Pathology newsletter - November 2018

# Pathology News

SOUTH WEST LONDON PATHOLOGY

**An NHS partnership providing a highly dependable, clinically assured and cost effective diagnostic pathology service**

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@swlpathology Email us swlpath.nhs.uk

Dear colleague,

We are delighted to be given the opportunity to share news of improvements and developments with you as we continue to ensure the service we provide serves the best interests of patients in SWL.

Since our last bulletin, SWLP is now working with Epsom and St Helier NHS Trust to develop the partnership across the four acute trusts in our sector. We hope to present a case for change to the trusts in quarter 1 of 2019 which will outline the agreed service model and also define the timeline. In the mean time, we obviously wish to remain focused on providing you with the service you require.

We are now nearing the end of a long procurement process for a new Laboratory Information Management System (LIMS) to replace our aging APEX system, which we plan to deploy over 2019/20 across all services and sites.

Our new comms lead starts at the end of this month and so until she is settled in post, the format of this bulletin is shorter. We will issue a full briefing in the New Year. However, there are some key developments we simply have to share with you. As always, the aim of this newsletter is to keep you up to date with service developments and improvements taking place in pathology, both operationally and clinically.

For example, we are launching a new enteric pathogen screening test to replace traditional culture based techniques. We are very pleased to be able to introduce this - the new PCR test is rapid, sensitive and specific. It will also benefit our staff working in the laboratory as current culturebased testing is time consuming and labour intensive.

Feedback is always welcome - if you have anything you would like to share with us please email us at stgh-tr.SWLPcomms@nhs.net

**Simon Brewer**

Interim Managing Director

**Dr Tim Planche**

Medical Director

# SERVICE UPDATES

## Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) eGFR reporting

SWLP will be changing the method of calculating eGFR from the MDRD to the CKD-EPI creatinine equation. This is to comply with the recommendation in the NICE Clinical Guideline CG182 (updated 2015).

The Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) creatinine equation is more accurate than the Modification of Diet in Renal Disease (MDRD) Study equation in current use; it is less biased at a GFR of more than 60 mL/min/1.73 $m^2$, and performs better in people aged 75 years and over. Use of the MDRD Study equation may lead to over-diagnosis of CKD. The CKD-EPI equation benefits patients and clinicians by reducing unnecessary appointments, reducing patients' concerns, and reducing the overall burden of CKD in the population. With the CKD-EPI equation in use, eGFRs will be reported up to 90 mL/min/1.73 $m^2$.

## IT email address

Just to remind you that our IT team now has an nhs.net email address for SWLP IT - please email them directly if you have an IT-related issue. stgh-tr.swlp-it@nhs.net

## New Review of Biochemistry Critical Results Telephone limits

Following publication of new guidance on the communication of critical and unexpected results from the Royal College of Pathologists, we have reviewed our critical results telephone policy. Results outside the limits in the table below will be telephoned to GP practices during normal working hours. From 6pm to 10pm weekdays, and 8am to 10pm weekends and bank holidays, results will be reviewed by a Clinical

Scientist/Chemical Pathologist, and telephoned to the out-of-hours service if required. Values marked in red are a change from the current telephone limits. These limits do not preclude telephoning of any significantly changed results.

| Analyte | Lower Limit | Upper Limit | Units | Notes |
|---|---|---|---|---|
| Sodium | ≤ 120<br>≤ 130 if age under 16 y | ≥ 160 | mmol/L | |
| Potassium | ≤ 2.5 | ≥ 6.5 | mmol/L | |
| Glucose | | ≥ 25<br>≥ 15 if age under 16 y | mmol/L | ≥ 30 if known diabetic |
| Creatinine | | ≥ 350<br>≥ 200 if age under 16 y | mmol/L | Results won't be telephoned if dialysis patient or known CKD unless creatinine has increased by ≥ 100 umol/L from previous result |
| CRP | | ≥ 300 | mg/L | |
| Calcium | ≤ 1.8 | ≥ 3.5 | mmol/L | |
| Bilirubin (Paediatric) | | ≥ 250 | umol/L | |
| ALT | | ≥ 750 | IU/L | |
| Cortisol | ≤50 | | nmol/L | Unless post dexamethasone |
| CK | | ≥ 5000 | U/L | |
| Digoxin | | ≥ 2.5 | umol/L | Sample should be 6h post dose |
| Lipase | | ≥300 | U/L | |
| Lithium | | ≥ 1.5 | mmol/L | |
| Magnesium | ≤ 0.4 | | mmol/L | |
| Paracetamol | | All detectable levels | mg/L | |
| Phosphate | ≤ 0.3 | | mmol/L | |
| Phenytoin | | ≥ 25 | mg/L | |
| Salicylate | | ≥ 300 | mg/L | |
| Theophylline | | ≥ 25 | mg/L | |
| Troponin T | | ≥ 50 | ng/L | |
| Urea | | ≥30<br>≥ 10 if age under 16 y | mmol/L | Results won't be telephoned if dialysis patient or known CKD unless urea increases by ≥ 10 mmol/L |

