GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol Caerdydd a'r Fro
Cardiff and Vale University Health Board

Issue 2
March 2018

Laboratory Medicine Directorate

Newsletter for Primary Care

Inside this issue:

Diagnosing Addison's

In recent months we have become aware of increased concern and bio-chemical testing for Addison's disease. The Addison's Disease Self Help Group has issued a helpful leaflet on the role of the GP in the diagnosis of this condition which can be found on the intranet on the Lab Test Hand-book cortisol information sheet page:

http://labhandbook.cardiffandvale.wales.nhs.uk/testkb/retrieve_pdf.php?id=213

or on the internet at:

http://www.addisons.org.uk/forum/index.php?/files/file/3-diagnosing-addisons-a-guide-for-gps/

To discuss patient management please contact:

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Prof John Gregory, Consultant Paediatric Endocrinologist
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To discuss laboratory investigations please contact:
Dr Carol Evans, Consultant Clinical Biochemist
Carol.evans9@wales.nhs.uk
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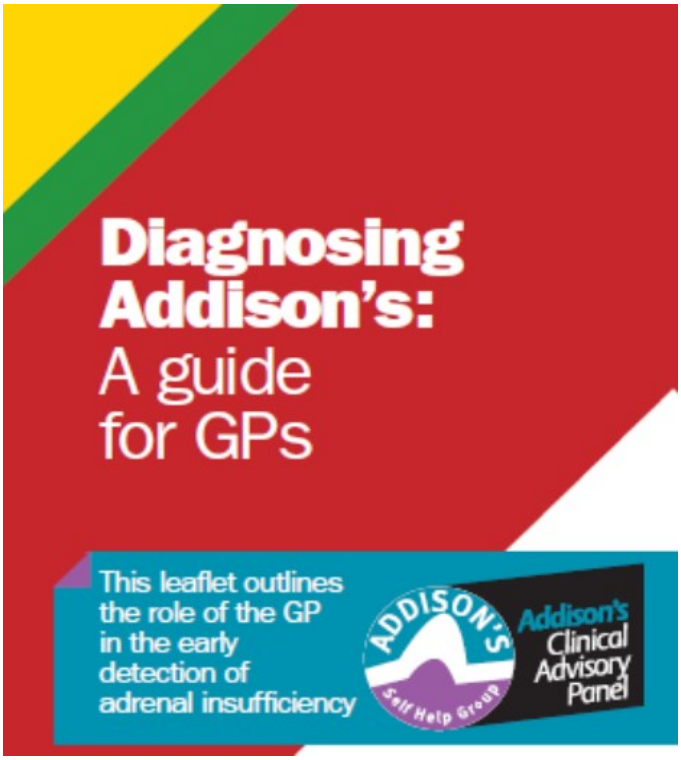


Point of Care Testing (POCT)

(This article is referenced from the WSAC POCT policy 2017)

Point of Care Testing (POCT) is defined as any diagnostic test undertaken by staff other than a laboratory healthcare scientist, which can include health care support workers, nurses, paramedics, pharmacists, podiatrists, dieticians, dentists and medical staff. This is usually carried out near the patient, and can be in the home, a clinic, in general practice, care homes, high street pharmacy, screening venue, at the hospital, or during transit. Examples of POCT devices include:

- Anticoagulation devices
- Blood glucose and ketone devices
- Urinalysis test strips and devices
- Pregnancy test kits and devices
- CRP devices
- Creatinine devices
- Lactate devices
- $HbA_{1C,}$ analysers
- Haematology analysers
- Rapid test kits for infectious disease markers
- Bilirubin analysers
- Blood gas analysers
- Electrolyte analysers
- Lipid analysers
- Cardiac marker test kits and analysers.

The table illustrates the clinical utility of POCT in all care settings:

