### 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
- Nephrotic syndrome/renal disease
- Drugs (including thiazides, non-cardioselective beta blockers, oestrogens, tamoxifen, corticosteroids)
- Hypothyroidism
- Immunoglobulin excess
- 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

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Specialist advice contact details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipid Clinic, RIE</td>
<td><a href="mailto:RIE.LipidClinicAdvice@luht.scot.nhs.uk">RIE.LipidClinicAdvice@luht.scot.nhs.uk</a></td>
</tr>
<tr>
<td>CVD risk clinic, WGH</td>
<td><a href="mailto:WGH.CardiovascRiskAdvice@luht.scot.nhs.uk">WGH.CardiovascRiskAdvice@luht.scot.nhs.uk</a></td>
</tr>
<tr>
<td>Lipid clinic, SJH</td>
<td>Tel: 01506 523 841</td>
</tr>
<tr>
<td>Lothian lipid guidelines</td>
<td>here</td>
</tr>
</tbody>
</table>

#### 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

---

NHS Lothian Primary Care Summary Guidance for the Investigation & Management of Hypertriglyceridaemia November 2017

A Guide to Best Practice in Lothian revised in line with 2016 updated NICE Guidelines

Dr T Caparrotta, Dr S Jenks, Dr I Maclntyre, Dr J Malo, Prof S Maxwell, Dr E Morrison, Dr P Rae and Prof DJ Webb