Welcome to

The Half-Hour Health Huddle

‘The last Thursday, every other month’

The Half-Hour Health Huddle

Rayleigh & District
Primary Care Network

Dyslipidaemia
(Abnormal fat levels in the blood)

GP Healthcare Alliance
PCN support

Mariam Shirvani
Physician Associate
BSc, MSc, PG Cert Medical and Healthcare Education

GP Healthcare Alliance on behalf of:
Audley Mills Surgery
Church View Surgery and The Jones Family Practice
Downhall Park Surgery
Greensward Surgery
Riverside Medical Centre
William Harvey Surgery

DISCLAIMERS

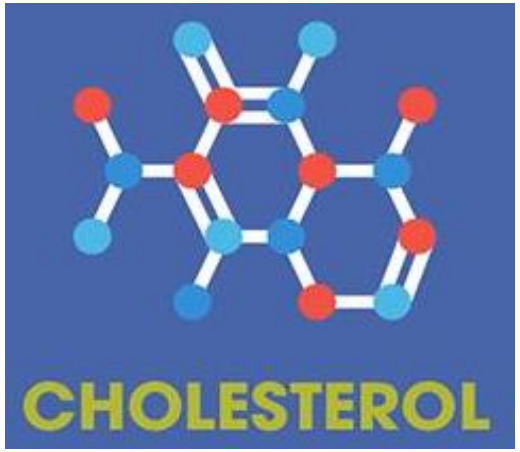
- This presentation has been designed to provide a general overview of dyslipidaemia. Please consult with a healthcare professional (e.g. GP/pharmacist) regarding individual care queries

- The information discussed today is aligned with current national guidance, which is constantly subject to change

- Please respect confidentiality

What Are Blood Lipids?

- Molecules of fat that circulate in the blood
- There are 2 main types of blood lipids:





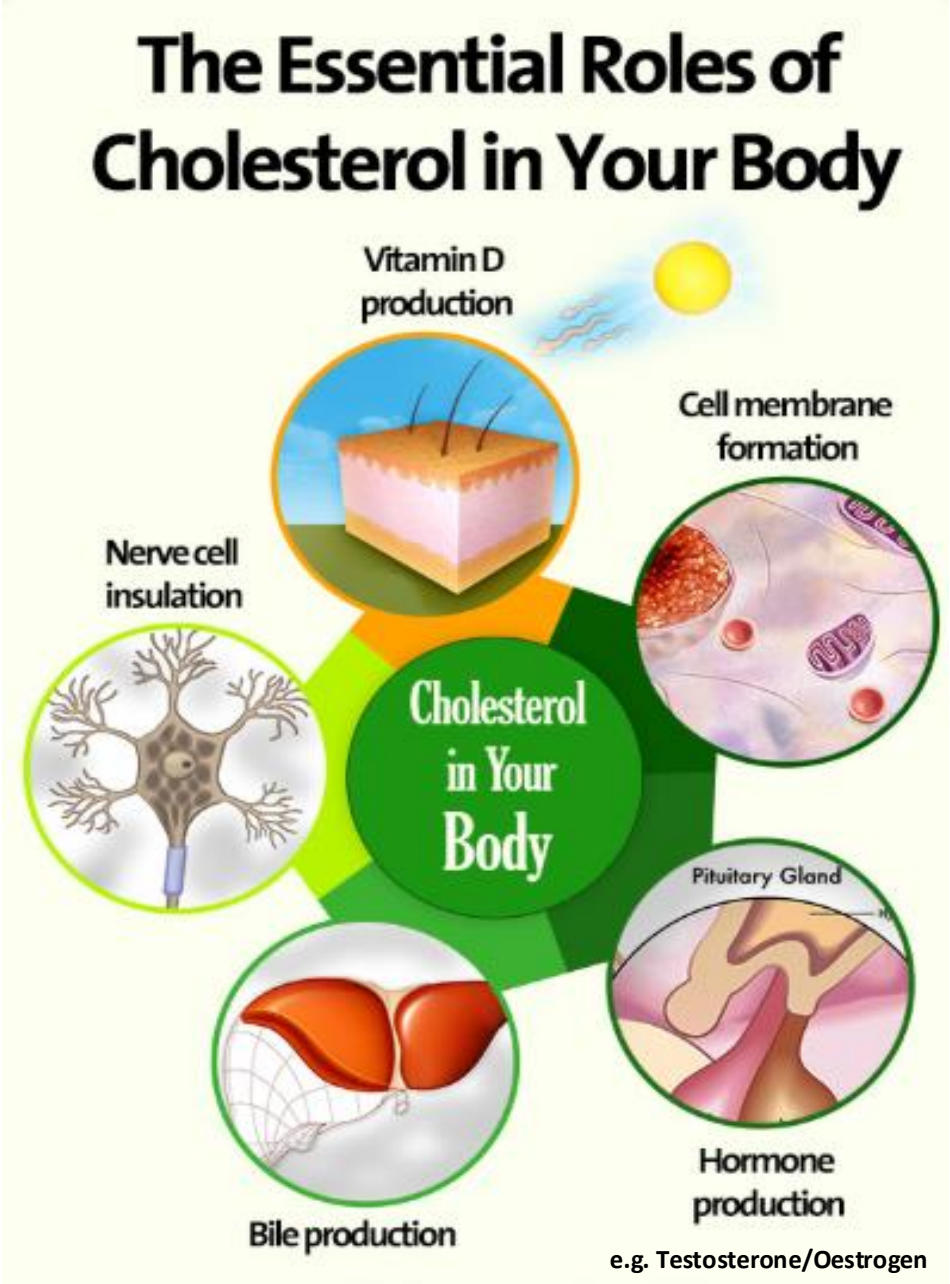
(Image adapted from X, 2019)

Cholesterol

What Is Cholesterol?

