Diabetes Care in 2025

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ABCDES of diabetes care

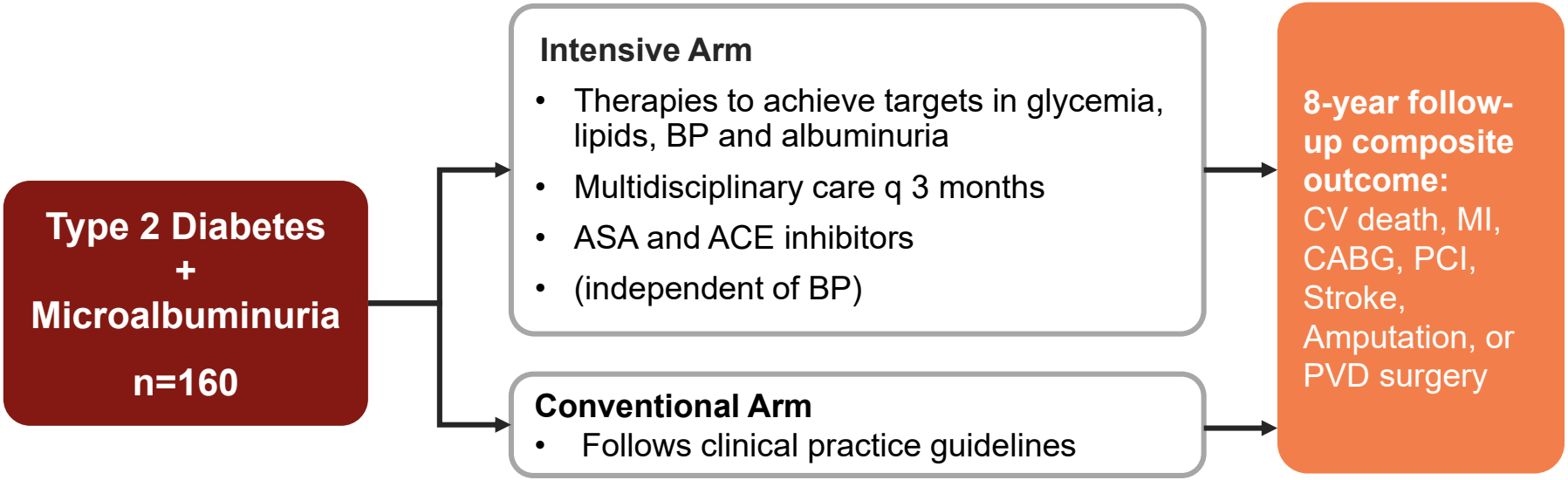
2024

		GUIDELINE TARGET (or personalized goal)
A	**A1C** with other (CGM*, BG*) glycemic targets *when indicated/accessible	A1C ≤7.0% (or ≤6.5% to ↓ risk of CKD and retinopathy) If on insulin or insulin secretagogue, assess for hypoglycemia and ensure driving safety A1C 6.0 - <6.5% for selected adults with type 2 diabetes with potential remission to prediabetes A1C <6.0 for selected adults with type 2 diabetes with potential remission to normoglycemia
B	**BP** targets	BP <130/80 mmHg If on treatment, assess for risk of falls
C	**Cholesterol** targets	LDL-C ≤2.0 mmol/L (or >50 % reduction from baseline); Alternative: non-HDL-C ≤ 2.6 mmol/L, apo B ≤ 0.8 g/L If ASCVD, LDL ≤ 1.8 mmol/L. Alternative: non-HDL-C ≤2.4 mmol/L, apo B ≤0.7 g/L
D	**Drugs** for CV and/ or Cardiorenal protection	• GLP1-RA + SGLT2i with demonstrated cardiorenal benefits if type 2 with ASCVD, CKD or HF, OR Age >60 with ≥2 CV risk factors • ACEi/ARB if CVD, age ≥55 with risk factors, OR diabetes complications • Statin if age ≥40, age ≥30 and diabetes >15 years OR diabetes complications • ASA if CVD +/- finerenone if T2D + CKD with albuminuria
E	**Exercise** goals and healthy eating	• 150 minutes of moderate to vigorous aerobic activity/ week and resistance exercises 2-3 times/week • Follow healthy dietary pattern (eg Mediterranean diet, low glycemic index)
S	**Screening**	• Cardiac: ECG every 3-5 years if age >40 OR diabetes complications • Foot: Monofilament/Vibration yearly or more if abnormal • Kidney: Test eGFR and ACR yearly, or more if abnormal • Retinopathy: type 1 - annually; type 2 - every 1-2 years • Immunizations: ensure up-to-date as per NACI recommendations
S	**Smoking** cessation	If smoker: Ask permission to give advice, arrange therapy and provide support
S	**Self-management,** stress, sleep, other barriers	• Set personalized goals (see "individualized goal setting" panel) • Assess for stress, sleep, mental health and financial or other concerns that might be barriers to goals

https://guidelines.diabetes.ca/GuideLines/media/Docs/Quick%20Reference%20Guide/2024-CPG-Quick-Reference-Guide.pdf

DIABETES CANADA

STENO-2: Multifaceted Approach for CVD Prevention Among People with Type 2 Diabetes



ACE: angiotensin-converting enzyme; ASA: acetylsalicylic acid; BP: blood pressure; CV: cardiovascular; CABG: coronary artery bypass grafting; MI: myocardial infarction;
PCI: percutaneous coronary intervention; PVD: peripheral vascular disease

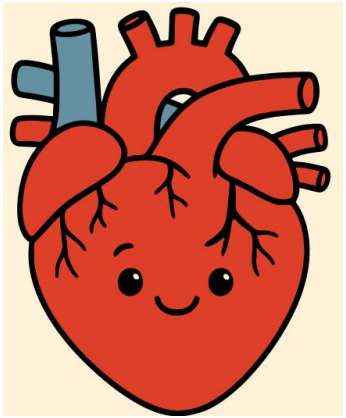
Gaede P, et al. *N Engl J Med* 2003; 348:383-93.

