Monthly Campaign Webinar
June 18, 2020
Today’s Webinar

• Together 2 Goal® Updates
  – Webinar Reminders
  – Project ECHO Webinar
  – ADA COVID-19 Resources

• Cardiovascular Benefit of New Diabetes Medications
  – Gretchen Shull, M.D. of Mercy

• Q&A
  – Use Q&A or chat feature
Webinar Reminders

• Webinar will be recorded today and available the week of June 22\textsuperscript{nd}
  – www.Together2Goal.org

• Participants are encouraged to ask questions using the “Chat” and “Q&A” functions on the right side of your screen
Project ECHO Webinar

- **Topic**: Identifying High-Risk Diabetes Patients for COVID-19 Triage
- **Date/Time**: June 24, 2020 from 12:00 – 1:15 pm EST
- **Presenter**: John Kennedy, M.D.

[https://med.stanford.edu/cme/diabetescovid.html](https://med.stanford.edu/cme/diabetescovid.html)
American Diabetes Association
COVID-19 Resources

• ADA COVID-19 Webinar Series
• Live Virtual Events*
• COVID-19 and Diabetes Discussion Forum*
• Special Podcast Series: COVID-19 & Diabetes

https://professional.diabetes.org/content-page/covid-19

*ADA membership may be required to gain full access to certain live events and/or discussion boards
Today’s Featured Presenter

Gretchen Shull, M.D.

Physician Lead
Endocrinology Specialty Council
Vice President of Diabetes Care
Mercy Clinic Endocrinology - Joplin
Diabetes Treatment

Cardiovascular Considerations

Dr. Gretchen Shull, MD
vice president of diabetes care
Mercy

18 June 2020
No disclosures
Objectives:

- Recognize CVD as closely connected to DM2
- Revisit the evolution of treating DM2 and CVD
- Highlight current guidelines and medications
- Think about strategies to use current/relevant medications
The Growing Facts

• > 12% of the population has DM
• 9.5% of that is DM type 2
• Treatment and science of DM is constantly changing
  – 1 endocrinologist per 5200 patients
  – ½ my personal practice = DM per monthly referrals
  – Cannot simply refer
• 14 + different drug classes approved for glucose control
DM type 2 and CVD

- CVD = #1 cause of morbidity and mortality
- Complications attributed to CVD = costs
- Increase financial and physical burdens on patients and caregivers.
### Older Studies

#### Intensive vs Less Intensive Rx

<table>
<thead>
<tr>
<th>Study</th>
<th>Findings</th>
</tr>
</thead>
</table>
| **UKPDS (2000)** | • Reduced microvascular complications  
                      • No difference in CV mortality/ MACE                                      |
| **ADVANCE (2008)** | • Reduced microvascular risks  
                           • No diff in CV mortality if A1c ≤ 6.5%                                      |
| **VADT (2009)**  | • No diff in CV mortality if A1c ≤ 6.5% but fewer CV events                   |
| **ACCORD (2008)** | • Stat. sig ↑ in CV mortality and all cause mortality if A1c < 6%  
                           • No sig reduction in events                                                     |
2006-2009 – Conclusions

• Individualized glycemic goals are the answer
• Intense glycemic control is not enough to improve CV outcomes
• Statin > glucose medications
• 2008 – CV outcomes trials (CVOTs) were mandated by FDA
  – These are conducted to rule out an unacceptable increase in CV risk for a new treatment
    • Event driven with MACE as a primary endpoint
  – DPP-4 inhibitors
  – GLP-1 agonists
  – SGLT-2 inhibitors
Cardiology vs. Diabetes CVOTs

**CARDIOLOGY CVOTs**
Aim: Demonstrate CV benefit
- Initiation of treatment vs. active comparator
- No treatment adjustment
- Difference between treatment arms
- Significant reduction in CV outcomes vs. active comparator
- Lower CV risk vs. placebo/active comparator

**DIABETES CVOTs**
Aim: Demonstrate CV safety
- Initiation of blinded treatment/placebo
- Maintain similar HbA1c levels in treatment arms
- Treatment adjustment
- Small/no difference in HbA1c observed between treatment arms
- Noninferiority vs. placebo
- No unacceptable increase in CV risk vs. placebo as part of standard care

