Diabetes Care Updates for 2024

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Objectives

- Review Guidelines for Diabetes Care
  - What's new?
  - What's important from pervious years?

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Diagnosis & Classification

Screening for Type 2 Diabetes: *Criteria for Screening asymptomatic adults*
1. BMI over 25 kg/m^2 plus one of the following - First degree relative with DM - High-risk race & ethnicity - History of CVD - HTN - HDL cholesterol <35mg/dL and/triglycerides > 250mg/dL - PCOS - Physical inactivity - Other clinical conditions associated with insulin resistance
2. People with prediabetes, IGT or IFG (test yearly)
3. People with GDM life-long testing at least every 3 years
4. People with HIV, exposure to high-risk medications, history of pancreatitis
5. All other people start testing at age 35

ADA. Diabetes Care December 2023, Vol.47, S20-S42

Diagnosis of Diabetes

Require 2 tests at the same time or different points in time to diagnose diabetes unless patient is in hyperglycemic crisis with random plasma glucose over 200mg/dL

Test	Normal	Prediabetes	Diabetes
Hemoglobin A1c	≤ 5.6%	5.7-6.4%	≥ 6.4%
Fasting Plasma glucose	< 100mg/dL	100-125mg/dL	≥ 125mg/dL
OGTT	<140mg/dL	140-199mg/dL	≥ 200mg/dL

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Classification

General classifications:

- Type 1 diabetes
- Type 2 diabetes
- Secondary and atypical types
  - Monogenic
  - Diseases of exocrine pancreas
  - Drug/chemical induced
- Gestational diabetes

AABBCC approach to Type 1 vs. Type 2 diabetes

- A - Age <35
- A - Autoimmunity personal or family history
- B- Body habitus
- B- Background (family history of type 1 diabetes)
- C- Control (control on noninsulin therapies)
- C- Comorbidities

Importance of classification

- Helps with personalizing therapy to the individual
- Different types of diabetes respond better to different treatments

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Glycemic Goals

Hemoglobin A1c

- Less than 7.0% without hypoglycemia
- Targets should be individualized to the patient

Capillary Plasma Glucose

- Fasting: 80-130mg/dL
- Postprandial: less than 180mg/dL

Time In Range

- CGMs time spent between 70-180mg/dL
- Most people 70% is considered an appropriate goal

If patient is experiencing lows:
De-escalate therapy
and
re-evaluate glucose goals!

Diabetes Care December 2023, Vol.47, S111-S125

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Comorbid Conditions: *bones, liver, obesity*

Bone Health

Fracture risks, hypoglycemia risks, and fall risks need to be considered

General Risks	Diabetes Specific Risks
Prior osteoporotic fracture	Lumbar spine or hip T score less than -2.0
Age over 65	Frequent hypoglycemic events
Low BMI	Diabetes duration more than 10 years
Sex	DM medications: insulin, TZDs, SU
Malabsorption	HbA1c greater than 8%
Recurrent falls	Peripheral and autonomic neuropathy
Glucocorticoid use	Retinopath and nephropathy
Family History	
EtOH/tobacco use	
Rheumatoid arthritis	

ADA. Diabetes Care December 2023, Vol.47, S52-76

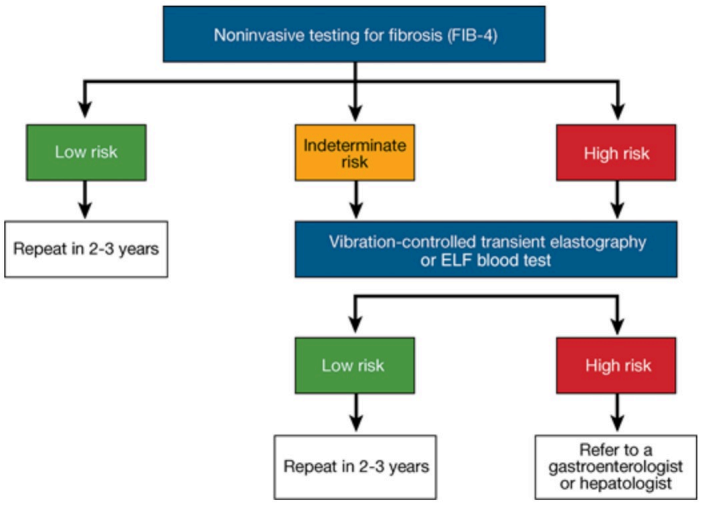
Obesity & Weight Management

- General weight loss goal is greater than 5%
- Nutrition, Physical Activity, & Behavioral Therapy
  - 500-750kcal/day reduction
  - Individualized
  - Consider barriers
- Pharmacotherapy
  - Pick medications that help both diabetes and weight
    - GLP-1 and dual incretin therapy (tirzepatide)
  - Look at other medications that promote weight gain
- Metabolic surgery
  - Indicated in BMI over 30 with diabetes

ADA. Diabetes Care. December 2023, Vol.47, S145-S157.

