trainee Biomedical Scientist. We will miss his professionalism, knowledge and friendship. Microbiology is now managed by **Cheryl Revell** who was working as a senior Biomedical Scientist and is now looking forward to leading the department into the future. Cheryl's contact details are on page 7.

*Happy Days—Colin, pictured right, in the lab when it was located in Boutport St., Barnstaple*

# Haemolysis in Blood Gas Specimens

It is well recognised that haemolysis in serum analysis can cause falsely elevated potassium results. This can be clearly seen as a pink or red colour in the normally straw coloured serum and the potassium result is discounted appropriately.

*Haemolysis in serum of a blood gas specimen could affect potassium results*

*Normal, straw-coloured serum in a blood gas specimen*

However in whole blood samples, such as those used for blood gas analysis, the colour observation cannot be monitored to indicate the degree of haemolysis.

Historically this was not particularly an issue for blood gas results as potassium was not routinely monitored in this way. In recent years, point of care testing has increased and critical care wards often use the quick results from a blood gas measurement to indicate the patient's electrolyte balance.

It was decided to monitor the degree of haemolysis on blood gas sample received in the laboratory to ascertain if unreliable potassium results were being reported.

Out of 25 samples scrutinised, 6 were haemolysed to different degrees (ranging from 1+ to 3+). It was observed that the haemolysis had little interference on the potassium results when compared to results obtained from standard gel blood tubes on the same patient from the same day up to a level of about 5.0mmol/L. However, a notable interference was seen when potassium results were on the higher side; >5.0 mmol/L. One patient who fell into this category had a blood gas potassium of 6.9 mmol/L compared to a gel tube result of 5.7mmol/L.

It would be sensible to summarise that any blood gas results with potassium levels above 5.0mmol/L are checked with a blood gel tube sample (yellow top) and analysed on the main laboratory analyser. If a patient has high platelet levels, this can also lead to pseudohyperkalaemia and a lithium heparin tube (green top) is recommended.

***Louise Messinger***
***Senior BMS, Biochemistry***

## Goodbye Andy!

Our Principal Clinical Biochemist, Andrew Lansdell has announced his retirement at the end of March 2015.

Andy will be known to many of you in Primary and Secondary care as somebody who can help with clinical advice of a biochemical nature and who gives many talks, lectures and presentations on various clinical conditions and their laboratory diagnosis. Andy started as a Biomedical Scientist and later moved into a clinically based role. His vast wealth of knowledge experience, patience and friendship will be sorely missed. Best wishes for your retirement!

## Testing Turnaround Times (TATs)

***A round up of some common test average TATs (Oct 2014)***

| **Biochemistry** | **TAT** |
|---|---|
| U&E | 2h 24m |
| LFT | 2hr 50m |
| Blood Gases | 0hr 17m |
| CRP | 3hr 15m |
| Troponin | 1hr 1m |
| Lactate | 0hr 37m |
| Amylase | 2hr 15m |
| TSH | 17hr 56m |
| CSF Gluc & Prot | 0hr 27m |
| **Haematology** | **TAT** |
| FBC | 0hr 34m |
| Coag Screen | 0hr 57m |
| D Dimers | 1 hr 28m |
| Plasma Viscosity | 2hr 3m |
| Glycated HbA1c | 1hr 20m |
| INR | 0hr 54m |
| Blood Film | 5hr 8m |
| **Microbiology** | **TAT** |
| Blood Culture | 73hr 28m |
| Faeces C&S | 50hr 36m |
| Urine C&S | 20hr 57m |
| Swab C&S | 58hr 49m |
| MRSA C&S | 42hr 54m |

| **Cellular Pathology** | **TAT** |
|---|---|
| Cervical Biopsy | 2-3 days |
| Gall Bladder | 3-4 days |
| Cytology-Non-Gynae | 2-3 days |
| Bowel resections | 5-6 days |
| Appendix | 3 days |

## Cover Photograph

The image next to the 'Testing Times' title shows calcium oxalate (CaOx) crystals from a urine sample.

These envelope shaped crystals are the most frequently observed crystals in urine, and 75% of renal stones have calcium oxalate as a component.

Despite being a constituent of many renal stones, CaOx in urine mostly occurs in normal individuals, however, where environmental and lifestyle factors play an important role it is becoming apparent that renal stone disease is often part of a larger 'metabolic picture' commonly associated with type 2 diabetes, obesity, dyslipidaemia, and hypertension.

