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# Somerset Lipid Management Guideline

Kindness, Respect, Teamwork
Everyone, Every day

Somerset Lipid Service

18/12/2023

# Contents

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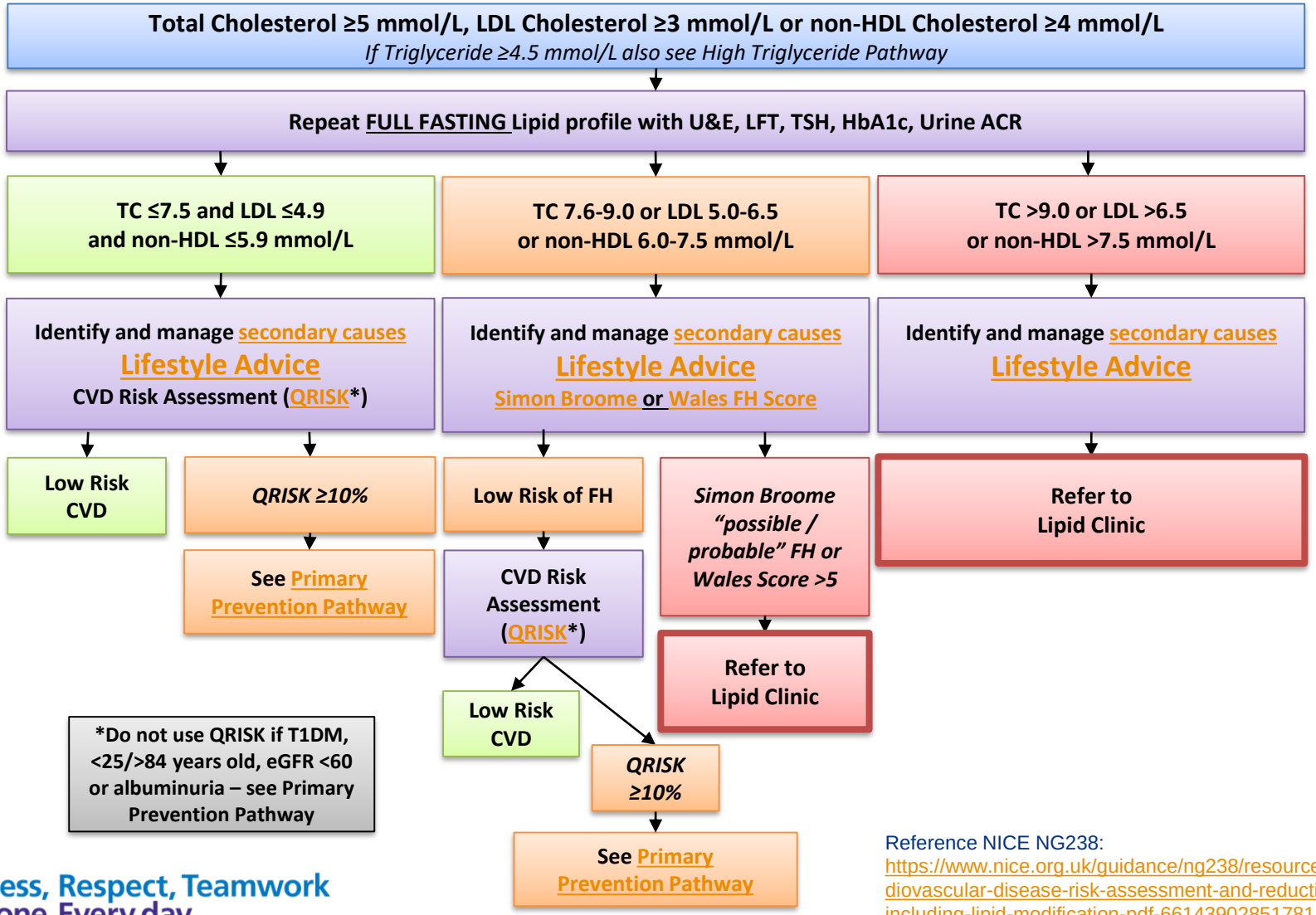
**Pathways:**



**Additional information:**

# High Cholesterol Pathway

## Incidentally discovered high cholesterol (not known CVD)




Reference NICE NG238: https://www.nice.org.uk/guidance/ng238/resources/cardiovascular-disease-risk-assessment-and-reduction-including-lipid-modification-pdf-66143902851781

