Goals of Care – ADA 2015

ADA Standards of Care 2015

Objectives
- Review the 14 Standards of Care to the best of our ability in 90 minutes!
1. Strategies for Improving Care

- Based on a recent report by the CDC, <7% of privately insured adults with newly diagnosed diabetes from 2009 to 2012 joined a self-management education and training program.

- Consider Chronic Care Model
  1. Optimize Provider and Team Behavior
  2. Support Patient Behavior Change
  3. Change the Care System

1. Keep it Patient Centered

- “it is clear that optimal diabetes management requires an organized, systematic approach and the involvement of a coordinated team of dedicated health professionals, working in an environment where patient centered care is a high priority”.

2. Classification and Diagnosis of Diabetes - Update

- Screening criteria update for Asian Americans: BMI ≥ 23
  - the cut point for screening Asian Americans for prediabetes and type 2 diabetes is now a BMI ≥ 23 (vs 25) to reflect the increased risk of diabetes at a lower BMI level relative to the general population.
### BMI Categories

![BMI Categories Image]

### 3. Initial Eval and Diabetes Management Planning

- **Medical Evaluation**
  1. Classify diabetes
  2. Detect diabetes complications
  3. Review previous treatment and risk factor control
  4. Assist in formulating a management plan
  5. Provide a basis for continuing care

### 3. Initial Eval – Conditions to look for

- **Type 1 - Autoimmune diseases**
- **Other conditions that may appear Type 1 /2**
  - Depression and anxiety
  - Obstructive sleep apnea
  - Fatty liver disease
  - Cancer
  - Fractures
  - Cognitive impairment
  - Low Testosterone in Men
  - Periodontal disease
  - Hearing impairment
4. Foundations of Care

- Education –
  - Setting Up Successful Diabetes Ed Program – Level 2
- Nutrition
- Physical Activity
  - Nutrition and Exercise Course – Level 1
- Smoking Cessation
- Psychosocial Care
- Immunization

4. Education

- People with diabetes and pre diabetes should receive DSME
  - Monitor for effective self-management and quality of life
  - Address psychosocial issues and emotional well being
  - Results in cost savings and improved outcomes, should be reimbursed by third party payers.

4. Exercise Recommendations

- Activity update – Don’t sit more than 90 minutes
  - Evidence supports that everyone, including with diabetes should be encouraged to reduce sedentary time, by not sitting for more than 90 minutes at a time.
  - It is recommended that people with pre diabetes and diabetes engage in 150 minutes of activity a week and at least 2 weekly sessions of resistance exercise.
Good Exercise Info / Quotes

- 20% of people walk 30 mins a day
- Exercise decrease A1c 0.7%
- No change in body wt, but 48% loss in visceral fat
  - ADA PostGrad 2010

- “If you don’t have time for exercise, you better make time for disease.”
- “I don’t have time to exercise, I MAKE time.”

- Mike Huckabee

Best Shake For People with Diabetes

- "The only diet shake I recommend in the shake your ‘body’ makes when you exercise."
  - From Debbie Nagata’s slide collection

4. Vaccinations - Immunizations

- Influenza vaccine
  - every year starting at age 6 months
- Hepatitis B Vaccine
  - For diabetes pts age 19 – 59 (not previously vaccinated)
  - Double risk of Hep B due to lancing devices/glucose meter exposure
4. Pneumonia Vaccinations

- Pneumonia polysaccharide PPSV23 vaccine to all patients starting at age 2
- Adults ≥ 65 years of age, if not previously vaccinated, should receive pneumococcal conjugate vaccine 13 (PCV13), followed by PPSV23 6-12 months after initial vaccination.
- Adults ≥ 65 years of age, if previously vaccinated with PPSV23 should receive a follow-up ≥ 12 months with PCV13.

4. E- Cigarettes

- Not supported as an alternative to smoking or to facilitate smoking cessation.

The uptake of e-cigarettes, which use battery-powered cartridges to produce a nicotine-laced vapor (and often contain other bad stuff)

4. Smoking and Diabetes

Smoking increases risk of diabetes 30%

- Ask at every visit
- Assess
- Advise
- Assist with stop smoking
- Arrange for referrals
- Organize your clinic
5. Prevention or Delay of Type 2

- Patients with prediabetes
  - Refer to behavioral counseling /DSME program to:
    - Focus on intensive diet and physical activity
    - Weight loss target of 7%
    - Increase physical activity to 150 minutes a week
  - Follow-up counseling critical for success
  - Consider Metformin for type 2 prevention
    - If A1c 5.7-6.4
    - Especially for those with BMI >35 and hx of GDM
  - Monitor annually and screen and mitigate modifiable CV risk factors

Can we stop pre diabetes from progressing?

