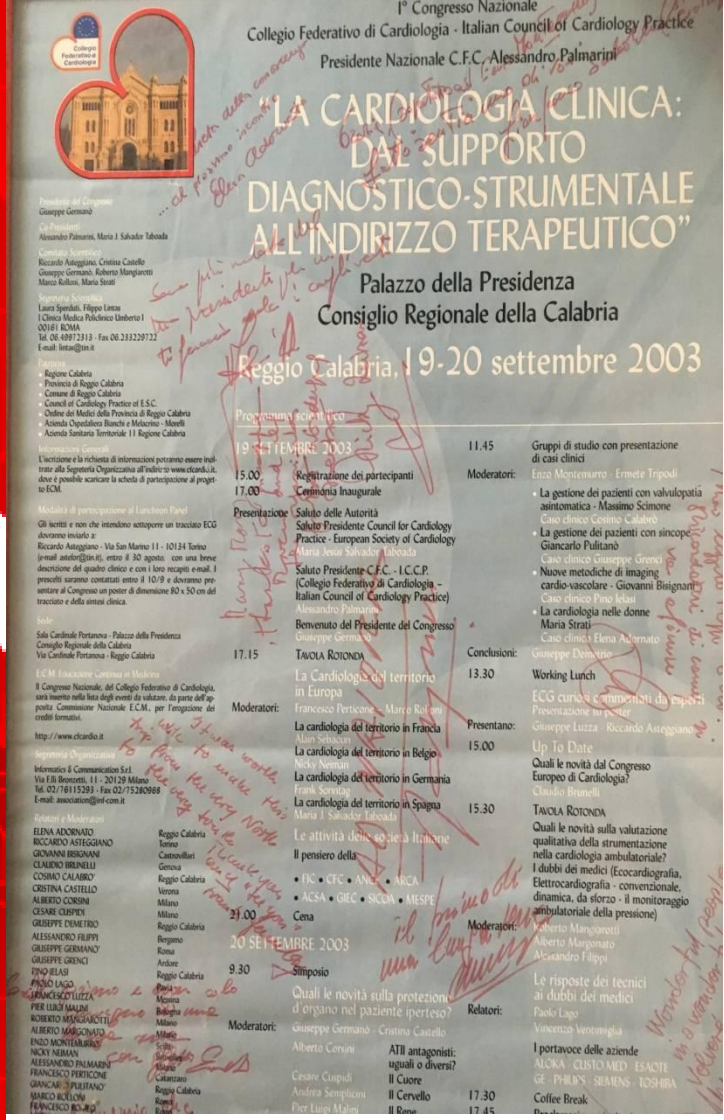
Italian Council of Cardiology Practice

II CONGRESSO NAZIONALE
COLLEGIO FEDERATIVO DI CARDIOLOGIA ITALIAN COUNCIL OF CARDIOLOGY PRACTICE

31.03.2017 - 01.04.2017

Palazzo Chiaramonte Steri, Palermo

SAPIENZA
UNIVERSITÀ DI ROMA


I° Congresso Nazionale
Collegio Federativo di Cardiologia - Italian Council of Cardiology Practice
Presidente Nazionale C.F.C. Alessandro Palmarini

"LA CARDIOLOGIA CLINICA: DAL SUPPORTO DIAGNOSTICO-STRUMENTALE ALL'INDIRIZZO TERAPEUTICO"

Palazzo della Presidenza
Consiglio Regionale della Calabria

Reggio Calabria, 19-20 settembre 2003

Programma scientifico

19 SETTEMBRE 2003

15.00 Registrazione dei partecipanti
17.00 Cerimonia Inaugurale
Presentazione Saluto delle Autorità
Saluto Presidente Council for Cardiology Practice - European Society of Cardiology
Maria Jesus Salvador Taboada
Saluto Presidente C.F.C. - I.C.C.P. (Collegio Federativo di Cardiologia - Italian Council of Cardiology Practice)
Alessandro Palmarini
Benvenuto del Presidente del Congresso
Giuseppe Germanò
17.15 TAVOLA ROTONDA
La Cardiologia del territorio in Europa
Francesco Perticone - Marco Rolfini
Moderatori:
La cardiologia del territorio in Francia
La cardiologia del territorio in Belgio
Nicky Neiman
La cardiologia del territorio in Germania
Frank Sonntag
La cardiologia del territorio in Spagna
Maria J. Salvador Taboada
Le attività delle società italiane
Il pensiero della
• FIC • CFC • ANMCO • ARCA
• ACSA • GIEC • SCCIA • IMESPE
21.00 Cena

