# Nursingul in prevention si recuperare

# **EU:** 739,2 de mil

**Tabelul 1**. Numărul total de decese prin boli circulatorii în Europa. Toate vârstele. Anul 2000.

| | | |
|---|---|---|
| Toate cauzele | Bărbați | 4.519.403 |
| | Femei | 4.336.346 |
| Toate cauzele circulatorii | Bărbați | 1.963.644 |
| | Femei | 2.307.945 |
| BC | Bărbați | 967.258 |
| | Femei | 983.229 |
| Accident vascular cerebral | Bărbați | 504.307 |
| | Femei | 775.571 |
| Altele | Bărbați | 492.079 |
| | Femei | 637.405 |

# Caracteristicile ideale ale ghidurilor pentru aplicatia clinica

## Medicina bazată pe dovezi:

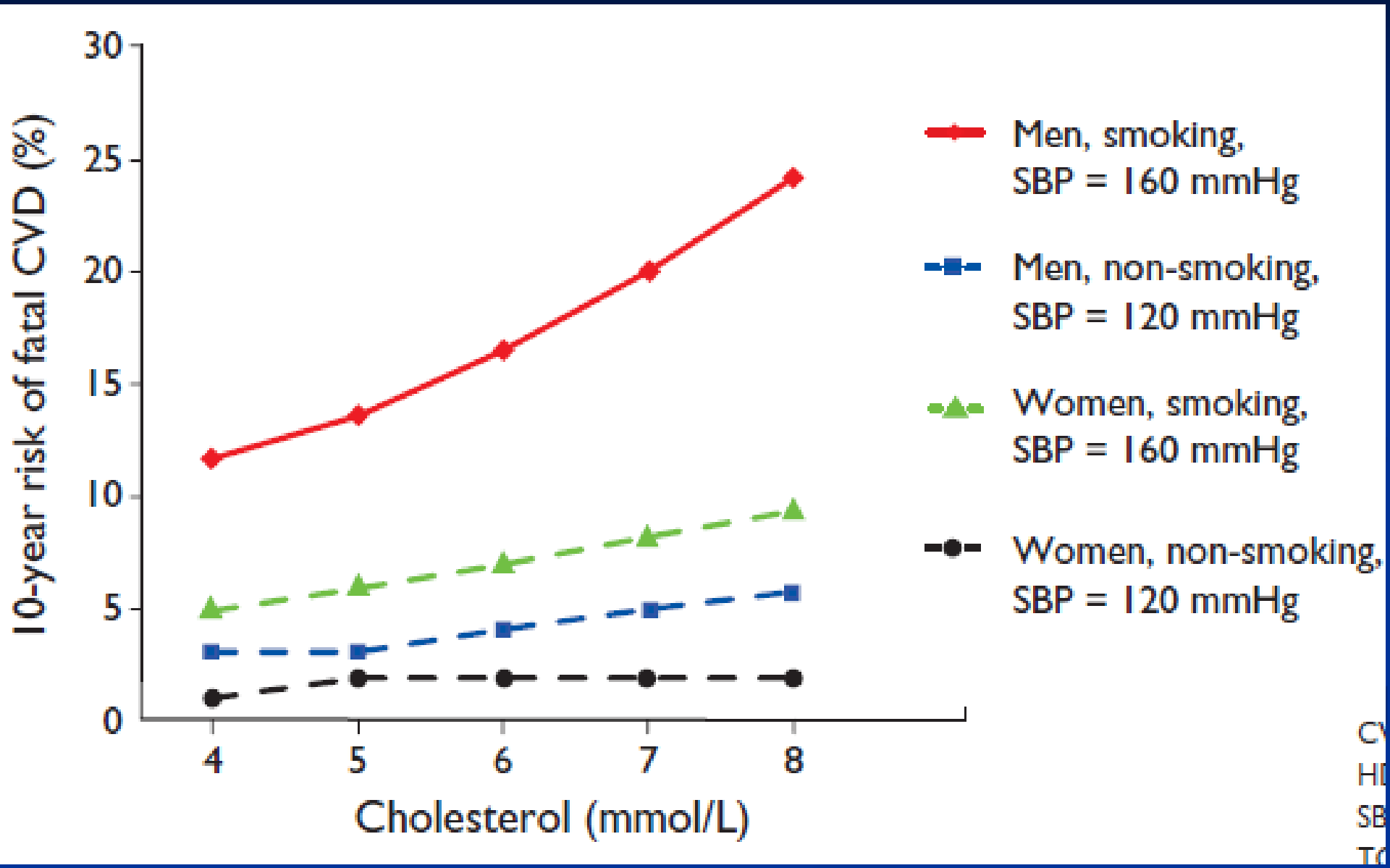
- Validitatea - continentala
- Reproductibilitatea – la pacienti de acelasi tip
- Fiabilitatea – in timp
- Aplicabilitatea si Flexibilitatea clinică
- Claritatea – in viziunea medicala
- Documentarea meticuloasă a evidenţelor
  - **Medicina bazată pe dovezi - trialuri**
- Revizuiri sistematice si regulate a ghidurilor

