

PRIMARY PANEL RECOMMENDATIONS

1 *All patients with established CVD should be screened for diabetes mellitus. In the acute in-hospital setting, A1C screening is recommended.*

RATIONALE / GUIDANCE:

The Panel recommends that Atlantic CV specialists follow the recommendations of Mancini *et. al.* (2016)

For cardiologists seeing patients in an acute in-hospital setting, the most pragmatic approach is an A1C test that is then followed up electively. Cardiologists should ensure that those with A1C $\geq 6.5\%$ undergo a confirmatory measurement 2 - 4 weeks' post-discharge for a diagnosis of diabetes, those with A1C 6.0 - 6.4% should be re-screened post-discharge.

2 *Patients diagnosed with T2D and CVD should be referred for lifestyle intervention and behavioral change through a chronic disease management program.*

RATIONALE / GUIDANCE:

Well-designed models of care that include diet counselling, exercise recommendations, psychological assistance, social support and behavior change approaches have proven effective in optimizing multiple CV risk factors including diabetes.

3 *The A1C target for the majority of patients with CVD should be $\leq 7.0\%$*

RATIONALE / GUIDANCE:

An A1C of $\geq 7.1\%$ may be acceptable if the patient has limited life expectancy, a high level of functional dependency, history of recurrent severe hypoglycemia, hypoglycemia unawareness or longstanding diabetes for whom an A1C $\leq 7\%$ is difficult to achieve despite effective doses of multiple antihyperglycemic agents.

The PRACTICE POINTS document describes management strategies through which a patient's A1C can be effectively managed.

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Metformin should be the initial therapy in patients with T2D and CVD. Initial combination therapy is usually required if baseline A1C is $\geq 8.5\%$.

RATIONALE / GUIDANCE:

When selecting a second antidiabetic medication for addition to metformin, choice of agent should be individualized based on:

- Underlying heart disease
- Presence of renal dysfunction
- Degree of hyperglycemia
- **Risk of hypoglycemia**
- Obesity
- Reimbursement
- Patient preference

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In patients with T2D, cardiovascular disease and an A1C $\geq 7.0\%$, an agent with demonstrated cardiovascular benefit should be added to reduce the risk for cardiovascular events and all-cause mortality.

RATIONALE / GUIDANCE:

Both Empagliflozin and Liraglutide possess Grade A, Level 1A evidence in this population for CV risk reduction.

EMPA REG Outcome (Empagliflozin) - Reduced death from CV causes, death from any cause and hospitalization from heart failure.

LEADER Outcome (Liraglutide) - Reduced death from CV causes and death from any cause (Grade A for patients aged > 50 ; grade D for patients aged < 50).

CANVAS (Canagliflozin) - Reduction in primary composite endpoint of CV death, non-fatal MI and non-fatal stroke, but no reduction in all cause or CV death in patients with type 2 diabetes.

The EMP-REG and LEADER trials were performed in stable outpatient populations – avoid initiating these medications during acute inpatient management.

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In patients diagnosed with T2D and CVD, agents that minimize hypoglycemia and weight gain are preferred. Sulfonylureas and insulin carry a higher risk of these adverse effects.

RATIONALE / GUIDANCE:

Both hyperglycemia or hypoglycemia impair endothelial function, augment thrombosis and platelet aggregation, compromise ventricular function, disrupt the renin-angiotensin-aldosterone and autonomic nervous systems. Agents with the highest risk of hypoglycemia include insulins and insulin secretagogues because they directly raise circulating insulin levels. These two classes account for 25% of medication-related hospital admissions seen in the emergency departments in the United States. (Mancini *et. al*, 2016)

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In decompensated diabetes with symptomatic hyperglycemia and/or weight loss, insulin should be initiated +/- metformin.

RATIONALE / GUIDANCE:

Full insulin therapy is often required at 0.3 - 0.5 units/kg with lower doses favored for individuals who are lean, elderly or have renal insufficiency. Of the total daily dose give 40% as basal insulin and divide the remaining 60% into 3 for meals (The 40% basal is cited in the CDA guidelines resource tool: Examples of insulin initiation and titration in type 2 diabetes under Example C, Basal Bolus Insulin). Usually start metformin as well if the patient is obese. Some patients with shorter duration of type 2 diabetes may show a dramatic improvement in hyperglycemia after 4 - 6 weeks on insulin as the glucose toxicity is relieved and insulin can be weaned down in these cases.