Bristol Study Centre NEWSLETTER

www.dutystudy.org.uk

Issue 5 November 2010

Welcome to new recruiters!

- Shirehampton Group Practice
- Sea Mills Surgery
- Helios Medical Centre,
- Hathaway Surgery
- Patford House Surgery
- Tawstock Medical Centre
- Millbrook Surgery
- Oaklands Surgery

How are we doing?

At the end of October, 435 patients had been recruited in the Bristol centre. Due to your amazing efforts, we're ahead of target - let's stay ahead of the curve!

With 402 urines, we're achieving a 93% successful sample return rate.

Thank you!

Going into winter with a bang!

Recruitment in our centre has been hotting up, and we're delighted to say that, along with the Cardiff, Southampton and London centres, DUTY has now recruited over 700 patients in total - over 10% of our overall target. As a flagship NIHR study, successful accrual to DUTY is going to pay out real benefits for research funding, not just in service support costs for recruiting sites but in helping to secure future funding for healthcare research in participating PCTs. This month's issue includes a special article about what happens to DUTY samples at the Cardiff research laboratory.

Introducing Liz Thomas, DUTY Nurse, Bristol

Members of the wider study team tell us about their experience of DUTY - and other things!

Q.: What role do you play in the study? I am a children's Research Nurse working with Lisa Calver from the Bristol Duty office. As Option 1 nurses we work within GP practices (for two month periods) recruiting, and we are beginning to develop the role to include supporting Option 2 GP practices as they begin recruitment.

Q: How will DUTY help you in the future? I hope that my role will help me to gain experience and in-depth knowledge of research and how the different research networks interlink and work together.

Q: What do you think are the main challenges for this study? My own personal challenge is to find my way around Bristol. New to the area I would not be without my map and Sat Nav. Even with my trusty Sat Nav I am known to have taken several detours under the Suspension Bridge (although it is improving)!

Q: What is your top tip for successful recruitment? As an Option 1 nurse enlisting the help of all the staff at each practice (without interfering with their workloads), I do rely on their knowledge and support as invaluable and essential for successful recruitment.

Q: What do you do when not at work? Not as much as I should! I love walking and sailing and travelling. Last year I went as a medic to the rain forests of Honduras (sleeping in hammocks, rapidly learning Spanish and avoiding snakes and scorpions). Apart from family life and exploring Bristol I need to join a gym.

Recruiting sites update:

DUTY is now recruiting in around 20 Option 2 practices in Bristol as well as 5 Option 1 practices. We are delighted to have a group of practices in Blackpool, North Lancashire and Cumbria coming on board in the next month or so. In Bristol, Research Nurses, Lisa Calver and Liz Thomas, are able to support 4 Option 1 practices (in Bristol) at any one time, and we are rolling this out on a two-monthly cycle. Option 2 recruitment has no time constraints other than normal site operations.

Option 2 is reimbursed at £100 per patient, and Option 1 at £60 per patient.

Just Recruit One
(child per week)

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Urine results

As soon as all laboratories are online with the data-base, hopefully by next month, we will no longer need you to chase up NHS reports. We'll get in touch to let you know. In the meantime, please continue to fax results to 0117 331 3838. And if you have a positive result, please fax us Part 2 of the CRF (registration details) as well. **THANK YOU!**

NHS numbers

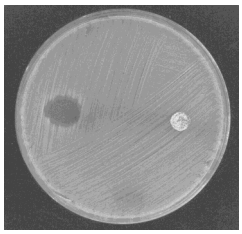
Please enter the child's NHS number onto the eCRF. If you haven't got this, please try to get it! It will help us not to miss key patients at the review of medical notes at three months, a key part of the patient follow-up for DUTY.

Research Lab Special

Mandy Wootton, Operational Manager/Lead Biomedical Scientist (Bacteriology) at the Cardiff lab explains what happens to the DUTY research samples that you send off in the Royal Mail safeboxes.

Here in the Central Lab (Specialist Antimicrobial Chemotherapy Unit of the Public Health Wales Laboratory at University Hospital Wales, Cardiff) we perform microscopy to look for red blood cells, white blood cells, epithelial cells (cells that line the bladder), casts (cylindrical protein structures which are formed in the renal tubules of the kidney and are present in the urine in certain disease states) and bacteria. Presence of any of these over a certain level possibly indicates the presence of infection.

For this study the patients are required to NOT have taken antibiotics ("antimicrobials") and so to confirm this we perform an "antimicrobial substance assay". This involves dropping a small amount of the urine on an agar plate covered in a bacterium susceptible to all antimicrobials. If the urine kills the bacterium then it is noted that there is an antimicrobial substance in the urine.

