Disclaimer

This activity features cases that are loosely based on two famous musicians who had diabetes: Jerry Garcia and Ella Fitzgerald. Publicly available medical information was used to construct the core elements of the cases. When information was not available, the activity content planners added relevant, but fictional, details to devise an meaningful educational experience.

Steering Committee

Pamela Kushner, MA, MD, FAAFP
Clinical Professor
University of California-Irvine Medical Center
Director, Kushner Wellness
Los Alamitos, CA

Neil Skolnik, MD
Professor of Family and Community Medicine
Sidney Kimmel Medical College
Thomas Jefferson University
Philadelphia, PA
Associate Director
Family Medicine Residency Program
Abington Jefferson Health
Abington, PA

Ji Hyun Chun, PA-C, MPAS, BC-ADM
OptumCare Medical Group
Endocrinology
Orange County, CA
President, American Society of Endocrine PAs (ASEPA)

Debbie Hinnen, APRN, BC-ADM, CDE, FAAN, FADE
Advanced Practice Nurse and Certified Diabetes Educator
Memorial Hospital Diabetes Center
University of Colorado Health
Colorado Springs, CO
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The following faculty report that they have relevant financial relationships to disclose:

- Ji Hyun Chun, PA-C, MPAS, BC-ADM, has served on advisory board for Intarcia and Novo Nordisk and is on speaker’s bureau for AstraZeneca.

Learning Objectives

1. Examine barriers to insulin initiation and strategies for overcoming them
2. Evaluate data and recommendations pertaining to basal insulin selection and how and when to administer and adjust basal insulin
3. Apply evidence regarding safe and appropriate selection and use of basal insulin to clinical scenarios
4. Explore the implications of newer basal insulin in managing patients with diabetes
Meet Jerry Garcia

1969

1980

1987

Jerry – 1984 – Visit to his PCP

- 42-year-old white male, smoker, 2-year history of T2DM
- Chief complaints: fatigue, polyuria, polydipsia
- Height/weight: 5’10”/270 lb
- BP = 135/82 mm Hg; BMI 38.7

Jerry – 1984 – Visit to his PCP

- 42-year-old white male, smoker, 2-year history of T2DM
- Chief complaints: fatigue, polyuria, polydipsia
- Height/weight: 5’10”/270 lb
- BP = 135/82 mm Hg; BMI 38.7
- Pertinent labs
  - A1C = 10.2%
  - FPG: 250 mg/dL
  - ALT: 57; AST: 53
  - TC = 260 mg/dL, LDL = 145 mg/dL, HDL = 32 mg/dL, triglycerides = 275 mg/dL
  - UA: glucosuria (2+), proteinuria (1+), trace of ketone
- Taking glyburide (10 mg split, bid); Jerry says he “sometimes forgets”
- Briefly on recombinant insulin (Reg), needle + syringe
  - Found self-injecting painful and dosing schedule difficult
  - Quit 2 months ago

Fast-forward to 2018: If Jerry were your patient today, what would you do next?
2018: Select an A1C Target

According to 2018 guidelines, which of the following would be the most appropriate A1C goal for Jerry?

A. < 6.5%
B. 6.5% to 7.0%
C. 7.0% to 7.5%
D. 7.5% to 8.0%

Jerry Recap

- 42 years old
- 3 year Hx of T2DM
- Ht/Wt: 5'10"/270 lb; BMI: 38.7
- BP = 135/82 mm Hg
- A1C = 10.2%
- FPG: 250 mg/dL
- On glyburide 10 mg/d

Individualizing A1C Targets

1984: Available Antiglycemic Agents

2018: Available Antiglycemic Agents

Based on discussions with Jerry, consideration of his lab results and presentation, and treatments available in 2018, which of the following would you select?