SGLT2 inhibitors

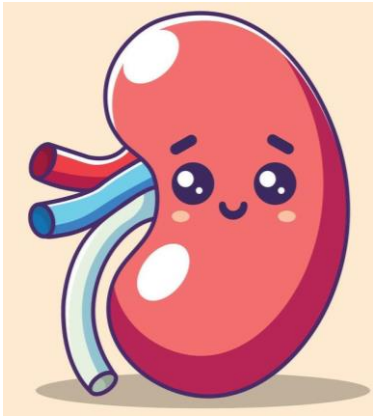
- oral sodium-glucose-transporter-2 inhibitor
- Canagliflozin, Dapagliflozin, Empagliflozin
- Pros: Cardiorenal protection, no hypoglycemia, weight loss, blood pressure reduction
- Cons: Genital mycotic infections, (euglycemic DKA)
- Used in Chronic kidney disease, Heart failure, T2D

DKA = diabetic ketoacidosis; T2D = type 2 diabetes

SGLT2i is foundational therapy



HEART FAILURE
(with or without T2D)



CHRONIC KIDNEY DISEASE
(with or without T2D)

TYPE 2 DIABETES
(esp HF, CKD, high CV risk)

If Starting SGLT2i

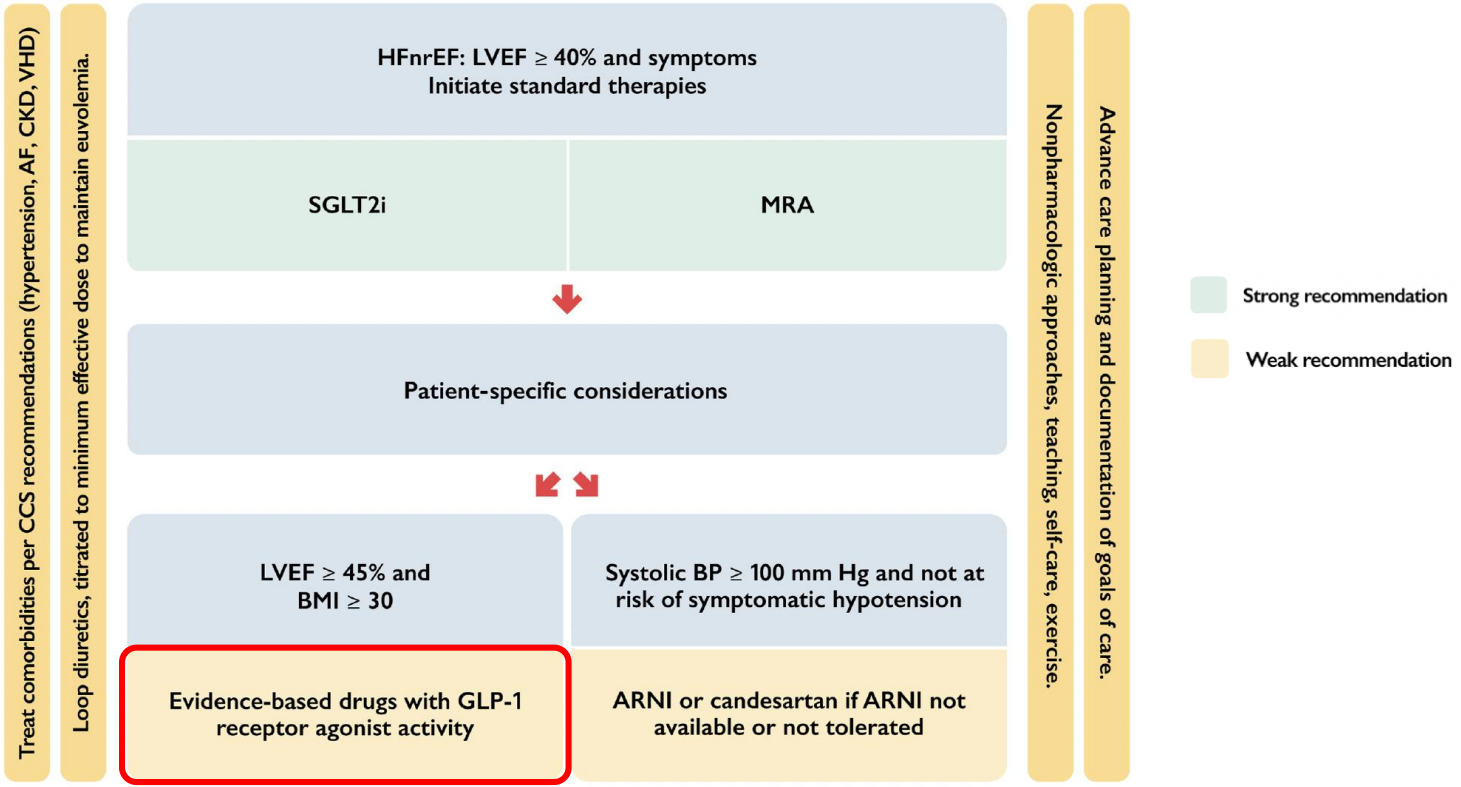
TOP TIPS!

- Explain rationale (organ protection)
- Explain mechanism of action
- Drink water – stay hydrated
- Proper genital hygiene
- Stop in acute illness / preoperative

