

## **Type 2 Diabetes – Lipid and Aspirin Therapy**

**Measure fasting lipid panel at least annually.**

**Initiate therapeutic lifestyle changes with all patients.**

**Step 1: Treat severely elevated triglycerides.** If level is greater than 500 mg/dL, restrict dietary fats and carbohydrates, intensify blood glucose control, R/O hypothyroidism or other causes. Consider using fibrate, fish oil or Niaspan.

**Step 2: Assess CVD risk and LDL Cholesterol.** Initiate statin therapy if patient has any of the following:

- Personal history of CVD.
- LDL greater than 100 mg/dL.
- Over 40 years of age with at least 1 CVD risk factor in addition to diabetes.
- *Consider* statin therapy if age is less than 40 years with multiple CVD risk factors.

**Step 3: Determine target for statin therapy.**

- LDL less than 70 m/dL with CVD
- LDL less than 100 mg/dL with no CVD
- If target is not reached on maximal tolerated dose of statin, a reduction in LDL of 30 to 40% from baseline is an alternative target.

**Should combination therapy be considered?**

May be considered if LDL targets are not achieved on statin therapy alone.

- Combination therapy has not been evaluated in studies for either CVD outcomes or safety.

Patients cannot tolerate a statin?

- Try a different statin. If no statin is tolerated. May consider non-statin medication to lower LDL. However, Non-statin medications have not demonstrated benefit in CVD outcomes in people with diabetes.

**Should medications be used to treat elevated triglycerides (150-500 mg/dL) or a low HDL?**

No demonstrated benefits have been found in CVD outcomes in diabetes.

**LDL-targeted therapy with statins has demonstrated the best evidence for CVD risk reduction in patients with diabetes with elevated LDL and/or other CVD risk factors.**

**Table 1. Statin Medications for Lipid Management**

<b>Statin</b>	<b>Starting Dose</b>	<b>Maximum Dose</b>	<b>LDL</b>	<b>HDL</b>	<b>Triglyceride</b>
Rosuvastatin (Crestcor®)	20 mg daily	40 mg	Decrease	Increase	Decrease
*Atrovastatin (Lipitor®)	10 mg daily	80 mg	Decrease	Increase	Decrease
Simvastatin (Zocor®)	20 mg HS	40 mg	Decrease	Increase	Decrease
Lovastatin (Mevacor®)	20 mg daily	80 mg	Decrease	Increase	Decrease
Pravastatin (Prevachol®)	40 mg daily	80 mg	Decrease	Increase	Decrease

\*Only Rosuvastatin 20mg is on the IHS Core Formulary.

**Contraindications: acute liver disease, pregnancy, nursing mothers**

- There are numerous drug interactions; consult package insert prior to prescribing.
- Simvastatin and Lovastatin - Caution or contraindication with strong CYP3A4 inhibitors (e.g., azole antifungals, erythromycins, HIV protease inhibitors, nefazodone).
- All statins - Caution or contraindication with gemfibrozil, cyclosporin, or danazole.
- Decrease dose of simvastatin with niacin, amiodarone, verapamil, diltiazem, amlodipine, and grapefruit.

Check ALT before initiating therapy; routine monitoring is not necessary.

**Table 2. Other Medications for Lipid Management**

<b>Non-Statin Medications</b>	<b>Usual Dose</b>	<b>LDL</b>	<b>HDL</b>	<b>Triglyceride</b>
Gemfibrozil (Lopid ®)	600 mg BID	No effect	Increase	Decrease
*Fenofibrate (Tricor ®)	145 mg daily	Decrease	Increase	Decrease
Niacin (Niaspan ®)	500 mg daily to 2 – 3 g HS	Decrease	Increase	Decrease
*Fish Oil (Omacro® or OT)	2-4 g daily	Increase	Increase	Decrease
*Ezetimibe (Zetia®)	10 mg daily	Decrease	No effect	No effect
*Cholesevalam (Welchol ®)	3 – 6 tab daily	Decrease	No effect	Increase or no effect

\*These drugs are not on the IHS National Core Formulary.

**Contraindications:**

**Statins:** active liver disease, alcohol abuse, pregnancy & lactation

**Niacin:** active gout or peptic ulcer disease, active liver disease, pregnancy & lactation

**Gemfibrozil:** active liver disease, gallbladder disease, pregnancy & lactation

**Aspirin Therapy**

Consider aspirin dose 75 to 162 mg/day for patients with:

- Known CVD.
- Increased risk of CVD (10-year risk > 10%)
  - Includes most men over 50 yrs & women over 60 yrs with one or more 1 major CVD risk factors
  - Use clinical judgment if 10-year risk is 5-10%

If allergic to aspirin, consider clopidogrel 75 mg daily.

**References**

Ref: ADA Clinical Practice Recommendations 2012, DIABETES CARE, VOLUME 35, SUPPLEMENT 1, JANUARY 2012. Accessed online [http://care.diabetesjournals.org/content/35/Supplement\\_1/S11.full.pdf+html](http://care.diabetesjournals.org/content/35/Supplement_1/S11.full.pdf+html)  
IHS Core Formulary: <http://www.ihs.gov/nptc/index.cfm>