20 SETTEMBRE 2003

9.30 Simposio
Quali le novità sulla protezione d'organo nel paziente iperteso?
Giuseppe Germanò - Cristina Castello
Moderatori:
Alberto Corsini
ATII antagonisti: uguali o diversi?
Il Cuore
Cesare Cuspidi
Andrea Semplicini
Il Cervello
Pier Luigi Malini
Il Rene
11.45 Gruppi di studio con presentazione di casi clinici
Moderatori:
Enzo Montemurro - Ermete Tripodi
• La gestione dei pazienti con valvulopatia asintomatica - Massimo Scimone
Caso clinico Cosmo Calabrò
• La gestione dei pazienti con sincope - Giancarlo Pulitanò
Caso clinico Giuseppe Grenci
• Nuove metodiche di imaging cardio-vascolare - Giovanni Bisignani
Caso clinico Pino Ielasi
• La cardiologia nelle donne - Maria Strati
Caso clinico Elena Adornato
Conclusioni: Giuseppe Demitrio
13.30 Working Lunch
ECG curiosi e commentati da esperti
Presentazione in poster
Giuseppe Luzza - Riccardo Asteggiano
Presentano: 15.00 Up To Date
Quali le novità dal Congresso Europeo di Cardiologia?
Claudio Brunelli
15.30 TAVOLA ROTONDA
Quali le novità sulla valutazione qualitativa della strumentazione nella cardiologia ambulatoriale? I dubbi dei medici (Ecocardiografia, Elettrocardiografia - convenzionale, dinamica, da sforzo - il monitoraggio ambulatoriale della pressione)
Moderatori: Roberto Mangiaretti - Alberto Margonato - Alessandro Filippi
Relatori: Le risposte dei tecnici ai dubbi dei medici
Paolo Lago - Vincenza Ventimiglia
I portavoce delle aziende
ALOKA - CUSTO MED - ESAOTE - GE - PHILIPS - SIEMENS - TOSHIBA
Coffee Break

Relatori e Moderatori

ELENA ADORNATO	Reggio Calabria
RICCARDO ASTEGGIANO	Torino
GIOVANNI BISIGNANI	Castrovillari
CLAUDIO BRUNELLI	Genova
COSIMO CALABRO'	Reggio Calabria
CRISTINA CASTELLO	Verona
ALBERTO CORSINI	Milano
CESARE CUSPIDI	Milano
GIUSEPPE DEMETRIO	Reggio Calabria
ALESSANDRO FILIPPI	Bergamo
GIUSEPPE GERMANO'	Roma
GIUSEPPE GRENCI	Ardore
PINO IELASI	Reggio Calabria
PAOLO LAGO	Pavia
FRANCESCO LUZZA	Messina
PIER LUIGI MALINI	Bologna
ROBERTO MANGIARETTI	Milano
ALBERTO MARGONATO	Milano
ENZO MONTEMURRO	Soleto
NICKY NEIMAN	Salsomaggiore
ALESSANDRO PALMARINI	Rivoli
FRANCESCO PERTICONE	Catanzaro
GIANCARLO PULITANO'	Reggio Calabria
MARCO ROLLONI	Rimini
FRANCESCO ROMEO	Roma

Moderatori:

Segreteria Organizzativa
Informatica & Communication S.r.l.
Via F.lli Bronzetti, 11 - 20129 Milano
Tel. 02/76115293 - Fax 02/75280988
E-mail: association@inf-com.it

Sede
Sala Cardinale Portanova - Palazzo della Presidenza
Consiglio Regionale della Calabria
Via Cardinale Portanova - Reggio Calabria

E.C.M. Educazione Continua in Medicina
Il Congresso Nazionale, del Collegio Federativo di Cardiologia, sarà inserito nella lista degli eventi da validare, da parte dell'apposita Commissione Nazionale E.C.M., per l'erogazione dei crediti formativi.
http://www.clcardio.it

Presidente del Congresso
Giuseppe Germanò

Presidenti Onorari
Alessandro Palmarini, Maria J. Salvador Taboada

Comitato Scientifico
Riccardo Asteggiano, Cristina Castello
Giuseppe Germanò, Roberto Mangiaretti
Marco Rolloni, Maria Strati

Segreteria Scientifica
Laura Spreafici, Filippo Lanza
I Clinica Medica Policlinico Umberto I
00161 ROMA
Tel. 06.49972313 - Fax 06.233229722
E-mail: lmtan@tin.it

Patrocini
Regione Calabria
Provincia di Reggio Calabria
Comune di Reggio Calabria
Council of Cardiology Practice of E.S.C.
Ordine dei Medici della Provincia di Reggio Calabria
Azienda Ospedaliera Bianchi e Melacrino - Morelli
Azienda Sanitaria Territoriale 11 Regione Calabria

Iscrizione
L'iscrizione è la richiesta di informazioni potranno essere inoltrate alla Segreteria Organizzativa all'indirizzo www.clcardio.it, dove è possibile scaricare la scheda di partecipazione al progetto ECM.

