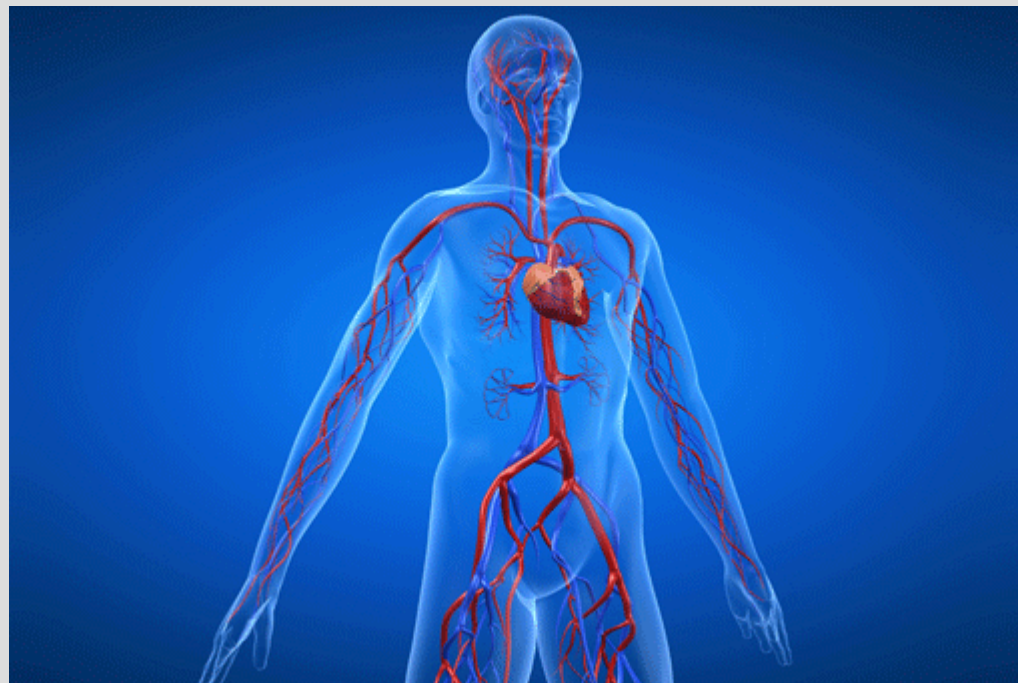


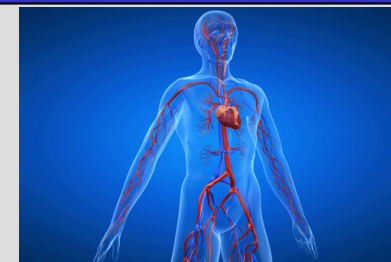


# **LA PREVENZIONE DELLE MALATTIE CARDIOVASCOLARI**

**Parma, 31 maggio 2016**

**Relatore: Dott.V.Brambilla**

# LA PREVENZIONE DELLE MALATTIE CARDIOVASCOLARI



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**JOINT ESC GUIDELINES**

## 2016 European Guidelines on cardiovascular disease prevention in clinical practice

The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts)

Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR)

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**PRINCIPALE CAUSA DI INABILITA' E QUINDI DI RIDUZIONE DELLA PRODUTTIVITA'**

**CRESCITA ESPONENZIALE (RADDOPPIERA' NEL 2020 RISPETTO AL 1990)**

**PRINCIPALE CAUSA DI MORTE PREMATURA = 40% CIRCA DELLE MORTI < 75 ANNI**

**> 50% DELLA QUOTA DI RIDUZIONE DELLE MALATTIE CV**

**TUTTE LE POPOLAZIONI  
TUTTI I LIVELLI DI RISCHIO CV  
A TUTTE LE ETA'**



### 1.3 Cost-effectiveness of prevention

#### Key messages

- Prevention of CVD, either by implementation of lifestyle changes or use of medication, is cost effective in many scenarios, including population-based approaches and actions directed at high-risk individuals.

**9-10% della spesa sanitaria e' dovuta alle malattie CV**

#### Recommendation for cost-effective prevention of cardiovascular disease

| Recommendation                                                                               | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|----------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| Measures aimed at promoting healthy lifestyles at the population level should be considered. | Ila                | B                  | 12, 13           |

Compared with the previous guidelines, greater emphasis has been placed on a population-based approach, on disease-specific interventions and on female-specific conditions, younger individuals and eth-

A lifetime approach to CV risk is important since both CV risk and prevention are dynamic and continuous as patients age and/or accumulate co-morbidities. This implies that, apart from improving lifestyle and reducing risk factor levels in patients with established CVD and those at increased risk of developing CVD, healthy people of all ages should be encouraged to adopt a healthy lifestyle. Healthcare professionals play an important role in achieving this in their clinical practice.