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# High Triglyceride Pathway

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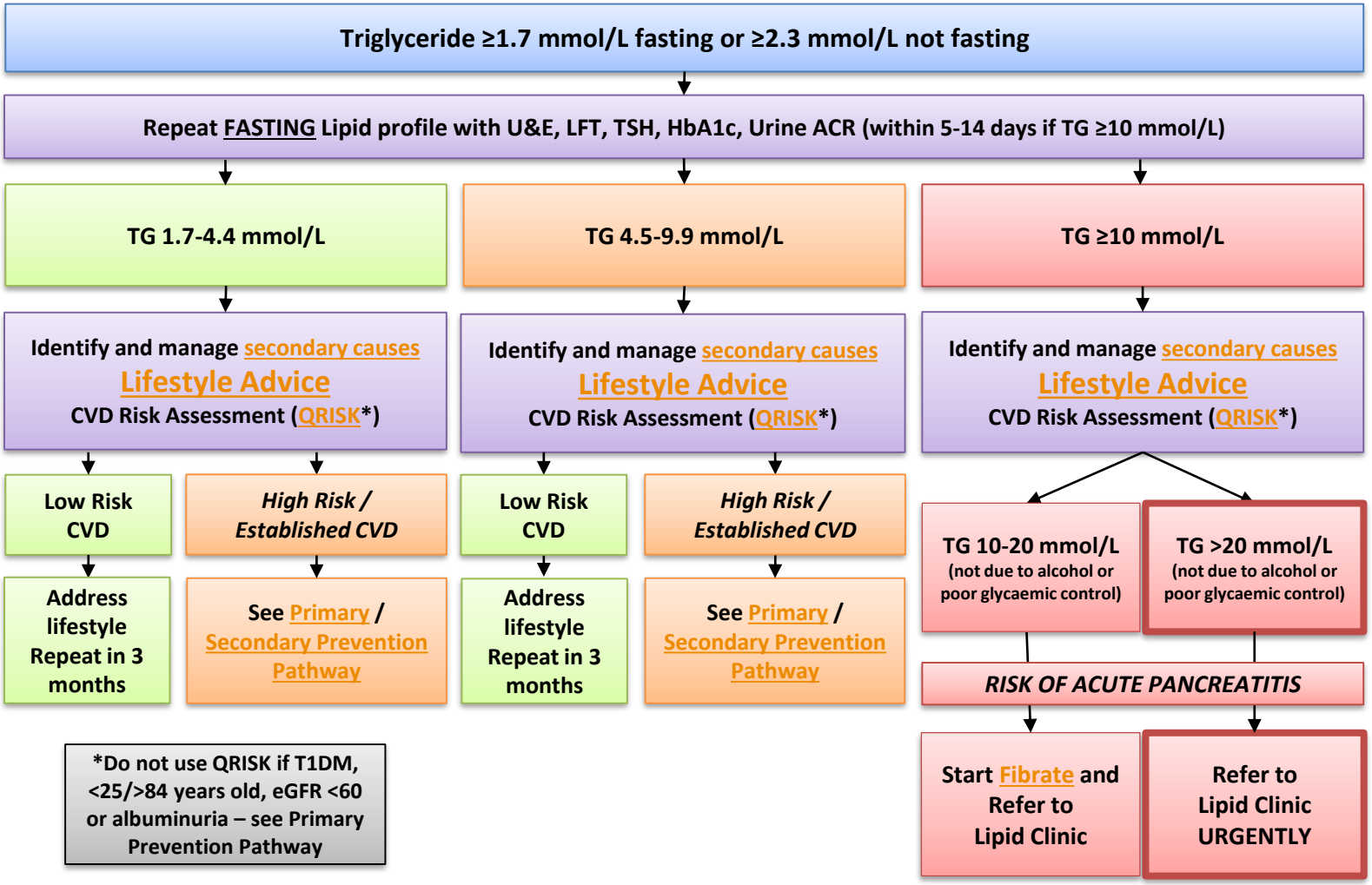


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Reference NICE NG238:
https://www.nice.org.uk/guidance/ng238/resources/cardiovascular-disease-risk-assessment-and-reduction-including-lipid-modification-pdf-66143902851781

# Primary Prevention Pathway

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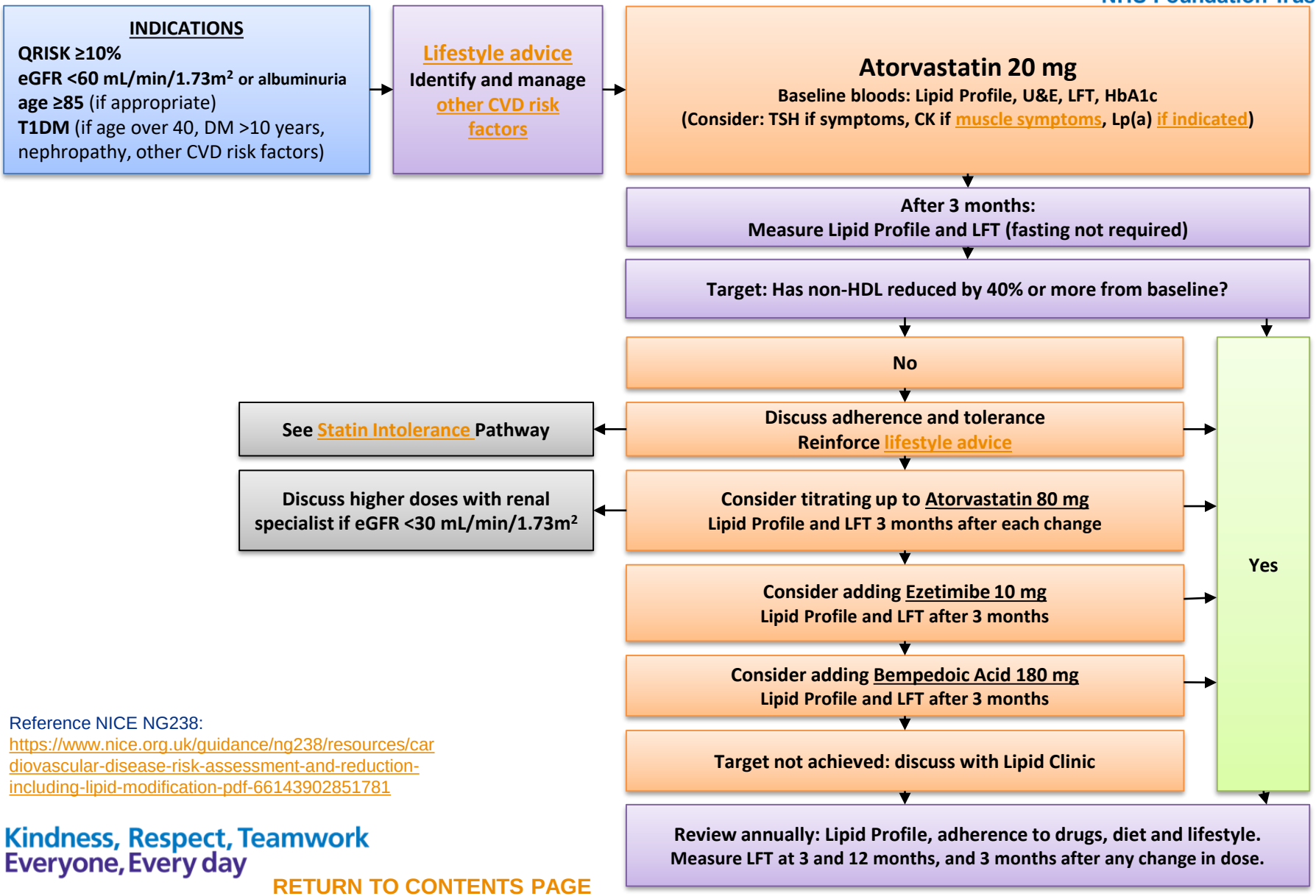


