North Central London
Joint Formulary Committee

Guidance for the management of hypertriglyceridaemia

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Document control

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Document management

Groups / Individuals who have overseen the development of this guidance:	Dr Devika Nair, Royal Free London NCL JFC Support Pharmacist
Groups which were consulted and have given approval:	Royal Free London Drug and Therapeutics Committee
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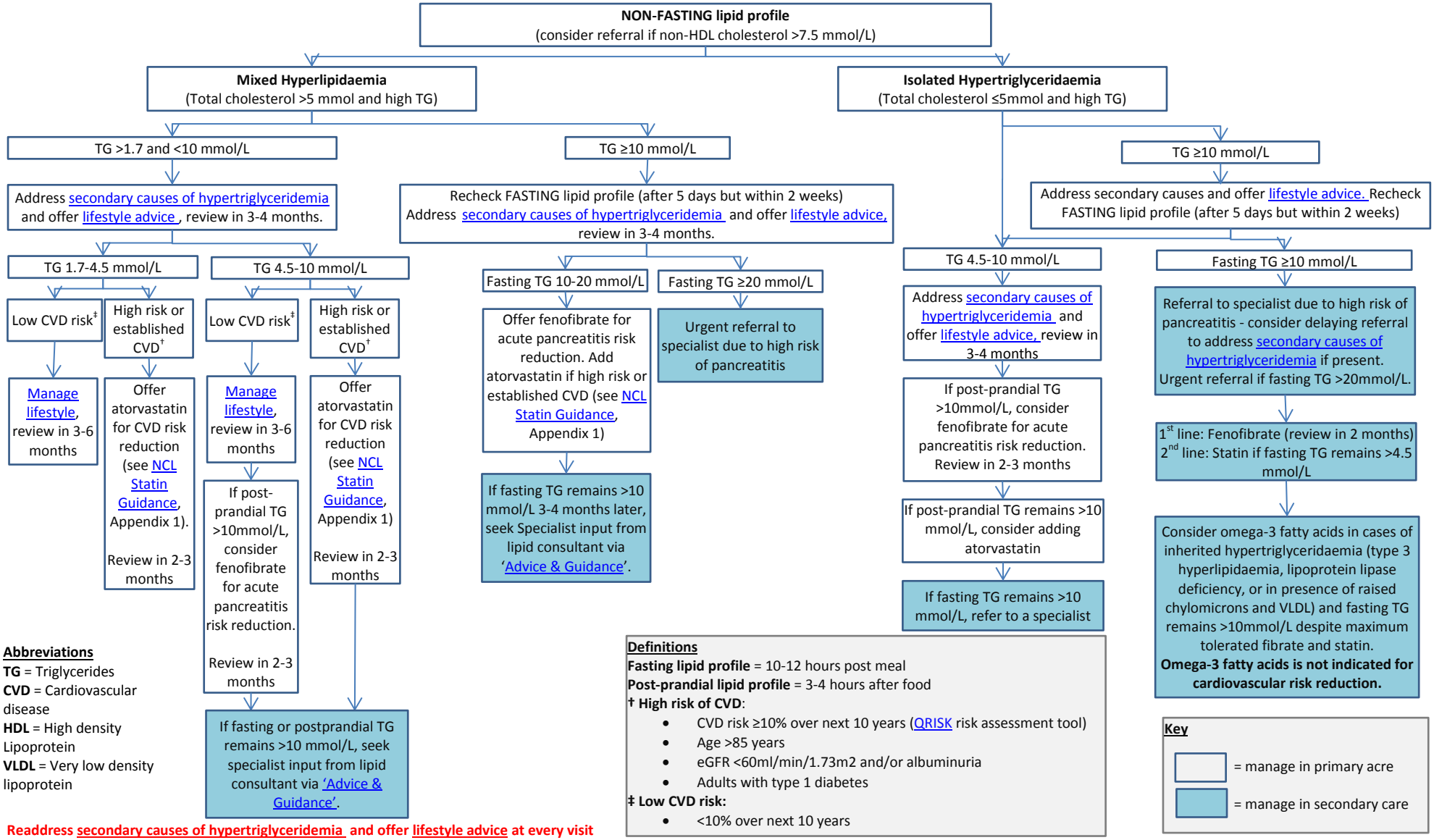
Management of raised triglyceride concentration