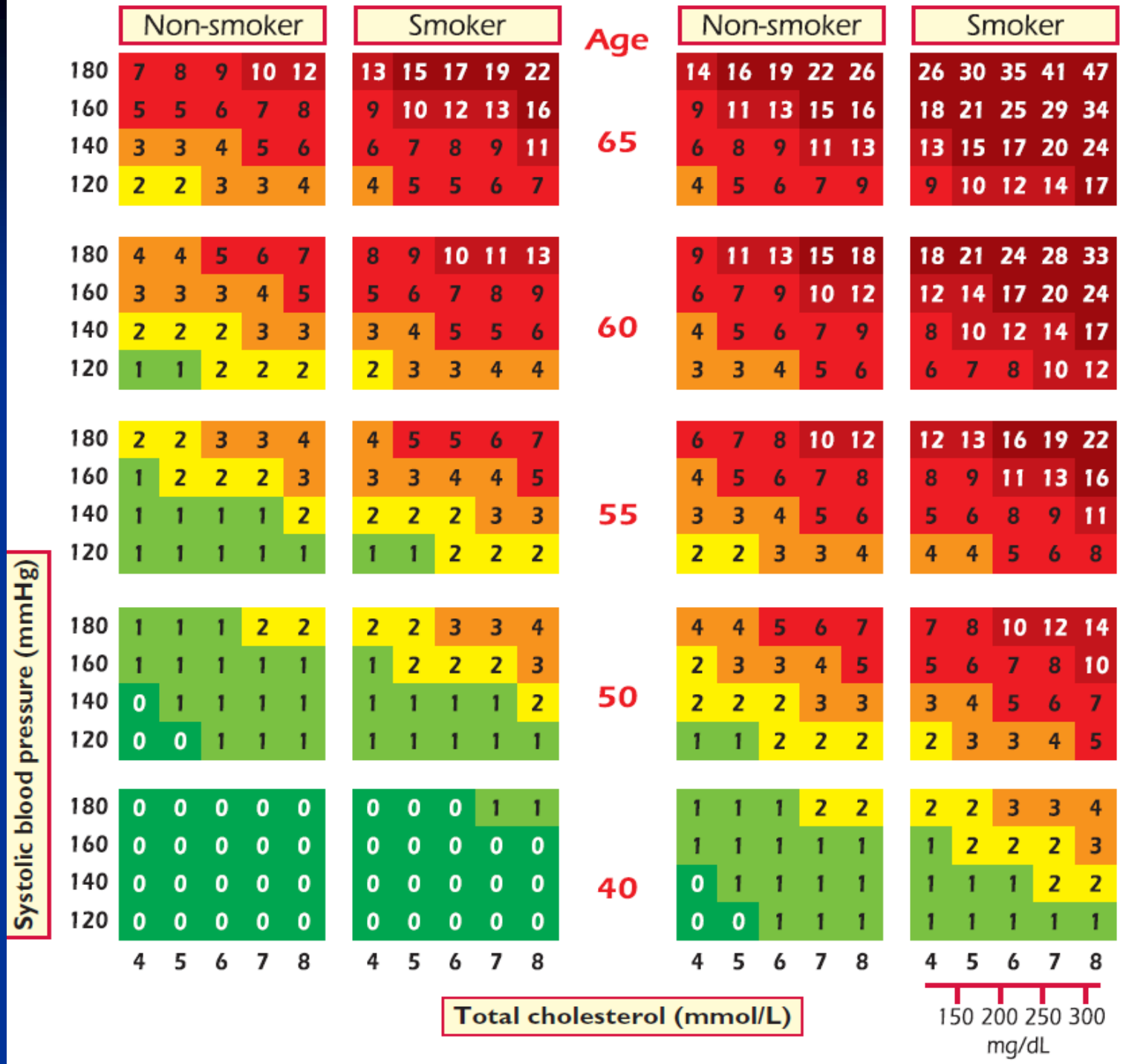
1 ESC/ESH 2007

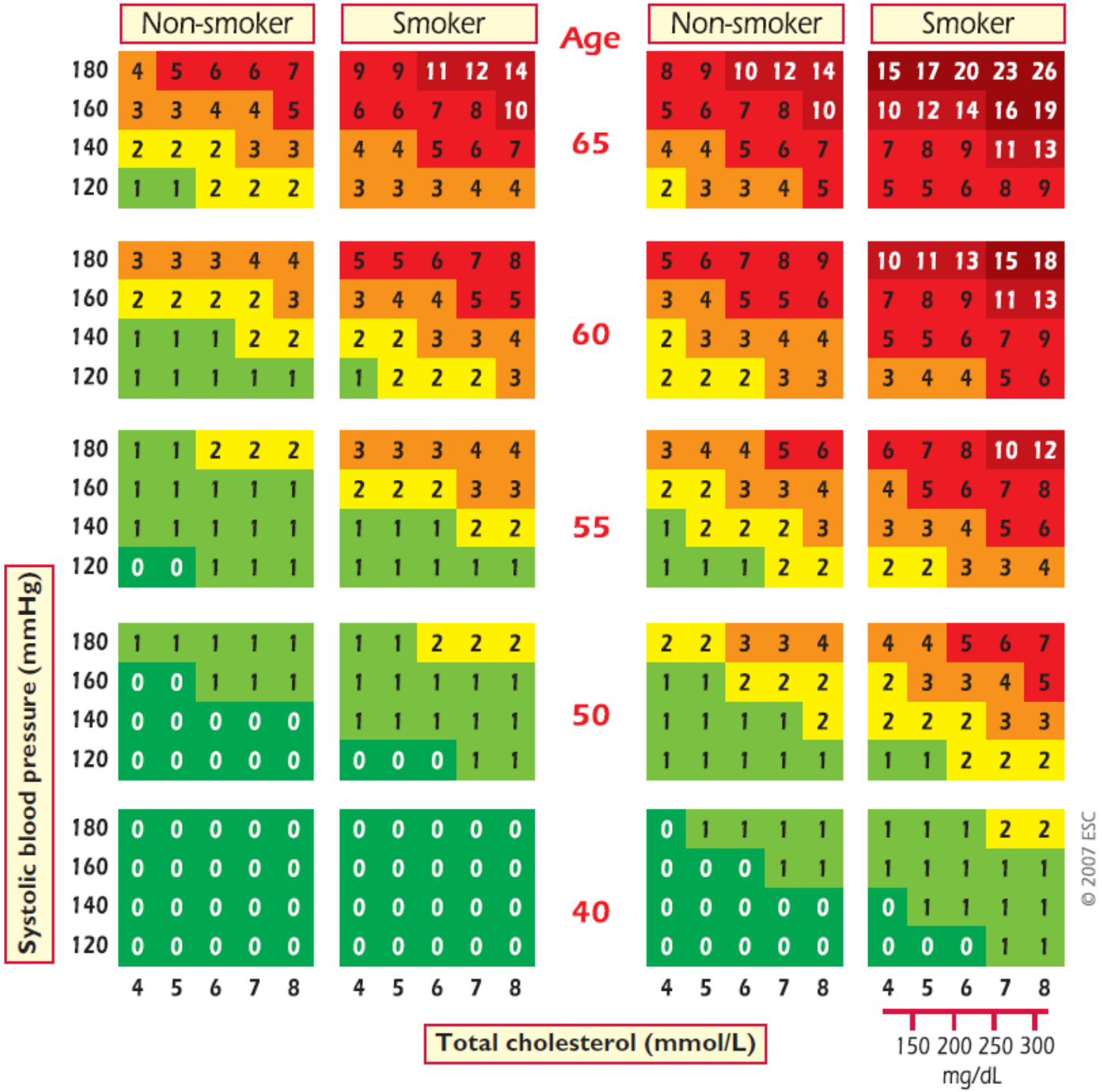
- **Care sunt factorii de risc cardiovascular pe care-I cunoasteti ?**

# Numerele sănătăţii: 0 3 5 140 5 3 0

| | |
|---|---|
| 0 | Fără fumat |
| 3 | Plimbare 3 km/zi sau 30 min/zi orice activitate fizică moderată |
| 5 | Porţii de legume şi fructe /zi |
| 140 | TAS < 140 mmHg |
| 5 | CT < 5 mmol/l |
| 3 | LDL < 3 mmol/zi |
| 0 | Evitarea obezităţii, combaterea DZ |


10-year risk of fatal CVD (%)
30
25
20
15
10
5
0
4
5
6
7
8
Cholesterol (mmol/L)
Men, smoking, SBP = 160 mmHg
Men, non-smoking, SBP = 120 mmHg
Women, smoking, SBP = 160 mmHg
Women, non-smoking, SBP = 120 mmHg


Non-smoker
Smoker
Age
Non-smoker
Smoker
Systolic blood pressure (mmHg)
180 7 8 9 10 12 13 15 17 19 22 14 16 19 22 26 26 30 35 41 47
160 5 5 6 7 8 9 10 12 13 16 9 11 13 15 16 18 21 25 29 34
140 3 3 4 5 6 6 7 8 9 11 6 8 9 11 13 13 15 17 20 24
120 2 2 3 3 4 4 5 5 6 7 4 5 6 7 9 9 10 12 14 17
65
180 4 4 5 6 7 8 9 10 11 13 9 11 13 15 18 18 21 24 28 33
160 3 3 3 4 5 5 6 7 8 9 6 7 9 10 12 12 14 17 20 24
140 2 2 2 3 3 3 4 5 5 6 4 5 6 7 9 8 10 12 14 17
120 1 1 2 2 2 2 3 3 4 4 3 3 4 5 6 6 7 8 10 12
60
180 2 2 3 3 4 4 5 5 6 7 6 7 8 10 12 12 13 16 19 22
160 1 2 2 2 3 3 3 4 4 5 4 5 6 7 8 8 9 11 13 16
140 1 1 1 1 2 2 2 2 3 3 3 3 4 5 6 5 6 8 9 11
120 1 1 1 1 1 1 1 2 2 2 2 3 3 4 4 4 5 6 8
55
180 1 1 1 2 2 2 2 3 3 4 4 4 5 6 7 7 8 10 12 14
160 1 1 1 1 1 1 2 2 2 3 2 3 3 4 5 5 6 7 8 10
140 0 1 1 1 1 1 1 1 1 2 2 2 2 3 3 3 4 5 6 7
120 0 0 1 1 1 1 1 1 1 1 1 1 2 2 2 2 3 3 4 5
50
180 0 0 0 0 0 0 0 0 1 1 1 1 1 2 2 2 2 3 3 4
160 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 2 2 2 3
140 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 2 2 2
120 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1
40
4 5 6 7 8 4 5 6 7 8 4 5 6 7 8 4 5 6 7 8
Total cholesterol (mmol/L)
150 200 250 300
mg/dL


Non-smoker
Smoker
Age
Non-smoker
Smoker
180 4 5 6 6 7 | 9 9 11 12 14 | 8 9 10 12 14 | 15 17 20 23 26
160 3 3 4 4 5 | 6 6 7 8 10 | 5 6 7 8 10 | 10 12 14 16 19
140 2 2 2 3 3 | 4 4 5 6 7 | 4 4 5 6 7 | 7 8 9 11 13
120 1 1 2 2 2 | 3 3 3 4 4 | 2 3 3 4 5 | 5 5 6 8 9
65
180 3 3 3 4 4 | 5 5 6 7 8 | 5 6 7 8 9 | 10 11 13 15 18
160 2 2 2 2 3 | 3 4 4 5 5 | 3 4 5 5 6 | 7 8 9 11 13
140 1 1 1 2 2 | 2 2 3 3 4 | 2 3 3 4 4 | 5 5 6 7 9
120 1 1 1 1 1 | 1 2 2 2 3 | 2 2 2 3 3 | 3 4 4 5 6
60
180 1 1 2 2 2 | 3 3 3 4 4 | 3 4 4 5 6 | 6 7 8 10 12
160 1 1 1 1 1 | 2 2 2 3 3 | 2 2 3 3 4 | 4 5 6 7 8
140 1 1 1 1 1 | 1 1 1 2 2 | 1 2 2 2 3 | 3 3 4 5 6
120 0 0 1 1 1 | 1 1 1 1 1 | 1 1 1 2 2 | 2 2 3 3 4
55
180 1 1 1 1 1 | 1 1 2 2 2 | 2 2 3 3 4 | 4 4 5 6 7
160 0 0 1 1 1 | 1 1 1 1 1 | 1 1 2 2 2 | 2 3 3 4 5
140 0 0 0 0 0 | 1 1 1 1 1 | 1 1 1 1 2 | 2 2 2 3 3
120 0 0 0 0 0 | 0 0 0 1 1 | 1 1 1 1 1 | 1 1 2 2 2
50
180 0 0 0 0 0 | 0 0 0 0 0 | 0 1 1 1 1 | 1 1 1 2 2
160 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 1 1 | 1 1 1 1 1
140 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 1 1 1 1
120 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 1 1
40
4 5 6 7 8 | 4 5 6 7 8 | 4 5 6 7 8 | 4 5 6 7 8
Systolic blood pressure (mmHg)
Total cholesterol (mmol/L)
150 200 250 300
mg/dL
© 2007 ESC