© Novo Nordisk Inc. 2018. For Medical Use in Scientific Exchange
Cardiovascular Outcomes Trials

Efficacy vs. safety; superiority vs. noninferiority

**EFFICACY TRIALS**
Aim: Demonstrate CV benefit

- Initiation of treatment vs. comparator
  - No treatment adjustment
  - Difference between treatment arms (e.g., biomarkers such as HbA1c or lipids)
  - Significant reduction in CV outcomes vs. active comparator
  - Lower CV risk vs. placebo/active comparator

**SAFETY TRIALS**
Aim: Demonstrate CV safety

- Initiation of blinded treatment/placebo
  - Maintain similar HbA1c levels in treatment arms
  - Small/no difference in biomarkers (e.g., HbA1c observed between treatment arms)
  - Noninferiority vs. placebo
  - No unacceptable increase in CV risk vs. placebo as part of standard care
Cardiovascular Outcomes: Major Adverse Cardiovascular Events (MACEs*)

- Hospitalization related to CV
- Revascularization procedures
- Heart failure
Evidence – Multifactorial Interventions

Target
• Hyperglycemia
• Hypertension
• Dyslipidemia
• Obesity

Order
• Lifestyle modification
• Medications
  – A1c
  – BP
  – LDL
  – Weight
  – No harm
Weight Reduction

Look AHEAD Trial

• > 7% weight reduction = + impact on all CV risks
• > 10% weight reduction = 21% decline in CV events
Hypoglycemia

• ACCORD & VADT
  – Severe hypoglycemia may increase risk of CVD events
  – If DM type 2 and CVD, may increase risk of death if have severe hypoglycemia

• Other studies
  – DM type 2 with CVD
    • More hypoglycemia = more arrhythmias
Beyond Glycemic Effects

- **Lifestyle management as foundation**
- **Newer Agents**
  - Low risk of hypoglycemia
  - Neutral / beneficial effect on weight

**SGLT-2 inhibitor**
- Weight reduction
- Decreased BP
- Some increase in LDL; total; HDL

**GLP-1 agonist**
- Weight reduction
- Decreased BP
- Reduction in LDL and TG
**FIRST-LINE therapy** is metformin and comprehensive lifestyle (including weight management and physical activity).

If HbA1c above target proceed as below.

**NO**

**ESTABLISHED ASCVD OR CKD**

**ASCVD PREDOMINATES**

- **GLP-1 RA with proven CV benefit**, if eGFR adequate
- **SGLT2i with proven CV benefit**, if eGFR adequate

If HbA1c above target

- Avoid TZD in the setting of HF
  - Choose agents demonstrating CV safety:
    - Consider adding the other class (GLP-1 RA or SGLT2i) with proven CV benefit
    - DPP-4i if not on GLP-1 RA
    - Basal insulin
    - TZP
    - SU

**HF OR CKD PREDOMINATES**

- **PREFERRABLY SGLT2i with evidence of reducing HF and/or CKD progression in CVDs if eGFR adequate**
- OR
  - If SGLT2i not tolerated or contraindicated or if eGFR less than adequate, add GLP-1 RA with proven CV benefit

If HbA1c above target

**COMPELLING NEED TO MINIMIZE HYPOGLYCEMIA**

- **GLP-1 RA**
- **SGLT2i**
- **TZD**

If HbA1c above target

- Consider the addition of SU or basal insulin:
  - Choose later generation SU with lower risk of hypoglycemia
  - Consider basal insulin with lower risk of hypoglycemia

If HbA1c above target

**COMPELLING NEED TO MINIMIZE WEIGHT GAIN OR PROMOTE WEIGHT LOSS**

- **GLP-1 RA with good efficacy for weight loss**
- **SGLT2i**
- **TZD**

If HbA1c above target

**COST IS A MAJOR ISSUE**

- **SU**
- **TZD**

If HbA1c above target

- **Insulin therapy** basal insulin with lowest acquisition cost
  - **SU** + **TZD** + Basal insulin

