Exploring CGM:

Essentials for Primary Care

Jointly provided by

The France Foundation

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- Dexcom
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Presenting Faculty

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- Armand Krikorian, MD has no relevant financial relationships to disclose

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Learning Objectives

1. Review traditional approaches to monitoring glucose
2. Discuss continuous glucose monitoring (CGM) and the role it plays in managing patients with diabetes
3. Identify patients for whom CGM use is appropriate
4. Interpret CGM results
5. Involve patients in interpretation of CGM results
6. Use CGM results to provide continued support for patients with diabetes in the primary care setting

Overview of Glucose Management and CGM

Current Glycemic Targets

	AACE[1]	ADA[2]
Fasting blood glucose	< 110 mg/dL	80–130 mg/dL
Post-prandial blood glucose	< 140 mg/dL 2 hrs pp	< 180 mg/dL 1-2 hrs pp
A1C (%)	≤ 6.5%	≤ 7%

1. Garber AJ, et al. *Endocr Pract*. 2020;26(1):107-139.
2. American Diabetes Association. *Diabetes Care.* 2020;43(Supplement 1):S66-S76.

How Are We Doing? A1C Levels in Adults Diagnosed With Diabetes in the US

Overall and by Age Group: 2013–2016

A1C	Total	18–44 years	45–64 years	≥65 years
<6.5%	34.2 (30.4–38.1)	38.7 (30.5–47.6)	30.5 (25.9–35.5)	36.9 (31.9–42.3)
6.5%–6.9%	15.8 (13.2–18.8)	14.7 (9.3–22.4)	14.8 (11.5–18.9)	17.4 (13.1–22.9)
7.0%–7.9%	22.3 (19.5–25.4)	12.9 (8.8–18.5)	22.3 (19.0–26.0)	25.6 (20.8–31.0)
8.0%–8.9%	13.2 (10.7–16.2)	12.9 (7.6–21.1)	13.7 (10.0–18.5)	12.6 (9.8–16.1)
9.0%–9.9%	4.6 (3.3–6.5)	4.5 (2.4–8.4)	5.9 (3.9–8.9)	3.1 (1.8–5.3)
≥10.0%	9.9 (8.1–12.1)	16.3 (10.8–23.9)	12.7 (9.5–16.9)	4.3 (2.9–6.5)

Note: Estimates are crude percentages and 95% confidence intervals.

Data source: 2013–2016 National Health and Nutrition Examination Survey.

27.7% have an A1C of 8% or higher

Centers for Disease Control and Prevention (CDC). National Diabetes Statistics Report, 2020. Atlanta, GA: CDC, US Dept of Health and Human Services; 2020.

Managing Diabetes Isn't Easy…

42 Factors that affect Blood Glucose

FOOD

- 1 Carbohydrate quantity
- 2 Carbohydrate type
- 3 Fat
- 4 Protein
- 5 Caffeine
- 6 Alcohol
- 7 Meal timing
- 8 Dehydration
- 9 Personal microbiome

MEDICATION

- 10 Medication dose
- 11 Medication timing
- 12 Medication interactions
- 13 Steroid administration
- 14 Niacin (Vitamin B3)

ACTIVITY

- 15 Light exercise
- 16 High-intensity & moderate exercise
- 17 Level of fitness/training
- 18 Time of day
- 19 Food and insulin timing

BIOLOGICAL

- 20 Too little sleep
- 21 Stress and illness
- 22 Recent hypoglycemia
- 23 During-sleep blood sugars
- 24 Dawn phenomenon
- 25 Infusion set issues
- 26 Scar tissue / lipodystrophy
- 27 Intramuscular insulin delivery
- 28 Allergies
- 29 A higher BG level (glucotoxicity)
- 30 Periods (menstruation)
- 31 Puberty
- 32 Celiac disease
- 33 Smoking

ENVIRONMENTAL

- 34 Expired insulin
- 35 Inaccurate BG reading
- 36 Outside temperature
- 37 Sunburn
- 38 Altitude

BEHAVIOR & DECISIONS

- 39 More frequent BG checks
- 40 Default options and choices
- 41 Decision-making biases
- 42 Family and social pressures

The arrows show the general effect these 42 factors seem to have on blood glucose based on scientific research and/or our experiences at diaTribe. However, not every individual will respond in the same way, so the best way to see how a factor affects you is through your own data: check your blood glucose more often with a meter or wear a CGM and look for patterns.

diaTribe

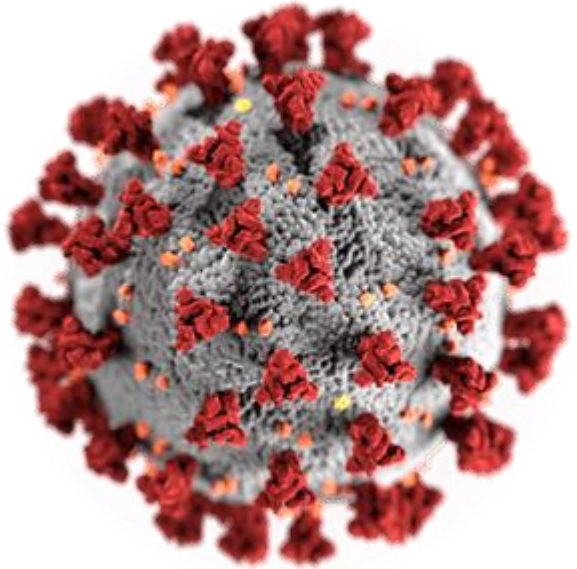
Read more about the 42 Factors at diaTribe.org/42FactorsExplained
Sign up for diaTribe's updates at diaTribe.org/Join

https://diatribe.org/42factors

How can we help patients find their "bright spots" and "landmines"?

COVID-19 Consideration

People of all ages who have underlying medical conditions—including diabetes and severe obesity*—may be at higher risk for serious illness from COVID-19.



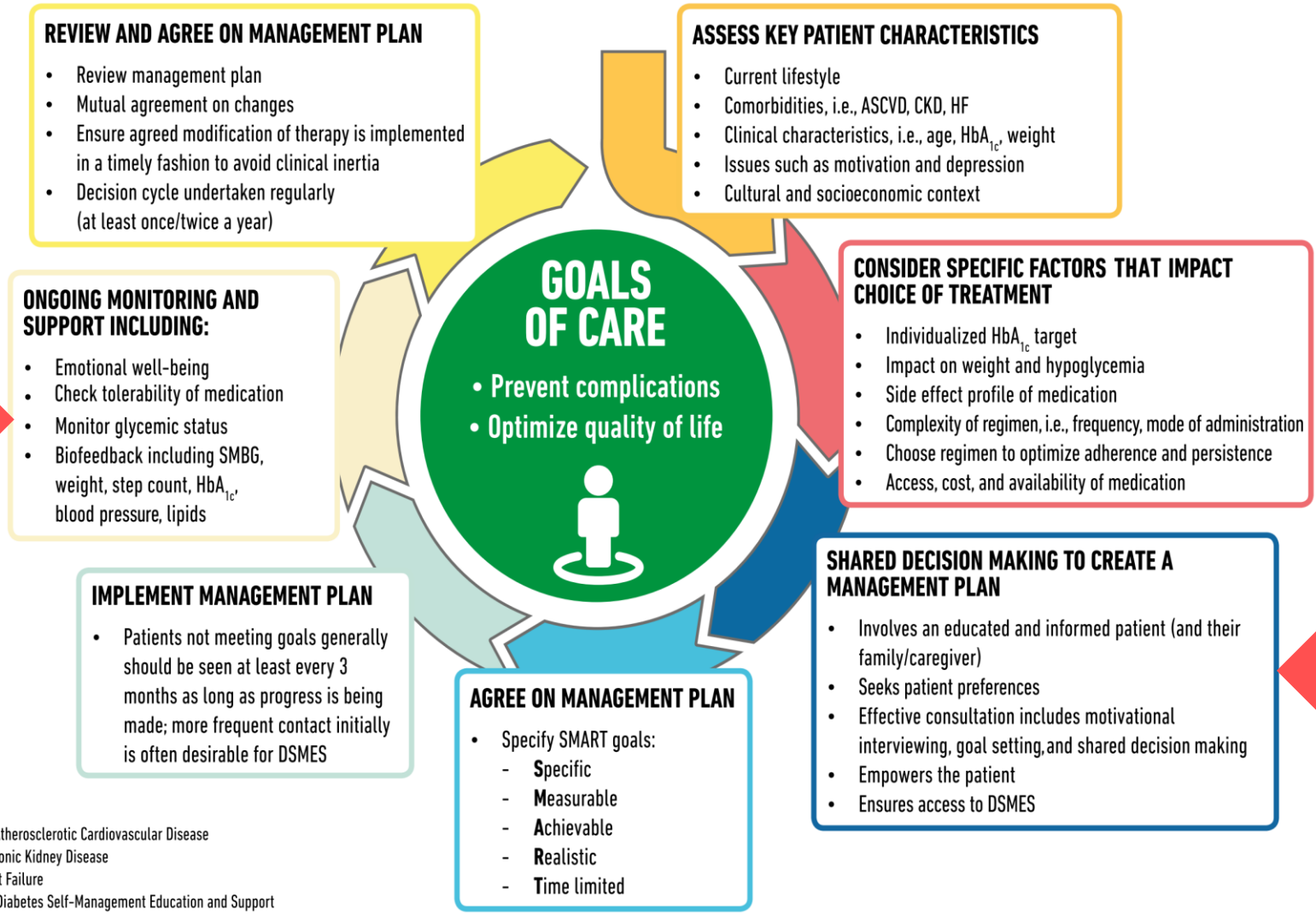
*Body mass index of ≥40 kg/m^2.

Centers for Disease Control and Prevention (CDC). Coronavirus (COVID-19). https://www.cdc.gov/coronavirus/2019-nCoV/index.html.

How Can We Help Our Patients Get To Goal?

Decision Cycle for Patient-centered Glycemic Management in T2D

Set mutually agreed upon glucose monitoring goals



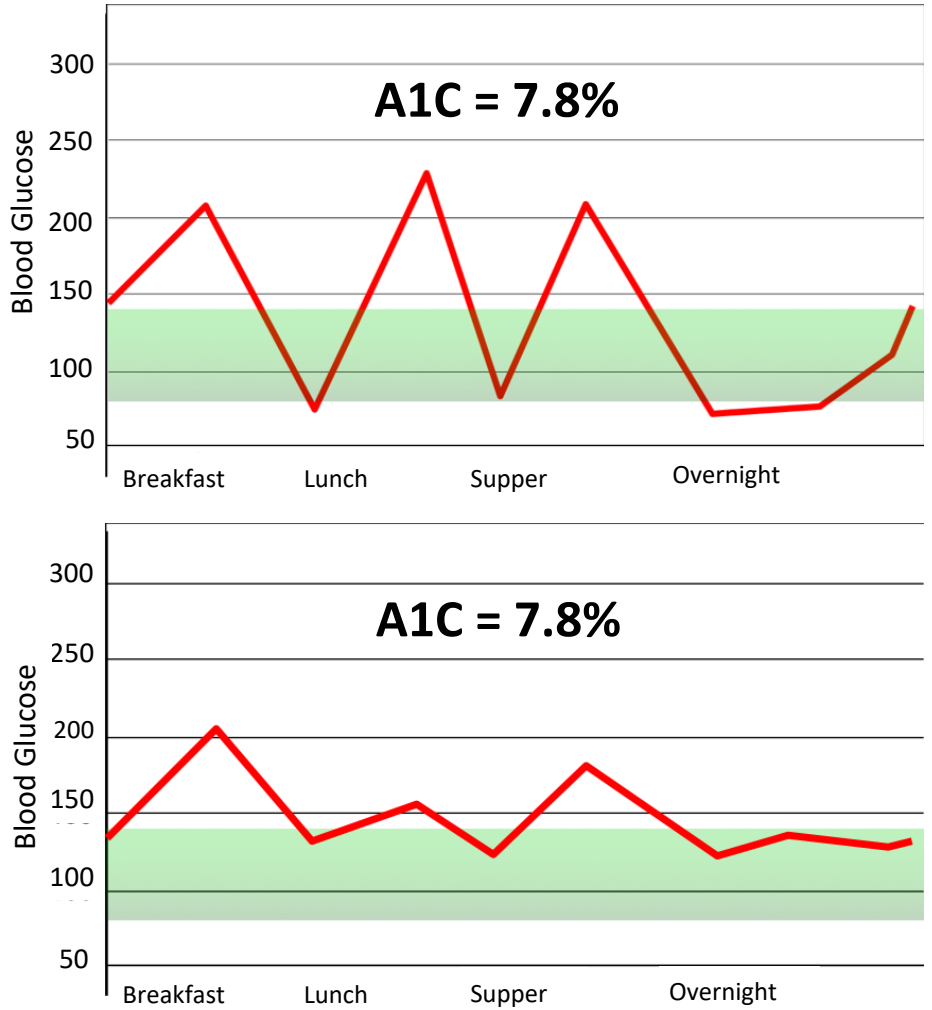
Empower patient via diabetes self-management strategies

ASCVD = Atherosclerotic Cardiovascular Disease
CKD = Chronic Kidney Disease
HF = Heart Failure
DSMES = Diabetes Self-Management Education and Support
SMBG = Self-Monitored Blood Glucose

Davies MJ, et al. *Diabetes Care*. 2018;41(12):2669-2701.
ADA. *Diabetes Care* 2020;43(Supplement 1): S37-S47.

