NHS SOUTH WEST LONDON PATHOLOGY

MAKING EVERY TEST MATTER

Pathology news

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

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Dear colleague,

Welcome to this edition of the GP newsletter. We are now in our fifth year of partnership and over three years since the services were consolidated into the current service model. Our focus is now to optimize the services and continue to strengthen our focus on quality and innovation, as demonstrated in the various articles in this edition. Our mission is to provide a comprehensive diagnostic service and this forum allows us to provide you with updates of new tests and markers that are emerging and entering our service scope. Some of our colleagues have attended CCG meetings and GP Education events and are happy to continue to give updates and advice on any and all aspects of our service.

It is with this quality focus in mind that we are pleased to announce that we have now signed a contract with CliniSys Enterprise solution for a new Laboratory Information System (LIMS), replacing our 28-year-old Apex solution. The new solution will be cloud-based and utilizes two mirrored external datacenters, providing full resilience and disaster recovery. We are now in deployment and hope to have this completed in 2020. We will update you more on this in the coming months, although it is being interfaced into existing clinical systems so should not have much of an external impact. It does, however, provide many new elements such as sample tracking and quality dashboards to help monitor our turnaround times.

Please do get in touch if you have any suggestions, comments or concerns in relation to any aspect of our service. Simon.brewer@stgeorges.nhs.uk or Tim.planche@stgeorges.nhs.uk

What's new in SWLP

Mass spectrometry comes to SWLP

SWLP is now able to carry out its first tests using mass spectrometry. Mass spectrometry is an analytical technique that accurately measures the mass of different molecules within a sample. It works by vapourising the molecules in a sample, which are then bombarded by nitrogen gas in an electric field, converting the vapours into ions. Any of the vapour that doesn't ionise goes to waste, which significantly reduces any interference in the results. The sample then enters into the mass spectrometer and is fragmented and fragmented again to generate a unique fingerprint for each compound.

SWLP has begun testing for steroids on the Waters Xevo TQ-S mass spectrometer, which is among the most sensitive available. The machine can test up to 960 samples in a single run, and can test for a number of different steroids using just one 100µl sample. More assay types are planned for the mass spectrometer in the near future.

Chemistry Technical Lead Tony Dedman with the mass spectrometer

There are a number of benefits of using mass spectrometry. Unlike other types of assay, there is no cross-reactivity, resulting in less interference and a true result. Very small samples can be used to test for multiple compounds, which means only one sample needs to be taken from the patient, and results are available quickly. In some cases, blood can be taken at clinic and the result can be available the next day when the clinical report is being written.

Mass spectrometry also offers significant cost savings compared to conventional assays. Take as an example testing for steroids. Previously a separate test had to be carried out using a specific kit for each steroid. The multiplexing capability of mass spectrometry now requires a single reagent system.

Tony Dedman, who is in charge of mass spectrometry at SWLP, says, "Mass spectrometry is the future of pathology. It is perfect for large simultaneous screens and you can always be confident that the results you get are true results."

New Head of Quality

A new role has been created to focus on the harmonisation of quality across the SWLP network. The SWLP Network Lead for Quality will take responsibility for leading on quality management at a time when the service is expanding, reflecting the importance of quality in pathology and our commitment to maintaining the highest of standards.

The new post has been taken up by Blood Transfusion Quality Manager Denise McGowan. Denise joined us from her home country of Ireland in 2016 in the role of Quality Scientist in Microbiology. Denise was then promoted to Quality Manager for BT in 2018 before being offered her new role this month.

New Network Lead for Quality Denise McGowan

Denise's new role incorporates quality assurance surrounding point of care testing. She will spend a lot of time working with the Quality Managers in each discipline to ensure a consistent approach to quality management. Her role will also include generating reports for hospital senior management, identifying desirable corrective and preventative actions and conducting continuous improvement activities throughout SWLP.

FIT testing rolled out across Merton, Sutton and Wandsworth

Faecal immunochemical testing (FIT) has been rolled out across three more boroughs in south west London. The test, which is used in the diagnosis of bowel cancer, was first introduced in Croydon at the end of last year.

GPs in Merton, Sutton and Wandsworth can now offer the test to patients who have unexplained symptoms which could suggest bowel cancel, but which do not warrant referral through the two week cancer pathway, or low-risk symptomatic patients. The patient is given a test kit to complete at home and return to their GP to be sent to the lab. The result is then available in two days.

The test will be rolled out across Kingston and Richmond from July this year, taking the total number of CCGs working with SWLP to deliver FIT testing to six.

Find out more about FIT testing on the SWLP website.

If you would like to discuss a specific element of FIT testing you can email SWLPComms@stgeorges.nhs.uk.