3, 234 people w/ Pre-Diabetes randomized:

- Placebo
- Diet/Exercise or
- Metformin

over a three year period

Diabetes Prevention Program (DPP) 2001

- Standard Group - 29% developed DM
- Lifestyle Results - 14% developed DM
  - 58% (71% for 60yrs +) Risk reduction
    - 30 mins daily activity
    - 5-7% of body wt loss
- Metformin 850 BID - 22% developed DM
  - 31% risk reduction (less effective with elderly and thinner pt’s)
Weight loss and Prevention

- For every 2.2 pounds of weight loss, risk of type 2 diabetes was reduced by 13%.

Have Pre-Diabetes? Steps to Prevent Type 2

- Lose 7% of body weight
  - Healthy eating, high fiber, low fat, avoid sugar sweetened beverages, reduce total caloric intake
- Exercise 150 minutes a week
- Consider Metformin Therapy for
  - Women with history of GDM
  - Patients with BMI of 35 or greater
  - Under the age of 60
- Follow-up and group education
- Annual monitoring and tx of CVD risk factors
ABC’s of Diabetes

A1C
Blood Pressure
Cholesterol

6. Glycemic Targets

- **Adult non pregnant A1c goals**
  - A1c < 7% - a reasonable goal for adults.
  - A1c < 6.5% - may be appropriate for those without significant risk of hypoglycemia or other adverse effects of treatment.
  - A1c < 8% - may be appropriate for patients with history of hypoglycemia, limited life expectancy, or those with longstanding diabetes and vascular complications.

6. Pediatric Glycemic Targets-2015

- **A1c goal <7.5 % for all ages**;
  - however individualization is still encouraged.
  - A lower goal, <7% if can be achieved w/out excessive hypoglycemia

**Blood glucose goals**

- Before meals: 90-130
- Bedtime/overnight: 90-150
6. A1c Goals for Non Pregnant Adults
Individualize Targets – ADA

- < 7% for patients in general
- For individual pts, as close to normal as possible (<6.5%) w/out significant hypo*

Frequency:
- If pt meeting goal - At least 2 times a year
- If pts not meeting goal – Quarterly
6. A1c Test

- Measures glycation of RBC’s over 2-3 months
- Weighted mean (50% preceding month)
- Each 1% ~ 29mg/dl
- Accuracy: affected by some anemias, hemoglobinopathies
- A measurement of glucose in fasting and postprandial states
- African Americans may have false lows

6. A1c and Estimated Avg Glucose (eAG)

<table>
<thead>
<tr>
<th>A1c (%)</th>
<th>eAG</th>
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<tbody>
<tr>
<td>5</td>
<td>97</td>
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<tr>
<td>6</td>
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<td>10</td>
<td>240</td>
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<tr>
<td>11</td>
<td>269</td>
</tr>
<tr>
<td>12</td>
<td>298</td>
</tr>
</tbody>
</table>

\[ eAG = 28.7 \times \text{A1c-46.7} \text{ ~ 29 pts per 1%} \]

Order teaching tool kit free at diabetes.org


Individualize Targets – ADA

- Pre-Prandial BG 80-130
- rather than 70–130 mg/dL, to better reflect new data comparing actual average glucose levels with A1C targets.

- 1-2 hr post prandial < than 180
  for nonpregnant adults
7. Approaches to Glycemic Management

- Join our Meds for Type 2 (Part 1)
  - in Level 1 Series
- Join our Meds Management for Type 2 (Part 2)
  - in Level 2 Series
- Join Insulin Pattern Management Gone Crazy (Part 2)
  - in Level 2 Series

7. Steps to manage hyperglycemia in Type 2:

- Start with lifestyle - healthy eating, weight management, increased physical activity and diabetes education.
- Add metformin - When lifestyle alone is not achieving A1c goal. Metformin should be added at, or soon after diagnosis (unless contraindicated).
- Using GFR as safety indicator for metformin. The ADA Stds 2015 suggests GFR may be a more appropriate measure than creatinine to screen for risk of lactic acidosis. They suggest if GFR <45, max dose is 1000mg a day. If GFR <30, stop metformin.
- Metformin has a long standing evidence base for efficacy and safety, is cheap and may reduce CV risk.
- If A1c target is not achieved after 3 months, consider adding one of 6 treatment options or basal insulin.
- Consider starting dual therapy if A1c ≥ 9%. Also consider starting insulin therapy since it is most effective at getting A1c to goal.
- A1c still above target? Consider:
  - Basal bolus therapy or add a GLP-1 Agonist.
  - Twice daily premixed biphasic insulin (70/30)

