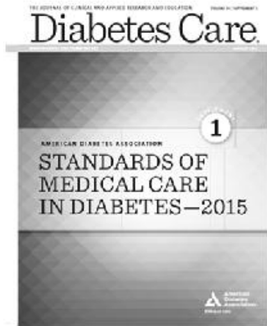
Goals of Care – ADA 2015

ADA Standards of Care 2015



Objectives

- Review the 14 Standards of Care to the best of our ability in 90 minutes!

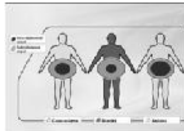
1. Strategies for Improving Care

- **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

17 19 22 24 26 29 33 37 40
BMI <20 20 - 25 26 - 29 >30
Underweight Normal weight Slightly Overweight Overweight Extremely Overweight

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 is the shake your booty makes when you exercise."

From Debbie Nagata's slide collection

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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

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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

Diabetes Prevention Program

- 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%.

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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

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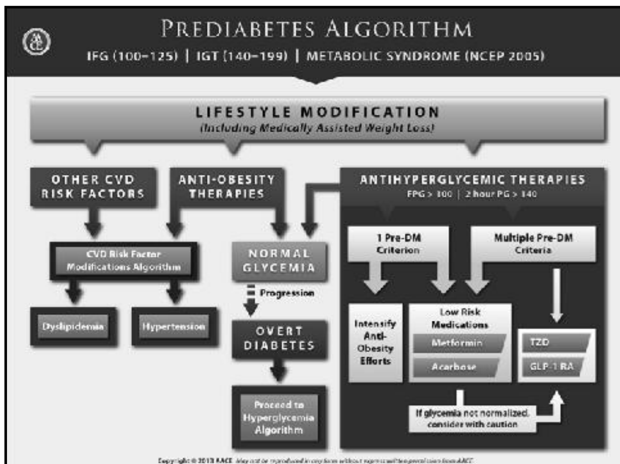

ABC's of Diabetes

A1C

Blood Pressure

Cholesterol

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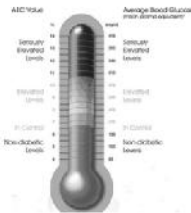
6. Glycemic Targets

- **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.



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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

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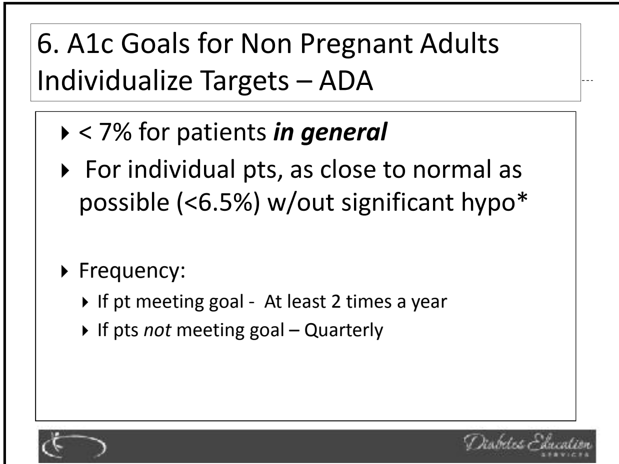

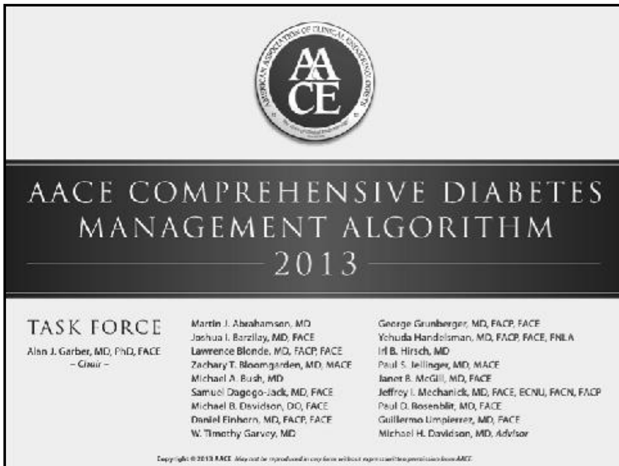

Goals for Glycemic Control

A1c ≤ 6.5%

For healthy patients without concurrent illness and at low hypoglycemic risk

A1c > 6.5%

Individualize goals for patients with concurrent illness and at risk for hypoglycemia

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

Red Blood Cell

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6. A1c and Estimated Avg Glucose (eAG)

A1c (%)	eAG
5	97
6	126
7	154
8	183
9	212
10	240
11	269
12	298

Order teaching tool kit free at diabetes.org

eAG = 28.7 x A1c-46.7 ~ 29 pts per 1%

Translating the A1c Assay Into Estimated Average Glucose Values – ADAG Study
Diabetes Care: 31, #8, August 2008

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6. Glucose Goals 2015
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

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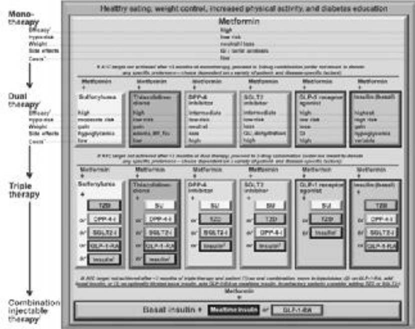
7. Approaches to Glycemic Management