Limitations of A1C: *It's Just an Average!*

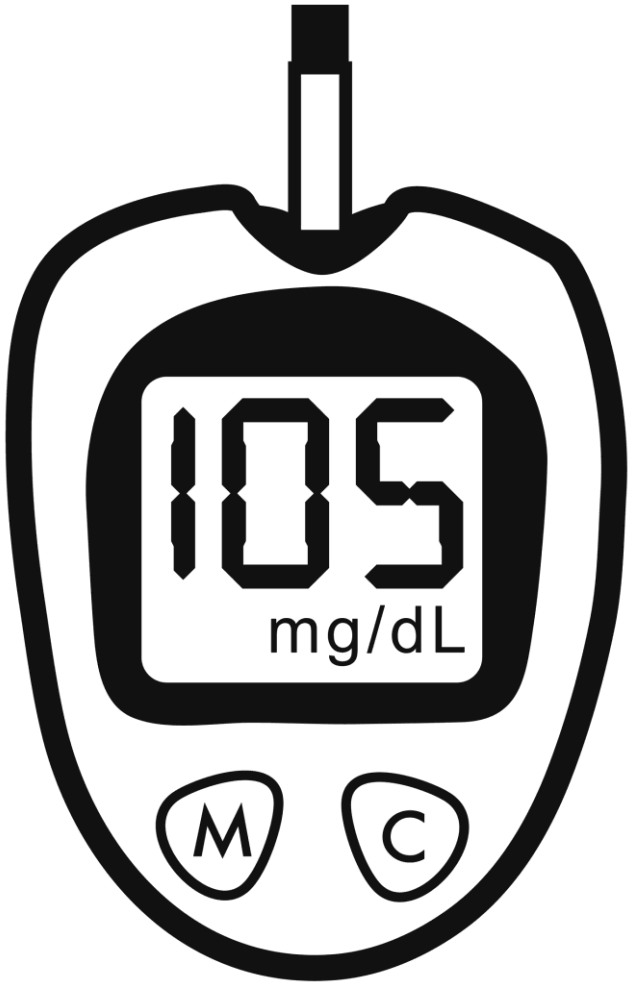
- By itself, does not give enough information to make actual changes in glucose management
- Provides no information about daily glucose excursions, glycemic variability, or time in range
- **Unreliable in the presence of certain anemias,[1] hemoglobinopathies,[2] iron deficiency,[3] transfusion,[4] pregnancy[5]**
- Correlation with mean glucose differs significantly among races[6]



1. National Diabetes Information Clearinghouse. NIH Publication No.13-6287, 2012; 2. Bry L, et al. *Clin Chemistry.* 2001;47:153-63; 3. Ford ES, et al. *Diabetes*. 2011;3:67-73; 4. Radin MS. *J Gen Intern Med*. 2014;29(2):388-394; 5. Nielsen LR, et al. *Diabetes Care.* 2004;27:1200-1.
6. Bergenstal RM, et al. *Ann Intern Med.* 2017;167:95-102.

Self-Monitoring Blood Glucose (SMBG): Key Times To Check

- Before meals
- After meals (1–2 hours after start of meal)
- Before bed
- If hypoglycemia or hyperglycemia is suspected
- "Checking in pairs"
  - Encourage short-term, before-and-after experiments to help patients problem solve by adjusting meals, medications, physical activity, and more



American Diabetes Association. *Diabetes Care.* 2020;43(Supplement 1):S1-S206.
Greenwood DA, et al. *J Med Internet Res.* 2015;17:e178.

Limitations of SMBG

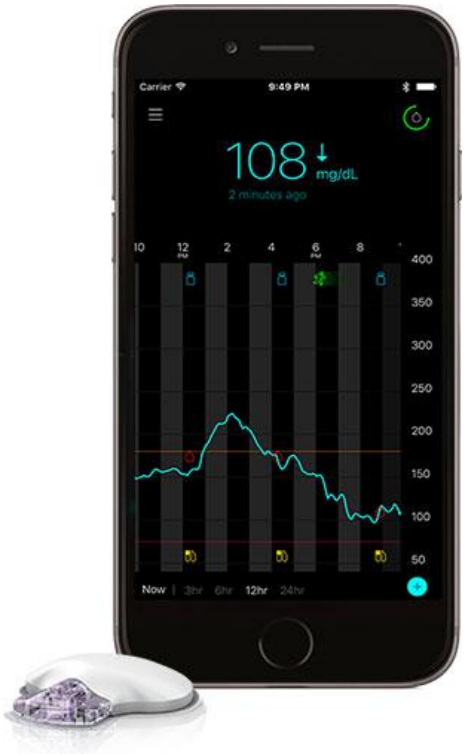
- Each blood glucose check is a single moment in time
- Information is limited to how many times each day patients are willing to check

SMBG May Miss Post-breakfast Spike

Kompala T, Neinstein A. *Amer J Man Care*, 2019;25(4 Spec No.):SP123-SP126.
Danne T, et al. *Diabetes Care*. 2017;40:1631-40.

CGM Systems

GUARDIAN™ CONNECT CGM SYSTEM



Abbott

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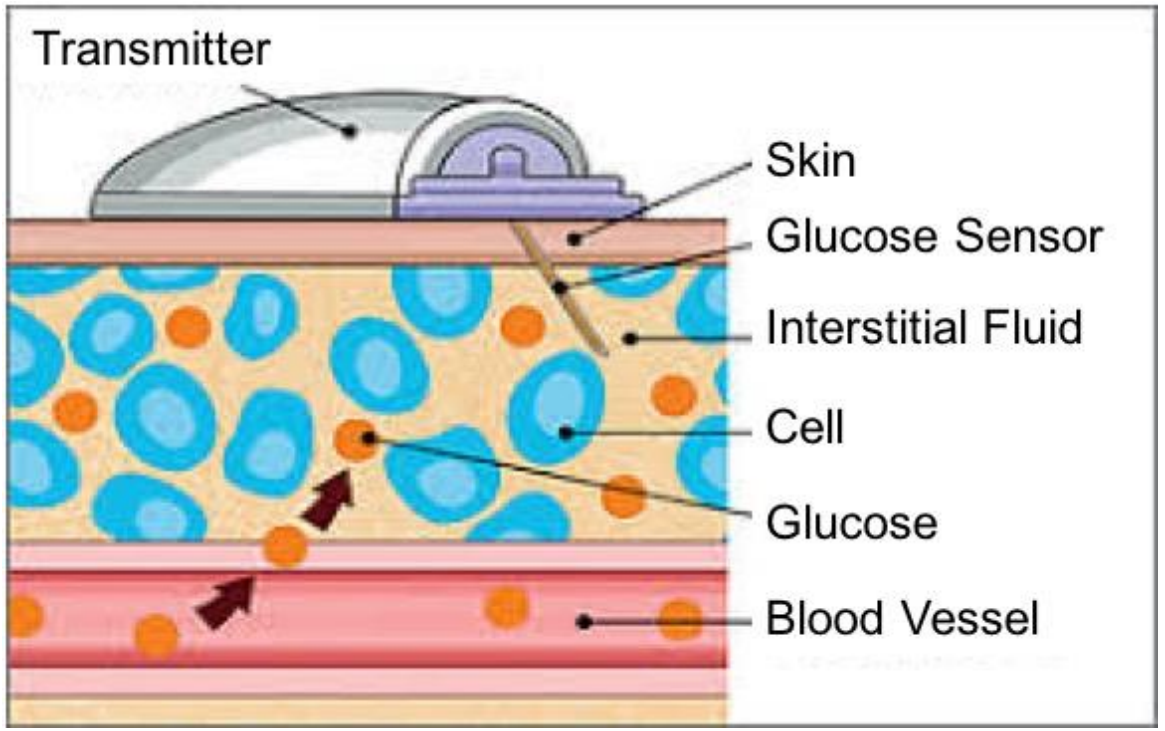
eversense®

Continuous Glucose Monitoring System

CGM: How the Technology Works

- CGM sensors measure glucose in interstitial fluid every 1-5 minutes*
- Blood glucose data is transmitted automatically in a continuous stream to the receiver, reader and/or smartphone, *or*
- The user can scan the transmitter to obtain blood glucose data
- The receiver, reader and/or smartphone present the data as
  - Current glucose value*
  - Trend arrows
  - Trend graphs



*Time lag between glucose changes in interstitial vs blood vessel compartments is 5-25 minutes (Siegmund T, et al. *J Diabetes Sci Technol*. 2017;11:766-772.)

CGM Types

"Professional" (retrospective)

- Owned by clinician
- Blinded and optional unblinded (Dexcom G6)
- Worn for 7 – 14 days
- Downloaded in office
- No alarms
- Retrospective review with patient
- **Great way to try CGM**

"Personal" (real time)

- Owned by patient
- Worn for 7 – 14 days
- Values and tendencies displayed in real time
- Alarms for up/downs (except Libre 10 day and 14 day systems, but new Libre 2 has alarms)
- Some require calibrating (Guardian, Eversense)
- **Can be interfaced with smart device**

Evidence of CGM Efficacy in T1DM and T2DM

Large Randomized Trials Comparing CGM Use With SMBG in Patients With T1D or T2D on MDI

Study	Reduced A1C	Reduced Hypoglycemia	Reduced Glycemic Variability	Improved Quality of Life	Improved Treatment Satisfaction	Hypoglycemia Confidence/ Reduced Hypoglycemia Distress
GOLD/GOLD-3 Studies[1,2] *Poorly controlled T1D*	✓	✓	✓	✓	✓	✓
IMPACT[3] *Well-controlled T1D*	--	✓	✓	--	✓	*
REPLACE[4] *Poorly controlled T2D*	--	✓	✓	--	✓	*
DIAMOND Studies[5-7] *Poorly controlled T1D/T2D*	✓	✓	✓	*	✓	✓
HypoDE[8] *Poorly controlled T1D with problematic hypoglycemia*	--	✓	✓	*	✓	✓

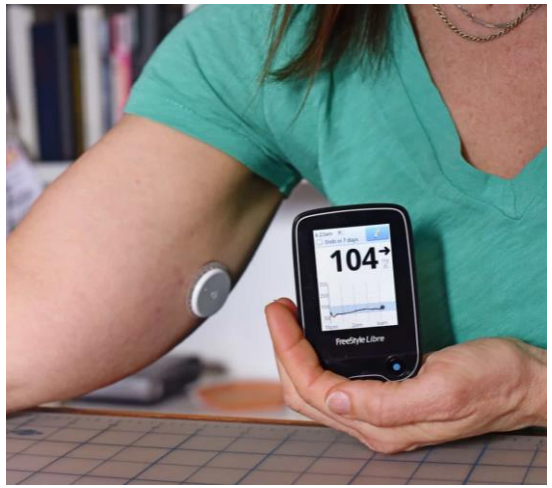
*Not an outcome or not reported

CGM wear time was high in all studies

1. Lind M, et al. *JAMA.* 2017;24;317:379-87.
2. Ólafsdóttir AF, et al. *Diabetes Technol Ther.* 2018;20:274-84.
3. Oskarsson P, et al. *Diabetologia*. 2018;61:539-50.
4. Haak T, et al. *Diabetes Ther*. 2017;8:55-73.
5. Beck R, et al. *Ann Intern Med*. 2017;167:365-374.
6. Beck R, et al. *Lancet Diabetes Endocrinol*. 2017;5:700-8.
7. Ruedy K, et al. *J Diabetes Sci Technol*. 2017;11:1138-1146.
8. Heinemann L, et al. *Lancet.* 2018;391:1367-77.
9. Šoupal J, et al. *Diabetes Care*. 2020;43:37-43.

