Visit type: Diabetes Mellitus, New onset (Type 2)

Components of the comprehensive diabetes evaluation:

**Medical history:**
1. Age
2. Eating patterns (polyphagia, polydipsia), nutritional status, and weight history.
3. Exercise history
4. History of diabetes-related complications
   - Microvascular: eye (blurry vision, visual disturbances), kidney (polyuria, urine output), nerve (tingling, numbness, pain)
   - Macrovascular: cardiac (chest pain, palpitation, DOE, exertional and rest shortness of breath, lower ext. swelling), PAD (Claudication).
   - Other: sexual dysfunction (erectile dysfunction, decrease libido), gastroparesis (diarrhea, bloating, heart burns, change in bowel habit)
5. History of Smoking, hypertension, obesity, dyslipidemia, eating and endocrine disorders.
6. Family history of diabetes and other endocrine disorders
7. Lifestyle, cultural, psychosocial (e.g. depression), educational, and economic factors that might influence the management of diabetes.

**Physical examination**
1. Height and weight
2. Blood pressure, including orthostatic measurements (as needed)
3. Fundoscopic examination
4. Thyroid palpation
5. Skin examination (for acanthosis nigricans and insulin injection sites)
6. Foot exam: Inspection of feet (3-6month interval), palpation of DP and PT pulses, and monofilament sensation or/and temperature or/and vibration perception (annually)
7. Presence/absence of patellar and Achilles reflexes (annually)
8. Cardiovascular, lung and abdomen, neurologic examination.
9. The clinician should also be alert for signs of diseases that can cause secondary diabetes, e.g., hemochromatosis, pancreatic disease, and endocrine disorders such as acromegaly, pheochromocytoma, and Cushing's syndrome, PCOS.

**Labs:**
1. HgA1c
2. Thyroid function test when indicated.
3. Fasting plasma glucose and random plasma if needed.
4. Fasting lipid profile: total cholesterol, HDL cholesterol, triglycerides, and LDL cholesterol
5. Serum creatinine, GFR
6. Test for microalbuminuria (e.g., timed specimen or the albumin-to-creatinine ratio)
7. Urinalysis: glucose, ketones, protein, sediment
8. Liver function test (to start medication for diabetes and antihyperlipidemia)
9. ECG.
10. Consider ABI if PAD is suspected.
**Treatment:**

A. **Metabolic Management:**

- Start insulin in patient presenting with weight loss, and glucose >250 to 300 mg/dl.

B. **Diabetic nephropathy management:**
- ACE inhibitors (or ARBs)
- Maintenance of strict glycemic
- Dietary protein restriction (0.8-1.0 g/kg of total body weight/d)
- Blood pressure control (< 130/80)

C. **Aspirin:**
- Aspirin (75 to 162 mg/day) is recommended in any diabetes, age >40 years, with one additional CAD risk factor.

**Patient education:**
1. Comprehensive Diabetes education as needed.
2. Physical Activity:
   - at least 150 min/week of moderate-intensity aerobic physical activity and/or at least 90 min/week of vigorous aerobic exercise
3. Foot care:
   - Avoid going barefoot, test water temperature before stepping into a bath.
   - Trim toe nails to shape of the toe; remove sharp edges. Do not cut cuticles.
   - Wash and check feet daily.
   - Shoes should be snug but not tight.
   - Socks should fit and be changed daily.
4. Education about hypoglycemic and hyperglycemic symptoms.
5. Self measurement of blood sugar by the patient: three or more times daily for patients using multiple insulin injections. (A) Less frequent in Pts who are on oral agents, or only on diet (E)

**Immunization:**
- Once a year influenza vaccine.
- Pneumococcal vaccine, revaccination for individuals >64 years of age previously immunized.

**Goals:**

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<thead>
<tr>
<th>Glycemic control</th>
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<tbody>
<tr>
<td>A1C</td>
<td>&lt;7.0%</td>
</tr>
<tr>
<td>Preprandial capillary plasma glucose</td>
<td>90–130 mg/dl (5.0–7.2 mmol/l)</td>
</tr>
<tr>
<td>Peak postprandial capillary plasma glucose (1-2 hrs after the beginning of the meal)</td>
<td>&lt;180 mg/dl (&lt;10.0 mmol/l)</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>&lt;130/80 mmHg</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Lipid control</th>
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<tbody>
<tr>
<td>LDL</td>
<td>&lt;100 mg/dl (&lt;2.6 mmol/l)</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>&lt;150 mg/dl (&lt;1.7 mmol/l)</td>
</tr>
<tr>
<td>HDL</td>
<td>&gt;40 mg/dl (&gt;1.0 mmol/l)</td>
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- HDL goal for women has been suggested to be increased by 10 mg/dl.
- Less intensive glycemic goals may be indicated in patients with severe or frequent hypoglycemia.
- Current NCEP/ATP III guidelines suggest that in patients with triglycerides ≥200 mg/dl, the "non-HDL cholesterol" (total cholesterol minus HDL) be utilized. The goal is ≤130 mg/dl (121).

**Referrals:**
1. Dilated and comprehensive eye examination by an ophthalmologist or optometrist should be repeated annually. (B)
2. Podiatry: Patients who smoke patients with foot ulcer or high risk feet (h/o prior ulcer or amputation.)
3. Refer patients with significant claudication or a positive ABI for further vascular assessment and consider exercise, medications, and surgical options. (C)
4. CHD Screening tests (Stress test): in patients with 1) history of peripheral or carotid occlusive disease and 2) sedentary lifestyle whose 10-year risk of a coronary event is likely to be >10%, age >35 years, and plans to begin a vigorous exercise program. 
5. Upper GI and lower GI symptom to rule out structural abnormalities.
6. Consider referral to a physician experienced in the care of diabetic renal disease when the estimated GFR has fallen to <60 ml/min per 1.73 m2 or if difficulties occur in the management of hypertension or hyperkalemia. (B)
7. Medical nutrition therapy. (If did not have before).
References:

Medscape Family Medicine, Standards of Medical Care for Patients With Diabetes Mellitus, from Diabetes Care.


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