- 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

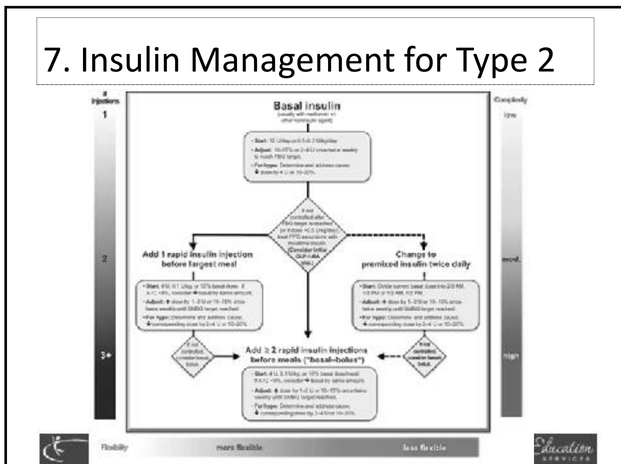
7. Steps to manage hyperglycemia in Type 2:

- **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.

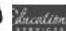
If either

- 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



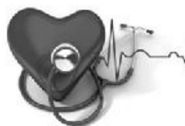
8. BP Treatment

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)

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American Heart Association

American College of Cardiology

2013 Prevention Guidelines Tools

CV RISK CALCULATOR

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

ASCVD Risk Calculator on AHA website

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8. ADA Guidelines 2015

Table 8.1—Recommendations for statin treatment in people with diabetes

Age	Risk factors	Recommended statin dose*	Monitoring with lipid panel
<40 years	None CVD risk factor(s)** Overt CVD***	None Moderate or high High	Annually or as needed to monitor for adherence
40–75 years	None CVD risk factors Overt CVD	Moderate High High	As needed to monitor adherence
>75 years	None CVD risk factors Overt CVD	Moderate Moderate or high High	As needed to monitor adherence

*In addition to lifestyle therapy.
**CVD risk factors include LDL cholesterol ≥100 mg/dL (2.6 mmol/L), high blood pressure, smoking, and overweight and obesity.
***Overt CVD includes those with previous cardiovascular events or acute coronary syndromes.

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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 Instensity
  - Pravachol (pravastatin) 10 – 20mg
  - Mevacor (Lovastatin) 20mg

2013 ACC/AHA Cholesterol Guidelines

Table 5. High- Moderate- and Low-Intensity Statin Therapy (Used in the RCTs reviewed by the Expert Panel)*

High-Intensity Statin Therapy	Moderate-Intensity Statin Therapy	Low-Intensity Statin Therapy
Daily dose lowers LDL–C on average, by approximately ≥50%	Daily dose lowers LDL–C on average, by approximately 30% to <50%	Daily dose lowers LDL–C on average, by <30%
Atorvastatin (40†)–80 mg **Rosuvastatin 20** *(40)* **mg**	**Atorvastatin 10** *(20)* **mg** **Rosuvastatin** *(5)* **10 mg** **Simvastatin 20–40 mg‡** **Pravastatin 40** *(80)* **mg** **Lovastatin 40 mg** *Fluvastatin XL 80 mg* **Fluvastatin 40 mg bid** *Pitavastatin 2–4 mg*	*Simvastatin 10 mg* **Pravastatin 10–20 mg** **Lovastatin 20 mg** *Fluvastatin 20–40 mg* *Pitavastatin 1 mg*

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

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 54, 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?
Any special instructions?
Any med missing?

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

Patient Profile

62 yr old with newly dx type 2. History of previous MI.

Meds: Lasix, synthroid

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

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

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

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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

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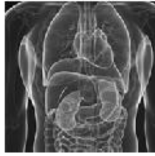
9. Microvascular Complications

- 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)

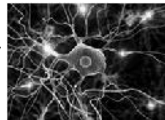


9. Microvascular Complications

- 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

9. Microvascular Complications

- 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

Diabetes Education

11. Children and Adolescents

- See Level 2 Course
  - Kids and Diabetes – will be re-recording in February

Diabetes Education

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.

Diabetes Education

12. Management of Diabetes in Pregnancy

- Provide preconception counseling, focus on importance of glycemic control, A1<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

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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

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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

Diabetes Education Services

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)
  - **GDM Diagnosis if 2** values are met or exceeded

	Carpenter/Coustan	or	NDDG
• Fasting	95 mg/dL (5.3 mmol/L)		105 mg/dL (5.8 mmol/L)
• 1 h	180 mg/dL (10.0 mmol/L)		190 mg/dL (10.6 mmol/L)
• 2 h	155 mg/dL (8.6 mmol/L)		165 mg/dL (9.2 mmol/L)
• 3 h	140 mg/dL (7.8 mmol/L)		145 mg/dL (8.0 mmol/L)

NDDG, National Diabetes Data Group. *The American College of Obstetricians and Gynecologists (ACOG) recommends a lower threshold of 135 mg/dL (7.5 mmol/L) in high-risk ethnic minorities with higher prevalence of GDM; some experts also recommend 130 mg/dL (7.2 mmol/L).

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
  - Premeal < 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.

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Thank You

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

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