A. Add metformin to glyburide with a plan to continue adding/substitute in other oral agents as needed

B. Replace glyburide with metformin and start basal insulin

JERRY RECAP

- 42 years old
- 2 year Hx of T2DM
- Ht/Wt: 5'10"/270 lb; BMI: 38.7
- Baseline A1C=10.2%
- Baseline FPG=250 mg/dL
- On glyburide 10 mg/d
- Target A1C < 6.5%

Efficacy of Adding Non-Insulin Antihyperglycemic Agents

<table>
<thead>
<tr>
<th>Agents Added to Metformin: Results from a Meta-analysis1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group vs Placebo</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>All Drugs</td>
</tr>
<tr>
<td>SUa</td>
</tr>
<tr>
<td>Glimepride</td>
</tr>
<tr>
<td>TZD</td>
</tr>
<tr>
<td>Acarbose</td>
</tr>
<tr>
<td>DPP-4 inhibitors</td>
</tr>
<tr>
<td>GLP-1 RAs</td>
</tr>
</tbody>
</table>

Each new class of noninsulin agents added to initial therapy generally lowers A1C by ≥ 0.9% – 1.1%2

Why Basal Insulin in Type 2 Diabetes?

Beta-cell Function Declines as T2DM Progresses

When to Prioritize Basal Insulin

- When hyperglycemia is severe, especially with:
  - Symptoms of hyperglycemia (e.g., headaches, trouble concentrating, polyuria, polydipsia, blurred vision)
  - Catabolic features (e.g., weight loss or ketosis)
- Basal insulin has the advantage of effectively lowering blood glucose when other medications may not

Factors Limiting Use of Basal Insulin in Primary Care Practices

- Patient-level factors
  - Questions about efficacy
  - Concerns about hypoglycemia and weight gain
  - Loss of independence
  - Perception of the need for insulin as a personal failure
- Clinician-level factors
  - Clinical inertia, which may reflect:
    - Confusion about the next medication
    - Misperceptions about risks and side effects
    - General hesitancy to escalate treatment
    - Belief that patients won’t accept injection therapy
  - Patient education/training too time consuming
  - Number of available and emerging insulins with seemingly complex titration schedules
What would you expect the median time to intensification with insulin would be for patients with suboptimal A1C control on 3 oral antidiabetic drugs?

<table>
<thead>
<tr>
<th>Number of OADs</th>
<th>Median time to intensifying with insulin</th>
<th>Mean A1C at time of OAD or insulin intensification (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; 7.1 y</td>
<td>8.7%</td>
</tr>
<tr>
<td>2</td>
<td>&gt; 6.1 y</td>
<td>9.1%</td>
</tr>
<tr>
<td>3</td>
<td>6.0 y</td>
<td>9.7%</td>
</tr>
</tbody>
</table>


Delays in Intensifying T2DM: Data from retrospective cohort study of >80,000 patients with T2DM

Jerry’s Insulin Options – 1986 vs 2018

<table>
<thead>
<tr>
<th>Basal Insulin</th>
<th>Starting dose</th>
<th>Onset of Action*</th>
<th>Peak</th>
<th>Duration of Action*</th>
<th>Rate of severe hypoglycemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPH</td>
<td>0.2 U/kg/d</td>
<td>1-3 h</td>
<td>4-12 h</td>
<td>12-16 h</td>
<td>2.6%</td>
</tr>
<tr>
<td>Detemir (Levemir)</td>
<td>10 U qid in the evening</td>
<td>1-3 h</td>
<td>6-8 h</td>
<td>12-24 h</td>
<td>0.4 - 1%</td>
</tr>
<tr>
<td>Glargine (Lantus, Basaglar)</td>
<td>0.2 U/kg or up to 30 U qid</td>
<td>1-2 h</td>
<td>No pronounced peak</td>
<td>Up to 24 h</td>
<td>1.4%</td>
</tr>
<tr>
<td>Glargine U-300 (Toujeo)</td>
<td>0.2 U/kg or up to 30 U qid</td>
<td>6 h</td>
<td>No pronounced peak</td>
<td>&gt; 30 h</td>
<td>0.9 - 1%</td>
</tr>
<tr>
<td>Degludec U-100 or U-200 (Tresiba)</td>
<td>10 U qd</td>
<td>0.5-1.5 h</td>
<td>No pronounced peak</td>
<td>42 h or more</td>
<td>0.3 - 0.9%</td>
</tr>
</tbody>
</table>

*The time course of action of insulins may vary between individuals and within the same individual.
†Rates of severe hypoglycemia depend on the definition used, insulin dose, intensity of glucose control, background therapies, and other intrinsic and extrinsic patient factors.