Reference NICE NG238:
https://www.nice.org.uk/guidance/ng238/resources/cardiovascular-disease-risk-assessment-and-reduction-including-lipid-modification-pdf-66143902851781

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# Secondary Prevention Pathway

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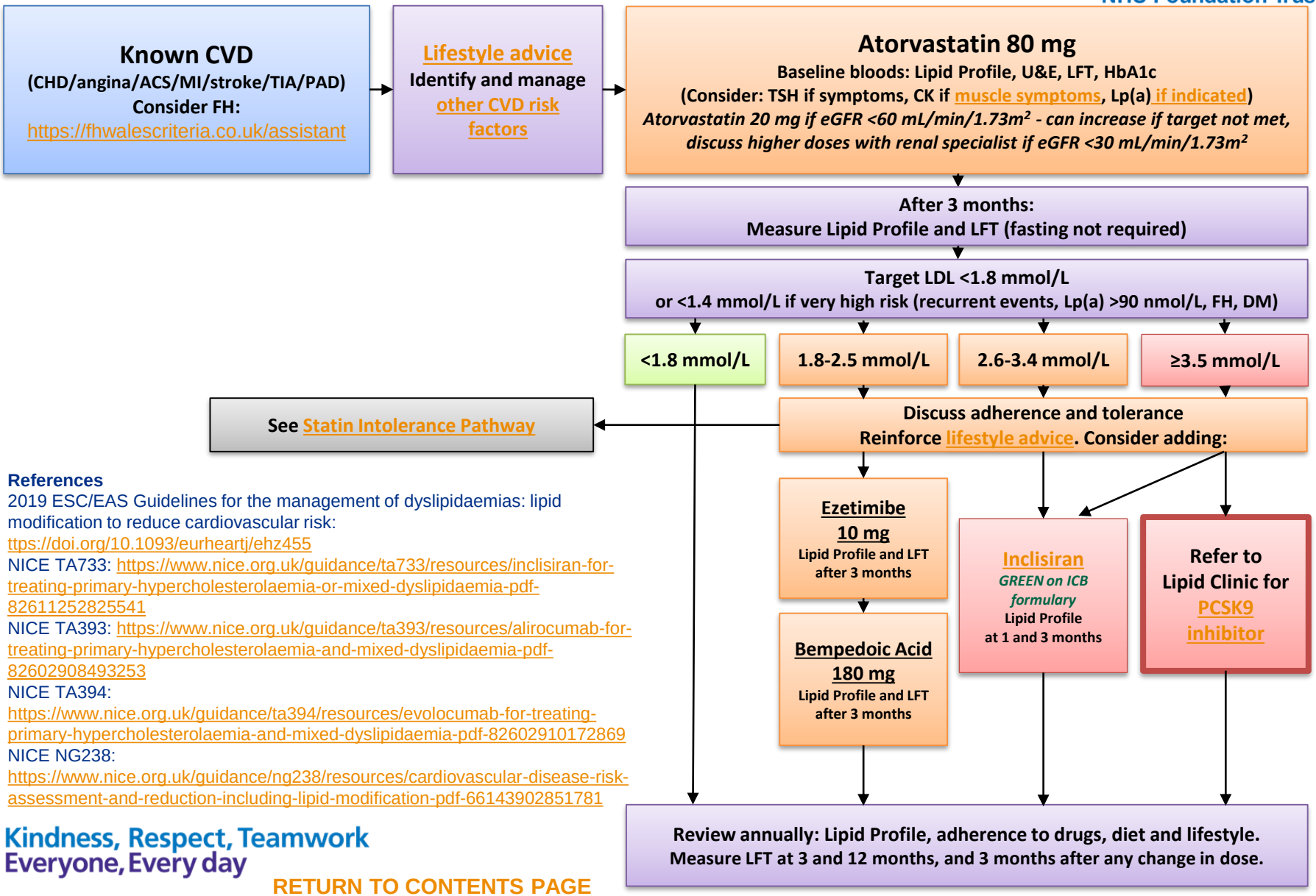



