Laboratory Requisition 2014

The lab requisition is probably the most used eForm.

Principles of this revision:

1) Provide useful non-intrusive information at the point of care.

2) Improve efficiency.

3) Gather up information from the latest recommendations and use common sense to combine all of these into a useful set of prompts.

4) To support the provision of excellent patient care at the same time being mindful of unnecessary testing and the cost burden to our medical system.

As family doctors we cover all specialties including endocrinology (diabetes), cardiology, nephrology, psychiatry, etc....and the guidelines come from different sources (the main English ones seem to be from the US, UK and Canada) and are only revised every 3-5 years.
This can make testing decisions confusing at times.

The worldwide trend is to move towards Evidence Based Medicine, although there is always an undercurrent of ‘Big Pharma’ influencing the outcomes and recommendations.

Canadian Trivia:

Cost of laboratory work in Canada in 2012:

1 Billion dollars ($1 000 000 000)

Dividing this over the year: ~ $3M per day

In 2012, Canadian governments will pay private corporations over a billion dollars (a conservative extrapolation from recent spending in Ontario, Manitoba, Alberta, British Columbia, and Saskatchewan)[1] for medical laboratory services, making them among the most privatized of Canada's essential medical services.[1-3] This estimate does not include payments to private laboratories from the federal government, territorial governments, public health departments, and public hospitals.

http://www.openmedicine.ca/article/view/537/489

Latest changes in Lipid Management Guidelines

USA

Heart Association Task Force on Practice Guidelines Cardiovascular Risk in Adults: A Report of the American College of Cardiology/American 2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic

http://circ.ahajournals.org/content/early/2013/11/11/01.cir.0000437738.63853.7a.citation

Summary:

1) 4 groups identified to consider statin use

- Patients with atherosclerotic CVD
- LDL >4.9
- Diabetics aged 40-75yrs
- Higher risk patients aged 40-75yrs (>7.5%)

"The following are **NO** longer considered appropriate strategies: **treat to target, lower is best.**

The new guideline recommends: **treat to level of ASCVD risk**, based upon estimated 10-year or lifetime risk of ASCVD."

"A New Perspective on LDL–C and/or Non-HDL–C Treatment Goals

• The Expert Panel was unable to find RCT evidence to support continued use of specific LDL–C and/or non-HDL–C treatment targets.

• The appropriate **intensity of statin therapy** should be used to reduce ASCVD risk in *those most likely to benefit*.

• **Nonstatin therapies do not** provide acceptable ASCVD risk reduction benefits compared to their potential for adverse effects in the routine prevention of ASCVD."

Global Risk Assessment for Primary Prevention

• This guideline recommends use of the new **Pooled Cohort Equations** to estimate 10-year ASCVD risk in both white and black men and women.

• By more accurately identifying higher risk individuals for statin therapy, the guideline focuses statin therapy on *those most likely to benefit*.

• It also indicates, based on RCT data, those high-risk groups that may not benefit.

• Before initiating statin therapy, this guideline recommends a discussion by clinician and patients.

UK

Lipid modification

Cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease

NICE guideline

Draft for consultation, February 2014

http://www.nice.org.uk/guidance/index.jsp?action=download&o=66552

Identifying and assessing cardiovascular disease (CVD) risk

Identifying people for full formal risk assessment

1.1.1 For the primary prevention of CVD in primary care, use a **systematic strategy to identify** people aged 40–74 who are likely to be at high risk. **[2008]**

1.1.2 **Prioritise** people on the basis of an estimate of their CVD risk before a full formal risk assessment. Estimate their CVD risk **using CVD risk factors already recorded** in primary care electronic medical records. **[2008]**

1.1.3 People older than 40 should have their estimate of CVD risk reviewed on an ongoing basis. **[2008]**

1.1.4 Prioritise people for a full formal risk assessment if their estimated 10-year risk of CVD is **10%** or more. **[2008, amended 2014]** (was >20%)

1.1.5 Discuss the process of risk assessment with the person identified as being at risk, including the option of declining any formal risk assessment. **[2008]**

1.1.6 **Do not use opportunistic assessment** as the main strategy in primary care to identify CVD risk in unselected people. **[2008]**

Full formal risk assessment

1.1.7 Be aware that all CVD risk assessment tools can provide only an **approximate value** for CVD risk. Interpretation of CVD risk scores should always reflect informed clinical judgement. **[2008]**

1.1.8 Use the **QRISK2 risk assessment tool** to assess CVD risk for the primary prevention of CVD. **[new 2014]**

1.1.27 **Offer people information** about their absolute risk of CVD and about the absolute benefits and harms of an intervention over a 10-year period. This information should be in a form that:

- presents individualised risk and benefit scenarios and
- presents the absolute risk of events numerically and
- uses appropriate diagrams and text.