- Type of fat that is **essential** for life

- It is found in every cell of the body and has a variety of different functions

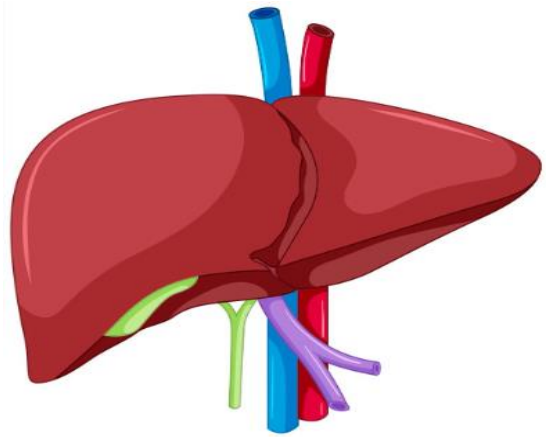


(Image taken from Return2Health, 2026)

Where Is Cholesterol Produced?

Cholesterol Sources

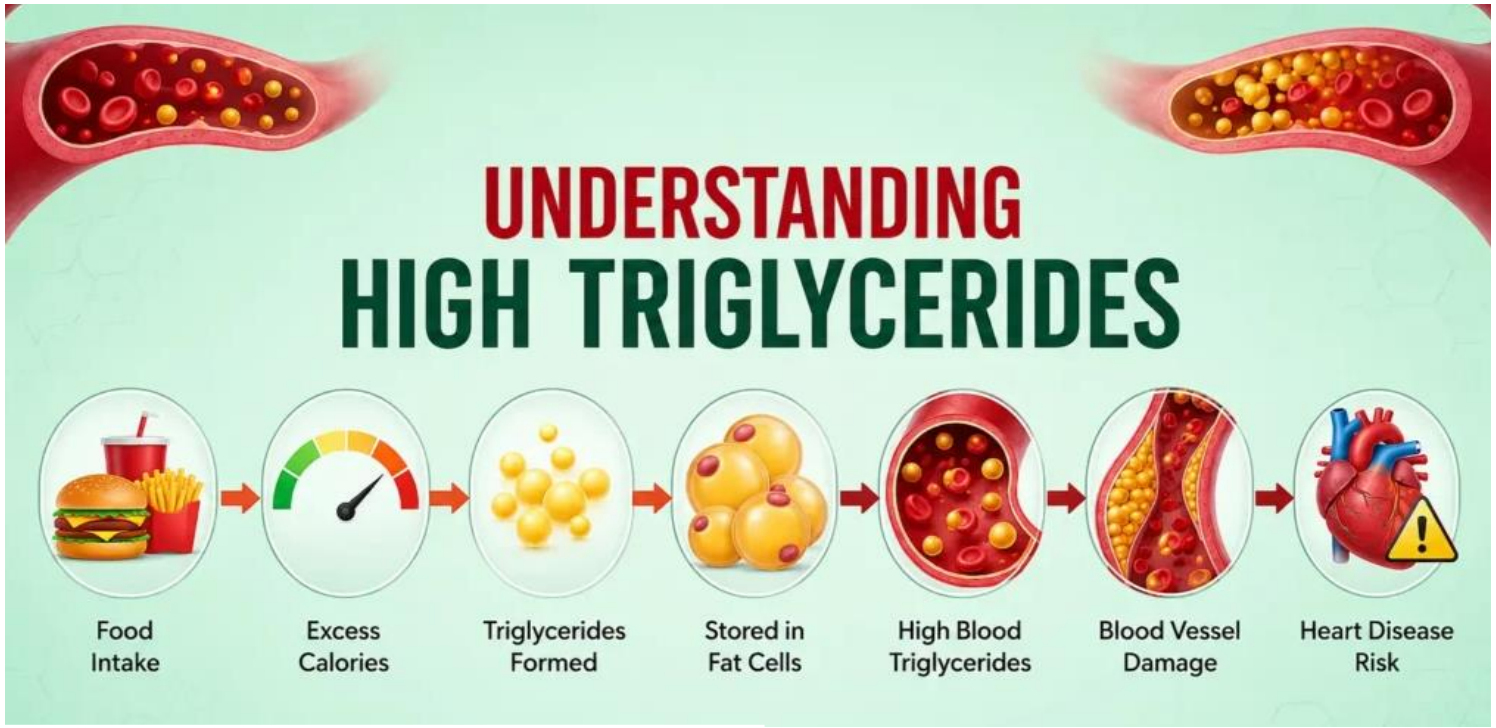
- Liver (80%)
- Diet (20%)



(Image adapted from Vecteezy, 2026b)



(Image taken from Friedman, 2025)



(Image adapted from Tirodkar, 2026)

Triglycerides

What Are Triglycerides?

- Type of fat that acts as energy source for the body
- Triglycerides are used immediately or stored in fat tissue

Where do Triglycerides Come From?