7. Hyperglycemia Algorithm – Type 2
7. Insulin Management for Type 2

8. Cardiovascular Disease and Risk Management

- Cardiovascular disease is the leading cause of mortality and morbidity in diabetes
- Largest contributor to direct and indirect costs
- Controlling cardiovascular risk improves outcomes
- Large benefits are seen when multiple risk factors are addressed globally

8. BP Goal 2015

BP < 140 / 90

- Some pts may benefit from B/P 130/80 (younger and achieved with undue tx burden)
- Studies indicate that the previous B/P target of 140/80 didn’t improve outcomes enough to balance the risk of side effects such as orthostatic hypotension and polypharmacy.
8. Hypertension Guidelines 2015

Screening – Check BP at each visit.
If either
- systolic 140 or >
- diastolic 90 or > repeat on separate day.

Hypertension = Repeat systolic or diastolic above or equal to these levels

When taking B/P
- Pt sit still for 5 min’s
- Feet on floor,
- Arm supported at heart level
- Right size cuff

8. BP Treatment
ADA 2015 Standards
- Pts with B/P > 120/80
  - encourage lifestyle changes to reduce B/P
- B/P > 140/90
  - Lifestyle plus prompt initiation of B/P meds
- Lifestyle =
  - Weight loss
  - DASH Style diet (fresh fruit, veggies, whole grains, reducing sodium and increasing potassium intake)
  - Moderation of alcohol intake
  - Increased physical activity

8. Blood Pressure Treatment
- First Line B/P Drugs
  - ACE Inhibitors or
  - Angiotensin receptor blocker (ARBs) (type 2)
  - If one class is not tolerated, the other should be tried
- Multiple Drug Therapy often required
  - Including an ACE Inhibitor / ARB at max dose, plus a thiazide diuretic
8. Hyperlipidemia Update 2015

- Statin treatment and lipid monitoring were revised to reflect the 2013 findings of American College of Cardiology/ American Heart Association.
- Statin therapy initiation is no longer based on the LDL level.
  - Starting and dosing stratification is driven by risk status.

8. Dyslipidemia Screening - Adults

- Screening lipid profile is recommended at time of diagnosis
- And/or at 40 years
- And periodically thereafter (every 1-2 years)

8. Dyslipidemia Management

- Start with lifestyle
  - Reduce trans, saturated fat, cholesterol
  - Increase intake of omega-3 fatty acids, viscous fiber, and plant stanols/sterols
    - Contained in grains, vegetables, fruits, legumes, nuts, and seeds. Also added to margarine, OJ and other food products
  - Lose weight (if indicated)
  - Get Active
8. Dyslipidemia Management

- Intensify lifestyle therapy and optimize glucose control for patients with:
  - Triglycerides ≥ 150 and/or
  - HDL ≤ 40 (men) ≤ 50 (women)

CVD Risk Factors
- Gender
- Age
- Race
- Total Chol/HDL
- Systolic B/P
- Treated HTN
- Diabetes
- Smoker

ASCVD Risk Calculator on AHA website

2013 Prevention Guidelines Tools
CV RISK CALCULATOR

8. ADA Guidelines 2015

Table 8.1—Recommendations for statin treatment in people with diabetes

<table>
<thead>
<tr>
<th>Age</th>
<th>Risk factors</th>
<th>Statin dose*</th>
<th>Monitoring with lipid panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;40 years</td>
<td>None</td>
<td>None</td>
<td>Annually or as needed to monitor for adherence</td>
</tr>
<tr>
<td>40–75 yrs</td>
<td>Low risk factors</td>
<td>Moderate or high</td>
<td>High</td>
</tr>
<tr>
<td>75 yrs+</td>
<td>High risk factors</td>
<td>As needed to monitor adherence</td>
<td></td>
</tr>
</tbody>
</table>

*In addition to lifestyle therapy
**Low risk factors include LDL cholesterol < 160 mg/dL (4.1 mmol/L), high blood pressure, smoking, and overweight and obesity
***High risk factors include previous cardiovascular events or acute coronary syndromes
8. Statin Therapy

- High intensity statins (lowers LDL 50%):
  - Lipitor (atorvastatin) 40-80mg
  - Crestor (rosuvastatin) 20-40mg
- Moderate intensity (lowers LDL 30-50%)
  - Lipitor (atorvastatin) 10-20mg
  - Crestor (rosuvastatin) 5-10mg
- Low Intensity
  - Pravachol (pravastatin) 10 – 20mg
  - Mevacor (Lovastatin) 20mg