Malaria samples

If you are sending a sample to be tested for suspected malaria you should always phone SWLP to alert the lab that the sample is coming, as malaria samples are considered to be urgent. Please call 020 8266 6510 when the blood has been taken and is being sent to the lab.

If you have any questions about malaria samples please email stgh-tr.SWLPcomms@nhs.net or call 020 8266 6510.

New email address for results

We have introduced a new email address for enquiries about results.

Stgh-tr.swlpresults@nhs.net

We no longer accept faxes so if you have a question about results you should either email using the new address or call the appropriate number.

The number for the direct results line is 0208 725 5468.

All other contact details can be found on the SWLP website.

Order consumables online

You can order consumable products online on the SWLP website:

Order consumables

Through the website you can order:

- Blood containers
- Urine containers
- Sputum pots and stool pots
- Swabs
- Pathology forms and bags
- Cytology and histology products

All consumables ordered through the website are delivered directly to your surgery.

If you have any questions about consumables please call 020 8266 6827.

Payment for private tests

SWLP now has the ability to take payment for private tests. If you have a private patient who would like to pay for a test over the phone they can call 020 8266 6510 to make the payment. Payments can also be made in person by going to the SWLP reception in Jenner Wing at St George's Hospital. Payments can be taken between 9:00 and 17:00 Monday to Friday.

If you have any questions about private work or making payments please call 020 8266 6510 or email lesley.skilton@stgeorges.nhs.uk /

Clinical updates

Vitamin D guidelines

The National Osteoporosis Society (NOS) have updated their recommendations for vitamin D and bone health (December 2018)

They suggest that the following groups of patients should be tested for vitamin D deficiency:

- Patients with bone diseases (a) that may be improved with vitamin D treatment or (b) where correcting vitamin D deficiency prior to specific treatment would be appropriate
- Patients with musculoskeletal symptoms that could be attributed to vitamin D deficiency
- Asymptomatic individuals at higher risk of vitamin D deficiency

NOS **does not** recommend routine testing of 25 (OH) D levels in asymptomatic healthy individuals.

Read the full guidelines for adults

Read the full guidelines for children

Read the quick guide for patient management

Biochemical monitoring of patients on lithium treatment

Patients on lithium therapy should have serum lithium levels measured regularly in order to optimise the efficacy of treatment and manage the risk of toxicity.

Samples for analysis of serum lithium should be collected at least 12 hours post dose. In general, the aim is to maintain plasma lithium between 0.6 and 0.8 mmol/L in patients being prescribed lithium for the first time. Levels of 0.8 – 1.0 mmol/L may be acceptable in relapse or in maintenance with subthreshold symptoms with functional impairment.

Symptoms of lithium toxicity include polyuria, cognitive problems, tremor, digestive problems and thirst.

People taking lithium should be advised to:

- seek medical attention if they develop diarrhoea, vomiting or become acutely ill for any reason
- ensure they maintain their fluid intake, particularly if they have a fever or develop a chest infection or pneumonia.
- talk to their doctor as soon as possible if they are planning a pregnancy or become pregnant.

Table 1: Recommended frequency of Biochemical monitoring

Test	Frequency
Serum lithium level	**Patients starting lithium** 1 week after starting lithium 1 week after every dose change and weekly until levels are stable. **Once stable** Every 3 months for the first year After the first year every 6 months or every 3 months for people in the following groups: Older people People taking drugs that interact with lithium People at risk of impaired renal or thyroid function, raised calcium levels or other complications People with poor symptom control People with poor adherence People whose last plasma lithium level was 0.8 mmol/L or higher Monitor lithium dose and level more frequently if urea and creatinine become elevated or eGFR falls over 2 or more tests
Renal profile and calcium	Prior to starting lithium and every 6 months and more often if there is evidence of impaired renal function or raised calcium levels.
Full blood count	Prior to starting lithium
F-T4 and TSH	Prior to starting lithium and every 6 months and more often if there is evidence of impaired thyroid function

In order to highlight patients with toxic or sub- therapeutic lithium levels we have developed appropriate comments in conjunction with the mental health pharmacists.

Table 2: Comments on Toxic and sub-therapeutic lithium levels

Lithium Level	Comment
lithium level > 1.0 mmol/	If sample was collected 12 hours or more post dose, a lithium of this level is associated with toxicity. Urgent review required. Contact medicines information at your local mental health trust or your practice pharmacist for more advice or support.
Lithium level > 1.5 mmol/L	If sample was collected 12 hours or more post dose, a lithium of this level is highly toxic. Patient should be informed of the result immediately, advised not to take their lithium and for urgent review with the GP, CMHT or via A&E. Contact medicines information at your local mental health trust or your practice pharmacist for more advice or support.
Lithium level <0.4 mmol/L	This level is sub therapeutic, adherence should be assessed and the dose may need adjustment. Check specimen was collected 12 hours post dose. Contact medicines information at your local mental health trust or your practice pharmacist for more advice or support.