Why Recommend CGM?

- With advances in technology, accuracy, and ease of use, CGM is transforming diabetes care in patients with both T1D and T2D
- **CGM is now considered standard of care for individuals with diabetes treated with intensive insulin therapy[1-5]**
- An increasing number of payors are now covering CGM for insulin-treated patients



1. Fonseca VA, et al. *Endocr Pract*. 2016;22:1008-21.
2. Petrie JR, et al. *Diabetes Care.* 2017;40:1614-21.
3. Danne T, et al. *Diabetes Care.* 2017;40:1631-40.
4. Peters AL, et al. *J Clin Endocrinol Metab*. 2016;101:3922-37
5. Longo, R., & Sperling, S. *Diabetes Spectrum*. 2019;32(3):183-193.

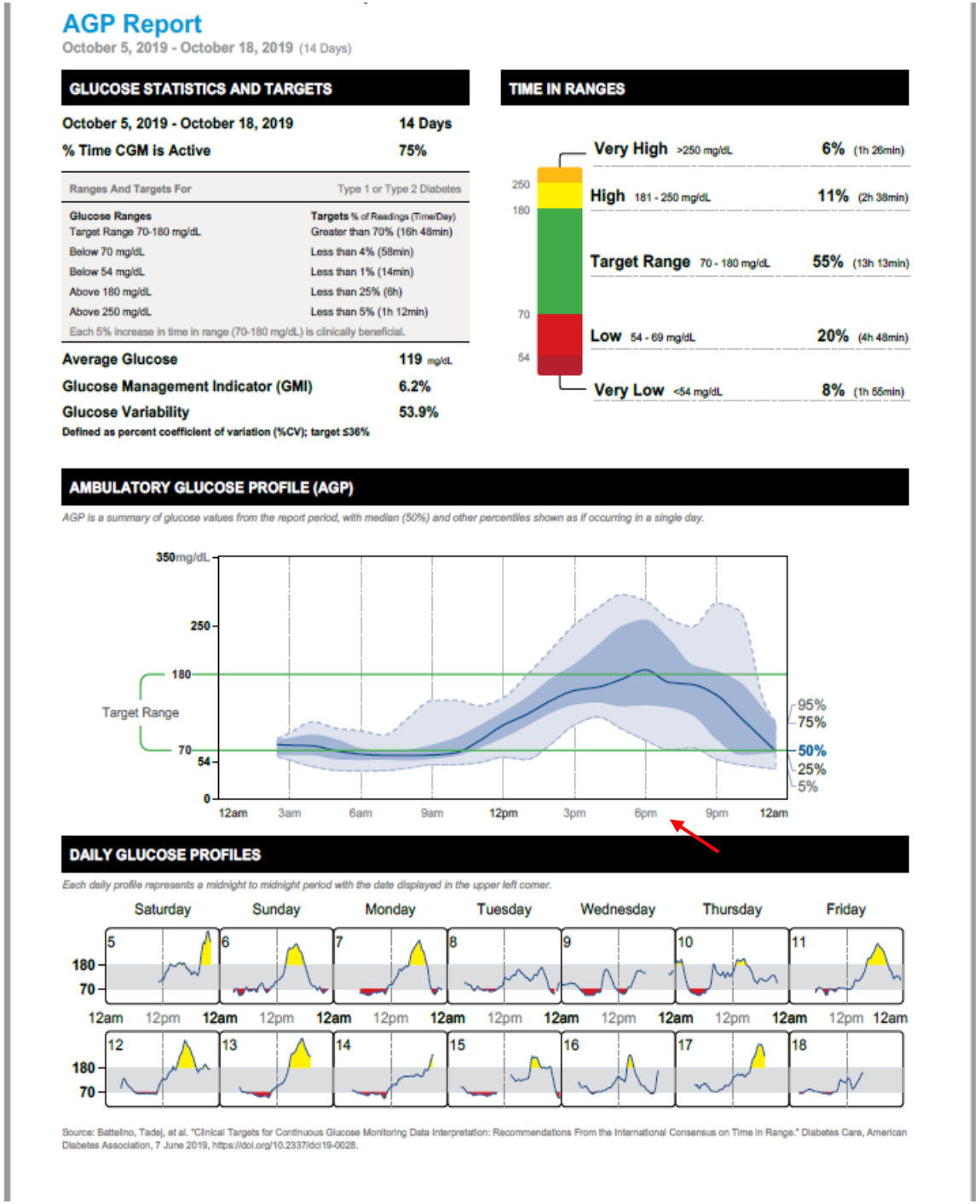
CGM Reports: Understanding the Data

The Ambulatory Glucose Profile (AGP) Report

KEY COMPONENTS:

1. Date range (14 days)
2. Percent time CGM is active (70%)
3. Average glucose
4. Glucose management indicator (GMI)
5. CV: Glucose variability (≤36%)
6. Time in range (>70%)
7. AGP graph
8. Daily glucose patterns

CV = coefficient of variation.



AGP Report

October 5, 2019 - October 18, 2019 (14 Days)

GLUCOSE STATISTICS AND TARGETS

October 5, 2019 - October 18, 2019	14 Days
% Time CGM is Active	75%

Ranges And Targets For	Type 1 or Type 2 Diabetes
Glucose Ranges	**Targets** % of Readings (Time/Day)
Target Range 70-180 mg/dL	Greater than 70% (16h 48min)
Below 70 mg/dL	Less than 4% (58min)
Below 54 mg/dL	Less than 1% (14min)
Above 180 mg/dL	Less than 25% (6h)
Above 250 mg/dL	Less than 5% (1h 12min)

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

Average Glucose	119 mg/dL
Glucose Management Indicator (GMI)	6.2%
Glucose Variability	53.9%

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

TIME IN RANGES

Very High	>250 mg/dL	6% (1h 26min)
High	181 - 250 mg/dL	11% (2h 38min)
Target Range	70 - 180 mg/dL	55% (13h 13min)
Low	54 - 69 mg/dL	20% (4h 48min)
Very Low	<54 mg/dL	8% (1h 55min)

AMBULATORY GLUCOSE PROFILE (AGP)

AGP is a summary of glucose values from the report period, with median (50%) and other percentiles shown as if occurring in a single day.

DAILY GLUCOSE PROFILES

Each daily profile represents a midnight to midnight period with the date displayed in the upper left corner.

Source: Battelino, Tadej, et al. "Clinical Targets for Continuous Glucose Monitoring Data Interpretation: Recommendations From the International Consensus on Time in Range." Diabetes Care, American Diabetes Association, 7 June 2019, https://doi.org/10.2337/dci19-0028.

AGP Report–Statistics

AGP Report

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GLUCOSE STATISTICS AND TARGETS

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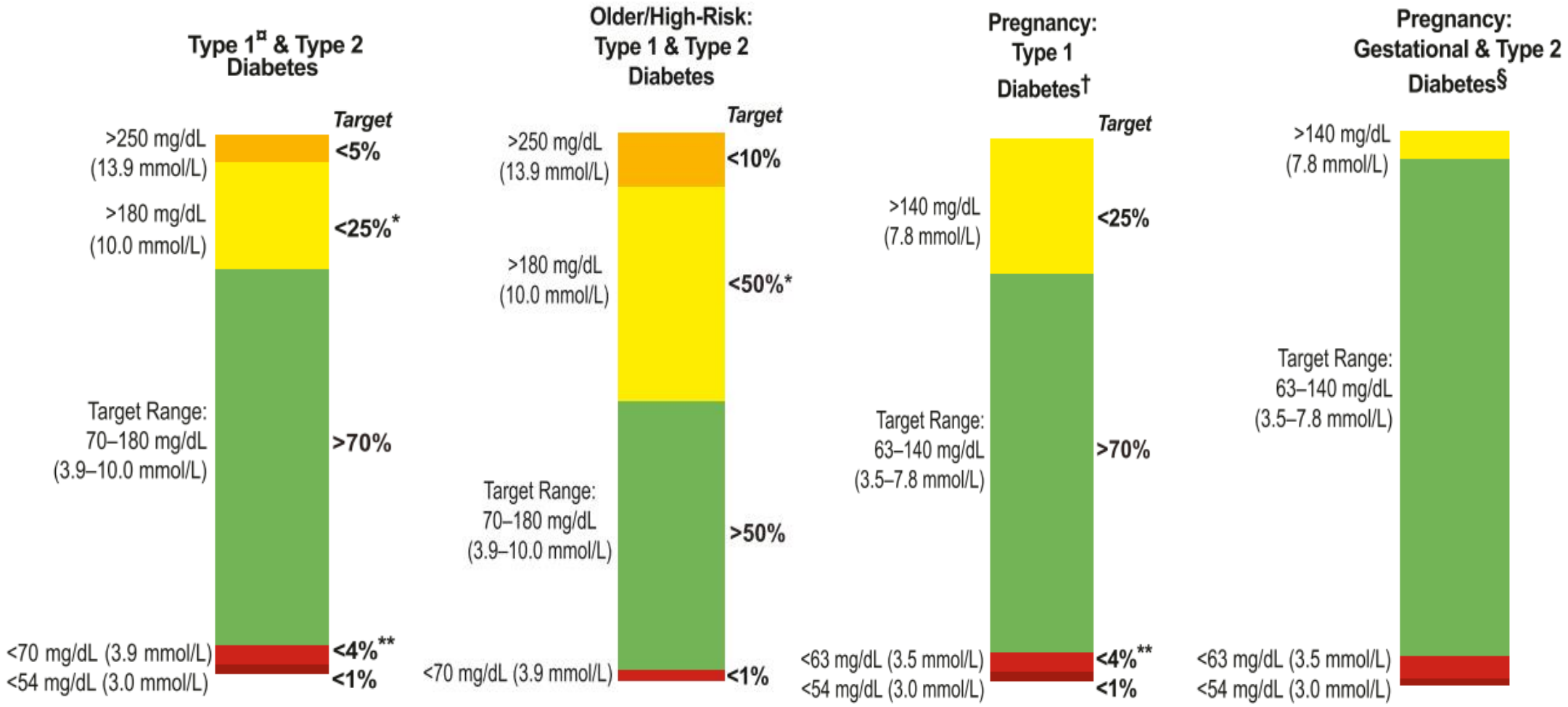
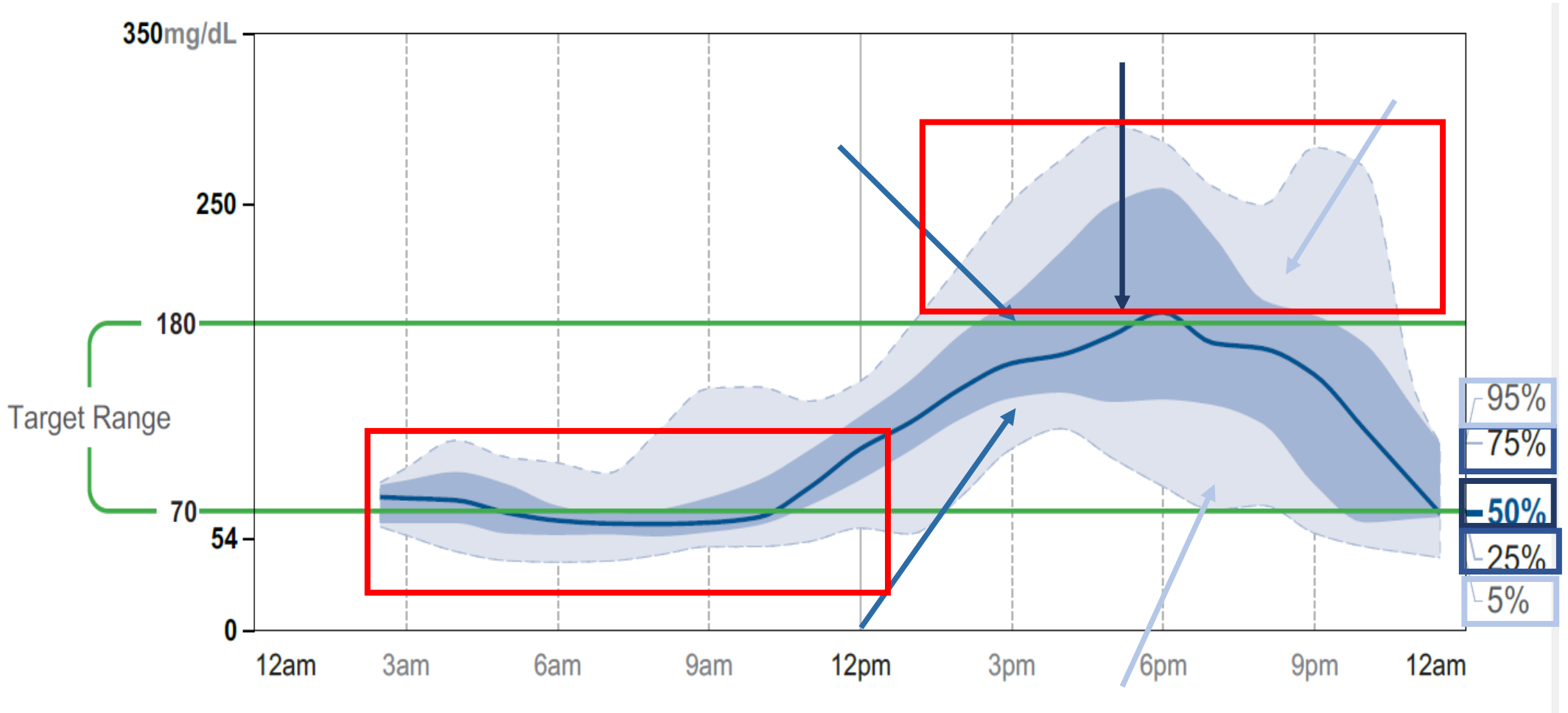
Adapted from Battelino T, et al. *Diabetes Care* 2019;42:1593-1603.
ADA. *Diabetes Care.* 2020;43(Suppl. 1):S66–S76.