Setting	Application	Benefit	Risk
Home	Management of long term conditions - diabetes/ HF. Early detection of complications e.g. infection in patients on chemotherapy Home Ventilation Unit for measurement of patients on Oxygen therapy.	Better awareness / self motivation to manage condition – less complications Avoid need to attend hospital Avoid cost of transport Avoid time off work/ patient. Patient convenience / acceptability	No evidence that POCT improves outcome Over testing/ inappropriate testing. Lack of knowledge and skills of user of device. Device not sensitive or specific for clinical pathway. No Quality assurance. No audit trail. Loss/ incomplete patient information. Variation in service. Inequitable service. Benefits not realised. Not cost effective. Potential for Patient harm.
General Practice	Management of long term conditions. Antibiotic stewardship. Enhanced Service for Anticoagulation monitoring. Out-Of-Hours Service.	Patient convenience / acceptability. Improved access to relevant population. Reduction in acute Admissions. Avoid cost of transport. Avoid time off work/ patient convenience. Improve relationship with GP – supporting shared decision making.	
Community/ Pharmacy	Management of long term conditions Anticoagulation monitoring. Health Checks	patient convenience / acceptability Improved access to relevant population. Reduce need to visit GP	
Ambulance	Pre-hospital testing Monitor patients during inter hospital transport. Treatment of sick neonates in transit	Faster triage through ED Earlier intervention Reduce risk of complications during transport	
Urgent care centres	Urgent care for non-life threatening conditions Rule out testing	Avoid need to attend ED	
ED	Rapid triage testing and treatment	Reduced length of stay in ED Treatment of patients with time-dependent conditions	
Theatre	Monitoring operative procedures	Reduce post OP care requirement Convert to day case – reduce need for hospital bed	
ITU / CCU	Monitoring vital parameters	Improved mortality and morbidity Reduce length of stay	

Point of Care Testing (POCT)

Each Health Board will have a dedicated team of POCT professionals who will be able to provide advice on how to implement and manage your POCT service. They can advise you on the right device; a device that "fits" your clinical need, and a device that provides results that are compatible with your local laboratory (if indicated).

The latter is essential to minimise variation in the event that the service is shared with your local Pathology laboratory to ensure that the right sensitivity, specificity, calibration and units are used and the correct interpretation is made.

There are existing "All Wales" procurement frameworks and preferred supplier lists in place for a number of devices underpinned by agreed quality specifications.

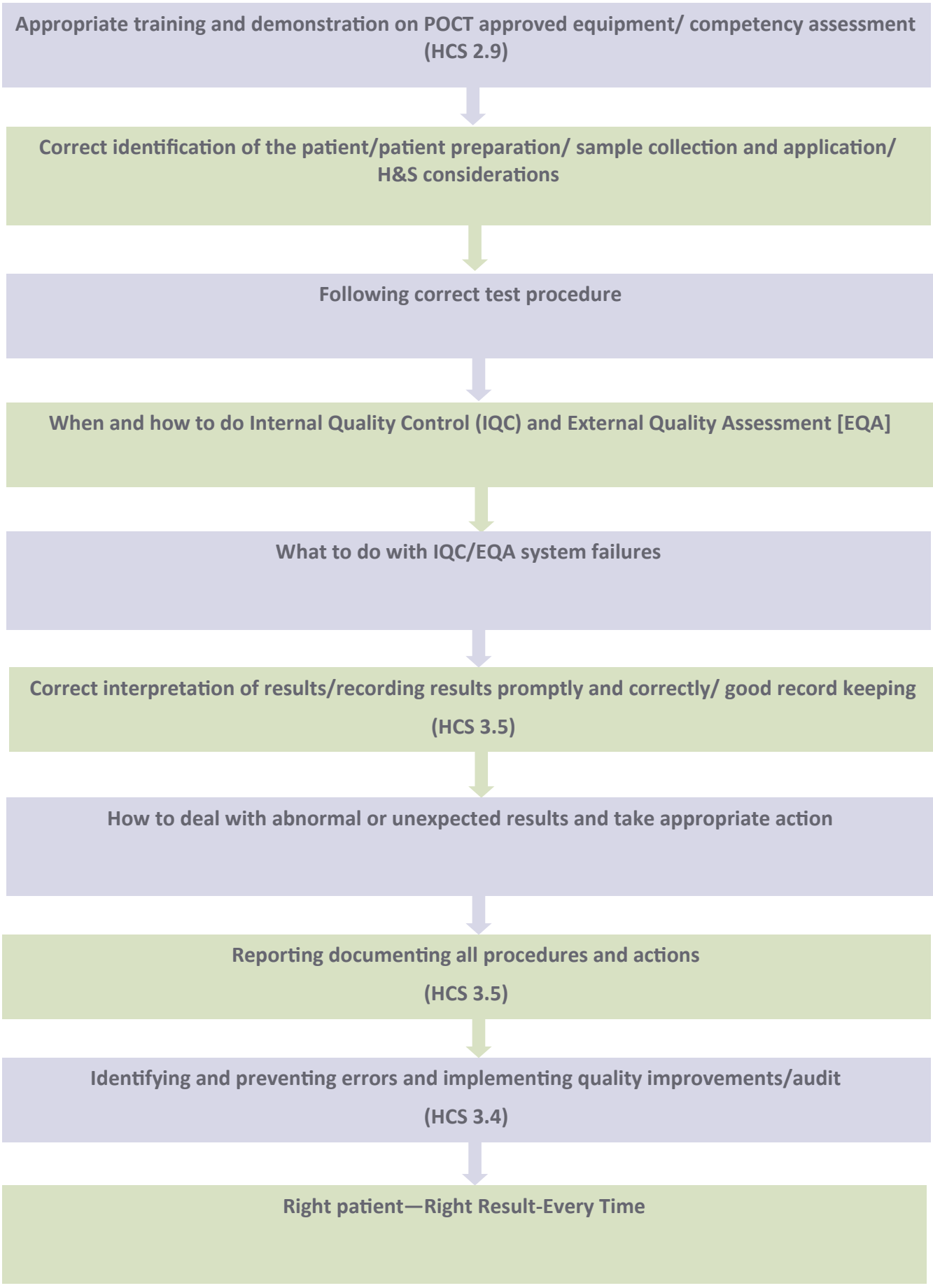
Support from your local POCT Team can also include the training, competence assessment, maintenance of devices and monitoring the quality of the service. For organizations that do not have a POCT Team, support may also be available from one of the other Health Boards. A resource should be identified for this support and incorporated into a Service Level Agreement (SLA). The SLA should define the scope of the service provided and the responsibilities of both parties.