1. Proven CV benefit means it has label indication of reducing CV events. For GLP-1 RA strongest evidence for lixisliden > semaglutide > exenatide extended release. For SGLT2i evidence moes closely matches for empagliflozin > canagliflozin.
2. Be aware that SGLT2i vary by region and individual agent with regard to indicated level of eGFR for initiation and continued use.
3. Both empagliflozin and canagliflozin have shown reduction in HF and reduction in CKD progression in CVDs.
4. Dapagliflozin or U100 glargine have demonstrated CV safety and may be better tolerated though less well studied for CVD effects.
5. Choosing later generation SU with lower risk of hypoglycemia or considering basal insulin with lower risk of hypoglycemia is essential.
6. Choose later generation SU with lower risk of hypoglycemia.
# Profiles of Antihyperglycemic Medications

<table>
<thead>
<tr>
<th></th>
<th>MET</th>
<th>GLP1-RA</th>
<th>SGLT2i</th>
<th>DPP4i</th>
<th>AGI</th>
<th>TZD (moderate dose)</th>
<th>SU</th>
<th>COLSVL</th>
<th>BCR-QR</th>
<th>INSULIN</th>
<th>PRAML</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HYPO</strong></td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>GLN</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Moderate to Severe</td>
<td>Neutral</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>Slight Loss</td>
<td>Loss</td>
<td>Loss</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Gain</td>
<td>Gain</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Gain</td>
<td>Loss</td>
</tr>
<tr>
<td><strong>RENAL / GU</strong></td>
<td>Contraindicated if eGFR &lt;30 mL/min/1.73 m²</td>
<td>Exenatide Not Indicated CrCl &lt;30</td>
<td>See #1</td>
<td>Dose Adjustment Necessary (Except Linagliptin)</td>
<td>Effective in Reducing Albuminuria</td>
<td>Neutral</td>
<td>Neutral</td>
<td>More Hypo Risk</td>
<td>Neutral</td>
<td>Neutral</td>
<td>More Hypo Risk</td>
</tr>
<tr>
<td><strong>G1 SX</strong></td>
<td>Moderate</td>
<td>Moderate</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Moderate</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Mild</td>
<td>Moderate</td>
<td>Neutral</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>CHF</strong></td>
<td>Neutral</td>
<td>Prevent HF Hospitalization Manage HFrEF; See #2</td>
<td>See #4</td>
<td>Neutral</td>
<td>Moderate</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>CHF Risk</td>
<td>Neutral</td>
</tr>
<tr>
<td><strong>ASCVD</strong></td>
<td>Potential Benefit of LA GLP1-RA</td>
<td>See #3</td>
<td>Neutral</td>
<td>May Reduce Stroke Risk</td>
<td>Possible ASCVD Risk</td>
<td>Lowers LDL-C</td>
<td>Safe</td>
<td>Neutral</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BONE</strong></td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Moderate Fracture Risk</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
</tr>
<tr>
<td><strong>KETOACIDOSIS</strong></td>
<td>Neutral</td>
<td>Neutral</td>
<td>DKA Can Occur in Various Stress Settings</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

**Legend:**
- Green: Few adverse events or possible benefits
- Yellow: Use with caution
- Red: Likelihood of adverse effects

