# Operational Update for Otago/Southland Community Referrers

**June 2013**

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## FASTING and CVD RISK ASSESSMENT

**Assessment of CVD risk can be carried out on <u>non-fasting</u> blood specimens**

In October 2011, the New Zealand Society for the Study of Diabetes (NZSSD) adopted glycated haemoglobin (HbA1c) as the preferred test in the initial investigation of or screening for diabetes mellitus. This opened the way for opportunistic testing without the need for individuals to fast. There is now increasing evidence that non-fasting specimens are also as good as (or better) than fasting specimens for the assessment of cardiovascular disease risk.

A number of studies have shown that lipid values change little after a meal and that these results generate valid estimates of risk when used in risk prediction tools. Additionally, a number of studies suggest that post-prandial triglyceride is a better predictor of CVD risk than is fasting triglyceride.

The 2009 New Zealand Guidelines Group update for Cardiovascular Risk Assessment and Diabetes states that use of a non-fasting specimen is acceptable if it is not possible to obtain a fasting one. Many expert bodies overseas have moved to actively promoting the use of non-fasting specimens in the assessment of cardiovascular risk.

With the recommendation to move to (non-fasting) HbA1c testing for diabetes, there is now a good opportunity to adopt non-fasting CVD risk assessment. This will allow testing for diabetes mellitus and CVD risk assessment to be performed at the same time without requiring that individuals be fasted. This should greatly increase convenience and acceptability for people and hopefully will mean that more of those people that need it have their CVD risk assessment carried out – without the discomfort and inconvenience of having to fast.

In some individuals with non-fasting dyslipidaemia, it may be necessary to repeat the test with a fasting specimen to better characterise the nature of the abnormality. Also, the LDL cholesterol reported by the laboratory is a calculated value that takes into account serum triglyceride. Therefore, where it is important to get an accurate assessment of LDL cholesterol concentration (e.g. when commencing or monitoring hypolipidaemic therapy) a fasting specimen may be required.

## REQUISITION FORMS

The general requisition form has been updated to reflect changing requirements. We appreciate that the majority of referrers generate their own forms but some of the changes may be of interest if you are looking to make changes. In particular:

- Urea, RC folate, ESR and occult blood have been removed and need to be added manually when required
- RC folate has also been removed as largely outdated
- Opt-on for the data repository has been added
- Ethnicity has been added (NCSP requirement)

## REPEAT PATIENTS

We still have a significant number of patients being given repeat cards with test frequencies which are not clinically supportable. Some advice on usual frequency follows:

**CEA** – As a general rule, CEA (like most other tumour markers) is a poor screening test and is not recommended to be used in this way. Testing is usually reserved for those with a diagnosis of colorectal cancer who are being monitored after therapy to detect recurrence or progression. However, even then the optimal frequency of testing is not clear and it will be dictated by the nature and intent of the original therapy and what the likely response to any recurrence might be. A number of US and European guidelines recommend testing at 3 monthly intervals for the first 3 years after therapy if the patient is a candidate for surgery or systemic therapy after tumour recurrence. (http://www.aacc.org/members/nacb/LMPG/OnlineGuide/PublishedGuidelines/major/Documents/TumorMarkersMajor10.pdf)

**PSA** - Men who have undergone radical prostatectomy or radiotherapy should have their PSA level checked regularly (bpac Best Tests; Oct 2012). Testing should begin 6 weeks after treatment (unless adjuvant hormonal treatment is being given) and then at least every six months for the first two years. Thereafter annual testing should be carried out. Where watchful waiting is being used to follow disease, PSA should be checked at least once a year. For those being followed by active surveillance, general guidance is that PSA should be checked 3-6 monthly but actual frequency is guided by how quickly the PSA value is changing.

**HbA1c** – For those with established diabetes, guidelines in the NZ Primary Care Handbook recommend review of HbA1c every 3 to 6 months depending on an individual's risk of diabetes-related complications. When assessing cardiovascular risk in the non-diabetic individual, HbA1c should be assayed as part of that risk assessment. The frequency of this testing depends on the current level of risk and ranges from annually for those at high risk (5y risk ≥ 15%) to every 10 years in those with a 5y risk of <5%).

**Uric Acid** – In the treatment of gout, monthly assay of serum urate is recommended until the target serum urate of <0.36 mmol/L is achieved. Thereafter 3 monthly monitoring is recommended to ensure that this target value is maintained (source: Canterbury Health Pathways). N.B. a normal serum urate in an acute attack of joint pain does not exclude gout.

**Clozapine** patients on clozapine have a blood level done when they get to the target dose, when doses are increased and thereafter annually. Clozapine levels might also be considered when there are issues of compliance or there are reasons to be concerned about toxicity. Clozapine should not be requested using a repeat card.