2013 ACC/AHA Cholesterol Guidelines

Aspirin Therapy

(75-162/day)

- Aspirin not recommended for diabetes if low CVD risk and under age of 50 women, 60 men
- Use for men >50 yrs, or women >60 yrs who smoke or have CV risk factor – primary prev)
- Use aspirin therapy for diabetes pts with history of CV disease (secondary prev)
- Combo therapy of aspirin + clopidogrel is reasonable for a year after MI
- Do not use in pts w/ allergy use Plavix, (clopidogrel)
8. Coronary Heart Disease

- In pts with known CVD, use:
  - Aspirin
  - Statin
  - B/P Med
    - Consider ACE inhibitor to reduce risk of CV event
  - In pts with prior MI, Beta Blockers should be continued at least 2 years after the event
  - Don’t use Actos or Avandia in pts with CHF
  - In pts with stable CHF, Metformin can be used in renal function normal and stable

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A 78 yr old man, smokes ppd

- A1c was 8.1% (down from 10.4%)
- B/P 136/76    AM BG 100, 2 hr pp 190
- Chol – TG, HDL 46, LDL 98

Meds:
- Insulin – 16 units Lantus at HS
- Benazepril 20 mg
- Metropolol 50mg
- Warfarin 5mg
- Actos 15 mg

What class of meds is this patient on?
- Insulin
- Statin
- ACE Inhibitor

Any special instructions?
- Blood pressure management
- Regular exercise

Any med missing?
- Warfarin

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Mr. Jones - What are Your Recommendations for Self-Care?

Patient Profile
62 yr old with newly dx type 2.
- History of previous MI.
- Labs:
  - A1c 9.3%
  - HDL 37 mg/dl
  - LDL 156 mg/dl
  - Triglyceride 260mg/dl
  - Proteinuria - neg
  - B/P 142/92

Self-Care Skills
- Walks dog around block 3 x's a week
- Bowls every Friday
- Widowed, so usually eats out

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**ABCs of Diabetes**

- **A1c less than 7% (avg 3 month BG)**
  - Pre-meal BG 80-130
  - Post meal BG <180
- **Blood Pressure < 140/90**
- **Cholesterol**
  - Eval if statin therapy indicated

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**Diabetes Care Guidelines - ADA**

<table>
<thead>
<tr>
<th>Test / Exam</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1c</td>
<td>At least twice a year</td>
</tr>
<tr>
<td>B/P</td>
<td>Each diabetes visit</td>
</tr>
<tr>
<td>Cholesterol (HDL, Tri)</td>
<td>Yearly (less if normal)</td>
</tr>
<tr>
<td>Weight</td>
<td>Each diabetes visit</td>
</tr>
<tr>
<td>Microalbumin/GFR/Creat</td>
<td>Yearly</td>
</tr>
<tr>
<td>Eye exam</td>
<td>Yearly</td>
</tr>
<tr>
<td>Dental Care</td>
<td>At least twice a year</td>
</tr>
<tr>
<td>Comprehensive Foot Exam</td>
<td>Yearly (more if high risk)</td>
</tr>
<tr>
<td>Physical Activity Plan</td>
<td>As needed to meet goals</td>
</tr>
<tr>
<td>Preconception counseling</td>
<td>As needed</td>
</tr>
</tbody>
</table>

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**9. Microvascular Complications**

- "Every time you see your doctor, take off your shoes and socks and show your feet!"
- For those at high risk for foot complications
- All patients with loss of protective sensation, foot deformities, or a history of foot ulcers
9. Microvascular Complications

- **Kidney Disease**
  - Optimize glucose and B/P Control to protect kidneys
  - Screen for Albumin-Creat ratio and GFR
  - Type 2 at dx then yearly
  - Type 1 with diabetes for 5 years, then yearly
  - Treat hypertension with ACE or ARB and intensify as needed
  - Consider referral to specialist when management is difficult and kidney disease is advanced
  - Not recommended to limit dietary protein intake below 0.8 g/kg/day (doesn’t improve outcomes)

- **Eye Disease**
  - Optimize glucose and B/P Control to protect eyes
  - Screen with initial dilated and comprehensive eye exam by ophthalmologist or optometrist
  - Type 2 at diagnosis, then every one to 2 years
  - Type 1 within 5 years of dx, then every 1-2 years
  - Can use high quality fundus photography as screening tool - Initial exam should be done in person
  - Promptly refer pts with macular edema, severe non-proliferative disease trained specialist
  - Treatment includes laser therapy (retinopathy) and Antivascular and Endothelial Growth Factor for Macular Edema