1. Canagliflozin indicated for eGFR ≥30 mL/min/1.73 m² in patients with CKD 3a albuminuria.
2. Dapagliflozin—potential primary prevention of HF hospitalization & demonstrated efficacy in HFrEF.
3. Empagliflozin—FDA approved to reduce CV mortality, Canagliflozin—FDA approved to reduce MACE events.
4. Possible increased hospitalizations for heart failure with alogliptin and saxagliptin.
<table>
<thead>
<tr>
<th></th>
<th>Efficacy</th>
<th>Hypoglycemia</th>
<th>Weight change</th>
<th>CV effects</th>
<th>Cost</th>
<th>Oral/SQ</th>
<th>Renal effects</th>
<th>Additional considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metformin</strong></td>
<td>High</td>
<td>No</td>
<td>Neutral (potential for modest loss)</td>
<td>ASCVD: Potential benefit</td>
<td>Neutral</td>
<td>Low</td>
<td>Oral</td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HF: Neutral</td>
<td></td>
<td></td>
<td></td>
<td>Gastrointestinal side effects common (diarrhea, nausea)</td>
</tr>
<tr>
<td><strong>SGLT-2 inhibitors</strong></td>
<td>Intermediate</td>
<td>No</td>
<td>Loss</td>
<td>Benefit: empagliflozin, canagliflozin</td>
<td>High</td>
<td>Oral</td>
<td>Benefit: canagliflozin, empagliflozin, dapagliflozin</td>
<td>Risk of bone fractures (canagliflozin)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Benefit: empagliflozin, canagliflozin, dapagliflozin</td>
<td></td>
<td></td>
<td></td>
<td>Fracture risk (all ages, ratio in T2DM)</td>
</tr>
<tr>
<td><strong>GLP-1 RAs</strong></td>
<td>High</td>
<td>No</td>
<td>Loss</td>
<td>Neutral: lixisenatide</td>
<td>High</td>
<td>SQ, oral (semaglutide)</td>
<td>Benefit: liraglutide</td>
<td>Caution when initiating or increasing dose due to potential risk of acute kidney injury</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Benefit: See label indication of reducing CVD events</td>
<td></td>
<td></td>
<td></td>
<td>FDA Black Box: Risk of thyroid C-cell tumors (lanreotide extended release)</td>
</tr>
<tr>
<td><strong>DPP-4 inhibitors</strong></td>
<td>Intermediate</td>
<td>No</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Potential risk: saxagliptin</td>
<td>High</td>
<td>Oral</td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FDA Black Box: Congestive heart failure (saxagliptin, empagliflozin)</td>
</tr>
<tr>
<td><strong>Thiazolidinediones</strong></td>
<td>High</td>
<td>No</td>
<td>Gain</td>
<td>Potential benefit: pioglitazone</td>
<td>Increased risk</td>
<td>Low</td>
<td>Oral</td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FDA Special Warning on increased risk of cardiovascular mortality based on studies of an older sulfonylurea (tolbutamide)</td>
</tr>
<tr>
<td><strong>Sulfonylureas</strong></td>
<td>High</td>
<td>Yes</td>
<td>Gain</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Low</td>
<td>Oral</td>
<td>Neutral</td>
</tr>
<tr>
<td>(2nd generation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FDA Special Warning on increased risk of cardiovascular mortality based on studies of an older sulfonylurea (tolbutamide)</td>
</tr>
<tr>
<td><strong>Insulin</strong></td>
<td>Highest</td>
<td>Yes</td>
<td>Gain</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Low</td>
<td>SQ, inhaled</td>
<td>Neutral</td>
</tr>
<tr>
<td><strong>Human Insulin Analogs</strong></td>
<td>Highest</td>
<td>Yes</td>
<td>Gain</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Low</td>
<td>SQ, inhaled</td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Higher risk of hypoglycemia with human insulin (NPH or premixed formulations) vs. analogs</td>
</tr>
</tbody>
</table>
**Glucagon-like peptide-1 (GLP-1)**

**Receptor Agonists**

In the presence of elevated blood glucose:

- Activate GLP-1 receptors in the pancreas to increase insulin secretion
- Activate the GLP-1 receptors in the pancreas to reduce glucagon secretion, thereby reducing hepatic glucose output
- Delay gastric emptying
Figure 3
Pathway of Renal Glucose Reabsorption

Glomerulus → Proximal Tubule → Distal Tubule → Loop of Henle → Collecting Duct

SGLT-2i Mechanism of Action
The SGLT-2i reduces glucose absorption in the proximal tubule and increases urinary excretion of glucose. [Figure 5]

Normal Physiology
Glucose is freely filtered at the glomerulus and almost entirely reabsorbed in the proximal tubules by sodium–glucose co-transporters. [Figure 4]

Figure 4
Normal Physiology

Lumen of proximal tubule
Apical membrane

Sodium glucose reabsorbed
Renal vessel (bloodstream)

SGLT-2

Figure 5
SGLT-2i Mechanism of Action

Lumen of proximal tubule
Apical membrane

SGLT-2 inhibitor
Increased urinary excretion of glucose

Renal vessel (bloodstream)

SGLT-2 sodium glucose co-transporter-2
Sodium-potassium pump
### Properties of anti-hyperglycemic agents