**Interventi su popolazione  
Interventi specifici  
Popolazione femminile  
Popolazione giovane**

**Approccio "ad vitam"  
Anche nei sani**

## 2.2 Prevention of cardiovascular disease: a lifelong approach

The population strategy aims at reducing the CVD incidence at the population level through lifestyle and environmental changes targeted at the population at large. This strategy is primarily achieved by establishing ad-hoc policies and community interventions. Examples include measures to ban smoking and reduce the salt content of food. The advantage is that it may bring large benefits to the population although it may offer little to the individual.

In the high-risk approach, preventive measures are aimed at reducing risk factor levels in those at the highest risk, either individuals without CVD at the upper part of the total cardiovascular risk distribution or those with established CVD. Although individuals targeted in this strategy are more likely to benefit from the preventive interventions, the impact on the population level is limited, because people at such high risk are few. For a long time

**Pazienti a rischio CV moderato sono la quota di pazienti più ampia  
In cui il numero assoluto di eventi resta il più alto**

**COLEST, PA, SMOKE -----**

**ETA' POP, OBESITA', DM TIPO 2 +++++**

**Pazienti ad alto rischio CV sono i pazienti che maggiormente beneficiano della prevenzione CV ma sono anche una piccola quota della popolazione**



## Recommendations for cardiovascular risk assessment

| Recommendations                                                                                                                                                                                                                                                                | Class <sup>a</sup> | Level <sup>b</sup> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|
| <u>Systematic CV risk assessment is recommended</u> in individuals at increased CV risk, i.e. with family history of premature CVD, familial hyperlipidaemia, major CV risk factors (such as smoking, high BP, DM or raised lipid levels) or comorbidities increasing CV risk. | I                  | C                  |
| <u>It is recommended to repeat CV risk assessment every 5 years</u> , and more often for individuals with risks close to thresholds mandating treatment.                                                                                                                       | I                  | C                  |
| Systematic CV risk assessment may be considered in men >40 years of age and in women >50 years of age or post-menopausal with no known CV risk factors.                                                                                                                        | IIb                | C                  |
| Systematic CV risk assessment in men <40 of age and women <50 years of age with no known CV risk factors is not recommended.                                                                                                                                                   | III                | C                  |

BP = blood pressure; CV = cardiovascular; CVD = cardiovascular disease;  
DM = diabetes mellitus.

<sup>a</sup>Class of recommendation.

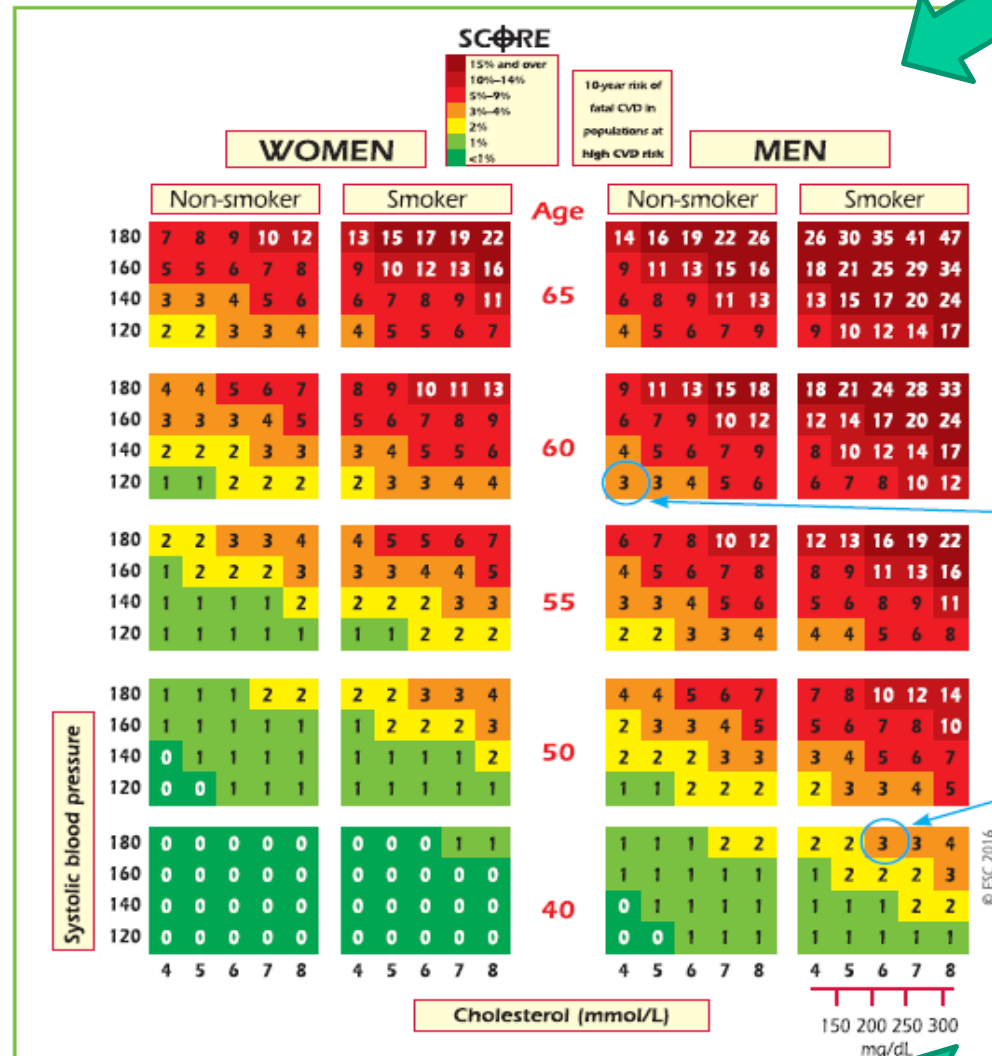
<sup>b</sup>Level of evidence.