GLP-1 based medicines

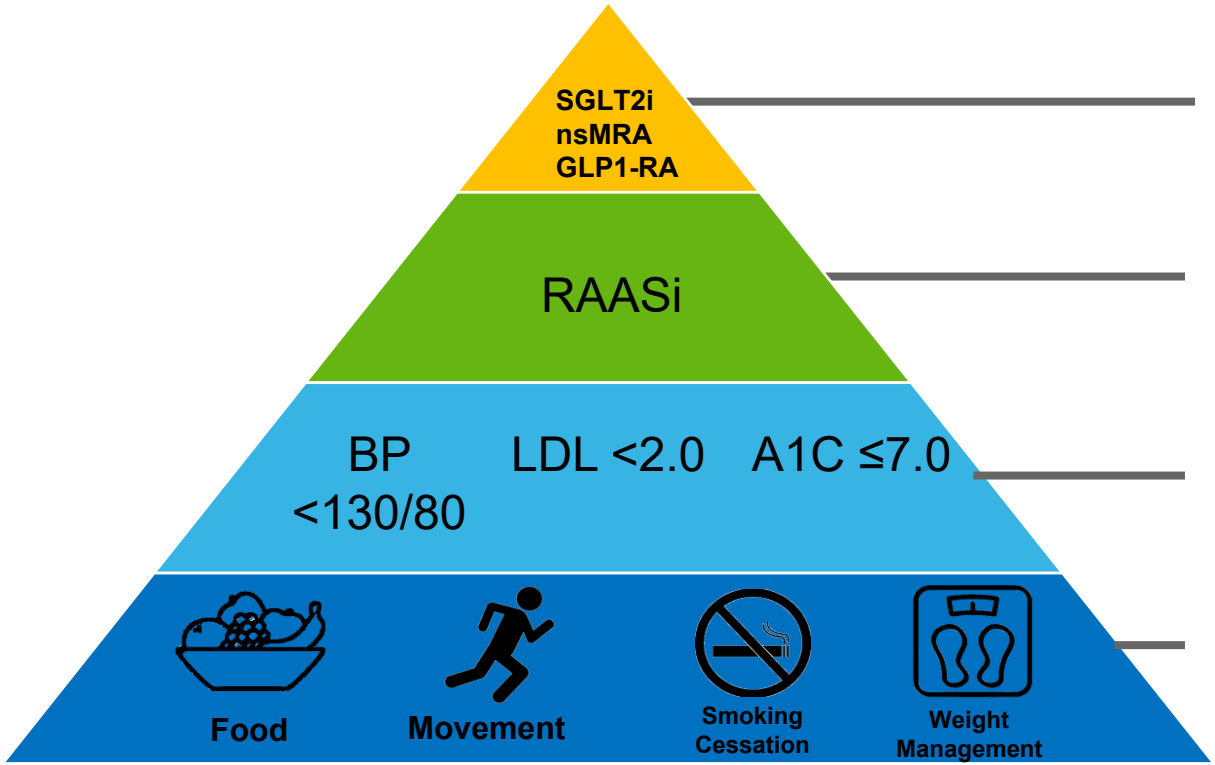
Device				
Class	**GLP-1 receptor agonist**			**GIP/GLP-1 receptor agonist**
Generic Name*	Dulaglutide	Semaglutide	Semaglutide	Tirzepatide
Brand Name	Trulicity	Ozempic / Wegovy	Rybelsus	Mounjaro / Zepbound
Regimen	Subcutaneous Weekly		Oral Daily	Subcutaneous Weekly
Dosing	0.75, 1.5, 3, 4.5 mg (T2D)	0.25, 0.5, 1, 2mg (T2D) 0.25, 0.5, 1, 1.7, 2.4mg (obesity)	3, 7, 14 mg (T2D)	2.5, 5, 7.5, 10, 12.5, 15 mg (T2D or obesity)
Titration interval	4 week intervals			
ODB coverage	No	Yes for T2D	Yes for T2D	No
Contraindications	Medullary thyroid cancer (personal or fam hx), pregnancy / breastfeeding			
Adverse effects	GI (nausea, vomiting, diarrhea, constipation), gall bladder issues			

Canadian Cardiovascular Society/Canadian Heart Failure Society 2025 Guideline Update for Pharmacologic Management of Heart Failure With Nonreduced Ejection Fraction (LVEF > 40%)



Virani S, Zieroth S et al. Can J Cardiol 2025;41:1857-74.

Management of individuals with diabetic kidney disease



Add more kidney heart protection

Add kidney and heart protection

BP control, lipid management, blood glucose control

Foundational health behaviours change

Tobe SW et al. Can J Diabetes 2025;49:73-86.

DIABETES CANADA

STRIDE: Who, What, Why

Semaglutide and walking capacity in people with symptomatic peripheral artery disease and type 2 diabetes (STRIDE): a phase 3b, double-blind, randomised, placebo-controlled trial

Marc P Bonaca, Andrei-Mircea Catarig, Kim Houlind, Bernhard Ludvik, Joakim Nordanstig, Chethana Kalmady Ramesh, Neda Rasouli, Harald Sourij, Alex Videmark, Subodh Verma, for the STRIDE Trial Investigators*

792 people with T2D + PAD

- Age ≥18 years
- Intermittent claudication (Fontaine IIa = walk >200m) + ABI ≤0.70

- Mean age 68.0 yrs, 25% Female, 68% white
- Mean A1c 7.1%, median BMI 32.0, 59% BMI <30
- Prior CHD 43%, coronary revasc 32%
- Mean eGFR 88.0, SGLT2i use 35%

Semaglutide 1.0 mg vs Placebo

Primary endpoint

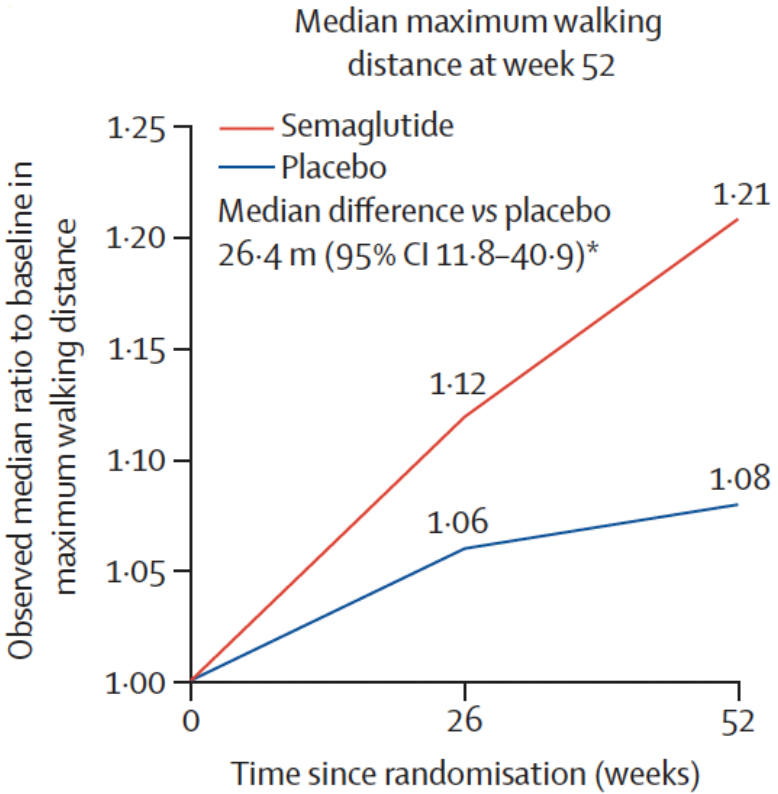
Ratio to baseline of the maximum walking distance at week 52 measured by the constant load treadmill with fixed speed (3.2 km/h) and fixed inclination (12%)