Secondary causes of hypertriglyceridemia [1]
• Obesity, often in association with an elevation in serum cholesterol
• Diabetes mellitus, where there is a relationship to poor glycaemic control and, in type 2 diabetes, obesity
• Nephrotic syndrome, often in association with hypercholesterolemia, and renal failure
• Hypothyroidism, often in association with hypercholesterolemia
• Serum total cholesterol and triglyceride concentrations normally increase markedly during pregnancy
• Medicines:
  ○ Oestrogen replacement administered orally
  ○ Tamoxifen can cause marked hypertriglyceridemia in a minority of women
  ○ Beta blockers, with the exception of carvedilol
  ○ Immunosuppressive medications, such as glucocorticoids and cyclosporine
  ○ HIV antiretroviral regimens
  ○ Oral retinoids (e.g. isotretinoin)
	Lifestyle advice
	Lifestyle modifications to reduce triglyceride levels are similar to those recommended for individuals at high risk of cardiovascular disease[1] (full lifestyle advice published in NICE CG181[2])
	• Cardioprotective diet including:
	  ○ Restrict consumption of high glycaemic index/load foods as well as refined sugars, fruit juices, and high fructose beverages [1]
	  ○ Increased consumption of oily fish [1,2] (pregnant women to limit their oily fish to no more than 2 portions per week and to avoid marlin, shark and swordfish[2])
	  ○ People with very high triglycerides (>10mmol/L) may benefit from the specialist advice from a lipid clinic regarding a very low fat diet
	• Physical activity (at least 150 minutes of moderate intensity aerobic activity or 75 minutes of vigorous intensity aerobic activity)
	• Weight management for those who are who are overweight or obese
	• Avoid binge drinking and limit alcohol intake to national recommended limits
	• Smoking cessation (primarily CV protection)

Investigations for causes of hypertriglyceridemia
• Urine dipstick (nephrotic syndrome)
• Blood tests:
  ○ Lipid profile (total cholesterol, HDL, non-HDL and triglycerides)
  ○ Fasting glucose or HbA1c
  ○ Renal function
  ○ Thyroid function tests (TFTs)
  ○ Liver function (LFTs)
	Monitoring fibrate therapy
	• Recheck lipid levels within 3 months of initiation, aiming for a triglyceride level <4.5 mmol/L
	• Check serum creatinine at baseline, within 3 months of initiation of treatment and at least annually thereafter (more frequently if clinical indicated).
	  ○ Hold treatment if creatinine levels >50% ULN (upper limit of normal)
	  ○ Consider dose reduction if renal function declines in line with the SPC / BNF
	• Monitor liver transaminase levels every 3 months during the first 12 months of treatment and thereafter periodically.
	  ○ Discontinue therapy if AST or ALT levels increase to more than 3x ULN.
	  ○ If symptoms indicative of hepatitis occur (e.g. jaundice, pruritus), and diagnosis is confirmed by laboratory testing, fenofibrate therapy should be discontinued
	• Baseline CK should only be checked in those who may already be taking a medicine that will increase the risk of myopathy when used concomitantly with fibrate, such as statin therapy.
	• Routine CK monitoring for asymptomatic individuals is not recommended. Monitor CK for patients with muscle weakness/pain to assess severity of muscle damage and aid the decision to continue treatment

For information on prescribing statins and lipid modification for the prevention of CVD see:

- North Central London Statin Prescribing & Lipid Modification Guideline for the Prevention of Cardiovascular Disease
  - https://www.ncl-mon.nhs.uk/wp-content/uploads/Guidelines/2_Lipid_modification_prevention_cardiovascular_disease.pdf

Advice and Guidance: Accessible via eRS: https://nww.ebs.ncrs.nhs.uk/. The Royal Free Lipid Centre supports Advice and Guidance and can be identified on eRS as *"Lipid Management Service-Cardiology-Royal Free Hospital-RAL"*

Acknowledgement: Sections of this guideline were taken, with permission, from the South East London APC 'Guidance for the Management of Hypertriglyceridaemia' (July 2018)

Expert opinion: There are no national guidelines available for the management of hypertriglyceridaemia therefore the pathway structure is based on expert opinion from Royal Free London NHS Foundation Trust Lipid Clinic.

References:

1. UpToDate. Hypertriglyceridemia. (2019).
2. National Institute for Health and Care Excellence. CG181: Cardiovascular disease: risk assessment and reduction, including lipid modification. (2016). Available at: https://www.nice.org.uk/guidance/cg181/chapter/1-Recommendations. (Accessed: 16th January 2019)