## I FATTORI DI RISCHIO CV

## Cardiovascular risk age

# SCORE



The risk of this 40 year old male smoker with risk factors is the same (3%) as that of a 60 year old man with ideal risk factor levels—therefore his risk age is 60 years.

CVD.<sup>149,150</sup> Based on the evidence, the Task Force decided to classify patients with severe CKD (GFR <30 mL/min/1.73 m<sup>2</sup>) as 'very high risk' and those with moderate CKD (GFR 30–59 mL/min/1.73 m<sup>2</sup>) as 'high risk' (see Table 5).

## Recommendations for assessment of family history/ (epi)genetics

| Recommendations                                                                                                                                                                                                                                                            | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| Assessment of family history of premature CVD (defined as a fatal or non-fatal CVD event or/and established diagnosis of CVD in first degree male relatives before 55 years or female relatives before 65 years) is recommended as part of cardiovascular risk assessment. | I                  | C                  | 71               |
| The generalized use of DNA-based tests for CVD risk assessment is not recommended.                                                                                                                                                                                         | III                | B                  | 72,73            |

# TARGET? SI' GRAZIE....MA CON BUON SENSO

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Very high-risk</b> | <p>Subjects with any of the following:</p> <ul style="list-style-type: none"> <li>Documented CVD, clinical or unequivocal on imaging. Documented clinical CVD includes previous AMI, ACS, coronary revascularization and other arterial revascularization procedures, stroke and TIA, aortic aneurysm and PAD. Unequivocally documented CVD on imaging includes significant plaque on coronary angiography or carotid ultrasound. It does NOT include some increase in continuous imaging parameters such as Intima-media thickness of the carotid artery.</li> <li>DM with target organ damage such as proteinuria or with a major risk factor such as smoking or marked hypercholesterolaemia or marked hypertension.</li> <li>Severe CKD (GFR &lt;30 mL/min/1.73 m<sup>2</sup>).</li> <li>A calculated SCORE ≥10%.</li> </ul> |
| <b>High-risk</b>      | <p>Subjects with:</p> <ul style="list-style-type: none"> <li>Markedly elevated single risk factors, in particular cholesterol &gt;8 mmol/L (&gt;310 mg/dL) (e.g. in familial hypercholesterolaemia) or BP ≥180/110 mmHg.</li> <li>Most other people with DM (with the exception of young people with type 1 DM and without major risk factors that may be at low or moderate risk).</li> <li>Moderate CKD (GFR 30–59 mL/min/1.73 m<sup>2</sup>).</li> <li>A calculated SCORE ≥5% and &lt;10%.</li> </ul>                                                                                                                                                                                                                                                                                                                         |
| <b>Moderate risk</b>  | SCORE is ≥1% and <5% at 10 years. Many middle-aged subjects belong to this category.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Low-risk</b>       | SCORE <1%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



**Table 6** Risk factor goals and target levels for important cardiovascular risk factors

|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Smoking</b>                                                      | No exposure to tobacco in any form.                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Diet</b>                                                         | Low in saturated fat with a focus on wholegrain products, vegetables, fruit and fish.                                                                                                                                                                                                                                                                                                               |
| <b>Physical activity</b>                                            | At least 150 minutes a week of moderate aerobic PA (30 minutes for 5 days/week) or 75 minutes a week of vigorous aerobic PA (15 minutes for 5 days/week) or a combination thereof.                                                                                                                                                                                                                  |
| <b>Body weight</b>                                                  | BMI 20–25 kg/m <sup>2</sup> . Waist circumference <94 cm (men) or <80 cm (women).                                                                                                                                                                                                                                                                                                                   |
| <b>Blood pressure</b>                                               | <140/90 mmHg <sup>a</sup>                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Lipids<sup>b</sup></b><br>LDL <sup>c</sup> is the primary target | <p><b>Very high-risk</b> &lt;1.8 mmol/L (&lt;70 mg/dL), or a reduction of at least 50% if the baseline is between 1.8 and 3.5 mmol/L (70 and 135 mg/dL)<sup>d</sup></p> <p><b>High-risk</b> &lt;2.6 mmol/L (&lt;100 mg/dL), or a reduction of at least 50% if the baseline is between 2.6 and 5.1 mmol/L (100 and 200 mg/dL)</p> <p><b>Low to moderate risk</b> &lt;3.0 mmol/L (&lt;115 mg/dL).</p> |
| <b>HDL-C</b>                                                        | No target but >1.0 mmol/L (>40 mg/dL) in men and >1.2 mmol/L (>45 mg/dL) in women indicate lower risk.                                                                                                                                                                                                                                                                                              |
| <b>Triglycerides</b>                                                | No target but <1.7 mmol/L (<150 mg/dL) indicates lower risk and higher levels indicate a need to look for other risk factors.                                                                                                                                                                                                                                                                       |
| <b>Diabetes</b>                                                     | HbA1c <7%. (<53 mmol/mol)                                                                                                                                                                                                                                                                                                                                                                           |

