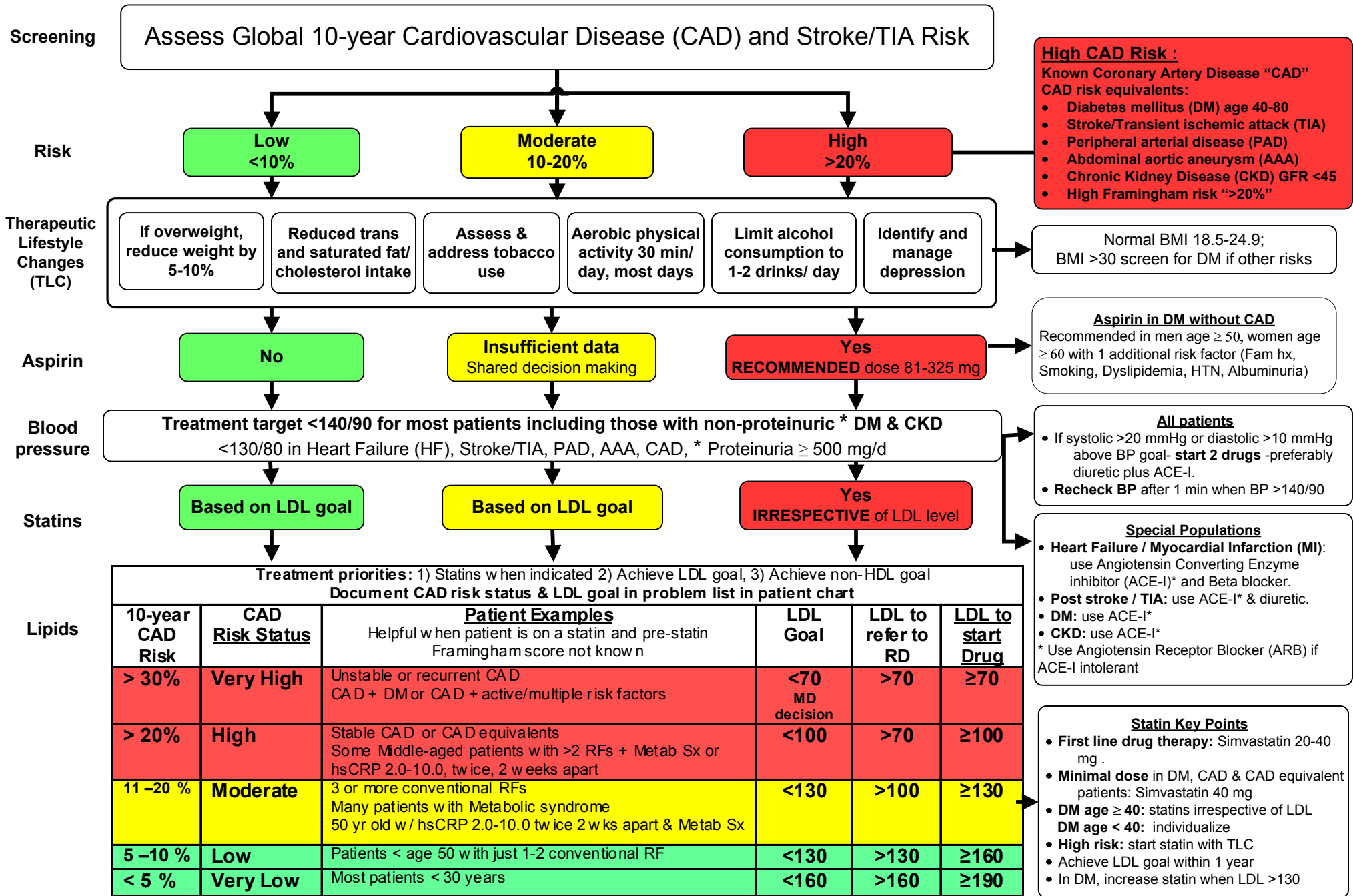


KPCO Adult Cardiovascular Disease and Stroke Prevention Guideline



Revised Dec 2010
 BP goal update Jan 2011
 Affiliate provider version

This document represents the Kaiser Permanente Colorado version of the Colorado State CVD & Stroke Prevention guideline, originally adapted in 2008 with permission from The Colorado Clinical Guideline Collaborative and the Colorado Prevention Center and updated in 2010.

Risk Assessment & Therapeutic Lifestyle Changes

These guidelines are applicable to adults ages 18 to 80.

