מניעה

ושיקום

יעקב הנקין
המערך הקרדיולוגי
בי"ח סורוקה

דיסליפידמיה

- מטבוליזם
- סינדרומים קליניים
- מחקרים קליניים
- הנחיות טיפוליות
- טיפול תזונתי ותרופתי

Primary vs secondary prevention

- **Primary**
  - Healthy individuals ± risk factors
  - Need to estimate risk
  - Less motivation
  - ↑ NNT (less cost-effective)
  - Populations approach vs high-risk approach
- **Secondary**
  - "sick" individuals (active treatment)
  - ↑ absolute risk → ↓ NNT (cost effective)
  - More aggressive targets

AHA/ACC Guidelines for Secondary Prevention for Patients with Coronary and Other Atherosclerotic Vascular Disease: 2006 Update

Gregg C. Fonarow, MD and Sidney Smith Jr, MD on behalf of the Secondary Prevention Writing Group

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Components of Secondary Prevention

Cigarette smoking cessation Blood pressure control Lipid management to goal Physical activity Weight management to goal Diabetes management to goal
Antiplatelet agents / anticoagulants
Renin angiotensin aldosterone system blockers
Beta blockers
Influenza vaccination

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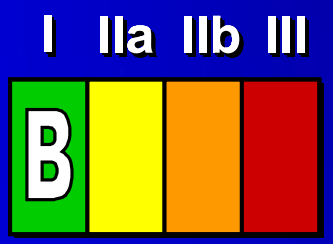
Cigarette Smoking Recommendations



Goal: Complete Cessation and No Exposure to Environmental Tobacco Smoke

- **Ask** about tobacco use status at **every visit**.
- **Advise** every tobacco user to quit.
- **Assess** the tobacco user's **willingness** to quit.
- Assist by counseling and developing a plan for quitting.
- Arrange follow-up, **referral to special programs**, or **pharmacotherapy** (including nicotine replacement and bupropion.
- Urge avoidance of exposure to **environmental tobacco smoke** at work and home.

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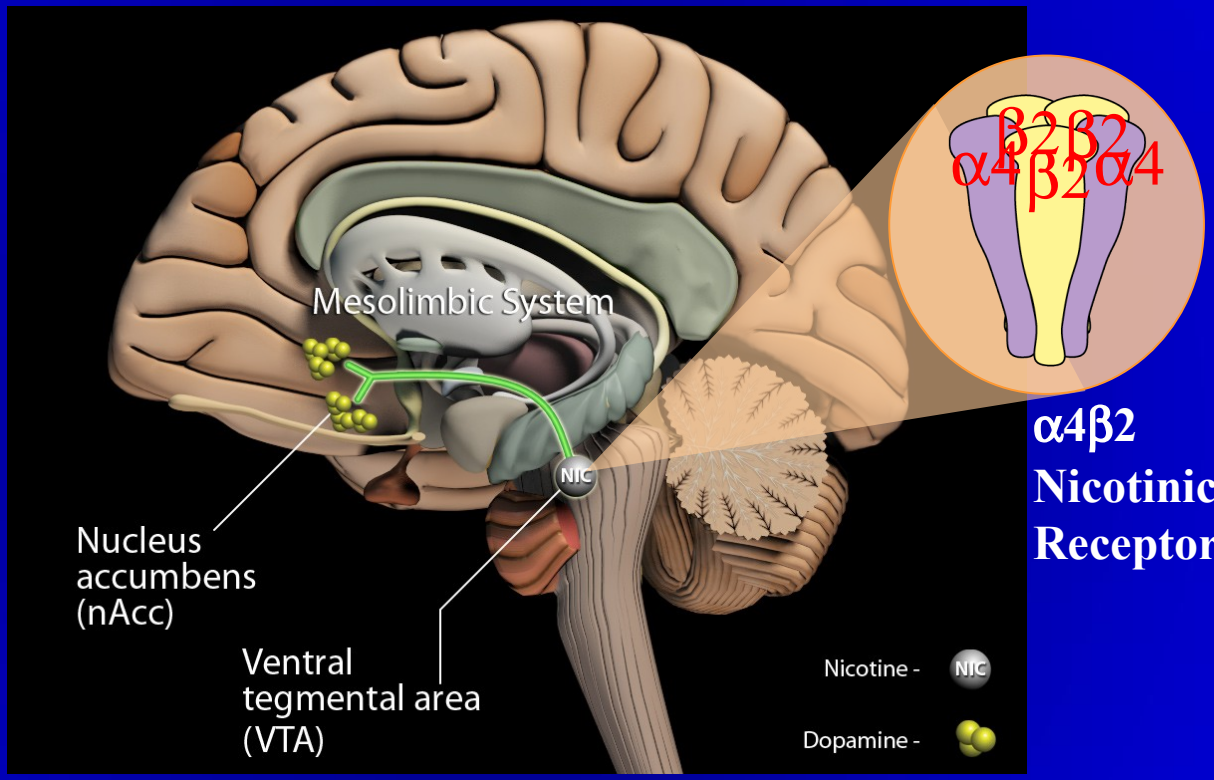
Mechanism of Action of Nicotine in the Central Nervous System



Smoking Cessation Pharmacotherapy*

Agent	Caution	Side Effects	Dosage	Duration	Instructions
Bupropion SR (Zyban®)	Seizure disorder Eating disorder Taking MAO inhibitor Pregnancy	Insomnia Dry mouth	150 mg QAM then 150 mg BID	3 days Maintenance (8 weeks, but may be used up to 6 months)	Start 1-2 weeks before quit date. Take second dose in early afternoon or decrease to 150 mg QAM for insomnia.
Transdermal Nicotine Patch**	Within 2 weeks of a MI Unstable angina Arrhythmias Decompensated heart failure	Skin reaction Insomnia	21 mg QAM 14 mg QAM 7 mg QAM or 15 mg QAM	4 weeks 2 weeks 2 weeks 8 weeks	Apply to different hairless site daily. Remove before bed for insomnia. Start at ≤15 mg for ≤10 cigs/day

*Pharmacotherapy combined with behavioral support provides the best success rate

**Other nicotine replacement therapy options include: nicotine gum, lozenge, inhaler, nasal spray

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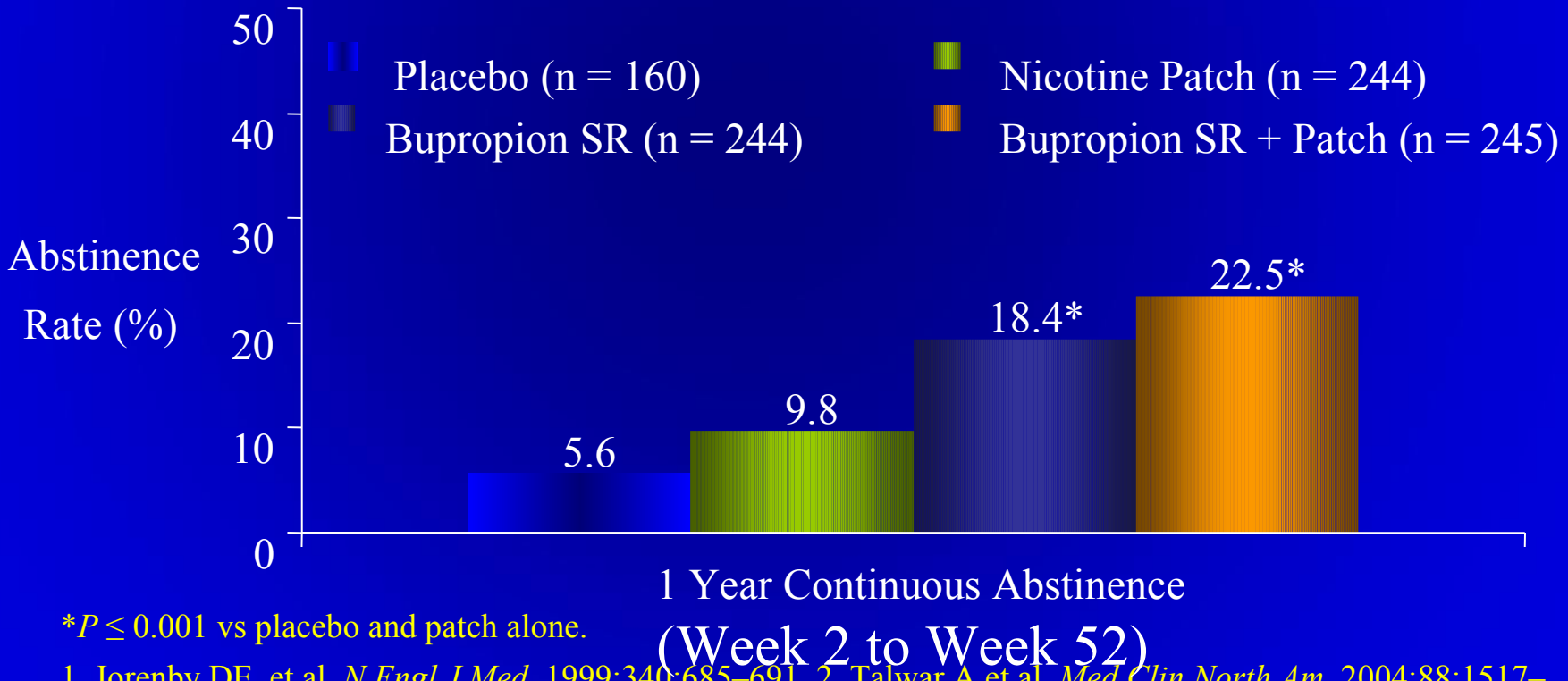
Comparison of Nicotine Replacement Therapy (NRT) and Bupropion SR Therapy for Quitting Smoking[1]

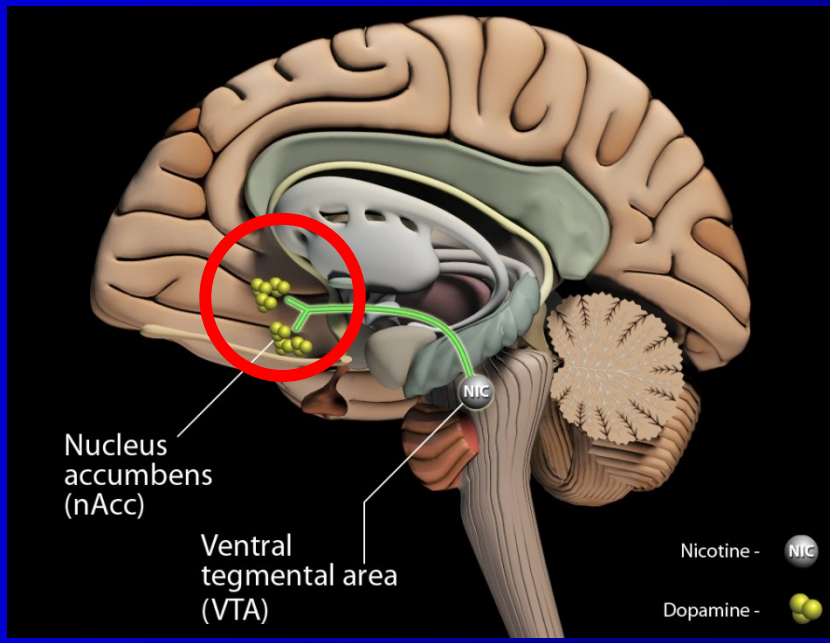


*$P \leq 0.001$ vs placebo and patch alone.

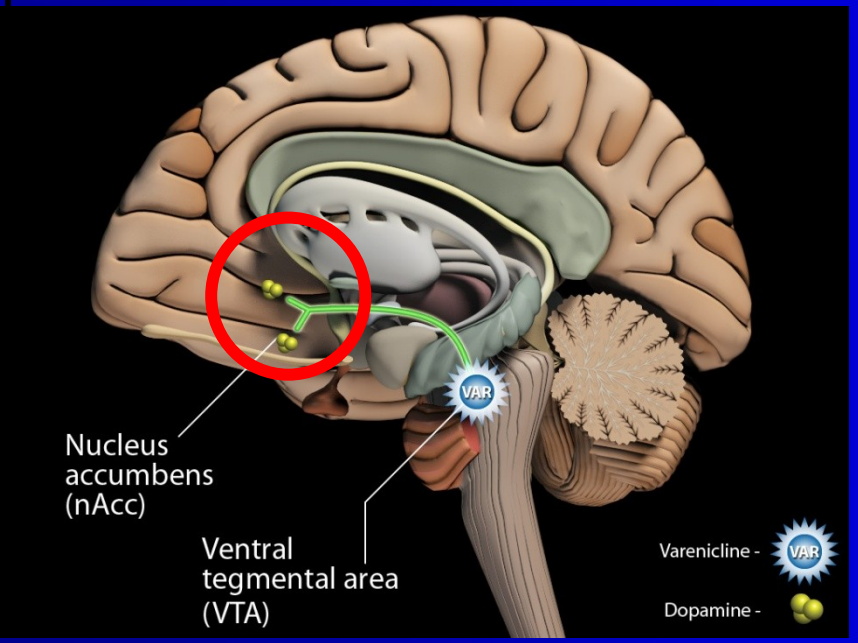
1. Jorenby DE, et al. *N Engl J Med*. 1999;340:685–691. 2. Talwar A et al. *Med Clin North Am*. 2004;88:1517–1534.