Modalità di partecipazione al Luncheon Panel
Gli iscritti e non che intendono sottoporre un tracciato ECG dovranno inviarlo a:
Riccardo Asteggiano - Via San Marino 11 - 10134 Torino
(e-mail: asstor@tin.it), entro il 30 agosto con una breve descrizione del quadro clinico e con i loro recapiti e-mail. I prescelti saranno contattati entro il 10/9 e dovranno presentare al Congresso un poster di dimensione 80 x 50 cm del tracciato e della sintesi clinica.

CARDIOVASCULAR PREVENTION

Giuseppe Germanò

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).

ESC Chairperson
Massimo F. Piepoli
Heart Failure Unit, Cardiology Department,
Polichirurgico Hospital G. Da Saliceto,
Cantone Del Cristo,
29121 Piacenza, Emilia Romagna, Italy,

Tel: +39 0523 30 32 17
Fax: +39 0523 30 32 20
E-mail: m.piepoli@alice.it, m.piepoli@imperial.ac.uk.

Co- Chairperson
Arno W. Hoes
Julius Center for Health Sciences and Primary Care,
University Medical Center Utrecht,
PO Box 85500 (HP Str. 6.131),
3508 GA Utrecht, The Netherlands,

Tel: +31 88 756 8193
Fax: +31 88 756 8099
E-mail: a.w.hoes@umcutrecht.nl.

Task Force Members: Stefan Agewall (Norway), Christian Albus (Germany), Carlos Brotons (Spain), Alberico L. Catapano (Italy), Marie-Therese Cooney (Ireland), Ugo Corrà (Italy), Bernard Cosyns (Belgium), Christi Deaton (UK), Ian Graham (Ireland), Michael Stephen Hall (UK), F. D. Richard Hobbs (UK), Maja-Lisa Løchen (Norway), Herbert Löllgen (Germany), Pedro Marques-Vidal (Switzerland), Joep Perk (Sweden), Eva Prescott (Denmark), Josep Redon (Spain), Dimitrios J. Richter (Greece), Naveed Sattar (UK), Yvo Smulders (The Netherlands), Monica Tiberi (Italy), H. Bart van der Worp (The Netherlands), Ineke van Dis (The Netherlands), W. M. Monique Verschuren (The Netherlands)

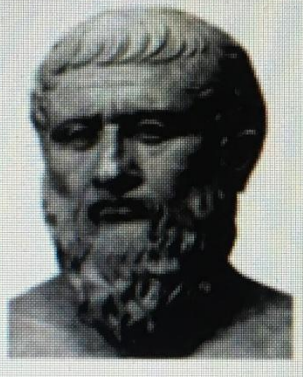
Additional Contributor : Simone Binno (Italy)

ESC Committee for Practice Guidelines (CPG) and National Cardiac Societies document reviewers: listed in the Appendix.
ESC entities having participated in the development of this document:
Associations: European Association for Cardiovascular Prevention & Rehabilitation (EACPR), European Association of Cardiovascular Imaging (EACVI), European Association of Percutaneous Cardiovascular Interventions (EAPCI), Heart Failure Association (HFA).
Councils: Council on Cardiovascular Nursing and Allied Professions, Council for Cardiology Practice, Council on Cardiovascular Primary Care.
Working Groups: Cardiovascular Pharmacotherapy

www.escardio.org/guidelines

European Heart Journal 2016 ;37:2315–2381-doi:10.1093/eurheartj/ehw106

Guidelines based upon the principles of teaching



Plato, 424-347 b.C.

1. **What is CVD prevention**
2. **Who needs CVD prevention**
3. **How is CVD prevention applied**
4. **Where should CVD prevention be offered**

Prevention of cardiovascular diseases, either by implementation of lifestyle changes or use of medication, is cost-effective in many scenarios:

1. **population-based approaches**
2. **actions directed at high-risk individuals.**

Population-approach to prevent CVD

NEW

- **Topics:**
  - Diet
  - Physical activity
  - Tobacco use
  - Alcohol abuse
- **Levels:**
  - Governmental restrictions and mandate
  - Media and education
  - Labelling and information
  - Economic incentives
  - Schools
  - Workplaces
  - Community Setting

Recommendations for population-based approaches to smoking and other tobacco use (1)

NEW

	Recommendations	Class[a]	Level[b]
Governmental restrictions and mandates	Banning smoking in public places is recommended to prevent smoking and to promote smoking cessation.	I	A
	Banning smoking in public places, outside public entrances, workplaces, in restaurants and bars is recommended to protect people from passive smoking.	I	A
	Prohibit sales of tobacco products to adolescents are recommended.	I	A
	Banning of tobacco vending machines is recommended.	I	A
	Restrictions on advertising, marketing and sale of smokeless tobacco are recommended.	I	A
	Complete ban on advertising and promotion of tobacco products are recommended.	I	B
	Reduced density of retail tobacco outlets in residential areas, schools and hospitals is recommended.	I	B
	Harmonization of border sales and tax free sales of all tobacco products is recommended.	I	B
	Restrictions on advertising, marketing and sale of electronic cigarettes should be considered.	IIa	A

www.escardio.org/guidelines

Population-based approaches to diet (1)