**References**

2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk: ttps://doi.org/10.1093/eurheartj/ehz455

NICE TA733: https://www.nice.org.uk/guidance/ta733/resources/inclisiran-for-treating-primary-hypercholesterolaemia-or-mixed-dyslipidaemia-pdf-82611252825541

NICE TA393: https://www.nice.org.uk/guidance/ta393/resources/alirocumab-for-treating-primary-hypercholesterolaemia-and-mixed-dyslipidaemia-pdf-82602908493253

NICE TA394: https://www.nice.org.uk/guidance/ta394/resources/evolocumab-for-treating-primary-hypercholesterolaemia-and-mixed-dyslipidaemia-pdf-82602910172869

NICE NG238: https://www.nice.org.uk/guidance/ng238/resources/cardiovascular-disease-risk-assessment-and-reduction-including-lipid-modification-pdf-66143902851781


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# Statin Intolerance Pathway

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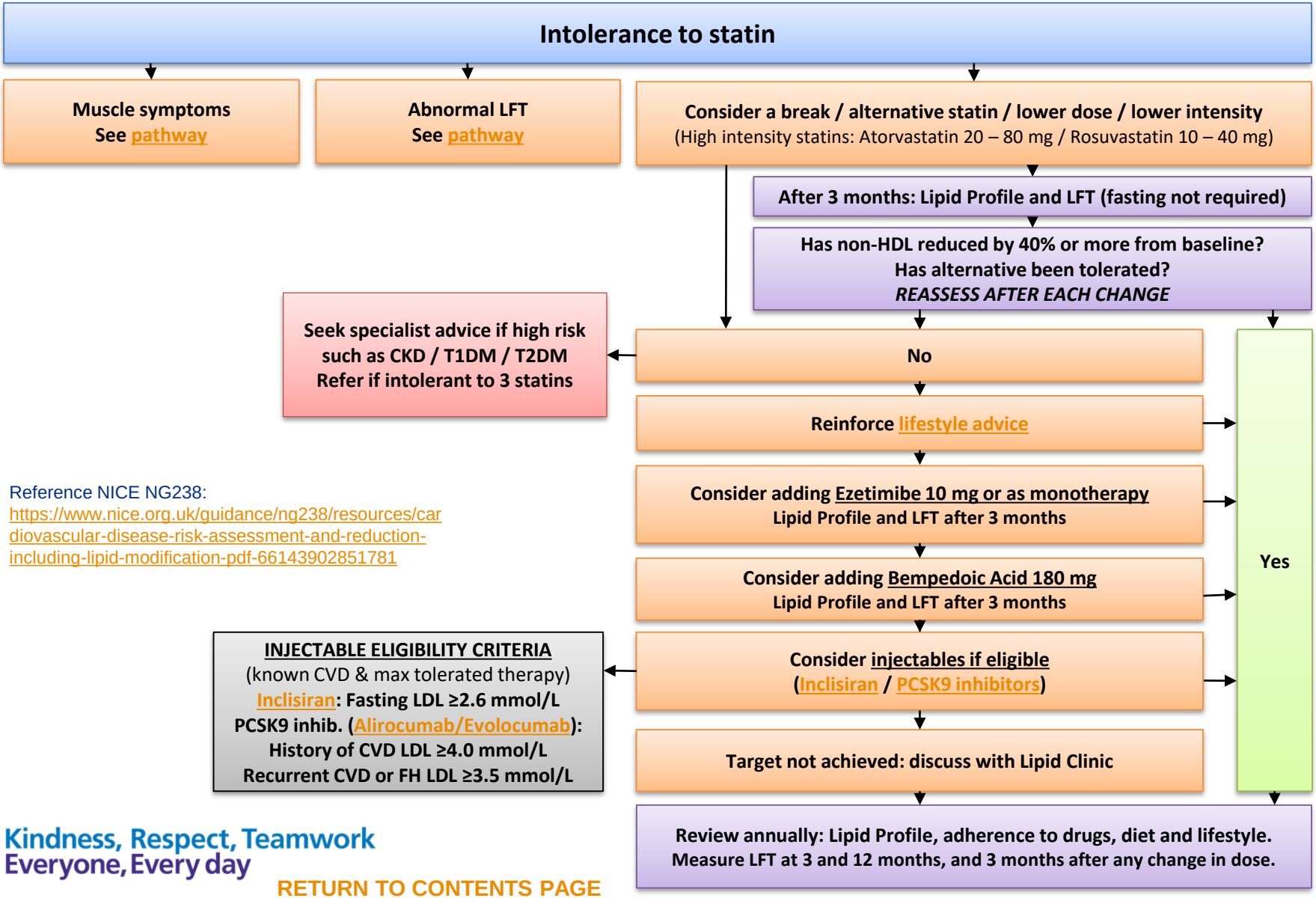


Reference NICE NG238:
https://www.nice.org.uk/guidance/ng238/resources/cardiovascular-disease-risk-assessment-and-reduction-including-lipid-modification-pdf-66143902851781