Cost considerations for implementing a POCT Service:

Capital Costs	√	Revenue costs	√	Professional costs	√
Purchase/lease of POCT equipment		Consumables: reagents/ calibrators etc.		Staff training/ staff operator time	
Ancillary equipment: centrifuges, refrigerator/ incubators, pipettes etc.		Routine maintenance (including service contract) Back-up/ Warranty		Management of the POCT programme- also refer to SLA	
Working environment- Network IT ports Power sockets		Internal Quality Control material		Waste disposal	
Depreciation costs of equipment		EQA Subscription		Conforming to legal requirements	
Interfacing with information management systems		IT data-handling system		Laboratory support*(if appropriate*)	

Authors: Annette Thomas & Seetal Sall
For any queries please contact Annette Thomas (Consultant Clinical Scientist)
Annette.Thomas2@wales.nhs.uk

10 Steps for Best Practice in POCT Compliant with Health Care Standards



TSH Receptor Antibody Testing in Hyperthyroid Patients

TSH receptor antibody (TRAb) testing is used to evaluate the cause of hyperthyroidism. In a patient presenting with hyperthyroidism (i.e. TSH < 0.01 mU/L and free T4 > 19.1 pmol/L and/or free T3 > 5.7 pmol/L), a positive TRAb result is indicative of Grave's disease and almost certainly excludes the differential diagnoses of toxic nodular hyperthyroidism or thyroiditis.