	Recommendations	Class	Level
Governmental restrictions and mandates	Legislation on composition of foods to reduce energy density, salt and saturated fat, and (added) sugar content of foods and beverages, and to limit portion sizes is recommended.	I	B
	Elimination of industrially produced transfats is recommended.	I	A
	Facilitating an integrated and coherent policy and activities of the (local) governments, non-governmental organizations, food industry, retail, catering, schools, workplaces and other stakeholders to promote a healthy diet and to prevent overweight is recommended.	I	C
	Legislation restricting marketing aimed at children of foods that are high in fats, sugar and/or salt, less healthy options, junk foods, drinks with alcohol and non-alcoholic beverages rich in sugar (e.g. on TV, internet, social media and on food packages) is recommended.	I	C
Media and education	Reformulation of foods accompanied by educational information campaigns should be considered to create awareness on the nutrition quality of foods among consumers.	IIa	C
Labelling and information	Mandatory and harmonized simplified front-of-pack nutrition labelling is recommended.	I	C
	Independently and coherently formulated criteria for nutrient profiles should be considered in support of health and nutrition claims and front-of-pack logos (e.g. traffic lights, healthy choices, key-holes).	IIa	C
	Mandatory nutrition labelling for non-pre-packaged foods, including in restaurants hospitals and workplaces, should be considered.	IIa	C

EUROPEAN SOCIETY OF CARDIOLOGY®

European Heart Journal 2016;37:2315–2381-doi:10.1093/eurheartj/ehw106

Population-based approaches to diet (2)

	Recommendations	Class	Level
Economic incentives	Pricing and subsidy strategies are recommended to promote healthier food and beverage choices.	I	B
	Taxes on foods and beverages rich in sugar and saturated fat, and on alcoholic drinks are recommended.	I	B
Schools	At all schools, pre-schools and daycare centres a multi-component, comprehensive and coherent policy is recommended to promote a healthy diet.	I	B
	Availability of fresh drinking water and healthy foods in schools, and in vending machines is recommended.	I	B
Workplaces	At all companies a coherent and comprehensive health policy and nutritional education are recommended to stimulate the health awareness of employees.	I	B
	Increased availability of fresh drinking water and improved nutritional quality of food served and/or sold in the workplace, and in vending machines should be considered.	IIa	C
Community setting	Regulation of location and density of fast food and alcohol purchasing outlets and other catering establishments should be considered.	IIa	C

European Heart Journal 2016;37:2315–2381-doi:10.1093/eurheartj/ehw106

Population-based approaches to physical activity (1)

	Recommendations	Class	Level
Governmental restrictions and mandates	Consideration of PA when planning new landscaping/buildings or towns is recommended.	I	C
Media and education	Sustained, focused, media and educational campaigns, using multiple media modes (e.g. apps, posters, flyers and signage) may be considered to promote PA.	IIb	C
	Short term community-based educational programmes and wearable devices promoting healthy behaviours, such as walking should be considered.	IIa	C
Labelling and information	Point-of-decision prompts should be considered to encourage use of stairs.	IIa	B
	Exercise prescription for health promotion by physicians, especially GPs, similar to drug prescription should be considered.	IIa	C
Economic incentives	Increased fuel (gasoline) taxes should be considered to increase active transport/commuting.	IIa	C
	Tax incentives for individuals to purchase exercise equipment or health club/fitness memberships may be considered.	IIb	C
	Sustained individual financial incentives may be considered for increased activity/fitness or weight loss.	IIb	C
	Tax incentives to employers to offer comprehensive worksite wellness programmes with nutrition, PA, and tobacco cessation/prevention components may be considered.	IIb	C

European Heart Journal 2016 ;37:2315–2381-doi:10.1093/eurheartj/ehw106

Population-based approaches to physical activity (2)

	Recommendations	Class	Level
Schools	Increased availability and types of school playground spaces and equipment for exercise activity and sports are recommended.	I	C
	Regular classroom PA breaks during academic lessons should be considered.	IIa	B
	Increasing active commuting to school should be considered e.g. a walking school bus programme with supervised walking routes to and from school for safety.	IIa	C
	Increased number and duration of PA classes, with revised PA curricula to implement at least moderate activity and trained teachers in exercise and sports may be considered.	IIb	B
Workplaces	Comprehensive worksite wellness programmes should be considered with nutrition and PA components.	IIa	B
	Structured worksite programmes that encourage PA and provide a set time for PA during work hours should be considered. Improving stairway access and appeal, potentially in combination with "skip-stop" elevators that skip some floors should be considered.	IIa	C
	Promoting worksite fitness centres should be considered.	IIa	C
Community setting	Health care providers should consider inquiring about PA in every medical encounter and adding it to the record. In addition, they should consider to motivate the individual and promote PA.	IIa	C
	Improved accessibility of recreation and PA spaces and facilities (e.g. building of parks and playgrounds, increasing operating hours, use of school facilities during non-school hours), improved walkability should be considered.	IIa	C
	Improved neighbourhood aesthetics (to increase activity in adults) should be considered.	IIa	C