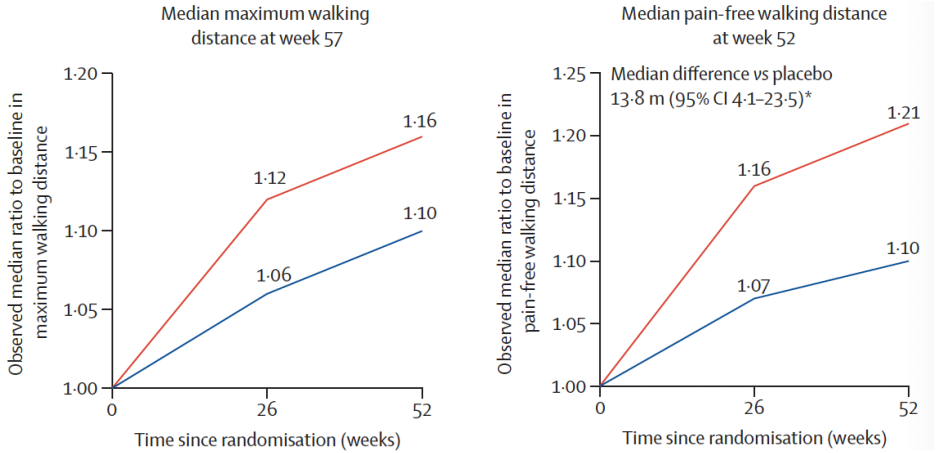
Confirmatory secondary endpoints

- Ratio to baseline of max walking distance at week 57 (5 weeks after drug discontinuation)
- Change in VascuQoL-6 score to week 52
- Ratio to baseline of pain-free walking distance at week 52

Bonaca M et al. Lancet 2025; 405:1580-93.

STRIDE: Outcomes





Supportive Secondary or Exploratory Outcomes (Rx diff)

Mean **ABI** (ratio to baseline): ETR 1.05 (1.02-1.09) p=0.037

Median absolute improvement in

- **Maximum walking distance**: 26.4m (11.8-40.9)
- **Pain-free walking distance**: 13.8m (4.1-23.5)

Mean absolute improvement in

- **Maximum walking distance**: 39.9m (13.9-66.0)
- **Pain-free walking distance**: 13.8m (11.6-48.0)

Bonaca M et al. Lancet 2025; 405:1580-93.

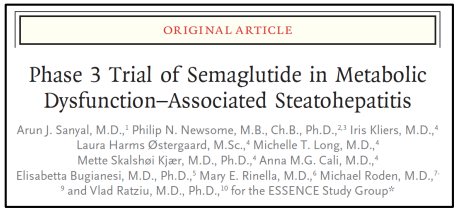
ORIGINAL ARTICLE

Phase 3 Trial of Semaglutide in Metabolic Dysfunction–Associated Steatohepatitis

Arun J. Sanyal, M.D.,[1] Philip N. Newsome, M.B., Ch.B., Ph.D.,[2,3] Iris Kliers, M.D.,[4] Laura Harms Østergaard, M.Sc.,[4] Michelle T. Long, M.D.,[4] Mette Skalshøi Kjær, M.D., Ph.D.,[4] Anna M.G. Cali, M.D.,[4] Elisabetta Bugianesi, M.D., Ph.D.,[5] Mary E. Rinella, M.D.,[6] Michael Roden, M.D.,[7-9] and Vlad Ratziu, M.D., Ph.D.,[10] for the ESSENCE Study Group*

This article was published on April 30, 2025, at NEJM.org.

ESSENCE: Who, What, Why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800 of 1197 people with MASH + fibrosis (Stage 2 or 3)

PLANNED INTERIM ANALYSIS

WEEK 72 involving first 800 patients

- Mean age 56, female 57%
- Weight 96kg, BMI 34
- T2D 56%

Semaglutide 2.4 mg vs Placebo

Primary endpoint

Resolution of steatohepatitis without worsening of liver fibrosis

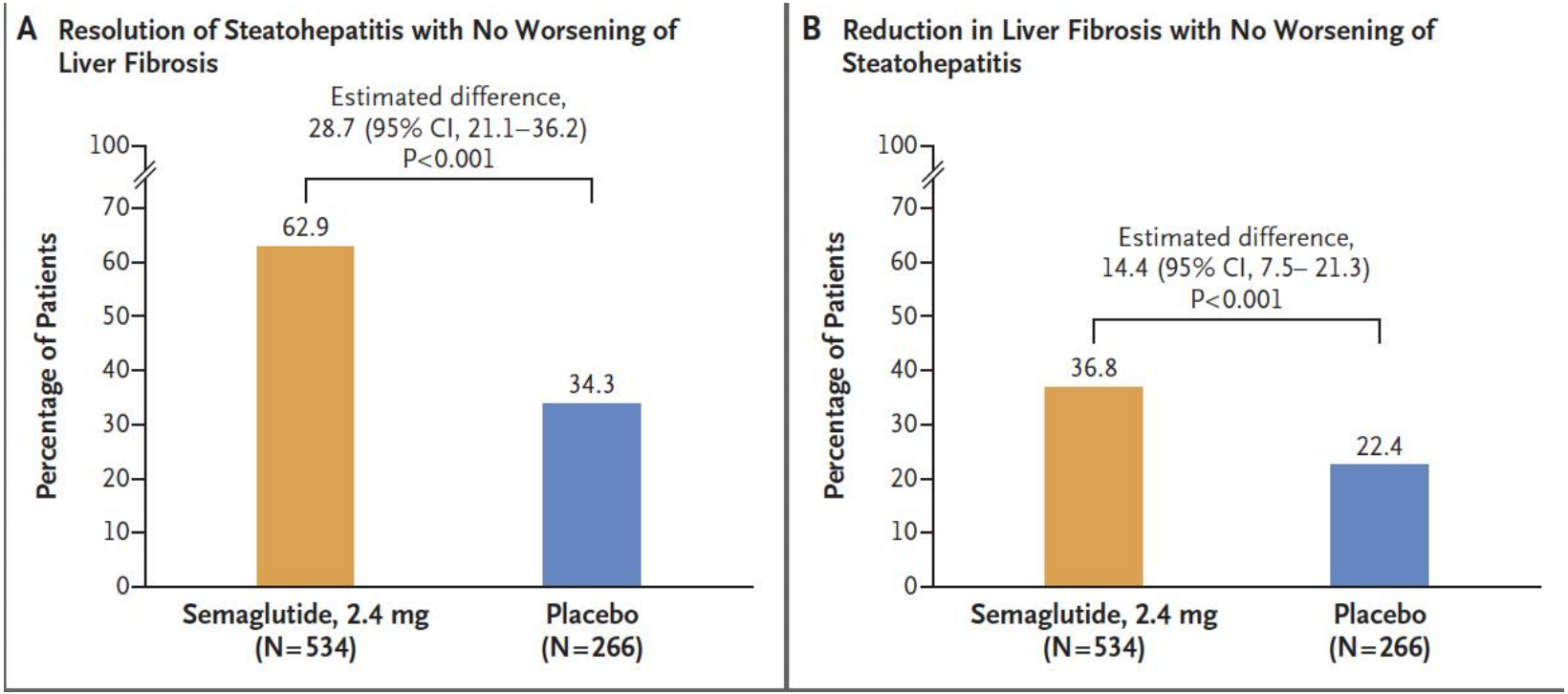
Reduction in liver fibrosis without worsening of steatohepatitis

