DIABETES RISK MANAGEMENT

Prediabetes Testing Services

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Depending upon population characteristics, up to 70% of individuals with prediabetes will ultimately progress to diabetes, at an estimated rate of 5–10% each year.[2]

Helping to assess diabetes risk in asymptomatic adults

Though not characterized as full diabetes, prediabetes causes higher than normal glucose levels. Ultimately, it is a significant risk factor for diabetes, chronic kidney disease (CKD) and cardiovascular disease (CVD).[3,5] Individuals are often unaware of their prediabetes status because there are no specific associated symptoms. This is important since observational evidence has linked prediabetes with early nephropathy, CKD, small fiber neuropathy, diabetic retinopathy and increased risk of macrovascular disease.[2]

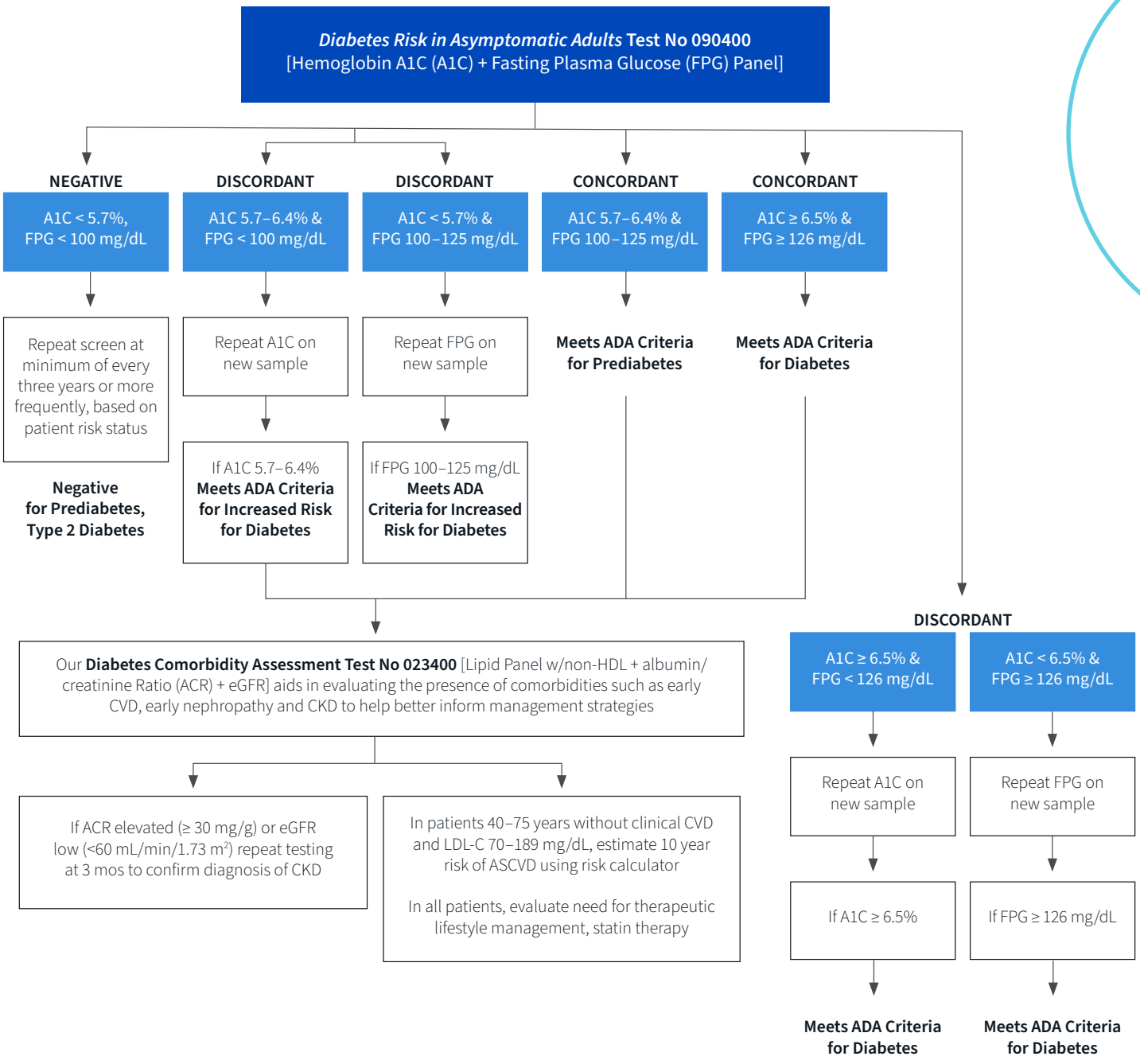
According to The 2022 American Diabetes Association Standards of Medical Care in Diabetes (ADA standards), the following testing criteria can be used to assist clinicians in identifying prediabetes in asymptomatic adults:[3]

- All patients ≥ 45 years of age
- Consider testing any age > 18 years in overweight or obese individuals (BMI ≥ 25 kg/m^2 or ≥ 23 kg/m^2 in Asian Americans) with one or more of the following risk factors:
  - First-degree relative with diabetes
  - High-risk race/ethnicity (e.g., African American, Latino, Native American, Asian American, Pacific Islander)
  - History of CVD
  - Hypertension or on therapy for hypertension
  - HDL-C value < 35 mg/dL and/or triglyceride value > 250 mg/dL
  - Polycystic ovary syndrome (in women)
  - Physical inactivity
  - Conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)

There are an estimated 84 million adults 18 years and older in the U.S. who are prediabetic or at risk for developing diabetes,[1] and another 7 million with undiagnosed diabetes.[1]

A suggested approach to testing[3,6]

When considering prediabetes testing options, we provide the following ecosystem, based on ACC/AHA 2013 Guidelines, 2022 Standards of Medical Care in Diabetes and general practice standards.



