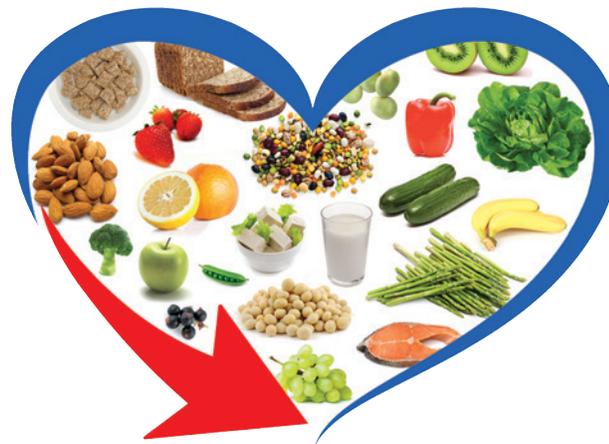


Ultimate Cholesterol Lowering Plan[©]

The smarter way to actively lower cholesterol by 5 - 24%.



THE HEALTH PROFESSIONAL'S MANUAL

This evidence-based resource has been brought together by HEART UK – The Nation's Cholesterol Charity – in collaboration with expert health professionals.

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www.heartuk.org.uk/UCLP ● www.alpro.com

This resource was kindly sponsored by an education grant from Alpro UK

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WELCOME TO THE NEW ON-LINE UCLP[®] TOOLKIT

Depending on level of motivation and compliance, the UCLP[®] can lower LDL-C by 5-24%¹⁻³.

This series of health professional notes are for you, the health professional, to assist you when presenting the **accompanying pdf slides** to your patient.

The UCLP[®] is made up of 3 steps:

-  **Step 1 Motivational interviewing.** Helping the patient get in the right mind-set.
-  **Step 2 The essentials of a heart healthy diet.** Ensuring a foundation diet that is as heart healthy as possible.
-  **Step 3 A pick 'n' mix of four UCLP[®] specific foods.** Soya foods, foods fortified with plant sterols / stanols, nuts and beta-glucans.

How to use this resource:

This resource should be used during your patient consultations in conjunction with the patient **UCLP[®] patient information sheet** which you can download [by clicking here](#) or from www.heartuk.org.uk/UCLP and selecting 'UCLP[®] Patient Information Sheet' from the resource page.

- **These detailed notes with references are for you, the health professional.** They offer you guidance on how to explain the accompanying pdf slides to your patient as well as additional information and detail.
- **The accompanying pdf slides are for your patient to view:** providing pictorial and photographic images.

This online UCLP[®] toolkit is fully flexible and allows you, the health professional, to share a few specifics or all of the UCLP[®] depending on the consultation time available and the individual needs of each patient.

- The UCLP[®] should be presented to the patient in a step-by-step manner working through each stage in order and only moving onto the next stage once the patient has embraced all changes and is able and willing to move on. Any positive changes your patient makes – however small – will provide heart health benefits.
- Step 3 offers significant flexibility, with all four UCLP[®] foods able to further lower cholesterol individually or in combination. This allows your patient to select which and how many of the four UCLP[®] foods they want to add to their heart healthy foundation diet.

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STEP 1: MOTIVATIONAL INTERVIEWING (supporting pdf slide 2)

You will need to download the **UCLP® Patient Information Sheet** by going to the resources page of www.heartuk.org.uk/UCLP or by [clicking here](#).

Beginning the Consultation

- Ask the patient **why** they have come to see you e.g. *“Please can you tell me your reasons for coming to see me today?”*
- Ask if there is anything **they would like to discuss** in particular – e.g. *“Would you like to talk about your diet / cholesterol levels or is there another topic you would like us to discuss?”*
- Ask **open-ended** questions – e.g. *“What do you feel would happen if you do not change your eating habits / lower your cholesterol?”*
- **Guide** the direction of the consultation but allow the **patient** to do the **talking** – e.g. *“I would like to talk about ways we can help lower your cholesterol, but what would you like to discuss first?”*

Patient’s Motivational Tips

Direct the patient to the scale shown on pdf slide 2, then ask the following questions.

- On a scale of 1 – 10, with 10 being the most important, how important is it for you to lower your cholesterol level? **Think** about why it is at this number and **not lower?**
- On a scale of 1 – 10, with 10 being the happiest, how happy would it make you feel to lower your cholesterol level?
- On a scale of 1 – 10, with 10 being the happiest, how happy will you feel **if you don’t lower your cholesterol level?** **Think** about why it is at this number and **not higher?**
- On a scale of 1 – 10, with 10 being the most confident, how confident do you feel that you can lower your cholesterol?
- **Ask them** to think about **TWO positive things** about lowering their cholesterol.



NOW – Provide the patient with their own **UCLP® patient information sheet** and ask them to write down their response.