Fatty Liver Disease

- Nonalcoholic Fatty Liver Disease or Metabolic Dysfunction-Associated Steatotic Liver Disease
- Screen with the fibrosis-4 index (FIB-4)
  https://www.mdcalc.com/calc/2200/fibrosis-4-fib-4-index-liver-fibrosis



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Complications: *microvascular & macrovascular*

Microvascular Conditions

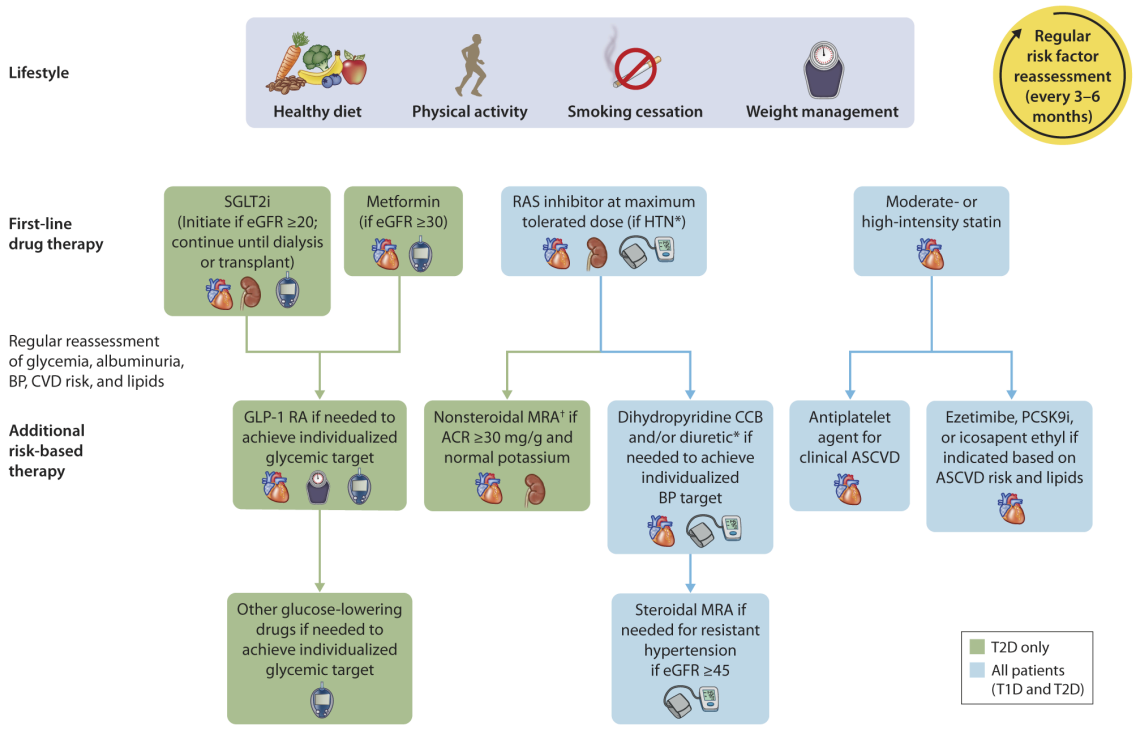
- Retinopathy
  - Yearly dilated eye exam to screen
  - Tx: glucose control, Pan-retinal laser and anti-VEGF injections
  - Having is NOT a contraindication for aspirin therapy
- Neuropathy
  - Yearly assessment needed
    - Temperature or pinprick for small fiber
    - Vibration for large fiber
    - All should have the 10-g monofilament to identify ulceration and amputation risk
  - Tx: glucose control, gabapentinoids, SNRIs, tricyclic antidepressants, sodium channel blockers
- Nephropathy
  - Yearly screening needed urine albumin/creatinine ratio (UCR) and eGFR