1) Food (mostly)
2) Liver

How Does The Body Control Lipid Levels?

- As lipids are insoluble, they must be carried around by proteins in the blood
- The combination of cholesterol and proteins are called lipoproteins



Lipid + Protein = Lipoprotein

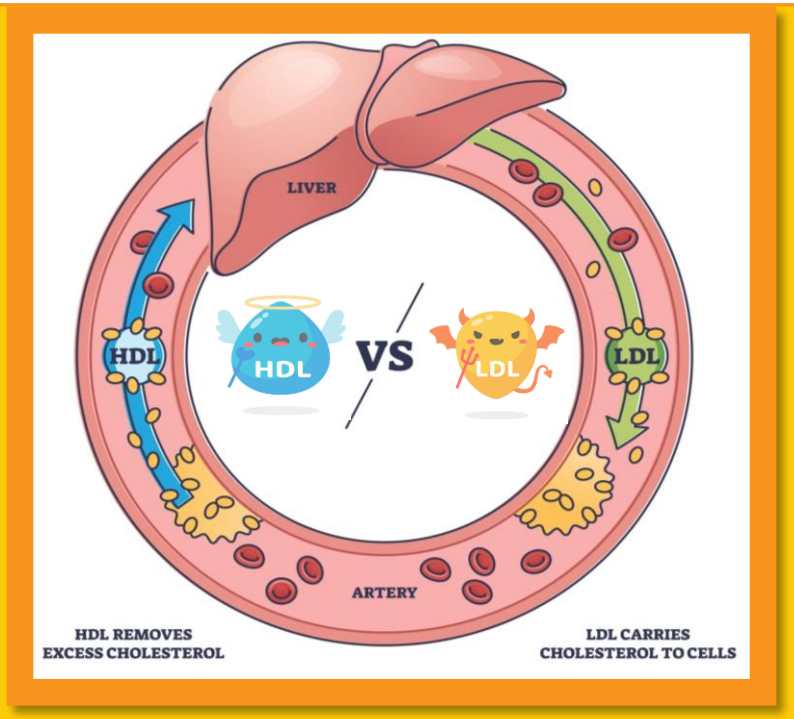
(Image adapted from British Heart Foundation, 2026)

How Does The Body Control Lipid Levels?

- There are 2 main types of lipoproteins:

1) High density lipoprotein (HDL)

2) Low density lipoprotein (LDL)



(Image adapted from Routhenstein, 2025)

What Does a Cholesterol Blood Test Investigate?

Cholesterol Type	mmol/L
HDL	• Carries cholesterol from cells to the liver • ‘Good Cholesterol’

What is Dyslipidaemia?

HIGH LEVEL OF CHOLESTEROL AND/OR TRIGLYCERIDES IN THE BLOOD

Defining Dyslipidaemia

➢ The cutoff values for high cholesterol/trigylcerides are categorised generally, based on your risk of cardiovascular disease:

1) Primary Prevention
- To prevent a cardiovascular event from occurring in the future

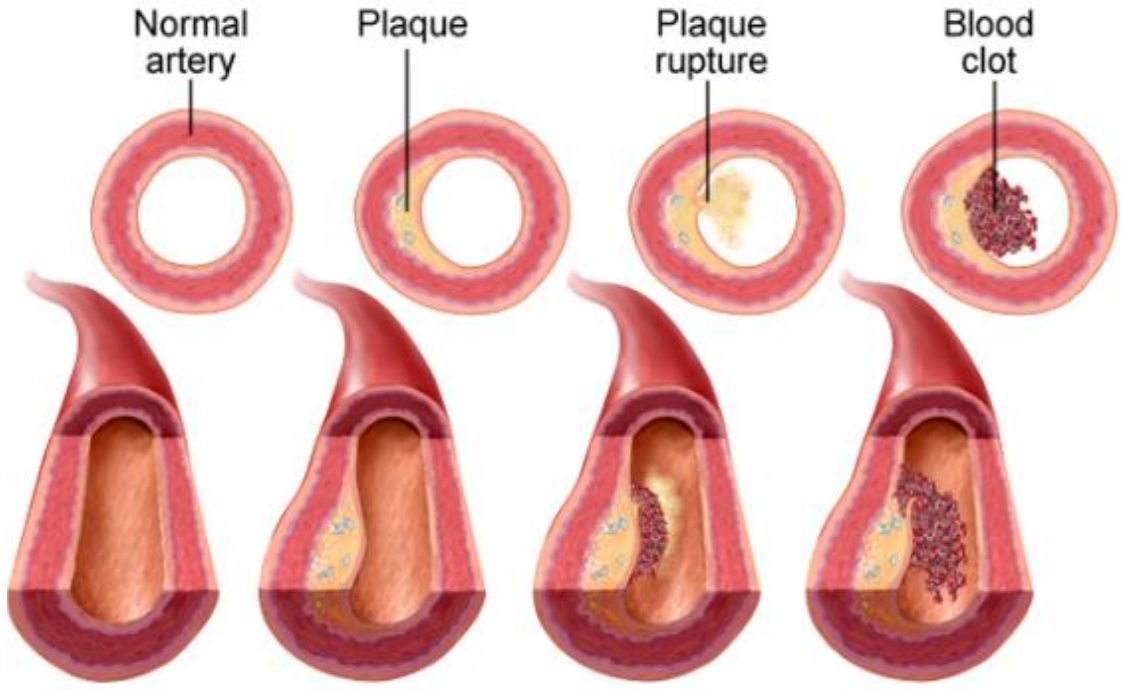
2) Secondary Prevention
- A cardiovascular event having already happened and to prevent it from occurring again

