



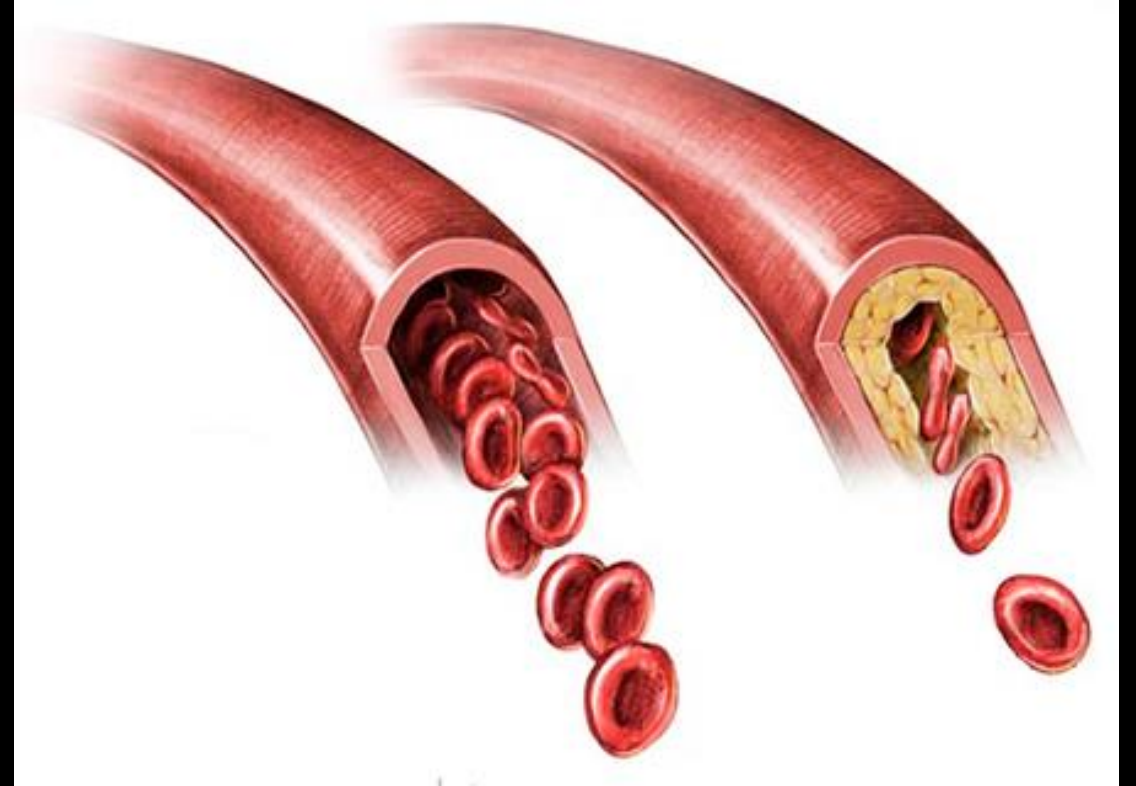
Lipids and Cardiovascular Health

Andy Ward



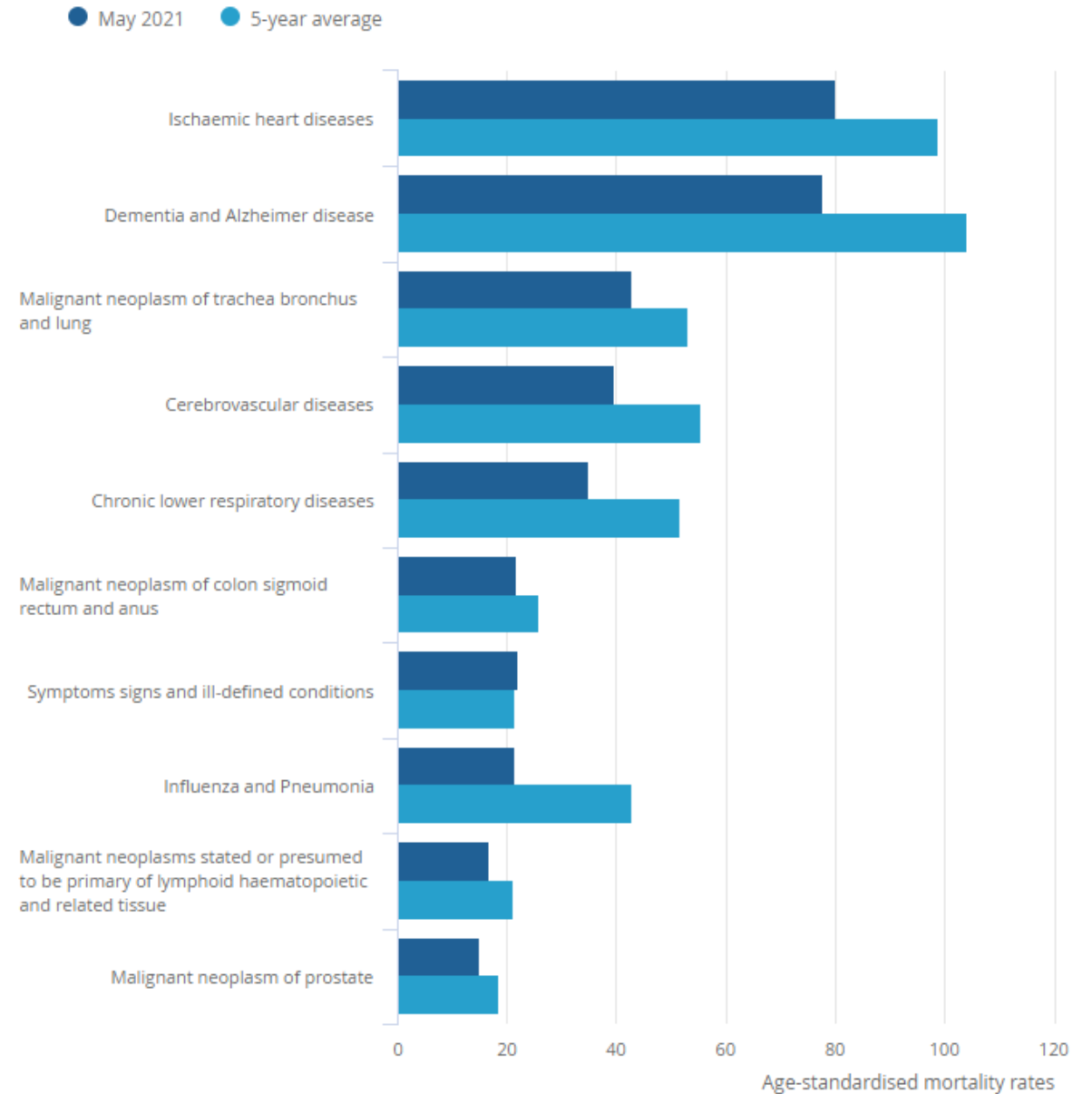
The Impact of Lipids on Cardiovascular Health

- Cardiovascular disease
 - “a range of conditions that affect the heart, the blood vessels or both”
- Atherosclerosis or thrombosis
- Atherosclerosis can lead to:
 - Coronary heart disease
 - Stroke
 - TIA
 - Peripheral arterial disease



Why is this important?

Age-standardised mortality rate for selected leading causes of death, per 100,000 people, England, deaths registered in May 2021



Causes of Raised Lipids

Inherited

- Familial Hypercholesterolaemia

Lifestyle

- Alcohol
- Diet
- Inactivity

Medical conditions

- Type 2 Diabetes
- Hypothyroidism
- Liver disease
- Kidney disease

Iatrogenic

Age, gender, ethnicity



-
- 52 year old male
 - Smokes 15 a day
 - Weight 93kg. Height 182cm.
 - BMI = 28
 - BP = 150/80
 - Total cholesterol = 6
 - HDL = 1.5



Q Risk

- <https://qrisk.org/three/>
- <https://cvdcalculator.com/>



Giving explanations

- Pace of delivery
- Avoiding jargon
- Tailoring information to patient
- Patient's agenda
- Allowing questions
- Giving time to make decisions
- Negotiation
- Checking understanding



Treatment of raised lipids?

- Why are they raised?
- What can the patient do?
- Is treatment a safe option?
- Are more tests needed?