Almost 40% of first-time stone formers will form a second stone within 3 years if no prophylactic measures are instituted to prevent stone recurrence, since removal or disintegration of the first stone does not cure the underlying cause of stones and may leave residual fragments in situ.

### Tea Break Teaser

**True of False**

1. Renal stones are uncommon – 5 to 10 in 10 000 people are affected by kidney stones at some point in their life?

2. Medical treatment for renal stones remains empirical?

3. Not taking vitamin C or calcium/vitamin D supplements could contribute to the formation of a renal stone?

4. The largest kidney stone ever recorded was removed in 2004 from a patient in India—it measured 13cm at it's widest point?

***Answers: page 4***

# Order Coms—Some Labelling Problems

*For GP practices using the Order Coms system*

We are pleased with how the order coms project is rolling out to practices, and although there have been and continue to be some changes to get used to and the usual teething problems associated with implementation of a new IT system, there have been many benefits realised by practice HCAs/phlebotomists and laboratory staff alike.

Here is a refresher on labelling order coms specimens which highlights some of the few problems we have identified with GP order coms specimens.

**Order Coms Labels**

**A reminder on how to label blood bottles:**
Align the label VERTICALLY and directly over the existing specimen label and with the patient's name to the right.
This means there will be an area of the tube through which the 'fill level' of the specimen can clearly be seen. One label per tube.

*Perfect!*

***Please Do Not:***

X Place the form label on the sample:
X Place the label over the cap;
X Wrinkle the label;

*Incorrect*

X Place multiple labels on a tube:
X Wrap the label around the tube;

*Incorrect*

*Label too low down the tube —not all the barcode is visible*

X Place the label too low – the analysers cannot read the barcode.

**Important Reminders:**

- If you have more than one clotted (gold topped) sample for a patient and you are spinning the samples – please spin them both not just one.
- Urine and blood requests should never be on the same number.
- When spinning samples – the base of the tube should be placed into the centrifuge holder, not the lid end, otherwise the serum will be inaccessible when spun.

*Tube spun upside-down!*
*When the lid was opened, we couldn't sample the serum*

Thank you,
***Helen Melville and Emma Brooker***
***Dept. of Biochemistry***

# What is Pathology?

## *Back to (very) basics*

## The Science Behind the Cure

Pathology is the study of disease. Pathologists and scientists work with doctors and nurses in hospitals and GPs' surgeries to diagnose, treat and prevent illness.

**The importance of pathology**
Millions of pathology tests are carried out every year – over 14 tests for every man, woman and child in the country. Many major advances have been made by pathologists, for example in the treatment of cancer, ensuring safe blood transfusions, developing vaccines against infectious diseases and the treatment of inherited conditions.

**Did you know?**
Pathology is involved in 70% of all diagnoses made in the NHS. **Want to know more?** Discover more about pathology by visiting http://www.ilovepathology.org/ (provided by the Royal College of Pathologists).

# A Different Way of Requesting Pathology Tests

## *for GP practices using the Order Comms System*

**The recent implementation and roll out of the Order Comms project to GP practices has provided an opportunity to begin to look at different ways of requesting pathology investigations. In this article, Dr Darunee Whiting, GP at Northam Surgery, introduces the new approach.**

As part of the introduction of GP pathology order comms, we have set up a multidisciplinary group of GP's, Consultants and specialist scientists to look at common GP order sets for pathology. Our hope is that these will be useful to you!

We are looking to extend this work to support evidence based testing. Requesting by category, symptom or set will enable us, in the future, to report results back in a more specific way, supporting you to help patients make informed decisions on further actions or management.

### GP QOF Order Sets

Primary care chronic disease annual monitoring blood tests make up around 60% of all blood tests requested by primary care.

**The aims of QOF blood order sets are:**
Multidisciplinary, peer reviewed, rational testing for chronic diseases

- Supporting consistent testing for patients across GP surgeries
- Supporting appropriate requesting for all patients whilst also minimising the harm of over testing (which can lead to harmful over investigation and anxiety
- Regular review- Annual review of all QOF order sets in January prior to the new QOF year.

**QOF order sets are split into New diagnosis and Annual review- as the purpose of testing is different**:

- New Diagnosis- bloods are to look for underlying causes/ associated diseases/ secondary prevention and baseline measurements
- Annual Review- Monitor disease progression/ secondary prevention and side effects of treatment

## Pathology (QOF) Order Sets—Frequently Asked Questions

**1. Why is a FBC included in New diagnosis sets, DM and CKD annual review- but excluded in most other annual review sets**?