Basal Insulin Titration Algorithms

**ADA**
- Start at 10 U/d
- Increase 2-4 U 1-2 times/wk until FPG target is reached

**AACE**
- A1C < 8.0: Start at 0.1-0.2 U/kg
- A1C > 8.0: Start at 0.2-0.3 U/kg
- Increase by 2 U/d every 2-3 d until FPG target is reached

**CDA**
- Start at 10 U/d at bedtime
- Increase 1 U/d until FPG target is reached

FPG Target = 100 – 140 mg/dL

Choose the Simplest Approach for the Patient

INVOKE A TEAM

* A1c increase may be safer for degludec given its longer duration of action (42 h).


Choose the Simplest Approach for the Patient

Who’s on your diabetes care team?

A. Patient
B. Patient caregiver(s)/family member(s)
C. Physician
D. Nurse and/or Nurse Practitioner
E. Physician Assistant
F. Diabetes Educator
G. Nutritionist
H. Specialist (endocrinologist or diabetologist)
I. Other

Back to Jerry: 2018 Action Plan

**Simplest approach for Jerry**
- Start on basal insulin using a pen device to simplify dosing and injections
  - Demonstrate injection at this visit
  - Reinforce target A1C < 6.5%
  - Set target FPG < 120 mg/dL
- Instruct to titrate basal insulin by 1 U/d, with SMBG (FPG and 2-h postmeal, once each/d)
- Prescribe a high-potency statin for elevated lipids
- Establish check-in schedule to report SMBG

**Involve the team**
- Set up consultations with a diabetes educator and nutritionist to support adherence and address lifestyle changes
- Refer for smoking cessation

**JERRY RECAP**
- 42 years old
- 2-year Hx of T2DM
- 40/30 Lbs: 72/70 Bmi: 38.7
- Baseline A1C = 10.2%
- Baseline FPG: 250 mg/dL
- Glyburide replaced with metformin
Jerry in 2018: 1-Month Follow-up

- Basal insulin dose = 44 U/d
- FPG range = 120–140 mg/dL with occasional 150–170 mg/dL
- Post-meal glucose = 130–170 mg/dL
- Weight/BMI = 273 lb/39.2
- Lipids = WNL
- BP = 135/80 mm Hg

Jerry admits difficulty remembering his injection due to irregular schedule, but also reports feeling more energetic with less polyuria/polydipsia.

What now?

- Reinforce need for lifestyle changes, including smoking cessation
- Instruct him to continue up-titrating insulin until FPG is consistently at/near 120 mg/dL
- Set up smart-phone app or alarm to remind him of injection times
- Discuss switching to degludec (for more flexible dosing), if he continues to struggle

Jerry in 2018: 2- and 6-Month Follow-up

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>1 MONTH</th>
<th>2 MONTH</th>
<th>6 MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basal insulin dose (U/d)</td>
<td>44</td>
<td>50</td>
<td>66</td>
</tr>
<tr>
<td>A1C (%)</td>
<td>N/A</td>
<td>6.9</td>
<td>7.0%</td>
</tr>
<tr>
<td>FPG (mg/dL)</td>
<td>120–140</td>
<td>100–130</td>
<td>60–80</td>
</tr>
<tr>
<td>2h post-meal glucose (mg/dL)</td>
<td>130–170</td>
<td>120–150</td>
<td>110–140</td>
</tr>
<tr>
<td>Weight/BMI</td>
<td>273/39.2</td>
<td>270/39.5</td>
<td>280/40.2</td>
</tr>
<tr>
<td>SBP (mm Hg)</td>
<td>135/80</td>
<td>129/80</td>
<td>128/78</td>
</tr>
<tr>
<td>DBP (mm Hg)</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
</tbody>
</table>

At 6 months, Jerry reports feeling well and more in control. He is also eating better and smoking less.

What would you do next?

