



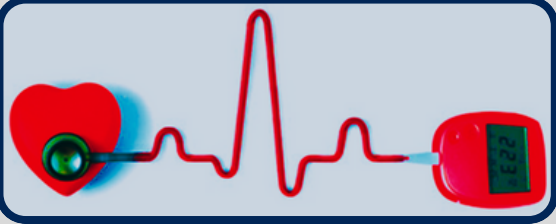
# The Scientific Times

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## EUROPEAN SOCIETY OF CARDIOLOGY GUIDELINES-2023

### *The Latest Updates for Managing Cardiovascular Disease in Patients with Type 2 Diabetes*



# ESC

European Society of Cardiology

**Mission: To reduce the burden of cardiovascular diseases.**

*The European Society of Cardiology (ESC) is an independent, non-profit organisation. It is a world leader in the discovery and dissemination of best practices in cardiovascular (CV) medicine. The ESC comprises of 28 cardiovascular subspecialty communities covering the full spectrum of cardiology.*

## CONTENTS

- CV Risk Assessment in T2DM
- Glycemic Targets
- Weight Management
- Blood Pressure Management
- Lipid Targets
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- The 2023 update of the ESC guidelines for the management of cardiovascular disease (CVD) in patients with diabetes incorporates significant new evidence that has emerged from CV outcome trials (CVOTs) and cardiorenal studies since the previous version was published in 2019.
- This comprehensive guideline covers a spectrum of critical factors, including glycemic targets, weight management, blood pressure regulation, and lipid control.
- Additionally, it offers recommendations on the use of anti-thrombotic therapy and addresses the management of heart failure (HF) and chronic kidney disease (CKD) in individuals with diabetes, all with a strong emphasis on person-centered care.
- For individuals without atherosclerotic CVD or severe target-organ damage, a novel 10-year CV risk score specific to type 2 diabetes (T2DM), SCORE2-Diabetes, is introduced.
- The guideline recommends choosing drugs with CV benefits proven in CV and cardiorenal outcome trials.

*To access the full text, please click the link below:*

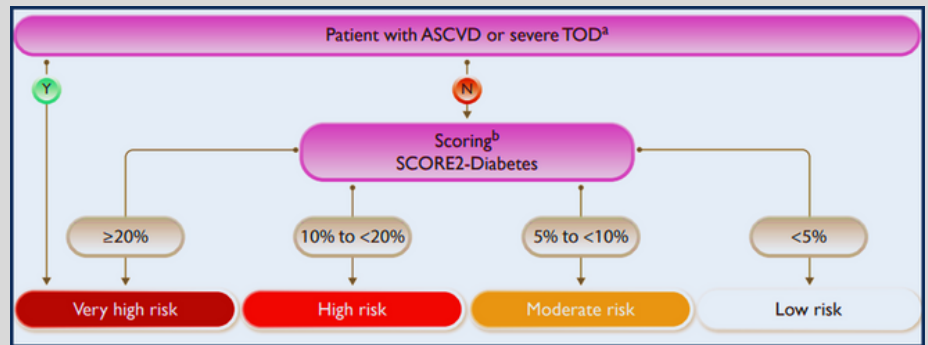
<https://academic.oup.com/eurheartj/article/44/39/4043/7238227>

# ESC 2023 : New Evidence-Based Recommendations

## Cardiovascular Risk Assessment in Diabetes with SCORE2 -Diabetes

### Recommendations

- All patients with diabetes should be evaluated for the presence of atherosclerotic cardiovascular disease (ASCVD) and severe target-organ damage (TOD).
- In patients aged 40 years or older with T2DM and without symptomatic ASCVD or severe TOD, a 10-year CVD risk via SCORE2-Diabetes should be calculated.

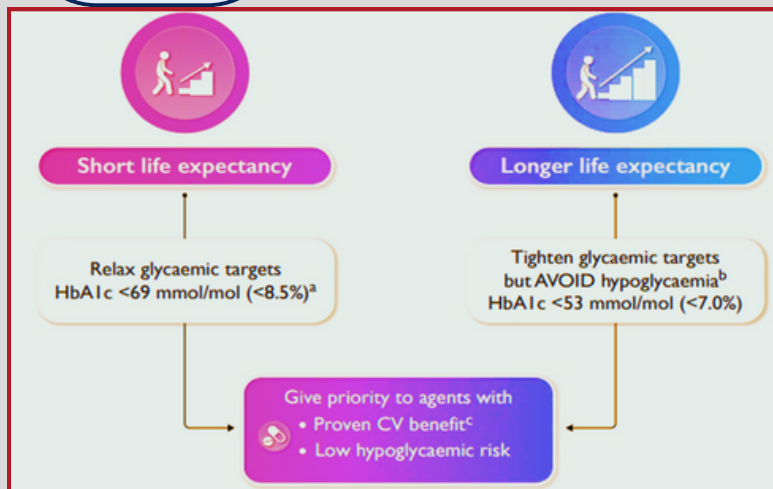


The algorithm combines traditional CVD risk factors such as age, smoking status, systolic blood pressure, and cholesterol levels in addition to diabetes-specific factors like age at diabetes diagnosis, HbA1c, and estimated glomerular filtration rate (eGFR) to estimate the patient's 10-year CVD risk.