Champix™ (varenicline): A Highly Selective α4β2 Receptor Partial Agonist

Nicotine

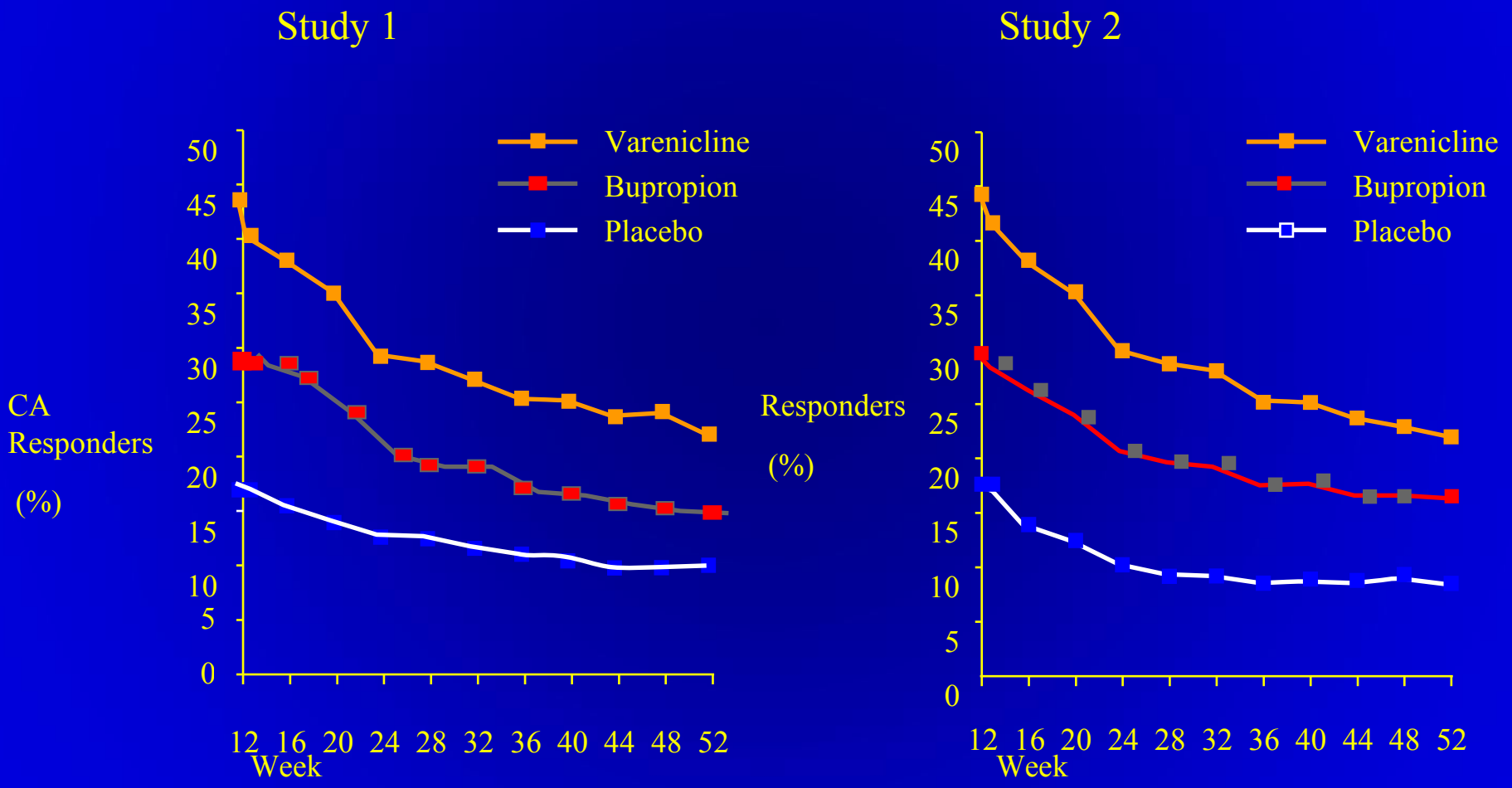


Chantix



1. Coe JW et al. Presented at the 11th Annual Meeting and 7th European Conference of the Society for Research on Nicotine and Tobacco. 2005. Prague, Czech Republic. 2. Picciotto MR et al. *Nicotine Tob Res.* 1999; Suppl 2:S121-S125.

Continuous Abstinence (CA) Rates From Week 9 Through Week 52[1]



1. Data on file. Pfizer Inc.

Comparative Studies: Adverse Events

Adverse Event	Varenicline 0.5 mg BID n=129	Varenicline 1 mg BID n=821	Placebo n=805
Nausea	16%	30%	10%
Insomnia *	19%	18%	13%
Abnormal Dreams	9%	13%	5%
Constipation	5%	8%	3%
Flatulence	9%	6%	3%
Vomiting	1%	5%	2%

* Includes Preferred Terms: Insomnia/Initial insomnia/Middle insomnia/Early morning awakening. Values may not total 100% due to rounding. Adverse events listed occurred in >5% and twice the rate seen in placebo-treated patients.

1. Gonzales D et al. *JAMA*. 2006;296:47-55. 2. Jorenby DE et al. *JAMA*. 2006;296:56-63. 3. Data on file. Pfizer Inc, New York, NY. Final Study Report A3051028. 4. Data on file. Pfizer Inc, New York, NY. Final Study Report A3051036.

Blood Pressure Control Recommendations

Goal: <140/90 mm Hg

or <130/80 if diabetes or chronic kidney disease

I IIa IIb III

B

Blood pressure 120/80 mm Hg or greater:

- Initiate or maintain lifestyle modification:

I IIa IIb III

A

Blood pressure 140/90 mm Hg or greater (or 130/80 or greater for chronic kidney disease or diabetes)

- As tolerated, add blood pressure medication, treating initially with beta blockers and/or ACE inhibitors with addition of other drugs such as thiazides as needed to achieve goal blood pressure

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Lifestyle Modifications for BP Control

Modification	Recommendation	Approximate SBP Reduction Range
Weight reduction	Maintain normal body weight (BMI=18.5-24.9)	5-20 mmHg/10 kg weight lost
Adopt DASH eating plan	Diet rich in fruits, vegetables, low fat dairy and reduced in fat	8-14 mmHg
Restrict sodium intake	<2.4 grams of sodium per day	2-8 mmHg
Physical activity	Regular aerobic exercise for at least 30 minutes on most days of the week	4-9 mmHg
Moderate alcohol consumption	≤2 drinks/day for men and ≤1 drink/ day for women	2-4 mmHg

BMI=Body mass index, SBP=Systolic blood pressure

Chobanian AV et al. *JAMA*. 2003;289:2560-2572

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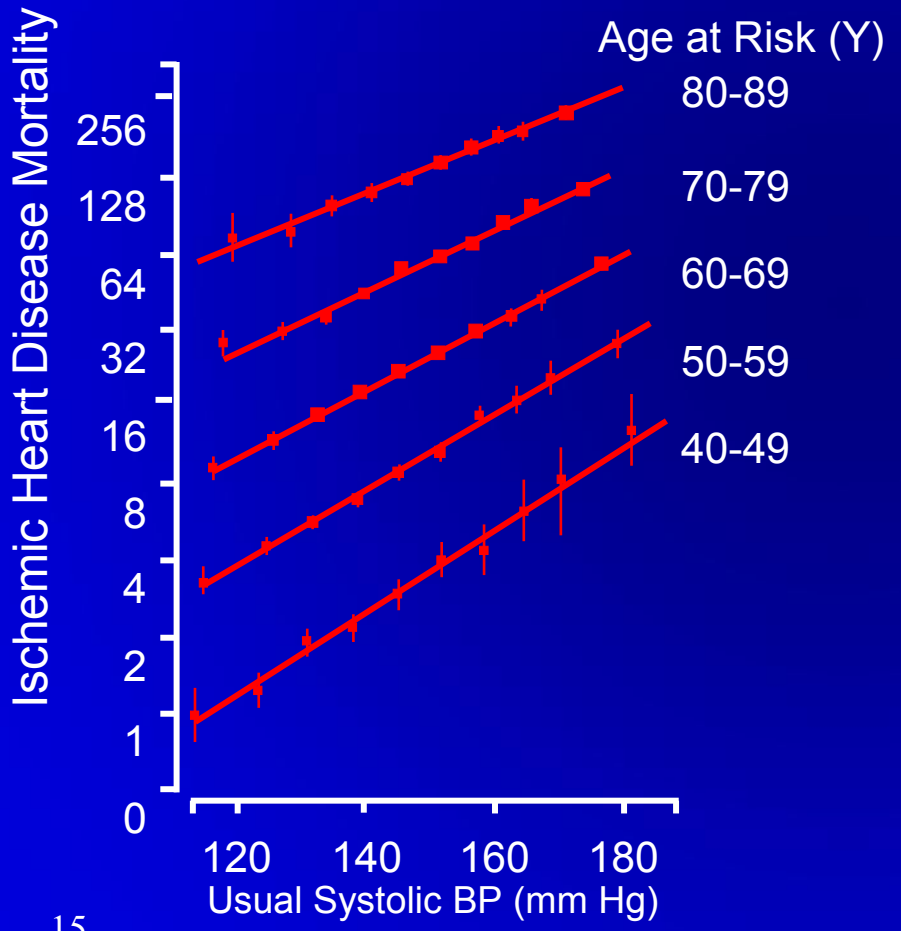
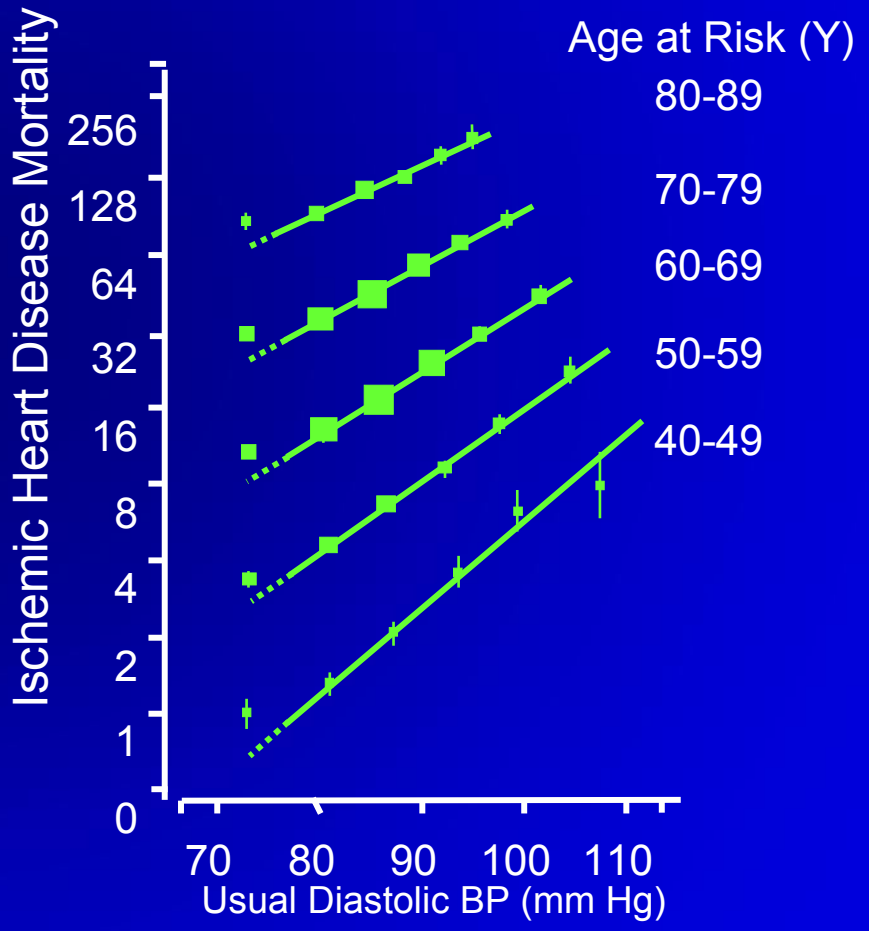
Blood Pressure: Lower is Better

Ischemic Heart Disease Mortality





BP=Blood pressure

Prospective Studies Collaboration. *Lancet*. 2002;360:1903-1913

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Circulation 2007;115;2761-2788; originally published online May 14, 2007;

Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart Association®

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AHA Scientific Statement

Treatment of Hypertension in the Prevention and Management of Ischemic Heart Disease

A Scientific Statement From the American Heart Association Council for High Blood Pressure Research and the Councils on Clinical Cardiology and Epidemiology and Prevention

Clive Rosendorff, MD, PhD, FAHA, Chair; Henry R. Black, MD; Christopher P. Cannon, MD, FAHA; Bernard J. Gersh, MB ChB, DPhil, FAHA; Joel Gore, MD, FAHA; Joseph L. Izzo, Jr, MD; Norman M. Kaplan, MD; Christopher M. O'Connor, MD, FAHA; Patrick T. O'Gara, MD, FAHA; Suzanne Oparil, MD, FAHA

TABLE. Summary of Main Recommendations

Area of Concern	BP Target, mm Hg	Lifestyle Modification†	Specific Drug Indications	Comments
General CAD prevention	<140/90	Yes	Any effective antihypertensive drug or combination‡	If SBP ≥160 mm Hg or DBP ≥100 mm Hg, then start with 2 drugs
High CAD risk*	<130/80	Yes	ACEI or ARB *or* CCB *or* thiazide diuretic *or* combination	If SBP ≥160 mm Hg or DBP ≥100 mm Hg, then start with 2 drugs
Stable angina	<130/80	Yes	β-Blocker *and* ACEI or ARB	If β-blocker contraindicated, or if side effects occur, can substitute diltiazem or verapamil (but not if bradycardia or LVD is present)
				Can add dihydropyridine CCB (not diltiazem or verapamil) to β-blocker
				A thiazide diuretic can be added for BP control
UA/NSTEMI	<130/80	Yes	β-Blocker (if patient is hemodynamically stable) *and* ACEI or ARB§	If β-blocker contraindicated, or if side effects occur, can substitute diltiazem or verapamil (but not if bradycardia or LVD is present)
				Can add dihydropyridine CCB (not diltiazem or verapamil) to β-blocker
				A thiazide diuretic can be added for BP control
STEMI	<130/80	Yes	β-Blocker (if patient is hemodynamically stable) and ACEI or ARB§	If β-blocker contraindicated, or if side effects occur, can substitute diltiazem or verapamil (but not if bradycardia or LVD is present)
				Can add dihydropyridine CCB (not diltiazem or verapamil) to β-blocker
				A thiazide diuretic can be added for BP control
LVD	<120/80	Yes	ACEI or ARB *and* β-blocker *and* aldosterone antagonist¶ *and* thiazide or loop diuretic *and* hydralazine/isosorbide dinitrate (blacks)	Contraindicated: verapamil, diltiazem, clonidine, moxonidine, α-blockers

פנינים מההנחיות

- In patients with evidence of ischemia
  - BP should be lowered slowly
  - Caution is advised in lowering diastolic BP below 60 mmHg
- In patients > 80 years
  - Lowering BP reduces stroke
  - Less evidence for lower CHD

- Choice of drug remains controversial
- Amount of BP lowering more important than type of drug
- Usually begin with
  - ACE-I or ARB
  - Calcium antagonist
  - Thiazide
- Beta blockers 1st choice only in
  - Post MI patients (for at least 6 months)
- When the BP is > 20 mmHg above target
  - Begin with 2 drugs

- If beta-blockers c/I or not tolerated
  - Add verapamil or diltiazem
    - Not if there is LV dysfunction
- In LV dysfunction
  - Consider lowering BP to 120/80
  - Lower slowly, diastolic not < 60 mmHg
  - Prefer ACE-I, ARB, thiazide, spironolactone
  - Beta-blocker

Definition of the Metabolic Syndrome

Defined by presence of ≥3 risk factors

Risk Factor	Defining Level
Waist circumference (abdominal obesity)	≥40 in (>102 cm) in men ≥35 in (>88 cm) in women
Triglyceride level	≥150 mg/dl
HDL-C level	<40 mg/dl in men <50 mg/dl in women
Blood pressure	≥130/≥85 mmHg
Fasting glucose	≥100 mg/dl

HDL-C=High-density lipoprotein cholesterol

Grundy, et al. Diagnosis and management of the metabolic syndrome: an AHA/NHLBI Scientific Statement. *Circulation* 2005;112:2735-2752.