- **Nerve Disease**
  - Tight glycemic control is the only strategy shown to prevent or delay the development and progression of neuropathy.
  - Screen all patients for nerve disease using simple tests, such as a monofilament
  - Type 2 at diagnosis, then annually
  - Type 1 diabetes 5 years, then annually
  - Assess and treat patients to reduce pain and symptoms to improve quality of life.
10. Older Adults
- If functional and cognitively intact with significant life expectancy, use same goals as younger adults
- Glycemic goals may need to be relaxed with focus on quality of life
- Address Cardiovascular Risk factors
- Focus screening for complications on those that would lead for functional impairment
- Over age 65, high risk for depression

11. Children and Adolescents
- See Level 2 Course
  - Kids and Diabetes – will be re-recording in February

12. Gestational DM ~ 7% of all Pregnancies
- GDM prevalence increased by ~10–100% during the past 20 yrs
- Native Americans, Asians, Hispanics, African-American women at highest risk
- Immediately after pregnancy, 5% to 10% of GDM diagnosed with type 2 diabetes
- Within 5 years, 50% chance of developing DM in next 5 years.
12. Management of Diabetes in Pregnancy

- Provide preconception counseling, focus on importance of glycemic control, A1c<7%, to prevent anomalies
- Avoid teratogenic meds (ACE Inhibitors, Statins) in sexually active women not using reliable contraception
- Manage GDM with diet and exercise first, add meds if needed.
- Women with pregestational diabetes need baseline eye exam in first trimester, monitor every trimester
- A1c target during pregnancy if <6%, if can be achieved without hypo
- Meds used in pregnancy include insulin, metformin and glyburide, still need long term safety data

12. Screen Pregnant Women Before 13 weeks

- Screen for undiagnosed Type 2 at the first prenatal visit using standard risk factors.
- Women found to have diabetes at their initial prenatal visit treated as “Diabetes in Pregnancy”
- If normal, recheck at 24-28 weeks

12. GDM Criteria - 2 Options

“1 Step” – 75 gm OGTT

- 24-28 weeks
- OGTT in am after overnight fast of 8 or > hrs
- GDM Diagnosis if ANY of the following values met or exceeded:

  - FBG 1 HR 2HR
  - ≥92 or ≥180 or ≥153

  Based on Hyperglycemia and Adverse Pregnancy Outcomes Study - IADPSG
12. GDM Criteria – Option 2
“NIH 2 step”

- Step 1
  - 50 gm Oral Glucose Tolerance Test (non-fasting)
  - If BG 140* at 1 hour proceed to Step 2
  - Step 2 – 100 gm Oral Glucose Tolerance (fasting)

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Caution</th>
<th>or</th>
<th>NDDG</th>
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<tbody>
<tr>
<td>Fasting</td>
<td>95 mg/dL (5.3 mmol/L)</td>
<td>105 mg/dL (5.8 mmol/L)</td>
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<tr>
<td>1 h</td>
<td>180 mg/dL (10.0 mmol/L)</td>
<td>190 mg/dL (10.6 mmol/L)</td>
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<tr>
<td>2 h</td>
<td>155 mg/dL (8.6 mmol/L)</td>
<td>165 mg/dL (9.2 mmol/L)</td>
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</table>

GDM Diagnosis if 2 values are met or exceeded

Postpartum after GDM

- 50% risk of getting diabetes in 5 years
- Screen at 6-12 wks post partum
- Repeat at 3 yr intervals or signs of DM
  - Encourage Breast Feeding
  - Encourage weight control
  - Encourage exercise
  - Make sure connected with health care
  - Lipid profile/ follow BP
  - Preconception counseling

13. Diabetes Care in Hospital, Nursing Home and Skilled Nursing Facility

- Start discharge planning on admission
- Avoid sole use of sliding scale insulin during hospital stay
- Clearly identify type of diabetes on admission
- Critically ill patient goals:
  - Start insulin if BG >180
  - Goal BG 140-180 (some pts may benefit from 110-140)
  - Non Critically Ill patient goals
  - Premal < 140
  - Post meal <180
  - Basal bolus preferred treatment
  - Have hypoglycemia protocol
  - Get A1c on all patient with DM/hyperglycemia
14. Diabetes Advocacy

- People living with diabetes should not face discrimination.
- We need to all be a part of advocating for the best care and the rights of people living with diabetes.

Thank You

- Please email us with any questions.
- www.diabetesed.net