## Glycemic Targets

## Glucose-lowering agents with proven CV benefit and safety



- Glucose-lowering agents with proven CV benefit and low hypoglycaemic risk- **GLP-1 RAs, SGLT-2 Inhibitors**
- Glucose-lowering agents for additional glucose control with some CV benefit- **Metformin, Pioglitazone**
- Glucose-lowering agents with proven CV safety- **Dipeptidyl peptidase-4 inhibitors, Sulfonylurea, Insulin glargine or Insulin degludec, Oral GLP-1 RA Semaglutide, extended-release Exenatide**



## Weight Reduction in Patients with Diabetes

Goal: > 5% Weight Loss

Improves

Glycemic Control

Lipid Levels

Blood Pressure

### Recommendations

- The Mediterranean diet is recommended for individuals with T2DM or obesity to improve metabolic control and reduce CVD risk.
- Glucose-lowering medications like **GLP-1 RAs** should be considered for overweight or obese individuals to facilitate weight reduction.
- Bariatric surgery** is a consideration for high-risk patients ( $BMI \geq 35 \text{ kg/m}^2$ ) when repeated lifestyle changes and weight-reducing medications fail to sustain weight loss.

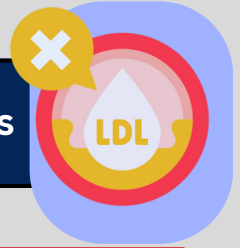


## Blood Pressure Management in Diabetes

### Recommendations

#### Treatment Goals

- Systolic BP:  $\leq 130$  mmHg if tolerated, but not less than  $< 120$  mmHg
  - Older People ( $> 65$  Years)- Systolic BP: **130-139 mmHg**
  - Older People ( $\geq 70$  years)- Systolic BP  **$< 140$  mmHg**
  - Diastolic BP:  **$< 80$  mmHg** for all treated patients.
- Antihypertensive drug treatment is recommended in diabetes when office BP  $\geq 140/90$  mm Hg.
  - Initiate treatment with a combination of a Renin-angiotensin system inhibitor and a Calcium channel blocker or Thiazide/Thiazide-like diuretic.
  - Consider Beta-blockers at any treatment step when specifically indicated (e.g., HF, angina, post-myocardial infarction [MI], Atrial fibrillation [AF]).



## Lipid Targets in Diabetes

### Recommendations

#### Treatment Goals

- ASCVD, target organ damage or very high risk ( $\geq 20\%$ ): **LDL-C  $< 55$  mg/dL**
  - SCORE2-Diabetes high risk (10% to  $< 20\%$ ): **LDL-C  $< 70$  mg/dL**
  - SCORE2-Diabetes moderate risk (5% to  $< 10\%$ ): **LDL-C  $< 100$  mg/dL**
- Statins are recommended as the first-choice LDL-C-lowering treatment in patients with diabetes and above-target LDL-C levels.
  - A PCSK9 inhibitor is recommended in patients at very high CV risk, with persistently high LDL-C levels above target despite treatment with a maximum tolerated statin dose, in combination with Ezetimibe, or in patients with statin intolerance.
  - If statins are not tolerated, consider adding a PCSK9 inhibitor to Ezetimibe.
  - If a statin-based regimen is not tolerated at any dosage (even after re-challenge), Ezetimibe should be considered.
  - High-dose Icosapent ethyl (2 g b.i.d.) may be considered in combination with a Statin in patients with hypertriglyceridaemia.

*LDL-C - Low-density lipoprotein cholesterol; PCSK9 Inhibitor-Proprotein convertase subtilisin/kexin type 9 inhibitor*

## Antithrombotic Therapy Recommendations in Diabetes

1. Aspirin (ASA) at a dose of 75–100 mg daily is recommended for patients with diabetes and a history of MI or revascularization (CABG or stenting).
2. In patients with ACS and diabetes undergoing PCI, a P2Y12 receptor inhibitor (ticagrelor or prasugrel) should be added to ASA (75–100 mg daily) and maintained for 12 months.
3. For patients with CCS who undergo coronary stenting, Clopidogrel at 75 mg daily, following appropriate loading dose, is recommended in addition to ASA for 6 months. Clopidogrel can be an alternative in case of ASA intolerance.
4. Gastric protection with proton pump inhibitors is recommended to prevent gastrointestinal bleeding, especially when using multiple antithrombotic drugs in combination.