<table>
<thead>
<tr>
<th>Class/therapies in class</th>
<th>Primary physiological actions</th>
<th>Advantages</th>
<th>Disadvantages/adverse effects</th>
<th>Efficacy</th>
</tr>
</thead>
</table>
| **Sulfonylureas**
  - Glibenclamide/glyburide
  - Gilpiizide
  - Gliclazide
  - Glimepiride | ↑ Insulin secretion | • Extensive experience  
  • ↓ Microvascular risk (UKPDS)  
  • Inexpensive | • Hypoglycemia  
  • ↑ Weight  
  • Uncertain CV safety | High |
| **TZDs**
  - Pioglitazone
  - Rosiglitazone* | ↑ Insulin sensitivity | • Low risk for hypoglycemia  
  • Durability  
  • ↑ HDL-C  
  • ↓ Triacylglycerols (pioglitazone)  
  • ↓ ASCVD events (pioglitazone: in a post-stroke insulin-resistant population and as secondary end point in a high-risk-of-CVD diabetes population) | • ↑ Weight  
  • Edema/heart failure  
  • Bone loss  
  • ↑ Bone fractures | ↑ LDL-C (rosiglitazone)  
  • ↑ Bladder cancer  
  • ↑ Macular edema | High |
| **Meglitinides (glitazones)**
  - Repaglinide
  - Nateglinide | ↑ Insulin secretion | • Postprandial glucose excursions  
  • Dosing flexibility  
  • Safe in advanced renal disease with cautious dosing (especially repaglinide)  
  • Lower cost | • Hypoglycemia  
  • ↑ Weight  
  • Uncertain CV safety  
  • Frequent dosing schedule | Intermediate-high |

*Not licensed in the U.S. for T2D. *Not licensed in Europe for T2D.

ASCVD, atherosclerotic cardiovascular disease; CV, cardiovascular; CVD, cardiovascular disease; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; UKPDS, United Kingdom Prospective Diabetes Study.


For Field Medical Use in Scientific Exchange. © 2018 Novo Nordisk.
Incorporating into Practice
Decision-making tool

- Help clinicians stay current with latest recommendations in diabetic management
- Only display appropriate medications based on the unique parameters of each patient
- Reduce errors by pre-filtering based on GFR and common contraindications
- Reduce clicks by providing simplistic interface
- Phase 1
**Diabetes Treatment**

Diabetes Treatment Recommendations - ADA 2019 Guideline

1) Maximize Metformin
2) Second line agent recommended based on co-morbidity

<table>
<thead>
<tr>
<th>Lab Results</th>
<th>Value</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGBA1C</td>
<td>8.1 (A)</td>
<td>03/20/2019</td>
</tr>
<tr>
<td>GFR</td>
<td>60</td>
<td>03/20/2019</td>
</tr>
</tbody>
</table>

**Diabetic Medications** - metFORMIN (GLUCOPHAGE XR) 500 mg Extended Release 24 hour tablet [14287]

**ADA 2019 DM Treatment Guidelines**

- [ ] Metformin
- [ ] Diabetes with ASCVD

**CDS prefixing to help with finding it**

**Relevant Labs**

**Current Related Medications**

**Link to Current Literature**
Diabetes Treatment Recommendations - ADA 2019 Guideline
1) Maximize Metformin
2) Second line agent recommended based on co-morbidity

Lab Results

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGBA1C</td>
<td>8.1 (A)</td>
<td>03/20/2019</td>
</tr>
</tbody>
</table>

Diabetic Medications - metFORMIN (GLUCOPHAGE XR) 500 mg Extended Release 24 hour tablet [14287]

ADA 2019 DM Treatment Guidelines

- Metformin
- Diabetes with ASCVD
  - ASCVD GLP1 PANEL
  - ASCVD SGLT2 PANEL
  - DPP4 PANEL
Additional instructions to guide treatment choice

**Diabetes Treatment Recommendations - ADA 2019 Guideline**
1. Maximize Metformin
2. Second line agent recommended based on co-morbidity

**Lab Results**

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGBA1C</td>
<td>8.1 (A)</td>
<td>03/20/2019</td>
</tr>
</tbody>
</table>