Confirmatory secondary endpoints

- Resolution of both steatohepatitis and fibrosis

Sanyal AJ et al. N Engl J Med 2025;393:827-28.

ESSENCE: Outcomes



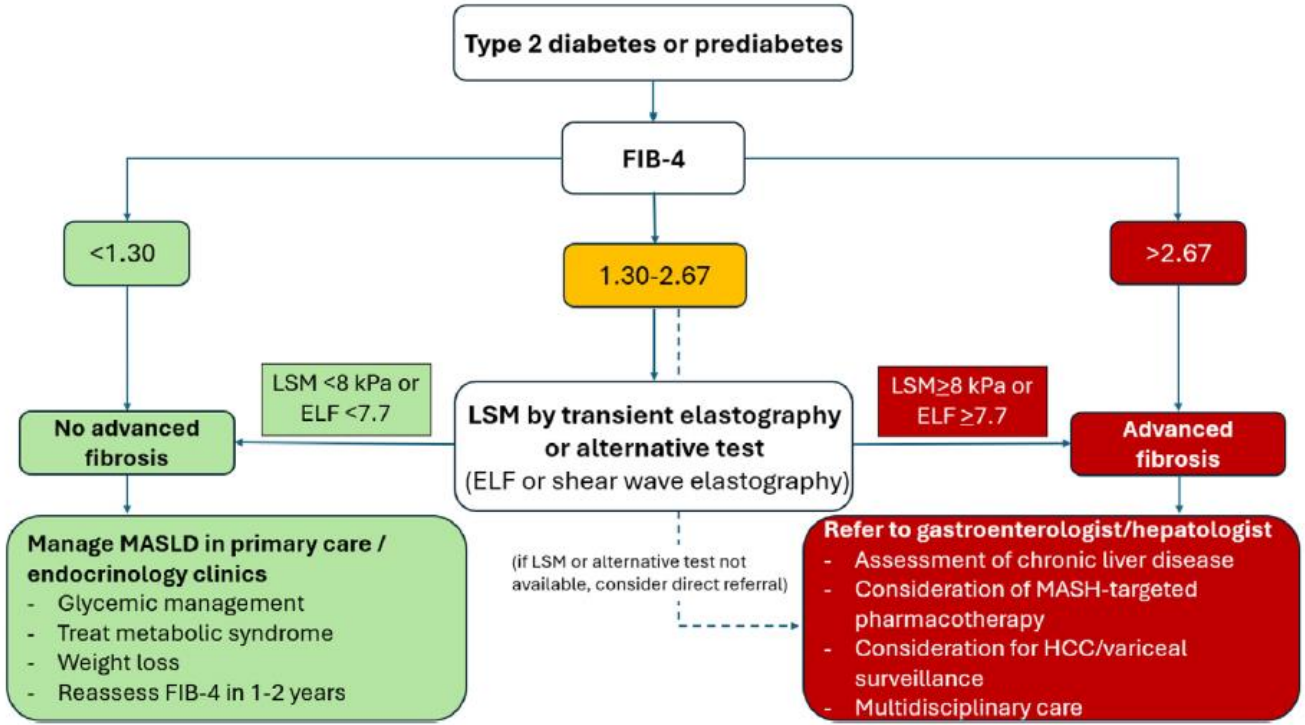
Sanyal AJ et al. N Engl J Med 2025;393:827-28.

Diabetes and Metabolic Dysfunction–associated Steatotic Liver Disease in Adults: A Clinical Practice Guideline

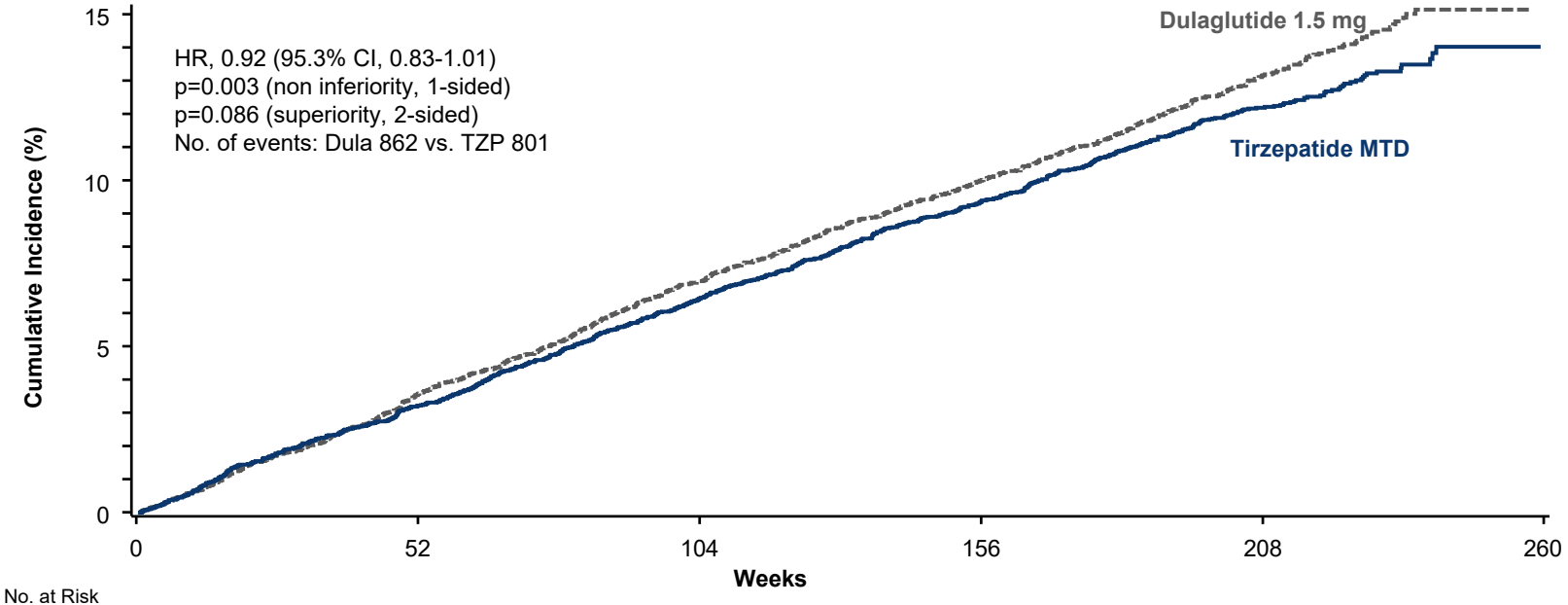
Diabetes Canada Clinical Practice Guidelines Expert Working Group:

James Kim MBBCh, PgDip, MScCH, CPC(HC); Harpreet S. Bajaj MD, MPH, ECNU, FACE; Alnoor Ramji MD, FRCP(C); Chantal Bemeur RD, PhD; Giada Sebastiani MD, FAASLD

DIABETES CANADA



SURPASS-CVOT: Tirzepatide vs Dulaglutide
Primary Endpoint: CV Death, MI or Stroke

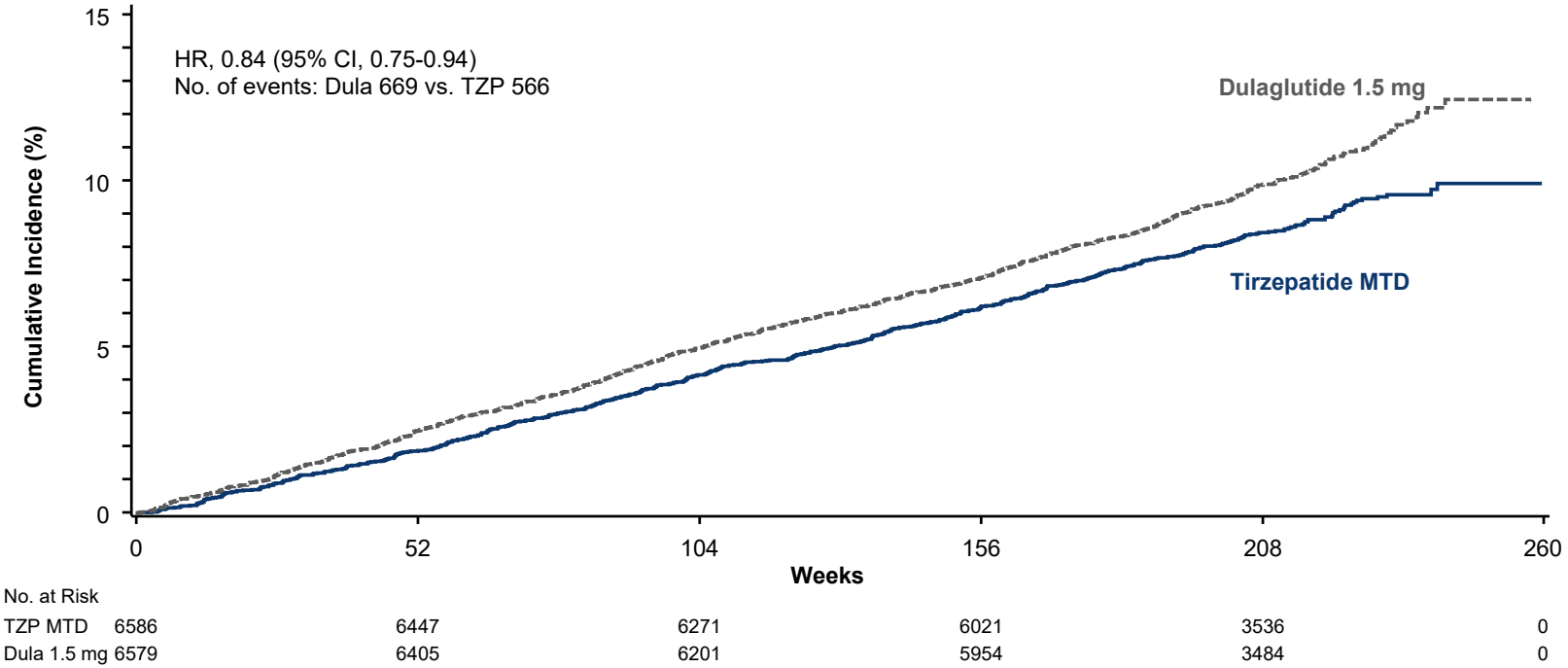


No. at Risk						
TZP MTD	6586	6309	6029	5703	3305	0
Dula 1.5 mg	6579	6267	5954	5618	3226	0

Note: HR and 95.3% CI were derived from a Cox proportional hazards model with treatment as a fixed effect, stratified by SGLT-2 inhibitor use at baseline.