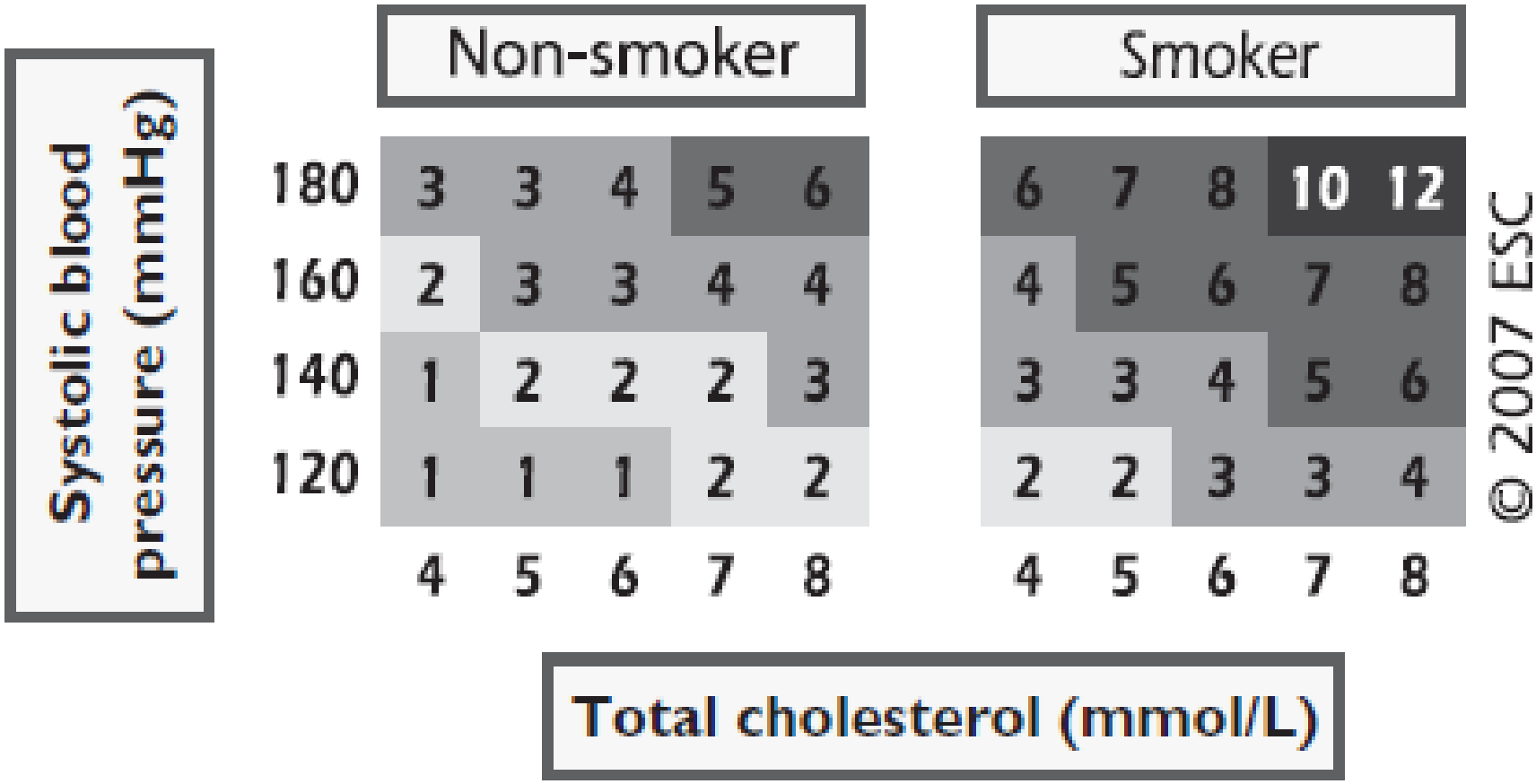



**Figure 5** Relative risk chart for 10-year mortality. Conversion of cholesterol mmol/L → mg/dL: 8 = 310, 7 = 270, 6 = 230, 5 = 190, 4 = 155.

