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MICROBIOLOGY UPDATE

Urine Dipstrips

This is a reminder that Microbiology no longer routinely performs dipstrips on urines submitted for microscopy and culture. If biochemical testing of urine is required please note the following points:

- For detection of proteinuria an albumin/creatinine ratio (on a first void urine if possible) is preferred. This is more accurate than the dipstrip, less susceptible to interference and allows quantification.
- For qualitative detection of haemoglobinuria or myoglobinuria a dipstrip is preferred.
- Glycosuria is detected by dipstrip. However, for diabetes screening an EDTA blood for HBA1C is preferred.
- To determine urinary pH in patients with urinary calculi a specimen should be sent to Clinical Biochemistry.

If a urine dipstrip is required please clearly indicate it on the form and provide appropriate clinical details.

Chlamydia/Chlamydophila serology

Canterbury Health Labs is no longer offering *Chlamydia/Chlamydophila* serology as *C. psittaci* and *C. pneumoniae* infections are of low prevalence in the NZ population and species cross reactivity and non-standardised cut-off titres have contributed to suboptimal test performance. Therefore, we have also ceased offering this test.

Group A Streptococcal antibodies (ASO and anti-DNase)

These tests are used to assist with the diagnosis of non-suppurative post-streptococcal illnesses including acute rheumatic fever (ARF), post-streptococcal glomerulonephritis (PSGN), post-streptococcal arthritis, and paediatric auto-immune neuropsychiatric disorders. Most non-suppurative post-streptococcal illnesses occur in children although PSGN, in particular, is reported in adults.

A recent review of requests found that the mean age of patients tested was 30 years. Where clinical details were provided, only 34% had an appropriate indication for testing. Of note, no clinical details were provided in 43% of requests.

Streptococcal serology should not be used to diagnose suppurative streptococcal infection, including pharyngitis. If required, please send a bacterial swab or aspirate of pus for culture.

Changes to antibiotic susceptibility testing

As from the 1st of July 2015, the microbiology laboratories in Dunedin, Invercargill and Oamaru have changed their method of antimicrobial susceptibility testing. They have adopted the test protocols and interpretative guidelines as published by the European Committee on Antimicrobial Susceptibility Testing (EUCAST). The EUCAST testing protocols are now in common use in many countries in Europe, and increasingly in other countries, including Australia and New Zealand.

The effect on laboratory users will be minimal. In general, susceptibility breakpoints are set at a "lower" MIC level, to reflect actual PK/PD parameters of various antibiotic/bacteria combinations. The major changes seen by clinicians will be in the urine susceptibility testing

- 1) Cephalexin will be reported instead of cefaclor. Oral cephalosporins (eg cephalexin, cefaclor, and cefuroxime axetil) are only reported as "susceptible" for uncomplicated lower urinary tract infections. EUCAST standards use cephalexin as their urinary antibiotic. Cephalexin is now the cephalosporin tested and reported for urinary pathogens. As cephalexin is a first generation cephalosporin and cefaclor is second generation, a bacterium that is cephalexin susceptible will be susceptible to cefaclor. However if a bacterium is cephalexin resistant it may be resistant or susceptible to cefaclor.
- 2) Nitrofurantoin will no longer be reported in the first line antibiotic susceptibilities. Against the more common pathogens Nitrofurantoin susceptibility is highly predictable. E.coli and Staphylococcus saprophyticus have susceptibility rates to nitrofurantoin around 99%, whilst Proteus mirabilis is always nitrofurantoin resistant. Nitrofurantoin will still be tested on request and on multi-resistant organisms.