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# Muscle Symptoms Pathway

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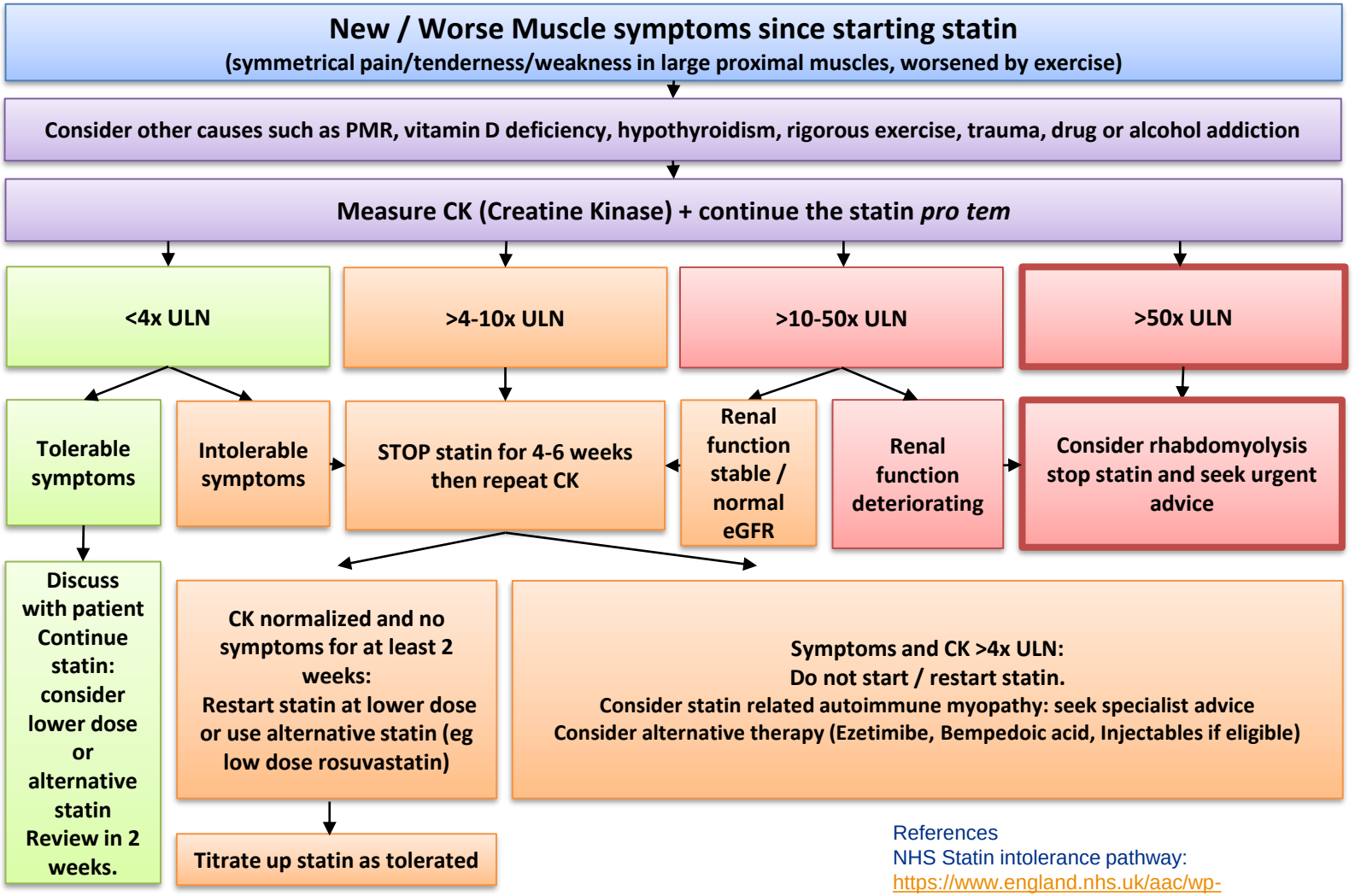


References
NHS Statin intolerance pathway: https://www.england.nhs.uk/aac/wp-content/uploads/sites/50/2020/04/statin-intolerance-pathway-v2.pdf
Alfirevic A. et. al. Clin Pharm Ther. 2014; 96:470-476