- **Care sunt factorii de risc cardiovascular pe care-I cunoasteti ?**

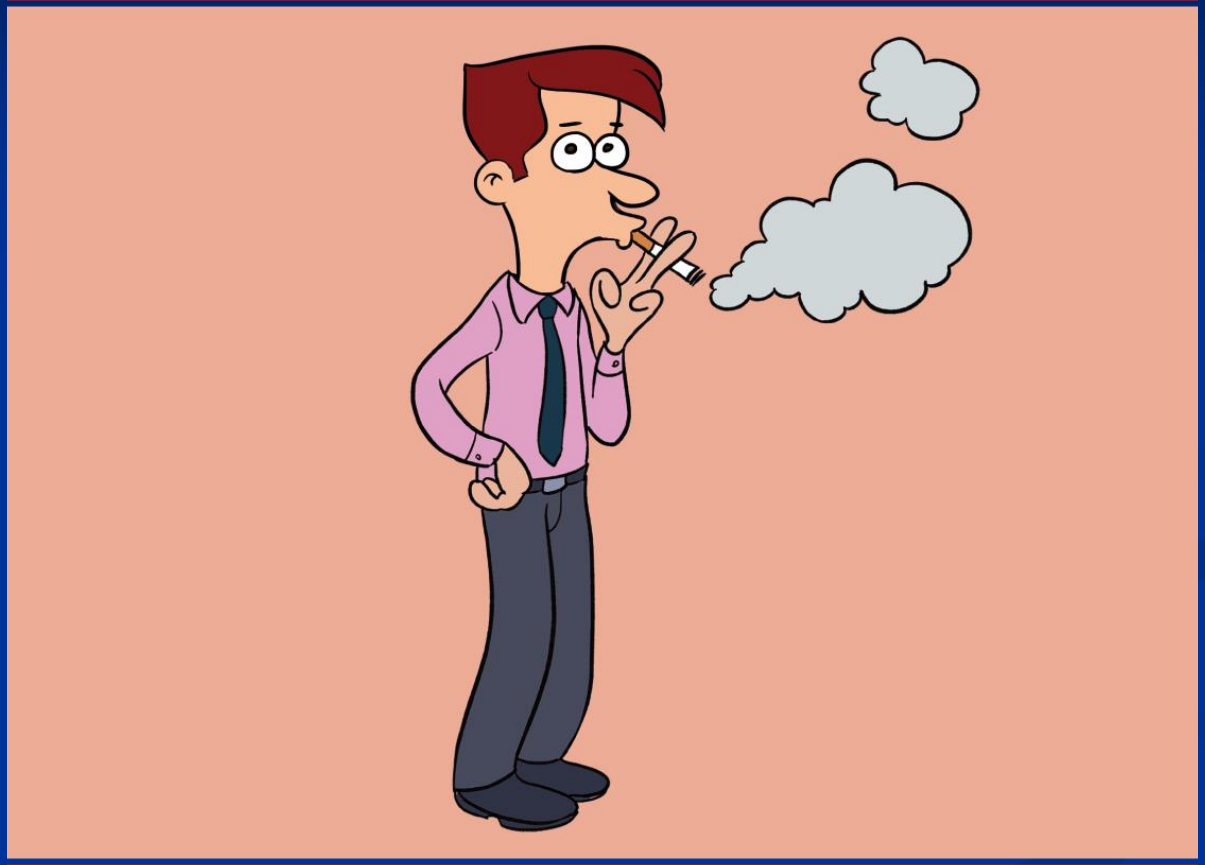
## Factor de risc cardiovascular

# Genul masculin

# Factor de risc cardiovascular

## Obezitatea

# Factor de risc cardiovascular



**Fumatul**

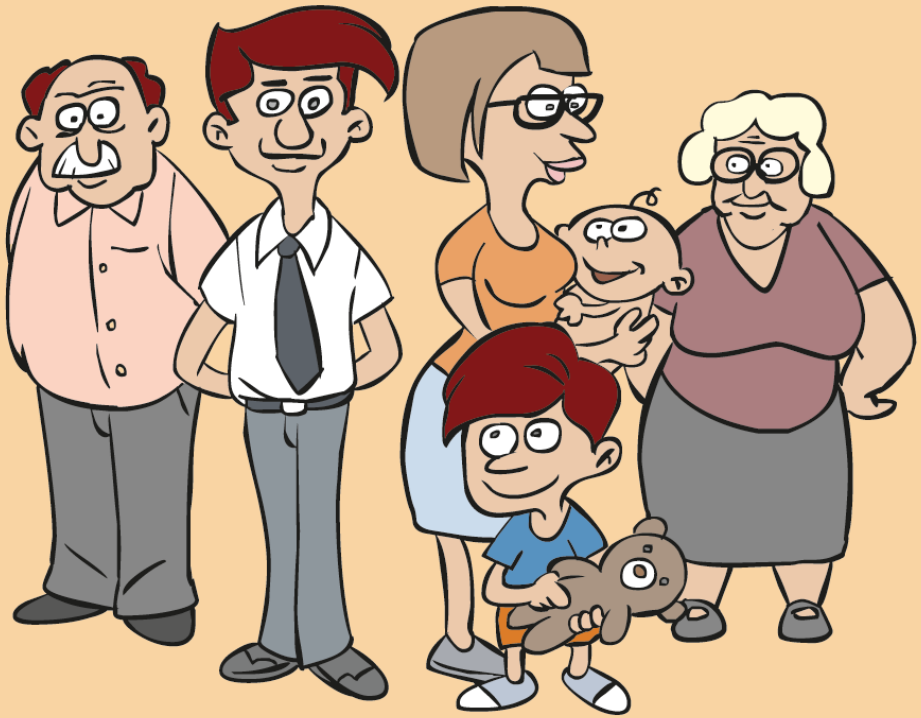
## Factor de risc cardiovascular

# Hipertensiunea arterială

## Factor de risc cardiovascular

# Colesterolul

# Factor de risc cardiovascular



## Ereditatea

## Factor de risc cardiovascular

# Diabetul zaharat

## Factor de risc cardiovascular

# Sedentarismul

# Factor de risc cardiovascular

**Stresul**

## 1. Mic

- Risc SCORE <1%

## 2. Moderat

- Risc SCORE calculat de ≥1% si ,<5% la 10 ani

# 3. Inalt

- Cresterea marcata a unui singur factor de risc
  - precum dislipidemia familiala sau HTA severa
- DZ (tip 1 sau tip 2) dar
  - fara alti factori de risc CV sau AOT
- Boala cronica renala moderata
  - GFR 30–59 mL/min/1.73 m2).
- Risc SCORE calculat de ≥5% si <10%
  - pentru 10 ani de risc fatal pentru CVD.

# 4. Foarte inalt

- Boala CV documentata prin teste invazive sau noninvazive (precum coronary angiography, nuclear imaging, stress echocardiography, carotid plaque on ultrasound), si/sau antecedente de
  - IM, Sindrom coronarian acut, proceduri de revasularizatie coronariana (PCI, CABG), si/sau alte proceduri de revascularizatie,
  - AVC ischemic,
  - Boala arteriala periferica (PAD).
- DZ (typ 1 sau typ 2) cu
  - Unul sau mai multi factori de risc cardiovasculari
  - Si/sau AOT (precum microalbuminuria: 30–300mg /24h).
- BCR severa (CKD)
  - RFG < 30 ml/min/ 1.73 m2
- Risc SCORE calculat de ≥10%

Psychosocial risk factors should be assessed by clinical interview or standardized questionnaires. Tailored clinical management should be considered in order to enhance quality of life and CHD prognosis.

**Table 6** Core questions for the assessment of psychosocial risk factors in clinical practice

| | |
|---|---|
| **Low socio-economic status** | What is your highest educational degree? |
| | Are you a manual worker? |
| **Work and family stress** | Do you lack control over how to meet the demands at work? |
| | Is your reward inappropriate for your effort? |
| | Do you have serious problems with your spouse? |
| **Social isolation** | Are you living alone? |
| | Do you lack a close confidant? |
| **Depression** | Do you feel down, depressed, and hopeless? |
| | Have you lost interest and pleasure in life? |
| **Anxiety** | Do you frequently feel nervous, anxious, or on edge? |
| | Are you frequently unable to stop or control worrying? |
| **Hostility** | Do you frequently feel angry over little things? |
| | Do you often feel annoyed about other people's habits? |
| **Type D personality** | In general, do you often feel anxious, irritable, or depressed? |
| | Do you avoid sharing your thoughts and feelings with other people? |

# Fumat

**Table 9** The 'Five As' for a smoking cessation strategy for routine practice

| | |
|---|---|
| **A–SK:** | Systematically inquire about smoking status at every opportunity. |
| **A–ADVISE:** | Unequivocally urge all smokers to quit. |
| **A–ASSESS:** | Determine the person's degree of addiction and readiness to quit |
| **A–ASSIST:** | Agree on a smoking cessation strategy, including setting a quit date, behavioural counselling, and pharmacological support. |
| **A–ARRANGE:** | Arrange a schedule of follow-up. |

- 5.1.5 Regular physical exercise Epidemiological studies suggest that regular aerobic physical activity may be beneficial for both **prevention and treatment** of hypertension and to lower CV risk and mortality. A meta-analysis of randomized controlled trials has shown that aerobic endurance training **reduces resting SBP and DBP by 3.0/2.4mmHg overall and even by 6.9/ 4.9mmHg in hypertensive participants [369].** Even regular physical activity of lower intensity and duration has been shown to be associated with about a **20% decrease in mortality** in cohort studies [370,371], and this is also the case for measured physical fitness [372]. Hypertensive patients should be advised to participate in at least 30 min of moderate-intensity dynamic aerobic exercise (walking, jogging, cycling or swimming) on 5–7 days per week [373]. Aerobic interval training has also been shown to reduce BP [374].

**ESH/ESC guideline 2013**

# Alimentatie

- Saturated fatty acids to account for <10% of total energy intake, through replacement by polyunsaturated fatty acids.
- Trans-unsaturated fatty acids: as little as possible, preferably no intake from processed food, and <1% of total energy intake from natural origin.
- <5 g of salt per day.
- 30–45 g of fibre per day, from wholegrain products, fruits, and vegetables.
- 200 g of fruit per day (2–3 servings).
- 200 g of vegetables per day (2–3 servings).
- Fish at least twice a week, one of which to be oily fish.
- Consumption of alcoholic beverages should be limited to two glasses per day (20 g/day of alcohol) for men and one glass per day (10 g/day of alcohol) for women.

# Obezitatea

**Table 10** **Potential adverse cardiovascular effects of increasing body weight**

| |
|---|
| • Increases in insulin resistance (glucose intolerance, type 2 diabetes mellitus). |
| • Increased blood pressure. |
| • Increased systemic inflammation and prothrombotic state. |
| • Albuminuria. |
| • Dyslipidaemia (elevated total cholesterol, LDL cholesterol, non-HDL cholesterol, triglycerides, apolipoprotein B, small dense LDL particles, decreased HDL cholesterol, apolipoprotein A1). |
| • Cardiovascular and cerebrovascular abnormalities (endothelial dysfunction, heart failure, coronary heart disease, atrial fibrillation, stroke, abnormal left ventricular geometry, systolic and diastolic dysfunction, increased sym athetic activity). |

HDL = high-density lipoprotein; LDL = low-density lipoprotein.

| Adults (>18 years of age) | Body mass index ($kg/m^2$) |
|---|---|
| Underweight | <18.5 |
| Normal | 18.5–24.9 |
| Overweight | 25–29.9 |
| Obese | ≥30 |
| Class 1 | 30–34.9 |
| Class 2 | 35–39.9 |
| Class 3 | ≥40 |
| Class 4 | ≥50 |
| Class 5 | ≥60 |

**Table 16** Intervention strategies as a function of total cardiovascular risk and low-density lipoprotein cholesterol

| Total CV risk (SCORE) % | LDL-C lvels | | | | |
|---|---|---|---|---|---|
| | <70 mg/dL <1.8 mmol/L | 70 to <100 mg/dL 1.8 to <2.5 mmol/L | 100 to <155 mg/dL 2.5 to <4.0 mmol/L | 155 to <190 mg/dL 4.0 to <4.9 mmol/L | >190 mg/dL >4.9 mmol/L |
| <1 | No lipid intervention | No lipid intervention | Lifestyle intervention | Lifestyle intervention | Lifestyle intervention, consider drug if uncontrolled |
| Class[a]/Level[b] | I/C | I/C | I/C | I/C | IIa/A |
| ≥1 to <5 | Lifestyle intervention | Lifestyle intervention | Lifestyle intervention, consider drug if uncontrolled | Lifestyle intervention, consider drug if uncontrolled | Lifestyle intervention, consider drug if uncontrolled |
| Class[a]/Level[b] | I/C | I/C | IIa/A | IIa/A | I/A |
| >5 to <10, or high risk | Lifestyle intervention, consider drug | Lifestyle intervention, consider drug | Lifestyle intervention and immediate drug intervention | Lifestyle intervention and immediate drug intervention | Lifestyle intervention and immediate drug intervention |
| Class[a]/Level[b] | IIa/A | IIa/A | IIa/A | I/A | I/A |
| ≥10 or very high risk | Lifestyle intervention, consider drug* | Lifestyle intervention and immediate drug intervention | Lifestyle intervention and immediate drug intervention | Lifestyle intervention and immediate drug intervention | Lifestyle intervention and immediate drug intervention |
| Class[a]/Level[b] | IIa/A | IIa/A | I/A | I/A | I/A |

# Recommendation on nurse-co-ordinated care

| Recommendations | Class[a] | Level[b] | GRADE |
|---|---|---|---|
| Nurse-co-ordinated prevention programmes should be well integrated into healthcare systems. | IIa | B | Strong |

[a]Class of recommendation.
[b]Level of evidence.
[c]References.