European Heart Journal 2016 ;37:2315–2381-doi:10.1093/eurheartj/ehw106

Protecting against alcohol abuse (1)

	Recommendations	Class	Level
Governmental restrictions and mandates	Regulating physical availability of alcoholic beverages is recommended, including minimum legal purchase age, restrictions on outlet density and time and place of sales, public health oriented licensing systems, and governmental monopolies of retail sales.	I	B
	Drink-driving countermeasures are recommended such as lowered blood alcohol concentration limits and "zero tolerance", random breath testing and sobriety check points.	I	B
	Implementing comprehensive restrictions and bans on advertising and promotion of alcoholic beverages is recommended.	I	C
Media and education	Educational information campaigns may be considered to create awareness on the hazardous effects of alcohol.	IIb	B
Labelling and information	Labelling alcohol with information on caloric content and health warning messages of the harmful effects of alcohol may be considered.	IIb	B
Economic incentives	Taxes on alcoholic beverages are recommended.	I	B

European Heart Journal 2016;37:2315–2381-doi:10.1093/eurheartj/ehw106

EUROPEAN SOCIETY OF CARDIOLOGY®

Prevention of cardiovascular diseases, either by implementation of lifestyle changes or use of medication, is cost-effective in many scenarios:

1.population-based approaches

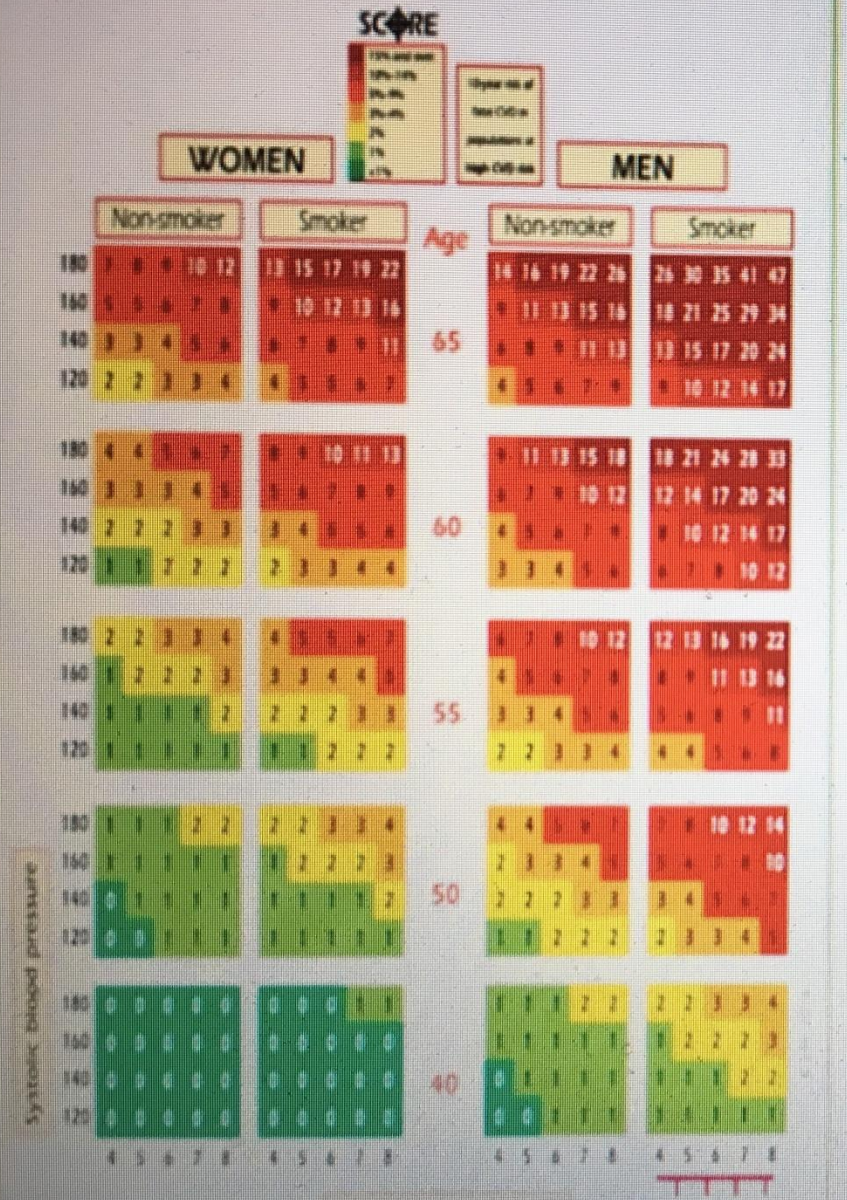
2.**actions directed at high-risk individuals.**

Current cardiovascular disease risk (1)