**Recommendation for assessment of psychosocial risk factors**

| Recommendation                                                                                                                                                                                                                                           | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| Psychosocial risk factor assessment, using clinical interview or standardized questionnaires, should be considered to identify possible barriers to lifestyle change or adherence to medication in individuals at high CVD risk or with established CVD. | <b>Ila</b>         | <b>B</b>           | 90-92            |

**ISOLAMENTO SOCIALE  
BASSO STATO SOCIO-ECONOMICO**

**MENTAL/EMOTIONAL STRESSOR**

**ANSIA**

**DEPRESSIONE**

|                                       |                                                                                                                                                                                                                                  |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Low socio-economic status</b>      | <ul style="list-style-type: none"> <li>• What is your highest educational degree?</li> <li>• Are you a manual worker?</li> </ul>                                                                                                 |
| <b>Work and family stress</b>         | <ul style="list-style-type: none"> <li>• Do you lack control over how to meet the demands at work?</li> <li>• Is your reward inappropriate for your effort?</li> <li>• Do you have serious problems with your spouse?</li> </ul> |
| <b>Social isolation</b>               | <ul style="list-style-type: none"> <li>• Are you living alone?</li> <li>• Do you lack a close confidant?</li> <li>• Have you lost an important relative or friend over the last year?</li> </ul>                                 |
| <b>Depression</b>                     | <ul style="list-style-type: none"> <li>• Do you feel down, depressed and hopeless?</li> <li>• Have you lost interest and pleasure in life?</li> </ul>                                                                            |
| <b>Anxiety</b>                        | <ul style="list-style-type: none"> <li>• Do you suddenly feel fear or panic?</li> <li>• Are you frequently unable to stop or control worrying?</li> </ul>                                                                        |
| <b>Hostility</b>                      | <ul style="list-style-type: none"> <li>• Do you frequently feel angry over little things?</li> <li>• Do you often feel annoyed about other people's habits?</li> </ul>                                                           |
| <b>Type D personality</b>             | <ul style="list-style-type: none"> <li>• In general, do you often feel anxious, irritable, or depressed?</li> <li>• Do you avoid sharing your thoughts and feelings with other people?</li> </ul>                                |
| <b>Post-traumatic stress disorder</b> | <ul style="list-style-type: none"> <li>• Have you been exposed to a traumatic event?</li> <li>• Do you suffer from nightmares or intrusive thoughts?</li> </ul>                                                                  |
| <b>Other mental disorders</b>         | <ul style="list-style-type: none"> <li>• Do you suffer from any other mental disorder?</li> </ul>                                                                                                                                |

**PRESA IN CARICO  
DEL PAZIENTE:**

**QUESTIONARIO  
MEDICO!!**

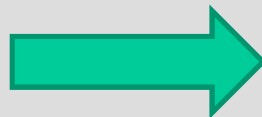
# POPOLAZIONI “PARTICOLARI”

Recommendation for individuals <50 years of age

| Recommendation                                                                                                                                                                                                                                                           | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| It is recommended to screen all individuals under 50 year of age with a family history of premature CVD in a first degree relative (under 55 year of age in males, under 65 year of age in females) for familial hypercholesterolaemia using a validated clinical score. | I                  | B                  | 187–189          |

**FAM PER CVD  
IPERCOLESTEROLEMIA (FAM)**

**2.5.2 Elderly ?**



more lenient treatment targets

# POPOLAZIONI “PARTICOLARI”

## Recommendations for female-specific conditions

| Recommendations                                                                                                                                  | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| In women with a history of pre-eclampsia and/or pregnancy-induced hypertension, periodic screening for hypertension and DM should be considered. | IIa                | B                  | 194–197          |
| In women with a history of polycystic ovary syndrome or gestational DM, periodic screening for DM should be considered.                          | IIa                | B                  | 198–201          |
| In women with a history of giving premature birth, periodic screening for hypertension and DM may be considered.                                 | IIb                | B                  | 202, 203         |

**PREECLAMPSIA  
IPERTENSIONE GESTAZIONALE  
DM GESTAZIONALE  
POLICISTOSI OVARICA  
PARTO PRECOCE**

### 2.5.4 Ethnic minorities

#### Key messages

- CVD risk varies considerably between immigrant groups. South Asians and sub-Saharan Africans have a higher risk, while Chinese and South Americans have a lower risk.
- South Asians are characterized by a high prevalence and inadequate management of DM.
- Current risk estimation equations do not provide adequate estimations of CVD risk in ethnic minorities.