A. Continue to increase the basal insulin dose
B. Basal + 1 bolus (rapid acting) before largest meal of the day
C. Add a GLP-1 RA (may reduce insulin dose)
D. Switch to pre-mixed insulin (preferably 70/30 or 75/25 bid)
E. Switch to fixed-dose insulin/GLP-1RA combination

Jerry Recap

- 42 years old
- 2.5-year Hx of T2DM
- Ht/Wt: 5'10"/280 lbs; BMI = 40.2
- Basal insulin: 66 U/d
- A1C: 7.0%
- FPG: 120 mg/dL
- 2 hour post-meal glucose: 110–140 mg/dL
- Target A1C: 6.5%
Which of the following suggests over-basalization?

A. FPG at or below target; A1C target not met
B. >50- pt drop in glucose overnight
C. Nocturnal hypoglycemia
D. >0.5 U/kg/d on basal insulin

Have we over-basalized Jerry?

- FPG at or below target; A1C target not met
- >50-point drop in glucose overnight
- Nocturnal hypoglycemia
- >0.5 U/kg/d on basal insulin

The need for prandial insulin becomes more likely as the daily insulin dose exceeds 0.5 U/kg/d

What would you do next?

A. Basal + 1 bolus (rapid acting) before largest meal of the day
B. Add a GLP-1 RA (may reduce insulin dose)
C. Switch to pre-mixed insulin (preferably 70/30 or 75/25 bid)
D. Switch to fixed-dose insulin/GLP-1RA combination

All choices are reasonable. At this point we recommend adding a rapid-acting insulin at the largest meal to his basal regimen and decrease his basal insulin dose.
Jerry: Happy Ending with Current Treatments

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>1 MONTH</th>
<th>2 MONTHS</th>
<th>6 MONTHS</th>
<th>9 MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin dose (U/d)</td>
<td>Basal insulin: 44</td>
<td>Basal insulin: 50</td>
<td>Basal insulin: 56</td>
<td>Basal insulin: 45</td>
</tr>
<tr>
<td>A1C (%)</td>
<td>N/A this visit</td>
<td>6.9</td>
<td>7.0</td>
<td>8.4</td>
</tr>
<tr>
<td>FPG (mg/dL)</td>
<td>130-170</td>
<td>110-150; occasionally 130-150</td>
<td>60-80</td>
<td>60-100</td>
</tr>
<tr>
<td>2-hour post-meal glucose (mg/dL)</td>
<td>220-250</td>
<td>200-240</td>
<td>180-220</td>
<td>180-220</td>
</tr>
<tr>
<td>Weight (lb)/BMI</td>
<td>270/39.2</td>
<td>275/38.7</td>
<td>280/40.2</td>
<td>280/40.2</td>
</tr>
<tr>
<td>Lipids</td>
<td>WNL</td>
<td>WNL</td>
<td>WNL</td>
<td>WNL</td>
</tr>
<tr>
<td>Blood pressure (mm Hg)</td>
<td>135/80</td>
<td>125/80</td>
<td>128/78</td>
<td>115/73</td>
</tr>
</tbody>
</table>

Jerry reports feeling well, fit, more energized.

Epilogue: The True Story, 1986-1996

- Despite his prolific career and intense drive, Jerry struggled with diabetes and drug addiction
- 1986: Collapsed in a diabetic coma lasting 5 days; while recovering, to re-learn basic skills, including how to play the guitar
- 1987: Health improved
- 1991: Health began to decline again
- 1992: Became a vegetarian, reduced smoking, lost weight
- Early 1995: Physical and mental condition deteriorated
- August 9, 1995: Died of a heart attack at age 53

Might he have fared better with current diabetes treatments provided earlier? Because drug abuse contributed to his health problems, it is difficult to say. Perhaps having more effective interventions to manage his T2DM would have changed his outlook, improved his health, and extended his life.