	Framingham	SCORE	ASSIGN – SCORE	QRISK & QRISK	PROCAM	Pooled Cohort Studies Equations	CUORE	Globorisk
Data	Prospective studies: Framingham Heart Study and Framingham offspring study. Latest version includes both.	12 pooled prospective studies.	SHHEC Prospective Study.	QRESEARCH database.	Prospective study.	4 Pooled prospective studies ARIC, CHS CARDIA Framingham (original and offspring studies).	CUORE	Derivation cohort: 8 pooled prospective studies - Atherosclerosis Risk in Communities, Cardiovascular Health Study, Framingham Heart Study original cohort and offspring cohort, Honolulu Program, Multiple Risk Factor Intervention Trial, Puerto Rico Heart Health Program, and Women's Health Initiative Clinical Trial.
Population	General population, Framingham, Massachusetts, USA. Baselines: 1968-1971, 1971-1975, 1984-1987	12 prospective studies from 11 European countries. Baselines: 1972–1991	Random sample from general population in Scotland, baseline: 1984–1987	Data collected from 1993–2008 from GP databases - imputation of missing data.	Healthy employees. Baseline: 1978-1995	Baselines 1987-89 (ARIC), 1990 and 1992–3 (CHS), 1985-6 (CARDIA), 1968-1971, 1971-1975, 1984-198 (Framingham)	1980s and 1990s	8 prospective studies from North America. Baselines: 1948–1993
Sample size	3969 men and 4522 women.	117 098 men and 88 080 women.	6540 men and 6757 women.	1.28 million (QRISK1) 2.29 million (QRISK2)	18 460 men and 8515 women.	11 240 white women, 9098 white men, 2641 African-American	7520 men and 13 127 women	33 323 men and 16 806 women.
Calculates	**10-year risk of CAD events** originally. Latest version: 10-year risk of CVD events. NCEP ATP III version: 10-year risk of hard coronary events	**10-year risk of CVD mortality.**	**10-year risk of CVD events.**	**10-year risk of CVD events.** Lifetime risk.	Two separate scores calculate 10-year risks of **major coronary events and cerebral ischaemic events.**	**10-year risk for a first atherosclerotic CVD event. Lifetime risk.**	**10-year probability of developing a first major CV event (myocardial infarction or stroke)**	**10 year risk of fatal cardiovascular Disease.**

Current cardiovascular disease risk (2)

	Framingham	SCORE	ASSIGN – SCORE	QRISK & QRISK	PROCAM	Pooled Cohort Studies Equations	CUORE	Globorisk
Age range (years)	30–75	40–65	30–74	35–74	20–75	20–79	35–69	40-84
Variables	Sex, age, total cholesterol, HDL-C, SBP, smoking status, DM, hypertensive treatment.	Sex, age, total Cholesterol or total cholesterol/ HDL-C ratio, SBP, smoking status. Versions for use in high and low-risk Countries.	Sex, age, total cholesterol, HDL-C, SBP, smoking - no. cigs, DM, area based index of deprivation, family history.	QRISK1 - sex, age total cholesterol to HDL-C ratio, SBP, smoking status, DM, area based index of deprivation, family history, BMI, BP treatment, ethnicity and chronic diseases.	Age, sex, LDL-C, HDL-C, DM, smoking, SBP.	Age, sex, race (white or other/African American), total cholesterol, HDL-C, SBP, antihypertensive treatment, DM, smoking.	Age, sex, SBP, total cholesterol, HDL-C, antihypertensive therapy and smoking habit.	Age, sex, smoking, total cholesterol, DM, systolic BP.
Comments/ develop.	Latest version includes version based on non-laboratory values only, substituting BMI from lipid measurements.	National, updated Recalibrations.		QRISK2 includes interaction terms to adjust for the interactions between age and some of the Variables.	Recent change in the methods (Weibull) allows extension of risk estimation to women and broader age range.	Race specific beta coefficients for risk factors have been incorporated. Calculator shown to overestimate risk in external validations - this may indicate the need for recalibration in certain populations.		Recalibrations have been undertaken for 11 countries.
Recom. by guidelines	NCEP guidelines, Canadian CV guidelines, other national guidelines recommend adapted versions including New Zealand.	European Guidelines on CVD Prevention.	SIGN	NICE guidelines on lipid modification, QRISK Lifetime recommended by JBS3 guidelines.	International Task Force for Prevention of Coronary Disease Guidelines.	2013 AHA ACC Guideline on the assessment of CVD Risk.		



SCORE chart: 10-year risk of fatal CVD based on the following risk factors: age, sex, smoking, systolic blood pressure, total cholesterol

And what about the other 100+ CV risk factors?