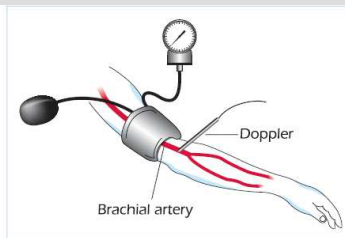
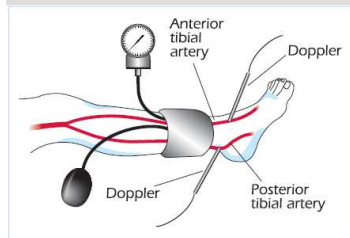
## Ankle-brachial index

The primary non-invasive test for the diagnosis of LEAD is the ABI. In healthy persons, the ABI is  $>1.0$ . Usually an ABI  $<0.90$  is used to define LEAD. The actual sensitivity and specificity have been estimated, respectively, at 79% and 96%.<sup>226</sup> For diagnosis in primary care, an ABI  $<0.8$  or the mean of three ABIs  $<0.90$  had a positive predictive value of  $\geq 95\%$ ; an ABI  $>1.10$  or the mean of three ABIs  $>1.00$  had a negative predictive value of  $\geq 99\%$ .<sup>227</sup> The level of ABI also correlates with LEAD severity, with high risk of amputation when the ABI is  $<0.50$ . An ABI change  $>0.15$  is generally required to consider worsening of limb perfusion over time, or improving after revascularization.<sup>228</sup>

**PAS ankle**

**PAS brachial**

**$> 0.9 < 1.4$**



**DIAGNOSI  
PROGNOSI  
FOLLOW UP**

*Obstructive sleep apnoea syndrome*

*Erectile dysfunction*

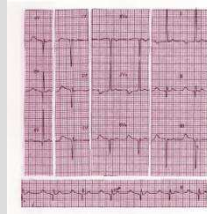
- CKD is associated with an increased risk of CVD, independent of conventional CVD risk factors.

Influenza

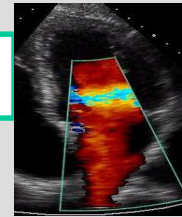
Periodontitis

Patients treated for cancer

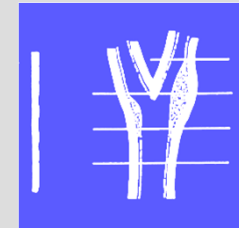
Autoimmune disease



**IVSx**

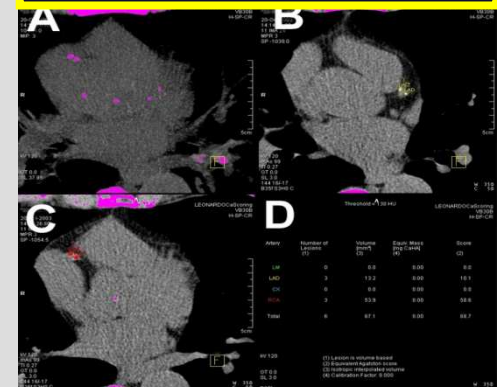


**Placche carotidee**



**Ridefinizione  
del rischio CV**

**MSCT and EBT**  
Coronary calcium score: output



### Recommendations for autoimmune disease

| Recommendations                                                                                                                                                                                       | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| The use of a 1.5 factor risk multiplier for CV risk in rheumatoid arthritis should be considered, particularly if disease activity is high.                                                           | IIa                | B                  | 177              |
| The use of a 1.5 risk multiplier for CV risk in immune inflammatory diseases other than rheumatoid arthritis may be considered on a patient-by-patient basis, depending on disease activity/severity. | IIb                | C                  | 177              |



Rheumatoid arthritis (RA) enhances CV risk independently of traditional risk factors, with an RR of 1.4 and 1.5 in men and women, respectively.

There is mounting evidence that other immune diseases, such as ankylosing spondylitis or early severe psoriasis, also increase CV risk, with RRs approaching those in RA.

Post hoc analysis of two statin trials suggests that the relative reduction in CVD incidence in autoimmune diseases is comparable to that seen in the other conditions.