- Ask them if they can think of any good reason why they should **NOT** make changes to their diet.
- ✎ Ask them to write this down on their copy of the **UCLP® patient information sheet**.
- **FINALLY – ASK THEM** – *“Now, think about where this leaves you feeling!”*

Ask permission before proceeding to offer your advice or further information

e.g. *“Do you mind if we discuss ways of helping you lower your cholesterol level and why it’s important now? I will offer you lots of ideas and options which can help lower your cholesterol – but which options you choose to adopt will be totally up to you.”*

During the Consultation

- Convey **empathy** e.g. *“I understand there are many barriers to making changes to your diet, why don’t you talk me through the ones that are important to you?”*
- Practise **reflective listening** e.g. *“You feel that changing your diet will not help?”*
- Amplify **negative reflection** e.g. *“So you have no concerns with your cholesterol level being raised and not changing your diet?”*
- Elicit **self-motivational** statements e.g. *“So you do feel it is difficult to change your diet but at the same time you don’t feel you have tried as hard as you could have”.*
- Let the **patient decide what, how and why** they will make a change e.g. *“It will be up to you to decide where to make changes but how do you see yourself making these changes?”*

CHOLESTEROL BASICS (supporting pdf slide 3)

High cholesterol is the number one modifiable risk factor for heart disease¹.

- Heart disease is the UK's number one killer.
- Every 5 minutes an adult in the UK has a heart attack.

What is Cholesterol?

- Cholesterol is a type of fat (lipid) essential to human life.
- Essential for making (the membranes of) all the body's cells (building blocks) & some hormones.
- The body makes its own cholesterol (mainly in the liver), and a small amount comes from the diet.

Cholesterol is carried around the body by lipoproteins. The two main lipoproteins are:

- **High Density Lipoprotein Cholesterol / HDL-C** – referred to as 'Good cholesterol'.
- **Low Density Lipoprotein Cholesterol / LDL-C** – in EXCESS, referred to as 'Bad cholesterol'.

The right balance of BOTH types is ESSENTIAL.

- **LDL** transports cholesterol from the liver around the body to repair old cells, build new cells and make hormones.
- **HDL** picks up cholesterol from around the body and transports it back to the liver, where it is broken down and recycled.

Too much **LDL-C** (bad cholesterol) increases the risk of heart and circulatory diseases.

- Excess **LDL-C** is deposited inside the linings of blood vessels, combines with other fats and substances and starts an inflammatory response. Over time, the build-up of this fatty material known as 'plaque' causes the lining of the blood vessels to swell up and the arteries to narrow and by so doing restrict the amount of blood flowing to the heart and brain.
- If this continues, plaque can completely block vessels leading to a heart attack or stroke.



Cholesterol Numbers²

Cholesterol levels represent the quantity of cholesterol (in mmol) present in one litre of blood (l).

| Cholesterol | Primary prevention | For those at higher risk: diabetes, heart problems, high blood pressure. Although no specific targets have been set, cholesterol levels should be: |
|-------------------|---|--|
| Total Cholesterol | Less than 5 mmol/l | Less than 4 mmol/l |
| LDL - Cholesterol | Less than 3 mmol/l | Less than 2 mmol/l |
| HDL - Cholesterol | No threshold has been set in the UK – levels should be >1mmol/l for men and >1.2mmol/l for women | |

More than half UK adults have high cholesterol levels i.e. above 5 mmol/l¹

Risk Factors for High Cholesterol

- Diet – too much animal (saturated) fat and too few foods that can lower cholesterol.
- Excess body fat – especially central obesity.

Ideal waist circumference should be:

- **Less than 94cm / 37in for a man.**
(less than 90cm / 35.5in for a South Asian man).
- **Less than 80cm / 31.5in for a woman.**



- Inactivity.
- Family history of raised cholesterol.

1) British Heart Foundation Statistics Database www.heartstats.org
2) JBS (2005). Joint Societies guidelines on prevention of cardiovascular disease in clinical practice. Heart: JBS 2: vol 91.supplement V.

STEP 2: ESSENTIALS OF A HEART HEALTHY DIET (supporting pdf slide 4)

A diet history should be taken now

A more detailed *factsheet* can be downloaded from the resources page of www.heartuk.org.uk/UCLP or by [clicking here](#).

The UCLP® builds on the basic principles of a healthy diet^{1,2}.

1. At least 5 portions of veg and fruit every day:

FRESH, FROZEN, DRIED and CANNED all count.

2. Starchy foods should contribute to all meals.

- Potatoes, sweet potatoes, yams.
- Wholegrain cereals should be chosen wherever possible.
 - Wholegrain breakfast cereals e.g. Shredded Wheat, porridge, muesli.
 - Brown pasta / rice.
 - Wholemeal / rye breads, rolls and crackers.

3. Dairy and plant-based alternatives fortified with calcium – 3 servings a day. Low-fat / reduced-fat varieties should be chosen.

One serving is:

- 200ml semi-skimmed, 1% fat or skimmed dairy milk. Or calcium fortified plant-based drinks: soya, almond, hazelnut, rice or oat.
- 125-150g pot low-fat yogurt or soya alternative to yogurt with added calcium.
- Match box size (30g) lower-fat hard cheese e.g. reduced-fat cheddar.

Alternative options: sardines / pilchards (if bones eaten), almonds, sesame seeds, white and brown bread.

4. Meat, poultry, fish and plant-based options

Too much meat, especially fatty types, can add too much saturated fats to our diet.

- Cut down on fatty meat,
 - Remove all visible fat and skin from poultry prior to cooking.
 - Avoid processed meat like tinned meats, pies, sausages.

- Cut down on red meat – ideally, we should consume no more than 500g (cooked weight) a week or around 70g a day.
- Try replacing half the meat in your recipes with soya or Quorn™ mince / chunks, vegetables, beans and / or pulses.
- Have meat-free days, instead try using beans, pulses, soya or Quorn™.
- Choose healthier cooking methods such as grilling, dry roasting, griddling or stir frying.
- Eggs and shellfish do not have to be restricted **except** for those with familial hyperlipidaemia or who already follow an exceptionally good diet yet still have raised cholesterol.