- *The specific value considered to be high is often determined by your clinician and is personalised based on your underlying risk factors, health conditions and guidelines followed*

Defining Dyslipidaemia

Cholesterol Type	Primary Prevention Target (mmol/L)	Secondary Prevention Target (mmol/L)
HDL	• Men: above 1.0 • Women: above 1.2	
Non-HDL *(Total Cholesterol – HDL)*	• Below 4.0	• 2.6
LDL	• Below 3	• Below 2
Total Cholesterol	• Below 5	• Below 4
TC:HDL-C Ratio	• High	
Triglycerides	• Fasting: below 1.7 • Non-fasting: below 2.0	

(British Heart Foundation, 2024)



(Image taken from Medmovie, 2026)

- Angina/Heart attack
- Stroke
- Peripheral arterial disease (PAD)
- Chronic kidney disease (CKD)
- Eye disease/blindness
- Vascular dementia
- Sexual dysfunction

COMPLICATIONS

CAUSES

Modifiable Risk Factors



Diet – eating an unhealthy diet, especially too much saturated fat, will put up both your cholesterol and triglycerides.



Weight – carrying too much weight, especially around your middle, increases both cholesterol and triglyceride.



Physical activity – being inactive increases your LDL and triglycerides, whilst lowering your HDL.



Alcohol – alcohol is broken down in the liver where it can be converted into cholesterol and triglyceride, so drinking more than is recommended will increase all your lipids.



Smoking – smoking reduces your HDL, clogs up your blood vessels and makes your LDL more likely to stick to the sides of your blood vessels, narrowing them even further.



Medication – some medications can increase the levels of triglyceride and cholesterol.

Non-Modifiable Risk Factors



Medical conditions – there are a number of medical conditions that can increase lipid levels, including underactive thyroid, kidney problems, liver problems, and diabetes.



Age – cholesterol and triglyceride levels tend to rise as you get older.



Genes – high cholesterol runs in some families and alterations in specific genes can cause very high cholesterol levels.



Menopause – cholesterol levels can rise after the menopause.

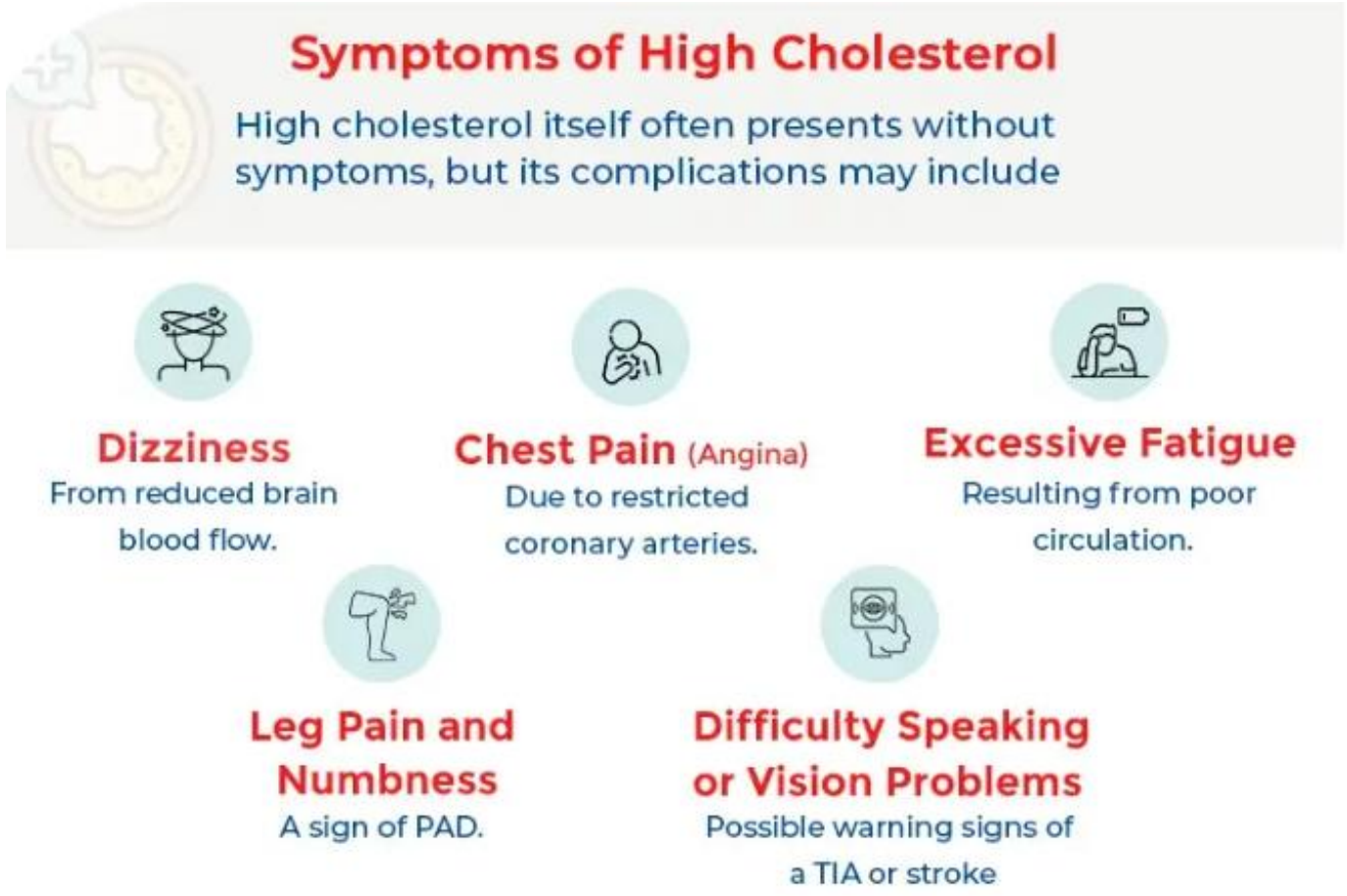
(Image adapted from My Health London, 2026)