- hs-CRP ?
- Lp(a) ?
- stress ?
- body mass index? waist-hip ratio ?
- intima-media thickness?
- coronary calcium score?
- ...
- etcetera

Examples of risk modifiers that (1) have risk reclassification potential and (2) are feasible

Socio-economic status, social isolation, or lack of social support.
Family history of premature CVD.
BMI and central obesity.
CT coronary calcium score.
Atherosclerotic plaques determined by carotid artery scanning.
ABI.

Risk categories

Very high-risk	Subjects with any of the following: • 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. • DM with target organ damage such as proteinuria or with a major risk factor such as smoking or marked hypercholesterolaemia or marked hypertension. • Severe CKD (GFR <30 mL/min/1.73 m^2). • A calculated SCORE ≥10%.
High-risk	Subjects with: • Markedly elevated single risk factors, in particular cholesterol >8 mmol/L (>310 mg/dL) (e.g. in familial hypercholesterolaemia) or BP ≥180/110 mmHg. • 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). • Moderate CKD (GFR 30–59 mL/min/1.73 m^2). • A calculated SCORE ≥5% and <10%.
Moderate-risk	SCORE is ≥1% and <5% at 10 years. Many middleaged subjects belong to this category.
Low-risk	SCORE <1%.

EUROPEAN SOCIETY OF CARDIOLOGY®

European Heart Journal 2016;37:2315–2381-doi:10.1093/eurheartj/ehw106

Risk Factor Targets

* **Smoking**: No exposure to tobacco in any form.
* **Diet :** Low in saturated fat with a focus on wholegrain products, vegetables, fruit and fish.
- **Physical activity:** 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.
- **Body weight:** BMI 20–25 kg/m2.
- **Waist circumference:**
  <94 cm (men)or <80 cm (women).
* **HbA1c in patients with DM** : < 7.0% (< 53 mmol/mol)

Lipids

LDL-C is the primary target:

Very high risk: < 1.8 mmol/L (< 70 mg/dL) OR a reduction of at least 50% if the baseline LDL-C is between 1.8 and 3.5 mmol/L (70 and 135 mg/dL)

High risk : < 2.6 mmol/L (< 100 mg/dL) OR a reduction of at least 50% if the baseline LDL-C is between 2.6 and 5.2 mmol/L (100 and 200 mg/dL).

Low to Moderate risk : < 3.0 mmol/L (< 115 mg/dL)

HDL-C	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.
Triglycerides	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.

www.escardio.org/guidelines

Clinical indications for the use of out-of-office blood pressure measurements

Suspicion of white-coat or masked hypertension

- High office BP in individuals without organ damage and at low total CV risk.
- Normal office BP in individuals with organ damage or at high total CV risk.
- Considerable variability of office BP over the same or different visits.
- Autonomic, postural, post-prandial, siesta- and drug-induced hypotension.
- Elevated office BP or suspected pre-eclampsia in pregnant women.
- Identification of true and false resistant hypertension.

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.

European Heart Journal 2016;37:2315–2381-doi:10.1093/eurheartj/ehw106

Blood pressure targets

- SBP should be lowered to < 140 mmHg (and DBP to < 90 mmHg) in all treated hypertensive patients **< 60 years old.(I,B)**
- In patients **> 60 years old** with SBP ≥ 160 mmHg, the treatment goal is to reduce SBP to between 150 and 140 mmHg.**(I,B)**
- In **fit patients <80 years old**, a target SBP < 140 mmHg may be considered if treatment is well tolerated. In some of these patients a target SBP <120 mmHg may be considered when they are at **(very) high risk and can tolerate multiple antihypertensive drugs.(IIb,B)**

Blood pressure targets

- In individuals >80 years and with initial SBP ≥160 mmHg, it is recommended to reduce SBP to between 150 and 140 mmHg provided they are in good physical and mental conditions.(I,B)

- In frail elderly patients, it should be considered to be careful in terms of treatment intensity (e.g. number of antihypertensive drugs) and BP targets, and clinical effects of treatment should be carefully monitored.(IIa,B)

Major new key messages since 2012. WHO?

- **Relevant groups**
  - **In women** risk is deferred by approximately 10 years
  - **In persons > 60 years** of age the risk thresholds should be interpreted more leniently and uncritical initiation of drug treatments should be discouraged.
  - **In younger patients,** low absolute risk may implicate a very high relative risk, and use of the relative risk chart may help

2016 European Guidelines on CVD Prevention in Clinical Practice

To do and not to do messages:

Recommendations for:

- cardiovascular risk assessment
- how to estimate CV risk
- how to intervene
- achieving medication and healthy lifestyle adherence
- CVD prevention implementation

To do and not to do messages from the Guidelines (1)

Recommendations	Class	Level
Cardiovascular risk assessment		
Systematic CV risk assessment is recommended 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
It is recommended to repeat CV risk assessment every 5 years, and more often for individuals with risks close to thresholds mandating treatment.	I	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
How to estimate cardiovascular risk		
Total CV risk estimation, using a risk estimation system such as SCORE, is recommended for adults >40 years of age, unless they are automatically categorised as being at high risk or very high risk based on documented CVD, DM (>40 years of age), kidney disease or a highly elevated single risk factor.	I	C
Routine assessment of circulating or urinary biomarkers is not recommended for refinement of CVD risk stratification.	III	B
Carotid ultrasound IMT screening for CV risk assessment is not recommended.	III	A

