Lipid Optimization Tool

Patient: _____ Pharmacy: _____

Responsible for Lipid Management: ❍ Family Physician ❍ Cardiologist ❍ Endocrinologist

LIPID FLOW SHEET[1] – Use the following Table to Guide Intervention: **NB*: UPPER STRATUM Exceeds**
CCS Guidelines for the Dx and Tx of Dyslipidemia for the Prevention CVD 2012 / NCEP ATP III Guidelines 2004

Risk Level	10 year CHD Risk	No. Of Risk Factors		Targets 1°	2°	2°	3°	Initiation of Lipid Lowering Therapy
Count risk factors or use **Framingham tables, Reynolds Risk Score or European SCORECARD** to calculate 10 year risk of hard CHD/CVD endpoints.				LDL <	Apo-B	Non-HDL Cholesterol	Ratio	
* CAD, PCI, CABG, TIA/CVA, PVD/bruits, DM[2], CKD[3]				1.8	≤ 0.8	≤ 2.6	3/1	Immediately
High	> 20%	3	Rx to <	2.0	≤ 0.8	≤ 2.6	4/1	Immediately
Moderate	10-20%	2	Rx if ≥	3.5	1.2	4.3	5/1	Diet/Lifestyle 3 months
Low	< 10%	≤1	Rx if ≥	5.0			6/1	Diet/Lifestyle 6 months

1) **Count Risk Factors:**
❍ Age M > 45 F > 55 ❍ Family Hx CAD ❍ Smoking ❍ HPT ❍ DM ❍ LVH ❍ HDL < 0.9 mmol/l
2) **Identify Metabolic Syndrome (> 3 parameters):**
❍ Abdominal obesity (Waist circumference: Male >94 cm (37 in.) / Female > 80 cm (91.5 in.) ❍ TG > 1.7 mmol/L
❍ HDL < 1 mmol/L (male)/< 1. 3 mmol/L (female) ❍ BP > 130/85 ❍ FBG 6.2-7 mmol/L
3) **Identify secondary causes:** ❍ Diabetes ❍ Hypothyroidism ❍ Renal disease ❍ Liver disease ❍ Drugs & Alcohol
4) **Record Indication:** ❍ Risk Factors ❍ CAD: _ angina, _ post MI, _ post PTCA, _ post CABG ❍ TIA ❍ CVD
❍ PVD/AAA
5) **Risk Modifiers elevate risk one level:** +FH, Ethnicity-South Asian/Aboriginal, Metabolic syndrome,↑CRP, ↑Lp(a), ↑A1C, ↑MAU, +GXT, ↑CIMT, ↓ABI, ↑CAC, Rheumatologic Disorders: RA/SLE/PSS/AnkSpond/Psoriatic Arthritis, IBD, AAA, CKD, COPD, HIV-HAART, Erectile Dysfunction

Date	TC	TG	HDL	LDL	Non HDL Chol	TC/ HDL	ALT	CK	Medication Rx Adjustment Addition	Next Test	Req. Sent ✓	Patient Called (Initial)

1 Monitor lipid profile, ALT and CK at baseline, 2 months then every 6 to 12 months
2 Diabetes carries the same CV risk as manifest CAD. DM+CAD impart much higher risk for subsequent CV events.
3 Chronic Kidney Disease

Secondary Prevention: % LDL (mmol/L) change to reach LDL target by risk category.

ATP III Very High Risk		
Initial	Target	% Change
LDL	LDL <	LDL
5.00	1.8	-64%
4.80	1.8	-63%
4.60	1.8	-61%
4.40	1.8	-59%
4.20	1.8	-57%
4.00	1.8	-55%
3.80	1.8	-53%
3.60	1.8	-50%
3.40	1.8	-47%
3.20	1.8	-44%
3.00	1.8	-40%

CCS High Risk		
Initial	Target	% Change
LDL	LDL <	Min. ↓ 50%
5.0	2.0	-60%
4.8	2.0	-58%
4.6	2.0	-57%
4.4	2.0	-55%
4.2	2.0	-52%
4.0	2.0	-50%
3.8	1.9	-50%
3.6	1.8	-50%
3.4	1.7	-50%
3.2	1.6	-50%
3.0	1.5	-50%

Moderate Risk		
Initial	Target	% Change
LDL	LDL <	Min. ↓ 40%
5.00	3.0	-40%
4.80	2.9	-40%
4.60	2.8	-40%
4.40	2.6	-40%
4.20	2.5	-40%
4.00	2.4	-40%
3.80	2.3	-40%
3.60	2.2	-40%
3.40	2.0	-40%
3.20	1.9	-40%
3.00	1.8	-40%

Dose response to Medication (statins & fibrates) % LDL Reduction

Drug mg.	5	10	20	40	80	200	400	900
Lovastatin			24-28%	28-34%	39-42%			
Pravastatin		18-25%	21-28%	27-33%				
Simvastatin	23-30%	27-32%	30-40%	36-43%	45-47%			
Fluvastatin	13%	13%	19%	29%	36%			
Atorvastatin		38-41%	44-46%	50-51%	54-61%			
Rosuvastatin	42-46%	52%	55%	63%				
Gemfibrozil	† Avoid in patients with renal impairment							12-16%
Fenofibrate	† Avoid in patients with renal impairment					21-32%		
Bezafibrate	† Avoid in patients with renal impairment						2-15%	
Ezetimibe		19%	(Co-administration with statin yields incremental 21% LDL reduction)					

Protocol: Initiate lipid lowering immediately in high-risk patients (concomitant with dietary/therapeutic lifestyle modification).

1) Target initial medication dose to ↓ LDL by 50% to minimum of < 2.0 mmol/L for all risk levels. Consider target LDL < 1.8mmol/L for ATP III Very High Risk patients. Initiate therapy with dose required to achieve target LDL. Initiate therapy with dose required to achieve target LDL.
   - NB: Initiate rosuvastatin at 10-20 mg (5 mg in Asians/CKD). *40 mg. contraindicted in Asian population.
   - NB: Caution with simvastatin 80 mg. A to Z Trial and max dose statin in populations at risk for myositis.
2) If initial LDL at target, raise HDL and lower triglycerides to target values with appropriate intervention: diet, exercise, weight loss, refined carbohydrate restriction, moderate alcohol intake or medication: fibrate, Niaspan® or salmon oil/omega-3 supplements (1gm OD-TID).
3) If LDL and triglycerides high and HDL-C low, consider combination therapy (fibrate or Niaspan®).
4) If unable to raise HDL sufficiently, lower LDL to achieve TC/HDL< 4 and/or LDL/HDL< 3.
5) If initial lipid profile normal look at other risk factors (LPa, homocysteine, apo-B and hs-CRP).
6) Follow Total cholesterol, LDL, HDL, triglycerides, CK and ALT in 2 months then every 6 months.
7) If LDL not at target increase statin dose to achieve target or switch to more potent statin. If LDL target not achievable on monotherapy add cholesterol absorption inhibitor (ezetimibe) or bile acid sequestrant (cholestyramine or colesevelam). Doubling statin dose adds ~ 6% LDL. Adding ezetimibe to statin therapy provides additional LDL lowering up to 20% reduction. See Statin Cost Efficacy Grid.
8) Feedback results to patent to improve compliance.