Note results ≥ 1.5mmol/L will be telephoned to primary care within 24 hrs

References

Mali, GS., Gessler, D., Outhred, T., The use of lithium for the treatment of bipolar disorder: Recommendations from clinical practice guidelines.2017. Journal of Affective disorders 217. 266-280
NICE Clinical guideline (CG185) Bipolar disorder: assessment and management. Published September 2014 Updated April 2018

The use of faecal elastase for the investigation of pancreatic exocrine insufficiency

Human elastase-1 is a protease synthesised by pancreatic acinar cells and secreted into the duodenum. As elastase is not degraded during intestinal transit, faecal concentrations are 5-fold greater than in pancreatic secretions. It therefore more accurately reflects the secretory capacity of the pancreas. Measurement allows the diagnosis or exclusion of pancreatic exocrine insufficiency, which may be caused by chronic pancreatitis, cystic fibrosis, pancreatic cancer or diabetes mellitus, among other rarer causes.

The 2018 British Society of Gastroenterology guidelines for the investigation of chronic diarrhoea recommend faecal elastase as the preferred test for pancreatic function when fat malabsorption is suspected. It should be noted that elastase should not be requested as a first line investigation for chronic diarrhoea and more common causes including infective, IBS, IBD, drugs, diet should be excluded. Furthermore, faecal elastase is not useful in cases of mild pancreatic insufficiency.

Following discussion with consultant gastroenterologists at Kingston Hospital, SWLP recommend that requesting is limited to clinicians in secondary care, in particular to gastroenterologists and hepatologists.

Interpretation is provided with all elastase results as shown in the table below. Please also be aware of non-pancreatic causes of low elastase concentrations such as microscopic colitis, coeliac disease, bile salt malabsorption, gastrointestinal fistulas, IBS and infection. Please interpret result in light of clinical presentation.

Interpretation	Elastase concentration
Normal pancreatic function	>200 µg/g stool
Moderate to mild exocrine pancreatic insufficiency	100-200 µg/g stool
Severe exocrine pancreatic insufficiency	<100 µg/g stool

Please refer to guidelines for further information: Arasaradnam RP, Brown S, Forbes A, et al. Guidelines for the investigation of chronic diarrhoea in adults: British Society of Gastroenterology, 3rd edition. Gut 2018;67:1380-1399

Thyroid function testing update

Two articles this year will have an impact on primary care thyroid function testing.

BMJ (2019; 364:l805) reported 'repeat thyroid function tests for healthy older people are not needed'.

BMJ (2019; 365:l2006) provided a clinical practice guideline on whether to treat subclinical hypothyroidism with thyroxine.

The first report funded by NIHR School for Primary Care Research aimed to establish the stability of thyroid function in older people without overt thyroid disease to determine if repeat testing is necessary. In an original study of thyroid function in patients >65y, a cohort of approx. 3000 across 19 general practices were followed up after five years. The outcomes were:

- 96% continued to have normal thyroid function five years later; 3.5% developed subclinical hypothyroidism, 0.2% overt hypothyroidism; 0.5% subclinical hyperthyroidism and 0.3% overt hyperthyroidism.
- Of the 143 with subclinical hypothyroidism at baseline, 58% remained unchanged after five years, 40% returned to normal and 2% developed overt hypothyroidism.
- Of 25 with subclinical hyperthyroidism, 64% remained unchanged after five years, 32% returned to normal and 4%developed overt hyperthyroidism.

Conclusion: not to do routine retesting in older adults unless they have risk factors or have developed overt thyroid dysfunction. Testing can safely be reduced and replaced with monitoring of clinical assessment of thyroid symptoms.

The second paper was based on a systematic review of 21 randomised controlled trials on the thyroid hormone treatment of patients with subclinical hypothyroidism.

The panel reported that adult patients with subclinical hypothyroidism (TSH <20mu/L and normal FT4) treated with thyroxine did not demonstrate any clinically relevant benefit for quality of life or thyroid-related symptoms.

Treatment with thyroxine was indicated in women who are trying to get pregnant, patients with severe symptoms or young adults (<30y).

Conclusion: The strong recommendation was that almost all adults with subclinical hypothyroidism would not benefit from treatment with thyroid hormones. Clinicians were advised they should monitor the progression or resolution of the thyroid hormone dysfunction of these adults.

Our mailing address is:

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