Monitoring statin side effects:

1.3.41 **Do not measure creatine kinase** levels in **asymptomatic** people who are being treated with a statin. **[2008]**

1.3.42 Measure baseline **liver transaminase enzymes** (alanine aminotransferase or aspartate aminotransferase) before starting a statin. Measure liver transaminase (alanine aminotransferase or aspartate aminotransferase) within 3 months of starting treatment and at 12 months, **but not again unless clinically indicated. [2008, amended 2014]**

Reaching lipid targets[10]

- **Starting dose**
  Arguments regarding the best strategy for selecting an appropriate starting dose have been won out by the evidence-based, **'fire and forget'** approach ahead of the **'titrate to target'** strategy in the latest NICE guidance.[8]
- Following NICE guidance, no recheck of lipid levels is necessary for **primary prevention**.

Canada

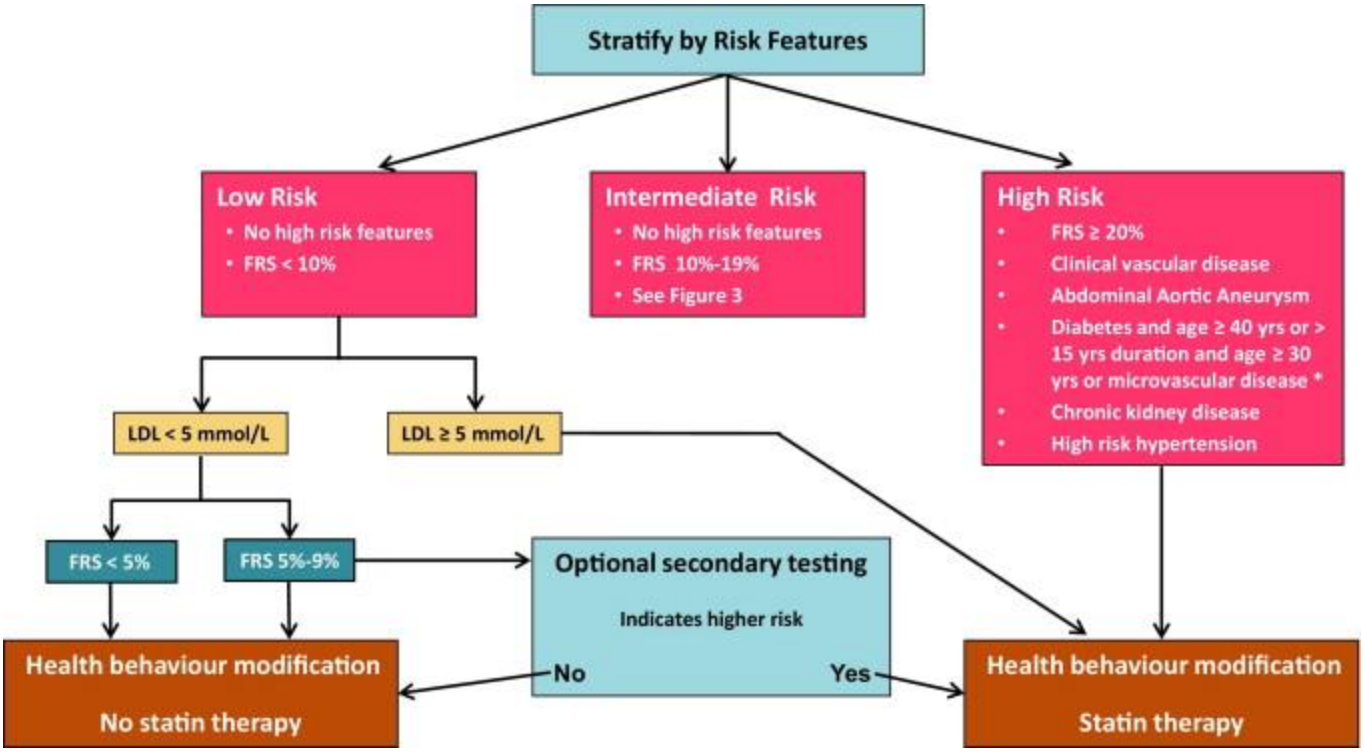
2012 update

http://www.onlinecjc.ca/article/S0828-282X%2812%2901510-3/fulltext

1) Screen males > 40 females > 50

Lipid profiles Q3-5yrs if Framinham < 5% and Q1 yr >=5%

2) Risk assessment



3) Treatment targets: still cholesterol level based

Risk level	Initiate therapy if	Primary target LDL C	Alternate target
High FRS ≥ 20%	Consider treatment in all (Strong, High)	≤ 2 mmol/L or ≥ 50% decrease in LDL-C (Strong, High)	➢ Apo B ≤ 0.8 g/L ➢ Non HDL-C ≤ 2.6 mmol/L (Strong, High)
Intermediate FRS 10%-19%	➢ LDL-C ≥ 3.5 mmol/L (Strong, Moderate) ➢ For LDL-C < 3.5 consider if: Apo B ≥ 1.2 g/L or Non-HDL-C ≥ 4.3 mmol/L (Strong, Moderate)	≤ 2 mmol/L or ≥ 50% decrease in LDL-C (Strong, Moderate)	➢ Apo B ≤ 0.8 mg/L ➢ Non HDL-C ≤ 2.6 mmol/L (Strong, Moderate)
Low FRS < 10%	➢ LDL-C ≥ 5.0 mmol/L ➢ Familial hypercholesterolemia (Strong, Moderate)	≥ 50% reduction in LDL-C (Strong, Moderate)	

Emerging evidence suggests that a more liberal use of statins in those with a risk of **5%-19%** can be justified if deemed acceptable to the patient and health care provider.

My summary of these guidelines:

1) CVD disease is on the increase and is a significant burden to health care.