Meet Ella Fitzgerald

Ella - 1986

- Age: 69 years old
- Emergency coronary bypass surgery after presenting with congestive heart failure
- Diagnosed with T2DM as part of pre-op
- A1C = 12.6%
- Discharged on NPH and Regular insulin, bid
  - Uptitrated to 30/20 U am and 30/20 U before dinner

Ella’s Follow-up with Primary Care

- 8 wk post-discharge (2 prior follow-ups)
- A1C is down from 12.6% to 10.1%
- Glucose records, fasting and bedtime
  - Fasting: 122 – 198 mg/dL
  - Bedtime: 185* – 386 mg/dL

- Weight: 228 lbs, height: 5’5”
- History remarkable for
  - Corrected vision
  - Neuropathy
  - Moderate CKD (eGFR = 51 mL/min/1.73 m²)
  - Moderate microalbuminuria
  - Hypertension; treated
  - Elevated blood lipids; treated

- Ella admits to erratic eating habits and occasionally missing injections due to travel, concert, and recording schedules.
- She asks if she can stop the injections and “just take a pill.”
- In 1986, she had few options.
- In 2017, what would the best next step be?
In 2018, what would be the most appropriate A1C target for Ella?

A. < 6.5%
B. 6.5% to 6.8%
C. 7.0% to 7.4%
D. 7.5% to 8.0%

Ella Recap
- 69 years old
- CHF
- Dyslipidemia and HTN (both treated)
- eGFR = 51 ml/min/1.73m²; moderate microalbuminuria
- NPH and Regular insulin - bid
- Up-titrated to 30/20 U am and 30/20 U before dinner
- A1C down from 12.6% to 10.1%

Selecting Ella’s Individualized A1C Target

Tight Control in Patients with Advanced Diabetes: ACCORD, ADVANCE, VADT

- No effect on CVD outcomes
- No consistent positive effect of tight control on mortality
- Severe hypoglycemia more frequent
Based on what you know about Ella, what would you say may be her biggest challenge to diabetes self-care?

A. Financial/insurance  
B. Cognition  
C. Lifestyle  
D. Family support

Diabetes Self-Management Skills Can Be Overwhelming: Who Can Do All of This?

Chronic diabetes care requires ongoing diabetes education
A clinician and patient cannot do this by themselves... They need a team

Consider Cognitive Assessment

- Medicare Annual Wellness Visit Algorithm
  - Requires assessment of cognition in older patients (> 65 y)
  - Consider patient history, clinical observations, patient and family member concerns
  - Stepwise process, extending beyond clinical observation
  - Initially ask questions about changes in memory, language, and ability to complete routine tasks (ADL)
  - If changes reported, use a brief tool that can be administered by nonphysician
Initial Questions in Cognitive Assessment

• During the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse?

• During the past 7 days, did you need help from others to perform everyday activities such as eating, getting dressed, grooming, bathing, walking or using the toilet?

• During the past 7 days, did you need help from others to take care of things such as laundry, housekeeping, banking, shopping, using the telephone, food preparation, transportation or taking your own medications?
Initial Questions in Cognitive Assessment

• During the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse?
• During the past 7 days, did you need help from others to perform everyday activities such as eating, getting dressed, grooming, bathing, walking or using the toilet?
• During the past 7 days, did you need help from others to take care of things such as laundry, housekeeping, banking, shopping, using the telephone, food preparation, transportation or taking your own medications?
• Have you noticed any change in your memory or ability to complete routine tasks?

Ella’s responses indicate some forgetfulness, but overall good cognitive function

1986: Available Antiglycemic Agents
2018: Available Antiglycemic Agents

FAS: Available Antiglycemic Agents

DeFronzo RA. Diabetes. 2009; Apr; 58:773-795.


Metformin
Insulin
TZDs
Sulfonylureas
Glinides
Pramlintide
GLP-1 RAs
DPP-4 Inhibitors

GLP-1 RA

Bromocriptine
Pramlintide

GLP-1 RA

Colesevelam

TZDs
Insulin

SGLT2 Inhibitors
Metformin
\(\alpha\)-glucosidase inhibitors

Liver
Gut
Muscle
Brain
Pancreas
Kidneys

At this point, which of the following therapeutic regimens might you select?

