Cardiovascular disease

Coming together: The ESC and EASD's new joint guidelines

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The guidelines from a collaboration between the ESC (European Society of Cardiology) and EASD (European Association for the Study of Diabetes) by Rydén et al, which are summarised alongside, represent a remarkable compilation of current data in terms of the management of cardiovascular disease in individuals with diabetes, and, on the contrary, the management of diabetes in people with coronary heart disease. The coming together of the two societies represents a significant move towards "common sense". Treatment targets are predominantly comparable to other august guidelines. The sub-headings are selected carefully and provide ease of reference, including areas for which more attention may be required, such as management of glycaemia in the presence of heart failure. Anybody interacting with individuals with diabetes, with or without cardiovascular disease, is implored to read through these guidelines. ■

> ***"The coming together of ESC and EASD to produce a set of guidelines represents a significant move towards 'common sense'."***

Eur Heart J

Second version of ESC/EASD guidelines

Readability	✓✓✓
Applicability to practice	✓✓✓
WOW! Factor	✓✓✓

1 This is the second iteration of the joint guidelines by the ESC (European Society of Cardiology) and EASD (European Association for the Study of Diabetes) on the management of T1D and T2D, pre-diabetes, and cardiovascular disease (CVD) for healthcare professionals to make evidence-based management decisions.

2 Key guidelines include using a non-invasive risk score (e.g. FINDRISC) to supplement the assessment of glycaemia in people at high risk of pre-diabetes and T2D.

3 HbA_{1c} of <48 mmol/mol (<6.5%) does not exclude a diagnosis of diabetes. Further oral glucose tolerance testing should be completed in people at high risk of disturbed glucose metabolism.

4 Impaired glucose tolerance can be delayed from progressing to diabetes by lifestyle intervention in about 50% of individuals.

5 A combination of interventions and medical management is promoted, e.g. increased physical activity and a combination of glucose-lowering, lipid-lowering and blood pressure-lowering agents.

6 The ESC/EASD collaboration states that the target clinical guidelines to prevent CVD should be: blood pressure <140/85 mmHg; LDL-cholesterol <1.8 mmol/L; and HbA_{1c} <53 mmol/mol (<7%).

7 The ESC/EASD encourage collaboration between specialists in cardiology, diabetology and primary care practitioners to ensure the best possible care for people with diabetes.

Rydén L, Grant PJ, Anker SD et al (2013) ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD. *Eur Heart J* **34**: 3035–87

Am J Hypertens

Survival of elderly individuals with or without diabetes who are treated for hypertension

Readability	✓✓✓
Applicability to practice	✓✓
WOW! Factor	✓✓✓

1 As part of the ANBP2 (the second Australian National Blood Pressure) study, 6083 people aged 65–84 years who were being treated for hypertension were randomly assigned to angiotensin-converting enzyme inhibitor (ACEI) based- or thiazide diuretic-based hypertension therapy and followed for a median of 4.1 years.

2 The authors investigated the impact of pre-existing diabetes and newly diagnosed diabetes on the long-term survival of this cohort.

3 Among this cohort, 7.2% had preexisting diabetes (for a median of 9.4 years previous), and 5.6% were newly diagnosed with diabetes during the study. The remaining 87.2% did not develop diabetes.

4 There was a 44% higher incidence of newly diagnosed diabetes among the participants that were receiving the thiazide diuretic-based therapy compared to the ACEI-based therapy. Therefore, ACEI-based therapy may delay the onset of diabetes.

5 The pre-existing diabetes group experienced higher cardiovascular and all-cause mortality (hazards ratio [HR] 1.65; 95% confidence intervals [CI] 1.03–2.65; HR 1.40; 95% CI, 1.02–1.92, respectively) when adjusted to baseline. Therefore, pre-existing diabetes may reduce the survival of people who are treated for hypertension.

Chowdhury EK, Owen A, Ademi Z et al (2013) Short- and long-term survival in treated elderly hypertensive patients with or without diabetes. *Am J Hypertens* **27**: 199–206

Am J Cardiol

Valsartan versus amlodipine for people with diabetes and hypertension

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! Factor	✓✓✓✓

1 In a sub-study of the NHS (NAGOYA HEART Study), the authors compared the protective cardiovascular effect of valsartan (an angiotensin II receptor blocker [ARB]) and amlodipine (a calcium channel blocker [CCB]) in people with diabetes and hypertension.