Chlamydia and Neisseria gonorrhoeae testing

In September we will be changing the platform used to test Chlamydia and Neisseria gonorrhoeae. The new platform is the Panther provided by Hologic. The test is still a Nucleic Acid Amplification Test (NAAT) but has the advantage of newer technology with enhancements, one of the main ones being the ability to confirm N.gonorrhoeae in Dunedin with a test that is more sensitive than the current supplementary method. Replacement collection kits (swabs) will be delivered to you prior to change over. With this in mind please ensure that you don't over stock with the current swabs. Our stores department will be restricting the number of kits supplied in the lead up to the switch. More information will be provided over the next few weeks

Molecular testing for Hepatitis C virus (HCV)

HCV viral loads are useful for confirming active infection in patients who are seropositive. After confirmation of infection, the viral load should only be repeated if the patient is being monitored during treatment. There is no role for monitoring the viral load in infected patients outside of this setting and requests will be declined.

IL28B genotyping is only required for treatment decisions in patients with a genotype 1 or 4 infection. As such, ordering will now be restricted to specialists who treat hepatitis C infection.

If you wish to discuss any of the Microbiology items further please contact either:
Dr James Ussher (Clinical Microbiologist, Ph (03)4702924, email: james.ussher@sclabs.co.nz) or
Dr Antje van der Linden (Clinical Microbiologist), Ph (03)4702920, email: antje.vanderLinden@sclabs.co.nz).

HARMONY PRENATAL TESTING

Harmony™ Non-Invasive Prenatal Testing is now available through SCL and MLS sites.

Harmony is a unique blood test for pregnant woman of any age or risk category which provides a high degree of accuracy when testing for trisomy 13, 18 and 21. Patients can also opt to evaluate X and Y sex chromosomes. Harmony testing is available from 10 weeks gestation and has a turnaround time of 7-10 days. The cost to the patient is \$1,000

For further information go to <http://www.sclabs.co.nz/index.php/clinicians/harmony>

On the website you will find patient and clinician resources including videos, methodology, information on clinical studies and the Harmony Request Form.

To initiate the test – complete the SCL Harmony Request Form with your patient and arrange an appointment with one of our collection centres (refer to preferred list). We will complete the blood draw and forward the test to Ariosa Diagnostics for analysis and report the outcome directly to you. Payment for the test (\$1,000) is to be made by the patient before the test is taken.

For further information contact: Craig McGregor 027 289 4084 or email craig.mcgregor@sclabs.co.nz

IMMIGRATION TESTING

In response to a number of queries around the new e-Medical process:

1. The e-Medical laboratory request form references the ‘referred specialist’, this is actually the phlebotomist. The same requirements apply as previously for patient identification ie: to check their passport or other acceptable form of ID and sign to say the person has been correctly identified.
2. Immigration NZ policy on Identification for taking blood for Immigration medicals INZ1007 section A1 says the patient can provide either:
 - a. Original Passport
 - b. Certificate of identity
 - c. Refugee travel document
 - d. National ID card with photo

Note: photocopies of passports, drivers licences with photo, bank statements and other forms of identification do not comply with immigration requirements.

3. Immigration are aware that the laboratory form needs to be amended and are trying to address it but they do not directly control the e-Medical program which is used in a number of countries. We have also requested that Question 3 be deleted because the phlebotomist does not examine the patient.
4. The process from INZ perspective is that the applicant will be referred to the lab for the required blood tests. These results will be sent back to the clinic so that the physician can review the tests and decide whether the result is normal or not. The results will then need to be uploaded in to eMedical by the physician or an administrative person. SCL is unable to report directly into the e-Medical system (and have never been asked to) so results will continue to be sent to referrers in the usual manner
5. The patient does not require the form back. If, however, you have identity concerns please scan the form in and send it to INZ on INZ-healthsupport@mbie.govt.nz

Note: From 1/07/2015 only panel physicians that are on the approved list can submit the NZ immigration Medical Tests in the eMed system online. No paper Medicals that have been issued after 30/06/2015 by doctors will be accepted by NZ Immigration. Paper Medicals issued on or before 30/06/2015 will be still accepted if they are less than 3 months old from the issue date.