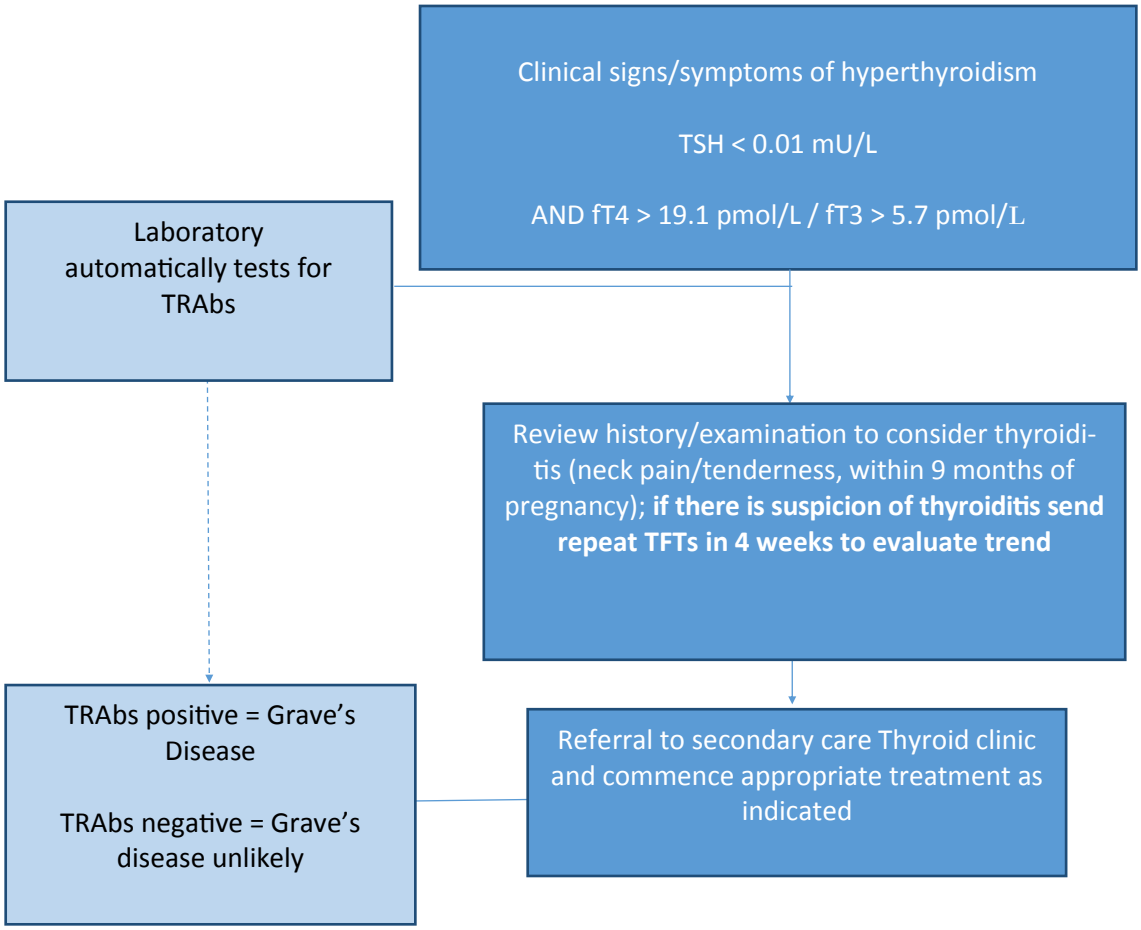
All patients with confirmed hyperthyroidism, regardless of the cause, should be referred to a specialist clinic to establish the diagnosis and continue patient management as management differs slightly according to diagnosis. Current practice is for TRAb testing to be undertaken in secondary care once the patient has been referred. The laboratory will now automatically test patient's blood samples for TRAbs in new cases of hyperthyroidism. This should enable a quicker definitive diagnosis and initiation of a management plan. This will happen automatically to relevant thyroid function test results coming from primary care and there is subsequently no need for GP requesting of TRAbs.

Any patient with hyperthyroidism should be referred to the Thyroid clinic prior to initiation of any treatment, and if there are any clinical concerns, the Thyroid physicians would be happy to discuss, prior to initiation of treatment. There is further advice on the Cardiff and Vale intranet under "Services>Thyroid>Advice on thyrotoxicosis".

Author: Dr Helen Cordy, Registrar in Metabolic Medicine

To discuss laboratory investigations please contact: Dr Carol Evans, Consultant Clinical Biochemist, Department of Medical Biochemistry, UHW Carol.evans9@wales.nhs.uk Tel 02920748367

Pathway for TRAb Testing



Thyroid clinic treatment recommendations:

IF convincing evidence of hyperthyroidism (regardless of TRAbs), particularly if there are cardiac risk factors (i.e CHD, previous dysrhythmias), AND there is no evidence of thyroiditis:

- Commence Carbimazole* 40mg/day (e.g. 20mg b.d.) **and give agranulocytosis advice sheet** (see guidance on intranet)
- Propranolol 40-80mg TDS if patient is very symptomatic
- Plan to reduce carbimazole to 20mg/day or add in Thyroxine 100mcg OD to Carbimazole treatment **after 4- 6 weeks of treatment** if there is a delay in clinic review, even if the TSH continues to be suppressed

Do not hesitate to contact the clinic team if there are any concerns about starting treatment prior to clinic.

* Discussion with a thyroid specialist is recommended prior to commencing any treatment in pregnancy or patients trying to conceive.

