Kiểm soát thông số lipid máu và phòng ngừa biến cố tim mạch

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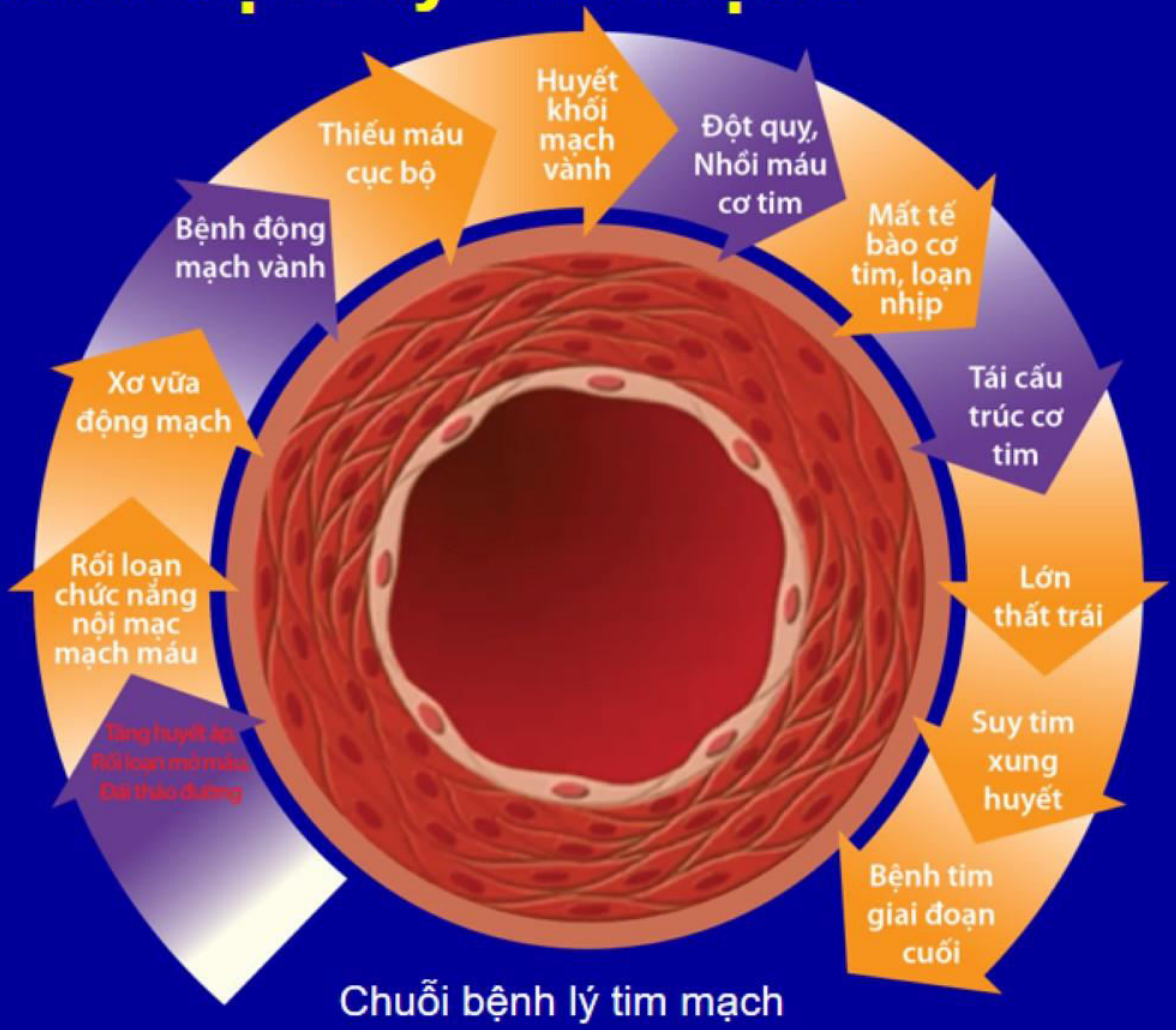
Rối loạn mỡ máu là điểm khởi đầu của chuỗi bệnh lý Tim mạch

Framingham:
Nguy cơ tim mạch nền tảng:

- **Cholesterol**
- Hút thuốc lá
- Tăng huyết áp
- Đái tháo đường



Chuỗi bệnh lý tim mạch

1. Expert Rev. Cardiovasc. Ther. 2007;5(2):177-193. 2. Am J Cardiol. 1998;82:3Q-12Q. 3. Lancet 2004;364:685-696. 4. NEJM 2004;350:1495-1504. 5. JAMA 2005;294:2437-2445. 6. Lancet 2005;366:1267-1278 7. Expert Rev. Cardiovasc. Ther. 2004;2(3):431-449

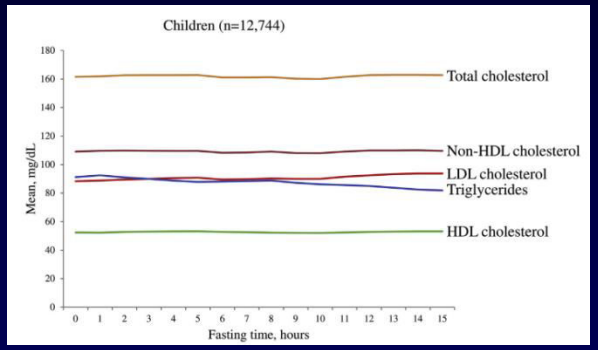
World Health Organization. Integrated management of cardiovascular risk – report of a WHO meeting, Geneva, 9–12 July 2002. Available at: http://whqlibdoc.who.int/publications/9241562242.pdf. Accessed: Oct 2009