More on Nephropathy

CKD is classified based on: • Cause (C) • GFR (G) • Albuminuria (A)				Albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30–299 mg/g 3–29 mg/mmol	≥300 mg/g ≥30 mg/mmol
GFR categories (mL/min/1.73 m²) Description and range	G1	Normal or high	≥90	Screen 1	Treat 1	Treat and refer 3
	G2	Mildly decreased	60–89	Screen 1	Treat 1	Treat and refer 3
	G3a	Mildly to moderately decreased	45–59	Treat 1	Treat 2	Treat and refer 3
	G3b	Moderately to severely decreased	30–44	Treat 2	Treat and refer 3	Treat and refer 3
	G4	Severely decreased	15–29	Treat and refer* 3	Treat and refer* 3	Treat and refer 4+
	G5	Kidney failure	<15	Treat and refer 4+	Treat and refer 4+	Treat and refer 4+

Low risk (if no other markers of kidney disease, no CKD)
Moderately increased risk
High risk
Very high risk

DA. Diabetes Care. December 2023, Vol.47, S231-243.



ADA. Diabetes Care. December 2023, Vol.47, S219-S230.

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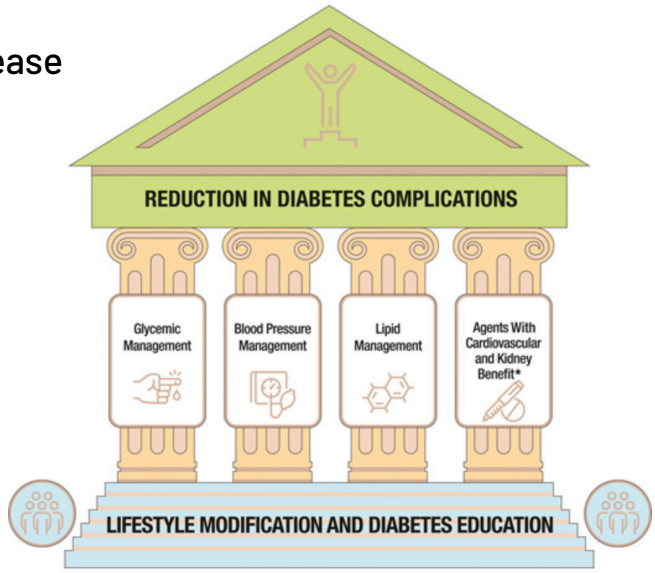
Complications: *microvascular & macrovascular*
(Continued)