GP Liver Screen

What to do with slightly abnormal liver function tests can sometimes seem a challenge. It is worth remembering that liver disease can be in existence even with normal liver function tests. Therefore, when we have an abnormal ALT or Alkaline Phosphatase, it wouldn't be advisable to do nothing, or feel reassured if things have remained stable.

Feeling comfortable about the underlying aetiology can be improved by a screen of tests. These are outlined in the current Cardiff and Vale liver pathway, available on clinical portal[1] . The guidance of performing a liver screen also aligns to recent guidance from the British Society of Gastroenterology[2]. To try and make test requesting easier, the laboratory can process the required haematology and biochemistry tests by writing "GP Liver Screen" in the Other Tests section of the form. As the tests differ slightly for age, it can be helpful to also identify if the patient is > than or < 45 years of age. Unfortunately a viral hepatitis screen, which is also recommended, needs to be requested separately.

1. http://nww.cardiffandvale.wales.nhs.uk/pls/portal/docs/PAGE/CARDIFF_AND_VALE_INTRANET/TRUST_SERVICES_INDEX/GASTROENTEROLOGY_CP/PRIMARY%20CARE/CVUHB%20GASTRO%20LFT%20PATHWAYS%203-6-16%20V%205.PDF

2. Newsome PN, et al. Gut 2017;0:1–14. doi:10.1136/gutjnl-2017-314924

Author: Dr Steven Short GP, Saltmead Medical Center

To discuss laboratory investigations please contact the Duty Biochemist, Department of Medical Biochemistry, UHW. Tel 029 20748334 or bleep through switch board 5452 or contact Biochemistry via the e-advice service.

Review of Primary Care Blood Science Requests

In January 2018 the Cardiff and Vale Blood Science laboratories (Biochemistry, Immunology and Haematology) received 28268 requests from primary care. Two percent of requests were rejected because of inaccurate or incomplete patient identifiable data, insufficient number of or under-filled specimens and wrong specimens (shown in table 1).

Reason for Request Rejection	**Number of patients with rejected test requests in January 2018 (percentage of total requests)**
Patients with specimen/request form identification errors	49 (0.2%)
Patients with problem samples E.g. haemolysed, too old, contaminated, blood tube under-filled	125 (0.4%)
Patients with no suitable sample (insufficient number of samples or wrong sample type sent)	385 (1.4%)
Patients with rejected tests	**559 (2.0%)**

Table 1. Number of Primary Care Blood Science Requests Rejected in January 2018. The percentage of rejected requests for the month is shown in brackets.

Review of Primary Care Blood Science Requests Cont..

Whilst identification of the patient is mandatory, all information required on the request form is needed for provision of a quality laboratory service. Here, we present the completeness of a random sample of 885 request forms from primary care in January 2018.

Of the 885 forms reviewed 428 had 1 or more non defects (Figure 1). Six forms were illegible. Absence of clinical details and no time of specimen collection were the commonest defects (Figure 2). Specimen and request form errors can:

- cause rejection of a request
- affect the quality of service provided
- delay appropriate diagnosis and treatment of patients

To help us to provide you and your patient with the best possible service please ensure:

- Samples and request forms are correctly labelled in accordance with Health Board Policy
- The request form is complete.
- The correct type and number of specimens are submitted. Please see the laboratory medicine webpage for more information:

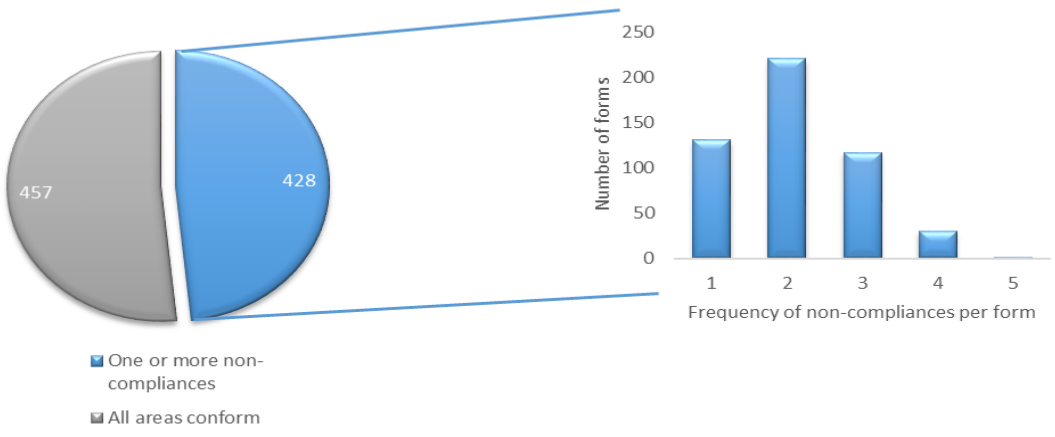
http://nww.cardiffandvale.wales.nhs.uk/portal/page?_pageid=253,972415,253_972416&_dad=portal&_schema=PORTAL

This webpage (which you might like to save as a favourite) links to lots of useful information!