# Abnormal LFT Pathway

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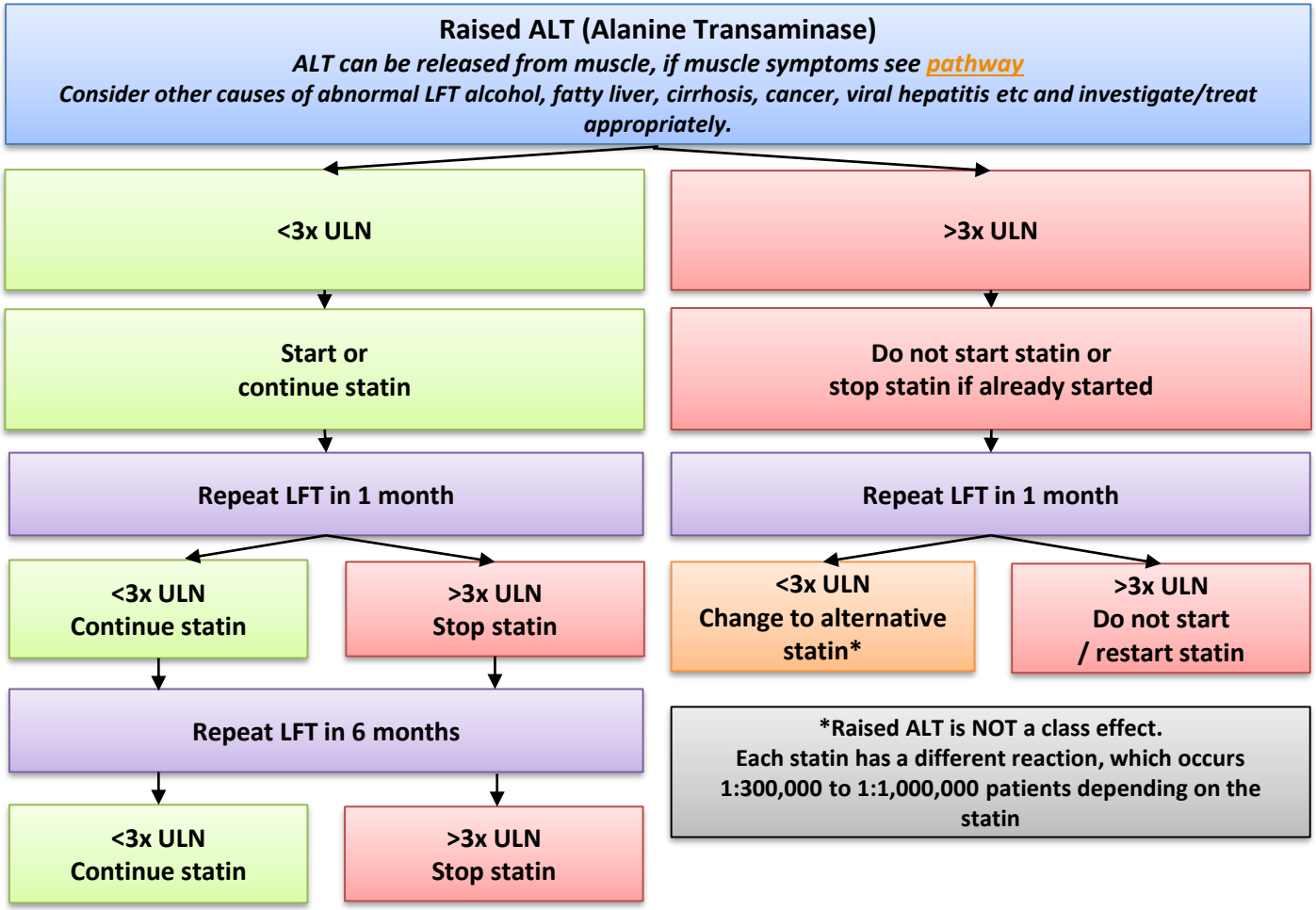


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Reference NICE NG238: https://www.nice.org.uk/guidance/ng238/resources/cardiovascular-disease-risk-assessment-and-reduction-including-lipid-modification-pdf-66143902851781

# Modifiable risk factors for CVD

- **Diet**
- **Obesity**
- **Physical activity**
- **Alcohol**
- **Smoking**
- **Blood lipids**
- **Blood pressure**
- **Diabetic control**

# Secondary causes of dyslipidaemia

- **Obesity**
- **Alcohol excess**
- **Diabetes mellitus** (if poorly controlled) – check HbA1c
- **Renal failure** – check U&E
- **Hypothyroidism** – check TSH
- **Liver disease** – check LFT
- **Nephrotic syndrome** – check Urine Albumin Creatinine Ratio (ACR)
- **Pregnancy** (statins are contraindicated in pregnancy)
- **Drugs** (including Corticosteroids / Oral oestrogen / Tamoxifen / Non-cardioselective beta-blockers / Thiazides / Bile acid sequestrants / Clozapine / Olanzapine / Protease inhibitors / Oral retinoids e.g. isotretinoin)

# Lifestyle advice

Can reduce Triglyceride by 50-70%

- **Diet**
  - **Reduce consumption of high glycaemic index foods** (refined sugars, fruit juices, high fructose drinks)
  - **Increase consumption of oily fish** (pregnant women should limit oily fish consumption to no more than 2 portions per week)
- **Physical activity** (≥150 minutes of moderate intensity aerobic activity or ≥75 minutes of vigorous intensity aerobic activity per week)
- **Weight management**
- **Alcohol** (limit alcohol intake to 14 units per week and avoid binge drinking)
- **Smoking cessation**

# Familial Hypercholesterolaemia (FH) Criteria

**Simon Broome criteria**

Adults possible / probable FH if:

- **Fasting TC >7.5 mmol/L**
  or
- **Fasting LDL >4.9 mmol/L**

*Children under 16: Fasting TC >6.7 mmol/L or LDL >4.0 mmol/L*

PLUS:

- **Tendon xanthomas** (or in 1st/2nd degree relative)

or

- **Family history of premature MI**
  (1st degree relative <60 years, 2nd degree relative <50 years)

or

- **Family history of high cholesterol**
  TC >7.5 mmol/L or LDL >4.9 mmol/L (adults) or
  TC >6.7 mmol/L or LDL >4.0 mmol/L (children under 16)