SURPASS-CVOT scientific disclosure, oral presentation at EASD Congress Vienna, Austria, on 18th September 2025

SURPASS-CVOT:
Secondary Endpoint: All-cause mortality



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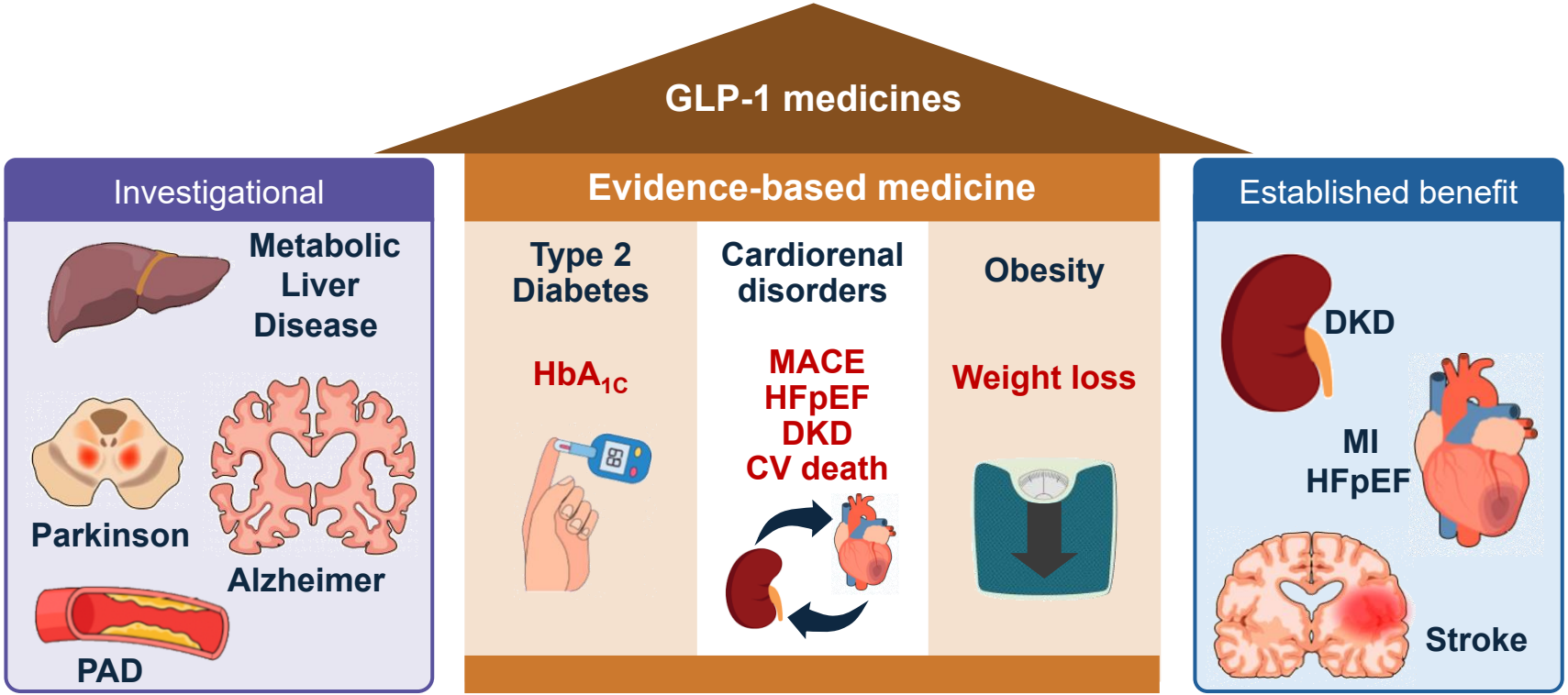
Evolution of GLP-1 medicines …



Drucker DJ. Diabetes Care 2024 Jun 6:dci240003. doi: 10.2337/dci24-0003 (online ahead of print)

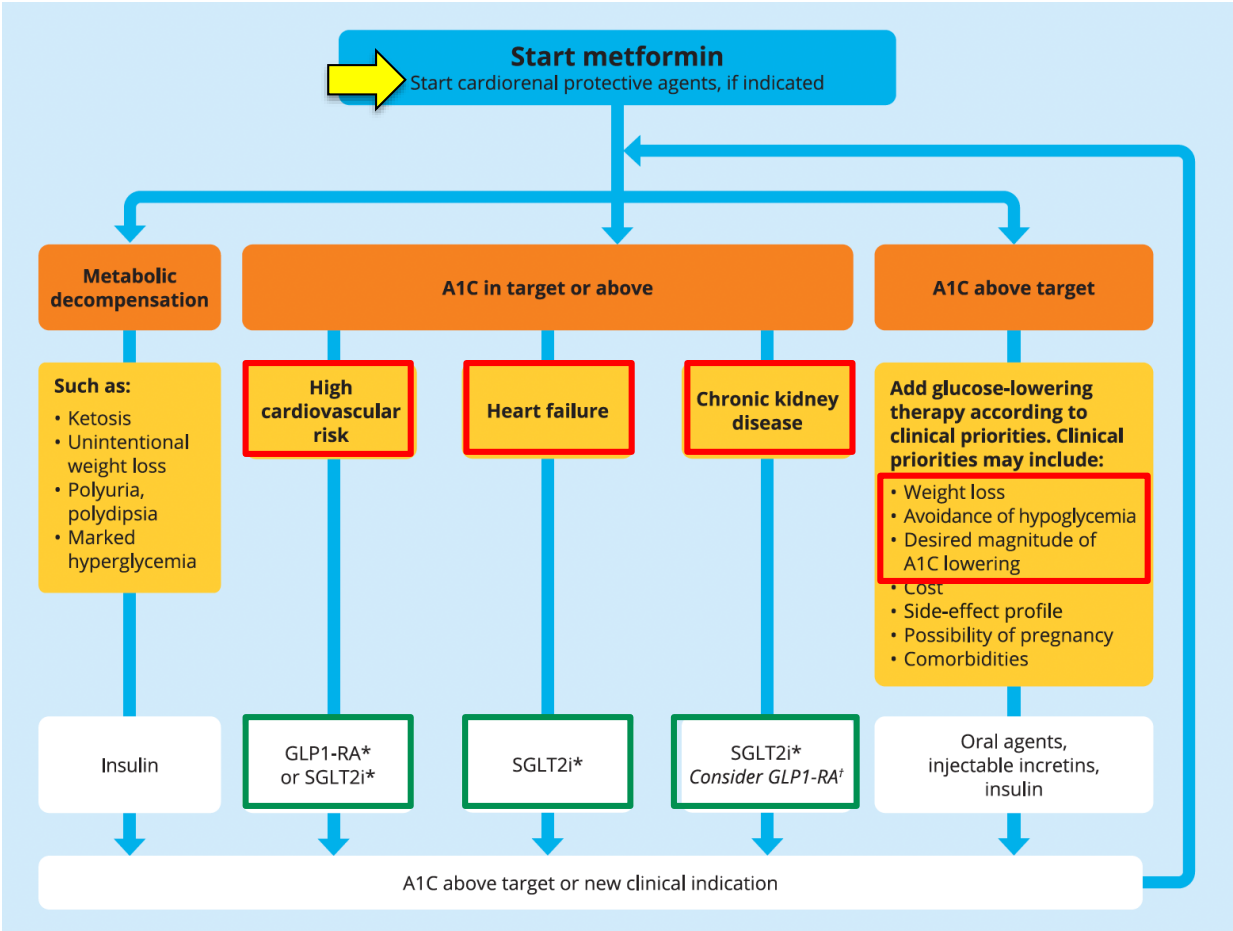
Summary of Positive Outcome Data Among Patient Types (2025)