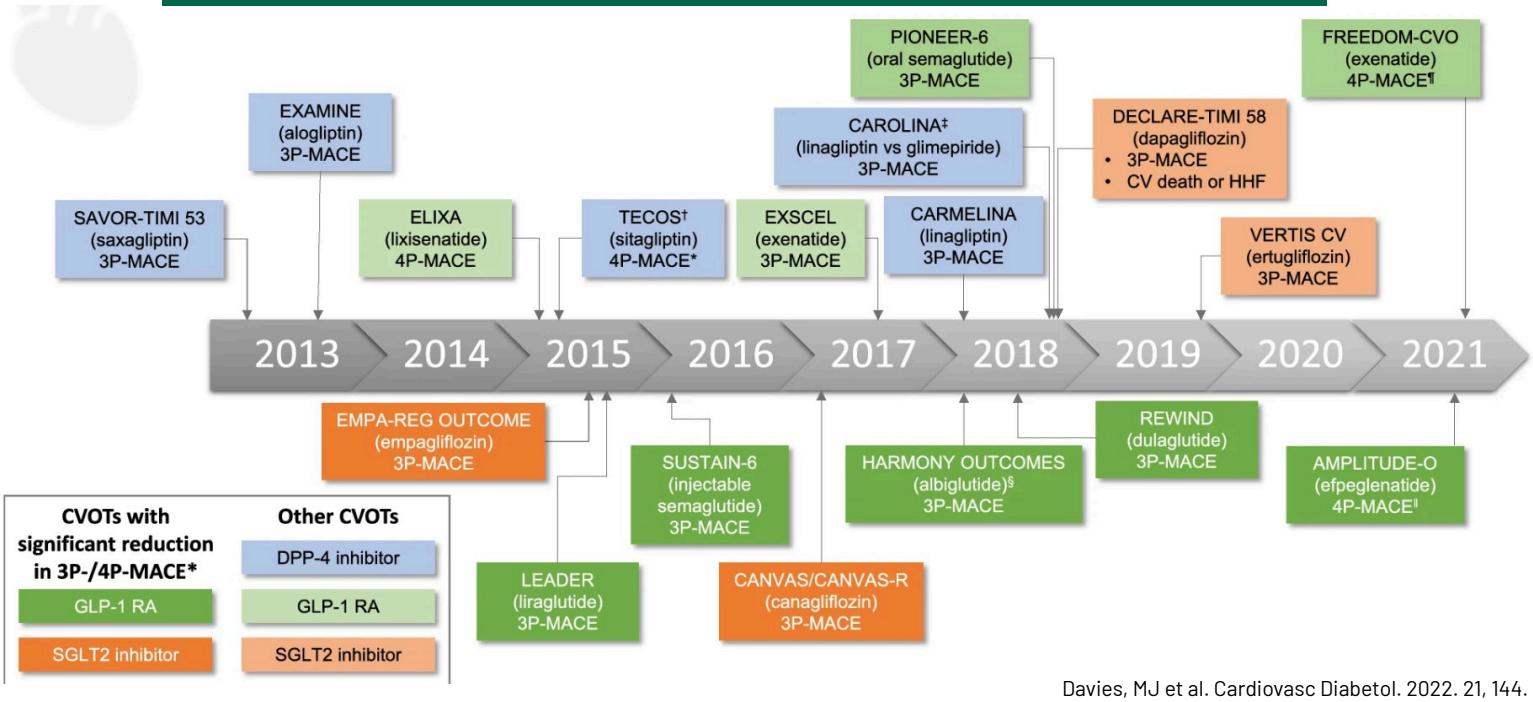
Cardiovascular Conditions

- Atherosclerostic Cardiovascular Disease
  - CAD
    - Aspirin
  - PAD
    - ABI
  - Stroke
- Heart Failure
  - HFrEF
  - HFpEF



ADA. Diabetes Care. December 2023, Vol.47, S179-S218

Agents with Cardiorenal Benefits



Davies, MJ et al. Cardiovasc Diabetol. 2022. 21, 144.

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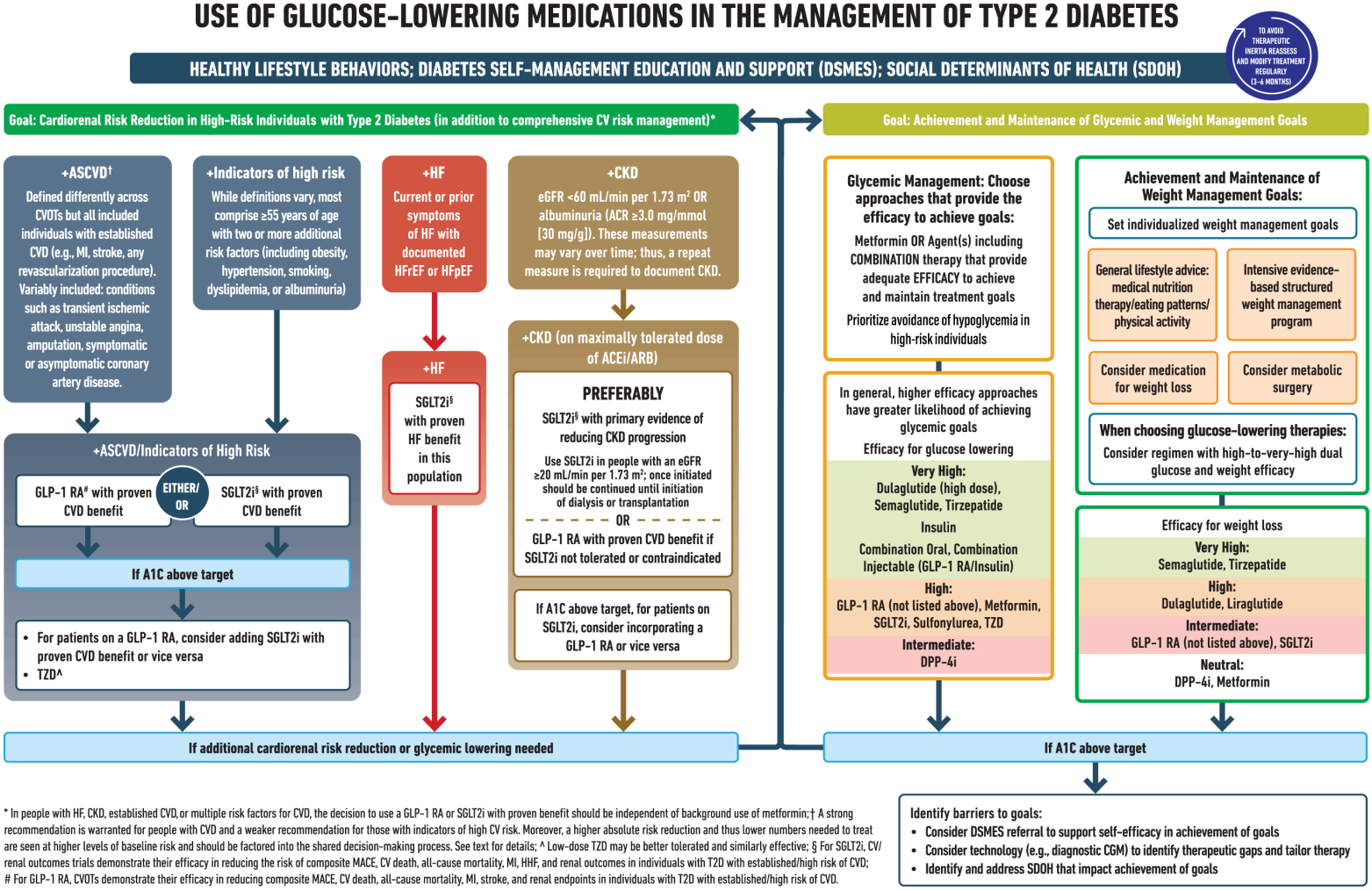
Pharmacology: *insulin, non-insulin*