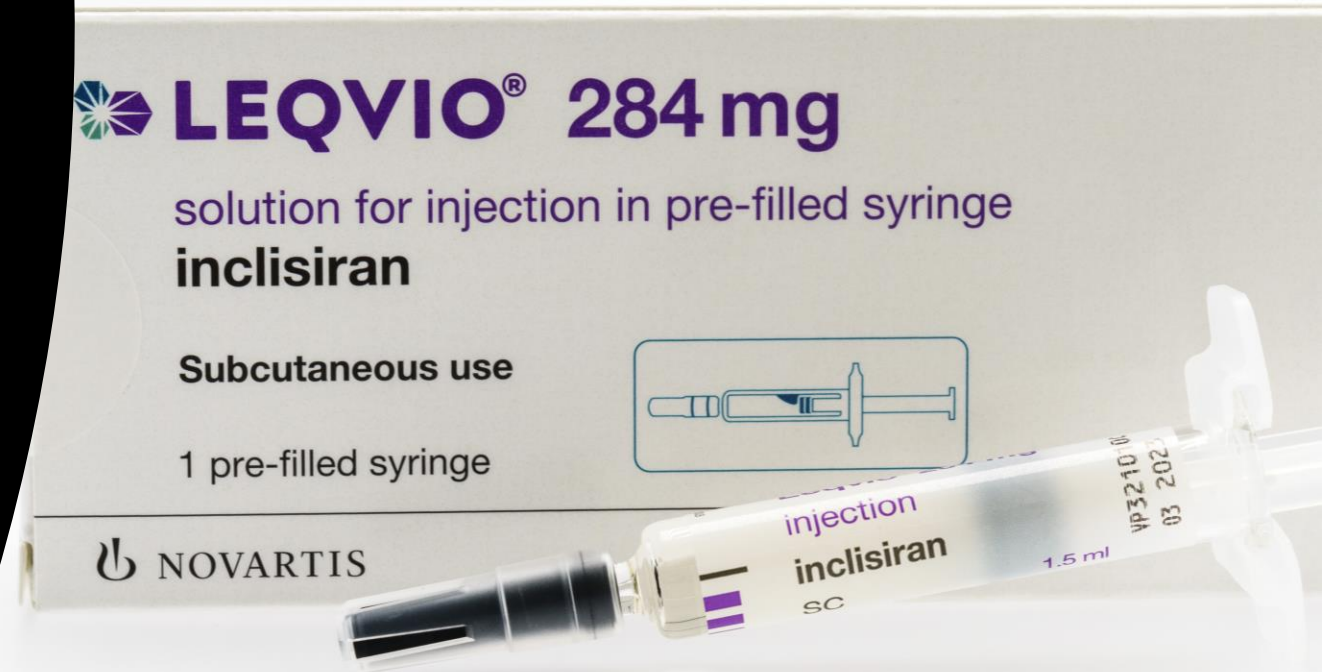
Prescribing statins

- Which statin?
- What dose?
- What side effects?
- Follow up



Inclisiran – what is it?

- The first cholesterol-lowering small interfering RNA (**siRNA**)
- Interferes with the production of the **PCSK9** protein
- PCSK9 blocks the liver's ability to clear LDL cholesterol from the blood
- **Less PCSK9 = liver able to process more LDL cholesterol** and reduce blood concentrations
- Different to alirocumab and evolocumab, which inactivate PCSK9



How is it used?

- **Injectable**
- Starter dose repeated at 3 months then every 6 months
- Alirocumab and evolocumab every 2 weeks
- Self-limited mild-to-moderate injection-site reactions
- **Similar in safety to placebo** for other outcomes including liver and kidney function.
- Cost = **£1,987.36** per dose.
- No evidence of reduction in CV events... yet
- More info here:
<https://www.nbmedical.com/kiss/kiss-inclisiran>



What is NICE recommending?

Final recommendation due 6th October

An option for treating **primary hypercholesterolaemia** or **mixed dyslipidaemia** as an adjunct to diet in adults

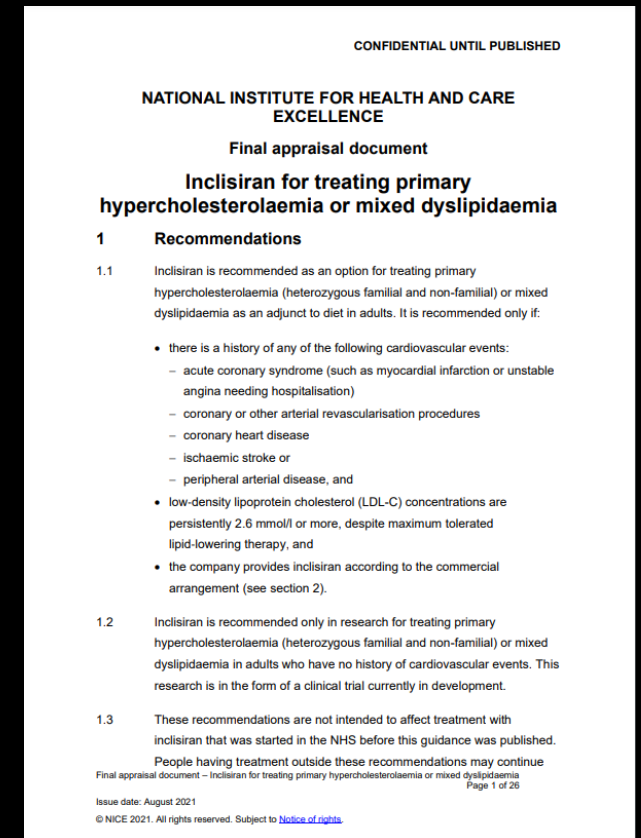
ONLY IF -

There is a 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 or
- peripheral arterial disease

AND

Low-density lipoprotein cholesterol (LDL-C) concentrations are **persistently 2.6 mmol/l or more** despite **maximum tolerated** lipid-lowering therapy



Lifestyle and Lipids

- Alcohol
- Diet
- Exercise
- Weight
- Smoking





Summary

- Raised lipids are an important risk factor in cardiovascular disease
- Poor lifestyle is an important cause, but other conditions should be excluded.
- Patients should be involved in discussions about their cardiovascular risk and its management.
- Statins are first line treatment but should be combined with lifestyle measures.
- Treat to targets – 40% reduction in LDL
- Inclisiran is a new drug that may be used in Primary Care