- FBC is included in new diagnosis sets to look for underlying causes, that may exacerbate chronic diseases or that may be associated
- FBC is included in CKD annual review- for anaemia associated with CKD stage 4 and 5
- FBC is included in DM Annual review to look for a change in Hb that may affect the HBA1c result

***"There is no evidence that it is cost effective to check TFT annually"***

**2. Why are LFT's not included in annual review sets?**

- The incidental pick up of abnormalities, that may be normal for a particular patient, can lead to harm, anxiety and further unnecessary investigations for the patient
- b) Blood tests for drug monitoring should be set up at initiation of the drug

I.e. Statins: Baseline LFT and Chol (included in new diagnosis order sets)

Then arrange for 3m LFT and HDL-Chol and 12m LFT

There is no need to check these tests annually for statins.

**3. Why are TFT's not included in the annual review set for DM?**

- Diabetic patients have an increased chance of developing thyroid disease. There is evidence to suggest testing for thyroid disease at 'New Diagnosis', and TFT are included in DM New Diagnosis order set. There is no evidence that it is cost effective to check TFT annually.
- Check TFT in a diabetic patient if they are symptomatic i.e. lethargic

We would suggest that you ask the patient when you see them for review.

**4. Why are all patients not screened for diabetes annually?**

- There is no evidence that it is cost effective to screen for diabetes in all patients. There is evidence for using the 'diabetes risk calculator' to determine who should be screened for diabetes.
- Cardiovascular disease is a risk factor for diabetes- and annual sets for this group of diseases include an HBA1
- Hypertension alone is not sufficient to screen for diabetes.
- There is evidence for screening patients with obesity.
- Please use the annual review obesity set- for all patients on the obesity register- requesting this set will send a request for Chol and HBA1C

*Continues overleaf…..*

## *Continued:* Pathology (QOF) Order Sets—Frequently Asked Questions

**5. Our own practice protocols for QOF testing are different to the QOF order sets**

- These sets are the minimum order sets, to be done prior to when the patient is seen for annual review
- QOF requirements will be met
- Any additional pre-review testing is essentially screening- and risks the general population of patients to the harm and anxiety of over investigation
- Over testing leads to harm and increased workload for primary care
- We would recommend that any additional test requesting above the order sets is driven by individual patient clinical need and driven by presenting symptoms- when the patient is seen for annual review
- Blood tubes are stored by the lab for one week after receipt. Add on blood tests can be requested, by a clinician or admin staff, by emailing or phoning the lab, quoting the lab number (subject to sufficient blood sample being available)

***"Over testing leads to harm and increased workload for primary care"***

**6. My patient needs additional annual blood tests for other reasons outside of QOF**

I.e.: Myelodysplasia and FBC

Each practice should have an internal process to arrange for these additional tests.

For example a recall system or documentation of bloods required on the GP system home screen, for HCA's to request in addition to QOF order sets.

## In the Future…

**The multidisciplinary team includes:-**

Dr Tom Lewis - Consultant Microbiologist - NDHT Dr Stuart Kyle - Consultant Rheumatologist - NDHT Dr Roope Manhas - Consultant Rheumatologist/Physician - NDHT Dr Alistair Watts – Consultant Physician Diabetes - NDHT Andrew Lansdell - Principal Clinical Scientist - NDHT Paul Kerr - Consultant Haematologist - RDE John O'Connor - Consultant Biochemist – RDE

Dr Darunee Whiting – GP Dr Oliver Hassall – GP Dr Simon Jones – GP Dr Austen Connor – GP

The next meeting will be in April 2015—please email daruneewhiting@nhs.net with any suggestions.

# Pathology Stars……..

**STARS**

"A massive luminous plasma sphere-
By gravity made to cohere".
Thus Wikipedia dubs a star
(the sort that twinkle from afar).

But other stars are nearer found—
The NHS with them abounds
And none so bright as those you'll see
At work down in Pathology.

Each day (and night) this expert crew
Test blood and wee and lumps and poo
C&S, FBC, biopsy and LFTs
We probe the causes of disease.

We tell you if your theatre's clean
Or if there's cancer in the spleen.
We look at things that can't be seen
At cells and molecules and genes.