Non-Insulin

USE OF GLUCOSE-LOWERING MEDICATIONS IN THE MANAGEMENT OF TYPE 2 DIABETES



* In people with HF, CKD, established CVD, or multiple risk factors for CVD, the decision to use a GLP-1 RA or SGLT2i with proven benefit should be independent of background use of metformin; † A strong recommendation is warranted for people with CVD and a weaker recommendation for those with indicators of high CV risk. Moreover, a higher absolute risk reduction and thus lower numbers needed to treat are seen at higher levels of baseline risk and should be factored into the shared decision-making process. See text for details; ^ Low-dose TZD may be better tolerated and similarly effective; § For SGLT2i, CV/renal outcomes trials demonstrate their efficacy in reducing the risk of composite MACE, CV death, all-cause mortality, MI, HHF, and renal outcomes in individuals with T2D with established/high risk of CVD; # For GLP-1 RA, CVOTs demonstrate their efficacy in reducing composite MACE, CV death, all-cause mortality, MI, stroke, and renal endpoints in individuals with T2D with established/high risk of CVD.

Key Points

- Patient centered
- If the patient has other comorbid conditions in addition to diabetes them pick an agent that benefits both conditions
  - Obesity then GLP-1
  - CAD then SGLT-2i or GLP-1
  - CKD then SGLT-2i
- Metformin doesn't have to be first line
- Consider comorbid conditions that make these medications contraindicated
  - CKD: metformin considerations
  - Gastroparesis: GLP-1 can worsen
  - History of pancreatitis: DPP4 and GLP1
  - Family history of medullary thyroid cancer: GLP1
  - Osteoporosis- TZDs
  - Heart failure- TZDs

Insulin

- Insulin is used with type 2 diabetes
- Can be used in combination with other diabetes agents
- Guidelines recommend adding GLP-1 before starting insulin due to benefits
- If patient is already on basal insulin, then recommend adding GLP-1 before starting prandial insulin
- Sometimes insulin can become the best option for the patient depending on what's been tried and other comorbid conditions

