



# Southampton Study Centre NEWSLETTER

[www.dutystudy.org.uk](http://www.dutystudy.org.uk)

June 2011

## WELCOME NEW RECRUITERS!

- ★ Burnham Health Centre, Slough
- ★ Sandown Health Centre, Isle of Wight
- ★ Chessel Practice, Southampton
- ★ The Redhouse Surgery, Bletchley

Congratulations to Dr Fagan at Redhouse for being our star recruiter in May. A small token of our appreciation is on its way!



## JUNE IS BUSTIN' OUT ALL OVER!

A big hello to all the cool dudes who are working on the DUTY study. Like us, no doubt, you would all rather be relaxing in the garden than slaving over a hot sterilin!

The unseasonably warm weather we've been having has meant that eligible children have been hard to find and our recruitment rate has taken a bit of a tumble since Easter so please keep your eyes peeled for children who are feeling under the weather. Although feverish colds are now few and far between, remember that it doesn't matter what the child presents with—so long as there is one or more "constitutional" symptom they can be entered into the study!

The good news is that our urine retrieval rate is **second to none** which is fantastic news for the integrity of the study and we are very grateful to all of you for going that extra mile to ensure that we have a complete dataset for each participant.



## Goodbye and Good Luck!

Sadly, we are having to say goodbye to Teresa Bowes, one of our wonderful Option 1 nurses who has been doing sterling work at the Bitterne Walk-In Centre in Southampton. Teresa has been asked to provide clinical leadership in the field of unscheduled paediatric care for the newly formed Solent Healthcare and we are sure that she will be just as successful in her new role. All best wishes, Teresa!



## How are we doing?

**278**

children have now been recruited in our region

Urine results have been obtained for

**95%**

of these recruits.

The study as a whole is well on target with over **2,900** recruits.

The recruitment phase of DUTY has a further 10 months to run—only one more winter season to go!

## Some early feedback on our findings...

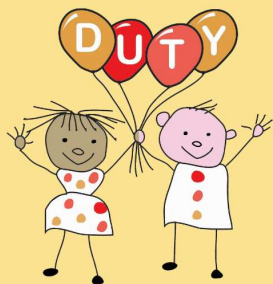
We have started to look at some of the DUTY data as part of our standard data quality and monitoring checks, and are seeing some interesting initial trends emerging. We have found, so far, a much higher incidence of urine culture positivity (i.e. samples leading to a culture of  $>10^5$  cfu/ml of a recognized uropathogen) than the 2-4% we expected, across NHS labs and equally in the Cardiff research laboratory.

We have also found a high rate of mixed growth / contaminated samples, and we're starting to see indications that—as would be expected—nappy pads could be more likely to give contaminated samples. We want to liaise with our recruiters to identify ways in which we can try to minimize contamination, and will share the best ideas in a future newsletter or e-mail update. For starters, we recommend that nappy pads should be left in ideally for half an hour, but for no longer than one hour maximum. If you send parents home with urine collection kit (if the child has not been able to provide a sample during the recruitment interview) please make sure they are aware of this.



Please let us know if you need any more equipment!





## 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.

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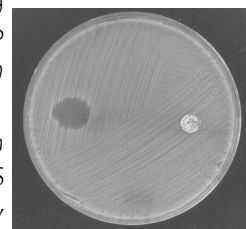
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For this study the patients are required to NOT have taken antibiotics (“antimicrobials”) and so to confirm this we perform an “antimicrobial substance assay”. This involves dropping a small amount of the urine on an agar plate covered in a bacterium 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.