- Inherited condition
- Prevents the liver from correctly removing LDL from the body
- Suspected if: Total Cholesterol Levels above 9 mmol/L

CAUSES: Familial Hypercholesterolaemia

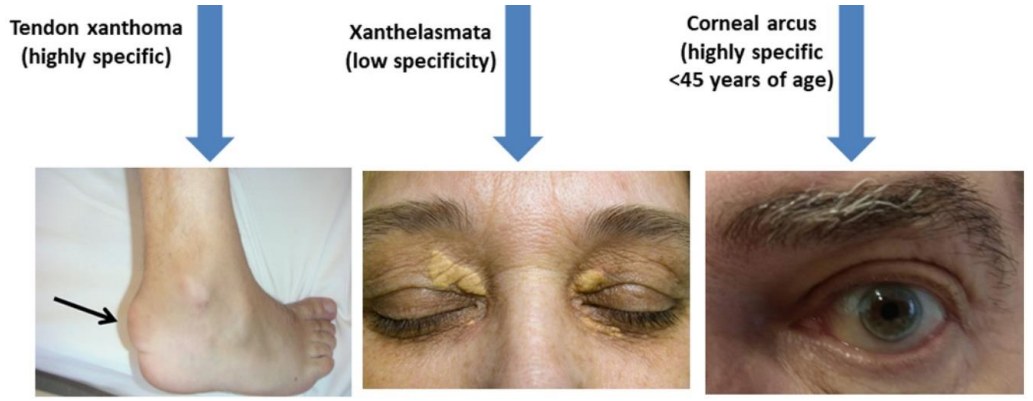


(Image adapted from CardioSmart: American College of Cardiology, 2022)



(Image adapted from Cardiology Care, 2025)

Familial Hypercholesterolaemia



(Image adapted from Rallidis et al., 2020)

SYMPTOMS: SILENT KILLER

WHO SHOULD HAVE THEIR CHOLESTEROL CHECKED?

- Aged 40-74 (NHS Health Check)
- You are at risk of cardiovascular disease
- You have been diagnosed with cardiovascular disease
- You are taking cholesterol lowering medication
- Relative with Familial Hypercholesterolaemia

(Heart UK, 2026)

WHERE TO GET LIPIDS CHECKED

1) Blood Sample From Your Arm



(Image taken from Enfield Dispatch, 2024)

2) Finger-Prick



(Image taken from Pharmacy + Health, 2026)

