Diabetes
Diagnosis and Treatment Goals

Diagnosis (Expert Committee on the Diagnosis and Classification of Diabetes Mellitus)
- Normal = fasting blood sugar <110
- Impaired fasting glucose = FBS 110-126
- Diabetes = FBS >126 or random blood sugar >200
- HbA1c not used for diagnosis

General Principles: Maintain near-normal glucose levels to reduce risk of
1. DKA, nonketotic hyperosmolar hyperglycemia
2. Blurry vision, polyuria, polydipsia
3. Diabetic nephropathy, retinopathy, neuropathy
4. Improve lipid profile

Goals of treatment

Type 1 – guidelines established by Diabetes Control and Complications Trial (DCCT)
1. 50-75% reduction in retinopathy, nephropathy, and neuropathy with intensive treatment regimen (avg HbA1c of 7.2%) vs. conventional regimen (HbA1c of 9.0%). However, threefold incidence of severe hypoglycemia.
2. Management should include frequent home glucose monitoring (3-4 times/day)

Type 2 – guidelines from United Kingdom Prospective Diabetes Study (UKPDS)
1. Each 1% decrease in HgA1c reduces microvascular complications by 35%
2. Aggressive management of blood pressure reduces strokes, heart failure, diabetes related death, microvascular complications, and visual loss.
3. Home glucose monitoring should be incorporated, but optimal frequency has not yet been determined.

Goals for Diabetes	Normal	Goal	Additional Action
Whole blood glucose			
Preprandial	<100	80-120	<80 or >140
Bedtime	<110	100-140	<100 or >160
Plasma glucose			
Preprandial	<110	90-130	<90 or >150
Bedtime	<120	110-150	<110 or >180
HbA1c	<6	<7	>8

Guidelines for Initial Visit

Initial Visit
Medical History – Should include many facets of diabetes and complications
1. Symptoms of diabetes
2. Laboratory history (HbA1c records)
3. Previous and current therapy (medications, nutrition, home monitoring)
4. Exercise history
5. Complications of diabetes (DKA; foot, dental, skin, genitourinary infections)
6. Risk factors for atherosclerosis (HTN, smoking, dyslipidemia, family history)
7. Family history (diabetes, other endocrine disorders)
8. Gestational history (hyperglycemia, infant >9lbs, pregnancy complications)
9. Social history (may impact treatment of diabetes)

Physical Exam
Type 1 diabetics have higher incidence of autoimmune disorders (esp thyroid)
Be alert for diseases that can cause secondary diabetes – hemochromatosis, pancreatic disease, endocrine disorders (acromegaly, pheochromocytoma, Cushing's)
1. Height and Weight
2. Blood pressure
3. Ophthalmoscopic exam
4. Thyroid exam
5. Cardiac exam
6. Abdominal exam (eg hepatomegaly)
7. Peripheral pulses
8. Foot examination
9. Skin exam (esp insulin injection sites)
10. Neurologic exam

Labs
1. Fasting plasma glucose, HbA1c, fasting lipid profile, serum creatinine
2. Urinalysis for glucose, ketones, protein, sediment
3. Microalbumin in type 1 patients who have had disease 5 years, all type 2
4. TSH is all type 1
5. EKG in adults

Management
1. Medications (oral hypoglycemics, insulin, HTN agents, lipid meds, ASA)
2. Nutrition
3. Exercise, smoking cessation
4. Patient and family education for self management
5. Monitoring home glucose levels (urine glucose is less useful option)
6. Annual eye exam by ophthalmologist or optometrist (3-5 years after diagnosis of type 1 diabetes, within 1 year of diagnosis of type 2)
7. Podiatry services as needed
8. Optimal blood glucose control before conception and during pregnancy
9. Pneumovax; annual influeza vaccine