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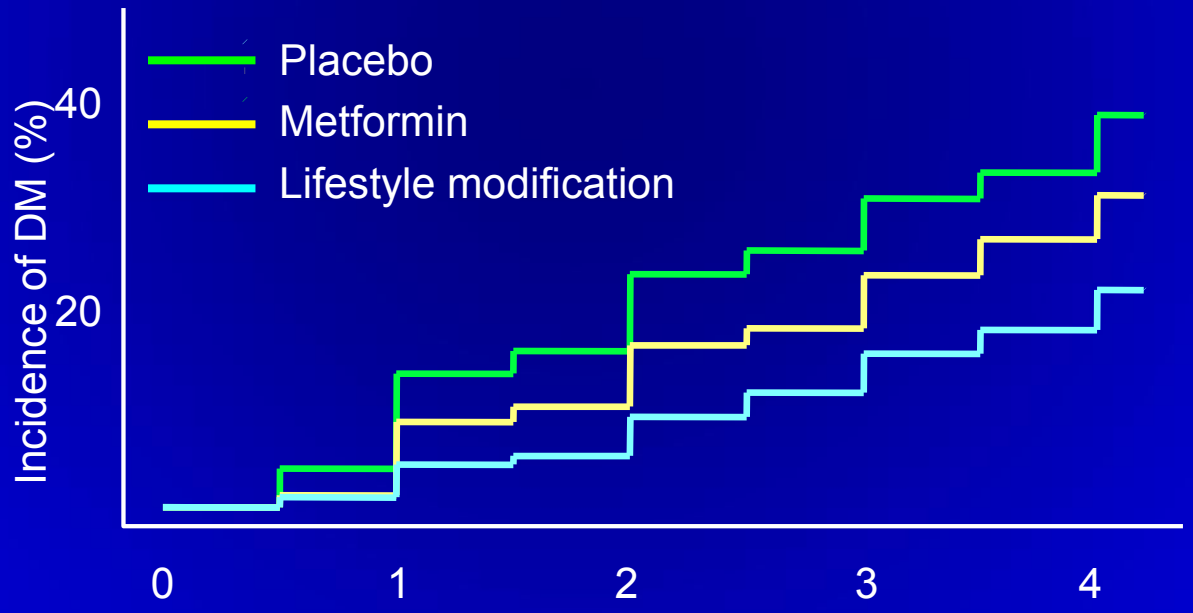
Metabolic Syndrome: Risk of Developing DM

Diabetes Prevention Program (DPP)

3,234 patients with elevated fasting and post-load glucose levels randomized to placebo, metformin (850 mg twice daily), or lifestyle modification* for 2.8 years



*Includes 7% weight loss and at least 150 minutes of physical activity per week

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Knowler WC et al. *NEJM* 2002;346:393-403

Lipoprotein Management in Patients With Cardiometabolic Risk

Consensus Conference Report From the American Diabetes Association and the American College of Cardiology Foundation

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April 15, 2008:000–00

Table 1. Suggested Treatment Goals in Patients With CMR and Lipoprotein Abnormalities

	Goals		
	LDL Cholesterol (mg/dl)	Non-HDL Cholesterol (mg/dl)	ApoB (mg/dl)
Highest-risk patients, including those with 1) known CVD or 2) diabetes plus one or more additional major CVD risk factor	<70	<100	<80
High-risk patients, including those with 1) no diabetes or known clinical CVD but two or more additional major CVD risk factors or 2) diabetes but not other major CVD risk factors	<100	<130	<90

Diabetes Mellitus Recommendations

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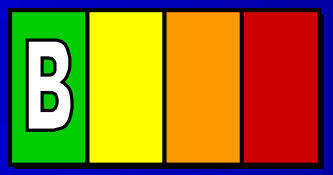

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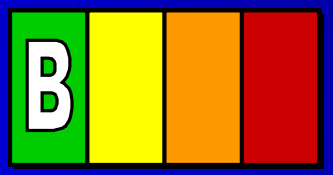

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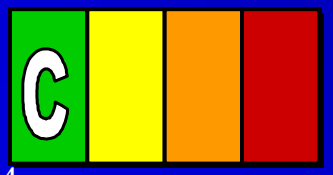


Goal: Hb A1c < 7%

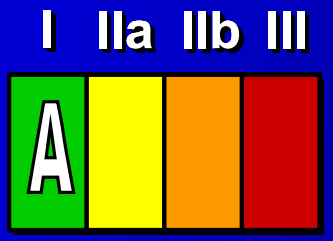
Lifestyle and pharmacotherapy to achieve near normal HbA1C (<7%).

Vigorous modification of other risk factors (e.g., physical activity, weight management, blood pressure control, and cholesterol management as recommended).

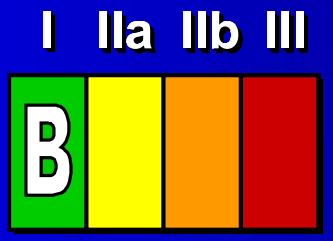
Coordinate diabetic care with patient's primary care physician or endocrinologist.)

HbA1c = Glycosylated hemoglobin

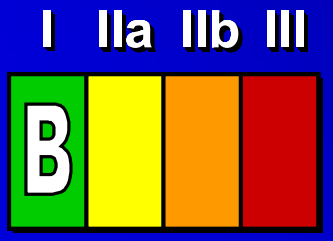
Aspirin Recommendations



Start and continue indefinitely aspirin 75 to 162 mg/d in all patients unless contraindicated



For patients undergoing CABG, aspirin (100 to 325 mg/d) should be started within 48 hours after surgery to reduce saphenous vein graft closure



Post-PCI-stented patients should receive 325 mg per day of aspirin for 1 month for bare metal stent, 3 months for sirolimus-eluting stent and 6 months for paclitaxel-eluting stent

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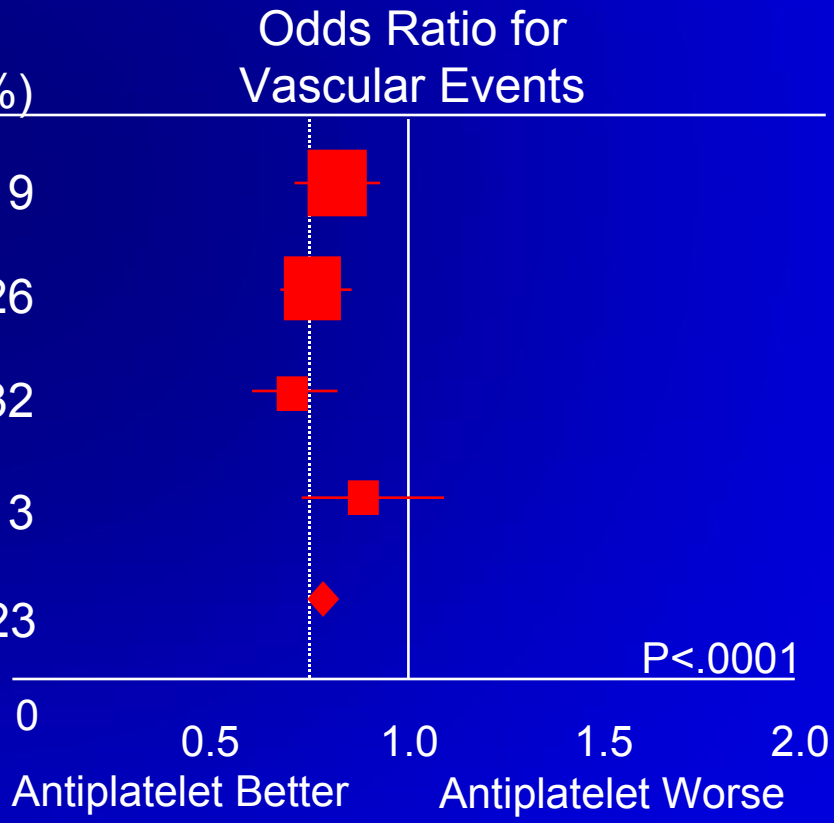
Aspirin Evidence: Dose and Efficacy

Indirect Comparisons of Aspirin Doses on Vascular Events in High-Risk Patients

Aspirin Dose	No. of Trials	(%)
500-1500 mg	34	19
160-325 mg	19	26
75-150 mg	12	32
<75 mg	3	13
Any aspirin	65	23



Antithrombotic Trialists Collaboration. *BMJ.* 2002;324:71-86

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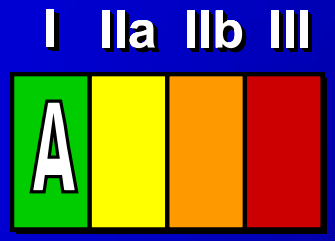
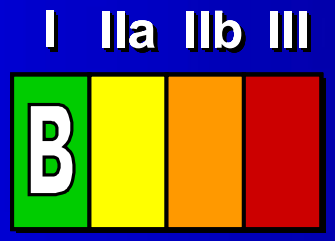
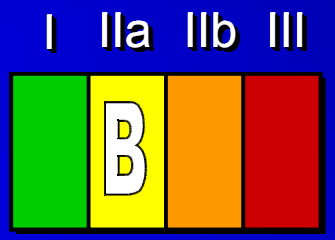
ACE Inhibitor Recommendations



Use in all patients with LVEF ≤ 40%, and those with diabetes or chronic kidney disease indefinitely, unless contraindicated



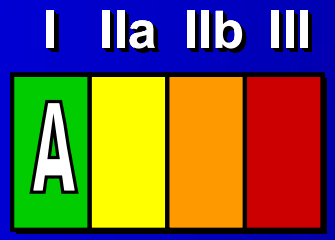
Consider for all other patients



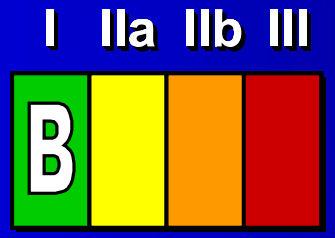
Among lower risk patients with normal LVEF where cardiovascular risk factors are well controlled and where revascularization has been performed, their use may be considered optional

ACE=Angiotensin converting enzyme, LVEF= left ventricular ejection fraction

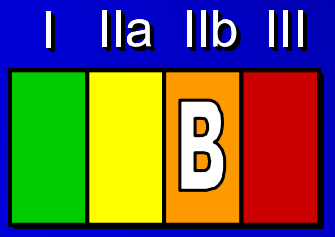
Angiotensin Receptor Blocker Recommendations



Use in patients who are intolerant of ACE inhibitors with HF or post MI with LVEF less than or equal to 40%.



Consider in other patients who are ACE inhibitor intolerant.



Consider use in combination with ACE inhibitors in systolic dysfunction HF.

ACE=Angiotensin converting enzyme inhibitor, LVEF=Left Ventricular Ejection fraction, HF=Heart failure, MI=Myocardial infarction

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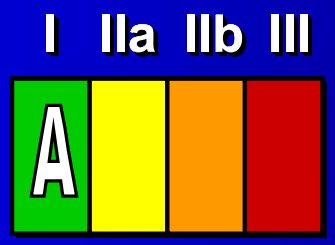
Aldosterone Antagonist Recommendations



Use in post MI patients, without significant renal dysfunction or hyperkalemia, who are already receiving therapeutic doses of an ACE inhibitor and beta blocker, have an LVEF ≤ 40% and either diabetes or heart failure

*Contraindications include abnormal renal function (creatinine >2.5 mg/dL in men or >2.0 mg/dL in women) and hyperkalemia (K+ ≥5.0 meq/L)

ACE=Angiotensin converting enzyme inhibitor, LVEF=Left Ventricular Ejection fraction, MI=Myocardial infarction

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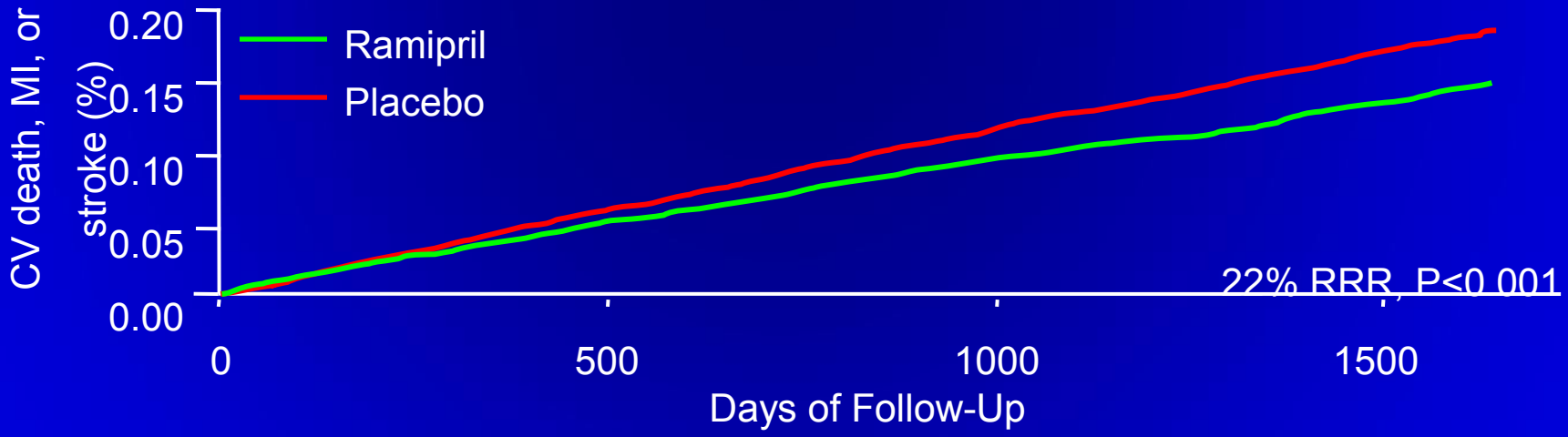
ACE Inhibitor Evidence: CAD, CVD, PVD or DM

Heart Outcomes Prevention and Evaluation (HOPE) Study

9,297 patients with DM or vascular disease plus one additional CV risk factor, but without HF or known LVSD randomized to ramipril (10 mg) or placebo for 5 years



ACE-I=Angiotensin converting enzyme inhibitors, DM=Diabetes mellitus, CV=Cardiovascular, HF=Heart failure, LVSD=Left ventricular systolic dysfunction, MI=Myocardial infarction

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HOPE Investigators. *NEJM* 2000;342:145-153