Personalized Glycemic Targets



Battelino T, et al. *Diabetes Care*. 2019;42(8):1593-1603.

AGP

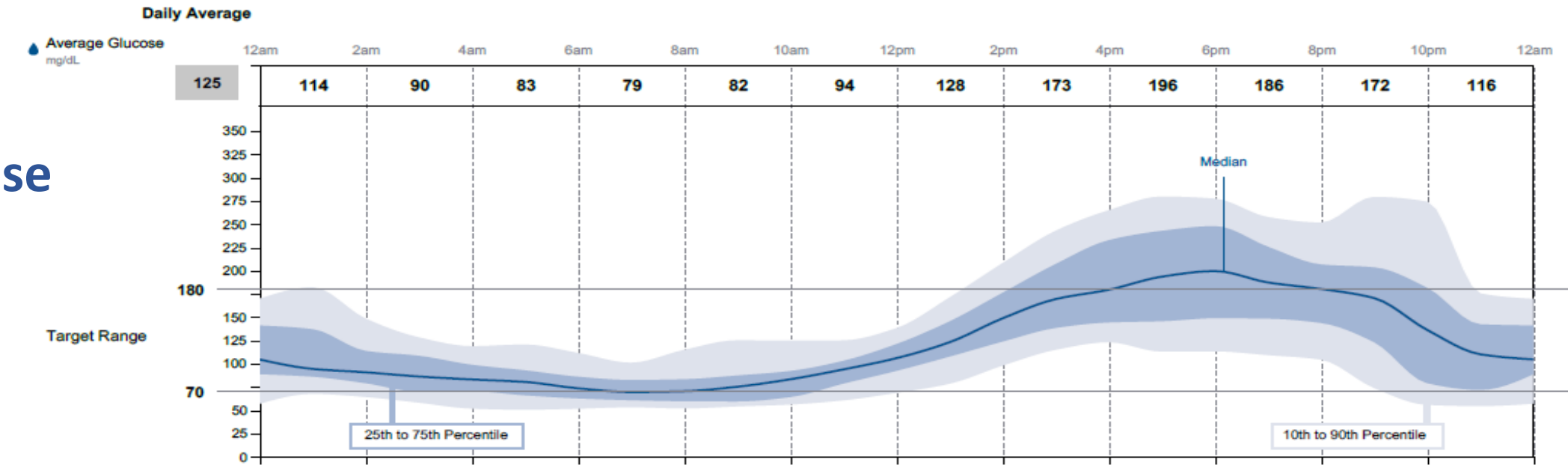


- Identify glucose patterns over the course of the day
- Discuss patterns with patient
- Modify medical therapy
- Modify behavior

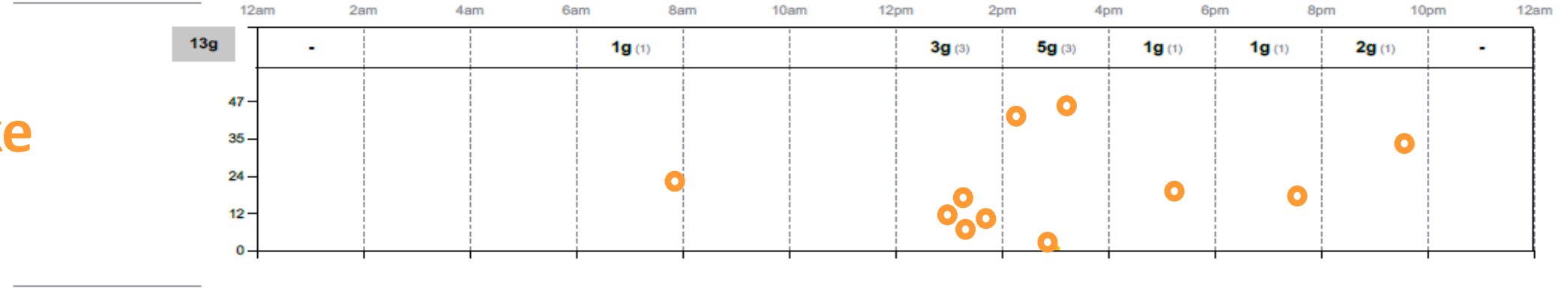
Daily Patterns

September 21, 2019 - October 18, 2019 (28 Days)

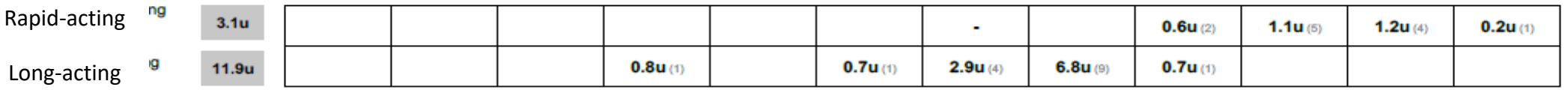
Glucose



Carb Intake



Insulin



Weekly Summary

Insights and discussion with the patient:

- Weekday vs weekend patterns

Daily Patterns

Fasting hypoglycemia

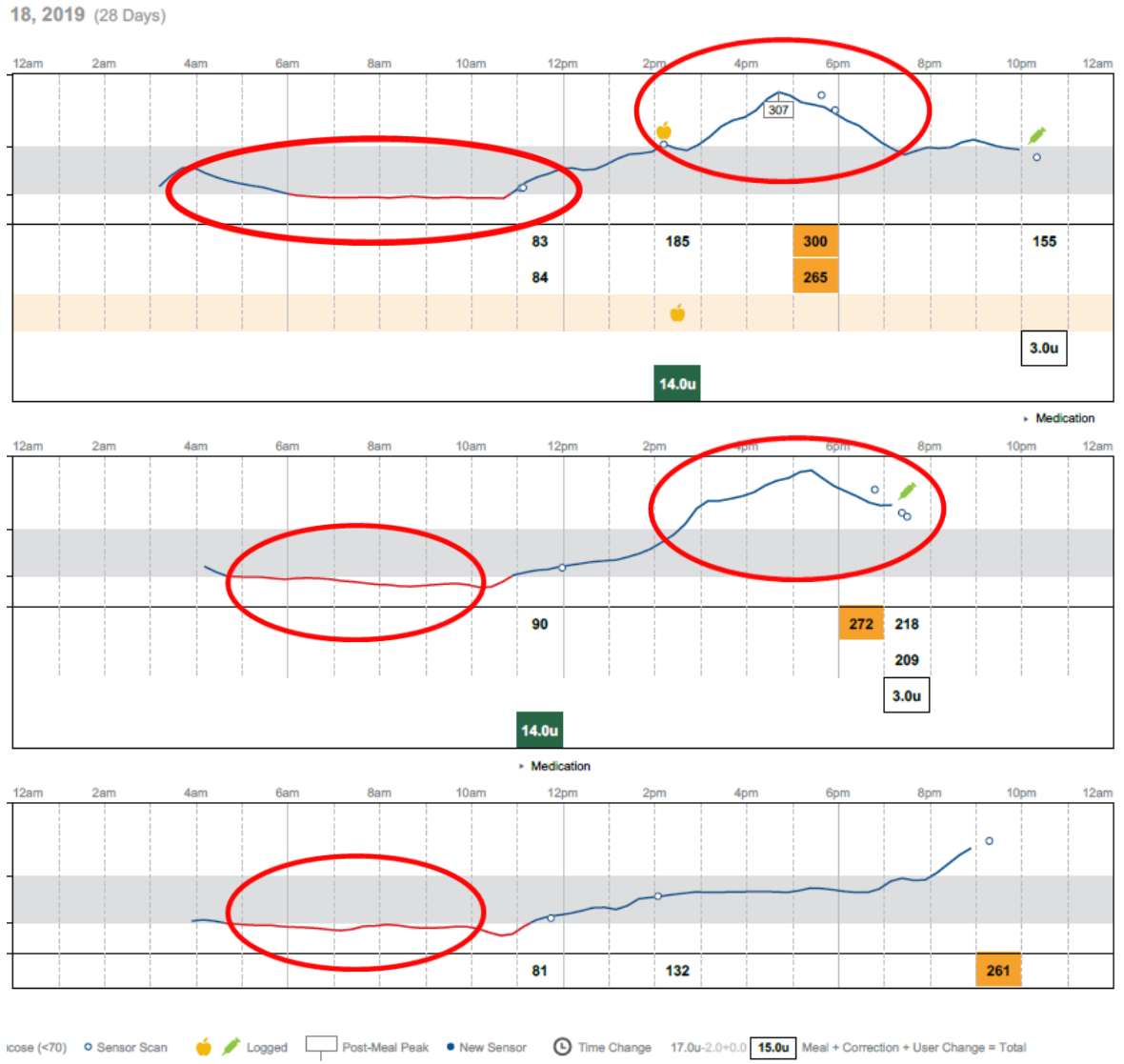
⇒ Reduce basal insulin

Post-prandial hyperglycemia

⇒ Increase prandial insulin

Continued education

⇒ Carbohydrate counting



Dexcom AGP

Sat Apr 25, 2020 - Fri May 8, 2020 (13.4 days)

Glucose Statistics

Avg Glucose mg/dL
181
Glucose Exposure

Very Low	Low	In Target Range	High	Very High
< 54 mg/dL	< 70 mg/dL	70 - 180 mg/dL	> 180 mg/dL	> 250 mg/dL
0.2%	0.7%	53.9%	45.3%	15.3%

