

## T A B L E S

**Table 1. High-Risk Conditions and Risk Factors for Cardiovascular Disease**

A. High-Risk Conditions	B. Risk Factors for Cardiovascular Disease		
	Underlying Risk Factors	Major Risk Factors	Emerging Risk Factors
Established CHD <sup>a</sup>	Atherogenic Diet	Cigarette Smoking	Lipid factors - High TG - Small LDL
Non-coronary forms of atherosclerotic disease <sup>b</sup>	Overweight/obesity <sup>e</sup>	Hypertension or on treatment for hypertension	- Apolipoprotein abnormalities - Elevated Lp(a)
Diabetes mellitus (in high-risk populations) <sup>c</sup>	Physical inactivity	Elevated LDL-C <sup>f</sup>	Insulin resistance ± impaired fasting glucose or impaired glucose tolerance
Multiple risk factors (10-year risk > 20%) <sup>d</sup>	Genetic factors	Low HDL-C <sup>g</sup>	Proinflammatory state
		Age - Men ≥ 45 years - Women ≥ 55 years	Prothrombotic state
		Family history of premature CHD	Elevated homocysteine
		Hyperglycemia <sup>c</sup>	Subclinical atherosclerosis

<sup>a</sup> Established CHD includes history of myocardial infarction, unstable angina, stable angina, and/or coronary artery procedures.

<sup>b</sup> Non-coronary forms of atherosclerotic disease include peripheral vascular disease, abdominal aortic aneurysm, and clinical carotid artery disease (transient cerebral attacks, carotid strokes, and > 50% stenosis of a carotid artery).

<sup>c</sup> Categorical hyperglycemia is a major risk factor for CVD. Moreover, in high-risk populations, patients with clinical diabetes usually have multiple risk factors, and for simplicity of risk assessment, diabetes mellitus can be designated a high-risk condition. This is particularly the case for middle-aged or older patients with type 2 diabetes and for persons of South Asian origin. In some guidelines hyperglycemia counts as a major risk factor in risk assessment; in others, diabetes is designated a high-risk condition.

<sup>d</sup> The 10-year risk for CHD that defines a high-risk state in patients with major risk factors varies by country. This risk level is set at 20% by ATP III for the United States and by European Cardiovascular Societies. However, higher levels (e.g. > 30%) are set in some countries.

<sup>e</sup> In the United States and Europe, overweight is defined as a body mass index (BMI) of 25-29.9 kg/m<sup>2</sup> and obesity represents a BMI of ≥ 30 kg/m<sup>2</sup>. Different definitions may be required in other populations to better express the relation between overweight/obesity and CVD risk. For example, obesity is defined as a BMI ≥ 25 kg/m<sup>2</sup> in Asian Pacific countries and Japan.

<sup>f</sup> Definition of elevated LDL-cholesterol (LDL-C) depends on absolute risk of the patient.

<sup>g</sup> HDL-cholesterol (HDL-C) is defined as categorically low by ATP III guidelines as a level < 40 mg/dL (or < 1 mmol/L).

**Table 2. Estimate of 10-Year Risk for Men (Framingham Point Scores)**

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

Total Cholesterol	Points at Age 20-39	Points at Age 40-49	Points at Age 50-59	Points at Age 60-69	Points at Age 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

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

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

Systolic BP	If Untreated	If Treated
<120	0	0
120-129	0	1
130-139	1	2
140-159	1	2
160+	2	3

Point Total	10-Year Risk	Point Total	10-Year Risk	Point Total	10-Year Risk
<0	<1%	5	2%	11	8%
0	1%	6	2%	12	10%
1	1%	7	3%	13	12%
2	1%	8	4%	14	16%
3	1%	9	5%	15	20%
4	1%	10	6%	16	25%
				17 or more	≥30

**Table 3. Estimate of 10-Year Risk for Women (Framingham Point Scores)**

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

Total Cholesterol	Points at Age 20-39	Points at Age 40-49	Points at Age 50-59	Points at Age 60-69	Points at Age 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

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

HDL	Points	HDL	Points	HDL	Points	HDL	Points
60+	-1	50-59	0	40-49	1	<40	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

Point Total	10-Year Risk	Point Total	10-Year Risk	Point Total	10-Year Risk
<9	<1%	14	2%	20	11%
9	1%	15	3%	21	14%
10	1%	16	4%	22	17%
11	1%	17	5%	23	22%
12	1%	18	6%	24	27%
13	2%	19	8%	25 or more	≥30%