Co-morbidities	↓ MACE	↓ CV death	↓ Stroke	↓ hHF	↓ Kidney outcomes *
Cardiovascular disease	( )	( )	( )	( )	( )
CKD	( )	( )			( )
Heart failure				HFpEF	
Risk factors + T2D (HTN, lipids and/or smoking)	( )			( )	( )

= GLP1 receptor agonists† = SGLT2 inhibitors‡ = GIP/GLP1 receptor agonist ( ) = in T2D only

*Composite renal endpoint: Doubling of serum creatinine, end-stage renal disease or renal death; †dulaglutide, liraglutide and semaglutide; ‡canagliflozin, dapagliflozin, empagliflozin. CV: cardiovascular; CVOT: cardiovascular outcome trial; MACE: Major adverse cardiovascular events (MI, stroke, CV death); MI: myocardial infarction; SGLT2: sodium-glucose linked transporter-2

2024



Shah BR et al. Can J Diabetes 2024;48(7):415-424.

*Choose an agent that has demonstrated evidence of benefit, refer to the text. †Based on the FLOW trial that was not reviewed for this update, see text.

GLP1-RA, glucagon-like peptide-1 receptor agonist; SGLT2i, sodium-glucose cotransporter-2 inhibitor

When Starting GLP1-based med

- Explain for organ protection
- Counsel re nausea/vomiting in beginning & transient
  - Stop eating when full, avoid spicy foods, smaller meals, stay hydrated, may take anti-emetic prn
- Adjust other meds only if SU or insulin, stop DPP4i
- Counsel about proper taking
- Suggest increasing physical activity
- Adjust dose as needed for efficacy and tolerability

	SGLT2i	GLP-1RA	GIP/ GLP-1 RA	Statin	ACEi/ARB	ASA	Icosapent ethyl	Finerenone
Organ protection	✓	✓	✓	✓	✓	✓	✓	✓
Glycemic lowering	✓	✓	✓					
Weight lowering	✓	✓	✓					
Blood pressure lowering	✓	✓	✓		✓			✓
Lipid lowering	↓ TG	↓ TG	↓ TG	✓			↓ TG	
Other burden	Genital Mycotic infection	Nausea, vomiting, diarrhea, constipation		myalgia		Bleeding	Bleeding, Afib	↑K^+

AE, adverse events; GMI, genital mycotic infection; HF, heart failure.

Bundles we can offer

Glucose lowering

- SGLT2i + metformin
- DPP4i + metformin
- GLP-1 + basal insulin

Antihypertensive / Lipids

- ACEi + diuretic
- ARB + diuretic
- ACEi + CCB
- ARB + CCB
- CCB + statin

62 year old corporate lawyer w/ T2D x 8 years

Medical history

- Hypertension
- Dyslipidemia
- Obesity
- Obstructive sleep apnea

Current Medications

- Metformin 1g BID
- Sitagliptin 100mg OD
- Gliclazide MR 60mg OD
- Atorvastatin 10mg OD
- Perindopril 8 mg OD
- OTC fish oil 4 caps

Exam / Labs

- BMI 32 kg/m^2
- BP 142/90 mmHg
- A1c 7.2%
- eGFR 58 ml/min/1.73 m^2
- ACR 32 mg/g
- LDL 70 mg/dL
- TG 195 mg/dL

62 year old corporate lawyer w/ T2D x 8 years

Current Medications

- ~~Metformin 1g BID~~
- ~~Sitagliptin 100mg OD~~
- ~~Gliclazide MR 60mg OD~~
- ~~Atorvastatin 10mg OD~~
- Perindopril 8 mg OD
- ~~OTC fish oil 4 caps~~

New Regimen

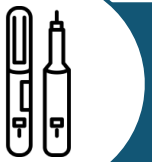
- Empa / Met 5/1000mg BID
- SC semaglutide OW
- Perindopril 8mg OD
- Atorvastatin / amlodipine 10/5mg OD
- Icosapent ethyl 2g BID

Is it always about medications?

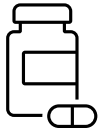
Evolution of glucose monitoring …

	 FreeStyle Libre 2 Ontario	 FreeStyle Libre 3 PLUS	Dexcom G7 Ontario 
Data storage	8 hours	15 days	24 hours
Bluetooth range	6 m	10 m	10 m
Size	35 x 35 x 5 mm	21x 21 x 2.9 mm	27 x 23 x 4.7 mm
Wear duration	14 days (26 sensors/year)	15 days (24 sensors / year)	10 days (36 sensors/year)
See glucose via	App or scan reader / app	App or reader	App or receiver or watch
Age	4 years and up	2 years and up	2 years or older; Pregnancy
Location of sensor	Arm	Arm	Arm, abdomen, buttocks
Alarms	Threshold	Threshold	Threshold, Urgent low soon, Speed of change
Interference	Vitamin C (<500mg/d)	Vitamin C (>1000mg/d)	Hydroxyurea
Water submerge	Up to 3 feet and 30 min (water resistant)	Up to 3 feet and 30 min (water resistant)	Up to 8 feet and 24 hrs (waterproof)
AID Integration	No	No	Yes

Where do I Recommend Sensors in my Practice?



All individuals on insulin



Multiple oral medications and A1C still above target

Patients where A1C or glucose is worsening for unknown reasons

	SGLT2i	GLP-1RA	GIP/ GLP-1 RA	Statin	ACEi/ARB	ASA	Icosapent ethyl	Finerenone
Organ protection	✓	✓	✓	✓	✓	✓	✓	✓
Glycemic lowering	✓	✓	✓					
Weight lowering	✓	✓	✓					
Blood pressure lowering	✓	✓	✓		✓			✓
Lipid lowering	↓ TG	↓ TG	↓ TG	✓			↓ TG	
Other burden	Genital Mycotic infection	Nausea, vomiting, diarrhea, constipation		myalgia		Bleeding	Bleeding, Afib	↑K+