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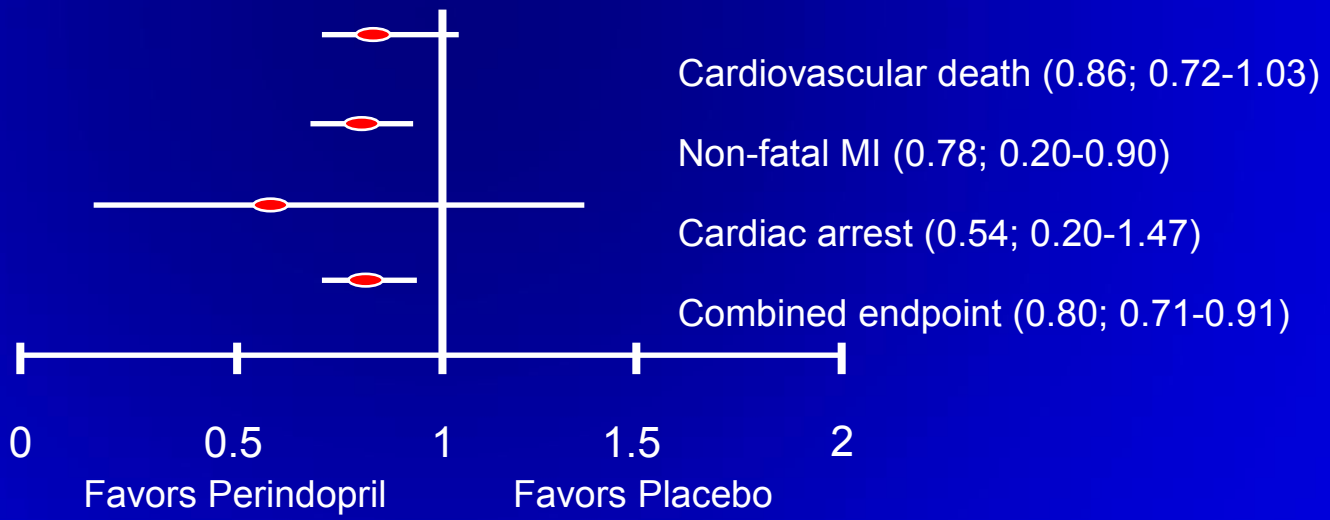
ACE Inhibitor Evidence: CAD

European Trial on Reduction of Cardiac Events with Perindopril in Stable Coronary Artery Disease (EUROPA)

13,655 patients with CAD and presumed normal left ventricular function randomized to perindopril (8 mg) or placebo for 4.2 years



ACE-I=Angiotensin converting enzyme inhibitors, CAD=Coronary artery disease, CV=Cardiovascular, MI=Myocardial infarction

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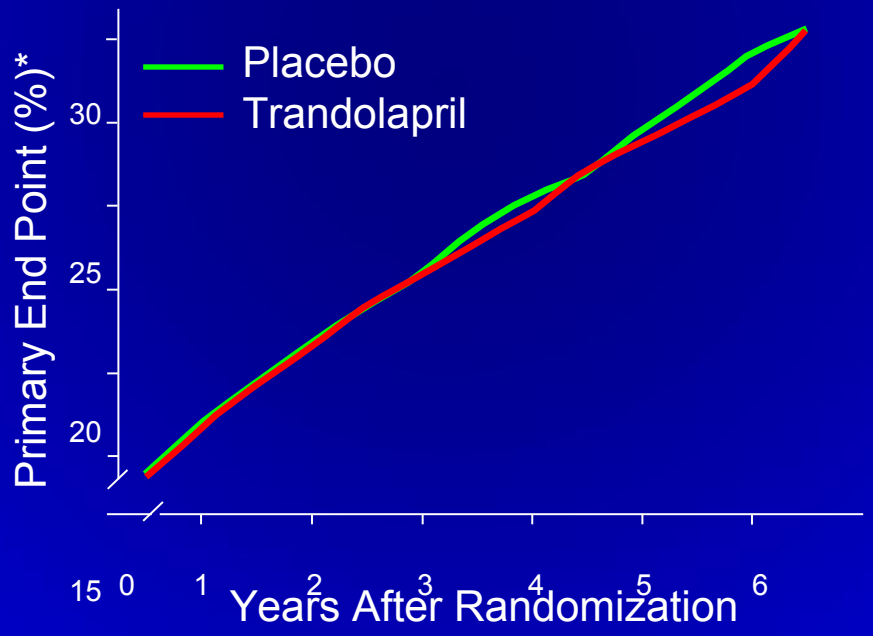
EUROPA Investigators. *Lancet* 2003;362:782-788

ACE Inhibitor Evidence: CAD

Prevention of Events with Angiotensin Converting Enzyme Inhibition (PEACE) Trial

8,290 patients with stable coronary artery disease and normal left ventricular function randomized to trandolapril (4 mg) or placebo for 4.8 years

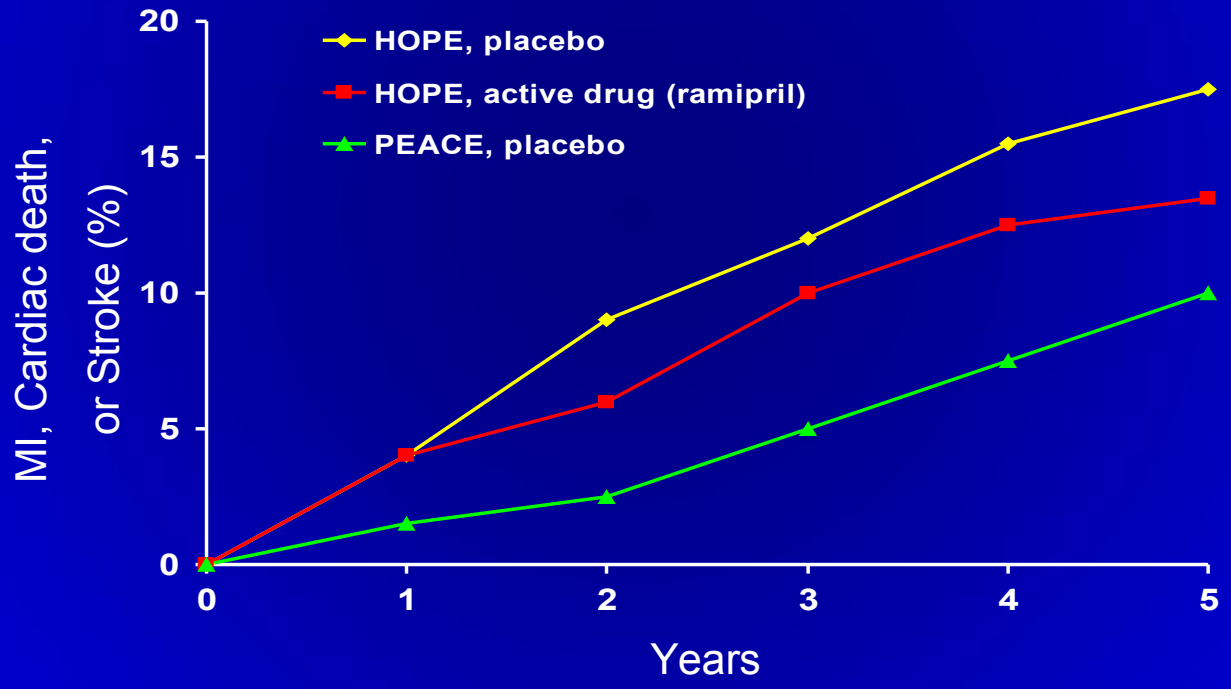


*Includes death from cardiovascular causes, myocardial infarction, or coronary revascularization

PEACE Trial Investigators. *NEJM* 2004;351:2058-2068

ACE Inhibitor Evidence: Secondary Prevention

Comparison between the HOPE and PEACE trials



*Reflects greater blood pressure control, revascularization, and use of other risk-reducing medications (i.e., antiplatelet therapy, β-blocker, lipid-lowering medication)

CHD=Coronary heart disease, MI=Myocardial infarction

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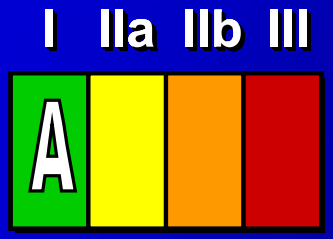
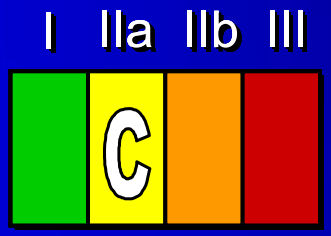
Braunwald, E. et al. *NEJM* 2004;351:2058-68

β-blocker Recommendations



Start and continue indefinitely in all post MI, ACS, LV dysfunction with or without HF symptoms, unless contraindicated.



Consider chronic therapy for all other patients with coronary or other vascular disease or diabetes unless contraindicated.

*Precautions but still indicated include mild to moderate asthma or chronic obstructive pulmonary disease, insulin dependent diabetes mellitus, severe peripheral arterial disease, and a PR interval >0.24 seconds.

MI=Myocardial infarction, HF=Heart Failure

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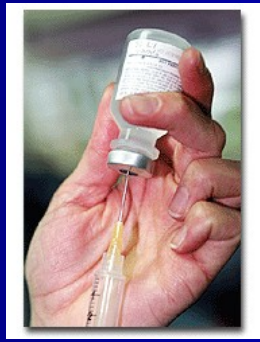
Influenza Vaccination



I	IIa	IIb	III
B			

Patients with cardiovascular disease should have influenza vaccination

35

Influenza Vaccination Evidence

Effectiveness of Influenza Vaccination during the Influenza Seasons

Hospitalization	Vaccinated Subjects (N=77,738)	Unvaccinated Subjects (N=62,317)	Adjusted Odds Ratio	P value
Pneumonia or influenza	495 (0.6)	581 (0.9)	0.68 (0.60–0.78)	<0.001
Cardiac disease	888 (1.1)	1026 (1.6)	0.81 (0.73–0.89)	<0.001
Ischemic heart disease	457 (0.6)	535 (0.9)	0.80 (0.70–0.91)	0.001
Heart failure	466 (0.6)	538 (0.9)	0.81 (0.70–0.93)	0.002
Cerebrovascular disease	398 (0.5)	427 (0.7)	0.84 (0.73–0.97)	0.018
Death	943 (1.2)	1361 (2.2)	0.52 (0.47–0.57)	<0.001
Hospitalization or death	2387 (3.1)	2910 (4.7)	0.65 (0.62–0.70)	<0.001

Community cohort of 140,055 subjects in the 1998–1999 season of which 55.5 % were immunized.

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Nutrition

- ↓ saturated fat / cholesterol
- “Mediterannean”
- DASH
- Alcohol
  - 15 gm/day females
  - 25 gm/day males
- Omega 3

Summary of Recommendations for Omega-3 Fatty Acid Intake

Patients without documented CHD	Eat a variety of (preferably oily) fish at least twice a week. Include oils & foods rich in linolenic acid (flaxseed, canola, and soybean oils; flaxseed and walnuts)
Patients with documented CHD	Consume ≈ 1 g of EPA+DHA per day, preferably from oily fish. EPA+DHA supplements could be considered in consultation with the physician.
Patients needing triglyceride lowering	2-4 grams of EPA+DHA per day provided as capsules under a physician's care