We'll diagnose a heart attack,
Keep diabetics on the track
And, when the blood group we've perused,
We'll send you blood to be transfused

We'll grow and name your patient's bugs
And recommend the proper drugs.
Suspect a tumour? - that's routine.
We're the stars who stage and screen!

So when you next send tube or pot
Just pause and spare a passing thought
For Path Lab stars who, out of view,
Are shining brilliantly for you.

***By M. Hallworth,***
***Consultant Clinical Scientist,***
***Royal Shrewsbury Hospital***

*NDHT Pathology—has more heart than a results only service.*

# Pathology Department
## *Contact Details*

***Divisional General Manager – Clinical Support Services***

| | |
|---|---|
| *Jill Canning* | *Tel: 3811 (311811)* |

***Lead Clinician for Pathology***

| | |
|---|---|
| *Dr Tom Lewis* | *Tel: 5997 (335997)* |

***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 & Haematology Departments* | *Tel: 3232 (370232)* |
| *General Biochemistry Laboratory Enquiries* | *Tel 2345 (322345)* |

***Haematology & Blood Transfusion Department***

| | |
|---|---|
| *Lead Consultant Haematologist, Dr. Malcolm Hamilton* | *Tel: 3198 (349198)* |
| *Leanne Ryan, Haematology Secretary* | *Tel: 3198 (349198)* |
| *Melanie Bowyer/ Cathie Peters, Haematology CNS* | *Tel: 3198 (349198)* |
| *Tim Watts, Operational Manager Haematology & Biochemistry Departments* | *Tel: 3232 (370232)* |
| *Maggi Webb, Blood Transfusion Manager* | *Tel: 2327 (322327)* |
| *Kathleen Wedgeworth I.V. Fluids/ Transfusion CNS* | *Tel: 2440 (322440)* |
| *Dawn Gray Transfusion Practitioner (Eastern Region)* | *Tel: 0789 6044386* |
| *General Haematology Laboratory Enquiries* | *Tel 2329 (322329)* |
| *General Transfusion Laboratory Enquiries* | *Tel 2327 (322327)* |

***Microbiology Department***

| | |
|---|---|
| *Dr Gail Speirs, Consultant Microbiologist* | *Tel: 2798 (322798)* |
| *Dr David Richards, Consultant Microbiologist* | *Tel: 2320 (322320)* |
| *Dr Tom Lewis, Consultant Microbiologist* | *Tel: 5997 (335997)* |
| *Microbiology Secretary* | *Tel: 3199 (349199)* |
| *Cheryl Revell, 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***

| | |
|---|---|
| *Rob Stradling* | *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.***

# 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.

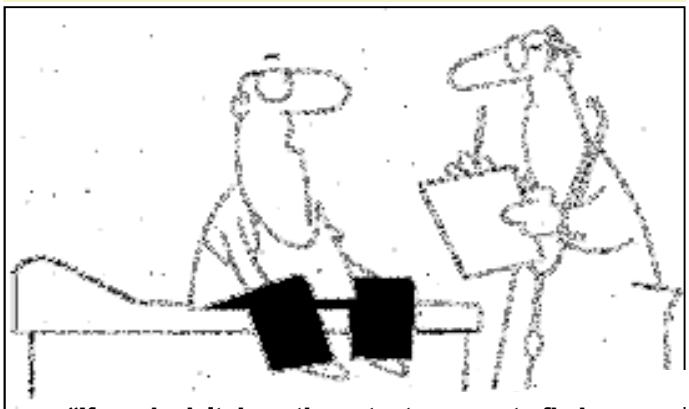
However, on-call staff can be contacted as follows:

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

**Microbiology:**

Through Switchboard only.

## *And finally……*



**"If you hadn't done those tests on me to find out what's wrong with me, *I'd still be healthy!*"**

**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 bruce.seymour@nhs.net with any comments or requests.**

***Answers: 1—FALSE:*** *5 to 10 in 100 people are affected by kidney stones at some point in their life.* ***2– TRUE:*** *To the disappointment and frustration of most doctors.* ***3-FALSE:*** *Taking too many vitamin C or calcium/ vitamin D supplements, or antacids could help cause the development a renal stone.* ***4-TRUE:*** *Vilas Ghuge (India) had a kidney stone removed from his left kidney on 18 February 2004 by Dr. Hemendra Shah at R. G. Stone Urological Research - Source, http://www.guinnessworldrecords.com*