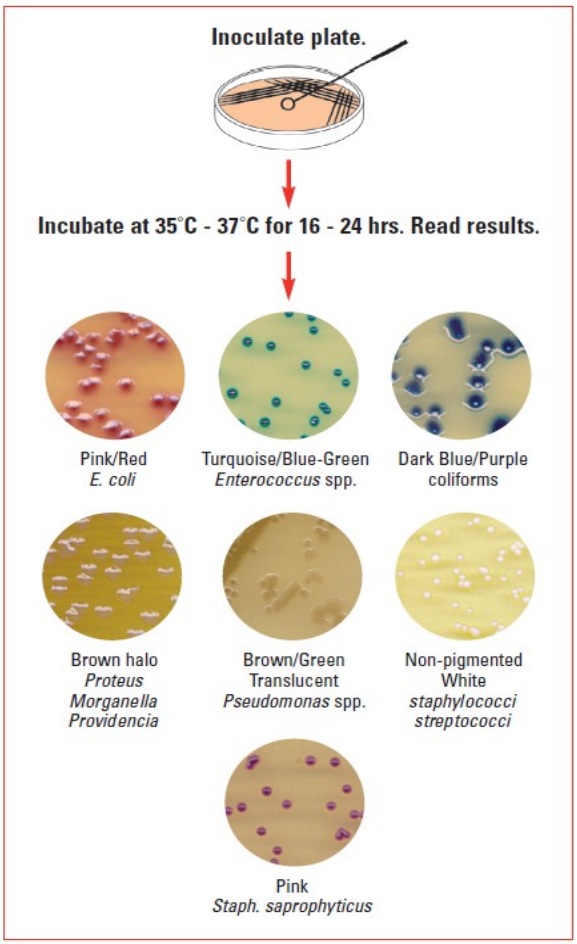


The picture on the right shows an antimicrobial substance assay. The blank patch on the left of the plate is what we see if the result is positive, i.e. this patient HAS in fact been taking antibiotics. This can happen sometimes because parents may not always realise that a medicine that they have given their child is actually an antibiotic.

We then culture the urine using a "spiral plater" (left). This machine draws up a small amount of urine then dispenses it in a spiral fashion on the surface of a special agar plate. The plates are incubated at 37°C overnight and the following day reveal growth of any bacteria present in the urine. The special agar contains ingredients that allow us to identify the type of bacteria present, according to the colour of the bacterial colonies. This method also allows us to calculate accurately the number of bacterial colonies present per mL of urine because the spiral plater dispenses a specific amount of urine onto each agar plate.

If the bacteria are present in significant numbers (greater than or equal to 10,000 colonies per mL of urine) and the microscopy result suggests infection then it is possible that the patient has a UTI.

The illustration on the right shows the different types of bacteria found in urine which can cause UTI. In DUTY so far, the most common bacteria isolated by the Cardiff Research Lab have been *coagulase negative staphylococci* (CNS). CNS are different from other staphylococcal bacteria (such as the methicillin resistant *Staphylococcus aureus*, otherwise known as MRSA) as they do not produce the enzyme coagulase. CNS are normal inhabitants of the human skin and mucous membranes and were, in the past, considered to be urinary contaminants. However it is now recognised that they can cause UTI. *E. coli* is currently the second most common bacterial species isolated by the Cardiff Research Lab in culture positive urine specimens, which is not surprising as it is recognised to be the most common organism involved in UTI. ***With thanks to Mandy Wootton and Kathy Tonks for their help with this article.***



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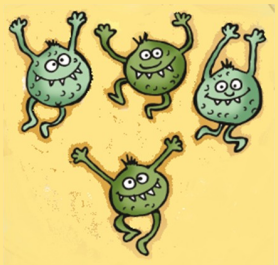

DUTY database: love it or hate it, it's all in the name of progress!

Many of you have encountered frustrations with Citrix and the DUTY study database, which has been teething on a grand scale but is now settling into a harmonious routine. **We're really sorry about any inconvenience** and ask you kindly to bear with us and continue to feed back any problems so that we can advise you how best to proceed. Whatever lessons we learn from using the on-line database in DUTY will be published and shared with other researchers in order to benefit future multi-centre studies. We do appreciate your patience!

Why is it so important to get a urine sample in DUTY?

- If we don't get a urine sample for a child, the precious time spent on recruitment by practitioners and by parents has negligible value for developing the decision rule that is the primary goal of this study. (NB if you don't get a urine please don't reverse recruitment – the child is still enrolled into the study.)
- Missing urine samples could threaten the validity of the study results.
- The NHS investment in the DUTY study works out at over £600 per urine sample.

FASCINATING FACTS: The medicinal properties of urine

Many ancient cultures used urine as a therapy, from Rome, to India, China and the Aztec peoples of South America. Some proponents of modern AUT (or Auto Urine Therapy) cite from the book of Proverbs: "Drink water from your own cistern, flowing water from your own well." Early morning mid-stream urine is believed by practitioners of the yogic religion to enhance meditative mind-states, and it is said to have a wonderful healing and toning effect when applied to the skin. The practice of brushing one's teeth with urine to enhance their brightness was immortalized in a poem by Catullus. Obvious experimental difficulties (particularly in constructing a double-blind clinical trial) mean that the benefits of AUT have not been tested to any reliable evidence-based standard. In other words, don't try this at home!

QUICK QUIZ

Improve your knowledge of microbiology (!) by doing our quick quiz. Send your answers to harriet.downing@bristrol.ac.uk to win a prize.

1. In one day, bacteria can multiply to the size of:
(A) a sugar cube; (B) a tennis ball; (C) a grain of rice

2. If bacterial growth were allowed to continue unchecked for one week, the resulting size of this ball of microbes would be equivalent to the size of:
(A) the Earth; (B) a football; (C) a cricket ball

3. Relative to a garden snail, bacteria can move:
(A) The same speed; (B) Three times faster; (C) Three hundred times slower

The winning entry for last month's 'What's this?' was Dr Sarah Jahfar at the Wellspring Surgery, who did not quite get it right but wins a box of chocolates for the Wellspring for effort! It isn't the golden unicorn on the roof of Bristol City Council House but the Willow Man sculpture by Serena de la Hey on the M5 – upside down. Apologies if this question was somewhat obscure, but chocolate is chocolate at the end of the day.

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