**Table 4. Estimate of 10-Year Risk (PROCAM Point Scores)**

Age	Points	Age	Points	Age	Points	Age	Points	Age	Points	Age	Points
35-39	0	40-44	6	45-49	11	50-54	16	55-59	21	60-65	26

LDL-C		Points
mg/dL	mmol/L	
<100	<2.59	0
100-129	2.59-3.36	5
130-159	3.37-4.13	10
160-189	4.14-4.91	14
≥190	≥4.92	20

HDL-C		Points
mg/dL	mmol/L	
<35	<0.91	11
35-44	0.91-1.16	8
45-54	1.17-1.41	5
≥55	≥1.42	0

TG		Points
mg/dL	mmol/L	
<100	<1.14	0
100-149	1.14-1.70	2
150-199	1.71-2.27	3
≥200	≥2.28	4

Cigarette Smoking (during past 12 months)	Points
Yes	8
No	0

Diabetes Mellitus [Known diabetes or fasting blood glucose levels ≥ 120 mg/dL (6.66 mmol/L)]	Points
Yes	6
No	0

Myocardial Infarction (before age 60y in 1 <sup>st</sup> degree relative)	Points
Yes	4
No	0

Systolic BP	Points
<120	0
120-129	2
130-139	3
140-159	5
≥160	8

**PROCAM Score: 10-Year Risk of Acute Coronary Event**

Total score	10y risk	Total score	10y risk	Total score	10y risk	Total score	10y risk	Total score	10y risk	Total score	10y risk
≤20	<1.0	27	1.8	34	3.5	41	7.0	48	12.8	55	22.2
21	1.1	28	1.9	35	4.0	42	7.4	49	13.2	56	23.8
22	1.2	29	2.3	36	4.2	43	8.0	50	15.5	57	25.1
23	1.3	30	2.4	37	4.8	44	8.8	51	16.8	58	28.0
24	1.4	31	2.8	38	5.1	45	10.2	52	17.5	59	29.4
25	1.6	32	2.9	39	5.7	46	10.5	53	19.6	≥60	≥30.0
26	1.7	33	3.3	40	6.1	47	10.7	54	21.7		

**Table 5. The Metabolic Syndrome**

Risk Factors of the Metabolic Syndrome	Criteria for Clinical Diagnosis of the Metabolic Syndrome (3 of 5) <sup>a</sup>
<ul style="list-style-type: none"> <li>• Atherogenic dyslipidemia                             <ul style="list-style-type: none"> <li>- Elevated triglyceride</li> <li>- Small, dense LDL particles</li> <li>- Low HDL cholesterol</li> </ul> </li> <li>• Elevated blood pressure</li> <li>• Insulin resistance ± elevated glucose</li> <li>• Proinflammatory state</li> <li>• Prothrombotic state</li> </ul>	<ul style="list-style-type: none"> <li>• Increased waist circumference<sup>b</sup></li> <li>• Elevated triglyceride ≥150 mg/dL (≥1.7 mmol/L)</li> <li>• Reduced HDL cholesterol                             <ul style="list-style-type: none"> <li>- Men &lt;40 mg/dL (&lt;1 mmol/L)</li> <li>- Women &lt;50 mg/dL (&lt;1.3 mmol/L)</li> </ul> </li> <li>• Elevated blood pressure                             <ul style="list-style-type: none"> <li>- Systolic blood pressure ≥130 mmHg or diastolic blood pressure ≥85 mmHg</li> </ul> </li> <li>• Elevated fasting glucose (≥110 mg/dL; ≥6 mmol/L)</li> </ul>

<sup>a</sup> The World Health Organization provides similar diagnostic criteria for the metabolic syndrome, except that it requires the presence of clinical evidence of insulin resistance, i.e. type 2 diabetes, or elevated fasting glucose (≥ 6.0 mmol/L), or elevated 2-hr post-prandial glucose (≥ 7.6 mmol/L). Slightly different criteria on other risk factors also are proposed.

