

1 of 5

Approval date: 17/10/2024 Review date: 17/10/2027

## North Central London Joint Formulary Committee

# Guidance for the management of hypertriglyceridaemia

#### Disclaimer

This guideline is registered at North Central London (NCL) Joint Formulary Committee (JFC) and is intended solely for use by healthcare professionals to aid the treatment of patients within NCL. However, clinical guidelines are for guidance only, their interpretation and application remain the responsibility of the individual clinician. If in doubt, contact a senior colleague or expert. Clinicians are advised to refer to the manufacturer's current prescribing information before treating individual patients.

The authors and NCL JFC accept no liability for use of this information from this beyond its intended use. While we have tried to compile accurate information in this guideline, and to keep it updated in a timely

manner, we cannot guarantee that it is fully complete and correct at all times. If you identify information within this guideline that is inaccurate, please report this to the <a href="mailto:admin.ncl-mon@nhs.net">admin.ncl-mon@nhs.net</a>. If a patient is harmed as a consequence of following this guideline, please complete a local incident report and inform <a href="mailto:admin.ncl-mon@nhs.net">admin.ncl-mon@nhs.net</a>.

This guideline should not be to used or reproduced for commercial or marketing purposes.

NCL JFC is funded by and provides advice to Acute Trusts and Clinical Commissioning Groups in NCL.

## **Document control**

Date	Version	Amendments	
18/02/19	1.0	New document developed	
14/08/23	2.0	Additional information added to Omega-3 fatty acids advice.	
		Inclusion of Icosapent ethyl and supporting information in line with NICE TA 805.	

# **Document management**

Groups / Individuals who have overseen the development of this guidance:	Dr Devaki Nair, Royal Free London NCL JFC Support Pharmacist
Groups which were consulted and have given approval:	NCL ICB Medicines Optimisation team  NCL Formulary Pharmacists and specialists  Dr Sarit Ghosh
File name:	Guidance for the management of hypertriglyceridaemia
Version number:	2
Available on:	https://nclhealthandcare.org.uk/our-working-areas/medicines- optimisation/medicine-pathways-guidelines-position-statements/
Disseminated to:	NCL Formulary Pharmacists NCL Commissioners
Equality impact assessment:	Low
NCL Joint Formulary Committee Approval date:	17 <sup>th</sup> October 2024
Review date:	3 years

Review date: 17/10/2027

#### Management of raised triglyceride concentration NON-FASTING lipid profile (seek specialist advice if non-HDL cholesterol >7.5 mmol/L) Mixed Hyperlipidaemia Isolated Hypertriglyceridaemia (Total cholesterol >5 mmol and high TG) Total cholesterol ≤5 mmol and high TG) TG ≥ 10 mmol/L TG > 1.7 and <10 mmol/L TG ≥ 10 mmol/L Addess secondary causes of Recheck FASTING lipid profile (after 5 Addess secondary causes of hypertriglyceridaemia and offer lifestyle days but within 2 weeks). Addess advice. Recheck FASTING lipid profile hypertriglyceridaemia and offer lifestyle secondary causes of advice. Review in 3-4 months. (after 5 days but within 2 weeks) hypertriglyceridaemia and offer lifestyle advice. Review in 3-4 months. TG 4.5 - 10 mmol/L Fasting TG ≥ 10 mmol/L TG 1.7 - 4.5 mmol/L TG 4.5 - 10 mmol/L Fasting TG 10-20 mmol/L Fasting TG > 20 mmol/L Referral to specialist due to high risk of Low CVD risk<sup>‡</sup> High risk or pancreatitis - consider delaying referral Low CVD risk‡ High risk or Address secondary causes of Offer fenofibrate for acute established CVD† to address secondary causes of established CVD† hypertriglycridaemia and offer pancreatitis risk reduction Urgent referral to specialist hypertriglyceridaemia if present. Urgent lifestyle advice, review in 3-4 Add atorvastatin if high risk referral if fasting TG > 20 mmol/L. due to high risk of months. or established CVD (see pancreatitis. Manage lifestyle, NCL Statin Guidance, Offer atorvastatin Manage lifestyle, Offer atorvastatin review in 3-6 Appendix 1). for CVD risk review in 3-6 for CVD risk months reduction (see months reduction (see 1st line: Fenofibrate (review in 2 months) NCL Statin NCL Statin If fasting or post-prandial TG 2nd line: Add a Statin if fasting TG Guidance). Guidance), remains > 10 mmol/L, seek remains > 4.5 mmol/L Appendix 1). Appendix 1). specialist input from lipid If fasting TG remains > 10 consultant via 'Advice and Review in 2-3 Review in 2-3 mmol/L 3-4 months later, Guidance'. months. months. seek specialist input from Consider omega-3 fatty acids in cases of lipid consultant via 'Advice inherited hypertriglyceridaemia (type 3 and Guidance' hyperlipidaemia, lipoprotein lipase deficiency, or in presence of raised chylomicrons and VLDL) and fasting TG remains > 10 mmol/L despite maximum If fasting or post-prandial TG remains > 10 tolerated fibrate and statin. mmol/L, seek specialist input from lipid consultant via 'Advice and Guidance'. If you wish to discuss a patient who is using Omacor (Omega-3 fatty acids) for isolated hypertriglyceridaemia, please Readdress secondary causes of hypertriglyceridaemia and offer lifestyle advice at every visit. contact the relevant REL or LICLH specialist via 'Advice and Guidance'. Omega-3 fatty acids (except icosapent ethyl used in line with NICE TA 805) is not indicated for cardiovascular risk reduction. Key: Definitions: \* For cardiovascular risk reduction, specialists may consider Icosapent ethyl in line with NICE TA 805 in patients that have a Fasting lipid profile = 10-12 hours after food high risk of cardiovascular events and raised fasting triglycerides (≥1.7 mmol/L) and are taking statins, but only if they have: Post-prandial lipid profile = 3-4 hours after food = Manage in primary care · established cardiovascular disease (secondary prevention), defined as a history of any of the following: · acute coronary syndrome (such as myocardial infarction or unstable angina needing hospitalisation) <sup>†</sup> High risk of established CVD: CVD risk ≥ 10% over next 10 years (QRISK assessment tool) · coronary or other arterial revascularisation procedures = Manage in secondary care Age > 85 years coronary heart disease eGFR < 60mL/min/1.73m<sup>2</sup> and/or albuminuria · ischaemic stroke Abbreviations: • Adults with type 1 diabetes TG = Triglycerides <sup>‡</sup> Low CVD risk: peripheral arterial disease, and CVD = Cardiovascular disease <10% over next 10 years</p> low-density lipoprotein cholesterol (LDL-C) levels above 1.04 mmol/L and below or equal to 2.60 mmol/L HDL = High density lipoprotein VLDL = Very low density lipoprotein Note: Icosapent ethyl is not licensed for the treatment of hypertriglyceridaemia.

