

# Dyslipidaemia

# DYSLIPIDAEMIA

## Screening

### Random lipids:

- Every 2 years in people 15 - 75 years old with increased **RISK OF VASCULAR DISEASE**. This includes:
  - Aboriginal and Torres Strait Islander people.
  - diabetes mellitus.
  - chronic kidney disease.
  - familial hypercholesterolaemia.
  - family history of coronary artery disease (first degree relative < 55 years).
  - hypertension.
  - smoking.
- Every 5 years in people 45 - 75 years old without added risk.

If lipid levels are above treatment thresholds (see therapeutic protocol section), repeat lipid test to confirm before commencing treatment. If only triglycerides elevated, follow up with fasting sample is required.

## Case Definition

Dyslipidaemia is normally considered to be a persisting abnormal lipid profile, defined by serum lipids on at least 2 occasions of:

- Total cholesterol (TC) > 5.5mmol/L and / or:
- Fasting triglycerides (TG) > 2.0mmol/L and / or High density lipoprotein (HDL) < 1.0

While these "normal" lipid levels may be important cut-off values for people with no other cardiovascular risk factors, in all other circumstances the overall cardiovascular risk profile is more important than the actual lipid levels and it is the overall CV risk that determines the decision to treat (see therapeutic protocol below).

## Principles of Management

Encourage exercise, low fat diet with at least **2 fish meals a week** (see [HEALTHY LIVING](#)). Consider Dietician referral.

Encourage all smokers to quit (see [SMOKING CESSATION](#)).

All people with HIGH RISK VASCULAR DISEASE should commence medication without delay. For those not at high risk, review effect of dietary and other advice before commencing treatment.

At each visit check for side effects of treatment (see Follow-up).

### Treatment targets:

Total cholesterol < 4.0mmol/L and

Low density lipoprotein < 1.8 mmol/L and

Triglycerides < 2.0mmol/L

High density lipoprotein ideally > 1.0mmol/L (see below).

### BASELINE ASSESSMENT

Weight, BMI, WC, BP

Diabetes screen if not known to be diabetic

Baseline LFT's if not done in the previous 6 months (see Refer / Discuss).

## Therapeutic Protocols

Consider **aspirin** 100mg daily (see [CORONARY ARTERY DISEASE \(CAD\)](#) protocol).

- In those with very **high absolute cardiovascular risk** i.e.:
  - coronary artery disease.
  - cerebrovascular or peripheral vascular disease.
  - diabetes PLUS Aboriginal and /or Torres Strait Islander.
  - diabetes in non-Aboriginal people PLUS microvascular disease (e.g. retinopathy, proteinuria) and / or > 60 yrs.

- family history of CAD before 55 years in 2 or more first degree relatives.
  - Start treatment with atorvastatin (40mg daily, doubling after 6 weeks to 80mg daily if tolerated – see Follow-up).
  - If treatment targets not reached after a further 6 weeks, add ezetimibe 10mg daily.
- For those who **do not meet the above criteria but are at increased risk of CV disease**:
    - See table 1 on page 2 outlining PBS guidelines regarding lipid thresholds for subsidized therapy.
  - For those who are at **NO increased risk of CV disease**, treat only if TC > 9mmol/L or TG > 8mmol/L

**For those in categories (2) and (3) above, use the following guide to determine which drug to use and how:**

### HYPERCHOLESTEROLEMIA (HIGH TC or HIGH LDL):

FIRST: **atorvastatin** 20mg daily and double every 6 weeks to maximum of 80mg daily.

ADD: (if treatment targets not reached) **ezetimibe** 10mg daily.

### HYPERTRIGLYCERIDAEMIA + LOW HDL

*A key factor in management is reducing alcohol consumption and improving diabetes control.*

Start **gemfibrozil** 600mg bd.

### MIXED DYSLIPIDAEMIA (HIGH LDL, LOW HDL, HIGH TG)

Choose a single agent (**atorvastatin** or **gemfibrozil**) based on dominant picture and manage as above.

### LOW HDL

Low HDL does not respond well to statins or fibrates but is improved with exercise, smoking cessation and good blood sugar control in diabetes.

# Dyslipidaemia

## Follow-up

Repeat random lipid profile and LFTs every 3 months during dietary change or medication adjustment.

Check CK if muscle tenderness / weakness / aches.

Once therapeutic targets achieved repeat random lipids and LFT's every 6 MONTHS.

## Women of Child Bearing Age

All statins are contraindicated in pregnant women or women likely to become pregnant.

The risk of **statins** is greatest in the first trimester; therefore women of child bearing age on **statins** need to have reliable contraception.

All lipid-lowering medications should be ceased if women become pregnant.

**All lipid lowering medications** should be avoided with breastfeeding.

## Refer / Discuss

### TO DIETICIAN:

- If treatment targets not reached despite maximum tolerated therapy.

### TO PHYSICIAN:

- If treatment targets not reached despite maximum tolerated therapy.
- Pregnant or breastfeeding and marked dyslipidaemia.
- ALT > 100IU/L prior to commencement of drug Rx or ALT > 150IU/L associated with drug Rx.
- CK > 800U/L.

**TABLE 1: GUIDELINES FOR PBS SUBSIDY FOR LIPID MODIFYING MEDICATION FOR PEOPLE NOT MEETING THE CRITERIA FOR HIGH ABSOLUTE CV RISK (see page 1 – Therapeutic Protocols section)**

Start drug therapy only when cholesterol remains above threshold after 6 weeks of diet therapy alone				
Population	Cholesterol thresholds required for PBS subsidy			
Patients with diabetes (apart from high risk groups – see Table 1)	total-C > 5.5 mmol/L			
Aboriginal and Torres Strait Islander people without diabetes or other high risk	total-C > 6.5 mmol/L	or	total-C > 5.5 mmol/L and HDL-C < 1 mmol/L	
Patients with hypertension	total-C > 6.5 mmol/L	or	total-C > 5.5 mmol/L and HDL-C < 1 mmol/L	
Patients with HDL cholesterol < 1 mmol/L	total-C > 6.5 mmol/L			
Familial hypercholesterolaemia identified by: • DNA mutation or • tendon xanthoma in the patient or first or second-degree relative	<b>&lt; 18 years at treatment initiation</b> LDL-C > 4 mmol/L			
	<b>&gt; 18 years at treatment initiation</b>			
	LDL-C > 5 mmol/L	or	total-C > 6.5 mmol/L	or
Family history of symptomatic CHD: • before age 60 years in one or more first-degree relatives • before age 50 years in one or more second-degree relatives	<b>≤ 18 years at treatment initiation</b> LDL-C > 4 mmol/L			
	<b>&gt; 18 years at treatment initiation</b>			
	LDL-C > 5 mmol/L	or	total-C > 6.5 mmol/L	or
High cholesterol in patients not eligible above who are: • men aged 35 - 75 years • postmenopausal women up to 75 years	total-C > 7.5 mmol/L	or	triglycerides > 4 mmol/L	
	total-C > 9 mmol/L	or	triglycerides > 8 mmol/L	