# Sindromul Metabolic

Cel puțin trei din următoarele cinci criterii:

- Obezitate centrală: circumferința taliei >102 cm la bărbați și >88 cm la femei
- Valori crescute ale trigliceridelor: ≥1,7 mmol/l (≥150 mg/dl)
- Valori scăzute ale HDL-colesterolului: <1,03 mmol/l (<40 mg/dl) la bărbați și <1,29 mmol/l (<50 mg/dl) la femei
- Valori crescute ale tensiunii arteriale: TA sistolică ≥130 mmHg și/sau TA diastolică ≥85 mmHg, sau în curs de tratament pentru hipertensiune arterială anterior diagnosticată
- Alterarea glicemiei a jeun: glicemie plasmatică a jeun ≥6,1 mmol/l (110 mg/dl) [>5,6 mmol/l (>100 mg/dl)][a] sau diabet zaharat tip 2 anterior diagnosticat

European Heart Journal (2011) **32**, 1769–1818
doi:10.1093/eurheartj/ehr158

ESC/EAS

## ESC/EAS Guidelines for the managemen of dyslipidaemias

**The Task Force for the management of dyslipidaemias o European Society of Cardiology (ESC) and the European Atherosclerosis Society (EAS)**

**Developed with the special contribution of: European Association for C Prevention & Rehabilitation†**

Special Communication

2014 Evidence-Based Guidel of High Blood Pressure in Ad Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8)

JAMA. doi:10.1001/jama.2013.284427
Published online December 18, 2013.

| damage | Blood Pressure (mmHg) | | | |
|---|---|---|---|---|
| | High normal SBP 130–139 or DBP 85–89 | Grade 1 HT SBP 140–159 or DBP 90–99 | Grade 2 HT SBP 160–179 or DBP 100–109 | Grade 3 HT SBP ≥180 or DBP ≥110 |
| | • No BP intervention | • Lifestyle changes for several months • Then add BP drugs targeting <140/90 | • Lifestyle changes for several weeks • Then add BP drugs targeting <140/90 | • Lifestyle changes • Immediate BP drugs targeting <140/90 |
| | • Lifestyle changes • No BP intervention | • Lifestyle changes for several weeks • Then add BP drugs targeting <140/90 | • Lifestyle changes for several weeks • Then add BP drugs targeting <140/90 | • Lifestyle changes • Immediate BP drugs targeting <140/90 |
| ≥3 RF | • Lifestyle changes • No BP intervention | • Lifestyle changes for several weeks • Then add BP drugs targeting <140/90 | • Lifestyle changes • BP drugs targeting <140/90 | • Lifestyle changes • Immediate BP drugs targeting <140/90 |
| OD, CKD stage 3 or diabetes | • Lifestyle changes • No BP intervention | • Lifestyle changes • BP drugs targeting <140/90 | • Lifestyle changes • BP drugs targeting <140/90 | • Lifestyle changes • Immediate BP drugs targeting <140/90 |
| Symptomatic CVD, CKD stage ≥4 or diabetes with OD/RFs | • Lifestyle changes • No BP intervention | • Lifestyle changes • BP drugs targeting <140/90 | • Lifestyle changes • BP drugs targeting <140/90 | • Lifestyle changes • Immediate BP drugs targeting <140/90 |

Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASC II)

# Prezentare de caz
# De la ghidurile vechi la cele noi

Dr. Mircea Iurciuc

# Pacienta 2004

- BD, 64 ani , F
- Mediu urban, Functionara, stres, sedentara
- Antecedente H-C:
  - Tatal: I.M. la 64 de ani
  - Mama: HTA cu AVC la 69 de ani
- TA constant crescuta
  - >140/80mmHg de 2 saptamani
  - Actual cea mai mare : 165/90 mmHg
- Nu a urmat
  - tratament antihipertensiv;
  - regim igieno-dietetic
- Fumatoare
- Electrocardiograma
  - traseu electric normal
- Ecocardiografia
  - Dimensiuni si parametrii normali
- Greutatea 78 kg
- Inaltimea 1.7 m
- IMC 27

- Colesterol total: 188 mg/dl
- HDL colesterol: 46 mg/dl
- LDL colesterol: 109 mg/dl
- Trigliceride: 140 mg/dl
- Circumferinta abd: 85 cm
- Creatinina: 1.00 mg/dl
- Glicemia: 109 mg/dl

# Atitudine Medicala ?

1. Regim igieno-dietetic ? DA
2. Renuntare la fumat, evitarea stress ? DA
3. Tratament antihipertensiv ? DA
4. Hipolipemiante ? NU
5. Antrenament fizic – Recuperare cardiovasculara ? DA

| Other risk factors, asymptomatic organ damage or disease | Blood Pressure (mmHg) | | | |
|---|---|---|---|---|
| | High normal SBP 130–139 or DBP 85–89 | Grade 1 HT SBP 140–159 or DBP 90–99 | Grade 2 HT SBP 160–179 or DBP 100–109 | Grade 3 HT SBP ≥180 or DBP ≥110 |
| No other RF | • No BP intervention | • Lifestyle changes for several months<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes for several weeks<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |
| 1–2 RF | • Lifestyle changes<br>• No BP intervention | • Lifestyle changes for several weeks<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes for several weeks<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |
| ≥3 RF | • Lifestyle changes<br>• No BP intervention | • Lifestyle changes for several weeks<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |
| OD, CKD stage 3 or diabetes | • Lifestyle changes<br>• No BP intervention | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |
| Symptomatic CVD, CKD stage ≥4 or diabetes with OD/RFs | • Lifestyle changes<br>• No BP intervention | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |

| Risk factors |
| --- |
| Male sex |
| Age (men ≥55 years; women ≥65 years) |
| Smoking |
| Dyslipidaemia |
| Total cholesterol >4.9 mmol/L (190 mg/dL), and/or |
| Low-density lipoprotein cholesterol >3.0 mmol/L (115 mg/dL), and/or |
| High-density lipoprotein cholesterol: men <1.0 mmol/L (40 mg/dL), women <1.2 mmol/L (46 mg/dL), and/or |
| Triglycerides >1.7 mmol/L (150 mg/dL) |
| Fasting plasma glucose 5.6–6.9 mmol/L (102–125 mg/dL) |
| Abnormal glucose tolerance test |
| Obesity [BMI ≥30 kg/m$^2$ (height$^2$)] |
| Abdominal obesity (waist circumference: men ≥102 cm; women ≥88 cm) (in Caucasians) |
| Family history of premature CVD (men aged <55 years; women aged <65 years) |

| Asymptomatic organ damage |
| --- |
| Pulse pressure (in the elderly) ≥60 mmHg |
| Electrocardiographic LVH (Sokolow–Lyon index >3.5 mV; RaVL >1.1 mV; Cornell voltage duration product >244 mV*ms), or |
| Echocardiographic LVH [LVM index: men >115 g/m$^2$; women >95 g/m$^2$ (BSA)][a] |
| Carotid wall thickening (IMT >0.9 mm) or plaque |
| Carotid–femoral PWV >10 m/s |
| Ankle-brachial index <0.9 |
| CKD with eGFR 30–60 mL/min/1.73 m$^2$ (BSA) |
| Microalbuminuria (30–300 mg/24 h), or albumin–creatinine ratio (30–300 mg/g; 3.4–34 mg/mmol) (preferentially on morning spot urine) |

# Pacienta

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- Antecedente H-C:
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# Atitudine medicala ?

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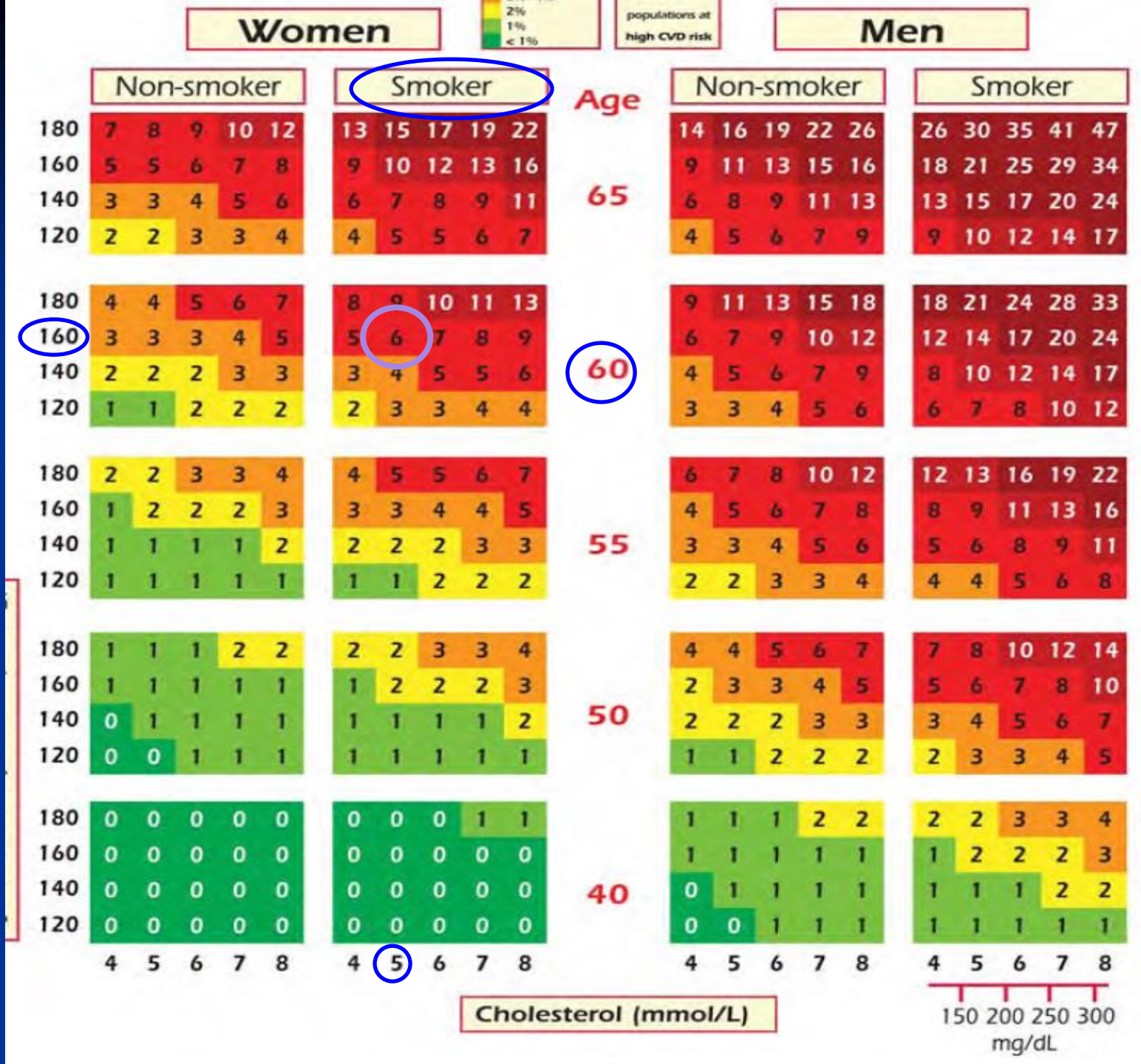
2. Renuntare la fumat, evitarea stress ? DA
3. Tratament antihipertensiv ? DA/NU
4. Hipolipemiante ? NU ?
5. Antrenament fizic – Recuperare cardiovasculara ? DA