# Heart Failure Management in Diabetes

## Treatment Recommendations

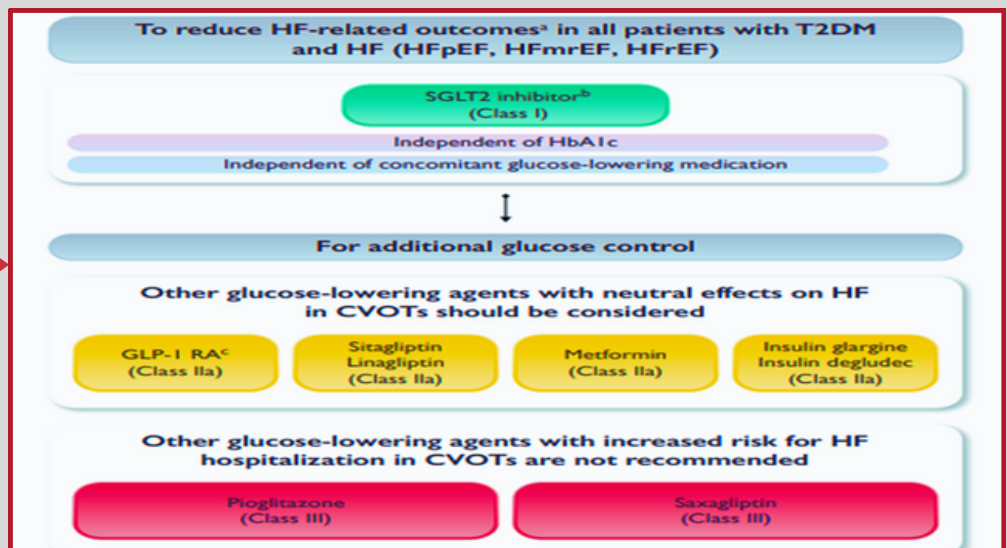
- Sodium–glucose co-transporter-2 (SGLT2) inhibitors (Dapagliflozin, Empagliflozin, or Sotagliflozin) are recommended in all patients with HFrEF and T2DM.
- Empagliflozin or Dapagliflozin are recommended in patients with T2DM and LVEF >40% (HFmrEF and HFpEF).
- Sacubitril/Valsartan or Angiotensin-converting enzyme inhibitor (ACE-I) is recommended in all patients with HFrEF and diabetes.
- Beta-blockers are recommended in patients with HFrEF and diabetes.
- Mineralocorticoid receptor antagonists (MRAs) are recommended in patients with HFrEF and diabetes.
- To minimize readmissions and mortality, start early, evidence-based therapy (SGLT2 inhibitors, ARNI/ACE-Is, Beta-blockers, MRAs) before discharge and perform regular follow-up within the initial 6 weeks after a HF hospitalization.
- It is recommended to switch glucose-lowering treatment from agents without proven CV benefit or proven safety to agents with proven CV benefit.

### TREATMENT GOAL

To reduce the risk of HF Hospitalization and CV death.

LVEF-Left ventricular ejection fraction; HFrEF-Heart failure with reduced ejection fraction; HFmrEF-Heart failure with midrange ejection fraction; HFpEF-Heart Failure with preserved ejection fraction

## Glucose-lowering treatment of patients with heart failure and T2DM



## CKD Management Recommendations in Diabetes

### GOAL

- BP Target: ≤130/80 mm Hg
- HbA1c Target: 6.5–8.0%
- The maximum tolerated dose of an ACE-I or Angiotensin-receptor blocker (ARB) is recommended.
- A SGLT2 inhibitor is recommended in patients with T2DM and CKD with an eGFR ≥20 mL/min/1.73 m<sup>2</sup> to reduce the risk of CVD and kidney failure.
- Finerenone is recommended in addition to an ACE-I or ARB in patients with T2DM and eGFR >60 mL/min/1.73 m<sup>2</sup> with a UACR ≥300 mg/g, or eGFR 25–60 mL/min/1.73 m<sup>2</sup> and UACR ≥30 mg/g, to reduce CV events and kidney failure.
- A GLP-1 RA is recommended at eGFR >15 mL/min/1.73 m<sup>2</sup> to achieve adequate glycemic control, due to low risk of hypoglycemia and beneficial effects on weight, CV risk, and albuminuria.
- Intensive low-density lipoprotein cholesterol (LDL-C) lowering with Statins or a Statin/Ezetimibe combination is recommended.
- Low-dose aspirin (ASA) is recommended in patients with CKD and ASCVD.

UACR-Urine Albumin-to-Creatinine Ratio

For any scientific queries on above topic

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