ADA. Diabetes Care. December 2023, Vol.47, S158-178

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Technology

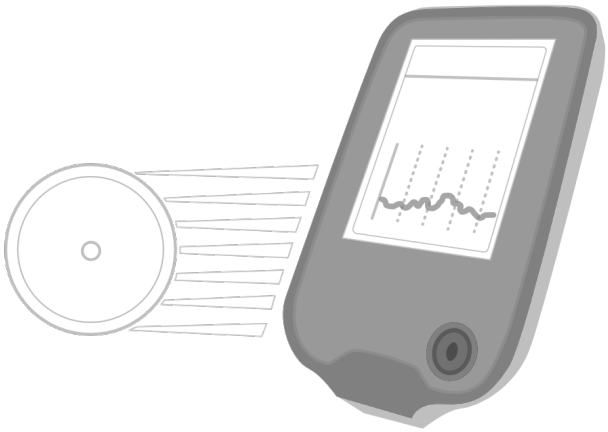
Basic Recommendations

- Diabetes devices should be offered to people with diabetes
- The type(s) of devices offered should be individualized to the patient and/or their caregiver
- Training on the device needs to be offered to the person handling the device
- Healthcare providers need to be aware of accuracy of devices and what can affect device accuracy (i.e. medications)

ADA. Diabetes Care. December 2023, Vol.47, S126-S144.

Devices

- **Continuous Glucose Monitoring Systems (CGMs)**
  - Intermittently scanned
  - Real time
- **Insulin pumps**
- **Insulin Delivery Devices**
  - Insulin pump patches
- **Smart Pens**
  - Buttons
  - Pens
  - Caps



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Sources

American Diabetes Association Professional Practice Committee; 2. Diagnosis and Classification of Diabetes: *Standards of Care in Diabetes—2024. Diabetes Care* 1 January 2024; 47 (Supplement_1): S20–S42. https://doi.org/10.2337/dc24-S002

American Diabetes Association Professional Practice Committee; 6. Glycemic Goals and Hypoglycemia: *Standards of Care in Diabetes—2024. Diabetes Care* 1 January 2024; 47 (Supplement_1): S111–S125. https://doi.org/10.2337/dc24-S006

American Diabetes Association Professional Practice Committee; 4. Comprehensive Medical Evaluation and Assessment of Comorbidities: *Standards of Care in Diabetes—2024*. Diabetes Care 1 January 2024; 47 (Supplement_1): S52–S76. https://doi.org/10.2337/dc24-S004

American Diabetes Association Professional Practice Committee; 8. Obesity and Weight Management for the Prevention and Treatment of Type 2 Diabetes: *Standards of Care in Diabetes-2024*. Diabetes Care 1 January 2024; 47 (Supplement_1): S145–S157. https://doi.org/10.2337/dc24-S008

American Diabetes Association Professional Practice Committee; 9. Pharmacologic Approaches to Glycemic Treatment: *Standards of Care in Diabetes—2024*. Diabetes Care 1 January 2024; 47 (Supplement_1): S158–S178. https://doi.org/10.2337/dc24-S009

American Diabetes Association Professional Practice Committee; 9. Pharmacologic Approaches to Glycemic Treatment: *Standards of Care in Diabetes—2024*. Diabetes Care 1 January 2024; 47 (Supplement_1): S158–S178. https://doi.org/10.2337/dc24-S009

American Diabetes Association Professional Practice Committee; 11. Chronic Kidney Disease and Risk Management: *Standards of Care in Diabetes—2024*. Diabetes Care 1 January 2024; 47 (Supplement_1): S219–S230. https://doi.org/10.2337/dc24-S011

American Diabetes Association Professional Practice Committee; 10. Cardiovascular Disease and Risk Management: *Standards of Care in Diabetes—2024*. Diabetes Care 1 January 2024; 47 (Supplement_1): S179–S218. https://doi.org/10.2337/dc24-S010

Davies, M.J., Drexel, H., Jornayvaz, F.R. et al. Cardiovascular outcomes trials: a paradigm shift in the current management of type 2 diabetes. *Cardiovasc Diabetol* 21, 144 (2022). https://doi.org/10.1186/s12933-022-01575-9

American Diabetes Association Professional Practice Committee; 9. Pharmacologic Approaches to Glycemic Treatment: *Standards of Care in Diabetes—2024*. Diabetes Care 1 January 2024; 47 (Supplement_1): S158–S178. https://doi.org/10.2337/dc24-S009

American Diabetes Association Professional Practice Committee; 9. Pharmacologic Approaches to Glycemic Treatment: *Standards of Care in Diabetes—2024*. Diabetes Care 1 January 2024; 47 (Supplement_1): S158–S178. https://doi.org/10.2337/dc24-S009

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