Oil-rich fish – 1 to 2 (140g) servings per week²

- A rich source of unsaturated fats and especially omega-3 fats with heart protective benefits.
Anchovies – Bloaters – Cachas – Carp – Eel – Herring – Hilsa – Jack fish – Katla – Kipper – Mackerel – Orange roughy – Pangas – Pilchards – Salmon – Sardines – Sprats – Trout – Tuna (fresh only not canned) – Whitebait – Whiting
- **NOTE:** Girls under 16 years and all women of child-bearing age should not consume more than 2 servings of oil-rich fish a week.
- **NOTE:** Boys and girls under 16 years and all women of child-bearing age should avoid marlin, shark and swordfish.

5. Foods high in fats and sugars – have less often

Cakes – savoury and sweet biscuits – butter – lard – rich breads e.g. croissant, brioche – frying / roasting – sugary drinks – chocolates and sweets.

Healthier options:

- Fruit (dried, fresh, tinned) and nuts (any varieties – unsweetened and unsalted).
- Instead of sugary drinks opt for water, sugar-free varieties or tea / coffee without sugar and with low fat milk.
- Milk based drinks: always opt for low-fat milk or use plant-based alternatives instead.
- Instead of sweet or chocolate biscuits, opt for plain biscuits.
- Chocolates and sweets – choose mini- / fun-sized varieties and have less frequently.

Saturated fat is discussed in more detail later.

REDUCING SATURATED FATS & INCLUDING HEART HEALTHY FATS (supporting pdf slide 5)

All types of fats, in moderate amounts, are important in the diet. However, it is important to replace some saturated fat with unsaturated fats. Saturated fat mainly comes from animal sources and in excess will increase cholesterol levels.

- Butter, ghee, lard / dripping.
- Visible fat on meat and fatty cuts of meat.
- Processed meat e.g. tinned meat, sausages.
- Full-fat dairy milk and yogurts.
- Cream.
- Pastry.
- Most cheeses.
- Biscuits – sweet & savoury.
- Cakes, chocolates.

Some plant fats are also high in saturated fat, such as **palm oil**, **coconut oil** and **cocoa butter**.

Consuming no more than 10% energy from saturated fats – circa 20g per day for adults – can result in a 5-10% drop in LDL-C^{1,2}

UNSATURATED FAT

Mainly from plants and when used to replace some of the saturated fat in the diet is associated with healthier cholesterol levels.

MONO-UNSATURATED – POLY-UNSATURATED FAT

Vegetable oils and products made from – corn, olive, soya, rapeseed, sunflower, groundnut / peanut oils. Nuts, seeds and avocados.

Reading food labels – per 100g/ml³

| | LOW | MODERATE | AVOID |
|--|---------------|---------------|--|
| Food (solids) saturated fat per 100g | 1.5g or LESS | 1.5g to 5g | MORE than 5g OR if one single serving provides MORE than 6g |
| Drinks saturated fat per 100ml | 0.75g or LESS | 0.75g to 2.5g | MORE than 2.5g OR if one single serving provides MORE than 3g |

1) Jenkins DJ, Kendall CW, Marchie A et al. (2003). The effect of combining plant sterols, soy protein, viscous fibers, and almonds in treating hypercholesterolemia. *Metabolism* 52 (11), 1478-1483. 2) Bruckert E, & Rosenbaum D (2011). Lowering LDL cholesterol through diet: potential role in the statin era. *Current Opinion in Lipidology* 22, 43–48. 3) <http://www.nhs.uk/Livewell/Goodfood/Pages/food-labelling.aspx> 4) FSA (2002). McCance & Widdowson's *The Composition of Foods*. Sixth Summary Edition. Cambridge: Royal Society of Chemistry and manufacturer on-line nutrition information

Swaps⁴

Use the diet history to identify which saturated fat foods the patient should focus on most or where most change is needed.

| High saturated fat | g sat fat per serv. | Lower saturated fat | g sat fat per serv. |
|--|---------------------|--|---------------------|
| Lamb chop with fat (raw) 140g with bone | 11.5 | Lamb chop with fat removed (raw) 120g with bone | 5.6 |
| 2 x 75g sausages | 13.8 | Grilled chicken breast - skin removed (130g - medium) | 0.4 |
| Individual pie with puff pastry top & bottom e.g. steak and kidney (160g) | 13.4 | Pie with potato topping (320g) | 7.7 |
| Chocolate éclair 90g | 14.5 | Hot cross bun (50g) | 0.9 |
| Slice of bread thickly spread with butter (15g) | 7.8 | Slice of bread with poly-unsaturated spread (15g) | 2.6 |
| Cheese sandwich with mayo 2 slices white bread (60g), butter on both sides (30g), mayo (25g), cheddar cheese (45g) | 30 | Ham salad sandwich 2 slices wholemeal bread (60g), poly-unsat spread (30g), 2 slices honey roast ham | 6.1 |
| Latte (200ml) full-cream dairy milk | 5.2 | Latte (200ml) soya altern. to milk | 0.6 |
| Pasta with cheese sauce | 13.8 | Pasta with tomato sauce | 0.4 |
| 2 chocolate digestives | 4.4 | 2 rich tea type biscuits | 0.7 |
| Chicken korma | 14 | Chicken dopiaza | 2 |
| Apple pie with 50ml dairy single cream | 9.1 | Apple crumble with soya single altern. to cream | 4.8 |

Encourage the patient to switch to unsaturated fats:

- Olive, sunflower or other unsaturated fat vegetable oils and spreads instead of butter, ghee, coconut oil, lard, dripping.
 - Use for cooking, in baking, on bread etc.
- Include more oil-rich fish.
- Include more wholegrains.
- Nuts and peanuts as a snack in place of chocolates, cakes and sweet biscuits.

