

e.g.

- **Simvastatin, Atorvastatin
- **Pravastatin & Rosuvastatin – non- cyt P450 mechanism

Indication: Prophylaxis & Treatment - Lipid regulation – Cardiovascular disease; Diabetes
C/I: active liver disease, pregnancy/ breast feeding

How to take Tips:

- **Statins** (reduce LDL-cholesterol) ***NICE/ cost effective choice – check BNF for other regimens.*
- Take in the evening preferably – when most cholesterol synthesis occurs.

Side-effects: Muscle pain or weakness; GI symptoms; sleep disturbance; headache, rash (check BNF 2.12)

Caution:

statin	Cyt P450 enzyme	When to take	Grapefruit & macrolide interaction	Special notes MHRA update Oct 2012
Simvastatin **	y	Take at night	Y (*stop during course & for 3 days after)	<ul style="list-style-type: none"> □ Simva now CI: with ciclosporin/ gemfibrozil/ danazol * □ Max dose 20mg: amiodarone, verapamil or a fibrate concurrent (also in the frail; alcoholics; hypothyroid; renal impairment). □ *Max dose Simva now 20mg: if taking diltiazem or amlodipine □ 80mg Simva being reviewed by some GPs & reduced to 40mg.
atorvastatin	y	Can be taken during the day – longer half life *10mg atorva recommended as alternative	Y *	
fluvastatin	y	Take at night	Y *	Weaker statin – not popular clinically
Pravastatin **	n	Take at night	n	Weaker statin – 40mg required
rosuvastatin	n	Can be taken during the day – longer half life	n	More potent statin, reduced dose with Asian/ Chinese.
ezetimibe	(inhibits intestinal cholesterol absorption)	Used where statin intolerance or in addition to further reduce cholesterol	n	Inegy - branded combination not considered cost effective.

Studies have shown that up to 40% of patients no longer take their prescribed statin after 3 years which highlights the need to ensure compliance with this medicine.

Lifestyle/ CHD Health Tips:

- Regular exercise – e.g. walking 20mins every day would be optimum (30mins three times a week) – lowers cholesterol.
- Balanced diet with reduced fat intake – particularly avoiding saturated fats (red meat, full fat cheese, eggs) & new trans-fats (peanut butter; processed & fried food). Chicken and fish are preferred (oily fish once a week – rich in omega-3). Olive oil for cooking, or grilling/ baking.
- Soluble fibres in fresh fruit and veg lower cholesterol. Oats (porridge) for breakfast. Reduce salt intake.
- Reduce alcohol intake to safe limits - 1-2 units per day. Encourage a 48 hour period without alcohol.
- If a smoker – encourage or offer a plan to quit – CHD risk.
- Check out 'Eat Well' & Change4Life resources/ website. Healthy life-style reduces cholesterol by 12%.
- Avoid grapefruit in P450 statins – prevents metabolism of statin and therefore toxic accumulation may lead to myopathy.

Consider:

- Unexplained muscle pain – refer to GP. Doubling the dose of statin only gives 6% further lowering capacity.
- Monitoring Liver Function – before, and within 3 months of starting, then annually (tend to elevate in 1% pts).
- NICE guidance: treat to total cholesterol less than 5 mmols/L. Some treat to less than 4mmols/L.
- Check INR levels are being monitored in the early stages of concurrent use of any statin with warfarin (or after statin dose increases), particularly for those with a higher baseline INR.

Further reading & CPD:

NICE www.nice.org.uk – Clinical Guidance 67 (May 08); TA 94; TA 132 (ezetimibe); BNF Chapter 2.12 ;

STATINS

KEY REVIEW QUESTIONS TO ASSIST WITH MUR

<p>WHY ARE YOU TAKING THEM: Primary or secondary prevention of CVD; diabetes; high cholesterol – to reduce risk of fatty build up in major blood vessels and organs which could result in a heart attack or stroke. As with all preventative medicines compliance can be low – studies show that up to 40% of patients no longer take their prescribed statin after 3 years which highlights the need to ensure compliance with this medicine.</p>	<input type="checkbox"/>
<p><i>Additional notes:</i></p>	
<p>HOW DO YOU TAKE THEM: Take at in the evening or before bed (time when cholesterol synthesised). Avoid grapefruit if taking simva, atorva or fluva (increases risk of myopathy). Take with water. Atorv and rosuva SPC says can be taken anytime during day (longer action). Ask if taking them regularly – reinforce need for compliance and long term benefits. Negotiate the best time to take the statin.</p>	<input type="checkbox"/>
<p><i>Additional notes:</i></p>	
<p>SIDE EFFECTS: Muscle pain or weakness should be reported to GP – exclude unrelated aches. Sleep disturbance, GI disturbance, headache, rash. Any side effect which is stopping them from taking the statin regularly?</p>	<input type="checkbox"/>
<p><i>Additional notes:</i></p>	
<p>OTHER DRUGS: Stop simva, atorva or fluva when taking macrolide antibiotics (does not affect prav or rosuva) during course and for 3 days after. Taking amiodarone, diltiazem or verapamil? See overleaf. General points: Meds Man. Discuss waste reduction & synchronisation.</p>	<input type="checkbox"/>
<p><i>Additional notes:</i></p>	
<p>HEALTH TIPS: Follow healthy diet to reduce cholesterol generally (can lower LDL by 12%) e.g. 5 fruit/veg (remember grapefruit); chicken/ fish diet; Mediterranean diet principles/ olive oil; oats/ cereals; check packaging for low fat options; reduce salt intake. Reduce alcohol to safe limits. Offer stop smoking advice/ service/ referral. Increase exercise (see overleaf). Pass recorded BP/ weight/ BMI/ life style monitoring info to GP.</p>	<input type="checkbox"/>

USEFUL PATIENT INFORMATION:

Any leaflets?

NHS Choices: <http://www.nhs.uk/Pages/HomePage.aspx>;

Eat Well: www.eatwell.gov.uk/;

Change4Life: <http://www.nhs.uk/change4life/Pages/Default.aspx>;

Healthy Eating Tips: http://helpguide.org/life/healthy_eating_diet.htm

Health trainers: gloshealth.trainers@glos.nhs.uk;

British Heart Foundation: www.bhf.org.uk

Stop Smoking: <http://www.stopsmokingsupportglos.org.uk/>