We have also reviewed the critical results on GP patients that require telephoning to the GP out-of-hours (111) service during the overnight period (10pm to 8am). Only results outside the critical limits stated below will be telephoned. As well as reviewing renal function, samples with high potassium levels will be checked for haemolysis, age of sample, and possible contamination prior to telephoning.

| Analyte | Lower Limit | Upper Limit | Units | Notes |
|---|---|---|---|---|
| Sodium | ≤ 115 | ≥ 160 | mmol/L | |
| Potassium | ≤ 2.0 | ≥ 6.5 | mmol/L | Potassium levels ≥ 6.5 will not be telephoned overnight if the creatinine is within normal limits |
| Glucose | | ≥ 30<br>≥ 15 if patient under 16 years old | mmol/L | |
| Creatinine | | ≥ 350<br>≥ 200 if patient under 16 years old | mmol/L | Results won't be telephoned if dialysis patient or known CKD unless creatinine has increased by ≥ 100 umol/L from previous result |
| CRP | | ≥ 300 | mg/L | |
| Calcium | ≤ 1.5 | ≥ 3.5 | mmol/L | |
| Bilirubin (Paediatric) | | ≥ 250 | umol/L | |

## Blood tests on returning travellers

In microbiology we process many samples from travellers returning to London. There are many infections that we can look for in returning travellers and we require a lot of information to decide on the tests to do on blood samples. The majority of these tests are performed by Public Health England at Porton-Down and they require clinical information to properly tailor the testing. If we do not have the correct information we may either overtest the samples, which is expensive, or potentially miss an important diagnosis.

In order to provide this service to you form November 1st we will require full clinical information listed below or we will not be able to process the flowing specimens

flavivirus (includes zika and dengue), alphavirus (includes chikungunya), viral haemorrhagic fevers, phlebovirus (includes sandfly fever) and Rickettsia.

The following information will be required:

- Symptoms:
- Epidemiology: (required fields)
    - Country visited……
    - Date of travel to and return……..
    - Date of onset of symptoms……..
    - Duration of symptoms……...

If there is concern of a pregnancy-related infection (Zika in particular) – the following information will be required

- Pregnant……

- Pregnant Partner of symptomatic patient……..
- If pregnant current gestational date (wks)……

Please note if we do not receive this information we will be unable to process the blood sample. The blood will be kept for one week so that you can call us and provde the information in that time if you require the sample to be processed.

## We are pleased to announce the imminent launch of FIT in SWL!

FIT is a type of faecal occult blood test which uses antibodies that specifically recognise human haemoglobin (Hb), used to detect the amount of human blood in a stool sample. An abnormal result suggests that there may be bleeding within the gastrointestinal tract that requires further investigation. Those with an abnormal result are then invited for further testing via a colonoscopy.

Differentiating patients with serious bowel disease from those with benign functional disorders (eg irritable bowel syndrome), and minor colorectal disease (eg haemorrhoids), can be very challenging since the symptoms are very common and overlap in these conditions.

To date, clinicians have typically referred patients presenting with lower gastrointestinal symptoms for further investigation via colonoscopy, escalating demand for these services. Colonoscopies are invasive, come with associated risks and can be stressful for the patient. Colonoscopies also tie up significant healthcare resources and are costly.

Consequently, endoscopy services are struggling to cope with demand, and colonoscopies are being conducted on a large numbers of patients who don't have cancer.

FIT hopes to resolve the above issues, and will initially be implemented following NICE DG30 guidance, where FIT testing is used on low risk symptomatic patients (ie a risk of cancer less than 3%). FIT will be given to patients in primary care to guide referral for suspected colorectal cancer in patients without rectal bleeding, who have unexplained symptoms, but do not meet the criteria for a suspected cancer referral pathway.

To ensure a successful launch, the South London Health and Care Partnership are working closely with Cancer Research UK and SWL Pathology to devise educational material, with plans to discuss FIT at a local level with primary care and others.

The first borough to go live will be Croydon on 1 January 2019, with the remaining five CCGs scheduled to launch in the subsequent months. FIT will be available across the whole of SWL by April 2019.