### Recommendation for erectile dysfunction

| Recommendation                                                                               | Class <sup>a</sup> | Level <sup>b</sup> |
|----------------------------------------------------------------------------------------------|--------------------|--------------------|
| Assessment of CV risk factors and CVD signs or symptoms in men with ED should be considered. | IIa                | C                  |



ED, defined as the consistent inability to reach and maintain an erection satisfactory for sexual activity, is common, affecting almost 40% of men >40 years of age (with varying degrees of severity), and increases in frequency with age. ED and CVD share common risk factors, including age, hypercholesterolaemia, hypertension, insulin resistance and DM, smoking, obesity, metabolic syndrome, sedentary lifestyle and depression. CVD and ED also share a common pathophysiological basis of aetiology and progression.<sup>184</sup> Numerous

### 2.4.5.6 Obstructive sleep apnoea syndrome

#### Key message

- There is evidence of a positive relationship between obstructive sleep apnoea syndrome (OSAS) and hypertension, CAD, atrial fibrillation (AF), stroke, and HF.



OSAS is characterized by recurrent partial or complete collapse of the upper airway during sleep. It affects an estimated 9% of adult women and 24% of adult men and has been associated with an RR of 1.7 for CV morbidity and mortality.<sup>181</sup> Repetitive

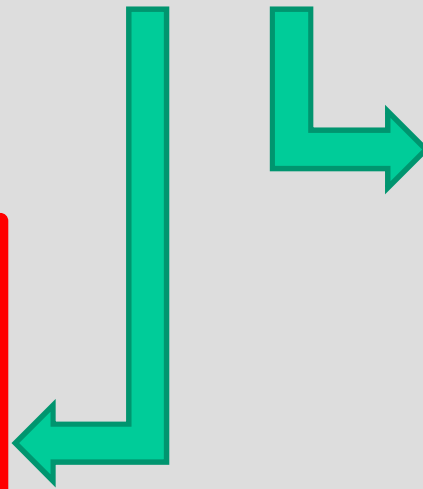
promote endothelial dysfunction and atherosclerosis.<sup>181</sup> Screening for OSAS can be performed using the Berlin Questionnaire and daytime sleepiness can be assessed by the Epworth Sleepiness Scale and overnight oximetry.<sup>182</sup> Definitive diagnosis often

# COME INTERVENIRE?

**TRATTAMENTO  
NON  
FARMACOLOGICO**

**TRATTAMENTO  
FARMACOLOGICO**

more lenient treatment targets



## Lipid control

| Total CV risk<br>(SCORE)<br>%          | LDL-C levels                       |                                                       |                                                       |                                                       |                                                       |
|----------------------------------------|------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|
|                                        | <70 mg/dL<br><1.8 mmol/L           | 70 to <100 mg/dL<br>1.8 to <2.6 mmol/L                | 100 to <155 mg/dL<br>2.6 to <4.0 mmol/L               | 155 to <190 mg/dL<br>4.0 to <4.9 mmol/L               | ≥190 mg/dL<br>≥4.9 mmol/L                             |
| <1                                     | Lifestyle advice                   | Lifestyle advice                                      | Lifestyle advice                                      | Lifestyle advice                                      | Lifestyle advice,<br>consider drug if<br>uncontrolled |
| Class <sup>a</sup> /Level <sup>b</sup> | I/C                                | I/C                                                   | I/C                                                   | I/C                                                   | IIa/A                                                 |
| ≥1 to <5                               | Lifestyle advice                   | Lifestyle advice                                      | Lifestyle advice,<br>consider drug if<br>uncontrolled | Lifestyle advice,<br>consider drug if<br>uncontrolled | Lifestyle advice,<br>consider drug if<br>uncontrolled |
| Class <sup>a</sup> /Level <sup>b</sup> | I/C                                | I/C                                                   | IIa/A                                                 | IIa/A                                                 | II/A                                                  |
| ≥5 to <10,<br>or high-risk             | Lifestyle advice                   | Lifestyle advice,<br>consider drug if<br>uncontrolled | Lifestyle advice<br>and drug treatment<br>for most    | Lifestyle advice<br>and drug treatment                | Lifestyle advice<br>and drug treatment                |
| Class <sup>a</sup> /Level <sup>b</sup> | IIa/A                              | IIa/A                                                 | IIa/A                                                 | II/A                                                  | II/A                                                  |
| ≥10 or<br>very high-risk               | Lifestyle advice,<br>consider drug | Lifestyle advice<br>and concomitant<br>drug treatment | Lifestyle advice<br>and concomitant<br>drug treatment | Lifestyle advice<br>and concomitant<br>drug treatment | Lifestyle advice<br>and concomitant<br>drug treatment |
| Class <sup>a</sup> /Level <sup>b</sup> | IIa/A                              | IIa/A                                                 | II/A                                                  | II/A                                                  | II/A                                                  |