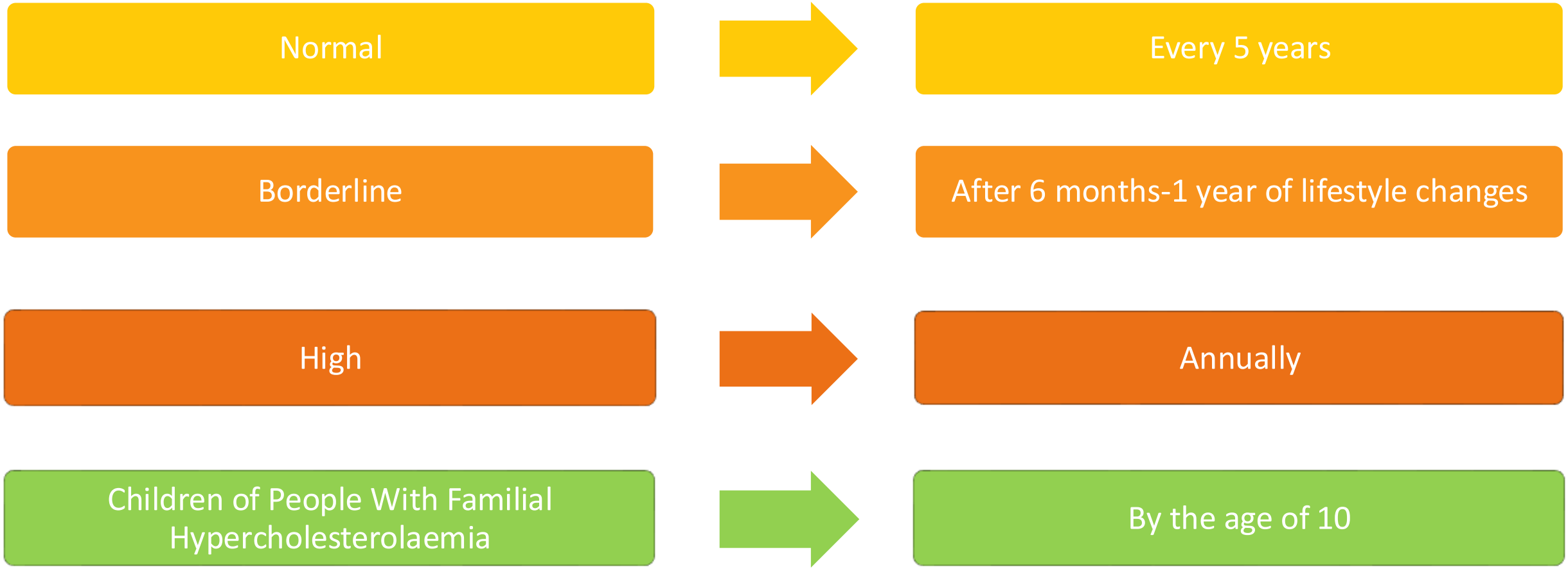


(Image taken from Almond Road Surgery, 2023)

Fasting vs Non-Fasting

- A fasting blood test determines an accurate triglyceride level as eating food can affect this
- You should not eat, drink, chew gum, smoke or vape 12 hours before the blood test
- Guidelines suggest that a fasting blood test is not mandatory for a lipid profile, but the blood test must be repeated using a fasting sample if triglycerides are high

HOW OFTEN TO CHECK LIPIDS



Management

WHAT IS EXPECTED FROM YOU



Image taken from Vecteezy, 2026

6 Pillars of Lifestyle Medicine



Health Eating



Physical Activity



Sleep



Mental Wellbeing



Healthy Relationships

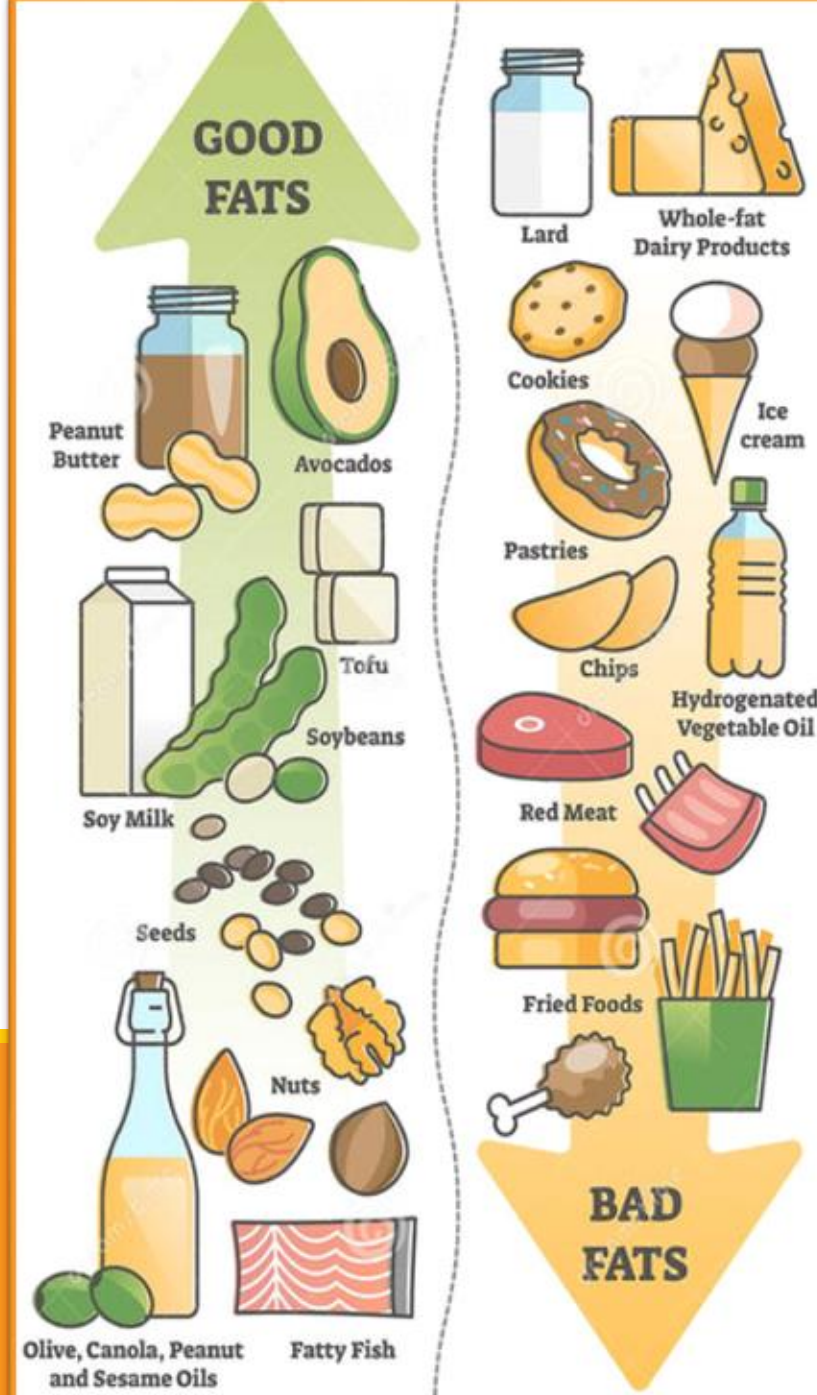


Minimise Harmful Substances

1) Unsaturated fats
2) Oats and barley
3) Beans and lentils
4) Nuts and seeds
5) Fruits and vegetables

