

# QUICK REFERENCE GUIDE TO DIABETES FOR HEALTH CARE PROVIDERS

A special project of the Michigan Diabetes Outreach Network

## Chapter 1 Screening and Diagnosis of Diabetes and Pre-diabetes

### Criteria for screening adults for type 2 diabetes or pre-diabetes:

- **All adults over 45 years of age, especially those with a BMI  $\geq$  25**
  - If blood glucose level(s) are normal and no risk factors are present, retest in 3 years
- **Asymptomatic, younger adults OR individuals who are overweight (BMI  $\geq$  25) and who have additional risk factors such as:**
  - Physically inactive most of the time
  - Parent or sibling with diabetes
  - Member of a high risk ethnic group (African American, Latino, Asian American, Native American, or Pacific Islanders)
  - Hypertensive ( $\geq$  140/90 mmHg or on therapy for hypertension)
  - HDL-cholesterol  $<$  35 mg/dl
  - Fasting triglycerides  $>$  250 mg/dl
  - History of vascular disease
  - Woman with history of gestational diabetes or delivery of baby weighing more than 9 lbs.
  - Diagnosis of polycystic ovary syndrome (PCOS)
  - Previously diagnosed with impaired glucose tolerance (IGT) or impaired fasting glucose (IFG)
  - Presence of other clinical conditions associated with insulin resistance (i.e. acanthosis nigricans, severe obesity).

**A fasting plasma glucose (FPG) and/or a 2 hour oral glucose tolerance test (OGTT) with a 75 gram load is appropriate to screen for pre-diabetes or diabetes.** Screening should be carried out within a health care setting versus a community setting where there is absence of follow-up care. Follow-up: If tests are normal, repeat testing should be carried out at least at 3 year intervals. More frequent testing may be needed dependent on initial results and risk factors.

## Criteria for screening youth for type 2 diabetes or pre-diabetes:

- **Overweight** (classified by any of the following)
  - BMI >85<sup>th</sup> percentile for age and sex
  - Weight for height > 85<sup>th</sup> percentile
  - Weight > 120% ideal for height
- **Plus any two of the following risk factors:**
  - A family history of type 2 diabetes in a 1<sup>st</sup> or 2<sup>nd</sup> degree relative
  - Member of a high risk ethnic group (African American, Latino, Asian American, Native American, or Pacific Islander)
  - Signs of insulin resistance or conditions associated with insulin resistance (acanthosis nigricans, hypertension, dyslipidemia, or polycystic ovary syndrome)
  - Maternal history of diabetes or gestational diabetes

**Screening** (fasting plasma glucose preferred) **should be done at age 10 or at the onset of puberty and repeated every 2 years.**

## Criteria for screening type 1 diabetes:

Those with type 1 diabetes often present with acute symptoms of diabetes (*polyuria, polydipsia, unexplained weight loss*) and markedly high blood glucose levels. Unlike type 2 diabetes and pre-diabetes, most cases are diagnosed soon after the onset of hyperglycemia. Widespread screening for type 1 diabetes is not recommended.

## Diabetes and Pre-diabetes Diagnosis:

A fasting plasma glucose (FPG) is the preferred test to diagnose diabetes in children and non-pregnant adults. There are two additional diagnostic methods and each must be confirmed on a subsequent day by any of the following methods:

1. Fasting plasma glucose (*Fasting: no caloric intake for at least 8 hours*).
2. 2 hour postprandial plasma glucose during an oral glucose tolerance test (OGTT) using 75 gram glucose load.
3. Acute symptoms of diabetes plus a casual plasma glucose  $\geq 200$  mg/dl. (*Casual: any time of the day without regard to time of last meal*).

Diagnostic Criteria		
	Fasting Plasma Glucose	2 hours post prandial (OGTT)
Normal	< 100 mg/dl	< 140 mg/dl
Pre-diabetes	100-125 mg/dl	140 – 199 mg/dl
Diabetes	$\geq 126$ mg/dl	$\geq 200$ mg/dl

**Screening and diagnosis of gestational diabetes mellitus (GDM) is reviewed in Chapter 12 (Gestational Diabetes Mellitus).**

**References:** American Diabetes Association (2008). Clinical Practice Recommendations. *Diabetes Care*, Vol 31 (1).