<sup>b</sup> Increased waist circumference is defined differently for different populations. Three examples of population specific recommendations for increased waist circumference are as follows:

	Europe and United States	Asian Pacific Region	Japan
Men	≥102 cm (≥ 40 in)	≥90 cm	≥85 cm
Women	≥88 cm (≥ 35 in)	≥80 cm	≥90 cm

**Table 6. Therapeutic Modification of Atherogenic Diets**

<ul style="list-style-type: none"> <li>• Reduce saturated fats to &lt;7% of total energy<sup>a</sup></li> <li>• Reduce dietary cholesterol to &lt;200 mg/day</li> <li>• Increase viscous fiber, if possible to 10g/day</li> <li>• Consume at least five servings of fruits and vegetables daily</li> <li>• Keep intakes of <i>trans</i> fatty acids low</li> <li>• Ensure adequate intake of folic acid (400-1000 micrograms per day)</li> <li>• Maintain N-3 fatty acid intake (in the form of linolenic acid) to at least 1% of total energy (2-3 g/day). Adding fish-oil N-3 fatty acids (DHA+ EPA) of 1g/day for high-risk patients is recommended in some guidelines but not all (see Table 1 for high-risk conditions). Fish oil supplements for high-risk patients therefore are optional.</li> <li>• Avoid excessive intakes of alcohol. If alcohol is consumed, limit consumption to no more than 20-30 g of ethanol per day for men, and no more than 10-20 g of ethanol per day for women</li> <li>• For patients with hypertension                             <ul style="list-style-type: none"> <li>- Limit alcohol intake to 20-30 g/day for men and to 10-20 g/day for women<sup>b</sup></li> <li>- Limit sodium intake to &lt;100 mmol/day (2.4 g sodium or 6.0 g sodium chloride)</li> <li>- Maintain adequate intakes of potassium (90 mmol/day), calcium, and magnesium</li> </ul> </li> <li>• Consider adding plant stanol/sterol (2 g/day) for elevated LDL cholesterol</li> </ul>
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<sup>a</sup> Recommendations for total fat intake are variable depending on the population. Population-based studies suggest that as long as saturated fat intakes are kept low, varying intakes of carbohydrates, monounsaturated fatty acids, and polyunsaturated fatty acids are compatible with a healthy diet.

<sup>b</sup> Several reports indicate that moderate intakes of alcohol are associated with decreased risk for CVD events.

**Table 7. Goals and Principles of Management of Overweight and Obesity**

Goals of therapy for overweight persons with CVD risk factors and for obese patients

- At a minimum, to prevent further weight gain
- To reduce excess body weight
- To maintain lower body weight over the long term

Principles of therapy

- Initially introduce a clinical program of weight loss; reduce body weight by 10% in first 6 months of clinical therapy. Clinical strategies of weight loss include a combined program of:
  - Dietary therapy: reduce energy intake by 500-1000 kcal/day<sup>a</sup>
  - Behavioral therapies to reinforce changes in eating habits<sup>a</sup>
  - Physical activity therapy: physician supervision recommended; initially, walk 30 minutes 3 days per week; increase to 45 minutes of more intensive walking 5 days per week
  - Optional therapies (special patients at high risk): pharmacotherapy and weight loss surgery
- Enter indefinite clinical program of weight maintenance consisting of dietary therapy, physical activity, and behavior therapy.
- If any weight gain recurs, reinstitute weight loss program
- If a patient fails to achieve weight loss, prevent further weight gain

<sup>a</sup> Consider referring the patient to a dietitian for medical nutrition therapy

**Table 8. Goals and Principles of Physical Activity**

Goals of therapy

- High-risk patients: Exercise tolerance test to guide exercise prescription  
When possible, 30 minutes per day of physical activity preferably in medically supervised program
- Primary prevention: Dynamic exercise 30-60 minutes per day 3 to 6 times per week  
Moderate resistance training at least 2 days per week

Principles of therapy

*Dynamic exercise*

- Higher intensity examples: brisk walking, hiking, stair-climbing, aerobic exercise, calisthenics, resistance training, jogging, running, bicycling, rowing, swimming, and sports such as tennis, racquetball, soccer, and basketball
- Lower intensity examples: include walking for pleasure, walking rather than driving; climbing stairs rather than taking the elevator; gardening, yard work, housework, dancing; and prescribed home exercise

*Resistance training*

- 8 to 10 different exercise sets with repetitions with 10 to 15 lbs free weight
- Target muscle groups: arms, shoulders, chest, trunk, back, hips, and legs