**Wales FH calculator:**

https://fhwalescriteria.co.uk/assistant.html

**Refer all patients with Simone Broome possible / probable FH or FH Wales Age Adjusted Total Score ≥6 to Lipid Clinic**

Reference CG71 Appendix F: https://www.nice.org.uk/guidance/cg71/evidence/full-guideline-appendix-f-pdf-241917811

# Lp(a) indications

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Lipoprotein(a) is an independent risk factor for CVD and calcific aortic valve stenosis

**Indications for measuring Lp(a):**

- A personal or family history of premature atherosclerotic cardiovascular disease (<60 years of age)
- First degree relatives with raised serum Lp(a) levels (>200 nmol/L)
- Familial hypercholesterolemia (FH) or other genetic dyslipidaemias
- Calcific aortic valve stenosis
- A borderline increased (but <15%) 10-year risk of a cardiovascular event

**Management of raised Lp(a) (≥90 nmol/L):**

- Reduce overall atherosclerotic risk
- Control hyperlipidaemia - aim for non-HDL<2.5 mmol/L
- Consider of lipoprotein apheresis as per HEART UK

Lipoprotein(a) levels are genetically determined with an autosomal co-dominant inheritance, so only need to be measured once, unless possible secondary causes of high Lp(a) (such as CKD, nephrotic syndrome and hypothyroidism) have been identified and corrected.

**Risks of high Lp(a):**

| Lp(a) (nmol/L) | Population percentile | Impact on CVD risk |
|---|---|---|
| <90 | <80$^{th}$ | Minor |
| 90-200 | 80$^{th}$-95$^{th}$ | Moderate |
| 200-400 | 95$^{th}$-99.8$^{th}$ | High |
| >400 | >99.8$^{th}$ | Very high (equivalent to heterozygous FH) |



Reference:
HEART UK consensus statement on Lipoprotein(a): A call to action.
Atherosclerosis. 2019 Dec; 291:62-70. doi: 10.1016/j.atherosclerosis.2019.10.011.

# Fibrate therapy

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Start **Fenofibrate** in patients with severe hypertriglyceridaemia unless there is a specific contraindication (known gallstones, severe renal impairment).

- Dose
  - **Fenofibrate 267 mg od if not on statin**
  - **Fenofibrate 160 mg od if on statin already – increase to 267 mg as appropriate**

- Renal impairment
  - eGFR 30-59 mL/min: the maximum dose is 67 mg od
  - eGFR <30 mL/min: do NOT use Fenofibrate
  - Check U&E at baseline, within 3 months of starting therapy and at least annually thereafter

- Liver disease
  - Monitor LFT at 3 months after initiation of treatment (or at 8 weeks if fibrate used with statin) and periodically thereafter
  - Stop therapy if ALT levels increase to more than 3x ULN
  - Stop if active hepatitis

- CK
  - Baseline CK ONLY in those already on medication that will increase the risk of myopathy (e.g. statin therapy)
  - Routine CK monitoring for asymptomatic individuals is not recommended
  - Monitor CK for patients with muscle weakness/pain

# Inclisiran eligibility criteria

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**History of any of the following cardiovascular events:**

- acute coronary syndrome (such as myocardial infarction or unstable angina needing hospitalisation)
- coronary or other arterial revascularisation procedures
- coronary heart disease
- ischaemic stroke
- peripheral arterial disease

**AND**

**Low-density lipoprotein cholesterol (LDL-C) concentrations are persistently ≥2.6 mmol/L** despite maximum tolerated lipid-lowering therapy, that is:

- maximum tolerated statins with or without other lipid-lowering therapies or
- other lipid-lowering therapies when statins are not tolerated or are contraindicated

Reference NICE TA733: https://www.nice.org.uk/guidance/ta733/resources/inclisiran-for-treating-primary-hypercholesterolaemia-or-mixed-dyslipidaemia-pdf-82611252825541

# PCSK9 inhibitor eligibility criteria

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## Evolocumab / Alirocumab

**High risk of CVD defined by a history of:**

- acute coronary syndrome (such as myocardial infarction or unstable angina needing hospitalisation)
- coronary or other arterial revascularisation procedures
- coronary heart disease
- ischaemic stroke
- peripheral arterial disease

**AND LDL ≥4.0 mmol/L** despite maximum tolerated lipid-lowering therapy

OR

**Very high risk of CVD defined as:** recurrent cardiovascular events or cardiovascular events in more than 1 vascular bed (that is, polyvascular disease)

**AND LDL ≥3.5 mmol/L** despite maximum tolerated lipid-lowering therapy

OR

**Heterozygous FH with CVD AND LDL ≥3.5 mmol/L** despite maximum tolerated lipid-lowering therapy

**Heterozygous FH without CVD AND LDL ≥5.0 mmol/L** despite maximum tolerated lipid-lowering therapy

References NICE TA393 & TA394:
https://www.nice.org.uk/guidance/ta393/resources/alirocumab-for-treating-primary-hypercholesterolaemia-and-mixed-dyslipidaemia-pdf-82602908493253
https://www.nice.org.uk/guidance/ta394/resources/evolocumab-for-treating-primary-hypercholesterolaemia-and-mixed-dyslipidaemia-pdf-82602910172869