Authors: Helen Bailey, Gaynor Chase, Nigel Roberts & Carol Evans

To discuss any sample labelling queries please contact: Gaynor Chase, Blood Science Reception Manager Gaynor.Chase@wales.nhs.uk

Figure 1: The proportion of request forms compliant in grey and non-compliant in blue with the Health Board labelling policy and a breakdown of the number of non-compliances per form.



Review of Primary Care Blood Science Requests (Cont)

Figure 2: Incidence of missing information on primary care request forms

No clinical details 26%

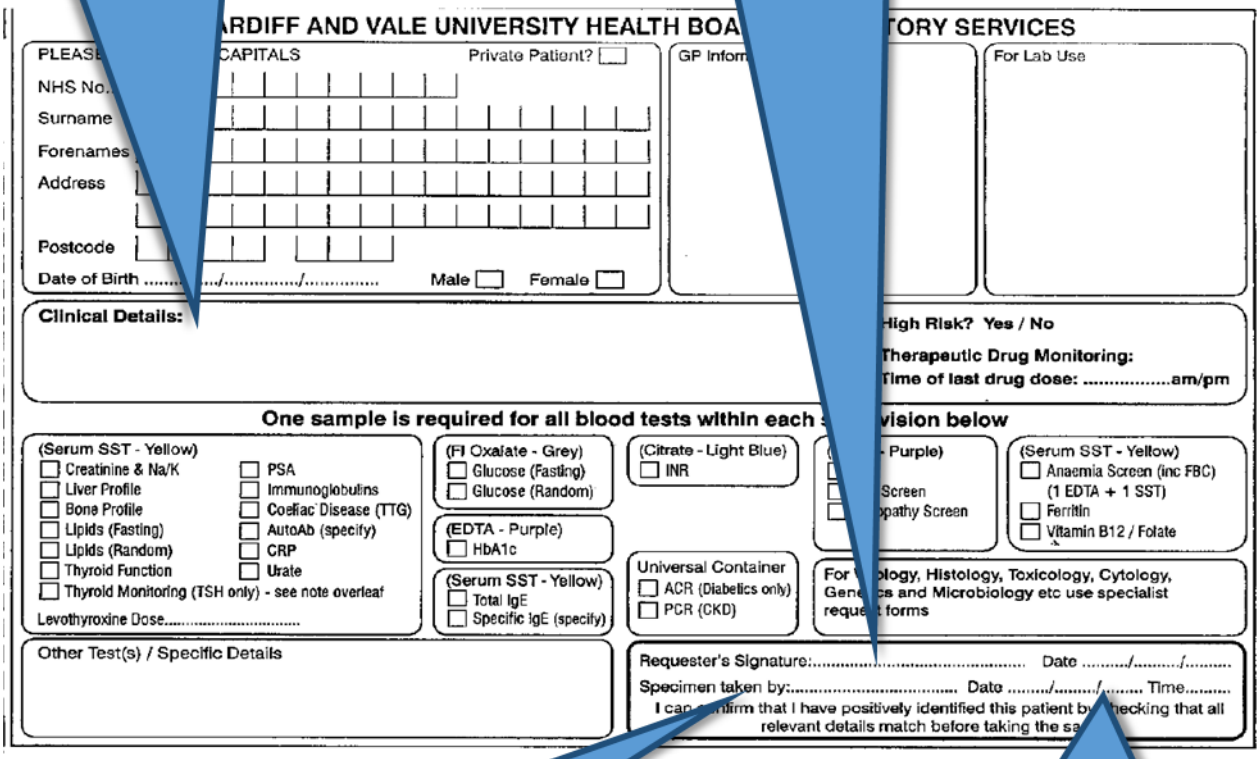
Abnormal results are reviewed against the clinical details. This guides further action e.g. telephoning the requestor or adding an interpretative comment.