**Table 9. Goals and Principles of Clinical Intervention on Cigarette Smoking**

Goal of therapy: Complete smoking cessation

Principles of therapy

- Tobacco dependence is a chronic condition that often requires repeated intervention
- Because effective tobacco-dependence treatments are available, every patient who uses tobacco should be offered at least one of these treatments; at a minimum, all smokers should be counseled on the advantages of smoking cessation and on dangers of continuing to smoke
- Brief tobacco-dependence treatment is effective, and every patient who uses tobacco should be offered at least brief treatment
- Counseling and behavioral therapies were found to be especially effective and should be used with all patients attempting tobacco cessation
- Numerous effective pharmacotherapies for smoking cessation now exist. Except in the presence of contraindications, these should be used with all patients attempting to quit smoking
- It is essential that clinicians and health care delivery systems (including administrators, insurers, and purchasers) institutionalize the consistent identification, documentation, and treatment of every tobacco user seen in a health care setting

**Table 10. Goals and Principles of Hypertension Therapy**

Goals of therapy

- High-risk patients<sup>a</sup>: goal: reduce blood pressure to < 130/85 mmHg
- Uncomplicated hypertension<sup>b</sup>: goal: reduce blood pressure to < 140/90 mmHg

Principles of therapy

- Underlying risk factors should be treated effectively in all persons with hypertension (Tables 6-9)
- Available drugs include diuretics, beta-blockers, ACE inhibitors, angiotensin II receptor antagonists, calcium antagonists, and alpha blockers. All drugs lower blood pressure similarly. Clinical trial evidence for benefit is strongest for diuretics and beta-blockers. Moreover, clinical trial evidence strongly supports the efficacy for ACE-inhibitors and angiotensin II receptor antagonists for reducing CVD events. Many authorities favor use of combined drug therapies at lower doses to achieve blood pressure goals with a minimum of side effects. The following suggests indications for specific antihypertensive agents.
- For persons with uncomplicated hypertension, consideration can be given to using anti-hypertensive drugs when blood pressure is consistently  $\geq 140$ - $150/\geq 90$ - $95$  mmHg after therapeutic lifestyle changes. Clinical judgment is required for decisions on drug-initiation levels of blood pressure within the range listed above.
- For patients with diabetes and/or renal insufficiency, initiate anti-hypertensive drugs when blood pressure is  $\geq 130/85$  mmHg
- Beta-blockers should be given priority after myocardial infarction and are useful in patients with angina and tachyarrhythmias.
- Diuretics are particularly efficacious in patients with heart failure and in older patients with systolic hypertension.
- ACE inhibitors deserve priority after myocardial infarction and with heart failure and left ventricular dysfunction. These drugs may be the preferred anti-hypertensive drugs for patients with diabetic neuropathy.
- Calcium antagonists are useful in patients with angina and in older patients with systolic hypertension.
- Angiotensin II antagonists can be used for patients with ACE inhibitor cough. They are an alternative to ACE inhibitors for heart failure.
- Alpha blockers are an alternative anti-hypertensive drug for men with prostatic hypertrophy.

<sup>a</sup> High-risk patients include those with a history of CHD or stroke, multiple risk factors (10-year risk > 20%), diabetes, chronic renal failure, and left ventricular hypertrophy.

<sup>b</sup> Uncomplicated hypertension includes patients with or without risk factors but who are without the conditions listed under <sup>a</sup> above.



**Table 11. Goals and Principles of LDL-Lowering Therapy**

**Goals of therapy**

- Primary goal:
  - High-risk patients<sup>a</sup> (10-year risk for CHD >20%)  
LDL goal <100 mg/dL (<2.6 mmol/L)
  - Multiple (2+) risk factors<sup>b</sup>  
LDL goal <130 mg/dL (<3.4 mmol/L)
  - 0-1 risk factor  
LDL goal <160 mg/dL (<4.1 mmol/L)
- Secondary goal: (if TG ≥200 mg/dL (≥2.3 mmol/L): non-HDL-cholesterol <130 mg/dL (<3.4 mmol/L)

**Principles of therapy (High-risk patients; 10-year risk for CHD >20%)**

- All patients should undergo therapy to modify underlying lifestyle risk factors [atherogenic diet, overweight/obesity, and physical inactivity (see Tables 6-8 respectively)].
- If LDL cholesterol is ≥100 mg/dL (≥2.6 mmol/L) consider starting LDL-lowering drugs simultaneously with therapeutic lifestyle changes. The goal for LDL-lowering should be a level <100 mg/dL (<2.6 mmol/L).
- If LDL cholesterol is <100 mg/dL (<2.6 mmol/L) drug therapy is optional depending on clinical judgment. One recent clinical trial indicated CVD risk reduction with addition of an LDL-lowering drug in high-risk patients when baseline LDL cholesterol was <100 mg/dL. Other clinical trials are underway to determine the optimal LDL cholesterol goal in high-risk patients.
- If baseline serum triglycerides are ≥200 mg/dL (≥2.3 mmol/L), the non-HDL-cholesterol goal can be achieved by higher doses of statins or by combined drug therapy (statin + fibrate or nicotinic acid).