Glucose Ranges

Coefficient of Variation	SD mg/dL
36.2%	66

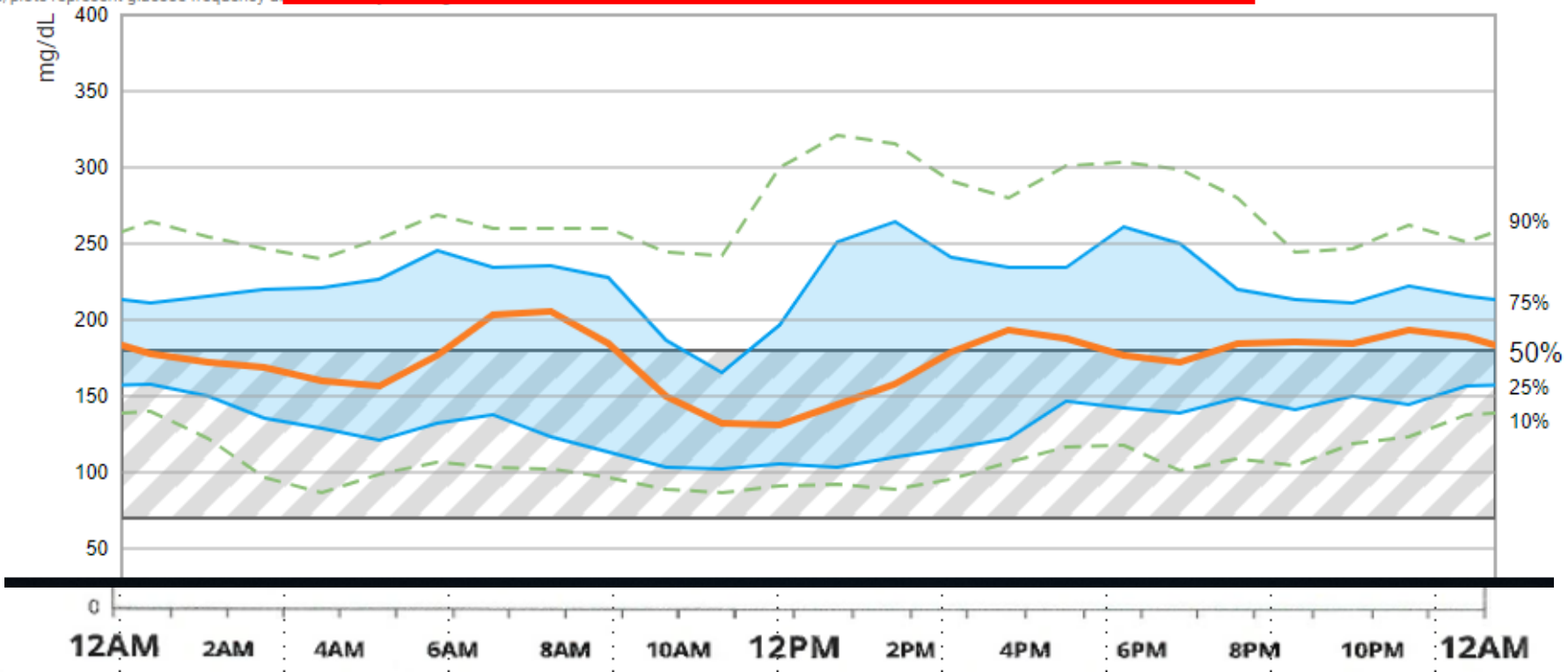
Glucose Variability

% Time CGM Active
83.6%
Data Sufficiency

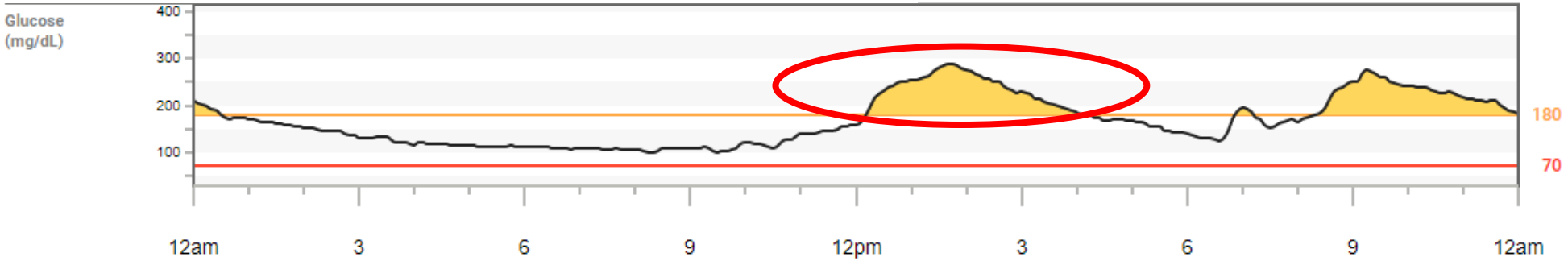
CGM | 50% - Median | 25/75% - IQR | 10/90% | Target Range

Curves/plots represent glucose frequency distributions by time regardless of date

Ambulatory Glucose Profile

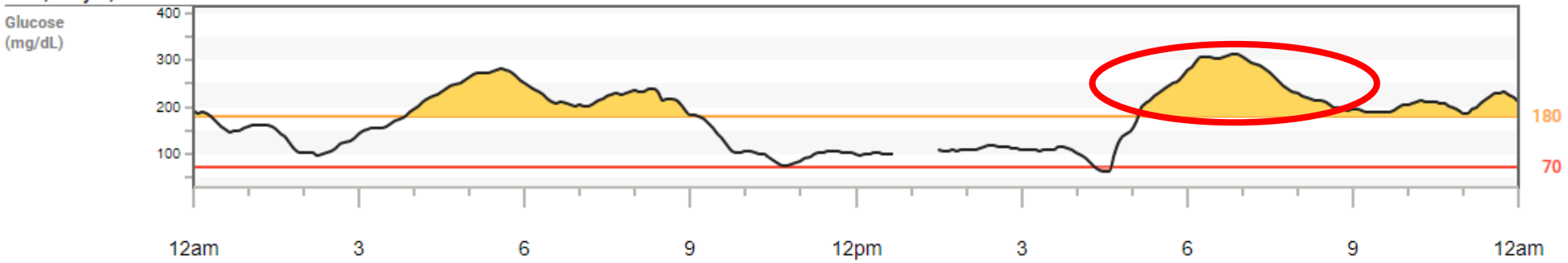


Dexcom Daily Trends



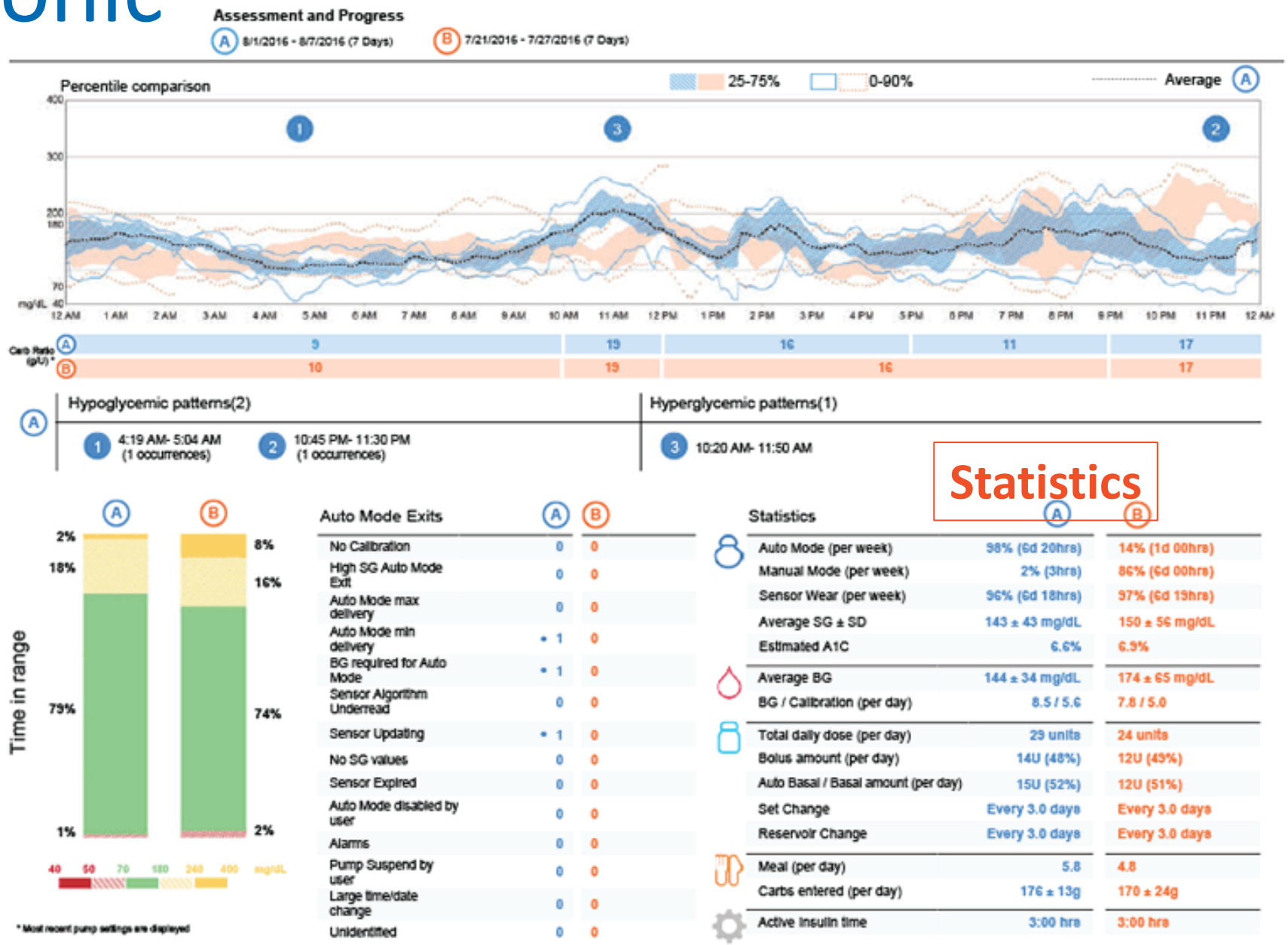
12:19 PM High	**8:34 PM** High

Wed, May 6, 2020



4:05 AM High	**7:14 AM** High	**10:34 AM** Low	**4:30 PM** Urgent Low Soon
5:14 PM High	**7:30 PM** High	**9:49 PM** High	**11:14 PM** High