SAMPLE & REQUEST RELATED

Otago Southland Specimen Collection Guide

Correct specimen collection & handling is important for timely and reliable test results. Our Specimen Collection Guide is now available at <http://www.sclabs.co.nz/index.php/clinicians/information>

This information will be updated regularly to ensure that the most current information is available. Hard copy Specimen Collection Guides will no longer be provided

Specimens received with no accompanying request

The laboratory occasionally receives specimens where there is no test request matching the specimen type. Previously we have processed these specimens as a 'presumptive' test. We have reviewed this process and we will no longer 'assume' which test is required. You will be notified via your usual reporting system that no test has been performed, and the specimen will be held for 7 days. If you have not contacted us within 7 days to indicate which test is required, the specimen will be discarded. Note: for some samples, notably Haematology, samples deteriorate means that contact has to be made promptly

Test Requests

Test Adds - we have had several instances lately of hospital doctors contacting other laboratories and getting tests added on without our knowledge/approval. In some instances the test has been one that is not funded and in the most recent case the test adds were not appropriate (ZN stain on a CSF). All test adds must be directed through the local laboratory Sample labelling – a reminder that all samples must have as a minimum two points of ID, full name and either DoB or NHI

Test Requests- please be specific with test requests. Recently we have received vague requests like "hormones" or "urine test" and it invariably takes us significant time to determine precisely what is wanted.

Test Restrictions – the following tests are only funded if ordered by a specialist or with the approval of a Pathologist. For all other referrals the patient will be charged. For commercial requests we charge the list price for the referral laboratory plus a bleeding fee of \$11 and an administration fee of \$21 for sending samples to a third party laboratory.

IGF BP-3	Urine iodine	DHEAS
Insulin (exc post Bariatric)	Homocysteine	Lipoprotein (a)
Dihydrotestosterone	CoQ10	ApoE genotyping
Cortisol binding globulin	Zinc and selenium	Hs CRP
Copper (exc post Bariatric)	Blood and urine mercury	
Vitamin B1 and B6	Red cell magnesium	

Glomerular Basement Antibody (message from CHL)

To better reflect the precision of the Glomerular Basement Antibody (GBM) assay, a new normal range has been established and results will now be reported to two significant figures. Reported results will be adjusted by a factor of 10, with the new normal range reported as 0-30 U/mL (currently 0-3 U/mL) i.e. a result of 3 now becomes 30

<p>Errata: The Patient Charging booklet distributed recently has two errors The Bleeding Charge is \$11 not \$10.60 The price for faecal parasites (includes Giardia) is \$102.50</p>
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REFERRER LABELLING ERRORS A six month summary

Invercargill Community

Month	Unlabelled	Mislabelled	No 2ID	Total	Processed	Discarded
January	19	108	7	134	89	45
February	11	122	14	147	104	43
March	9	72	11	92	58	34
April	5	76	10	91	56	35
May	7	117	18	142	94	48
June	10	104	10	124	82	42

Invercargill Hospital

Month	Unlabelled	Mislabelled	No 2ID	Total	Processed	Discarded
January	8	34		42	21	21
February	7	24	3	34	15	19
March	5	26		31	9	22
April	9	23	3	35	10	25
May	10	19	3	32	10	22
June	7	33	5	45	13	32

Dunedin Community

Month	Unlabelled	Mislabelled	No 2ID	Total	Processed	Discarded
January	25	303	30	358	264	94
February	37	315	44	396	285	111
March	38	192	58	288	169	119
April	37	265	27	329	210	119
May	37	334	26	397	262	135
June	42	296	22	360	226	134

Dunedin Hospital

Month	Unlabelled	Mislabelled	No 2ID	Total	Processed	Discarded
January	41	121	15	177	105	72
February	48	99	27	174	93	81
March	46	63	17	126	52	74
April	44	102	6	152	83	69
May	57	110	18	185	90	95
June	26	96	6	128	78	50

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