Risk Assessment

- **CAD risk status:** If data is missing for Framingham: order lipid profile, obtain BP, document tobacco status.
- **Screening**
 - **Age and frequency:** Obtain lipid profile (screening non-fasting OK for initial screen) for all patients once 18-39 yo; every 5 years in 40-80 yo; individualize for >80 yo or significantly reduced life expectancy.
 - **PAD:** Assess ankle-brachial index (ABI; reliable measure of pre-clinical atherosclerosis).
 - **AAA:** One-time screening with abdominal aortic ultrasound for males 65-75 yrs who ever smoked.
- **Family history:** Premature coronary artery disease (CAD) in a first-degree relative (males <55 yrs, females <65 yrs) increases risk.
- **Metabolic syndrome:** increases risk of CAD and DM. Characterized by at least 3/5 of the following: waist circumference (men >40 in, women >35 in) OR BMI >27, TG >150, HDL-c <40 men or <50 women, treated HTN or BP \geq 130/85, FBS 100-125 still present after 3-6 months of TLC. Treat all lipid and non-lipid risk factors.
- **Risk factors to consider when determining LDL goal on statin & no pre-statin lipid available**
 - 1) Cigarette smoking w/in past 2 years
 - 2) BP \geq 140/90 or on BP therapy;
 - 3) HDL < 40 mg/dL;
 - 4) Premature CAD in parent, child or sibling (males <55 yrs, females <65 yrs)
 - 5) patient's age (males >45 yrs, females > 55 yrs);
 - 6) BMI >30;
 - 7) physical inactivity.
- **Adjust risk per clinical judgment** when other risk markers are present:
 - **Metabolic syndrome:** \uparrow RR~1.5X, (~equal to adding 2 points to the Framingham score).
 - **hsCRP:** may be helpful when treatment decision is uncertain in pts w/moderate risk & LDL at goal in men >50yo or women >60yo. Consider statin if hsCRP 2-10 (2 tests, 2 wks apart)
 - **Other emerging risk factors** independently increase CAD risk beyond Framingham (exact additional attributable risk unknown; likely overlaps with metabolic syndrome). Total Framingham point score adjustment recommended (add no more than 4 points).
 - **Not recommended** due to lack of evidence: *routine* testing of hsCRP, lipid sub-fraction testing, and ultra fast CT

Therapeutic Lifestyle Changes (TLC)

- **Tobacco cessation:** Ask about tobacco use, **ASSESS** readiness to quit in the next 30 days, **ASSIST** by referring to the Colorado Quitline (**See CQL fax referral form on KP portal***) and prescribing tobacco cessation medications. **Tobacco Reduction Guideline on KP portal* KP members may call 1-866-659-2656 for help to quit.**
- **Weight management:** Weigh and assess BMI, document height at each visit. Assist with weight maintenance or 5-10% weight loss. **Refer members to weight management options. Members contact 1-866-868-7112. See KP CMI Obesity & KPCO Healthy Eating Active Living guidelines on KP portal.**
- **Nutrition:** TLC, DASH or Mediterranean diets
- **TLC:** 25-35% total fat, <7% saturated fat, <1g trans fat/1000 calories, <200 mg cholesterol, calories to meet energy needs or weight loss if appropriate.
- **DASH and Mediterranean diets:** fruits, vegetables, whole grains, low-fat dairy, fish, lean meats, poultry, nuts and legumes, olive oil
- **Sodium:** < 2300 mg/day in young healthy individuals and < 1500 mg/day in all African Americans, those age > 40, and pts with DM, HTN, or CKD
- **Additional:** High fiber 25-35 g/day, Plant sterols/stanols 2 g/day
Refer members to cholesterol class or Dietitian. Members contact 1-866-868-7112.
- **Alcohol:** Assess for excess alcohol consumption. >1/day for women, >2 per day for men. One drink = 12 oz of beer, 5 oz of wine, or 1.5 oz of liquor.
Refer members to chemical dependency as appropriate.
- **Physical activity:**
To manage weight/prevent weight gain, encourage 30-60 minutes moderate-to-vigorous activity (e.g. brisk walking) most days of the week.
Include strengthening exercises up to 30 min 2x/wk. Balance activity with caloric intake.
- **Depression:** Independent risk factor for CVD (\uparrow RR 1.5-2). Incidence of depression is 3-5 times higher in CVD patients vs. general population. Assess for and treat depression.
See KP CMI Depression Guideline on KP portal*.
- **Stress management (SM):** Emerging evidence links stress with CAD; consider implementing SM techniques.

* KP Portal - <http://providers.kp.org/cod/clinicalguidelines.html>

Treatment & Documentation of CV Risk Status

Aspirin

- Indicated in **high risk**, less evidence for use in **moderate** risk patients. Providers should weigh the risks and benefits before recommending.

Blood pressure

- Manage with TLC and medication. **See KPCO HTN practice guideline on KP portal*.**
- **Pre-hypertension:** systolic BP 120-139 or diastolic BP 80-89 – recommend TLC.