AHA Scientific Statement, *Circulation*. 2002;106:2747

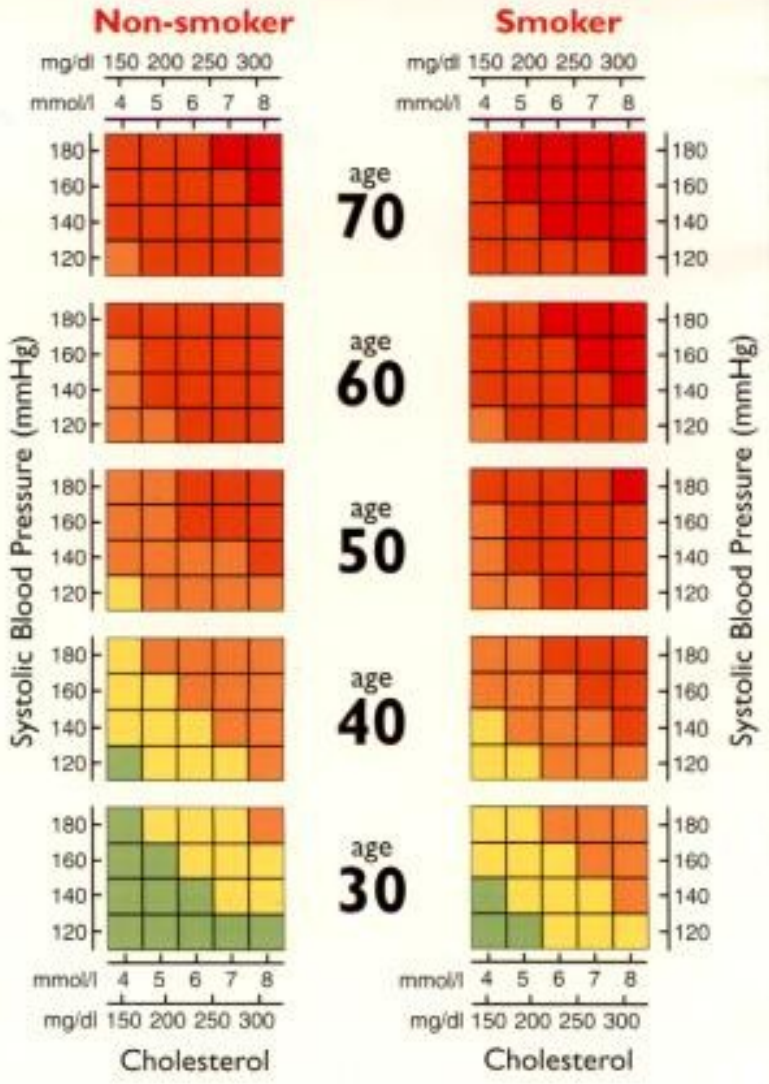
LIPIDS

הנחיות קליניות
מניעה ראשונית

- טיפול בגורמי הסיכון האחרים
- טיפול תזונתי
- חישוב ה- global risk

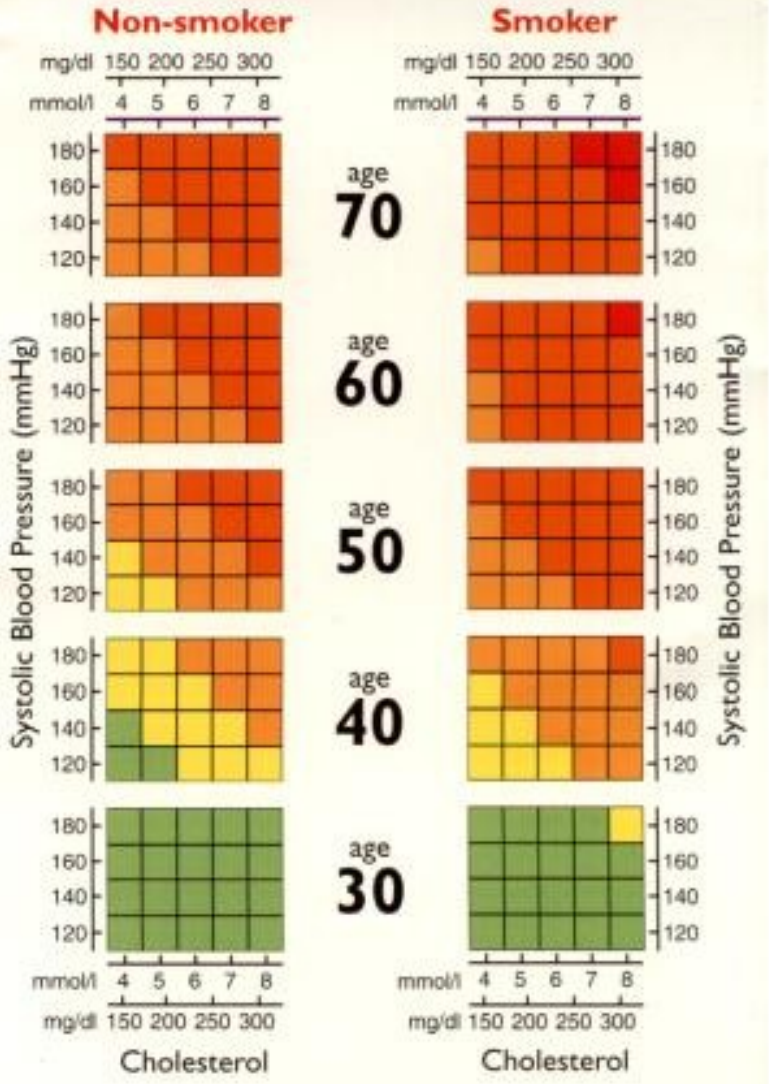
MEN *WITH DIABETES*

Risk of Coronary Heart Disease

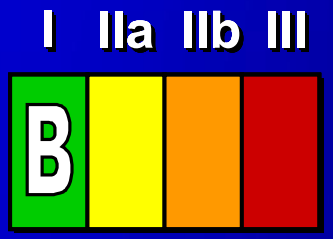


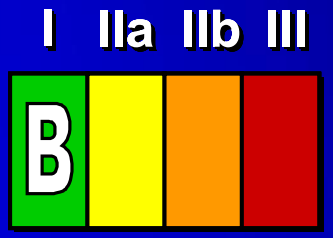
WOMEN *WITH DIABETES*

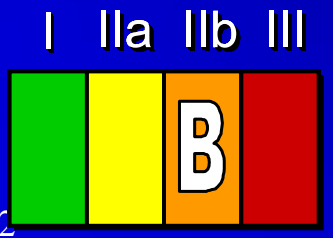
Risk of Coronary Heart Disease



Lipid Management Recommendations
Secondary prevention







For all patients

Start dietary therapy (<7% of total calories as saturated fat and <200 mg/d cholesterol)

Adding plant stanol/sterols (2 gm/day) and viscous fiber (>10 mg/day) will further lower LDL

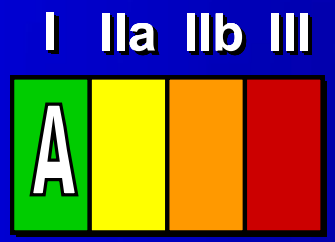
Promote daily physical activity and weight management.

Encourage increased consumption of omega-3 fatty acids in fish or 1 g/day omega-3 fatty acids in capsule form for risk reduction.

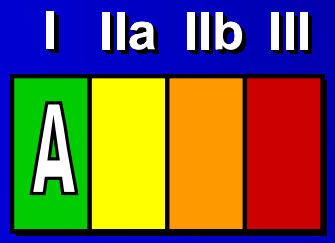
Assess fasting lipid profile in all patients

and within 24 hours of hospitalization for those with an acute event.

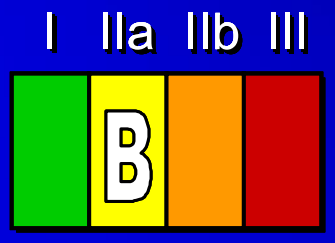
For patients hospitalized, initiate lipid-lowering medication as recommended below prior to discharge according to the following schedule:



If baseline LDL-C ≥ 100 mg/dL, initiate LDL-lowering drug therapy



If on-treatment LDL-C ≥ 100 mg/dL, intensify LDL-lowering drug therapy (may require LDL lowering drug combination)



If baseline is LDL-C 70 to 100 mg/dL, it is reasonable to treat to LDL < 70 mg/dL

When LDL lowering medications are used, obtain at least a 30-40% reduction in LDL-C levels.

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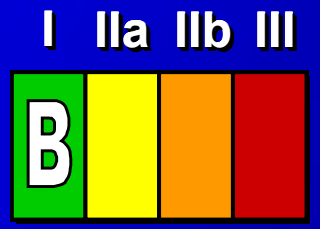
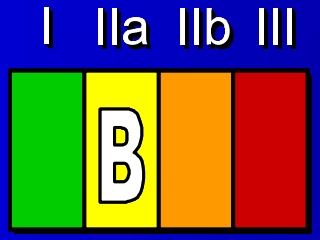
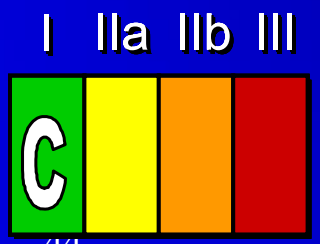


If TG are 200-499 mg/dL, non-HDL-C should **be < 130 mg/dL**



Further reduction of non-HDL to < 100 mg/dL is reasonable

Therapeutic options to reduce non-HDL-C:
More intense LDL-C lowering therapy I (B) or
Niacin (after LDL-C lowering therapy) IIa (B) or
Fibrate (after LDL-C lowering therapy) IIa (B)



If TG are ≥ 500 mg/dL, therapeutic options to prevent pancreatitis are fibrate or niacin before LDL lowering therapy; and treat LDL-C to goal after TG-lowering therapy. Achieve non-HDL-C < 130 mg/dL, if possible

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Lipid Management Pharmacotherapy

Therapy	TC	LDL	HDL	TG	Patient tolerability
Statins*	↓ 19-37%	↓ 25-50%	↑ 4-12%	↓ 14-29%	Good
Ezetimibe	↓ 13%	↓ 18%	↑ 1%	↓ 9%	Good
Bile acid sequestrants	↓ 7-10%	↓ 10-18%	↑ 3%	Neutral or ↑	Poor
Nicotinic acid	↓ 10-20%	↓ 10-20%	↑ 14-35%	↓ 30-70%	Reasonable to Poor
Fibrates	↓ 19%	↓ 4-21%	↑ 11-13%	↓ 30%	Good

HDL-C=High-density lipoprotein cholesterol, LDL-C=Low-density lipoprotein cholesterol, TC=Total cholesterol, TG=Triglycerides

*Daily dose of 40mg of each drug, excluding rosuvastatin.

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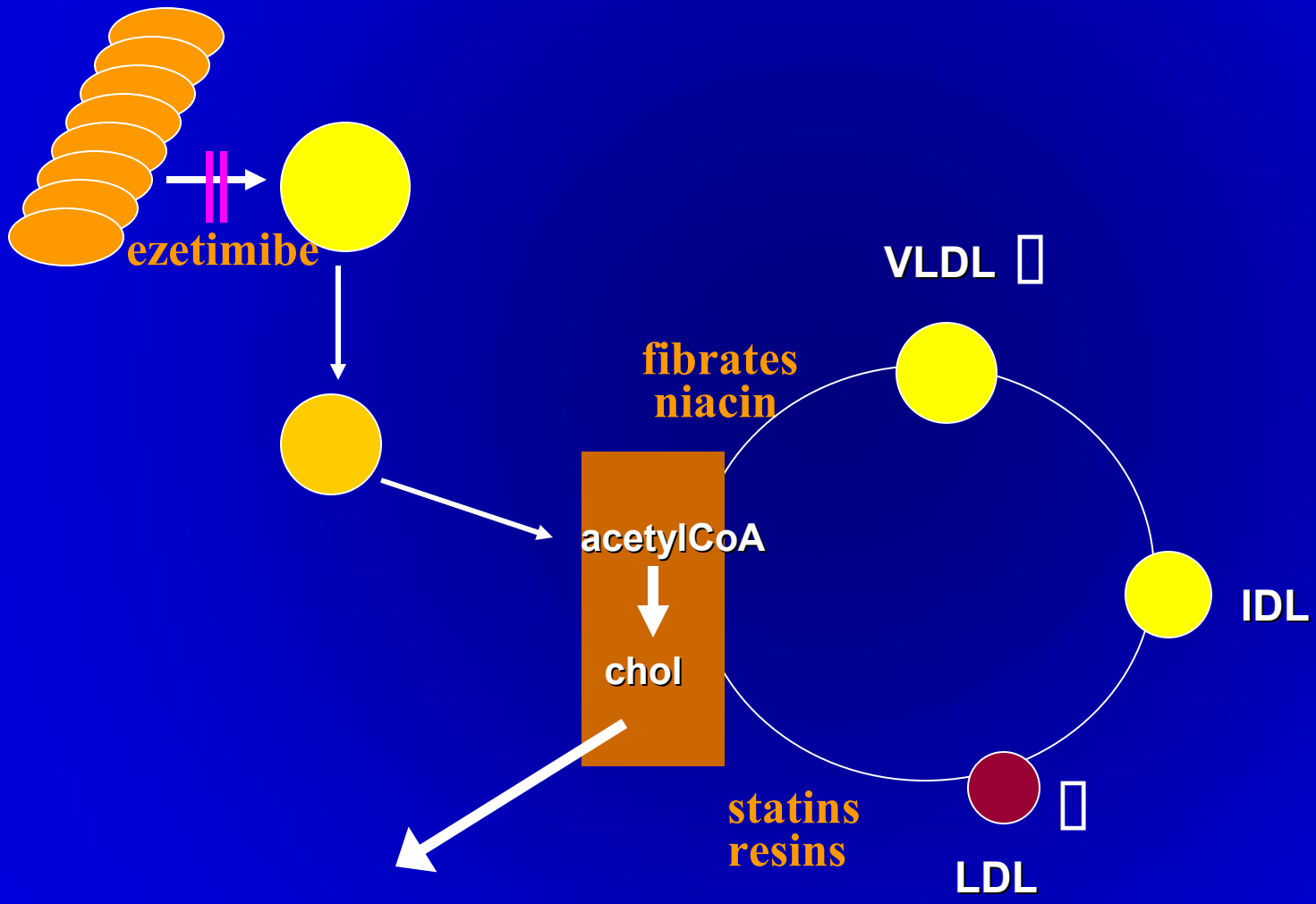
Risk category	LDL cholesterol goal	Initiate therapeutic lifestyle changes	Consider drug therapy
High risk: CHD or CHD risk equivalents (10-year risk >20%)	<100 mg/dL optional goal of <70 mg/dL	≥100 mg/dL	≥100 mg/dL consider drug options if LDL-C <100 mg/dL
Moderately high risk: two + risk factors (10-year risk 10%-20%)	<130 mg/dL optional goal <100 mg/dL	≥130 mg/dL	≥130 mg/dL consider drug options if LDL-C 100-129 mg/dL
Low risk: ≤1 risk factor	<160 mg/dL	≥160 mg/dL	≥190 mg/dL (consider drug options if LDL-C 160-189 mg/dL)

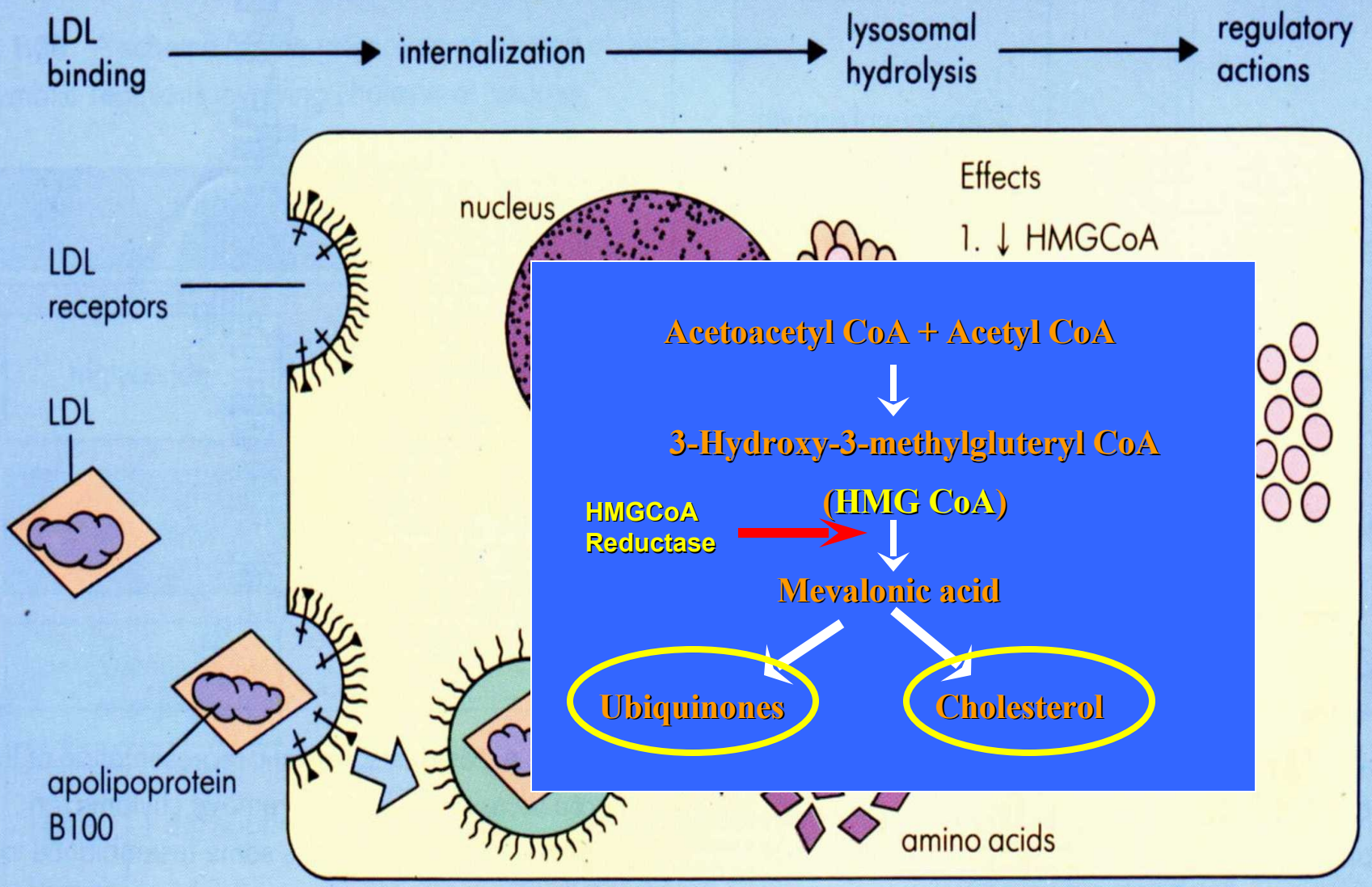
- In high-risk persons
  - recommended LDL-C goal is <100 mg/dL
- when risk is very high
  - an LDL-C goal of <70 mg/dL is a therapeutic option
- This therapeutic option extends also to patients at very high risk who have a baseline LDL-C <100 mg/dL