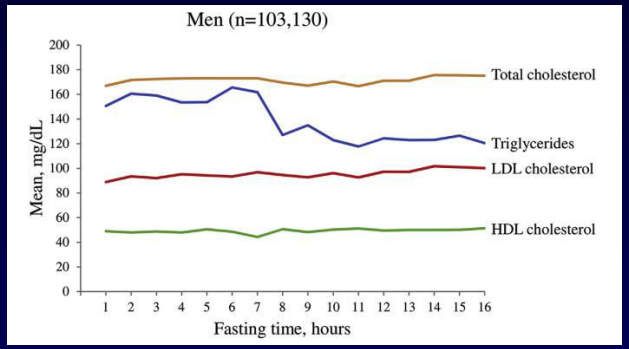
2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease

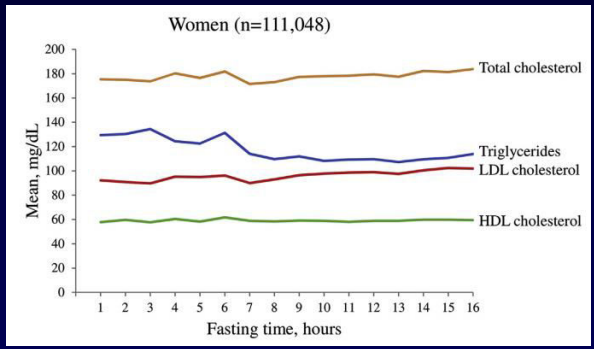
Nonfasting lipid profile for cardiovascular risk prediction

Fasting is not routinely required for determination of a lipid profile: clinical and laboratory implications including flagging at desirable concentration cut-points, a joint consensus statement from the European Atherosclerosis Society and European Federation of Clinical Chemistry and Laboratory Medicine, *European Heart Journal*, Volume 37, Issue 25, 1 July 2016

Nonfasting lipid profile for cardiovascular risk prediction







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American Association of Clinical Endocrinologists and American College of Endocrinology Guidelines for management of dyslipidemia and prevention of cardiovascular disease, *AACE 2017 Guidelines*

Nonfasting lipid profile for cardiovascular risk prediction

Reducing levels of nonfasting lipids reduced the risk of cardiovascular disease

Patient: convenience, avoid risk of hypoglycaemia

The laboratory: simplify blood sampling

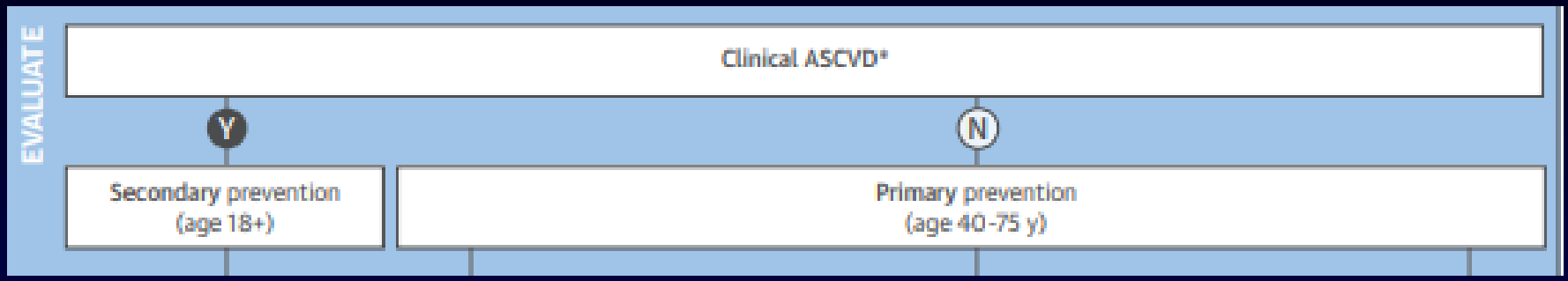
Fasting is not routinely required for determination of a lipid profile: clinical and laboratory implications including flagging at desirable concentration cut-points, a joint consensus statement from the European Atherosclerosis Society and European Federation of Clinical Chemistry and Laboratory Medicine, *European Heart Journal*, Volume 37, Issue 25, 1 July 2016

In adults 20 years or older with an initial nonfasting lipid profile triglycerides level of ≥400 mg/dL (≥4.5 mmol/L), repeat a lipid profile in the fasting state to assess fasting triglyceride levels and baseline LDL-C.

In adults 20 years or older with no personal history of ASCVD but a family history of premature ASCVD or genetic hyperlipidemia, measurement of a fasting plasma lipid profile is reasonable to help understand and identify familial lipid disorders.