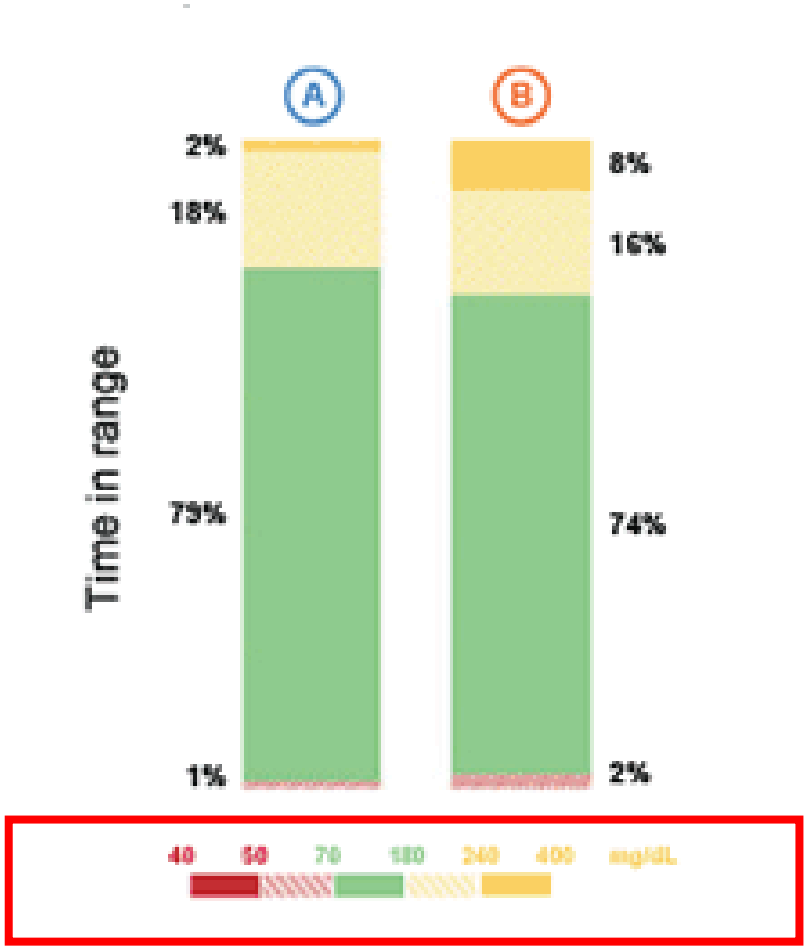
Medtronic AGP



Glucose Ranges

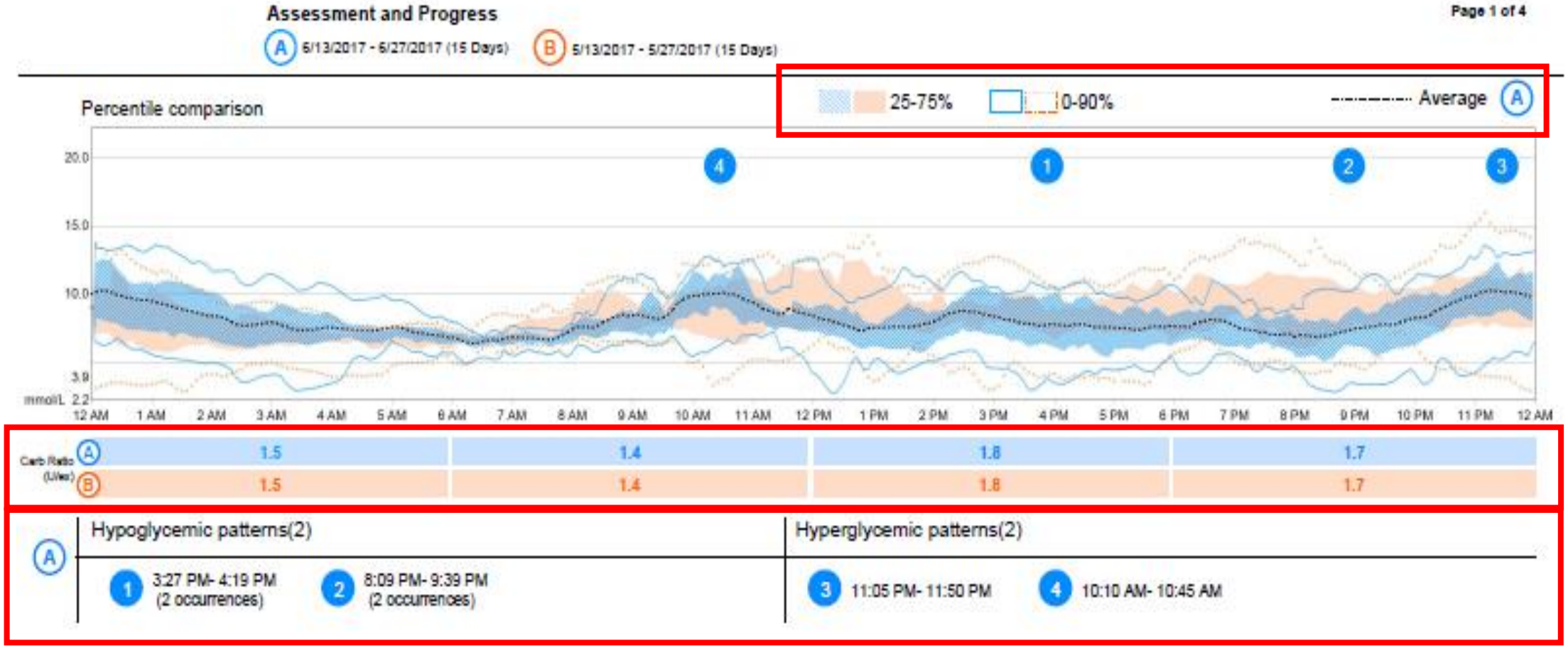
Statistics

Medtronic: TIR and Statistics



Statistics	A	B
Auto Mode (per week)	93% (6d 13h)	--
Manual Mode (per week)	7% (11h)	--
Sensor Wear (per week)	91% (6d 09h)	--
Average SG ± SD	151 ± 37 mg/dL	--
Average BG	151 ± 36 mg/dL	--
BG / Calibration (per day)	5.4 / 3.0	--
Total daily dose (per day)	104 units	--
Bolus amount (per day)	31U (30%)	--
Auto Basal / Basal amount (per day)	73U (70%)	--
Set Change	Every 2.6 days	--
Reservoir Change	Every 2.6 days	--
Meal (per day)	3.4	--
Carbs entered (per day)	144 ± 39 g	--
Active Insulin time	2:00 hrs	--

Medtronic AGP



CGM: Is it Right for Me?

Use of CGM–Current Recommendations

ATTD's International Consensus on Time in Range[1,2]

- Useful for assessing hypoglycemia and glycemic variability
- Consider in patients with T1D or T2D who are on intensive insulin therapy but not achieving glycemic targets, especially in patients experiencing problematic hypoglycemia
- In patients with discrepancies between A1C and mean glucose levels, CGM plus A1C may help with evaluating glycemic management and adjusting treatment

ADA Standards of Care[3]

- Real-time CGM together with intensive insulin therapy may help patients with T1D achieve A1C targets
- May also be helpful in patients with hypoglycemia unawareness or frequent hypoglycemia

ATTD = Advanced Technologies & Treatments for Diabetes; ADA = American Diabetes Association.

1. Danne T, et al. *Diabetes Care*, 2017;40:1631-1640.
2. Battelino T, et al. *Diabetes Care.* 2019;42(8):1593-1603.
3. American Diabetes Association. *Standards of Care in Diabetes-2020. Diabetes Care.* 2020;43(Suppl 1):S1-225.

Patient Perspective: Who is the "ideal" patient for CGM?

- Individuals who want to understand their glucose excursions and how daily life affects glucose levels
  - Willing to work with the system and do real-time reflection on glucose changes
  - Willing to trust technology to provide feedback
- Individuals willing to understand both strengths and weaknesses of CGM data
  - Willing to work with the imperfections
  - Willing to resist micromanaging based on small changes in glucose
- Individuals experiencing increased glucose variability or hypoglycemia and don't know why

Payor Perspective: Who is the "ideal" patient for CGM?*

- Individuals who are actively managing their diabetes
  - Basal-bolus insulin therapy (3 or more injections per day–T1D or T2D)
  - Already completing 4 or more fingerstick glucose readings per day
- Individuals with unexpected, nocturnal, or severe hypoglycemia
- Individuals on oral agents that cause hypoglycemia (such as sulfonylureas)
- **NOTE**: CMS recently announced expanded Medicare access to CGM during the COVID-19 public health emergency†

*For patients meeting specific requirements, CGM is covered by Medicare and many insurance companies and by Medicaid coverage in some states. Requirements for coverage vary by plan and program.

†As of May 8, 2020, the Centers for Medicare & Medicaid Services (CMS) announced expanded Medicare access to CGM for diabetes patients during the COVID-19 public health emergency. On an interim basis, CMS will not enforce the clinical indications for therapeutic CGMs in LCDs. For more information, go to https://www.cgsmedicare.com/jc/pubs/news/2020/05/cope17333.html.

Additional Benefits of Real-time CGM

No matter what therapy is provided, CGM is a great tool to see "how your life affects your diabetes"—eg:

- Which fruits have the highest glycemic spikes
- How stress affects glucose levels
- How exercise affects glucose levels
- Impact of aerobic versus resistance exercise
- Impact of changes in daily and sleep schedules
- Impact of the menstrual cycle

Lyons L, Powers M, Austin M: ADA Guide to Nutrition Therapy. In chapter 22: Integrating Nutrition Therapy, Blood Glucose Monitoring, and Continuous Glucose Monitoring. 3rd Edition, 2017.

Key Topics for Patient Discussions When Considering CGM

- How do CGMs work?
- CGMs work better the more you wear them
  - Goals of CGM
  - When and where to wear them—24/7 or when transition occurs?
- When to check CGM with SMBG
  - Does CGM completely replace SMBG?
  - What happens if sensor and blood glucose levels don't match?
- Who pays for CGM and how can we get it covered?
- What are the choices? How do they compare?

Keys to Setting Patients up for Success

- Set realistic expectations
  - CGM is a tool to help with—*but not take over*—diabetes management
  - CGM can highlight—*but not complete*—self care
- Work with patients to establish goals, eg,
  - Identifying and preventing hypoglycemia
  - Understanding how life affects diabetes
- CGM can show changes in glucose levels, but patients still have to assess *why* glucose changes
- Not all factors are easily measurable, eg,
  - Stress
  - Pain
  - Sleep changes/daylight savings

Key Questions

- How will the patient respond to MORE DATA?
  - Will they be able to adjust self care to prevent or deter hypo- and hyperglycemia?
    - eg, meals, activity, medication
  - Will it increase their fear or frustration?
  - Will it increase diabetes distress or burnout?
  - Can they avoid micromanaging?

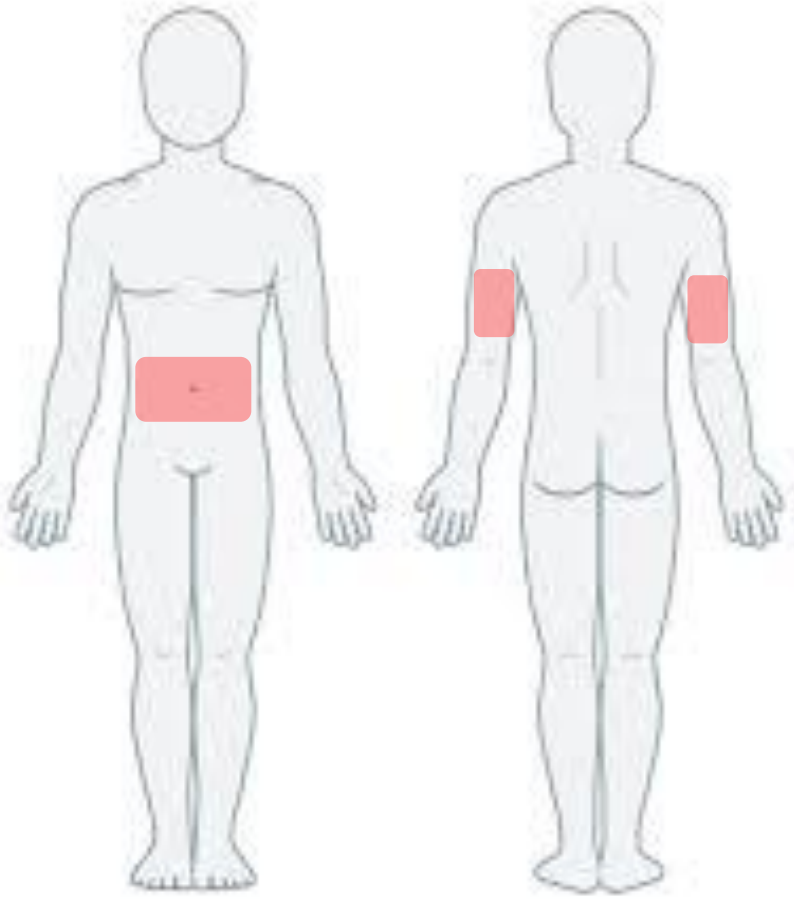
Training Methods and Resources

- Provided by device company
- Provided by community diabetes care and education specialist (CDCES or BC-ADM)
- Provided in the PCP office
  - Examples:
    - In office–registered nurse, registered dietitian, medical assistant, or CGM company consultant
    - Referral to CDCES or BC-ADM within the PCP office, at an outpatient diabetes education center, or at a private practice
    - Role of group training
    - Role of telemedicine
- Additional resources:
  - Online device-specific tutorials (eg, from device company)
  - DiabetesWise.org
  - Many patient-facing sites (eg, https://diatribe.org/CGMtips, https://www.healthline.com/diabetesmine/what-is-continuous-glucose-monitor-and-choosing-one#1)