A more detailed patient information sheet can be downloaded from the resource page at www.heartuk.org.uk/UCLP or by [clicking here](#).

AT LEAST 5-A-DAY¹⁻¹¹ (supporting pdf slide 6)

Consumption of at least 400g of fruit & vegetables per day has been associated with lower incidence of:

- Heart disease.
- Elevated cholesterol levels.
- Blood pressure.
- Cancers.
- Obesity.

Heart health benefits of fruit & veg:

- **Low in calories** whilst being high in vitamins, minerals and phytonutrients. **Phytonutrients** are naturally-occurring bioactive compounds associated with improved vascular reactivity and lower incidence of heart disease.
- **Fermentable (soluble) fibre** – in particular pectin – the high viscosity (gel-like consistency) of soluble fibre reduces cholesterol levels by adhering to cholesterol in the gut and by so doing interferes with absorption of cholesterol and bile acids.
 - A daily intake of 6g pectin has been shown to lower LDL-C by 4-6%.
 - 6g Pectin equates to 4-6 servings of higher pectin containing fruit and vegetables (see table across).
- **Antioxidants** – vitamins C and E are associated with vascular health.
- **Lycopenes** – red fruit and vegetables especially tomatoes, tomato purée / ketchup / sauces – reduce oxidation of LDL-C and this is associated with reduced atherosclerosis and heart disease.
- **Potassium** in fruit & vegetables actively lowers blood pressure – another risk factor for heart disease.

Few of us are meeting our 5-a-day:

- 30% of adults.
- 10% teenage boys and 7% teenage girls.



1) www.nhs.uk/livewell/5aday/Pages/5ADAYhome.aspx 2) Dauchet et al. J Nutr 2006;136:2588–2593. 3) Graham et al (2007) Eur J Cardiovasc Prev Rehabil 2007;14(Suppl 2): E1–E40. 4) He FJ et al. J Hum Hypertens 2007;21:717–728. 5) Crowe FL et al. Eur Heart J 2011;32:1235–1243. 6) Sacks FM et al. N Engl J Med. 2001;344(1):3-10. 7) Steffen LM et al. Am J Clin Nutr. 2003;78(3):383-90. 8) Boeing H et al. Eur J Nutr 2012;51:637–663 9) Nothlings U et al. J Nutr 2008;138: 775–781.10) EFSA Panel on Dietetic Products; Nutrition and Allergies (NDA) (2010). Article 13(1) of Regulation (EC) no 1924/2006. EFSA J 8: 174. 11) www.nhs.uk/Livewell/5ADAY/Pages/Portionsizes.aspx

What counts?

We should all be aiming to consume at least 3 portions of vegetables and 2 portions of fruit every day.

For heart health, vegetables and fruit with a higher fermentable (soluble) fibre content should be encouraged. Highlighted in bold blue font in the table below.

FRESH, FROZEN, CANNED & DRIED – ALL COUNT.

Fruit juice should be limited to no more than 150ml per day.

| FRUIT | VEGETABLES 80g |
|---|--|
| DRIED – 30g / 1 tbsp • currants, raisins, cranberries. • apricots, dried figs and prunes. | HALF courgette, pepper, avocado. |
| FRESH / FROZEN / CANNED – 80g A HANDFUL blackberries, gooseberries, strawberries. | ONE MEDIUM turnip , parsnip, sweet potato , leek, tomato, carrot. |
| A COUPLE OF HANDFULS blueberries or raspberries. | TWO TO THREE cauliflower / broccoli florets. |
| A GOOD SLICE melon, fresh pineapple, papaya, mango. | THREE MEDIUM beetroots – cooked or raw. |
| ONE MEDIUM pear, orange and peach. | THREE TABLESPOONS peas , tinned sweetcorn, okra / lady's fingers, brussels sprouts , ackee. |
| TWO clementines, satsumas, kiwi, plums. | A SMALL BOWL of salad. |
| THREE TABLESPOONS canned fruit in juice – always drain and discard the juice. | A HANDFUL mange-tout, sugar-snap peas. A THIRD aubergine. |
| Particularly high in fermentable (soluble) fibre including pectin. | |

STEP 3: THE FOUR UCLP[®] CHOLESTEROL-LOWERING FOODS (supporting pdf slide 7)

The UCLP[®] has been designed to actively lower excess LDL (bad) cholesterol beyond the effect of low saturated fat. Maximum compliance i.e. adopting all the four key UCLP[®] food components in conjunction with a low saturated fat diet, has the potential to lower LDL-C by as much as 24%^{1,2}.

In addition to a low saturated fat diet rich in fruit and vegetables, the UCLP[®] contains **four foods proven to lower cholesterol**.

Each food element, on its own and **in conjunction with a low saturated fat diet**, will lower cholesterol levels significantly. The more food elements one introduces to a low saturated fat diet the greater the cholesterol reduction.