2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Diseas

Overview of Primary and Secondary ASCVD Prevention

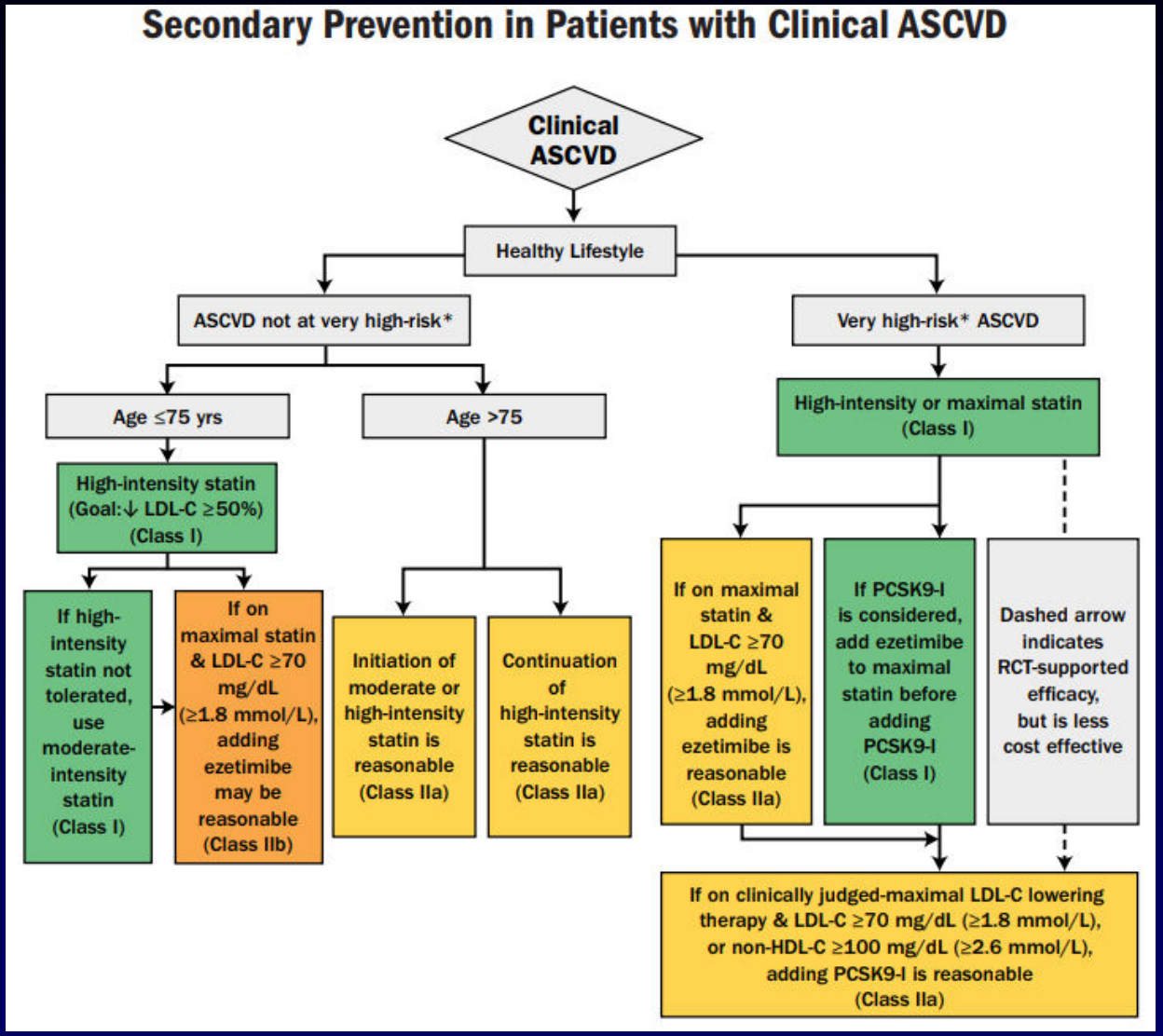


Clinical ASCVD (atherosclerotic cardiovascular disease)

Acute coronary syndromes
History of myocardial infarction
Stable or unstable angina
Coronary other arterial revascularization
Stroke
TIA
Peripheral artery disease including aortic aneurysm