CDCES = Certified Diabetes Care and Education Specialist; BM-ADM = Board-certified Advanced Diabetes Management

Training Topics–Living With CGM

- Site preparation and rotation
- Caution with dressing/arm straps to avoid catching sensors
- Sensors/transmitters are waterproof (receivers/displays are not)
  - Limit submersion to ~30 minutes
  - Avoid hot tub submersion
- Administer insulin at least 3 inches away from the sensor site
- Remove sensors before X-ray/MRI/CT scan
- Security screening (for some devices): notify security and ask for pat-down vs body scanner/X-ray



Best Practices for CGM Use: Advice for Patients

- The longer and more consistently it's worn, the more effective it is*
- When in doubt, perform SMBG
- Avoid micromanaging
- Be willing to accept some daily entropy (eg, impact of stress)
  - Distinguish episodic fluctuations from trends
- Allow time needed for corrections to yield a response
- Review data with your health care team when you see a trend (vs isolated excursions, when no action is needed)

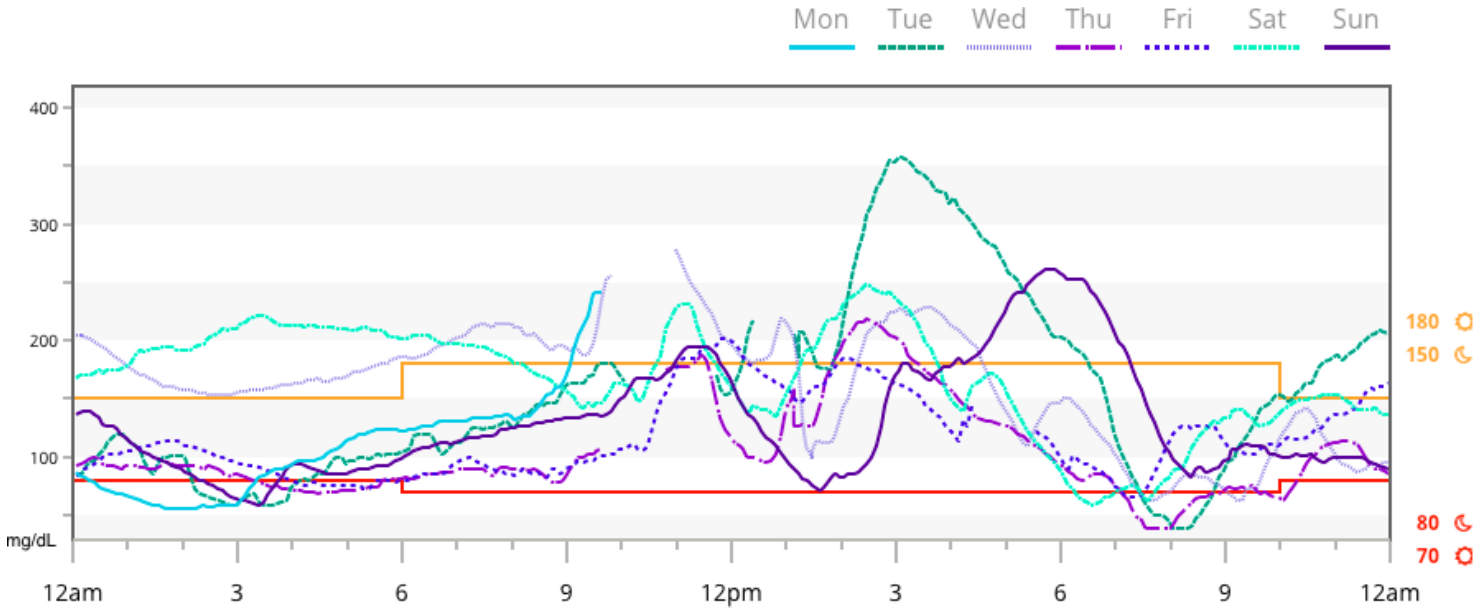
*Juvenile Diabetes Research Foundation CGM Study Group; Tamborlane WV, et al. *New Engl J Med* 2008;359(14):1464-1476.

Case Study: Steve J.*

- 27 years old, T1D dx at age 12
- Contract lawyer
- Busy, unpredictable schedule
- Has history of hypoglycemia unawareness
- Currently on an insulin pump with CGM

*NOTE: Patients with diabetes may be at increased risk of severe COVID-19 disease. For more information, visit https://www.cdc.gov/coronavirus/2019-nCoV/index.html.

Steve J.



6.7 %	142	60			
	mg/dL	mg/dL			
Glucose Management Indicator	Average glucose (CGM)	Standard deviation (CGM)	Hypoglycemia risk	Time in range	Sensor usage

HIGH
MODERATE
LOW
MINIMAL

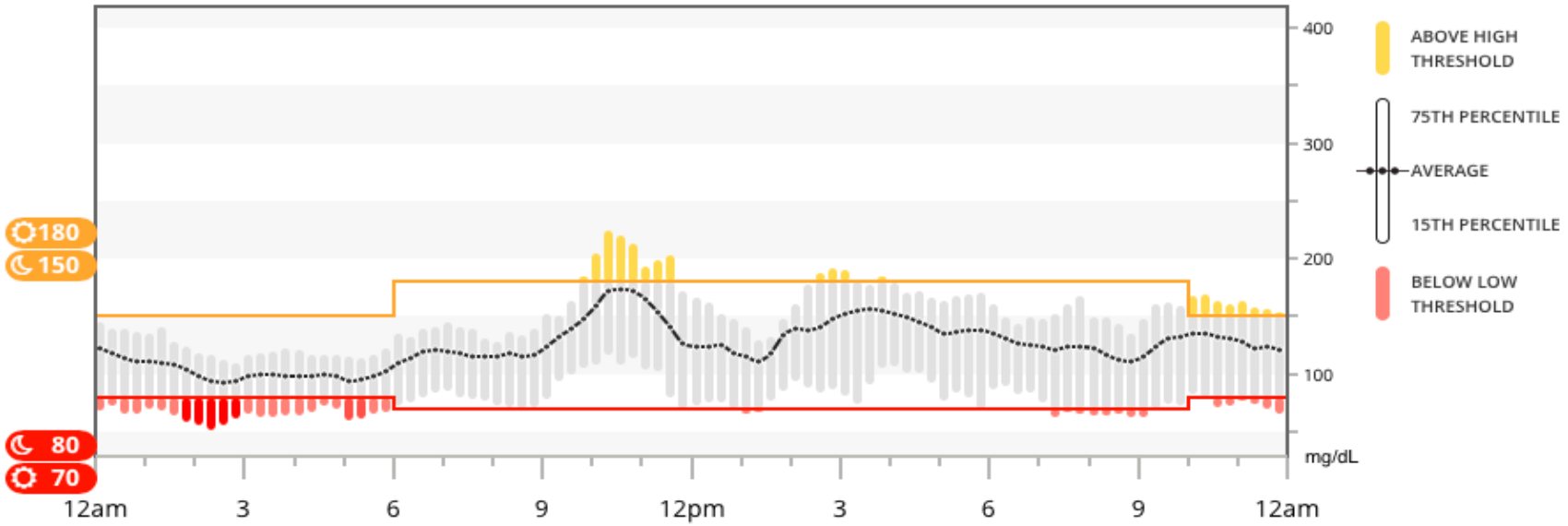
30%
59%
8%
3%

Days with CGM data 93%
13 / 14

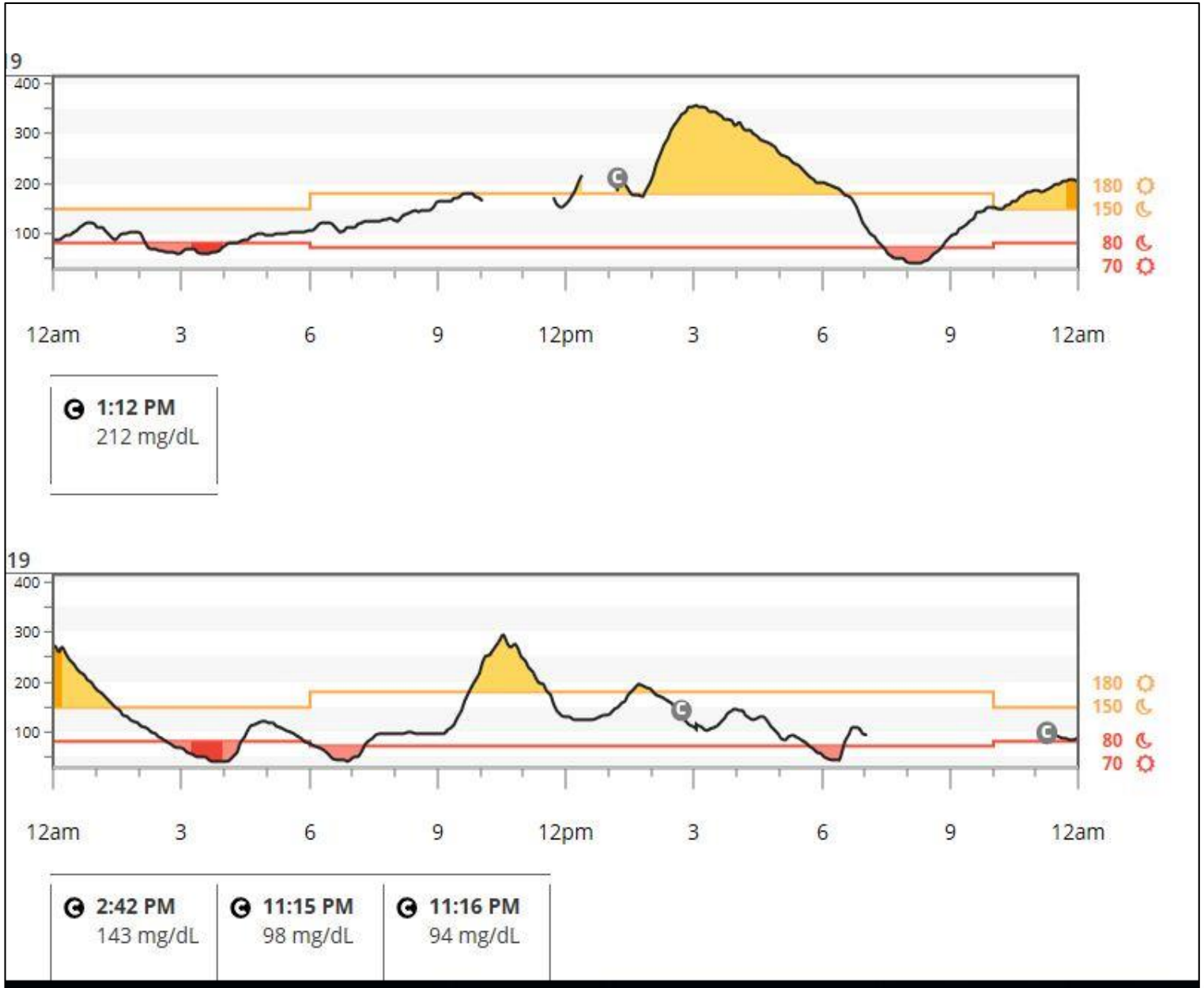
Avg. calibrations per day 1.2

Steve’s Initial Sensor Readings

6.3 %	124	50	HIGH **MODERATE** LOW MINIMAL	17% 66% 12% 4%	Days with CGM data 88% 29 / 33 Avg. calibrations per day 1.6
Glucose Management Indicator	mg/dL Average glucose (CGM)	mg/dL Standard deviation (CGM)	Hypoglycemia risk	Time in range	Sensor usage



Steve's Initial Sensor Readings (cont)



How might Steve benefit from CGM?

How might CGM improve his daily diabetes management?