Considerations for patient follow-up

Within the context of clinical judgment, for patients with a confirmed prediabetes status, the 2018 ADA Standards suggestions include:

- At least an annual evaluation for development of diabetes.[3]
- Referral to an intensive behavioral lifestyle intervention program similar to the Diabetes Prevention Program, the goal of which is to achieve and maintain 7% loss of initial body weight and to increase moderate-intensity exercise to at least 150 minutes a week.[3]
- Consider metformin therapy, particularly in patients with a BMI ≥ 35 kg/m^2, those less than 60 years of age and women with prior gestational diabetes.[3]
- In cases where metformin is prescribed, note long-term use may be associated with vitamin B deficiency. Periodic measurement of vitamin B levels may be needed, especially in patients with anemia or peripheral neuropathy.[3]
- Other CVD risk factors such as hypertension and dyslipidemia often accompany prediabetes. Vigilance in identification and management of these and other risk factors is important.[3,5]

Testing for women with a history of gestational diabetes

The ADA standards of medical criteria also advocate testing women diagnosed with a history of gestational diabetes every three years for the remainder of their lives.[3]

Dyslipidemia in prediabetes

Insulin deficiency, insulin resistance and hyperglycemia may trigger lipoprotein metabolism disturbances in patients with prediabetes, type 2 diabetes and the metabolic syndrome.[5] Dyslipidemia is characterized by:

- Hypertriglyceridemia — triglycerides > 150 mg/dL
- Low high density lipoprotein (HDL) — ≤ 35 mg/dL
- Small, dense low density lipoprotein (LDL) particles which contain less cholesterol per particle[5]

Traditional low density lipoprotein-cholesterol (LDL-C) is an estimate of LDL quantity based on the amount of cholesterol contained in the LDL particle. However, the amount of cholesterol per particle varies between individuals — particularly in patients with type 2 diabetes, metabolic syndrome, or hypertriglyceridemia.[7] Because the per-particle amount of cholesterol varies in these patients, LDL-C may be an unreliable measure of LDL quantity for patient management.[7] Alternatively, the number of LDL particles (LDL-P) can be measured by nuclear magnetic resonance (NMR) or apolipoprotein B (Apo B) immunoassay.[8,9] Importantly, when particle measures and LDL-C disagree, risk for CVD events tracks with particle measure values.[11]

Anemia in patients with diabetes

Anemia frequently coexists with diabetes, especially in the presence of albuminuria and reduced renal function. Additionally, patients with diabetes may be more susceptible to the effects of anemia because many also have cardiovascular disease and organ damage caused by reduced blood oxygen. Therefore it may be important to evaluate iron stores in the development and progression of anemia in this patient population.[12]

To assist clinicians with identification and management of prediabetes and diabetes

We offer the following testing solutions for you and your patients:

Test Name	Test No.
Diabetes Comorbidity Assessment	**023400**
Diabetes Risk Assessment in Asymptomatic Adults	**090400**
Other Tests	
Anemia Profile A	**030577**
Diabetes Risk Index (DRI)	**123855**
Lipid Cascade With Reflex to Apolipoprotein B	**363676**
Lipid Cascade With Reflex to Lipoprotein Analysis by NMR	**361946**
Lipid Panel With Apolipoprotein B (ApoB), GlycA (Inflammation), Diabetes Risk Index (DRI)	**123567**
Lipid Panel With Diabetes Risk Index (DRI)	**123525**
NMR LipoProfile®	**884247**
NMR LipoProfile® With IR Markers	**884000**
Vitamin B12	**001503**

Visit the online Test Menu at **Labcorp.com** for full test information, including CPT codes and specimen collection requirements.

Even more support

Labcorp Link™

Global patient search feature that allows an authorized physician to access lab results that may have been ordered by other physicians for a referred patient. To access the Global Patient Search feature, a physician must have a Labcorp Link account, and the physician must agree to the Global Search Terms of Use. Global search is only permitted when the physician is in a treatment relationship with the patient.

This feature allows the physician to:

Search for referred patient's laboratory test with several search parameters

Review results of referred patient for a more complete clinical picture of the patient

Minimize time spent requesting copies of patient lab results

Labcorp Link is an online laboratory test ordering and result reporting service that allows clinicians to order tests as well as view, share, manage and analyze lab results — anytime, anywhere. Labcorp Link offers trending and analytic features, including sequential trending and graphic representations to facilitate viewing a patient's results over time, including those tests ordered by other providers, and to help identify important patterns in test results. Labcorp Link analytics also allow for population management reports for comparison by patient, by test, by result or by diagnosis.

Systems integration

Interfaces with more than 700 solutions to connect Labcorp with EMRs.

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