ELLA RECAP

- 69 years old
- CHF
- Dyslipidemia and HTN (both treated)
- eGFR = 51 ml/min/1.73m²; moderate microalbuminuria
- NPH and Regular insulin, bid, titrated to 30/20 U am and 30/20 U before dinner
- A1C down from 12.6% to 10.1%

A. Maintain NPH/Reg as is; add metformin XR 500 mg/d; titrate to maximum tolerated dose

B. Replace NPH/Reg with a pioglitazone/metformin combination pill at 15 mg/500 mg/day; titrate to maximum tolerated dose

C. Add metformin XR starting at 500 mg/d; titrate to maximum tolerated dose; concomitantly and carefully up-titrate NPH/Reg

D. Add metformin XR starting at 500 mg/d and titrate to maximum tolerated dose; switch out NPH/Reg for insulin/GLP-1 RA fixed-dose combination

Metformin in T2DM

- Not FDA-approved until 1995, but now considered a staple of T2DM management for most patients
- FDA update 2016
  - Contraindicated if eGFR < 30
  - Stop temporarily with procedures or surgery in high risk population

TZDs in Heart Failure

- Although metformin is considered a staple for all patients with T2DM, TZDs can cause or exacerbate CHF in some patients – Black Box Warning

Each new non-insulin class of treatment lowers A1C by 0.9% – 1.1%; addition of metformin without adjustment to insulin would likely be insufficient to achieve goals

Therapeutic Options: ADA Algorithm

GLP-1 RAs

- Can use in patients with GFR > 30
- Robust A1C decrease
- Duration of action
  - Short-acting: 2 – 5 h
  - Long-acting: 12 h to several days
- Ella has injection experience already, but wants to reduce frequency
- Would help with hunger control
- May help her lose weight

Therapeutic Options: Basal and Prandial Insulins

- Basal
  - Detemir: 6 – 24 h
  - Glargine: 18 – 24 h
  - Glargine U300: > 30 h
  - Degludec U100 or U200: 42 h or more
- Prandial
  - Lispro, aspart, glulisine: peak 1 – 1.5 h; duration 3 – 4 h

Considerations for Ella:

- Basal alone will likely not be adequate because of Ella’s erratic eating habits
- Basal plus prandial: Up to 4 – 5 injections/day
- Neither is practical nor realistic
Therapeutic Options: Pre-Mixed Insulins

- 70/30 NPH/Regular
- 70/30 aspart mix
- 75/25 lispro mix
- 50/50 lispro mix

Considerations for Ella:
- Won’t change injection frequency compared to current treatment
- Require 10 hours between doses
- Must wait 15-30 minutes after injecting to eat
- Ella’s eating is erratic (both times and amounts)
- Requires extensive planning

Therapeutic Options: Basal Insulin/GLP-1 RA Combinations

- Degludec/liraglutide: Once a day at any time, about the same time of day
- Glargine/lixisenatide: Once a day < 1 hr before the largest meal

Considerations for Ella:
- Meets Ella’s need for fewer injections
- Covers both fasting and postprandial glucose
- Easier, less painful to use the pen

Combined Insulin and GLP-1 RA: Liraglutide Plus Degludec

If Ella were given this combination of insulin and GLP-1 RA, what effect would you expect on her A1C to be?

Change in A1C (%)

If Ella were given this combination of insulin and GLP-1 RA, what effect would you expect on her weight to be?

Change in BW (kg)

Hypoglycemic events with and without DUAL V
- 2.8
- 4.4

Hypoglycemia
- N/A

Combined Insulin and GLP-1 RA: Lixisenatide Plus Glargine

If Ella were given this combination of insulin and GLP-1 RA, what effect would you expect on her A1C to be?

Change in A1C (%)

Change in BW (kg)

Hypoglycemic Events (PPY)*

• iGlarLixi: 0.3
• iGlar: 0.5
• Lixi: 0.1

If Ella were given this combination of insulin and GLP-1 RA, what effect would you expect on her weight?

