VA/DoD Clinical Practice Guideline for the Management of Type 2 Diabetes Mellitus (2023)

About the Guideline
- The guideline panel consisted of 40 experts representing the Department of Veterans Affairs (VA) and the Department of Defense (DoD). These guidelines are an update of the previous 2017 version that was published by these same two organizations.
- The guideline reviewed the evidence and determined the quality of the evidence using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology.

Key Clinical Considerations
Become familiar with the recommendations and best-practice statements provided in this guideline. This clinical practice guideline was developed as a general guide to the treatment and management of patients with type 2 diabetes. Individual patient needs and preferences should be taken into consideration when utilizing these guidelines.

Risk Factors for Type 2 Diabetes Mellitus (T2DM) and Prediabetes
- First-degree relative with T2DM
- High-prevalence population (African American, Hispanic American, Native American, Asian American, Pacific Islander)
- Females who were diagnosed with gestational diabetes mellitus (GDM) or who have a history of delivering babies weighing more than 9 pounds
- History of cardiovascular disease (CVD)
- Hypertension
- Females with polycystic ovary syndrome (PCOS)
- Physical inactivity
- Clinical conditions associated with insulin resistance (severe obesity, acanthosis nigricans)
- High-density lipoprotein cholesterol level less than 35 mg/dL and/or triglyceride level higher than 250 mg/dL, or both.
- Patients with human immunodeficiency virus (HIV)
- All adults over age 45

Diagnostic Criteria for Diabetes Mellitus and Prediabetes
- The following four accepted criteria are used to diagnose diabetes mellitus:
  - Fasting plasma glucose (FPG) greater than or equal to 126 mg/dL on two separate occasions, or
  - Hb A1c greater than or equal to 6.5%, with a confirming FPG greater than or equal to 126 mg/dL, or
  - Hb A1c greater than or equal to 7.0% on two separate occasions, or
  - 2-hour plasma glucose on 75 g oral glucose tolerance test (OGTT) of greater than 200 mg/dL.

- Three accepted criteria are used to diagnose prediabetes:
  - FPG 100 mg/dL or greater and less than 126 mg/dL, or
  - Hb A1c 5.7% to 6.4 % and FPG 100 mg/dL or greater but less than 126 mg/dL, or
  - 2-hour plasma glucose on 75 g OGTT of 140 to 199 mg/dL.

Prediabetes
- To achieve a reduction in body fat mass, weight loss, and improve fasting glucose in adults with prediabetes, aerobic exercise (such as walking 8 to 9 miles per week) and healthy eating (with goal weight loss of greater than 3%) are suggested.
- Evaluating patient characteristics such as age, life expectancy, co-occurring conditions, BMI, other risk factors, and offering metformin (or other medication) is suggested to reduce the risk of progression to T2DM for adults with prediabetes who have participated in healthy lifestyle modifications and remain at high risk for progression.

Telehealth
Health care delivered via telehealth interventions is suggested to improve outcomes.

Screening for Comorbidities
- Insufficient data are available to make a recommendation regarding routine screening using a specific tool to screen for or to diagnose diabetes distress.
- Assessment using a noninvasive tool is suggested for patients with T2DM and for patients with co-occurring nonalcoholic fatty liver disease.
- Insufficient data is available to make a recommendation regarding routine screening for patient fall risk and cognitive impairment to improve outcomes.

Diabetes Self-Management Education and Support
- Diabetes self-management education and support is recommended for patients with T2DM.

Glycemic Management
- Using high glycemic variability over time is suggested as a prognostic indicator for the risk of hypoglycemia, morbidity, and mortality.
- Setting an individualized Hb A1c target range is suggested based on the following elements:
  - Risk-benefit ratio
  - Patient characteristics
  - Presence/absence of T2DM complications
  - Comorbidities
  - Life expectancy
- A Hb A1c range of 7.0% to 8.5% is suggested for most patients.
- For patients with T2DM treated with insulin who are not reaching glycemic goals, real-time continuous glucose monitoring is suggested to decrease hypoglycemia and improve Hb A1c.

Blood Glucose Control

- Blood glucose targets should be between 110 and 180 mg/dL for critically ill patients or for patients with an acute myocardial infarction.
- To reduce the incidence of hypoglycemia, a blood glucose of 110 mg/dL is strongly recommended as the lower limit for inpatient blood glucose control.
- Special considerations are as follows:
  - The glycemic management plan should be individualized, based on patient preferences and the risk-benefit ratio.
  - It is not recommended to target blood glucose levels at less than 110 mg/dL for all type 2 patients receiving insulin.

Medical Nutritional Therapy
- The Mediterranean diet is recommended.
- The diet should provide 13% to 50% of total daily caloric intake from carbohydrates.
- A vegetarian dietary pattern is suggested for glycemic control and weight loss.
- Intermittent fasting is not suggested.

Exercise
- Regular physical activity, including but not limited to aerobic exercise, resistance training, or tai chi is suggested to improve glycemic control.

Stress
- Offering a mindfulness-based stress-reduction program for short-term improvement is suggested for patients with stress related to T2DM.
- Insufficient data is available to make a recommendation for any of the following activities to improve outcomes:
  - Acupuncture
  - Biofeedback
  - Hypnosis
  - Guided imagery
  - Massage therapy
  - Yoga
  - Tai chi

Pharmacotherapy
- For patients with T2DM and atherosclerotic cardiovascular disease (CVD), glucagon-like peptide-1 receptor agonists (GLP-1 RA) or sodium-glucose cotransporter-2 (SGLT-2) inhibitors are recommended to decrease the risk of major adverse cardiovascular events.
- For patients with T2DM at high risk of atherosclerotic CVD, GLP-1 RAs or SGLT-2 inhibitors are suggested.
- For patients with T2DM and heart failure, an SGLT-2 inhibitor is suggested to prevent hospital admissions related to heart failure.
- For patients with T2DM and chronic kidney disease (CKD), SGLT-2 inhibitors are recommended to improve kidney outcomes.

- For patients with T2DM and CKD who are not candidates for SGLT-2 inhibitors, a GLP-1 RA is recommended to improve macroalbuminuria.
- For patients with T2DM and CVD or kidney disease who have reached the individualized target range for glycemic control, addition of a GLP-1 RA or SGLT-2 inhibitor should be considered.
- If glycemic control can be attained with other treatments, drug classes other than insulin, sulfonylureas, or meglitinides should be prioritized in order to minimize the risk of hypoglycemia in patients 65 years of age and older.
- Insufficient data was available to make a recommendation regarding specific treatment strategies for patients with T2DM who have co-occurring cognitive impairment or who are at risk for falls.

Communication
- Patient involvement is important and patient preferences should be taken into consideration when caring for individuals with diabetes.

Reference:

Department of Veterans Affairs & Department of Defense. (2023). VA/DoD clinical practice guideline for the management of type 2 diabetes mellitus. Retrieved December 2023 from https://www.healthquality.va.gov/guidelines/CD/diabetes/VADoD-Diabetes-CPG_Final_508.pdf