- Many patients will see the highs before the lows
- Best to fix hypoglycemia first, and that will help with the highs

What changes might you make for Steve?

- Remind Steve to not bolus at bedtime or to loosen his overnight blood glucose goal
- He still drifts down overnight and he may need less basal insulin from bedtime to 4 am
- Confirm that he feels his lows
- Make sure he knows the “rule of 15” and has glucagon

Case Study: Javeed F.

- 55 years old
- Has T2D for 7 years, on oral agents plus basal insulin (started 6 months ago)
  - Metformin 1000 mg BID, glipizide 10 mg am, sitagliptin 100 mg at lunch
  - Glargine 35 units am
- 5’10”, 100 kg, BMI = 32 kg/m^2

Javeed F.

CGM Glucose Pattern Summary

August 10, 2018–August 21, 2018 (12 Days)

CGM Device: [N/A]% Compliant w/Calibration* 100% Time Worn

*Not applicable to FreeStyle Libre or FreeStyle Libre Pro which do not require calibration.

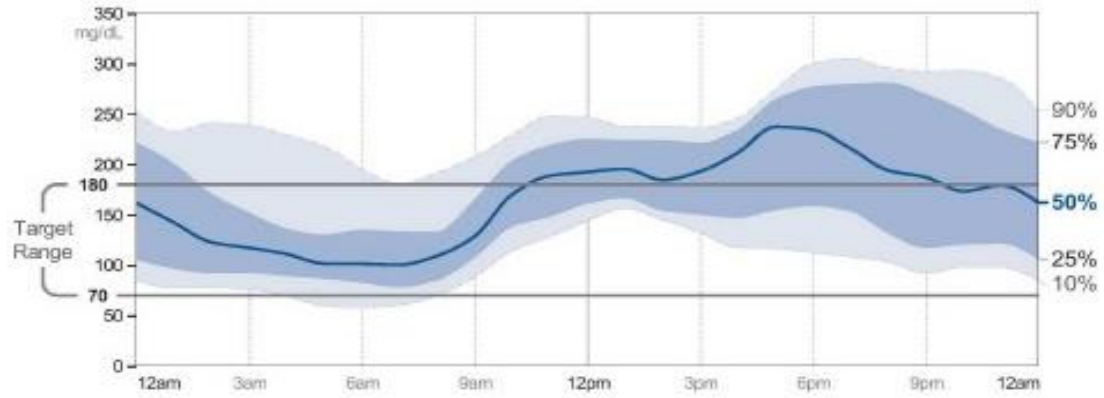
Summary

Average Glucose	Time In Range	Coefficient of Variation (CV)	Standard Deviation (SD)
168 mg/dL	Above 180 mg/dL (above 250 mg/dL: 13%) 42%	40.5%	68 mg/dL
88-116*	In Target Range 70-180 mg/dL 53%	19-25*	10-26*
	Below 70 mg/dL (below 54 mg/dL: 1%) 5%		

*Reference ranges calculated from population without diabetes.

Ambulatory Glucose Profile

Curves/plots represent glucose frequency distributions by time regardless of date



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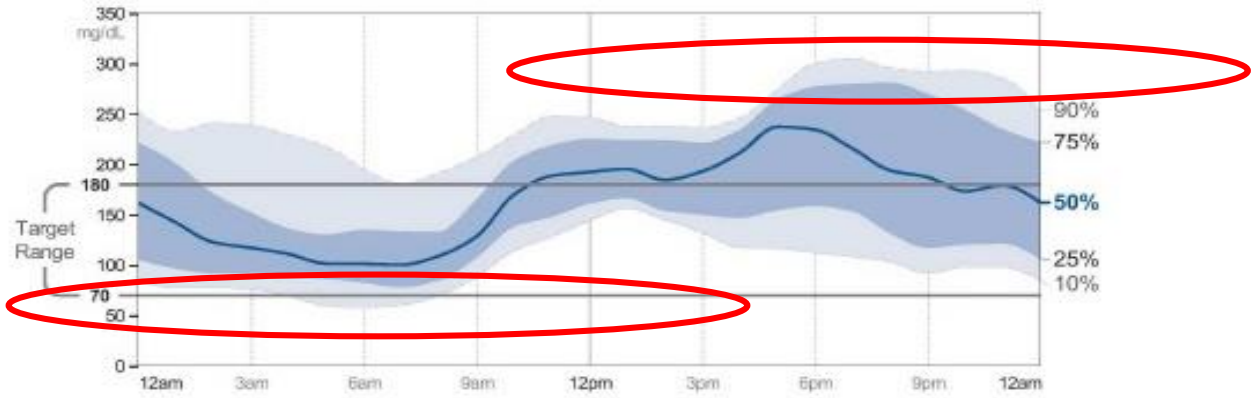

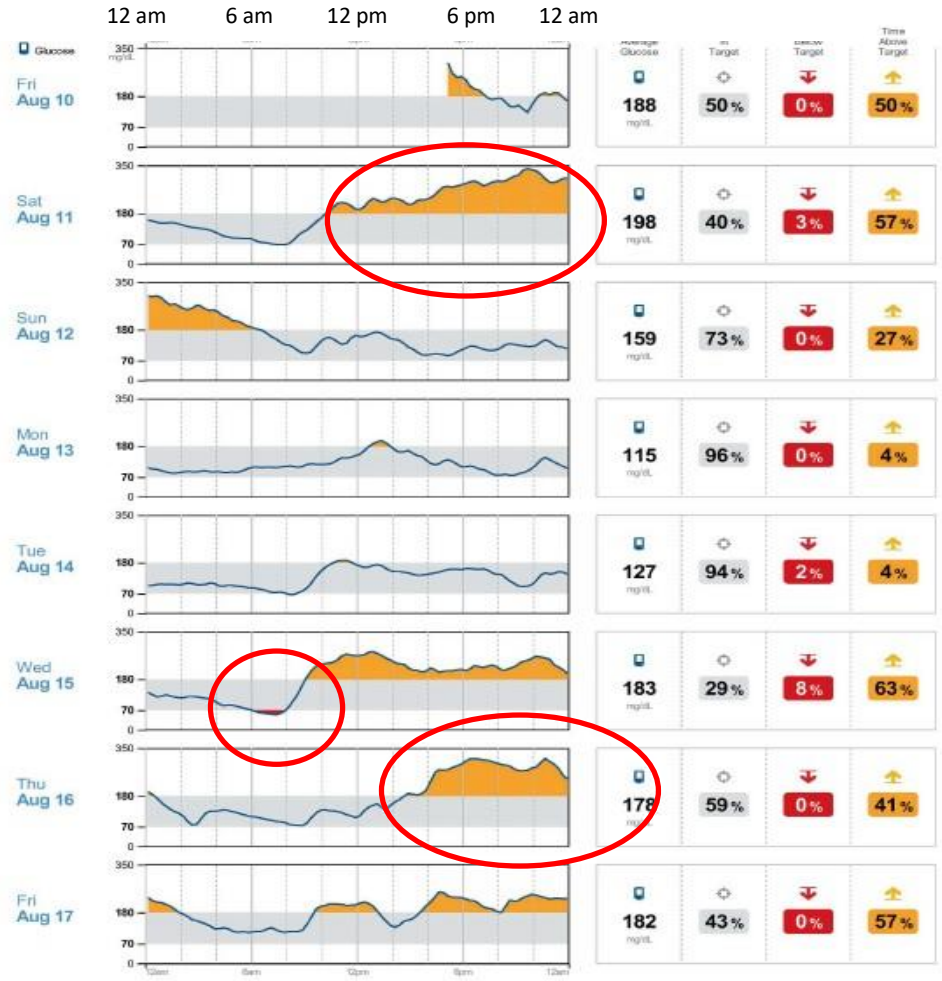

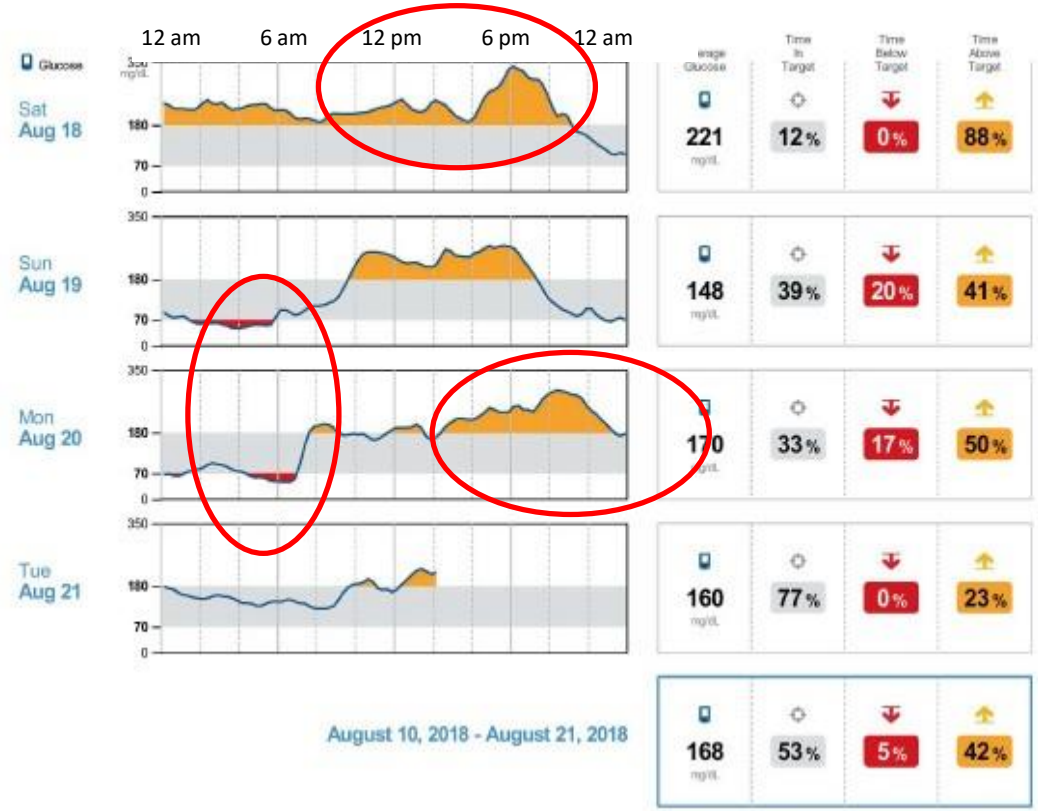

Javeed F.

Daily Glucose Summary

What does CGM reveal?

- What would you correct first?
- Would he qualify for CGM through insurance?

What would you do for Javeed based on his CGM data?

- Many of his highs are a response to hypoglycemia; work on correcting this first
- His blood glucose appears to spike after dinner (6-9 pm)—try to get more details about evening eating habits
- He may need a bit less basal insulin due to overnight and early morning lows

Key Takeaways

- A1C has been the gold standard for assessing glucose management, but it doesn't provide enough information to guide changes in glucose management
- Time in range, using CGM, is the emerging gold standard for monitoring patients with T1D or T2D treated with intensive insulin therapy
  - Efficacy supported in large clinical studies, especially for reducing hypoglycemia
  - CGM may also benefit individuals with unexpected, nocturnal, or severe hypoglycemia and/or those on oral agents that can cause hypoglycemia (such as sulfonylureas)
  - Professional CGM with AGP helps inform decisions about diabetes treatment
  - Personal CGM provides actionable information to guide patients' daily diabetes management and self-care behaviors
  - Use of CGM data will shift the focus of glycemic management from reacting to single points in time to making changes based on patterns
- Adoption and insurance coverage is increasing

Links to CGM Training Resources

- DiabetesWise.org
- Abbott Libre tutorial videos https://www.freestylelibre.us/support/overview.html?gclid=Cj0KCQjwiYL3BRDVARIsAF9E4Gd5brJCz3iSgVEp4uUUckLSUc8pZcawKg_YiF5jg_k3Xs9_Je9PHYEaArGuEALw_wcB
- Lilly/Dexcom training videos:

  https://www.dexcom.com/training-videos
- Medtronic video library:

  https://www.medtronicdiabetes.com/community-resources/video-library-new

THANK YOU!!