Introduce the UCLP[®] foods to the patient as a choice of four foods that can help to lower cholesterol. It is up to them to decide which and how many they wish to take on board. Whichever UCLP[®] food group they choose, a significant LDL-C reduction will be achieved. The more UCLP[®] foods they include the bigger the impact.

Use the diet history to help guide the patient towards the UCLP[®] foods that would be most beneficial for them.

| | | |
|---|---------------------------|--|
| Plant Sterols / Stanols⁵ | 1.5-2.4g daily | Lower cholesterol by 7-10% by interfering with biliary and dietary cholesterol absorption from the gut. |
| Nuts⁶ Unsalted / Unsweetened | 30g a handful daily | Nuts, with their positive nutrient profile of mono-unsaturated fat, fibre and flavonoids, have been shown to lower cholesterol by 2.7-7.5% and reduce CHD risk by 37%. |
| Oat & Barley Beta-Glucans⁷⁻⁹ | 3g daily | Oat & Barley Beta- Glucans^{8,9} Lower LDL-C by up to 5%. The high viscosity of these fibres reduces cholesterol levels by interfering with it's absorption in the gut. |
| Other fermentable (soluble) fibres | 16-32g 1-2 servings daily | Other Wholegrains The complex nutrient profile of wholegrains, especially polyphenolic compounds, soluble fibre, unsaturated fat and oligosaccharides. |
| • Wholegrains. • Beans & pulses. • Fruit & veg. | 80-100g daily | Beans & Pulses¹⁻⁷ |
| <i>15-20g fermentable / soluble fibre daily can lower LDL-C by 5-10%.</i> | | |

1) Jenkins DJ, Kendall CW, Marchie A et al. (2003). The effect of combining plant sterols, soy protein, viscous fibers, and almonds in treating hypercholesterolemia. *Metabolism* 52(11), 1478-1483. 2) HEART UK. The UCLP[®]: Eating to our heart's content, saving lives and money. London: Nutrilicious Ltd; 2011. Available from www.heartuk.org.uk/partners/partnership-activities/uclp/ 3) Jenkins DJ, Mirrahimi A, Srichaikul K et al. (2010). Soy protein reduces serum cholesterol by both intrinsic and food displacement mechanisms. *J Nutr* 140(12), 2302S-2311S. 4) Harland JI & Haffner TA(2008). Systematic review, meta-analysis and regression of randomized controlled trials reporting an association between an intake circa 25g soya protein per day and blood cholesterol. *Atherosclerosis* 200, 13-27. 5) European Food Safety Authority. (2009) Scientific opinion plant stanols and plant sterols and LDL cholesterol. Available at: www.efsa.europa.eu/sites/default/files/scientific_output/files/main_documents/1175.pdf 6) Jenkins DJA, Kendall CWC, Marchie A, Parker TL et al. (2002). Dose response of almonds on coronary heart disease risk factors: blood lipids, oxidized low-density lipoproteins, lipoprotein(a), homocysteine, and pulmonary nitric oxide: a randomized, controlled, crossover trial. *Circulation* 106, 1327-1332. 7) Bruckert E, & Rosenbaum D (2011). Lowering LDL cholesterol through diet: potential role in the statin era. *Current Opinion in Lipidology* 22, 43-48. 8) Othman RA, Moghadasian MH, Jones PJH (2011). Cholesterol-lowering effects of oat beta-glucan. *Nutr Rev* 69(6), 299-309. 9) European Food Safety Authority (2010). Scientific Opinion on the substantiation of a health claim related to oat beta-glucan and lowering blood cholesterol and reduced risk of (coronary) heart disease pursuant to Article 14 of Regulation (EC) No 1924/2006. Available at: http://ec.europa.eu/nuhclaims/?event=search&status_ref_id=4

Soya Protein¹⁻⁴

15-25g
1-3
servings
daily

Soya foods can lower LDL-C by up to 10%.
4% of the effect is attributed to soya protein directly interfering with liver LDL-C synthesis. The remaining impact has been attributed to the displacement of saturated fat within the diet.

SOYA FOODS¹⁻³

(supporting pdf slide 8)

Starting with just 15g soya protein daily
1-2 servings soya foods

Any ONE of the following options will provide at least 15g soya protein.

Options shown on the patient pdf slide.

- 500ml (two large glasses) soya alternative to milk.
- 28g (a handful) soya nuts / roasted Edamame beans.
- 80g marinated tofu.
- 1 soya burger + 150g serving soya plain with almond alternative to yogurt.
- 75g soya mince (as served) + 125g pot soya dessert: vanilla, chocolate or caramel.
- 80g (3 tablespoons) young soya beans (Edamame beans) + 200g soya custard.

Other options your patient may like to consider:

- 100g (as served) soya mince or chunks.
- 90g (3-4 tablespoons) cooked dried soya beans.
- 250ml (a large glass) soya alternative to milk + 85g (3-4 tablespoons) young soya beans (Edamame beans).
- 150ml (a small glass) soya alternative to milk + 150g serving soya custard + 150g serving soya alternative to vanilla yogurt.
- 250ml (a large glass) soya alternative to milk + 125g pot soya alternative to fruit yogurt + 125g pot soya chocolate / caramel / vanilla dessert.
- 250ml (a large glass) soya alternative to milk + 125g pot soya alternative to fruit yogurt + 150g serving soya custard.