**Principles of therapy (10-year risk for CHD <20%)<sup>c</sup>**

- For patients with multiple (2+) risk factors, employ therapeutic lifestyle changes for at least 3 months before initiating drug therapy in primary prevention (see Tables 6-9). The LDL-cholesterol goal is <130 mg/dL (<3.4 mmol/L).
- For patients with multiple (2+) risk factors and 10-year risk for CHD of 10-20% (moderately high risk), LDL-lowering drug therapy produces substantial reduction in risk when baseline LDL is ≥130 mg/dL (≥3.4 mmol/L). However, whether drugs are allowed in moderately high-risk patients varies in different countries depending on national health care policy.
- For patients with multiple (2+) risk factors, 10-year risk <10%, and LDL cholesterol ≥160 mg/dL, ATP III considers drug therapy allowable to reduce lifetime risk for CHD. However, in many countries, public funds and private insurance cannot be spent on LDL-lowering drugs for lifetime prevention of CVD in persons at lower short-term risk.
- Older patients (≥65 years) benefit from LDL-lowering with significant CVD risk reduction—both CHD and stroke. Clinical judgment is required for appropriate use of LDL-lowering drugs in older patients.
- If 0-1 risk factors are present, persons can be considered to be at lower risk. However, if LDL cholesterol is persistently very high [>190 mg/dL (>4.9 mmol/L)], LDL-lowering drugs are recommended by ATP III to reduce long-term risk. Whether to use LDL-lowering drugs when LDL cholesterol is in the range of 160-189 mg/dL (4.1-4.9 mmol/L) depends on the severity of an accompanying risk factor.

<sup>a</sup> High-risk conditions include established CHD, non-coronary forms of atherosclerotic disease, diabetes, and 10-year risk for CHD > 20%. Diabetes counts as a high-risk condition in high-risk populations, but as a risk-factor in lower-risk populations (see Table 1 for more details of high risk conditions).

<sup>b</sup> Risk factors that modify LDL goals: cigarette smoking, hypertension, low HDL cholesterol (< 40 mg/dL; < 1 mmol/L), advancing age (men ≥ 45 years; women ≥ 55 years). NCEP ATP III includes family history of premature CHD as one risk factor affecting the LDL-cholesterol goal.

<sup>c</sup> Guidelines for this category of risk are based largely on ATP III recommendations. However, indications for LDL-lowering drug therapy for primary prevention when 10-year risk for CHD is < 20% varies according to health-care priorities.

**Table 12. Goals and Principles of Treatment of Low HDL Cholesterol**

Goals of therapy: No specified goal level for HDL cholesterol; however, efforts to raise HDL cholesterol are encouraged.

Principles of therapy

- LDL cholesterol is the primary target of therapy in patients with low HDL cholesterol
- Controlled clinical trials reveal that statin therapy markedly reduces CHD risk in patients with low HDL cholesterol.
- In high-risk patients with elevated triglycerides [200-499 mg/dL (2.3-5.7 mmol/L)], non HDL cholesterol is a secondary target of therapy (see Table 11).
- Primary therapy to raise HDL cholesterol includes therapeutic lifestyle changes (see Tables 6-9).
- Drugs that raise HDL cholesterol are fibrates, nicotinic acid, and statins.
- Controlled clinical trials reveal that fibrate therapy causes moderate reductions in CHD risk in patients with low HDL cholesterol.
- Nicotinic acid is the most potent HDL-raising drug and apparently reduces CHD risk.

