

**Triglycerides (TG) (mmol/L)**

- Routinely measured as part of a full lipid profile to enable LDL calculation.
- TG testing in isolation is rarely indicated.
- Can be elevated on a non-fasting sample due to the presence of dietary TG, consider fasting sample.
- Very high TG levels e.g. >10mmol/L are associated with pancreatitis; increased morbidity and mortality independent of CVD risk.
- High TG are most commonly due to secondary causes e.g. poorly controlled diabetes mellitus, alcohol excess or medications.
- The relationship between TG and cardiovascular risk is unclear. Overall it is felt that raised TG still confer a small degree of additional risk.

**Clinical assessment**

Check BP, measure weight/BMI, smoking status & alcohol intake

Examine for any skin changes suggestive of a primary hyperlipidaemia

Check TFTs, fasting blood glucose ([click here for more information on the diagnostic work-up for diabetes](#)), renal function, liver function, MCV and GGT

† Consider any relevant secondary causes e.g. review medications

Further tests as appropriate e.g. pregnancy test, urinalysis to check for proteinuria

**† Secondary causes of raised TG**

Alcohol excess	Hypothyroidism
Nephrotic syndrome/renal disease	Immunoglobulin excess
Drugs (including thiazides, non-cardioselective beta blockers, oestrogens, tamoxifen, corticosteroids)	Bulimia
	Pregnancy
	Obesity
	Insulin resistance
	Diabetes
	Metabolic syndrome

**\* Lifestyle advice**

Weight loss, if appropriate

Reduce or abstain from alcohol

Dietary modification:

- reduce total calorie intake by minimizing intake of fats and carbohydrate
- increase intake of fish, especially oily fish

Smoking cessation (smoking independently increases TG levels)

Increase physical activity

**Raised TG**

e.g. >5mmol/L on a random sample

Repeat fasting lipid profile to confirm in 1-2 weeks

**If fasting TG raised at >2.5**

- Assess & treat secondary causes†
- Give lifestyle & dietary advice\*
- Repeat fasting lipid profile after above interventions

**TG 2.5 – 4.49**

- Continue to treat any secondary causes
- Reinforce lifestyle advice
- Regular TG monitoring not required

**TG 4.5 – 10**

- Treat with a statin if at significant cardiovascular risk (based on usual criteria)
- If treatment is not started repeat TG in 1 month to confirm TG remain <10

**TG >10**

- Refer to secondary care
- Optimise any secondary causes
- Consider starting a fibrate if not contra-indicated

**During treatment**

- Repeat fasting lipid profile & ALT in 8 weeks
- No specific treatment target exists for TG at present
- In this group the main treatment aim is to transform a highly atherogenic lipid profile with moderately raised TG, high LDL and low HDL into a less atherogenic one
- If TG remain > 5 on statin treatment and the patient is at high cardiovascular risk we recommend specialist advice is obtained (preferably via e-mail)

**Seek specialist advice**

- If TG >10
- TG 5–10 in a high cardiovascular risk patient not responding to statin treatment
- Suspected familial hyperlipidaemia
- Patients with significant hyperlipidaemia that is proving difficult to manage in primary care
- **Refer urgently to secondary care those with TG >20 not caused by alcohol or poor glycaemic control**

Clinic	Specialist advice contact details
Lipid Clinic, RIE	<a href="mailto:RIE.LipidClinicAdvice@luht.scot.nhs.uk">RIE.LipidClinicAdvice@luht.scot.nhs.uk</a>
CVD risk clinic, WGH	<a href="mailto:Lothian.WGHCardiovascRiskAdvice@nhs.net">Lothian.WGHCardiovascRiskAdvice@nhs.net</a>
Lipid clinic, SJH	Tel: 01506 523 841
<b>Lothian lipid guidelines</b>	<a href="#">Lothian Lipid Guidelines.pdf</a>