Consumption of 15-25g soya protein daily, has been scientifically proven to lower LDL-C by 4.3-10%

- 4.3% by the direct action of soya protein on LDL-C receptors in the liver – where it down-regulates LDL-C synthesis.
- 6% by the displacement of saturated fat-containing foods.

Patients already consuming 1-2 servings soya foods daily, should be encouraged to increase consumption to 25g soya protein daily. Simply suggest any of the following options to add another 7-10g soya protein to their current intake:

- 250ml (large glass) soya alternative to milk.
- 200g soya alternative to vanilla yogurt.
- 2 x 125g pots soya yogurt alternative.
- 200g soya simply plain or plain with almond alternative to yogurt.
- 1 x 125g pot soya alternative to fruit yogurt + 1 x 125g pot soya dessert: vanilla, caramel or chocolate.
- 75g (3 tablespoons) young fresh / frozen soya beans (Edamame).
- **Half** a handful soya nuts / roasted Edamame beans.
- 50g (2 tablespoons) cooked dried soya beans.
- 50g (as served) soya mince / chunks.
- 1 soya / tofu burger or sausage.
- 40g marinated tofu pieces.
- 50g hard tofu.

1) Jenkins DJ, Mirrahimi A, Srirachikul K et al. (2010). Soy protein reduces serum cholesterol by both intrinsic and food displacement mechanisms. J Nutr 140(12), 2302S-2311S. 2) Harland JI & Haffner TA (2008). Systematic review, meta-analysis and regression of randomized controlled trials reporting an association between an intake circa 25g soya protein per day and blood cholesterol. Atherosclerosis 200, 13-27. 3) HEART UK. The UCLP[®]: Eating to our heart's content, saving lives and money. London: Nutrilicious Ltd; 2011. Available from www.heartuk.org.uk/partners/partnership-activities/uclp/

FOODS FORTIFIED WITH PLANT STEROLS / STANOLS¹ (supporting pdf slide 9)

1.5 to 2.4g per day (1–3 servings)

Plant sterol and stanol esters are compounds naturally found in small quantities in plants such as nuts, seeds, grains, fruit and vegetables.

- They lower cholesterol by up to 10% at quantities of around 1.5-2.4g per day¹.
- To obtain the effective dose by consuming foods naturally containing sterols / stanols will not be possible – therefore a more convenient way is to consume products that have been fortified with these compounds.

Any of the following food options will provide the patient with the effective dose of 1.5-2.4g sterols or stanols per day:

1 mini-yogurt / milk drink (65g-100g)
(dairy / non-dairy based)
fortified with sterols / stanols

OR

2-3 daily servings of any combination of the following products fortified with sterols / stanols:

2 tsp. (10g-12g) margarine / spreads

1 small (120g) pot yogurt

1 large glass (250ml) milk

How to use effectively

- Plant sterol / stanol products should be spread out through the day and always **taken with meals** to optimize impact.
- If the **fortified mini-yogurt drink** option is chosen (only one serving a day) then this should be taken with a main meal.

NOTE: Sterol / stanol containing products:

- Should only be used for those needing to lower their serum cholesterol.
- Daily intake should not exceed 3g - **read labels carefully**.
- Should be used as part of a diet, which includes plenty of fruit and vegetables to help maintain carotenoid levels.
- Are not appropriate for pregnant and breastfeeding women and children unless advised by a health professional.
- Can be used with patients on statins.

NUTS – UNSALTED / UNSWEETENED^{2,3}

Just a handful (30-35g) of nuts; **almonds, pecans, pistachios, walnuts and peanuts**, through their complex positive nutrient profile of mono-unsaturated fat, soluble fibre and phytochemicals have been proven to:

- Significantly lower cholesterol by 2.7% to 7.5%².
- Significantly reduce coronary artery risk by up to 37%².

1) European Food Safety Authority. (2009) Scientific opinion plant stanols and plant sterols and LDL cholesterol; www.efsa.europa.eu/sites/default/files/scientific_output/files/main_documents/1175.pdf

2) Jenkins DJA, Kendall CWC, Marchie A, Parker TL et al. (2002). Dose response of almonds on coronary heart disease risk factors: blood lipids, oxidized low-density lipoproteins, lipoprotein(a), homocysteine, and pulmonary nitric oxide: a randomized, controlled, crossover trial. *Circulation* 106. 1327-1332. 3) Sabaté J, Oda K, Ros E (2010). Nut consumption and blood lipid levels: a pooled analysis of 25 intervention trials. *Arch Intern Med* 170, 821-827.

OAT & BARLEY BETA-GLUCANS¹⁻³ (supporting pdf slide 10)

Fermentable (soluble) fibres can help lower cholesterol by increasing viscosity in the gut, which interferes with gut absorption of dietary cholesterol and bile acid re-absorption.

15-20g soluble (fermentable) fibre daily can lower LDL-C by 5-10%¹

There are many ways to include fermentable (soluble) fibres in your patient's diet.

- **Oat & Barley beta-glucans.**
- Other **wholegrains.**
- **Beans & pulses.**
- **Fruit and vegetables** – particularly those high in pectin (see page 6).

Oat & Barley Beta-Glucans

Oats and **barley** are wholegrain foods especially rich in a fermentable (soluble) fibre known as **beta-glucans** – scientifically proven to lower cholesterol.