פרמקולוגיה

מיקום הפעולה של התרופות

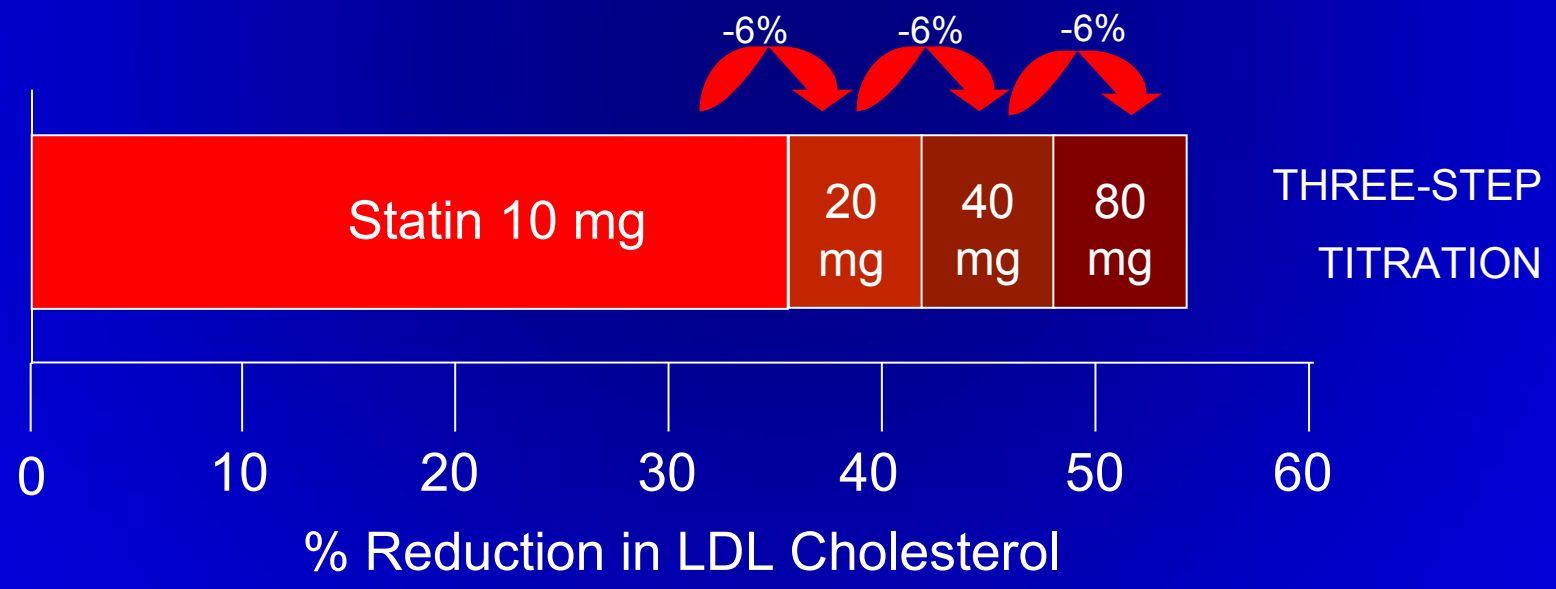


Statins

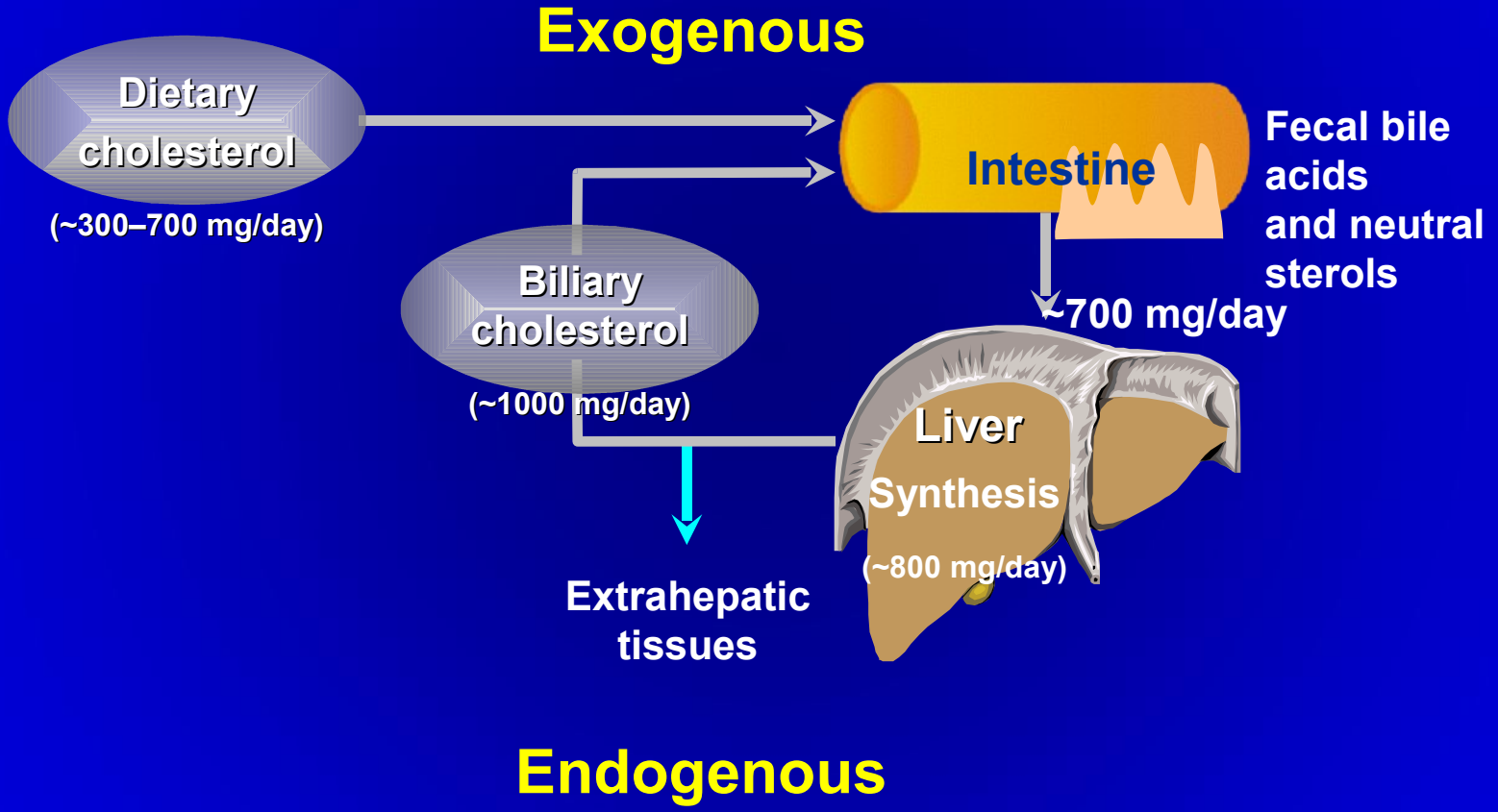

LDL binding
internalization
lysosomal hydrolysis
regulatory actions
LDL receptors
LDL
apolipoprotein B100
nucleus
Effects
1. ↓ HMGCoA
Acetoacetyl CoA + Acetyl CoA
3-Hydroxy-3-methylgluteryl CoA
(HMG CoA)
HMGCoA Reductase
Mevalonic acid
Ubiquinones
Cholesterol
amino acids

?Why are patients not reaching Goals

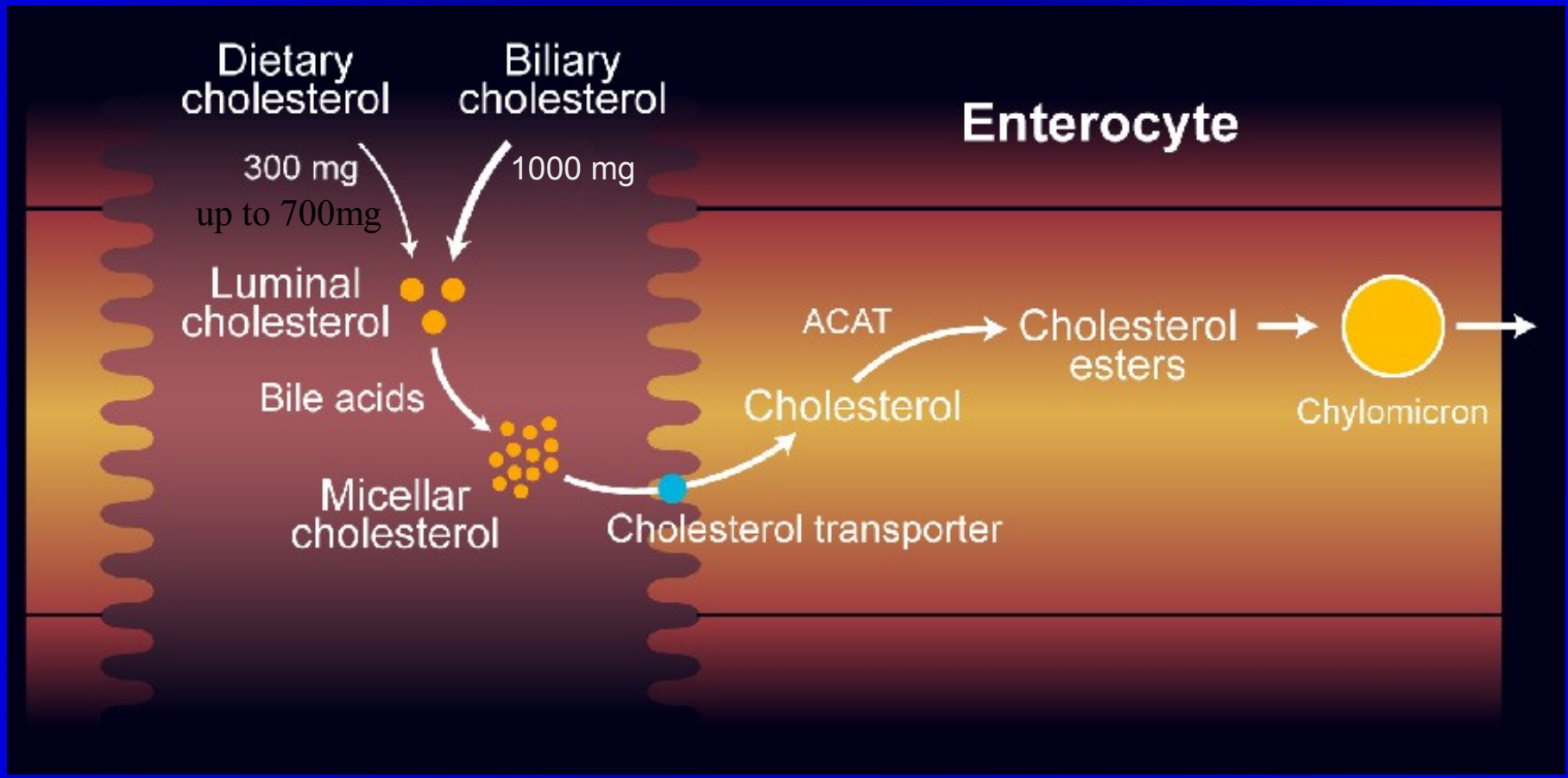
Effect of Statin Therapy on LDL-C Levels: "The Rule of 6"



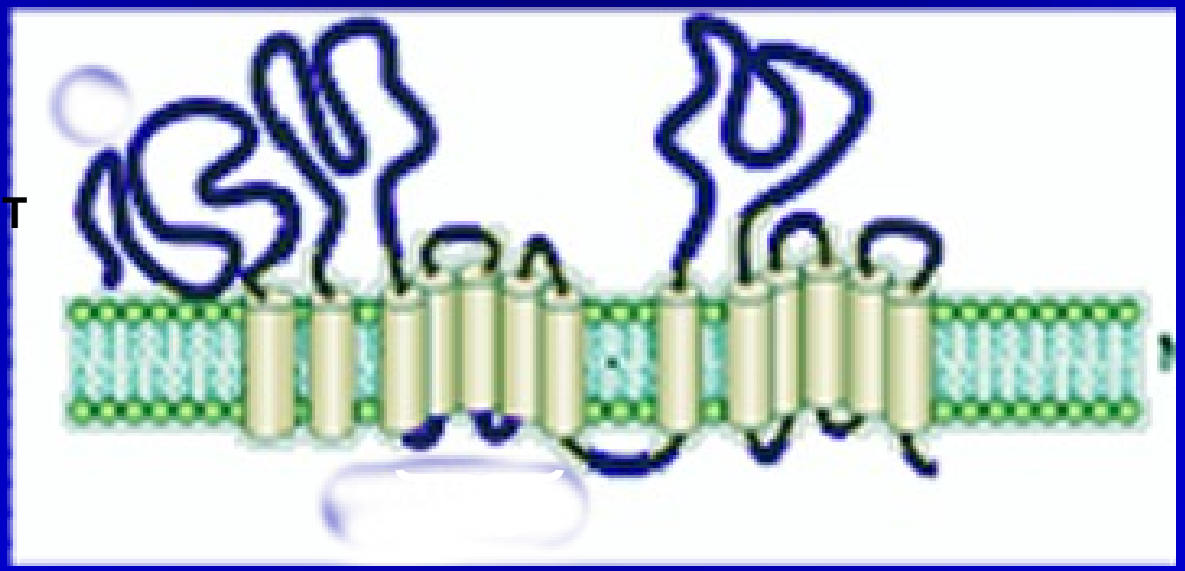
Endogenous and Exogenous Sources of Cholesterol