# Diabetes mellitus (type 2 and type 1)

## Key messages

- The multifactorial approach is very important in patients with type 2 DM.
- Lifestyle management to aid weight control by sustainable dietary changes and increased PA levels should be central in the management of patients with type 2 DM.
- Intensive management of hyperglycaemia reduces the risk of microvascular complications and, to a lesser extent, the risk of CVD. However, targets should be relaxed in the elderly, frail, those with long-duration DM and those with existing CVD.
- Intensive treatment of BP in DM, with a target of 140 mmHg systolic for the majority, reduces the risk of macrovascular and microvascular outcomes. A lower SBP target of 130 mmHg further lessens the risks for stroke, retinopathy and albuminuria and should be applied to selected patients.
- Lipid lowering is a key mechanism to lower CVD risk in both type 2 and type 1 DM. All patients >40 years of age and selected younger patients at elevated risk are recommended for statin therapy.
- In DM patients with existing CVD, the use of a sodium-glucose co-transporter-2 (SGLT2) inhibitor substantially lessened CVD and total mortality and HF hospitalisation without major adverse effects. SGLT2 inhibitors should be considered early in the course of DM management in such patients.
- Recent evidence points to sizeable reductions in CVD mortality in DM patients via improvements in risk factor management, although the increasing worldwide DM prevalence will create major challenges. More should be done to prevent DM.

# Hypertension

Elevated BP is a major risk factor for CAD, HF, cerebrovascular disease, PAD, CKD and AF.

The decision to start BP-lowering treatment depends on the BP level and total CV risk.

Benefits of treatment are mainly driven by BP reduction per se, not by drug type.

Combination treatment is needed to control BP in most patients.

| Category                       | Systolic BP (mmHg) |        | Diastolic BP (mmHg) |
|--------------------------------|--------------------|--------|---------------------|
| Optimal                        | <120               | and    | <80                 |
| Normal                         | 120–129            | and/or | 80–84               |
| High-normal                    | 130–139            | and/or | 85–89               |
| Grade 1 hypertension           | 140–159            | and/or | 90–99               |
| Grade 2 hypertension           | 160–179            | and/or | 100–109             |
| Grade 3 hypertension           | ≥180               | and/or | ≥110                |
| Isolated systolic hypertension | ≥140               | and    | <90                 |

## Specific indications for ABPM

- Marked discordance between office BP and home BP.
- Assessment of dipping status.
- Suspicion of nocturnal hypertension or absence of dipping, such as in patients with sleep apnoea, CKD, or DM.
- Assessment of BP variability.

**Table 15** Blood pressure thresholds for definition of hypertension with different types of BP measurement

|                  | SBP (mmHg) | DBP (mmHg) |
|------------------|------------|------------|
| Office or clinic | 140        | 90         |
| 24-hour          | 125–130    | 80         |
| Day              | 130–135    | 85         |
| Night            | 120        | 70         |
| Home             | 130–135    | 85         |

# **TERAPIA FARMACOLOGICA**

**ANTIAGGREGANTI  
ANTIPERTENSIVI  
IPOLIPEMIZZANTI  
IPOGLICEMIZZANTI ORALI  
ECC...ECC...**

more lenient treatment targets

## 3a.1 Behaviour change

### COUNSELLING

#### Recommendations for facilitating changes in behaviour

| Recommendations                                                                                                                                                                                                                       | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| Established cognitive-behavioural strategies (e.g. motivational interviewing) to facilitate lifestyle change are recommended.                                                                                                         | I                  | A                  | 231              |
| Involvement of multidisciplinary healthcare professionals (e.g. nurses, dieticians, psychologists) is recommended.                                                                                                                    | I                  | A                  | 232, 233         |
| In individuals at very high CVD risk, multimodal interventions integrating medical resources with education on healthy lifestyle, physical activity, stress management and counselling on psychosocial risk factors, are recommended. | I                  | A                  | 233, 234         |

- Spend enough time with the individual to create a therapeutic relationship – even a few more minutes can make a difference.
- Acknowledge the individual's personal view of his/her disease and contributing factors.
- Encourage expression of worries and anxieties, concerns and self-evaluation of motivation for behaviour change and chances of success.
- Speak to the individual in his/her own language and be supportive of every improvement in lifestyle.
- Ask questions to check that the individual has understood the advice and has any support he or she requires to follow it.
- Acknowledge that changing life-long habits can be difficult and that sustained gradual change is often more permanent than a rapid change.
- Accept that individuals may need support for a long time and that repeated efforts to encourage and maintain lifestyle change may be necessary in many individuals.
- Make sure that all health professionals involved provide consistent information.