3g oat & barley beta-glucans daily has been scientifically shown to reduce LDL-C by up to 5%²

Achieving 3g oat and barley beta-glucans daily

The patient should ultimately aim to consume ANY THREE of the following servings DAILY. Each serving provides around 1g beta-glucan*:

- 1½ tbsps (18g) oatbran.
- Porridge made with 25g (3 tbsps) porridge oats OR 1 sachet (27g) instant oats.
- 1½ oat breakfast biscuits e.g. Oatibix* (see note below).
- 2 slices beta-glucan enriched bread e.g. Hovis® Hearty Oats™* (see note below).
- 3 oatcakes.
- A bowl (40g) beta-glucan fortified cereal or oatbran flakes e.g. Mornflake's oatbran flakes* (see note below).
- 75g cooked (25g raw weight) pearl barley: great in salads and added to stews and soups.

**Patients should check the labels of other brands as very few will contain adequate beta-glucan. A serving of a product should provide at least 1g beta-glucan.*

How to incorporate...

- Use oat-based breakfast cereals.
- Oatbran: sprinkled on fruit salads, favourite cereals, in soups. Use when baking bread, cakes and biscuits.
- Snack on oatcakes.



1) Thuewissen E, Mensink RP (2008). Water-soluble dietary fibers and cardiovascular disease. *Physiology and Behaviour* 94, 285-292. 2) Othman RA, Moghadasian MH, Jones PJH (2011). Cholesterol-lowering effects of oat b-glucan. *Nutr Rev* 69(6), 299-309. 3) European Food Safety Authority (2010). Scientific Opinion on the substantiation of a health claim related to oat beta-glucan and lowering blood cholesterol and reduced risk of (coronary) heart disease pursuant to Article 14 of Regulation (EC) No 1924/20061.

Available at: http://ec.europa.eu/nuhclaims/?event=search&status_ref_id=4

FERMENTABLE (SOLUBLE) FIBRE from OTHER WHOLEGRAINS and BEANS & PULSES (supporting pdf slide 11)

Other Wholegrain Foods¹

Up to 1-2 servings of other wholegrains

In addition to fermentable (soluble) fibre, wholegrain foods also provide other heart protective nutrients especially those found in the germ – the most commonly removed part of the grain in processed cereals. The germ provides unsaturated fats, phytochemicals, minerals such as iron and zinc as well as vitamins B and E.

Spotting a wholegrain

- Look for the word “**whole**” in the name e.g. **whole**meal granary bread, **whole**wheat cereal, **whole**grain cereal.
- **Ingredients list:** Check that wholegrain is the main ingredient i.e. it should appear towards the top of the ingredients list. Sometimes a combination of grains may be used for example – wholegrain wheat & oats.

The patient should aim for **one to two single servings a day** (in addition to any oats and barley they may take).

Single wholegrain servings:

Images shown on the patient pdf slide.

- Small bowl wholegrain breakfast cereal e.g. muesli, Shredded Wheat.
- 2 rye crispbreads.
- 1 slice wholemeal bread / roll.
- 2-3 handfuls plain popped corn (unsalted / unsweetened).

Other options include:

- 1 small wholewheat tortilla or pitta bread.
- 1 wholemeal scone – plain or fruit.
- 2 tbsps cooked brown rice.
- 3 tbsps cooked wholewheat pasta.

Beans & Pulses: 80-100g (cooked weight) daily

Significant quantities of fermentable (soluble) fibre can be achieved by consuming beans and pulses. Patients should be encouraged to consume 80-100g of any variety or combination of beans and pulses daily – this may be an easier option to suggest with Asian and vegetarian groups.

Kidney – haricot – baked beans – lentils – cannellini – broad beans – chick peas – black eyed beans etc.

Easy and simple: There are now many varieties available, ready cooked with no need for soaking or boiling. Encourage your patient to use canned, vacuum-packed or frozen varieties:

Images on the patient pdf slide.

- Baked beans on toast.
- Retailers’ **ready-meal** sections are now full of bean salad varieties.
- Bean or lentil based soups e.g. Daal.

Other options and uses

- Canned / vacuum sealed beans.
 - can be added to:
 - Stews.
 - Soups – encourage them to make their own.
 - Salads.
 - Or
 - Use as a vegetable accompaniment to main meals.
 - Puréed with mashed potatoes.
 - Made into bean or hummus dips.
- **Frozen** broad beans, Edamame (soya beans) are now readily available.

WRAPPING UP & SETTING GOALS (supporting pdf slide 12)

- Ensure the patient has been provided with their **UCLP® Patient Information Sheet**. You can download this from the resource page of www.heartuk.org.uk/UCLP or by [clicking here](#).
- ✎ Once the patient has **chosen which UCLP® dietary modification/s** they would like to try / focus on, review with the patient the various food options and servings they can choose from by referring back to the relevant pdf slide/s. Ask the patient to record the specific changes they have chosen to make on their **UCLP® Patient Information Sheet**.
- If you will not be seeing the patient again, suggest further changes they may want to consider once they have incorporated and become familiar with their initial choices.
- Encourage the patient to keep a food and drink diary for 3 days and especially prior to revisiting you. You can download the **UCLP® Food & Drink diary** from the resource page of www.heartuk.org.uk/UCLP or by [clicking here](#).
- ✎ If the patient feels it would be helpful, fill in their cholesterol and weight details on the back of their **UCLP® Patient Information sheet**.
- Where appropriate, book a follow-up appointment for 8-12 weeks' time to re-check cholesterol levels.
- **Remind them to refer back to their motivational triggers to re-inspire them.**

More **UCLP®** patient resources, information and recipes are available to view and download at:
www.heartuk.org.uk/UCLP

NEW OCTOBER 2015 LAUNCH

- THE UCLP® STORE TOUR VIDEO

featuring Lucy Jones - consultant and media dietitian.
heartuk.org.uk/storetour



For you and your patient / consumer:

- **The UCLP® Patient Information Sheet**. (to be used during consultations).
- **The UCLP® 12-page Leaflet**.