2 The study groups were further split into those that had previous cardiovascular disease (CVD) and those that had not.

3 A total of 1150 participants were randomly assigned to each treatment option, and the primary composite outcomes were sudden cardiac death, acute myocardial infarction, stroke, coronary revascularisation or hospitalisation for heart failure.

4 The prevalence of CVD events was 3.5 times higher in the sub-group that had previous CVD than the group that had not.

5 The two drug groups showed a similar incidence of composite CVD events in people with and without previous CVD.

6 The incidence of stroke in the whole cohort was not different between the ARB- and CCB-based therapies. However, there was a lower incidence of stroke in the ARB-based therapy arm compared with the CCB-based therapy arm among people with previous CVD, which suggests that ARB-based therapy could have a greater protective effect in this sub-group.

Yamashita K, Kondo T, Muramatsu T et al (2013) Effects of valsartan versus amlodipine in diabetic hypertensive patients with or without previous cardiovascular disease. *Am J Cardiol* **112**: 1750–6

Int J Cardiol

Association between antihypertensive drugs and mortality

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! Factor	✓✓✓✓

1 This was the first and largest observational study to assess the association between antihypertensive drug classes and all-cause mortality and deaths due to diabetes complications or renal disease in a real-life clinical setting.

2 A database of 218 047 people who had first been prescribed antihypertensive agents between 2001 and 2005 was studied. All the participants were followed for up to 5 years.

3 In total, 33 288 people died within 5 years of the first time they were prescribed antihypertensive drugs; 1055 of them died of diabetes-related complications or renal disease.

4 All the investigated drug classes had a similar association with all-cause mortality. This suggests any of the major antihypertensive drug classes are safe and effective to be prescribed as a first-line agent.

Wong MC, Tam WW, Wang HH et al (2013) Predictors of the incidence of all-cause mortality and deaths due to diabetes and renal diseases among patients newly prescribed antihypertensive agents. *Int J Cardiol* **168**: 4705–10

Am J Cardiol

BARI 2D: Differences in cardiovascular risk profiles

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! Factor	✓✓✓✓

1 The study aim was to investigate the impact of race and ethnicity on cardiovascular risk factor control in the US and Canadian cohort of the BARI 2D trial (n=1750).

2 Participants self-reported their race and ethnicity at baseline: White non-Hispanic (n=1189); Black non-Hispanic (n=349); and Hispanic (n=212).

3 The participants went on to receive targeted medical treatment for cardiac risk factors as part of the trial.

4 At baseline, there was a significant difference in cardiac risk profiles among the races (i.e. Black people had the worst risk factor profile). During follow-up and by study's end, there was no significant difference among the races for a composite of cardiovascular events and the long-term risk of death.

Beohar N, Sansing VV, Davis AM et al (2013) Race/ethnic disparities in risk factor control and survival in the bypass angioplasty revascularization investigation 2 diabetes (BARI 2D) trial. *Am J Cardiol* **112**: 1298–305

Am J Cardiol

Adherence to therapy for CHD

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! Factor	✓✓✓✓

1 Data from adults with a self-reported history of coronary heart disease (CHD) who were surveyed as part of the National Health and Nutrition Examination Surveys in the US were examined to ascertain their demographic and adherence to following lifestyle and medical therapies.

2 In total, 759 people surveyed had CHD – of these, adherence to drug therapies was lower in women than men, and in blacks and Hispanics compared to whites.

3 Only 17% of subjects reported doing some regular physical activity. The authors concluded that a suboptimal proportion of people with CHD adequately control for their risk factors.

Tang L, Patao C, Chuang J, Wong ND (2013) Cardiovascular risk factor control and adherence to recommended lifestyle and medical therapies in persons with coronary heart disease (from the National Health and Nutrition Examination Survey 2007-2010). *Am J Cardiol* **112**: 1126–32

"This study suggests any of the major anti-hypertensive drug classes are safe and effective to be prescribed as a first-line agent for the treatment of hypertension."