**Diabetic Medications**
- metFORMIN (GLUCOPHAGE XR 500 mg Extended Release 24 hour tablet [14287])

**ADA 2019 DM Treatment Guidelines**
- Metformin
- Diabetes with ASCVD
- ASCVD GLP1 PANEL

- Strongest evidence for reducing CVD events with liraxilutide > semaglutide > exenatide extended release

**Other**
- CDS Diabetes Treatment
  - liraxilutide (VICTOZA) 0.6 mg/0.1 mL (18 mg/3 mL)
    - 0.6mg SC daily for 1 week, then 1.2mg SC daily.
    - Disp-6 mL, R-3, E-Prescribe
- Insulin Needles, Disposable, 32 gauge x 5/32” Needle
  - Use with each injection, Disp-100 Each, R-3, E-Prescribe

**More**
- Search for new orders

© 2019 All rights reserved
### Diabetes Patient Data - Endocrinology Outreach

**Current Selections**

- PRIVY.COM
- [ ] Jadin

<table>
<thead>
<tr>
<th>Number of Patients</th>
<th>% Patients with Outreach Past 30 Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>387</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

**PCP Community**

- Andris
- Arlmore
- Aurora

**PCP Name**

- ANDRADE, AMANDA
- BAZARZO, STEPHEN J
- BRUNCE, RAFAEL F

#### Patient Detail

<table>
<thead>
<tr>
<th>A1c Filter</th>
<th>Age Filter</th>
<th>COVID-19 Risk Score (Patients 65+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1c Range: 10.0 - 17.8</td>
<td>Age Range: 19 - 91</td>
<td>Risk Score Range: 2 - 8</td>
</tr>
</tbody>
</table>

Lab values (except A1c) are limited to past 12 months.
When in Doubt

Go to the sugars
Look at the blood sugars

- Metformin
- Glyburide 10 mg at 7:30 and 9 pm
- Breakfast = instant oatmeal
- Lunch and supper = mixed meals
Chicken Under A Brick
AGP Report

GLUCOSE STATISTICS AND TARGETS

26 Feb 2019-10 Mar 2019 13 days
% Time CGM is Active 99.9%

<table>
<thead>
<tr>
<th>Glucose Ranges</th>
<th>Targets (% of Readings (Time/Day))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Range 70–180 mg/dL</td>
<td>Greater than 70% (16h 48min)</td>
</tr>
<tr>
<td>Below 70 mg/dL</td>
<td>Less than 4% (58min)</td>
</tr>
<tr>
<td>Below 54 mg/dL</td>
<td>Less than 1% (14min)</td>
</tr>
<tr>
<td>Above 180 mg/dL</td>
<td>Less than 25% (6h)</td>
</tr>
<tr>
<td>Above 250 mg/dL</td>
<td>Less than 5% (1h 12min)</td>
</tr>
</tbody>
</table>

Each 5% increase in time in range (70–180 mg/dL) is clinically beneficial.

- Average Glucose 173 mg/dL
- Glucose Management Indicator (GMI) 7.6%
- Glucose Variability 49.5%

Defined as percent coefficient of variation (%CV); target ≤36%

TIME IN RANGES

- **Very High** (>250 mg/dL) .................. 20% (4h 48min)
- **High** (181–250 mg/dL) .................. 23% (5h 31min)
- **Target Range** (70–180 mg/dL) .............. 47% (11h 17min)
- **Low** (54–69 mg/dL) .................. 4% (58min)
- **Very Low** (<54 mg/dL) .................. 6% (1h 26min)

Keep in mind

• Time-in-range matters

• $>

• Patient adherence leads to successful glucose control
  – Don’t choose medications they will not take

• Step-wise addition of glucose lowering meds generally remains preferred to initial combination therapy
  – Insufficient evidence to suggest first-line combination is superior
  – But those needing > 1.5% A1c reduction will likely need combination

• It still takes a team to treat diabetes
Mercy

Your life is our life’s work.
July Webinar

- **Date/Time:** July 16, 2020 from 2-3pm Eastern
- **Topic:** Prediabetes Predictive Model – Delivering Patient-specific Risk Estimates at the Point-of-Care
- **Presenter:** AMGA Analytics
Questions