| Riscul CV total (SCORE) % | Nivele LDL-C | | | | |
|---|---|---|---|---|---|
| | <70 mg/dL | 70-<100 mg/dL | 100-<155 mg/dL | 155-<190 mg/dL | >190 mg/dL |
| <1 | Fara interventie | Fara interventie | Interventie pe stil de viata | Interventie pe stil de viata | Interventie pe stil de viata, considera medicatia daca este necontrola |
| Clasa / Nivelul | I/C | I/C | I/C | I/C | IIa/A |
| >=1 - < 5 | Interventie pe stil de viata | Interventie pe stil de viata | Interventie pe stil de viata, considera medicatia daca este necontrolat | Interventie pe stil de viata, considera medicatia daca este necontrolat | Interventie pe stil de viata, considera medicatia daca este necontrolat |
| Clasa / Nivelul | I/C | I/C | I/C | I/C | IIa/A |
| >5 - <10, sau risc inalt | Interventie pe stil de viata, considera medicatia * | Interventie pe stil de viata, considera medicatia * | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata |
| Clasa / Nivelul | IIa/A | IIa/A | IIa/A | I/A | I/A |
| >= 10 sau risc foarte inalt | Interventie pe stil de viata, considera medicatia * | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata |
| Clasa / Nivelul | IIa/A | IIa/A | I/A | I/A | I/A |


Women
2%
1%
< 1%
populations at
high CVD risk
Men
Non-smoker
Smoker
Age
Non-smoker
Smoker
180 7 8 9 10 12 13 15 17 19 22 14 16 19 22 26 26 30 35 41 47
160 5 5 6 7 8 9 10 12 13 16 9 11 13 15 16 18 21 25 29 34
140 3 3 4 5 6 6 7 8 9 11 65 6 8 9 11 13 13 15 17 20 24
120 2 2 3 3 4 4 5 5 6 7 4 5 6 7 9 9 10 12 14 17
180 4 4 5 6 7 8 9 10 11 13 9 11 13 15 18 18 21 24 28 33
160 3 3 3 4 5 5 6 7 8 9 6 7 9 10 12 12 14 17 20 24
140 2 2 2 3 3 3 4 5 5 6 60 4 5 6 7 9 8 10 12 14 17
120 1 1 2 2 2 2 3 3 4 4 3 3 4 5 6 6 7 8 10 12
180 2 2 3 3 4 4 5 5 6 7 6 7 8 10 12 12 13 16 19 22
160 1 2 2 2 3 3 3 4 4 5 4 5 6 7 8 8 9 11 13 16
140 1 1 1 1 2 2 2 2 3 3 55 3 3 4 5 6 5 6 8 9 11
120 1 1 1 1 1 1 1 2 2 2 2 2 3 3 4 4 4 5 6 8
180 1 1 1 2 2 2 2 3 3 4 4 4 5 6 7 7 8 10 12 14
160 1 1 1 1 1 1 2 2 2 3 2 3 3 4 5 5 6 7 8 10
140 0 1 1 1 1 1 1 1 1 2 50 2 2 2 3 3 3 4 5 6 7
120 0 0 1 1 1 1 1 1 1 1 1 1 2 2 2 2 3 3 4 5
180 0 0 0 0 0 0 0 0 1 1 1 1 1 2 2 2 2 3 3 4
160 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 2 2 2 3
140 0 0 0 0 0 0 0 0 0 0 40 0 1 1 1 1 1 1 1 2 2
120 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1
4 5 6 7 8 4 5 6 7 8 4 5 6 7 8 4 5 6 7 8
Cholesterol (mmol/L)
150 200 250 300
mg/dL

| Riscul CV total (SCORE) % | Nivele LDL-C | | | | |
|---|---|---|---|---|---|
| | <70 mg/dL | 70-<100 mg/dL | 100-<155 mg/dL | 155-<190 mg/dL | >190 mg/dL |
| <1 | Fara interventie | Fara interventie | Interventie pe stil de viata | Interventie pe stil de viata | Interventie pe stil de viata, considera medicatia daca este necontrola |
| Clasa / Nivelul | I/C | I/C | I/C | I/C | IIa/A |
| >=1 - < 5 | Interventie pe stil de viata | Interventie pe stil de viata | Interventie pe stil de viata, considera medicatia daca este necontrolat | Interventie pe stil de viata, considera medicatia daca este necontrolat | Interventie pe stil de viata, considera medicatia daca este necontrolat |
| Clasa / Nivelul | I/C | I/C | I/C | I/C | IIa/A |
| >5 - <10, sau risc inalt | Interventie pe stil de viata, considera medicatia * | Interventie pe stil de viata, considera medicatia * | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata |
| Clasa / Nivelul | IIa/A | IIa/A | IIa/A | I/A | I/A |
| >= 10 sau risc foarte inalt | Interventie pe stil de viata, considera medicatia * | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata | Interventie pe stil de viata, medicatie imediata |
| Clasa / Nivelul | IIa/A | IIa/A | I/A | I/A | I/A |

# Atitudine ?

1. Regim igieno-dietetic ? DA
2. Renuntare la fumat, evitarea stress ? DA
3. Tratament antihipertensiv ? DA/NU
4. Hipolipemiante ? NU/DA
5. Antrenament fizic – Recuperare cardiovasculara ? DA

# Pacient

- BD, 64 ani , F
- Mediu urban, Functionar, stres, sedentar
- Antecedente H-C:
  - Tatal: I.M. la 64 de ani
  - Mama: HTA cu AVC la 69 de ani
- TA constant crescuta
  - >140/80mmHg de 2 saptamani
  - Actual cea mai mare : 165/90 mmHg
- Nu a urmat
  - tratament antihipertensiv;
  - regim igieno-dietetic
- Fumatoare
- Electrocardiograma
  - traseu electric normal
- Ecocardiografia
  - Dimensiuni si parametrii n
- Greutatea 78 kg
- Inaltimea 1.7 m
- IMC 27

- Colesterol total: 188 mg/dl
- HDL colesterol: 46 mg/dl
- LDL colesterol: 109 mg/dl

| Diabetes mellitus |
| --- |
| Fasting plasma glucose ≥7.0 mmol/L (126 mg/dL) on two repeated measurements, and/or |
| $HbA_{1c}$ >7% (53 mmol/mol), and/or |
| Post-load plasma glucose >11.0 mmol/L (198 mg/dL) |

| Other risk factors, asymptomatic organ damage or disease | Blood Pressure (mmHg) | | | |
|---|---|---|---|---|
| | High normal SBP 130–139 or DBP 85–89 | Grade 1 HT SBP 140–159 or DBP 90–99 | Grade 2 HT SBP 160–179 or DBP 100–109 | Grade 3 HT SBP ≥180 or DBP ≥110 |
| No other RF | • No BP intervention | • Lifestyle changes for several months<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes for several weeks<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |
| 1–2 RF | • Lifestyle changes<br>• No BP intervention | • Lifestyle changes for several weeks<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes for several weeks<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |
| ≥3 RF | • Lifestyle changes<br>• No BP intervention | • Lifestyle changes for several weeks<br>• Then add BP drugs targeting <140/90 | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |
| OD, CKD stage 3 or diabetes | • Lifestyle changes<br>• No BP intervention | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |
| Symptomatic CVD, CKD stage ≥4 or diabetes with OD/RFs | • Lifestyle changes<br>• No BP intervention | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• BP drugs targeting <140/90 | • Lifestyle changes<br>• Immediate BP drugs targeting <140/90 |