No surgery stated 1%

No requester's signature 18%

Helps the laboratory communicate abnormal results & problems effectively.

Provides accountability for requesting



No specimen taken by signature 8%

Ensures the identity of the patient has been confirmed.

Helps the laboratory communicate about any problems effectively.

No date of collection 5%

No time of collection 21%

Needed to verify results. *E.g.* high potassium levels are reviewed to exclude delay in sample separation as a cause of spurious results.

Needed to interpret results that vary throughout the day *e.g.* cortisol.

And Finally..

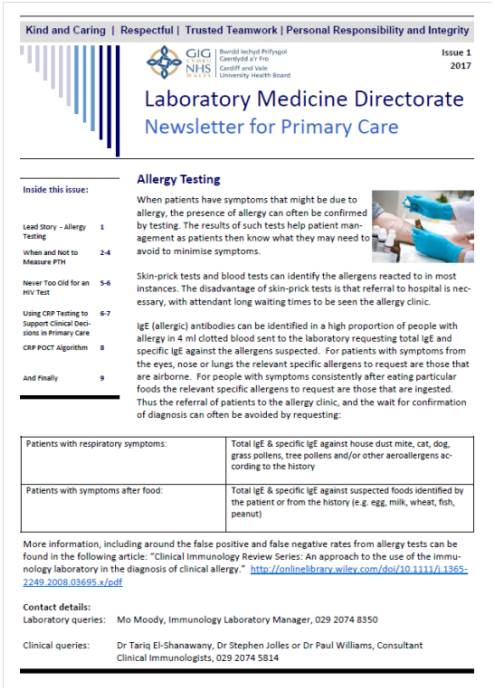
Did You Know?

Back copies of the Laboratory Medicine Newsletter for Primary Care can found on the Laboratory Medicine pages on the Cardiff and Vale UHB intranet:

http://nww.cardiffandvale.wales.nhs.uk/portal/page?_pageid=253,972415,253_972431&_dad=portal&_schema=PORTAL

and the Bro Taf Local Medical Committee Website:

http://www.brotaflmc.org.uk/



Kind and Caring | Respectful | Trusted Teamwork | Personal Responsibility and Integrity

Issue 1
2017

Laboratory Medicine Directorate
Newsletter for Primary Care

Inside this issue:

Allergy Testing

When patients have symptoms that might be due to allergy, the presence of allergy can often be confirmed by testing. The results of such tests help patient management as patients then know what they may need to avoid to minimise symptoms.

Skin-prick tests and blood tests can identify the allergens reacted to in most instances. The disadvantage of skin-prick tests is that referral to hospital is necessary, with attendant long waiting times to be seen the allergy clinic.

IgE (allergic) antibodies can be identified in a high proportion of people with allergy in 4 ml clotted blood sent to the laboratory requesting total IgE and specific IgE against the allergens suspected. For patients with symptoms from the eyes, nose or lungs the relevant specific allergens to request are those that are airborne. For people with symptoms consistently after eating particular foods the relevant specific allergens to request are those that are ingested. Thus the referral of patients to the allergy clinic, and the wait for confirmation of diagnosis can often be avoided by requesting:

Patients with respiratory symptoms:	Total IgE & specific IgE against house dust mite, cat, dog, grass pollens, tree pollens and/or other aeroallergens according to the history
Patients with symptoms after food:	Total IgE & specific IgE against suspected foods identified by the patient or from the history (e.g. egg, milk, wheat, fish, peanut)

More information, including around the false positive and false negative rates from allergy tests can be found in the following article: "Clinical Immunology Review Series: An approach to the use of the immunology laboratory in the diagnosis of clinical allergy." http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2249.2008.03695.x/pdf

Contact details:
Laboratory queries: Mo Moody, Immunology Laboratory Manager, 029 2074 8350

Clinical queries: Dr Tariq El-Shanawany, Dr Stephen Jolles or Dr Paul Williams, Consultant Clinical Immunologists, 029 2074 5814

Contact Us:

Laboratory Medicine would welcome your suggestions for service improvements. If you use any of our services and you have an idea about how we can improve, please email: lisa.griffiths3@wales.nhs.uk

For feedback and comments on the newsletter in general, please contact either:

Dr Carol Evans, Laboratory Director, Department of Medical Biochemistry & Immunology:
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Helen Jenkins, Clinical Diagnostics and Therapeutics Clinical Board Management Office:
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