2018 Guideline on the Management of Blood Cholesterol

AMERICAN COLLEGE of CARDIOLOGY

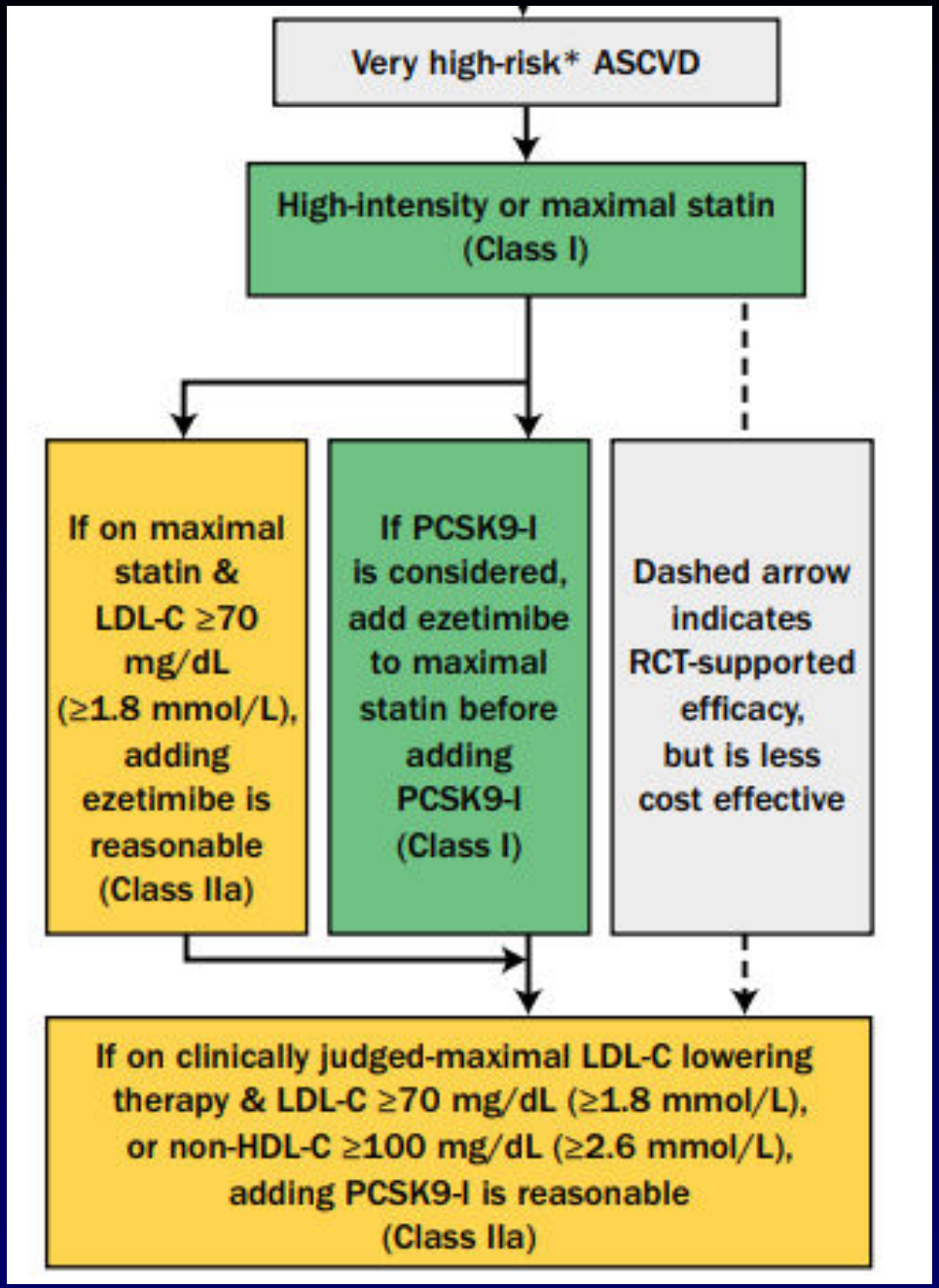


2018 Guideline on the Management of Blood Cholesterol

Very high-risk : history of multiple major ASCVD events or
1 major ASCVD event and multiple high-risk conditions

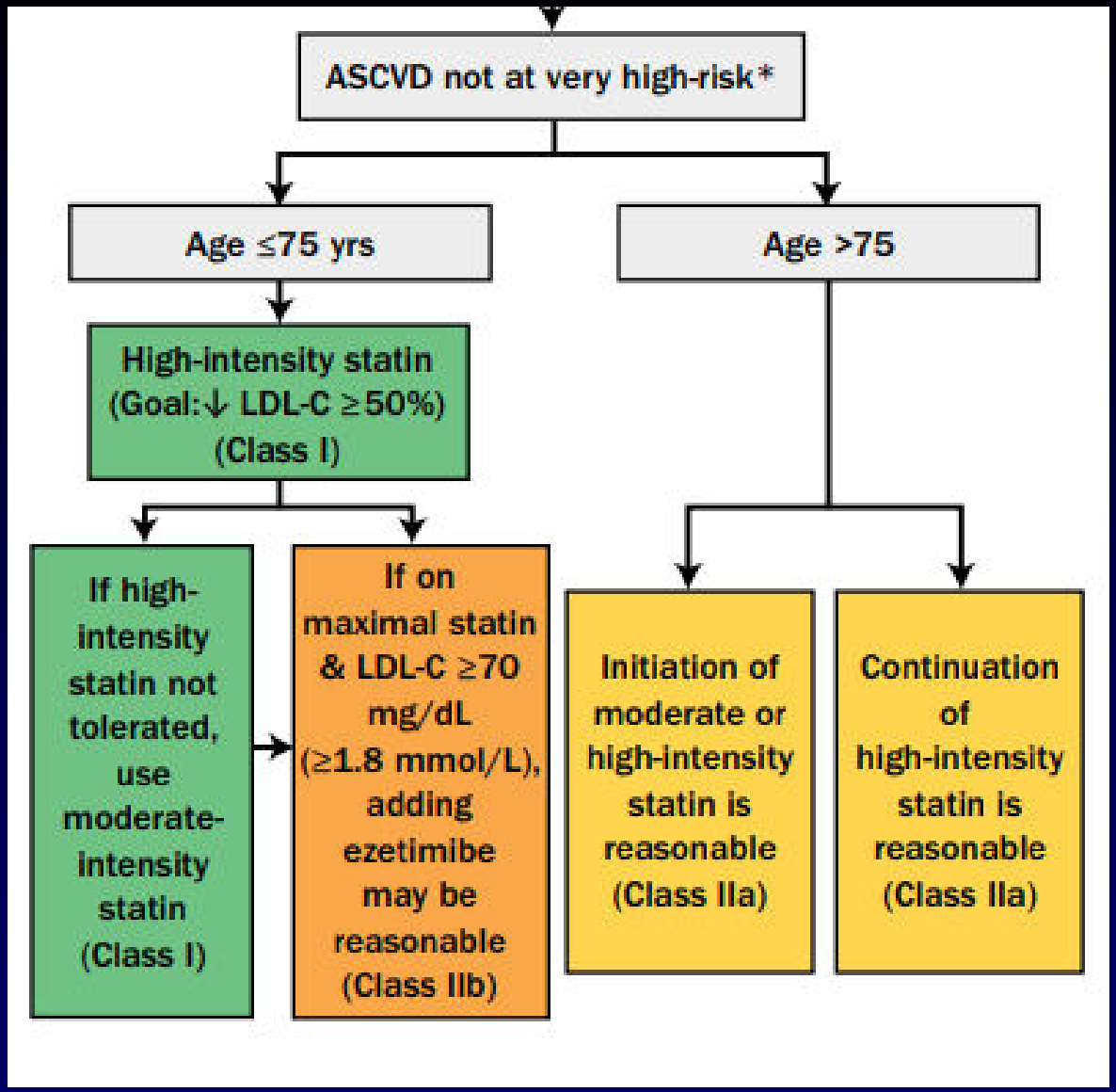
Major ASCVD Events
Recent acute coronary syndrome (within the past 12 months)
History of myocardial infarction (other than recent acute coronary syndrome event listed above)
History of ischemic stroke
Symptomatic peripheral arterial disease (history of claudication with ankle brachial index <0.85, or previous revascularization or amputation)
High-Risk Conditions
Age ≥65 years
Heterozygous familial hypercholesterolemia
History of prior coronary artery bypass surgery or PCI outside of the major ASCVD event(s)
Diabetes Mellitus
Hypertension
Chronic kidney disease (eGFR 15-59 mL/min/1.73 m^2)
Current smoking
Persistently elevated LDL-C (LDL-C ≥100 mg/dL (≥2.6 mmol/L)) despite maximally tolerated statin therapy and ezetimibe
History of congestive heart failure