# Atitudine ?

1. Regim igieno-dietetic ? DA
2. Renuntare la fumat, evitarea stress ? DA
3. Tratament antihipertensiv ? DA/NU/DA
4. Hipolipemiante ? NU/DA
5. Antrenament fizic – Recuperare cardiovasculara ? DA

# Ce a facut pacienta ?

1. Regim igieno-dietetic ? — DA un timp
2. Renuntare la fumat, evitarea stress ? — NU
3. Tratament antihipertensiv ? — DA un timp
4. Hipolipemiante ? — NU
5. Antrenament fizic – Recuperare cardiovasculara ? — NU

**Cum a fost evolutia ulterioara**

**?**

2009

# Pacienta : Ma ia cu reuma

# “LIPS”

## Clinic:

**in anul 2009: durere**

**intensa la nivelul membrului inferior aparuta la mers**

# Appendix 4

## THE EDINBURGH CLAUDICATION QUESTIONNAIRE[1]

(1) Do you get a pain or discomfort in your leg(s) when you walk?
Yes
No
I am unable to walk

**If you answered "Yes" to question (1) - please answer the following questions.**
**Otherwise you need not continue.**

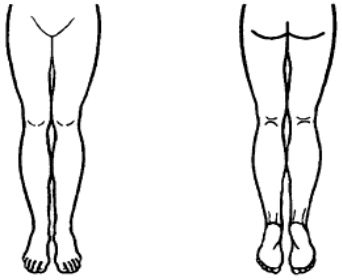
(2) Does this pain ever begin when you are standing still or sitting?
Yes
No

(3) Do you get it if you walk uphill or hurry?
Yes
No

(4) Do you get it when you walk at an ordinary pace on the level?
Yes
No

(5) What happens to it if you stand still?
Usually continues more than 10 minutes
Usually disappears in 10 minutes or less

(6) Where do you get this pain or discomfort? Mark the place(s) with "x" on the diagram below



Definition of positive classification requires all of the following responses:
'Yes' to (1),
'No' to (2),
'Yes' to (3), and
'Usually disappears in 10 minutes or less' to (5);
grade 1 = 'No' to (4) and grade 2 = 'Yes' to (4).

If these criteria are fulfilled, a definite claudicant is one who indicates pain in the calf, regardless of whether pain is also marked in other sites; a diagnosis of atypical claudication is made if pain is indicated in the thigh or buttock, in the absence of any calf pain. Subjects should not be considered to have claudication if pain is indicated in the hamstrings, feet, shins, joints or appears to radiate, in the absence of any pain in the calf.

**Reference**

1. Leng G, Fowkes F. The Edinburgh claudication questionnaire: an improved version of the WHO/Rose questionnaire for use in epidemiological surveys. *J Clin Epidemiol* 1992; **45:** 1101-1109.

## Table 5 Clinical staging of LEAD

| Fontaine classification | | | Rutherford classification | | |
|---|---|---|---|---|---|
| Stage | Symptoms | ↔ | Grade | Category | Symptoms |
| I | Asymptomatic | ↔ | 0 | 0 | Asymptomatic |
| II | Intermittent claudication | ↔ | I | I | Mild claudication |
| | | | I | 2 | Moderate claudication |
| | | | I | 3 | Severe claudication |
| III | Ischaemic rest pain | ↔ | II | 4 | Ischaemic rest pain |
| IV | Ulceration or gangrene | ↔ | III | 5 | Minor tissue loss |
| | | | III | 6 | Major tissue loss |

## Recommendations for ABI measurement

| Recommendations | Class[a] | Level[b] | Ref[c] |
|---|---|---|---|
| Measurement of the ABI is indicated as a first-line non-invasive test for screening and diagnosis of LEAD. | I | B | 226 |
| In the case of incompressible ankle arteries or ABI >1.40, alternative methods such as the toe-brachial index, Doppler waveform analysis or pulse volume recording should be used. | I | B | |

[a]Class of recommendation.

## Recommendations for treadmill testing in patients with LEAD

| Recommendations | Class[a] | Level[b] | Ref[c] |
|---|---|---|---|
| The treadmill test should be considered for the objective assessment of treatment to improve symptoms in claudicants. | IIa | A | 234, 235 |
| In the case of typical or atypical symptoms suggestive of LEAD, the treadmill test should be considered for diagnostic confirmation and/or for baseline quantification of functional severity. | IIa | B | 234 |

[a]Class of recommendation.
[b]Level of evidence.
[c]References.
LEAD = lower extremity artery disease.

# Investigatii efectuate

- Puls slab perceptibil la tibiala si pedioasa dr.
- ABI dr 0.79 si ABI stg 0.87
- Primul test noninvaziv pentru diagnosticul arteriopatiei obliterante este ABI (indicele glezna brat)
  - La persoane sanatoase ABI >1.0.
  - In mod curent un ABI de <0.9 semnifica o LEAD.
  - Sensibilitatea si specificitatea este de 79% and 96%
  - Pentru diagnostic un
    - ABI < 0.8 are o valoare predictiva pozitiva de > 95%
    - un ABI >1.10 are o valoare predictiva negativa de >99%
  - Nivelul ABI se coreleaza cu severitatea bolii, un ABI < 0.5 se coreleaza cu riscul de amputatie

ESC – 2011 (LEAD)

# Investigatii efectuate

- Testul de efort **la covor:**
  - **3.2km/h (2mph) panta de 10%**
  - **4,5 min claudicatie**
  - **ABI 0.70 dr si 0.78 stg**
- PWVcf 12.1m/s
- **Indexul de pulsatilitate IP 0.66**
  - **IP=Vmax-Vmin/Vmed**
- PWVcr 9.2m/s
- AASI 0,54
- Grosimea IM 1.1

# Ce metode de diagnostic paraclinic as fi mai putut efectua?

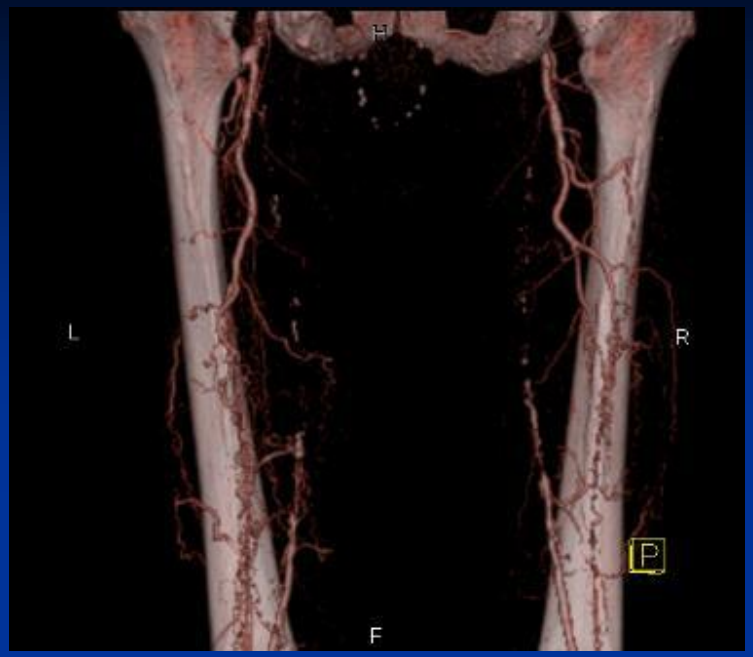
- **Indicele glezna/brat sau indexul deget /brat,**
- **Examinarea presiunii segmentale**
- **Inregistrarea volumului pulsatil**
- **Ultrasonografie doppler continuu (Doppler flowmetry) analiza undei de flux.**
- **Evaluarea presiunii transcutanate a oxigenului (TCPO2),**
- **Testarea la efort la covor rulant cu sau fara evaluare ABI**
- **Testul de mers 6 min**
- **Duplex Ultrasound**
- **Angiografie:**
  - **CTMS/RMN**
  - **Contrast**
  - **Digital subtraction angiography**

