Prevention and Delay of Type 2 Diabetes in Children and Adults

Screening:
1. General population
   - Individuals >45 years with no risk factors
   - Baseline every 3 years
2. High risk population ≥18 years
   - BMI ≥25 with one or more risk factors
   - Baseline and yearly
3. Children and youth at risk
   - Overweight with ≥ two risk factors
     - BMI >85th percentile for age and gender
     - Weight for height >85th percentile
     - Weight >120% of ideal for height
   - Baseline at age 10 or at onset of puberty and every 3 years
4. Women with history of gestational diabetes
   - 6 to 12 weeks postpartum and yearly

Risk Factors:
- 1st degree (and/or 2nd degree in children) relative with diabetes
- History of gestational diabetes or delivery of a baby weighing >9 lbs
- High-risk ethnic group
- Hypertension
- Dyslipidemia
- Polycystic Ovary Syndrome
- Metabolic and/or Insulin Resistance Syndromes
- Vascular disease
- Acanthosis nigricans
- Physical inactivity
- Periodontal disease

OPTIONS FOR TESTING:
- A1c
- FPG
- 2-hr OGTT (Glucose: Adults – 75 grams; Children: 1.75g/kg to max of 75 grams)
If an abnormal initial screen, repeat using any of the above options.

DIAGNOSIS

PREDIABETES
- A1c 5.7% – 6.4%
- IFG (ICD-9: 790.21)
  - FPG ≥100 and <126 mg/dL
- IGT (ICD-9: 790.22)
  - 2-hr OGTT Glucose ≥140 and <200 mg/dL

TYPE 2 DIABETES
- A1c ≥6.5%
- FPG ≥126 mg/dL
- 2-hr OGTT ≥200 mg/dL

Refer to Texas Diabetes Council Algorithms

Unsuccessful Outcome: Children
Abnormal A1c, FPG and/or 2-hr OGTT:
- Continue Lifestyle Intervention and
- Refer to Pediatric Endocrinologist or
- Obesity Specialist

Unsuccessful Outcome: Adults
Abnormal A1c, FPG and/or 2-hr OGTT:
- Consider Adding Drug Therapy to Lifestyle Intervention

Initial Intervention: Lifestyle
- Weight Loss:
  - 5–10% if BMI <40; 10–15% if BMI >40
- Exercise/Physical Activity:
  - 30–60 minutes per day
- Hypocaloric Diet:
  - Deficit 250–1000 Kcal per day ± Meal Replacements
- Behavior Modification:
  - Nutrition/Family Counseling
  - Regular Follow-up by PCP

Successful Outcome
Normal A1c, FPG and/or 2-hr OGTT
- Continue Lifestyle Maintenance, Physical Activity and Weight Loss/Maintenance

Unsuccessful Outcome: Adults
Abnormal A1c, FPG and/or 2-hr OGTT:
- Consider Adding Drug Therapy
- Reassess A1c, FPG and/or 2-hr OGTT every 6 months

See web site (http://www.texasdiabetescouncil.org) for latest version and disclaimer. See reverse side for more information.
Footnotes

9. See Texas Diabetes Council algorithms: Exercise Algorithm Type 2 Diabetes Prevention and Therapy, Diabetes Medical Nutrition Therapy and Prevention Algorithm for Adults, Weight Loss Algorithm for Overweight and Obese Adults, Weight Management Algorithm for Overweight Children and Adolescents.
11. No medication is currently FDA-approved for prevention of type 2 diabetes in adults, but a number of studies provide evidence for drug treatment.
12. Metformin is as effective as lifestyle intervention in individuals <age 45 or those with BMI >35; metformin is nearly ineffective in individuals >age 60 or those with BMI <30 (DPP evidence).