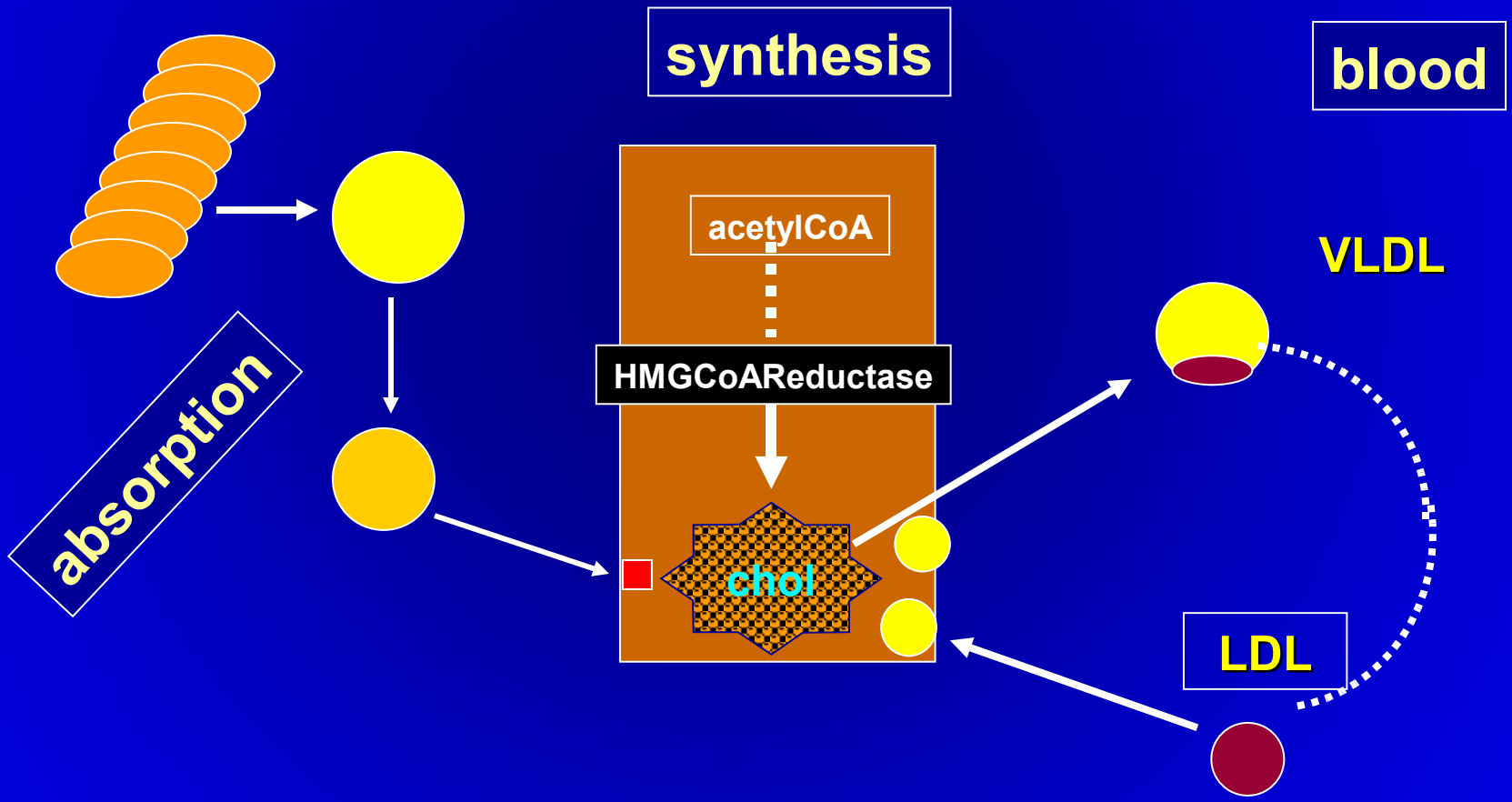
Steps Involved in Cholesterol Absorption



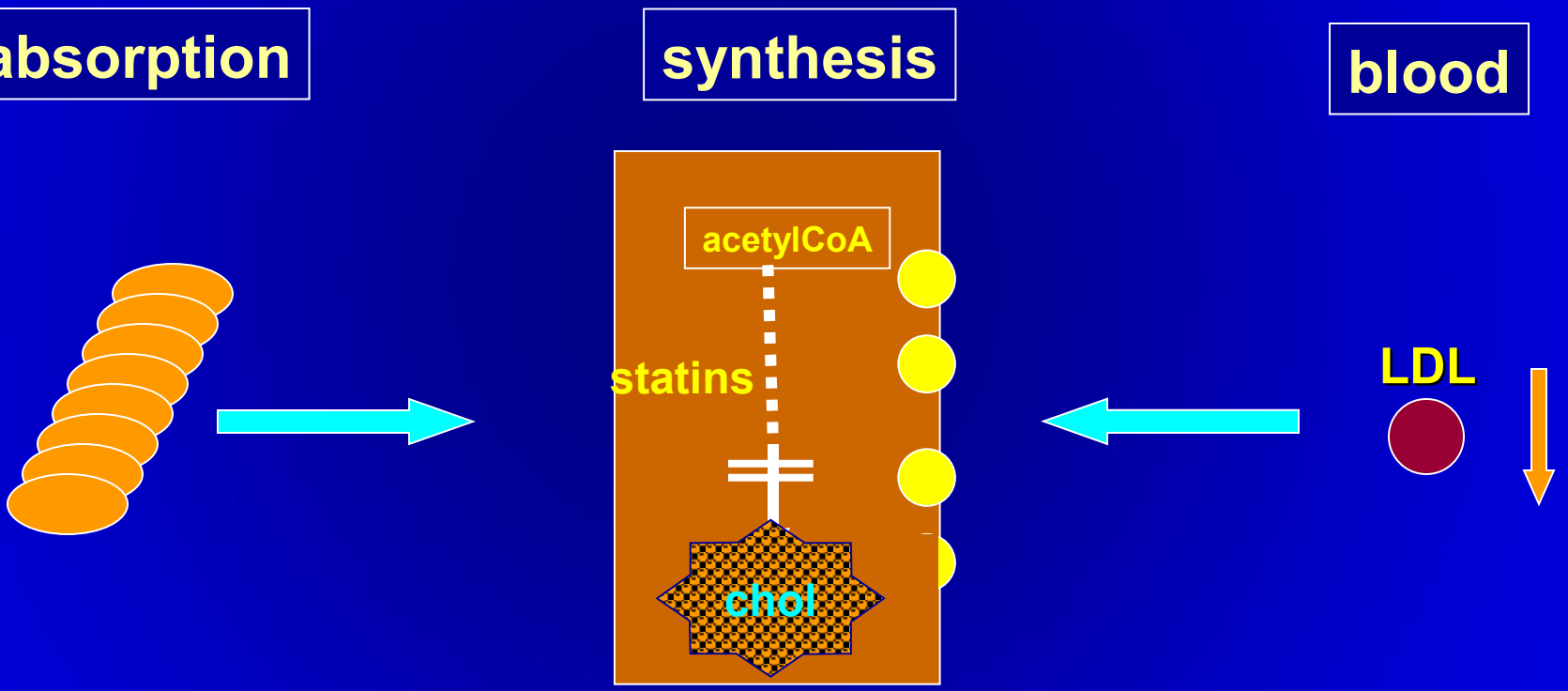
Niemann-Pick C1L1 ((NPC1L1



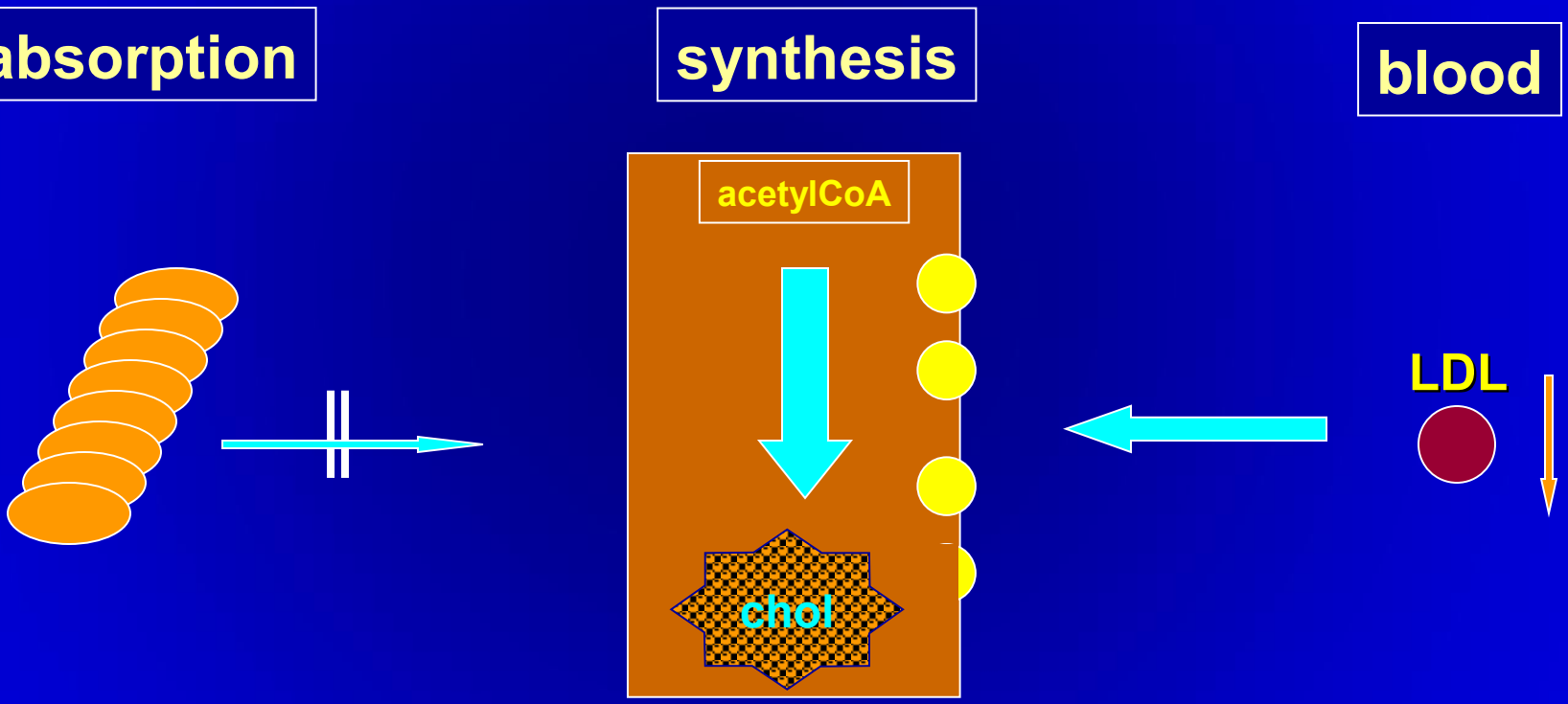
Sources of intra-hepatic cholesterol



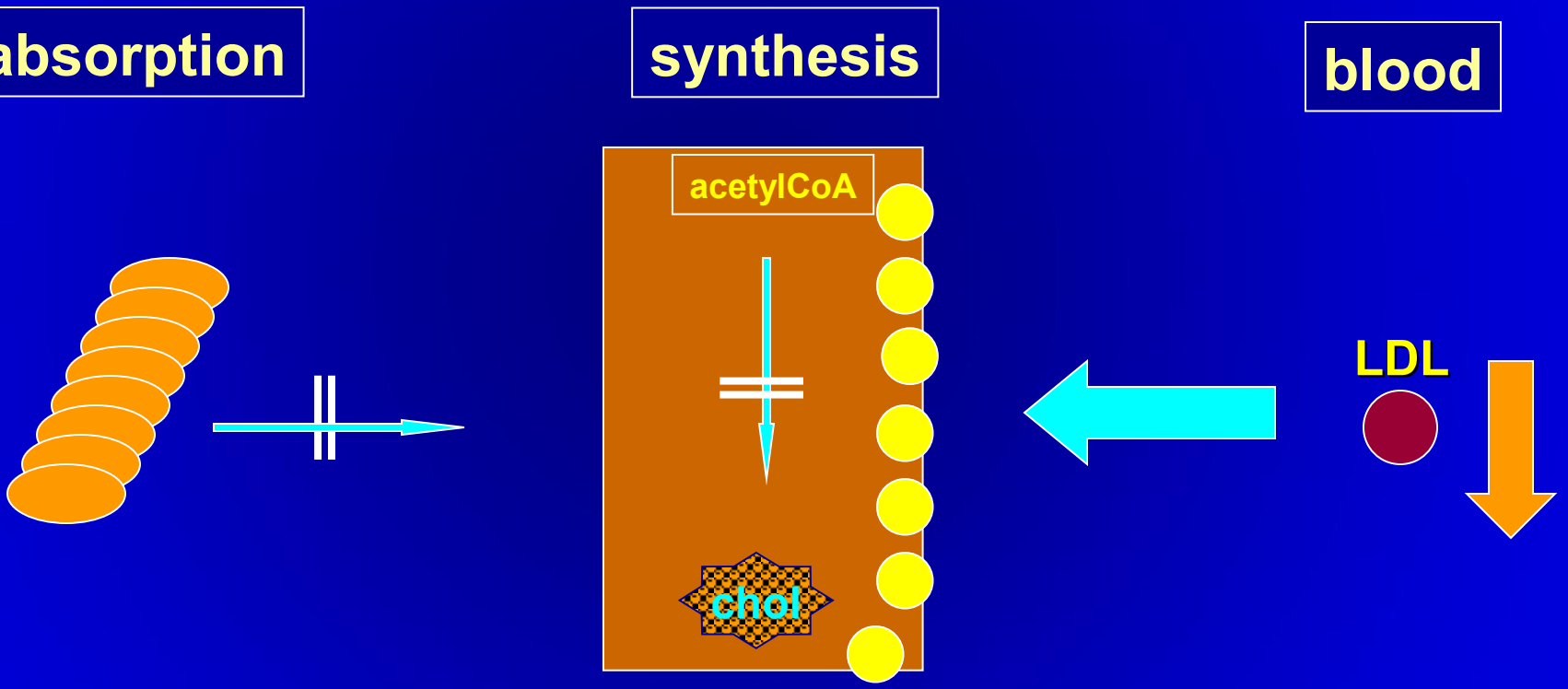
Block synthesis only statins



Block absorption only ezetimibe



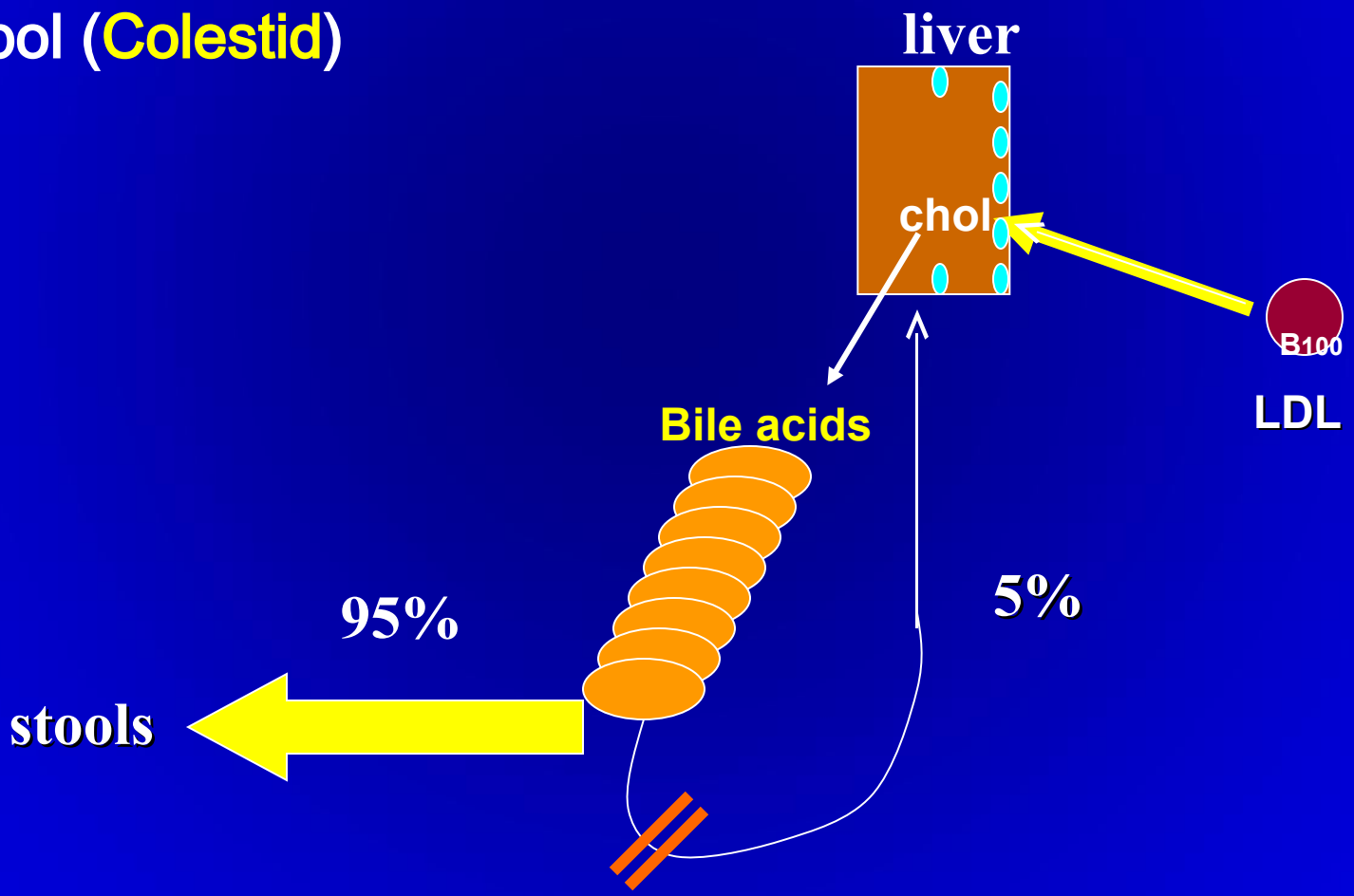
Block absorption & synthesis
ezetimibe + statin