Statins / Lipids

- **Drug therapy:** for pts with or at-risk for CAD: 1) Moderate to high dose statins (Simvastatin 40-80 mg qd) 2) If goal LDL not achieved on statin alone, add niacin (avoid in gout or active peptic ulcer disease)
- **Lab monitoring:**
 - **Baseline:** 2 lipid profiles (screening non-fasting or fasting) to initiate drug therapy
 - **If dyslipidemia identified:** ALT, Cr, urinalysis, FBS, TSH >50 yrs & none in 2 yrs
 - **When adjusting meds:** FLP & ALT 6-8 weeks after drug initiated or dose change
 - **Annual labs:** FLP, ALT & Cr, FBS if 100-125 in past. If on niacin: FBS, uric acid and liver panel
 - **Persistent refractory dyslipidemia:** TSH
- **Triglyceride management:**
 - **TG >200 after LDL goal achieved:** establish non-HDL goal 30 mg above LDL goal
 - **TG 500-699:** Reinforce TLC.
Refer KP members for individual Dietitian appt. Members contact 1-866-868-7112.
 - **TG >700:** Urgent Dietitian encounter
Refer KP members for urgent appt Dietitian appt. Members contact 1-866-868-7112.
 - **Pharmacologic treatment options:** \uparrow statins, add Omega 3 Fatty Acids (1000-1500 DHA & EPA minimum), add fibrates, add Niacin if TG & LDL > goal and HDL low, intensive glucose control for DM pts (consider Metformin for appropriate pts)

Stroke / TIA

- **Blood pressure control:** most effective way to reduce risk
- **Atrial fibrillation:** a major risk factor. Consider anticoagulation with warfarin for patients with high risk traits: **CHADS** (CHF, Hypertension, Age >75, Diabetes, prior Stroke).
- **TIAs:** strong predictors of major stroke (10-fold \uparrow risk).
- **Pharmacologic treatment:** ASA is an effective first-line antiplatelet therapy for stroke/TIA prevention; effective alternatives include clopidogrel and ASA + sustained-release dipyridamole.
- **Carotid disease:** is a risk factor for stroke/TIA.

See AHA/ASA guidelines (strokeassociation.org) for more information on stroke & TIA prevention

Cardiovascular Assessment & Documentation

- **Diagnosis of CAD/CAD equivalent** \rightarrow document HIGH CAD risk status on Problem List
- **No CAD or CAD equivalent diagnosis** \rightarrow If pt has data for Framingham (Total & HDL cholesterol, BP, tobacco status, age, gender) calculate a Framingham point score & document predicted % 10 year CAD risk on Problem List.
Go to <http://www.mayoclinic.com/health/heart-disease-risk/HB00047>
- **Cholesterol lowering medication** & no CAD or CAD equivalent diagnosis \rightarrow Use pre-statin data to determine Framingham risk before statin. Otherwise count risk factors and correlate to examples on front of this guideline.
- **Missing data for Framingham calculation** when no CAD or CAD equivalent diagnosis \rightarrow order non-fasting lipid test to make it easy for the patient to get screened, obtain BP and tobacco status.
- **CAD risk status & LDL goal documentation on the Problem List** \rightarrow allows all team members to assist the patient in achieving lipid goals. Communicate lipid goals to the patient.
- *Clinicians - adjust the raw Framingham when other risks are present to ensure the Problem List entry accurately reflects the patient's true risk.
- Use risk tools other than Framingham if desired.

Framingham Risk Calculation Tables

Estimate of 10-year Risk for Men

Age	Points
20-34	-9
35-39	-4
40-44	0
45-49	3
50-54	6
55-59	8
60-64	10
65-69	11
70-74	12
75-79	13

HDL	Points
≥ 60	-1
50-59	0
40-49	1
<40	2

Age	20-39	40-49	50-59	60-69	70-79
Nonsmoker	0	0	0	0	0
Smoker	8	5	3	1	1

Cholesterol	Points				
	age 20-39	40-49	50-59	60-69	70-79
<160	0	0	0	0	0
160-199	4	3	2	1	0
200-239	7	5	3	1	0
240-279	9	6	4	2	1
≥ 280	11	8	5	3	1

Systolic BP	If untreated	If treated
<120	0	0
120-129	0	1
130-139	1	2
140-159	1	2
≥ 160	2	3

MEN Point Total 10 Year Risk %

< 0	< 1
0	1
1	1
2	1
3	1
4	1
5	2
6	2
7	3
8	4
9	5
10	6
11	8
12	10
13	12
14	16
15	20
16	25
≥ 17	≥ 30

Estimate of 10-year Risk for Women

Age	Points
20-34	-7
35-39	-3
40-44	0
45-49	3
50-54	6
55-59	8
60-64	10
65-69	12
70-74	14
75-79	16

HDL	Points
≥ 60	-1
50-59	0
40-49	1
<40	2

Age	20-39	40-49	50-59	60-69	70-79
Nonsmoker	0	0	0	0	0
Smoker	9	7	4	2	1

Cholesterol	Points				
	age 20-39	40-49	50-59	60-69	70-79
<160	0	0	0	0	0
160-199	4	3	2	1	1
200-239	8	6	4	2	1
240-279	11	8	5	3	2
≥ 280	13	10	7	4	2

Systolic BP	If untreated	If treated
<120	0	0
120-129	1	3
130-139	2	4
140-159	3	5
≥ 160	4	6

WOMEN Point Total 10 Year Risk %

< 9	< 1
9	1
10	1
11	1
12	1
13	2
14	2
15	3
16	4
17	5
18	6
19	8
20	11
21	14
22	17
23	22
24	27
≥ 25	≥ 30

10-Year Risk _____