1) Red and processed meat e.g. beef, lamb and pork
2) Butter, lard and ghee
3) Tropical oil e.g. palm oil and coconut oil
4) Full-fat dairy products e.g. whole milk, cheese, cream
5) Baked goods e.g. pastries, biscuits, cakes
6) Chocolate

HEALTHY EATING



(Image adapted from Fitzgibbon, 2026)

HEALTHY EATING: PLANT STEROLS AND STANOLS

What Are Plant Sterols and Stanols?

- Natural substance found in plant-based foods e.g. fruit, vegetables, wholegrains, vegetable oils, nuts and seeds

How do they lower cholesterol?

- Reduce the absorption of cholesterol in the gut
- Best taken with a meal

(British Heart Foundation, 2026)

Do they lower cholesterol?

- When the correct amount is taken 1.5g to 3g per day, they can reduce cholesterol by 7-12% within 2-3 weeks of continued use
- The effect is lost when you stop taking them

Are they recommended?

- They are only recommended for people with familial hypercholesterolaemia, as there is no proof that they reduce cardiovascular disease
- The greatest evidence comes from fortified foods not supplements

PHYSICAL ACTIVITY



(Image Taken from Public Health England, 2016)

Moderate Activity

'You can talk, but not sing'

e.g. walking/cycling/pushing a lawn mower

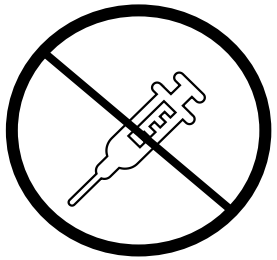
Vigorous Activity

'You can't talk without pausing for breath'

e.g. running/swimming/football

There are free local wellbeing walks and seated exercises available through Rayleigh library

Eligible patients can be referred through their GP for a discounted membership at Clement's Hall Leisure Centre



1) Avoiding Illicit Drugs

Drug and alcohol recovery services are available via Open Road

Essex Recovery Foundation provides a community for people in remission for alcohol/drugs



2) Minimising Alcohol

- <14 units/week, spread over >3 days



3) Smoking Cessation

Smoking cessation services are available via your GP surgery or pharmacy

MINIMISING HARMFUL SUBSTANCES

HOW YOUR HEALTHCARE PROFESSIONAL CAN HELP



Clinical pharmacists are present at your GP surgery, who can conduct the annual review or answer any medication queries

STATINS- REDUCE THE AMOUNT OF CHOLESTEROL NATURALLY PRODUCED BY THE LIVER



(Image taken from Cedacare Pharmacy and Stores, 2022)



(Image taken from AttoPGx, Undated)

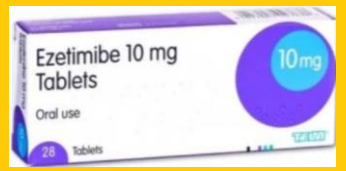
BEMPEDOIC ACID- REDUCES THE AMOUNT OF CHOLESTEROL NATURALLY PRODUCED BY THE LIVER





(Images taken from MIMS Ireland, 2026)

EZETIMIBE- REDUCES THE AMOUNT OF CHOLESTEROL ABSORBED BY THE GUT



(Image taken from Lahki, 2019)

INCLISIRAN- INCREASES THE LIVER'S ABILITY TO REMOVE LDL CHOLESTEROL FROM THE BLOOD



(Image taken Diagnostic and Interventional Cardiology, 2021)

MEDICATION

= Primary /Secondary Prevention and Familial Hypercholesterolaemia

= Secondary Prevention/ Familial Hypercholesterolaemia

Thank You For Your Attention

Any Questions?



References

AttoPGx. Undated. Rosuvastatin. https://www.attopgx.com/medication-a-z/rosuvastatin/. Last accessed 12th August 2026.

British Heart Foundation. 2026. *High cholesterol - symptoms, causes and levels*. https://www.bhf.org.uk/informationsupport/risk-factors/high-cholesterol. Last accessed 28th May 2026.

British Heart Foundation. 2026. Plant sterols and stanols: do they lower cholesterol?. https://www.bhf.org.uk/informationsupport/heart-matters-magazine/medical/ask-the-experts/stanols-and-sterols. Last accessed 12th August 2026.

British Heart Foundation. 2024. Understanding your cholesterol levels. https://www.bhf.org.uk/informationsupport/risk-factors/high-cholesterol/understanding-your-cholesterol-levels. Last accessed 6th August 2026.

Friedman, J. D. 2025. *Which Foods Can Raise Your Cholesterol?*. https://www.healthcentral.com/condition/high-cholesterol/high-cholesterol-foods. Last accessed 28th May 2026.

Cardiology Care. 2025. Can High Cholesterol Cause Dizziness. https://cardiologycare.nyc/blog/can-high-cholesterol-cause-dizziness. Last accessed 6th August 2026.

CardioSmart: American College of Cardiology. 2022. FH: Familial Hypercholesterolemia. https://www.cardiosmart.org/assets/infographic/familial-hypercholesterolemia. Last accessed 6th August 2026.