2018 Guideline on the Management of Blood Cholesterol

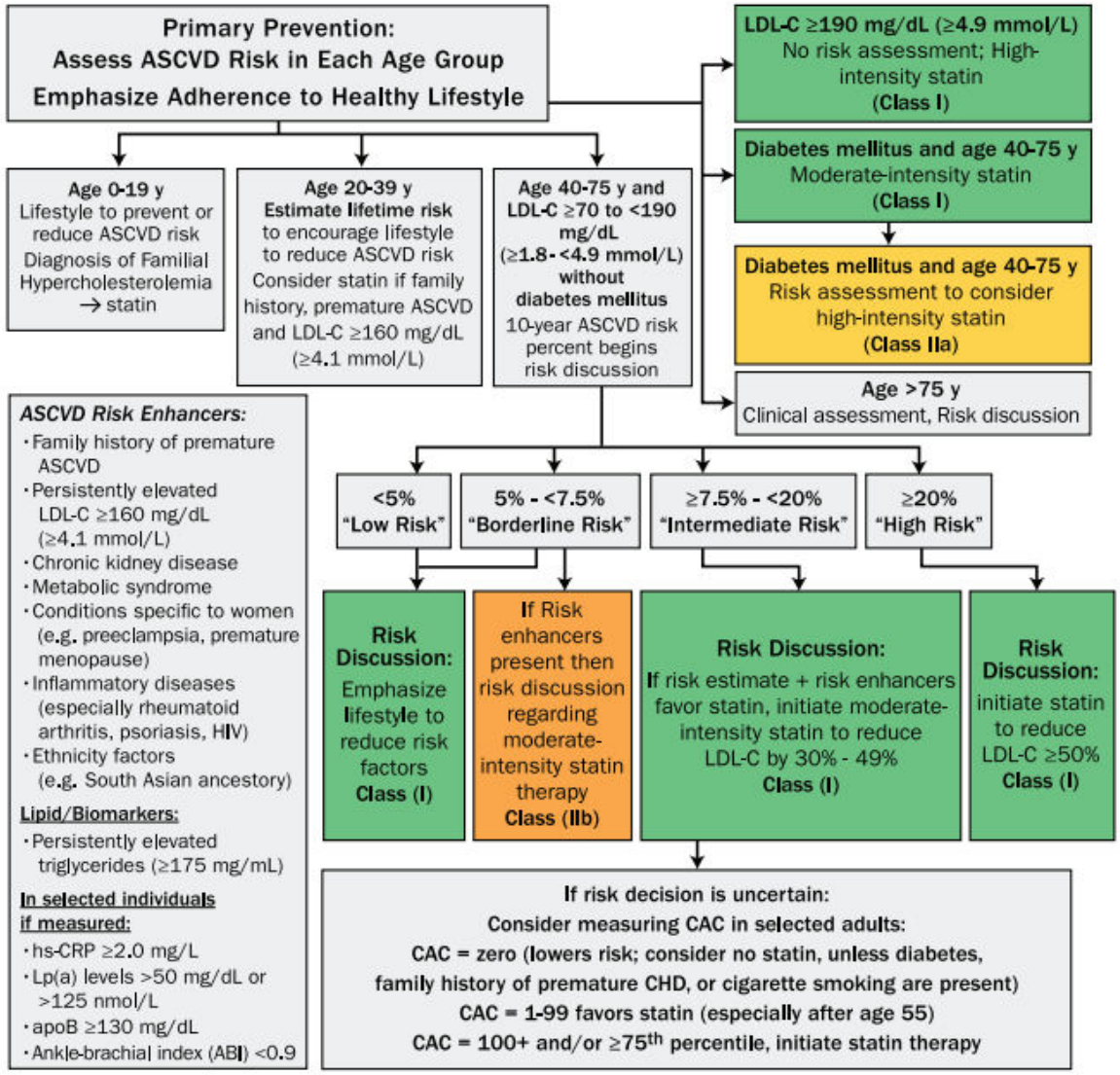

Very high-risk* ASCVD
High-intensity or maximal statin (Class I)
If on maximal statin & LDL-C ≥70 mg/dL (≥1.8 mmol/L), adding ezetimibe is reasonable (Class IIa)
If PCSK9-I is considered, add ezetimibe to maximal statin before adding PCSK9-I (Class I)
Dashed arrow indicates RCT-supported efficacy, but is less cost effective
If on clinically judged-maximal LDL-C lowering therapy & LDL-C ≥70 mg/dL (≥1.8 mmol/L), or non-HDL-C ≥100 mg/dL (≥2.6 mmol/L), adding PCSK9-I is reasonable (Class IIa)

	High-Intensity	Moderate-Intensity	Low-Intensity
LDL-C Lowering†	≥50%	30% to 49%	<30%
Statins	**Atorvastatin (40 mg‡) 80 mg** **Rosuvastatin 20 (40 mg)**	**Atorvastatin 10 mg (20 mg)** **Rosuvastatin** (5 mg) **10 mg** **Simvastatin 20–40 mg§**	Simvastatin 10 mg
	–	**Pravastatin 40 mg (80 mg)** **Lovastatin 40 mg** (80 mg) Fluvastatin XL 80 mg **Fluvastatin 40 mg BID** Pitavastatin 1–4 mg	**Pravastatin 10–20 mg** **Lovastatin 20 mg** Fluvastatin 20–40 mg

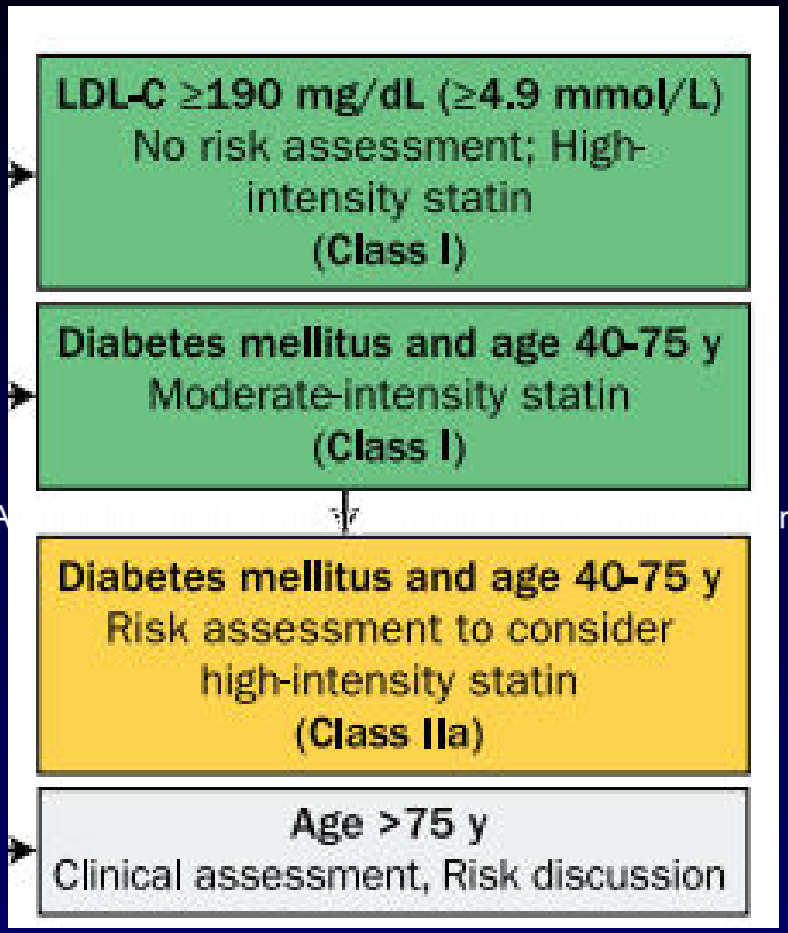
Higher rosuvastatin plasma levels in Japanese, Chinese, Malay, and Asian-Indians compared to whites. → FDA recommends a lower starting dose (5 mg of rosuvastatin in Asians vs. 10 mg in whites).