If you have any questions regarding FIT, please contact Andre.Chagwedera@swlondon.nhs.uk

## USEFUL RESOURCES

### Key performance indicators

We will now be providing you with key performance indicators for the following tests:

- full blood count

- potassium
- thyroid stimulating hormone
- urine microscopy and screen

We process hundreds of tests but these are some of the most common tests processed in our laboratories.

## Results line - reminder

Results are available for all our GPs regardless of where you are located. Please ring this number for results rather than your local hospital.

You can obtain results for Clinical Blood Sciences (Chemistry, Haematology and Immunology) and Microbiology.

**0208 725 5468**

## Contact us

If you wish to contact us with regards to any aspect of our service, please email stgh-tr.SWLPcomms@nhs.net. We will ensure it is logged, investigated and resolved.

We are keen to work with all those using our services to ensure our service meets your requirements and expectations.

Please use our secure NHS.net email address to raise any specific points as this will help us address the details at individual patient level.

Please provide the following information:

- patient's NHS number
- date of test
- name of test
- the name of your GP surgery

There are also contact telephone numbers on our website for clinical advice, enquiries and transport.

# CLINICAL UPDATES

## Hyperkalaemia

Hyperkalaemia is a potentially life threatening emergency which can be corrected with treatment. NHS improvement recently published a patient safety alert to provide guidance for the safe and timely management of hyperkalaemia. GPs will need to ensure actions are implemented to support the right response to results received indicating hyperkalaemia. Most guidelines recommend that emergency treatment should be given if the serum K+ is ≥ 6.5 mmol/L (UK Renal Association Clinical practice guidelines: Treatment of acute hyperkalaemia in adults).

The Royal College of Pathologists phoning guidelines for critical results recommend potassiums ≥ 6.5 are phoned to GPs or 111 out of hours. Not mentioned in the safety alert is the common problem of pseudohyperkalaemia. There are a number of causes of spuriously raised potassium levels in serum, the most common of which is delay in processing. Potassium starts to leak out of cells (RBC, WBC and platelets) after the blood has been taken. Ideally samples should be analysed within 1-3 hrs after collection. For many GP samples transport times make it difficult to analyse samples in good time before the potassium levels start to rise erroneously. High levels of WBC and/or platelets make the problem worse. Cold ambient temperatures increase the release of potassium from cells. Other causes of spuriously increased potassium levels in serum are haemolysis (may be caused by prolonged tourniquet) and fist clenching (caused by local release of potassium from forearm muscle). Finally potassium EDTA contamination can lead to very high potassium levels.

Before reporting and phoning a high potassium result, the lab does a number of checks which include excluding haemolysis, EDTA contamination and prolonged delay before analysis. It is difficult to assess the effect of delay as there is considerable individual variation in the release of potassium from cells in vitro. Any sample that is 24hrs old has the potassium result removed. Otherwise we may suggest a repeat (sometimes urgently) especially if the patient has renal impairment.

In order to reduce the number of spurious high potassium results particularly over the winter months, we will be trialling heated containers in the transport vans on some routes. We will closely monitor the rate of high potassium results.  In addition, we will be making another UE profile available to request without potassium (sodium, urea, creatinine and eGFR). We suggest that this could be used for routine health screens and any other patient where you clinically feel it is unnecessary to have a potassium result. The current UE profile with potassium will still be available to request for any patient, especially those with renal impairment, on medications which affect potassium homeostasis, on medications that have renal toxicity and any condition that may affect potassium levels.

## Pre-diabetes - identifying adults at high risk of type 2 diabetes

Pre-diabetes is defined as a fasting glucose of 5.5- 6.9 mmol/l or an HbA1c 42-47 mmol/mol (NICE PH38). Risk stratification of patients allows life style interventions to be recommended and patients to be monitored more closely for the development of diabetes.

SWLP reports for plasma glucose will be amended so that any level greater than 5.4 mmol/l will be flagged as abnormal (normal fasting range 3.5 – 5.4 mmol/l) and an automated comment appended to all reports with the normal, pre-diabetic and diabetic levels for a fasting sample. If the sample is not fasting, glucose levels will need to be interpreted accordingly (normal up to 7.8 mmol/l). HbA1c reports already have some guidance for levels indicating a high risk for diabetes when being used to screen for diabetes. The caveats for using HbA1c still apply- normal erythropoiesis, no genetic or chemically altered haemoglobins and normal red blood cell turnover.



**Our mailing address is:**

stgh-tr.SWLPcomms@nhs.net