Cedacare Pharmacy and Stores. 2022. Atorvastatin 20mg. https://cedarcarepharm.com/product/atorvastatin/. Last accessed 12th August 2026.

Diagnostic and Interventional Cardiology. 2021. Inclisiran Reduced LDL-C in Obese Patients. https://www.dicardiology.com/content/inclisiran-reduced-ldl-c-obese-patients. Last accessed 12th August 2026.

Enfield Dispatch (2024). *North London residents invited to have say on local GP surgery websites*. https://enfielddispatch.co.uk/north-london-residents-invited-to-have-say-on-local-gp-surgery-websites/. Last accessed 23rd April 2026.

Fitzgibbon, 2026. Fat: Unsaturated, Saturated and Trans, Explained (A Bit). https://www.nourishedcommunities.com/blogs/nicks-food-blog/fat-unsaturated-saturated-and-trans-explained-a-bit. Last accessed 10th August 2026.

Heart UK. 2026. Getting a Cholesterol Test. https://www.heartuk.org.uk/cholesterol/getting-a-cholesterol-test. Last accessed 12th August 2026.

Lahki, M. 2019. Ezetimibe. https://www.prescriptiondoctor.com/high-cholesterol/ezetimibe. Last accessed 12th August 2026.

London Centre for Advanced Cardiology. 2026. *High Cholesterol- Causes, Symptoms &Treatments*. https://londoncentreforadvancedcardiology.com/high-cholesterol-causes-symptoms-treatments/. Last accessed 30th July 2026.

Medmovie (2026). *Atherosclerosis*. https://medmovie.com/library_id/3255/topic/ahaw_0070a/. Last accessed 23rd April 2026.

MIMS Ireland. 2026. Nilemdo (bempedoic acid). https://www.mims.ie/new-products-product-updates-2/nilemdo-bempedoic-acid-01-11-2024/. Last accessed 12th August 2026.

MIMS Ireland. 2026. Nustendi (bempedoic acid/ezetimibe). https://www.mims.ie/new-products-product-updates-2/nustendi-%E2%96%BC-bempedoic-acid-ezetimibe-01-11-2024/. Last accessed 12th August 2026.

References

My Health London. 2026. Understanding your blood fats: cholesterol and triglycerides. https://www.myhealthlondon.nhs.uk/cvd-prevention/know-more/cholesterol-and-triglycerides/understanding-your-blood-fats-cholesterol-and-triglycerides/. Last accessed 5th August 2026.

My Health My life. 2026.*What is Cholesterol?*. https://www.myhealthmylife.com.my/en-MY/Cardiovascular/High-Cholesterol/About-High-Cholesterol. . Last accessed 28th May 2026.

NIICE CKS. 2025. CVD Prevention. https://cks.nice.org.uk/topics/lipid-modification-cvd-prevention/. Last accessed 20th August 2026.

NICE CKS. 2025. Hypercholesterolaemia- familial. https://cks.nice.org.uk/topics/hypercholesterolaemia-familial/. Last accessed 20th August 2026.

NHS: Almond Road Surgery. 2023. NHS Health Check. https://www.almondroadsurgery.org.uk/2023/05/15/nhs-health-check/. Last accessed 6th August 2026.

Pharmacy + Health. 2026. Pharmacy+Health. https://pharmacyplushealth.co.uk/pharmacy/pharmacyhealth-rockwell. Last accessed 6th August 2026.

Public Health England (2016). *Health matters: getting every adult active every day*. https://www.gov.uk/government/publications/health-matters-getting-every-adult-active-every-day/health-matters-getting-every-adult-active-every-day. Last accessed 31st March 2026.

Rallidis, L. S., Iordandis, D. and Iliodromitis, E. 2020. The value of physical signs in identifying patients with familial hypercholesterolemia in the era of genetic testing. *Journal of Cardiology*. [e-journal]. 76(6). pp 568-572. https://doi.org/10.1016/j.jjcc.2020.07.005.

Return2Health. 2026. *Revisiting Cholesterol.* https://return2health.co.uk/articles/revisiting-cholesterol?srsltid=AfmBOoq25zXs3MaTaBnf5iRuPPIINsFZN-CwlH85Zz-XTe-UkTqKfdng. Last accessed 28th May 2026.

Routhenstein, M. 2025. Cholesterol. https://entirelynourished.com/what-is-hdl-understanding-your-good-cholesterol/. Last accessed 23/07.

Tirodkar, A. 2026. *High Triglycerides: Causes, Symptoms, Diagnosis & How to Reduce It* https://pharmeasy.in/blog/diagnostic-high-triglycerides-causes-symptoms-diagnosis-how-to-reduce-it/. Last accessed 30th July 2026.

Vecteezy. 2026a. *FoxGrafy Design. https://www.vecteezy.com/vector-art/14828897-hdl-and-ldl-cholesterol-cartoon-good-fat-and-bad-fat-accumulated-in-the-body*. Last accessed 28th May 2026.

Vecteezy. 2026b. *Matt Cole. https://www.vecteezy.com/vector-art/359160-two-diagram-of-liver-anatomy*. Last accessed 28th May 2026.

X. 2019. *Sanofi US*. https://x.com/SanofiUS/status/1171143253086867459. Last accessed 30th July 2026.