**Immunology tests –** patients should not be put on a repeat card until their initial status has been determined.

**ANA, ENA antibodies –** twice to confirm positive or negative then annually (not suitable for a repeat card)
**ANCA** – negatives annually, positive **MPO or PR3** not more often than 6 weekly
**RF, Thyroid antibodies,CCP antibodies** – known positives 6-12 monthly
**dsDNA** – known positives 6 weekly, negatives annually

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**TEST RELATED**

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**Influenzae Testing**

The following patients should be tested

- in-patients with severe disease eg in ICU (usually after discussion with medical microbiology or infectious diseases physician)
- hospital and community patients at extra risk of complications (immunosuppressed, pregnant or if they are close contacts of those persons).
- any patients who have recently returned from areas where the H7N9 strains are present, or close contacts who become ill

Other community testing is not done unless requested by Public Health. There is a GP sentinel practice programme which is designed to determine which strains of flu are in the community and the flu activity rates.

**Urine metanephrines**

**Urine metanephrines is the test of choice in the investigation of phaeochromocytoma** Although a relatively rare diagnosis, occasionally it is necessary to investigate the possible presence of a phaeochromocytoma in hypertensive patients. These are tumours, usually of the adrenal medulla, that secrete increased quantities of catecholamines – sometimes in an episodic manner. Clinical findings are typically of sustained or episodic hypertension, headache and sweating.
Measurement of catecholamines (adrenaline and noradrenaline) has traditionally been used to aid diagnosis. However, these may be secreted in an episodic manner and may be normal at the time of testing. The metanephrines (metanephrine and normetanephrine) are catecholamine metabolites and are secreted at a more constant rate than catecholamines. They have increased sensitivity and specificity for phaeochromocytoma and should be used as the initial biochemical investigation for this condition. The recommended specimen is a 24h collection of urine in a **plain** container. However, if urinary catecholamines are required as well, the collection must be into a bottle containing acid (obtained from the laboratory).
There are a number of substances that can cause elevated metanephrines in the absence of phaeochromocytoma including paracetamol, beta blockers, phenoxybenzamine and tricyclic antidepressants. Calcium channel inhibitors, diuretics and selective alpha-1 blocker drugs appear to have minimal effect on urinary metanephrine values.
Where there is a family history of phaeochromocytoma, multiple endocrine neoplasia or other catecholamine-secreting lesions, patients should be referred to endocrinology regardless of test results.

Lenders JWM et al (2002) JAMA 287:1427-34
Eisenhofer G et al (2003) J Clin Endocrinol Metab 88:2656–66)

**ESR Testing**

The ESR has a longstanding use in clinical medicine but has significant limitations in terms of measurement accuracy. In addition it is affected by numerous physiological variables and by factors other than inflammation such as haemoglobin and plasma protein levels.

Traditionally the ESR has been used in two broad clinical contexts:

1. Screening for plasma cell dyscrasias; if these conditions are suspected, protein electrophoresis and/or serum free light chains should be used.
2. Assessment of possible inflammatory or infective disorders; CRP is the appropriate investigation to use

From 1 July 2013 the ESR will only be processed if the request has been discussed with a Haematologist, or if one of the following indications is documented on the request form:

- Systemic lupus erythematosis (SLE)
- Rheumatoid arthritis
- Kawasaki Disease
- Rheumatic fever
- Hodgkin lymphoma
- Temporal arteritis
- Suspected prosthetic joint inflammation

ESR testing will also be removed from any repeat cards that patients may be holding

**Diagnosing diabetes mellitus**

A reminder that HbA1c is the preferred diagnostic test according to recent New Zealand Society for the Study of Diabetes guidance. Glucose-based criteria are still valid but the only situation in which they should be used is in pregnancy and in those individuals where HbA1c is unreliable (haemoglobinopathy, red cell defects such as spherocytosis etc). Glucose tolerance testing is still required for the diagnosis of gestational diabetes mellitus but otherwise should not be requested routinely.

Note 1: There is no benefit in performing GTTs in those previously diagnosed with diabetes or in those on metformin. Where this is the case, the request will be reviewed with the requestor. For those on Metformin, the drug should be stopped for 1 week before the test is carried out. If it is not thought appropriate to stop metformin because of hyperglycaemia, the GTT is not likely to be useful.

Note 2: There is little reason to measure serum glucose routinely with HbA1C in those who are otherwise well. Measurement of glucose should be carried out where there is thought to be an acute derangement of glycaemic control.

**BRCA Testing**

Genetic Health Service NZ (GHSNZ http://www.genetichealthservice.org.nz/) recommends that patients concerned about their familial cancer risk be referred for genetic counselling in the first instance. GHSNZ can facilitate private BRCA testing for families who do not qualify for publicly funded genetic testing. Accessing testing through GHSNZ ensures patients have access to surveillance advice, interpretation and explanation of complex genetic results and the ability to review genetic and family information as new technologies become available.

Private testing for BRCA1 and BRCA2 is available through Australian based company Genetic Technologies. Information about accessing testing is available online:www.gtglabs.com. The cost of testing is currently $2,149 AUD and the test must be ordered by a health professional.

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