2) Statin drugs provide a benefit that has to be weighed against the cost and side effects. The patient needs to be fully informed so that they can make the final decision.

3) The threshold for use of statins in primary prevention has dropped – UK is normally conservative and has reduced this to 10%, US has 7.5% (65yr male/71yr female) and Canada has a 5% threshold (60yr male/65yr female: BP 120/TC 4/HDL 1.1).

4) Canada is behind on the recommendations.

Prompt logic built into the 2014 Lab Requisition:

1) Preferable to do **non fasting** blood work.

2) Ordering **lipid profiles** should be **guided by patient cardiovascular risk**.

3) **Where parameters not recorded**, for risk assessment, use BP Systolic **150**, Total Cholesterol **6.0** and HDL **1.0**(i.e. **moderately unfavorable values**).

4) If patient has **DM/CKD/IHD** risk is automatically returned as **~30%.**

5) **Risk assessments are automatically done** by the lab form from age **20-75yrs**.

6) If patient is **on a statin**, **NO need** for further **lipid profiles** and **after the first year, no need for further AST or CK measurements** (no prompts for AST or CK).

7) **If NOT** on a statin drug:

-**If at high risk (>=10%)** then prompt for lipid profiles **every 5yrs** to age 40 for males and 50 for females, thereafter **every 2 years.**

-**If at low risk (<10%)** then prompt for a **single lipid profile** for males age 40 and females age 50 and no further prompt unless risk rises **above 10%.**

- If **diabetic,** prompt for lipid profile **annually**
  If **CKD,** prompt for lipid profile every **2 years**
  If **HBP**, prompt for lipid profile every **5 years**

8) **FIT** test prompting will occur every **2 years** for patients aged **50-74yrs**. If a date is inserted into the colonoscopy box this will switch off the prompt for **10 years**.
The rationale is if the colonoscopy was normal and the patient is low risk, they are good for 10 years and back on FIT. If the patient is high risk, then they will be recalled for colonoscopy in about 5yrs, so still not needing a FIT.
Put the number of years in the second box for the period until the next colonoscopy, leave blank or put '0' if not further colonoscopy scheduled.