Cholesterol-LDL calculated

Important note: This is an archived metadata standard from the AIHW Knowledgebase. For current metadata standards and related information please access METeOR, the AIHW's Metadata Online Registry at http://meteor.aihw.gov.au

Identifying and Definitional Attributes

Data Dictionary: NHDD

Knowledgebase ID: 000652 Version number: 1

Metadata type: DERIVED DATA ELEMENT

Registration NHIMG Admin status: SUPERSEDED

Authority: Effective date: 01-MAR-05

Definition: A person's calculated low-density lipoprotein cholesterol (LDL-C).

Context: Public health, health care and clinical setting.

Relational and Representational Attributes

Datatype: Numeric

Representational QUANTITATIVE VALUE

form:

Representation NN.N

layout:

Minimum Size: 2 Maximum Size: 3

Data Domain: 99.9 Not stated/inadequately described

NOVAL Calculated value recorded in mmol/L to one

decimal place

Guide For Use: Formula:

LDL-C = (plasma total cholesterol) - (high density lipoprotein cholesterol) - (fasting plasma triglyceride divided by 2.2).

Collection Methods: The LDL-C is usually calculated from the Friedwald Equation

(Friedwald et al. 1972), which depends on knowing the blood levels of the total cholesterol and HDL-C and the fasting level of the

triglyceride.

Note that the Friedwald equation becomes unreliable when the

plasma triglyceride exceeds 4.5 mmol/L.

Note also that while cholesterol levels are reliable for the first 24 hours after the onset of acute coronary syndromes, they may be

unreliable for the subsequent 6 weeks after an event.

-Measurement of lipid levels should be carried out by laboratories, or practices, which have been accredited to perform these tests by

the National Association of Testing Authorities.

-To be collected as a single venous blood sample, preferably following a 12-hour fast where only water and medications have been consumed.

Related metadata: is used in conjunction with Service contact date version 1

is calculated using Cholesterol-HDL - measured version 1 is calculated using Cholesterol-total - measured version 1 is calculated using Triglycerides - measured version 1

is calculated using Fasting status version 1

Administrative Attributes

Source Document: National Heart Foundation of Australia and the Cardiac Society of

Australia and New Zealand, Lipid Management Guidelines - 2001,

MJA 2001; 175: S57-S88.

Source Organisation: CV-Data Working Group (CVWG)

Comments: High blood cholesterol is a key factor in heart, stroke and vascular disease, especially coronary heart disease (CHD).

Poor nutrition can be a contributing factor to heart, stroke and vascular disease as a population's level of saturated fat intake is the prime determinant of its level of blood cholesterol.

The majority of the cholesterol in plasma is transported as a component of LDL-C. Thus, the evidence linking CHD to plasma total cholesterol and LDL-C is essentially the same.

Cardiovascular disease (clinical):

Many studies have demonstrated the significance of blood cholesterol components as risk factors for heart, stroke and vascular disease.

Scientific studies have shown a continuous relationship between lipid levels and CHD and overwhelming evidence that lipid lowering interventions reduces CHD progression, morbidity and mortality.

There are many large-scale, prospective population studies defining the relationship between plasma total (and LDL) cholesterol and the future risk of developing CHD. The results of prospective population studies are consistent and support several general conclusions:

- -the majority of people with CHD do not have markedly elevated levels of plasma total cholesterol or LDL-C
- -there is a continuous positive but curvilinear relationship between

the concentration of plasma total (and LDL) cholesterol and the risk of having a coronary event and of dying from CHD -there is no evidence that a low level of plasma (or LDL) cholesterol predisposes to an increase in non-coronary mortality.

The excess non-coronary mortality at low cholesterol levels in the Honolulu Heart Study (Yano et al. 1983; Stemmermann et al. 1991) was apparent only in people who smoked and is consistent with a view that smokers may have occult smoking related disease that is responsible for both an increased mortality and a low plasma cholesterol.

It should be emphasised that the prospective studies demonstrate an association between plasma total cholesterol and LDL-C and the risk of developing CHD. (Lipid Management Guidelines - 2001, MJA 2001; 175: S57-S88 and Commonwealth Department of Health & Ageing and Australian Institute of Health and Welfare (1999) National Health Priority Areas Report: Cardiovascular Health 1998. AIHW Cat. No. PHE 9. HEALTH and AIHW, Canberra pgs 14-17).

In settings such as general practice where the monitoring of a person's health is ongoing and where a measure can change over time, the service contact date should be recorded.

Data Element Links

Information Model Entities linked to this Data Element

NHIM Service provision event

Data Agreements which include this Data Element

DSS - Cardiovascular disease (clinical) From 01-Jan-03 to DSS - Acute coronary syndrome (clinical) From 04-Jun-04 to