European Heart Journal 2016 ;37:2315–2381- doi:10.1093/eurheartj/ehw106

To do and not to do messages from the Guidelines (3)

Recommendations	Class	Level
How to intervene *(cont'd)*		
In treated hypertensive patients <60 years old, SBP <140 mmHg and DBP <90 mmHg are recommended. In patients >60 years old with SBP ≥160 mmHg, it is recommended to reduce SBP to between 150 and 140 mmHg. In individuals >80 years and with initial SBP ≥160 mmHg, it is recommended to reduce SBP to between 150 and 140 mmHg, provided they are in good physical and mental conditions.	I	B
BP targets in type 2 DM are <140/85 mmHg, but a lower target of <130/80 mmHg is recommended in selected patients (e.g. younger patients at elevated risk for complications) for additional gains on stroke, retinopathy and albuminuria risk.	I	B
BP targets in patients with type 1 DM are <130/80 mmHg.	I	B
Drug treatment is recommended in patients with grade 3 hypertension irrespective of CV risk, as well as in patients with grade 1 or 2 hypertension who are at very high CV risk.	I	B
All major BP lowering drug classes (i.e. diuretics, ACE-I, calcium antagonists, ARBs, and ß-blockers) do not differ significantly in their BP-lowering efficacy and thus are recommended as BP lowering treatment.	I	A

European Heart Journal 2016 ;37:2315–2381-doi:10.1093/eurheartj/ehw106

EUROPEAN SOCIETY OF CARDIOLOGY®

To do and not to do messages from the Guidelines (4)

Recommendations	Class	Level
How to intervene *(cont'd)*		
Renin-angiotensin-aldosterone system blocker is recommended in the treatment of hypertension in DM, particularly in the presence of proteinuria or micro-albuminuria.	I	B
ß-blockers and thiazide diuretics are not recommended in hypertensive patients with multiple metabolic risk factors due to the increased risk of DM.	III	B
A target HbA1c for the reduction in risk of CVD and microvascular complications in DM of <7.0% (<53 mmol/mol) is recommended for the majority of non-pregnant adults with either type 1 or type 2 DM.	I	A
In DM, metformin is recommended as therapy, if tolerated and not contra-indicated, following evaluation of renal function.	I	B
Lipid lowering agents (principally statins) are recommended to reduce CV risk in all patients with type 2 or type 1 DM above the age of 40 years.	I	A
Antiplatelet therapy is not recommended in individuals without CVD due to the increased risk of major bleeding.	III	B

European Heart Journal 2016 ;37:2315–2381-doi:10.1093/eurheartj/ehw106

To do and not to do messages from the Guidelines (5)

Recommendations	Class	Level
Achieving medication and healthy lifestyle adherence		
Simplifying the treatment regimen to the lowest acceptable level is recommended, with repetitive monitoring and feedback. In the case of persistent non-adherence, multi-session or combined behavioural interventions are recommended.	I	A
It is recommended that health personnel, caregivers set an example by following healthy lifestyle, such as not smoking or using tobacco products at work.	I	A
CVD Prevention implementation		
In primary care, it is recommended that GPs, nurses and allied health professionals within primary care deliver CVD prevention for highrisk patients.	I	C
In acute hospital setting, 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.	I	A
Participation in a cardiac rehabilitation programme for patients hospitalized for an acute coronary event or revascularization, and for patients with HF, is recommended.	I	A

European Heart Journal 2016 ;37:2315–2381-doi:10.1093/eurheartj/ehw106

Prevention of cardiovascular diseases, either by implementation of lifestyle changes or **use of medication**, is cost-effective in many scenarios:

1.population-based approaches

2.**actions directed at high-risk individuals.**

Adherence to medication in individuals at high risk and in patients with CVD is low. Several types of interventions are effective in improving medication adherence.

The polypill may increase adherence to treatment and improve CV risk factor control.

- Several genetic markers are associated with an increased risk of CVD, but their use in clinical practice is not recommended.
- Routine screening with imaging modalities to predict future CV events is generally not recommended in clinical practice. Imaging methods may be considered as risk modifiers in CV risk assessment
- There is evidence of a positive relationship between obstructive sleep apnea syndrome and hypertension, coronary artery disease, atrial fibrillation, stroke, and heart failure.
- Erectile dysfunction is associated with future CV events in men without and with established CVD.
- Several obstetric complications, in particular pre-eclampsia and pregnancy-related hypertension, are associated with a higher risk of CVD later in life. This higher risk is explained, at least partly, by hypertension and diabetes mellitus.
- Polycystic ovary syndrome confers a significant risk for future development of diabetes mellitus.
- 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.