**Table 13. Goals and Principles of Risk-Reduction Therapies in Patients with Diabetes**

Goals of therapy

- Reduce hyperglycemia and maintain glycohemoglobin (HbA1c) levels to  $\leq 7\%$
- Complete smoking cessation
- Effectively treat hypertension
- Reduce LDL cholesterol
- Consider therapy for atherogenic dyslipidemia

Principles of therapy

- Therapeutic lifestyle changes are primary therapies for hyperglycemia and co-existing metabolic syndrome.
- Oral hyperglycemic therapies (metformin, sulfonylureas, thiazolidinediones alone or in combination) usually are required to achieve the glycohemoglobin goal when baseline serum glucose is in the range of 140-180 mg/dL.
- Insulin therapy is usually required to achieve glycohemoglobin goals when fasting glucose is  $\geq 180$  mg/dL.
- Patients with diabetes experience significant CVD risk reduction with control of other risk factors
  - Smoking cessation should be stressed in patients with diabetes (see Table 9)
  - Blood pressure should be reduced to goal:  $\leq 130/85$  mmHg (see Table 10)
  - According to ATP III guidelines, LDL cholesterol should be treated as indicated for high-risk patients, i.e., the LDL-cholesterol goal is  $<100$  mg/dL ( $<2.6$  mmol/L; Table 11) According to some authorities, however, if the patient with diabetes has an estimated 10-year risk for CHD  $<20\%$ , an LDL-cholesterol goal  $<130$  mg/dL ( $<3.4$  mmol/L) is acceptable; LDL-lowering drugs need not be considered unless LDL-cholesterol is  $\geq 130$  mg/dL in this circumstance.
  - There is growing evidence of benefit with drug therapies for secondary lipid targets, e.g. atherogenic dyslipidemia. For example, elevated triglyceride and/or low HDL can be treated with either a fibrate or low dose of nicotinic acid.

**Table 14. Goals and Principles of Clinical Management of Emerging Risk Factors**

Goals of therapy: Clinical judgment should be employed on whether to intervene clinically in emerging risk factors. The only exception is the prothrombotic state in which anti-platelet therapy should be employed routinely in higher risk patients.

Principles of therapy

- Metabolic syndrome: primary therapies of the metabolic syndrome (Table 5) are lifestyle changes (Tables 6-8). Secondary therapies include drug treatment for individual risk factors, several of which are emerging risk factors (see below).
- Elevated triglycerides
  - Triglyceride levels 150-199 mg/dL (1.69-2.24 mmol/L): institute weight reduction (Table 7) and increase physical activity (Table 8).
  - Triglyceride levels 200-499 mg/dL (2.24-5.63 mmol/L): goal of therapy: reduce non-HDL cholesterol to 30 mg/dL (0.8 mmol/L) above the LDL-cholesterol goal. When drug therapy is required, consider statins, fibrates, or nicotinic acid.
- Elevated Lp(a): No specific therapy recommended. Some authorities recommend more aggressive lowering of LDL cholesterol.
- Insulin resistance: Primary therapy is lifestyle changes (Tables 6-8). Some authorities employ metformin or thiazolidinediones, although such therapy is not recommended for routine practice. Reduction in CVD risk has not been documented by these agents in controlled clinical trials.
- Proinflammatory state. Several therapies have been reported to reduce hs-CRP and therefore may reduce the proinflammatory state. Among these interventions are weight loss, aspirin, clopidogrel, statins, ACE inhibitors, PPAR $\alpha$  agonists such as fibrates, PPAR $\gamma$  agonists such as thiazolidinediones, and nicotinic acid.

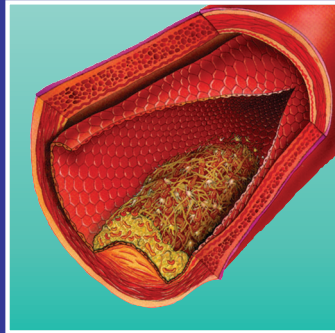
**Table 15. Goals and Principles of Therapy in Patients with Prothrombotic State**

Goals of therapy

- High-risk patients: Institute anti-platelet therapy in high-risk patients in whom therapy is not contraindicated
- Moderately-high risk patients: Consider low-dose aspirin therapy in persons whose 10-year risk for CHD is 10-20% when therapy is not contraindicated

Principles of therapy

- Primary antiplatelet therapy is aspirin 75 to 325 mg/day
- Consider clopidogrel when aspirin is contraindicated. Clopidogrel dose is 75 mg/day.
- Consider warfarin after myocardial infarction when antiplatelet drugs are contraindicated. If warfarin is needed after myocardial infarction, an international normalized ratio of 2.0-3.0 is recommended.



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