# Referral criteria

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**Referral criteria**

- **Possible familial hypercholesterolaemia** or other genetic dyslipidaemia
- **Failure to achieve targets:**
  - **Primary prevention: 40% reduction in non-HDL**
  - **Secondary prevention: LDL >1.8 mmol/L or non-HDL >2.5 mmol/L**
- **Intolerance of 3 statins**
- **Consideration of new lipid lowering agents (Alirocumab / Evolocumab)**
- **Fasting Triglycerides >10 mmol/L** (having ruled out secondary causes – uncontrolled DM, alcohol excess)

**Before referral**

Fasting Lipid Profile, U&E, LFT, HbA1c, TSH, Urine Albumin Creatinine Ratio

**Use e-Referral for referrals**

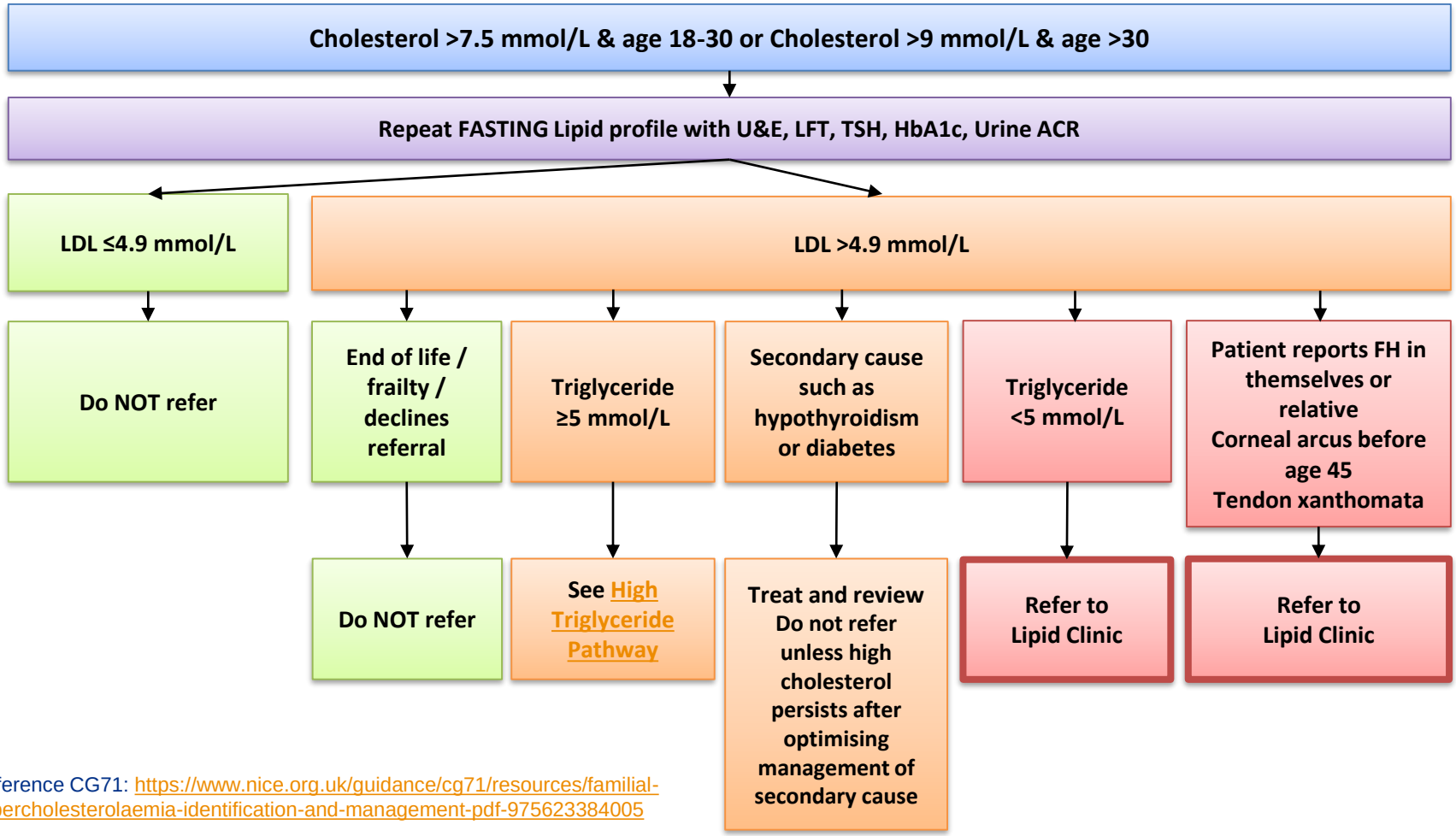
For the referral letter, include:

- Fasting Lipid Profile, U&E, LFT, HbA1c, TSH, Urine Albumin Creatinine Ratio
- Family history
- Alcohol history
- Co-morbidities
- Weight/BMI
- Medication (including previous and concordance with therapy)
- Reason for referral

**Who can refer**

- Primary Care teams
- Secondary Care teams (Cardiology / Stroke / Rheumatology)

# Database search for possible FH




Reference CG71: https://www.nice.org.uk/guidance/cg71/resources/familial-hypercholesterolaemia-identification-and-management-pdf-975623384005

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# Contacts

**Referral contact details:**

Samantha Holland
Secretary to Dr A Bickerton
Email: Samantha.holland@somersetft.nhs.uk
Phone: 01935 384468
Note – Somerset Foundation Trust will only accept referrals via ERS

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