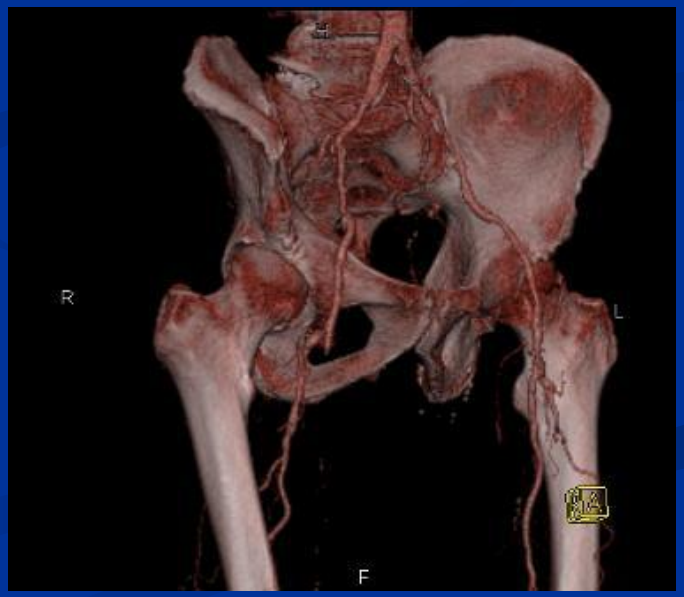
ACC/AHA guideline

# Parametrii corelati cu morbimortalitatea CV ?

- Grosimea IM (IMT)
- Disfunctia endoteliala (FMD)
- Indicele de distensibilitate $\Delta D/\Delta P*D$ (mmHg-1)
- Complianta arteriala $\Delta D/\Delta P$ (cm/mmHg)
- Modulul elastic volumetric $\Delta P(\Delta V/V)$ (mmHg)
- Modulul elastic Young $\Delta P * D/(\Delta D*h)$ (mmHg cm)
- Presiunea / indexul de augumentatie (mmHg / %din PP)
- Impedanta caracteristica $\Delta P/\Delta V$ (mmHg/cm3)
- Indexul de rigiditate beta $\beta=\ln(Ps-Pd)/[(Ds-Dd)Dd]$
- Indexul de elasticitate a arterelor mari $\Delta V/\Delta P$ cm3/mmHg

# Angiografie




Aterele iliace comune, interna si externa permeabile bilateral. Ambele femurale profunde cu stenozari etajate. Ambele femurale superficiale obstruate cu reincarcare in 1/3 distala. Ambele poplitee, artera tibiala anterioara, trunchiul tibio-peronier, tibiala posterioara si pedioasa permeabile.

1. Very high risk

Subjects with any of the following:

- Documented CVD by invasive or non-invasive testing (such as coronary angiography, nuclear imaging, stress echocardiography, carotid plaque on ultrasound), previous myocardial infarction, ACS, coronary revascularization (PCI, CABG), and other arterial revascularization procedures, ischaemic stroke, peripheral artery disease (PAD).
- Diabetes mellitus (type 1 or type 2) with one or more CV risk factors and/or target organ damage (such as microalbuminuria: 30–300 mg/24 h).
- Severe chronic kidney disease (CKD) (GFR $<30$ mL/min/1.73 $m^2$).
- A calculated SCORE $\geq 10\%$.

# Obiective preventiei la pacient:

- Abandonarea fumatului
- Dieta
- CT <4,5 mmol/l (~ 170 mg/dl) *,
  - de preferat < 4 mmol/l (~ 150 mg/dl) **,
- LDL-c < 2,5 mmol/l (~ 100 mg/dl)*,
  - de preferat < 2 mmol/l (~ 70 mg/dl) **,
- Reducerea TA < 130/85 mmHg *
  - < 140/90mmHg **
- Optimizarea glicemiei <110mg%
  - Hb1AC < 6,5%
- Atingerea greutatii ideale - Circ Taliei < 88cm
- Activitatea fizica optimizata

* ESC/ESH 2009
**ESC/ESH 2013

# Ce spun ghidurile despre tratament ?

- Reducerea riscului cardiovascular
  - **Medicatie hipolipemianta**
  - **Medicatie hipotensoare**
  - **Terapia diabetului**
  - **Oprirea fumatului**
  - **Medicatia de reducere a Homocysteinei (B12, Acid folic)**
  - **Antiagregante / antitrombotice**
- Managementul claudicatiei
  - **Exercitiul fizic si recuperarea bolii arteriale periferice**
  - **Tratamentul medical si terapia farmacologica a claudicatiei**
    - **Cilostazol (inh al fosfodiesterazei)**
    - **Pentoxifilin (methylxantine)**
    - **Propionyl-L carnitine**
    - **Factori de crestere angiogenetici (factorul de crestere endotelial)**
    - **Terapia chelatoare (EDTA)**
  - **Utilitatea procedurilor de revascularizatie**

**TASC II**

Trans-Atlantic Inter-Society Consensus

## Schimbarea stilului de viata:

- Regim alimentar, evitare stres, noxe …
- Antrenament fizic - recuperare
  - Intensitatea in functe de TE (%) si de boala de baza
  - Durata: Incalzire (5-10 minute); Exercitii aerobice (20 min); Revenire (5 – 10 minute)
  - Frecventa: 4-5X/sapt sau 2-3X/sapt cu durata mare

### Tratament medic.

- IEC
- ICa
- Antiagregante
- Statine
- Pentoxifilin
- ADO
- Cilostazol phosphodiesterase-3 inhibitor

- Testul de efort **la covor :**
  - **4.8km/h – 3mph - 15%**
  - **10 min**
- **ABI dr de la 0.79 la 0.87**
- **ABI stg de la 0.87 la 0.97**
- 2011

## Table 9 Impact of specific lifestyle changes on lipid levels

| | Magnitude of the effect |
|---|---|
| **Lifestyle interventions to reduce TC and LDL-C levels** | |
| Reduce dietary saturated fat | +++ |
| Reduce dietary trans fat | +++ |
| Increase dietary fibre | ++ |
| Reduce dietary cholesterol | ++ |
| Utilize functional foods enriched with phytosterols | +++ |
| Reduce excessive body weight | + |
| Utilize soy protein products | + |
| Increase habitual physical activity | + |
| Utilize red yeast rice supplements | + |

# Recomandari ACTIVITATEA FIZICĂ

- Subliniez faptul că aproape
  - orice creştere a nivelului de activitate fizică are efecte pozitive asupra sănătății;
  - eforturile mici au un efect aditiv
  - oportunități de a efectua efort fizic chiar la locul de muncă
- Încercați să găsiți activități în timpul liber care să fie plăcute şi să aibă un efect pozitiv

# Recomandari ACTIVITATEA FIZICĂ

- Exercițiul fizic moderat intens timp de 30’ în majoritatea zilelor săptămânii va reduce riscul şi va creşte condiția fizică
- Efectuarea exercițiilor fizice împreună cu familia tinde să crească motivația
- Beneficiile suplimentare includ o
  - stare de bine,
  - scădere ponderală şi
  - o părere mai bună despre propria persoană
- Continuarea încurajărilor şi susținerea medicului pot fi utile pe termen lung

| Recommendations | Class[a] | Level[b] |
|---|---|---|
| La pacientii cu risc CV FOARTE INALT (BCV constituita, diabet tip 2, diabet tip 1 cu afectarea organelor tinta, BCR moderata la severa sau nivel SCORE >=10%) tinta pentru LDL-C trebuie considerata a fi sub 70mg/dl si/sau reducerea LDL cu 50% daca tinta nu poate fi atinsa | I | A |
| La pacientii cu risc CV INALT (un singur factor de risc mult crescut , nivelul SCORE >= 5 la <10%) tinta pentru LDL-C trebuie considerata a fi sub 100mg/dl. | IIa | A |
| La pacientii cu risc MODERAT (nivelul SCORE >1 la <=5%) tinta pentru LDL-C trebuie considerata a fi sub 115mg/dl. | IIa | C |

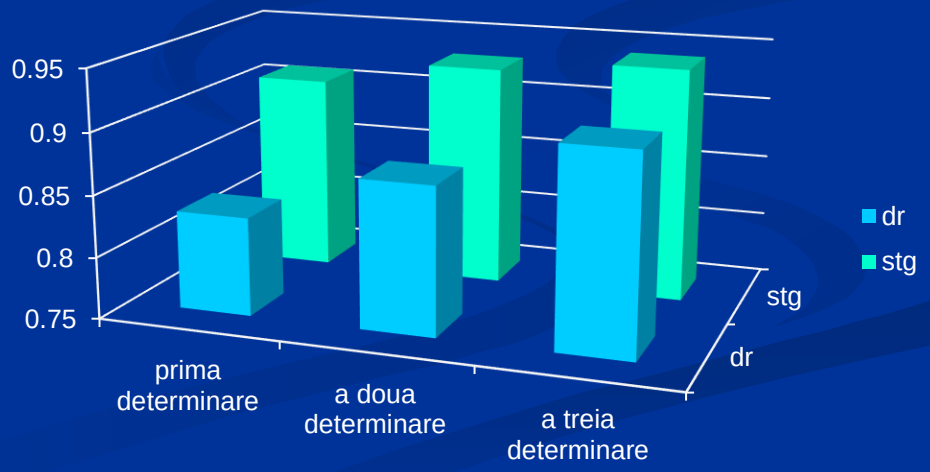
Ghidul ESC

# Pacienta

2014

- BD, 74 ani , F
- Pensionara
- Antecedente H-C:
  - Tatal: I.M. la 64 de ani
  - Mama: HTA cu AVC la 69 de ani
- TA constant controlata
  - ~140/80mmHg de 1an
- A urmat tratament ul recomandat
  - regim igieno-dietetic
- Nefumatoare
- Greutatea 75 kg
- Inaltimea 1.7 m
- IMC 25

- CT: 145 mg/dl
- HDLc*: 47 mg/dl
- LDLc: 67 mg/dl
- TG: 146 mg/dl
- Glicemie: A.J. 119 mg/dl
- Glicemie la 2h 139 mg/dl
- HbA1C 6,9




* HDL-C is not recommended as a target for treatment.

III

C