ASCVD not at very high-risk*
Age ≤75 yrs
Age >75
High-intensity statin (Goal:↓ LDL-C ≥50%) (Class I)
If high-intensity statin not tolerated, use moderate-intensity statin (Class I)
If on maximal statin & LDL-C ≥70 mg/dL (≥1.8 mmol/L), adding ezetimibe may be reasonable (Class IIb)
Initiation of moderate or high-intensity statin is reasonable (Class IIa)
Continuation of high-intensity statin is reasonable (Class IIa)

Primary Prevention



Primary Prevention



2019 ACC/AHA [illegible] r Diseas

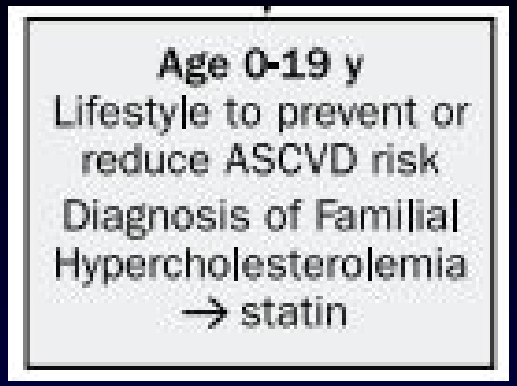
Primary Prevention

Diabetes mellitus and age 40-75 y
Risk assessment to consider high-intensity statin
(Class IIa)

Diabetes-specific Risk Enhancers That Are Independent of Other Risk Factors in Diabetes

- Long duration (≥10 years for type 2 diabetes or ≥ 20 years for type 1 diabetes)
- Albuminuria ≥30 mcg albumin/mg creatinine
- eGFR <60 ml/min/1.73 m^2
- Retinopathy
- Neuropathy
- ABI <0.9

Primary Prevention



Familial Hypercholesterolemia

- Autosomal dominant disorder
- highly elevated LDL-C levels (≥ 190 mg/dL), genetic mutation
- TC and LDL-C levels 2 to 3 times higher than normal
- Severe elevations in levels of LDL-C → early atherosclerotic lesions
- Incidence of ischemic heart disease:
  1 of 6 men and 1 of 10 women by age 40 years.
  Coronary artery disease occurs in 50% of men by age 50 years and 30% of women by age 60 years.

Screening for Lipid Disorders in Children and Adolescents: Recommendation Statemen, U.S. Preventive Services Force. 2016

- Family history of early cardiovascular disease or significant hypercholesterolemia: measure a lipoprotein profile when the patient is as young as **2 years old** to detect FH

- Pts with moderate or severe hypercholesterolemia: **screen relatives** to identify those with hypercholesterolemia

- If patients **10 years or older :**
  LDL-C ≥ 190 mg/dL (4.9 mmol/L) or
  LDL-C ≥ 160 mg/dL (4.1 mmol/L) with FH
  and they don't respond adequately to lifestyle therapy within 6 months, start statin therapy.

-

Primary Prevention

Age 20-39 y
Estimate lifetime risk
to encourage lifestyle
to reduce ASCVD risk
Consider statin if family
history, premature ASCVD
and LDL-C ≥160 mg/dL
(≥4.1 mmol/L)

Primary Prevention

Age 40-75 y and LDL-C ≥70 to <190 mg/dL (≥1.8 - <4.9 mmol/L) without diabetes mellitus

10-year ASCVD risk percent begins risk discussion

<5% "Low Risk"

Risk Discussion: Emphasize lifestyle to reduce risk factors **Class (I)**

≥20% "High Risk"

Risk Discussion: initiate statin to reduce LDL-C ≥50% **Class (I)**

Primary Prevention

Age 40-75 y and LDL-C ≥70 to <190 mg/dL (≥1.8 - <4.9 mmol/L) without diabetes mellitus

10-year ASCVD risk percent begins risk discussion

≥7.5% - <20% "Intermediate Risk"

Risk Discussion:

If risk estimate + risk enhancers favor statin, initiate moderate-intensity statin to reduce LDL-C by 30% - 49%