Bile-acid-binding resins

mechanism of action

cholestyramine (Questran)
colestipol (Colestid)

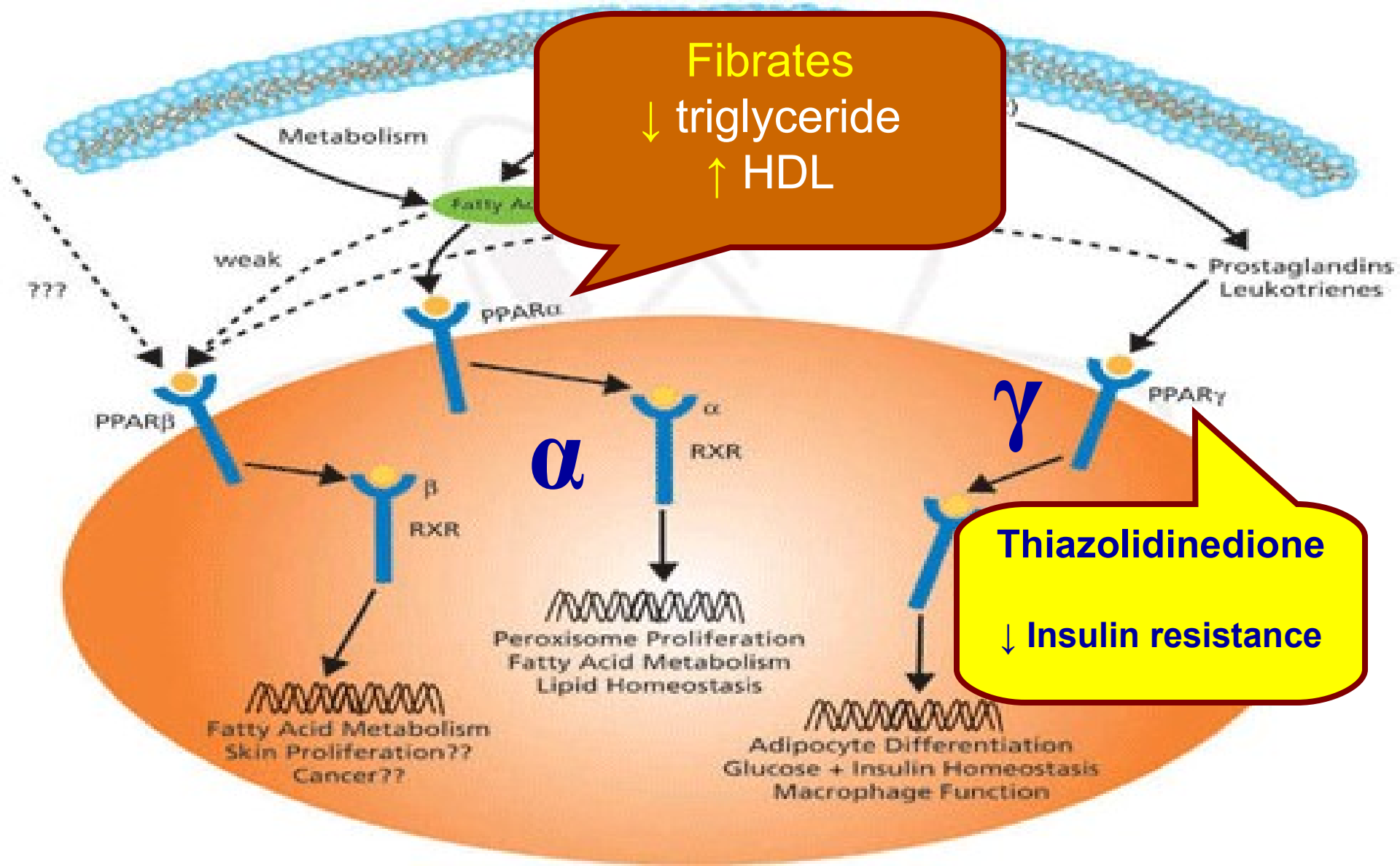


Triglyceride-lowering

- Fibrates
  - Bezafibrate (Bezalip, Norlip)
  - Cyprofibrate (Lipanor)
- Niacin

Peroxisome Proliferator Activator Receptors

((PPAR



HDL elevation

- Niacin
- Fibrates
- CETP inhibitors
- Apo A mimetics
  - Apo A Milano

תוספי מזון

- Antioxidants
  - Vitamins E / C / ß carotene
- Homocysteine reduction
  - Folic acid / vitamin B12 / B6

- Omega 3
- Phytosterols

זכאות לשיקום לב
על פי סל הבריאות

- חולים שעברו אוטם שריר הלב
- חולים שעברו ניתוח מעקפים
- חולים עם אי ספיקת לב
  - בדרגה II-III
  - ו/או LEVF% < 35
- חולים שעברו השתלת דפיברילטור
- חולים שעברו ניתוח החלפת מסתמים
- לאחר השתלת לב
- לאחר השתלת ריאה ,הקטנת ריאה

הזכאות (ללא תשלום או השתתפות עצמית) הינה למשך 3 חודשים ולבעלי ביטוח מושלם למשך 9 חודשים עם השתתפות עצמית של 100 ₪ בחודש .


בהצלחה

Physical Activity Recommendations

I IIa IIb III

B

Goal: 30 minutes 7 days/week, minimum 5 days/week

Assess risk with a physical activity history and/or an exercise test, to guide prescription

I IIa IIb III

B

Encourage 30 to 60 minutes of moderate intensity aerobic activity such as brisk walking, on most, preferably all, days of the week, supplemented by an increase in daily lifestyle activities

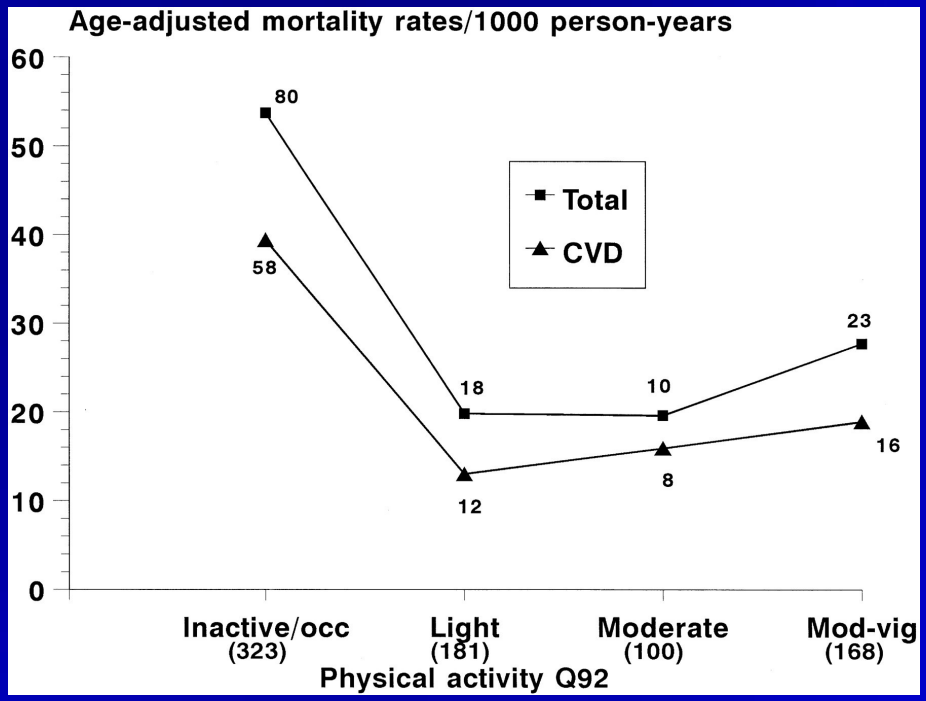
I IIa IIb III

B

Advise medically supervised programs for high-risk patients (e.g. recent acute coronary syndrome or revascularization, HF)

Exercise Evidence: Mortality Risk

Observational study of self-reported physical activity in 772 men with established coronary heart disease



Light or moderate exercise is associated with lower risk

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Wannamethee SG et al. *Circulation* 2000;102:1358-1363

Weight Management Recommendations

I IIa IIb III

B

I IIa IIb III

B

I IIa IIb III

A

Goal: BMI 18.5 to 24.9 kg/m2

Waist Circumference:

Men: < 100cm Women: < 85 cm

Assess BMI and/or waist circumference on each visit and consistently encourage weight maintenance/ reduction through an appropriate balance of physical activity, caloric intake, and formal behavioral programs when indicated.

If waist circumference (measured at the iliac crest) ≥35 inches in women and ≥40 inches in men initiate lifestyle changes and consider treatment strategies for metabolic syndrome as indicated.

The initial goal of weight loss therapy should be to reduce body weight by approximately 10 percent from baseline. With success, further weight loss can be attempted if indicated.

*BMI is calculated as the weight in kilograms divided by the body surface area in meters^2.

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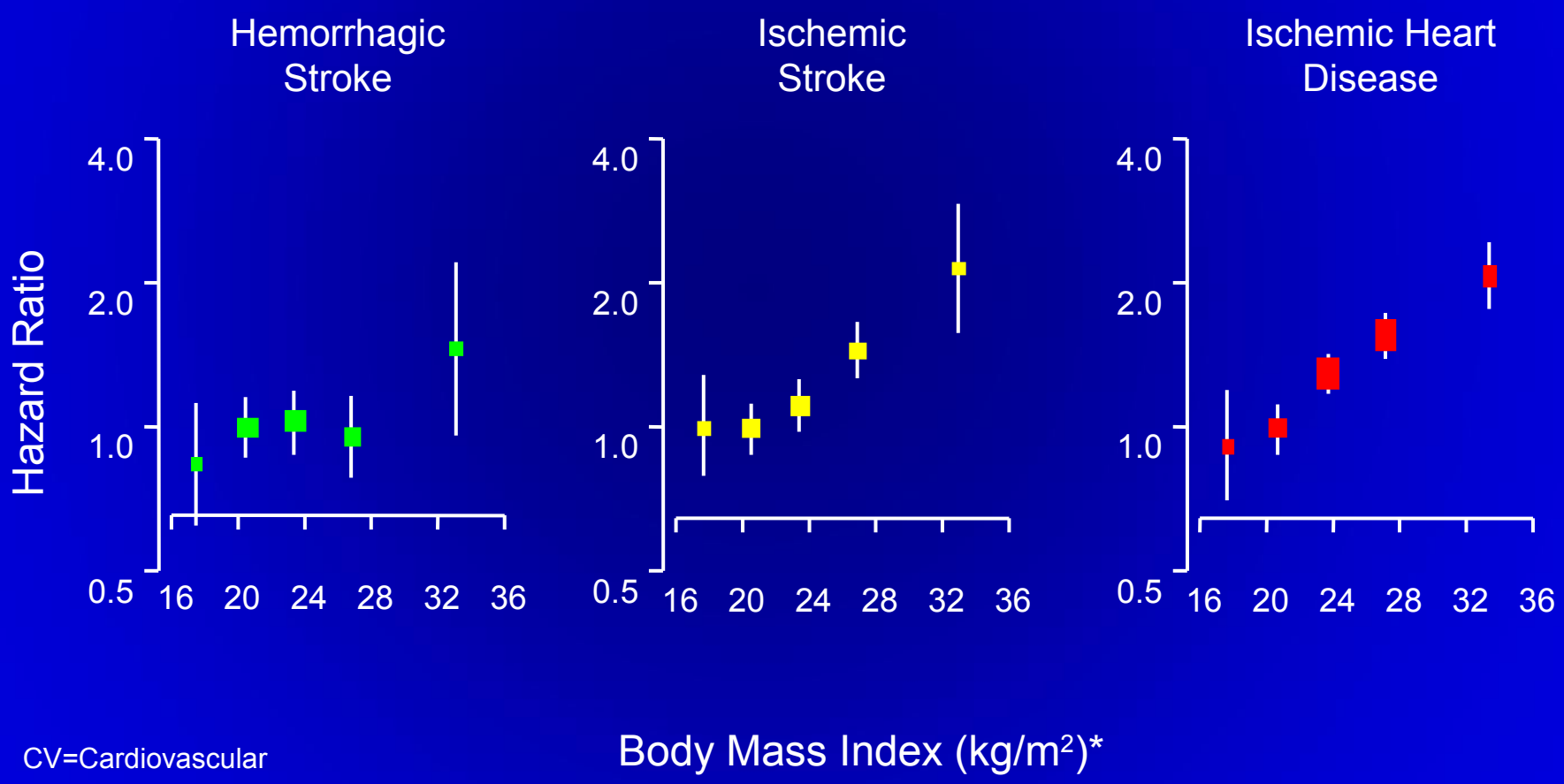
CV Risk Increases with Body Mass Index



CV=Cardiovascular

Body mass index is calculated as the weight in kilograms divided by the body surface area in meters^2.

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Mburebu N et al. *Int J Epidemiol* 2004;33:751-758