Consumer UCLP® Factsheets:

- **The UCLP® At a Glance.**
- **Step 1: Let's Get Motivated.**
- **Food and Drink Diary.**
- **Step 2: Essentials of a Heart Healthy Diet.**
- **Step 2: Heart Healthy Fats.**
- **Step 2: At least 5-a-Day.**
- **The UCLP® Meal Ideas.**



For health professionals:

- **The UCLP® Scientific Report: Eating to our Heart's Content: Saving Lives and Money.**



you can also order hard copies of the **UCLP® consumer leaflet** at:
www.alpro.com/healthprofessional



ABOUT HEART UK AND THE UCLP[®] EXPERT ADVISERS



THE UCLP[®] EXPERT ADVISERS

Linda Main BSc RD *Registered Dietitian and Dietetic Adviser to HEART UK*

Linda Main has over 25 years of experience in the field of nutrition, diet and health in both the NHS and industry. Linda now works freelance and as nutrition adviser to HEART UK – The Cholesterol Charity. Linda maintains a special interest in heart health, vitamin and mineral supplementation and infant feeding and enjoys working with the media.

Dr Sarah Jarvis MA BM BCh FRCGP *General Practitioner*

As well as being a General Practitioner (GP), Dr Jarvis is also a GP trainer, Fellow of the Royal College of General Practitioners (RCGP) and Women's Health spokesperson for the RCGP. Dr Jarvis is past chair of the Health Care Committee of HEART UK - The Cholesterol Charity, and is a member of the advisory board for the British Journal of Cardiology. Dr Jarvis is also an active medical writer and broadcaster. She has been a regular contributor to a variety of medical journals including Update, Doctor, Practice Nurse and the British Journal of Cardiology and newspapers such as The Sunday Telegraph and The Guardian.

Jaqui Walker BSc (Hons) RGN *Registered Nurse*

Jaqui Walker is a general practice nurse with an interest in health promotion, diet and nutrition. She has experience of working both in the NHS and the pharmaceutical industry. As a practice nurse she is regularly involved in advising patients on diet, especially in relation to cholesterol management and also obesity. She was recently involved in a pilot study looking at the effectiveness of a low-calorie liquid diet in patients with a BMI over 40 in general practice. Jaqui works part-time as a practice nurse and part-time as a freelance medical writer undertaking various writing and medical educational projects.

Sue Baic MSc RD RNutr *Registered Dietitian & Nutritionist*

Sue Baic has worked in the NHS as a community dietitian and in private practice. Sue's research focuses on heart health and she has previously worked as a specialist dietitian in a lipid clinic. She is currently Programme Director for the Master of Science in Nutrition, Physical Activity and Public Health at the University of Bristol.

Dr Frankie Phillips BSc (Hons) RD MBDA RPHNutr *Registered Dietitian and Public Health Nutritionist*

Dr Phillips has over 15 years' experience in the NHS, research and public health. She has featured on national TV and radio discussing topical food and nutrition issues and has written extensively for health professionals. Frankie has a keen interest in heart health and cholesterol-lowering after examining the effect of a vegetarian diet on lipids for her PhD.

HEART UK – THE CHOLESTEROL CHARITY

HEART UK – The Cholesterol Charity is the specialist advisor on issues related to cholesterol and lipid conditions. They campaign for better identification, treatment and cutting edge clinical practice / treatment of raised cholesterol and related conditions.

Our Strategic Priorities

Better training and support for those working with people with raised cholesterol.

- Better screening, identification and treatment of people with raised cholesterol.
- Better support and care for people with high cholesterol and their families.
- Better public awareness of cholesterol and its impact.

Our Vision:

- To prevent avoidable and early deaths caused by high cholesterol.
- We want the majority of UK adults to know their cholesterol levels, understand the impact and to be taking any necessary action.

Our Services

- **Helpline:** 0345 450 5988
- **Website:** www.heartuk.org.uk
- **Patient Community:** UCLP[®] online: www.heartuk.org.uk/UCLP
- **Membership:** keeping patients and health professionals informed.
- **Publications:** impactful, informative and evidence based.
- **Product approval:** working with the food industry to reassure consumers about produce choice.
- **Educational events:** keeping patients and health professionals informed.
- **Career progression:** for health care professionals to help improve patient outcomes.
- **Campaigning:** working with partners to improve health policy.
- **Fundraising and challenge events:** raising funds to support our work.
- **Networks:** developing clinical networks to benefit patients.

For more information about HEART UK call us on 01628 777 046 or visit: www.heartuk.org.uk



This resource was kindly sponsored by an education grant from Alpro UK. Alpro is the leading European manufacturer of plant-based alternatives. Its scientific department is dedicated to providing up-to-date evidence-based scientific and practical support to health professionals.

For further information visit www.heartuk.org.uk/UCLP or www.alpro.com/healthprofessional

3rd edition Oct 2015 (2nd edition May 2012, 1st edition July 2011)