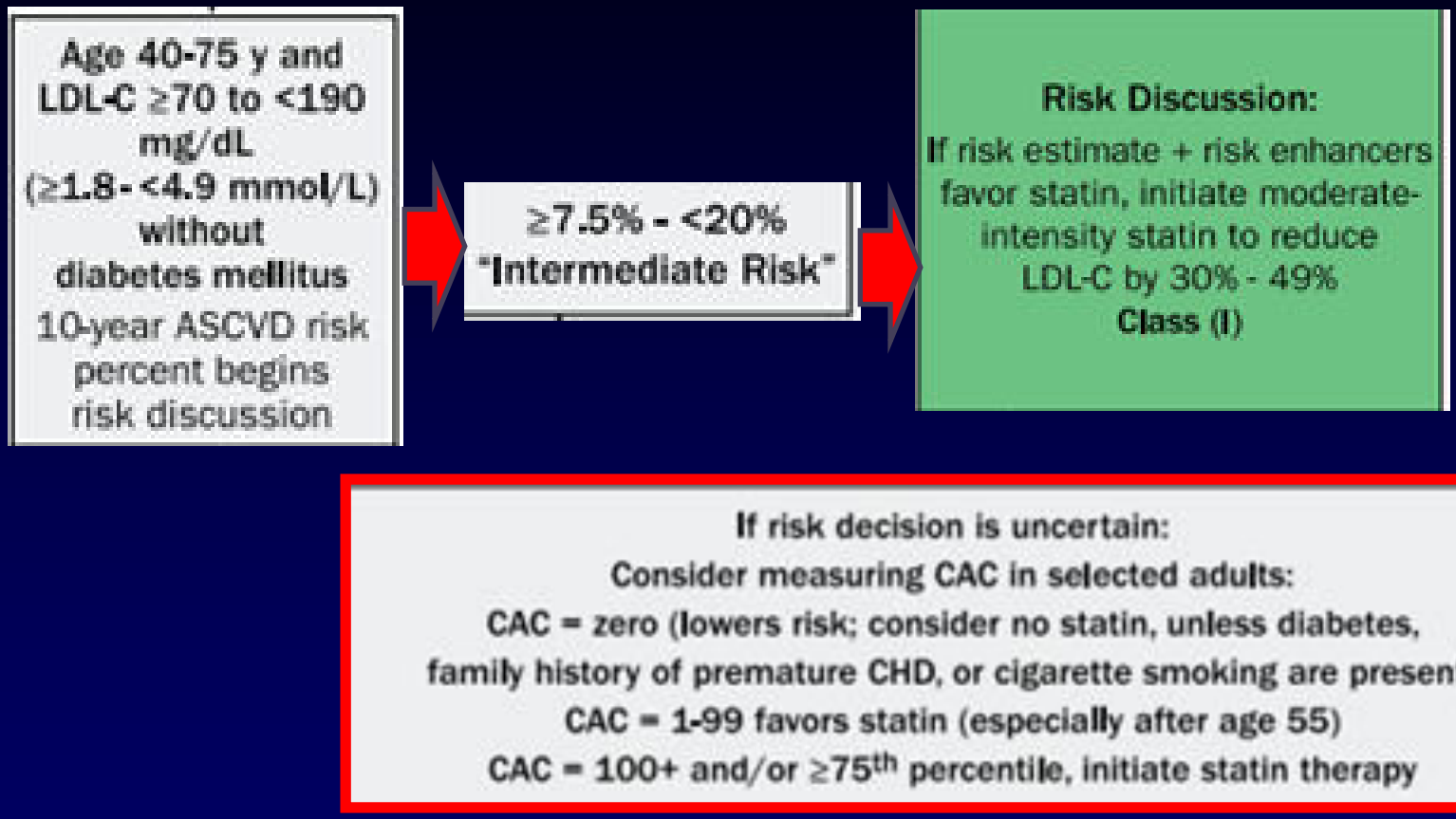
Class (I)

Assessment of Cardiovascular Risk
Risk-Enhancing Factors

Family history of premature ASCVD
Metabolic syndrome
Chronic kidney disease
Chronic inflammatory conditions (psoriasis, RA, lupus, or HIV/AIDS
History of premature menopause (before age 40 y) and history of pregnancy-associated conditions that increase later ASCVD risk (preeclampsia)
High-risk race/ethnicity (e.g., South Asian ancestry)
Lipids/biomarkers:

- Hypertriglyceridemia (≥175 mg/dL, nonfasting)
- Elevated hs CRP
- Elevated Lp(a), apoB
- ABI < 0.9

Primary Prevention



CAC, coronary artery calcium

Hypertriglyceridemia

- Pts ≥ 20 years of age + moderate hypertriglyceridemia (TG 175 to 499 mg/dL [1.9 to 5.6 mmol/L]) →

treat lifestyle factors (obesity and metabolic syndrome),

secondary factors (diabetes, chronic liver or kidney disease and/or nephrotic syndrome, hypothyroidism)

medications that increase triglycerides .

(oral estrogens, munosuppressive drugs, beta blockers, interferon, atypical antipsychotic drugs, thiazide diuretics, glucocorticoids, rosiglitazone…)

Hypertriglyceridemia

In adults 40 to 75 years of age
severe hypertriglyceridemia (fasting TG ≥500 mg/dL [≥5.6 mmol/L])
and ASCVD risk of > 7.5%

→ reversible causes of high triglyceride
initiate statin therapy

Hypertriglyceridemia

Severe hypertriglyceridemia
(fasting triglycerides ≥500 mg/dL [≥5.7 mmol/L]) especially
fasting triglycerides ≥1000 mg/dL (11.3 mmol/L)

Treat other causes of hypertriglyceridemia.
Implementation of a very low fat diet.
Avoidance of refined carbohydrates and alcohol.
Consumption of omega-3 fatty acids,
If necessary to prevent acute pancreatitis, use fibrate therapy

Assess adherence and response treatment

Lipid measurement: **4 to 12 weeks** after statin initiation or dose adjustment

Repeated every 3 to 12 months as needed

Lowering LDL-C levels by 1% generally equals about 1% reduction in heart disease and stroke risk

Statin-Associated Side Effects

Myalgia:
- bilateral
- proximal muscles
- It starts within weeks to months after the patient begins taking statins
- It resolves after discontinuation of statins

alternative statin
reducing the dose
combining with non statins.

Lời kết

Khuyến cáo ESC/EAS và ACC về điều trị rối loạn lipid máu khẳng định:

- ✓ Chế độ ăn và luyện tập luôn là điều trị nền tảng quan trọng
- ✓ LDL-C là mục tiêu điều trị hàng đầu
- ✓ Statin là lựa chọn đầu tay trong điều trị rối loạn lipid máu
- ✓ Statin đóng vai trò quan trọng trong phòng ngừa tiên phát và thứ phát các biến cố tim mạch

Chân thành cảm ơn quý đồng nghiệp