Next Steps for Ella: Start Metformin plus Insulin/GLP-1 RA Fixed-dose Combination

• How to choose insulin/GLP-1 RA combination
  – Insurance coverage/out-of-pocket costs
  – Meal distribution
  – Lower hypoglycemic risk for both
  – No weight gain for both
  – No history of MEN/MTC

• Incorporate or refer to diabetes education program

Ella Starts GLP-1/Insulin Combination

• Uptitrato 2 units every 3 – 4 days with SMBG
• Post-initiation follow-up
  – Phone call at 1 and 2 weeks: No hypoglycemia, some nausea but improved satiety
• Additional follow-up

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>3 MONTHS</th>
<th>6 MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin dose (U/d)</td>
<td>35</td>
<td>48</td>
</tr>
<tr>
<td>A1C (%)</td>
<td>7.6</td>
<td>7.4</td>
</tr>
<tr>
<td>FPG (mg/dL)</td>
<td>150-175</td>
<td>108-127</td>
</tr>
<tr>
<td>2 hr post-prandial glucose (mg/dL)</td>
<td>175-185</td>
<td>100-150</td>
</tr>
<tr>
<td>Hypoglycemia</td>
<td>None</td>
<td>2 mld episodes</td>
</tr>
<tr>
<td>Nausea</td>
<td>Subsiding</td>
<td>None</td>
</tr>
<tr>
<td>Weight (lb)</td>
<td>236 (2 lb loss)</td>
<td>238</td>
</tr>
</tbody>
</table>

Ella Recap

- 69 years old
- CHF
- Dyslipidemia and HTN (both treated)
- eGFR = 51 ml/min/1.73m², moderate microalbuminuria
- Met XR + Insulin/GLP1-RA combination
- A1C down from 10.1% to 7.4%
Ella, Age 72

- In the clinic with Ray Jr
- A1C = 7.8; FPG = 150–180 mg/dL; weight loss (6 lbs since last visit)
- eGFR has declined to 43 ml/min/1.73m²
- Admits to missing injections 1–2 times/wk; unsure when she last forgot
- Poor appetite

Discussion with Ella and Ray regarding daily medications
- Ella says she does ok with oral medications as long as she remembers to put everything in her 7-day pill box, but admits to forgetting her shots
- Ray Jr. states that she is getting more forgetful generally

- After reassessing cognition, you recommend a neurology referral


ELLA RECAP
- 72 years old
- CHF
- Dyslipidemia and HTN (both treated)
- eGFR = 51 ml/min/1.73m²; moderate microalbuminuria
- Met XR + Insulin/GLP1-RA combination
- A1C up from 7.4% to 7.8%

Ella, age 72 (cont’d)

- Consider regimen change, reminders, assistive devices
  - Phone reminders
  - Memory device
  - Glucose meter with tracking/data sharing capacity

- Refer for or establish a weekly appointment with a diabetes educator

Ella: Epilogue

- 1993: She was blind and underwent 2 separate, below-knee amputations
- 1996: She decided to stay at home with her son Ray and 12-year-old granddaughter, Alice. She said “I just want to smell the air, listen to the birds, and hear Alice laugh”
- June 15, 1996: she died in her home at age 79. On her last day of life, she said “I am ready to go now.”

This was the end of an era; the world lost the “Queen of Vocal Jazz and Swing.” Might she have fared better with current treatment options provided earlier in the course of her disease? The answer is very likely yes.
Summary and Calls to Action

• Failure to intensify therapy in T2DM is far too common
  - Identify patients in your practice whose treatment needs to be advanced
  - Involve a team, including staff and referrals
• Consider individual patient needs and characteristics when selecting glycemic targets creating the therapeutic regimen
  - Monitor and adjust over time to the patient's changing needs
• Start basal insulin when needed, eg, in patients
  - Not at A1C goal on multiple OADs
  - Presenting with elevated A1C and symptoms of hyperglycemia
  - In older patients newly diagnosed with T2DM, especially those with high baseline A1C plus symptoms or comorbidities
• When basal insulin is not sufficient, intensify therapy
• Consider fixed dose GLP-1/basal insulin formulations to simplify treatment and optimize A1C control

Questions?

1. Please complete the EVALUATION and POSTTEST
2. Hand them to the coordinator as you leave
3. Take your CME certificate

Even if you don't want CME, please complete the forms
Your feedback is extremely valuable in securing support for future education

We would like to thank Sanofi US for their support of this CME activity.

For More Information

Please visit:
http://www.t2diabetescme.org/