#### 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
  - o Tamoxifen can cause marked hypertriglyceridemia in a minority of women
  - o Beta blockers, with the exception of carvedilol
  - o Immunosuppressive medications, such as glucocorticoids and cyclosporine
  - HIV antiretroviral regimens
  - Oral retinoids (e.g. isotretinoin)

#### Investigations for causes of hypertriglyceridemia

- Urine dipstick (nephrotic syndrome)
- Blood tests:
  - o Lipid profile (total cholesterol, HDL, non-HDL and triglycerides)
  - Fasting glucose or HbA1c
  - Renal function
  - Thyroid function tests (TFTs)
  - Liver function (LFTs)

#### Prescribing information for icosapent ethyl (see SPC for further information)

- Cautions: patients with hepatic impairment, atrial fibrillation or flutter, increased risk of bleeding, hypersensitivity to fish/shellfish
- Contraindications: Patients with hypersensitivity to the active substance, soya, peanuts, sorbitol or maltitol.
- Very common (≥1/10) and common (≥1/100 to <1/10) adverse effects: Bleeding, atrial fibrillation/flutter, gout, constipation, eructation, rash, musculoskeletal pain, peripheral oedema
- Monitoring: At the time of approval no specific monitoring was required for icosapent ethyl.
   GP's should review their patients as per their normal practice. However, icosapent ethyl is a black triangle drug and any suspected adverse reactions should be reported using the Yellow Card Scheme.

#### Lifestyle advice

Lifestyle modifications to reduce triglyceride levels are similar to those recommended for individuals at high risk of cardiovascular disease<sup>1</sup> (full lifestyle advice published in NICE CG181<sup>2</sup>)

- Cardioprotective diet including:
  - Restrict consumption of high glycaemic index/load foods as well as refined sugars, fruit juices, and high fructose beverages <sup>1</sup>
  - Increased consumption of oily fish <sup>1,2</sup> (pregnant women to limit their oily fish to no more than 2 portions per week and to avoid marlin, shark and swordfish<sup>2</sup>)
  - 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)

#### Monitoring fibrate therapy

- Recheck lipid levels within 3 months of initiation, aiming for a triglyceride level <4.5 mmol/L</li>
- Check serum creatinine at baseline, within 3 months of initiation of treatment and at least annually thereafter (more frequently if clinical indicated).
  - o 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.
  - o 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
  - o https://www.ncl-mon.nhs.uk/wp-content/uploads/Guidelines/2 Lipid modification prevention cardiovascular disease.pdf

Advice and Guidance: Accessible via eRS: <a href="https://nww.ebs.ncrs.nhs.uk/">https://nww.ebs.ncrs.nhs.uk/</a>. 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. NG238: Cardiovascular disease: risk assessment and reduction, including lipid modification. (2023). Available at: https://www.nice.org.uk/guidance/ng238.

Approval date: 17/10/2024 Review date: 17/10/2027