**STABILIRE UN RAPPORTO DIRETTO E IN GRADO DI DARE UNO STIMOLO MOTIVAZIONALE**

**a. Intervista motivazionale**

**b. percorso multidisciplinare**

**c. Programma di intervento integrato**

# Psychosocial factors

Recommendations for psychosocial factors

| Recommendations                                                                                                                                                                                                                         | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| Multimodal behavioural interventions, integrating health and psychological care, and psychological therapy, for people with psychological risk factors and coping with illness are recommended in order to improve psychosocial health. | I                  | A                  | 242              |
| Referral for psychotherapy, medication or collaborative care should be considered in the case of people with psychological risk factors, depression, anxiety or hostility.                                                              | Ila                | A                  | 241, 244         |
| Treatment of psychosocial risk factors with the aim of preventing CVD should be considered when the risk factor itself is a diagnostic disorder (e.g. depression) and the factor worsens clinical risk factors.                         | Ila                | B                  | 245, 246         |

# Sedentary behaviour and physical activity

# Smoking intervention

# Nutrition

# Body weight

Table 10 Classification of physical activity intensity and examples of absolute and relative intensity levels

| Absolute intensity | Relative intensity |
|--------------------|--------------------|
| Intensity          | %HRmax             |
| Light              | 50-63              |
| Moderate           | 64-76              |
| Vigorous           | 77-93              |

Examples

Light: Walking 4-7 km/h, light household work.

Moderate: Walking briskly (4.8-6.5 km/h), slow cycling (15 km/h), patting/decorating, vacuuming, gardening (not using power tools), housework (not using power tools), ballroom dancing, water aerobics.

Vigorous: Race-walking, jogging or running, bicycling >15 km/h, very fast swimming, tennis (single), boxing, swimming laps, tennis (double).

Breathing is faster but compatible with speaking full sentences.

Breathing very hard, incompatible with speaking full sentences or a conversation comfortably.

Table 11 The "Five As" for a smoking cessation strategy for routine practice

|            |                                                                                                                            |
|------------|----------------------------------------------------------------------------------------------------------------------------|
| A-ASK:     | Systematically inquire about smoking status at every opportunity.                                                          |
| A-ADVISE:  | Unquivocally 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.                                                                                           |

Table 12 Healthy diet characteristics

|                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • 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, preferably from wholegrain products.                                                                                           |
| • >200 g of fruit per day (2-3 servings).                                                                                                                  |
| • >200 g of vegetables per day (2-3 servings).                                                                                                             |
| • Fish 1-2 times per week, one of which to be oily fish.                                                                                                   |
| • 30 grams unsalted nuts per day.                                                                                                                          |
| • Consumption of alcoholic beverages should be limited to 2 glasses per day (20 g/d of alcohol) for men and 1 glass per day (10 g/d of alcohol) for women. |
| • Sugar-sweetened soft drinks and alcoholic beverage consumption must be discouraged.                                                                      |

waist circumference  $\geq 94$  cm in men and  $\geq 80$  cm in women

(ii) waist circumference  $\geq 102$  cm in men and  $\geq 88$  cm in women

# PREVENZIONE CV ANCHE “INTRA MOENIA”

## Recommendation for cardiovascular disease prevention in primary care

| Recommendation                                                                                                                        | Class <sup>a</sup> | Level <sup>b</sup> |
|---------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|
| It is recommended that GPs, nurses and allied health professionals within primary care deliver CVD prevention for high-risk patients. | <b>I</b>           | <b>C</b>           |

## 4a.1.2 Acute hospital admission setting

### Recommendation for CVD prevention strategies in the acute hospital admission setting

| Recommendation                                                                                                                                                                                                                                           | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| It is recommended to implement strategies for prevention in CVD patients, including lifestyle changes, risk factor management and pharmacological optimization, after an acute event before hospital discharge to lower risk of mortality and morbidity. | <b>I</b>           | <b>A</b>           | 300, 553         |



## CR: RIABILITAZIONE CARDIOVASCOLARE

### 4a.1.3 Specialized prevention programmes

#### Recommendations for specialized prevention programmes

| Recommendations                                                                                                                                                                                                                                                 | Class <sup>a</sup> | Level <sup>b</sup> | Ref <sup>c</sup> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
| Participation in a CR programme for patients hospitalized for an acute coronary event or revascularization, and for patients with HF, is recommended to improve patient outcomes.                                                                               | <b>I</b>           | <b>A</b>           | 555, 556         |
| Preventive programmes for therapy optimisation, adherence and risk factor management are recommended for stable patients with CVD to reduce disease recurrence.                                                                                                 | <b>I</b>           | <b>B</b>           | 557–560          |
| Methods to increase referral to and uptake of CR should be considered such as electronic prompts or automatic referrals, referral and liaison visits, structured follow-up by physicians, nurses or therapists, and early starts to programmes after discharge. | <b>IIa</b>         | <b>B</b>           | 557, 558         |
| Nurses and allied health professional led programmes should be considered to deliver CVD prevention across healthcare settings.                                                                                                                                 | <b>IIa</b>         | <b>B</b>           | 550–552, 561     |

# **IL M.C.D. DELLA PREVENZIONE CV RESTA L'ESERCIZIO FISICO!!**



**APPROCCIO DI  
POPOLAZIONE**



**APPROCCIO  
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# L'ESERCIZIO FISICO COME TERAPIA CARDIOVASCOLARE: POLI-PILL



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