

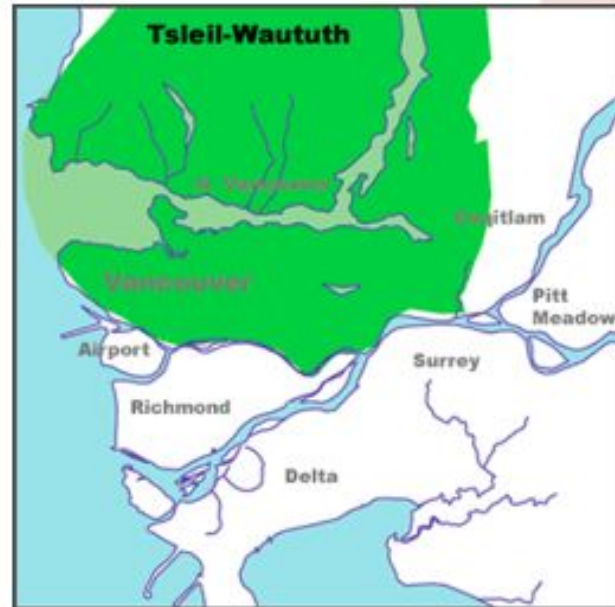
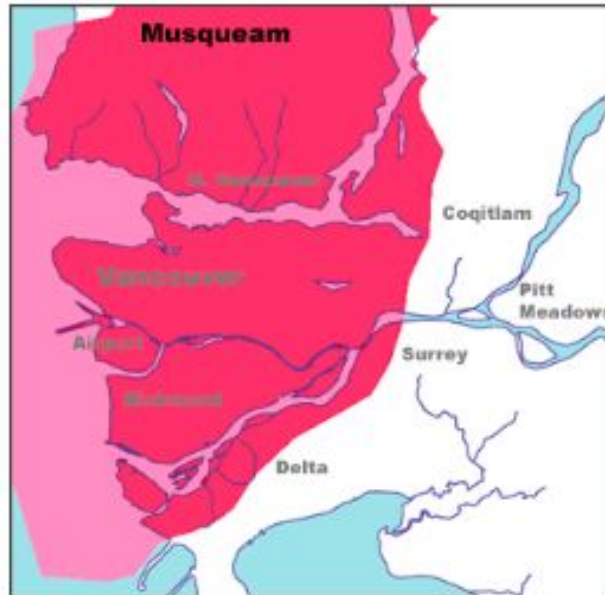


How CGM can help your patients & your practice

Tom Elliott MBBS, FRCPC
Medical Director, BCDiabetes

We would like to acknowledge that we are gathered today on the traditional territories of the Musqueam, Squamish and Tsleil-Waututh peoples.

Source: www.johomaps.net/na/canada/bc/vancouver/firstnations/firstnations.html



Tom Elliott DISCLOSURES

Relationships with commercial interests:

Medical Director & Owner of BCDiabetes, CEO Aidica Systems Inc.

Grants/Research support: Nil

Speaker's bureau/honoraria:

Consulting/Advisory Board:

Dexcom/Abbott/Novo Nordisk

Other: Boehringer Ingelheim

VIRTUAL
CARE



NEW
MEDICATION

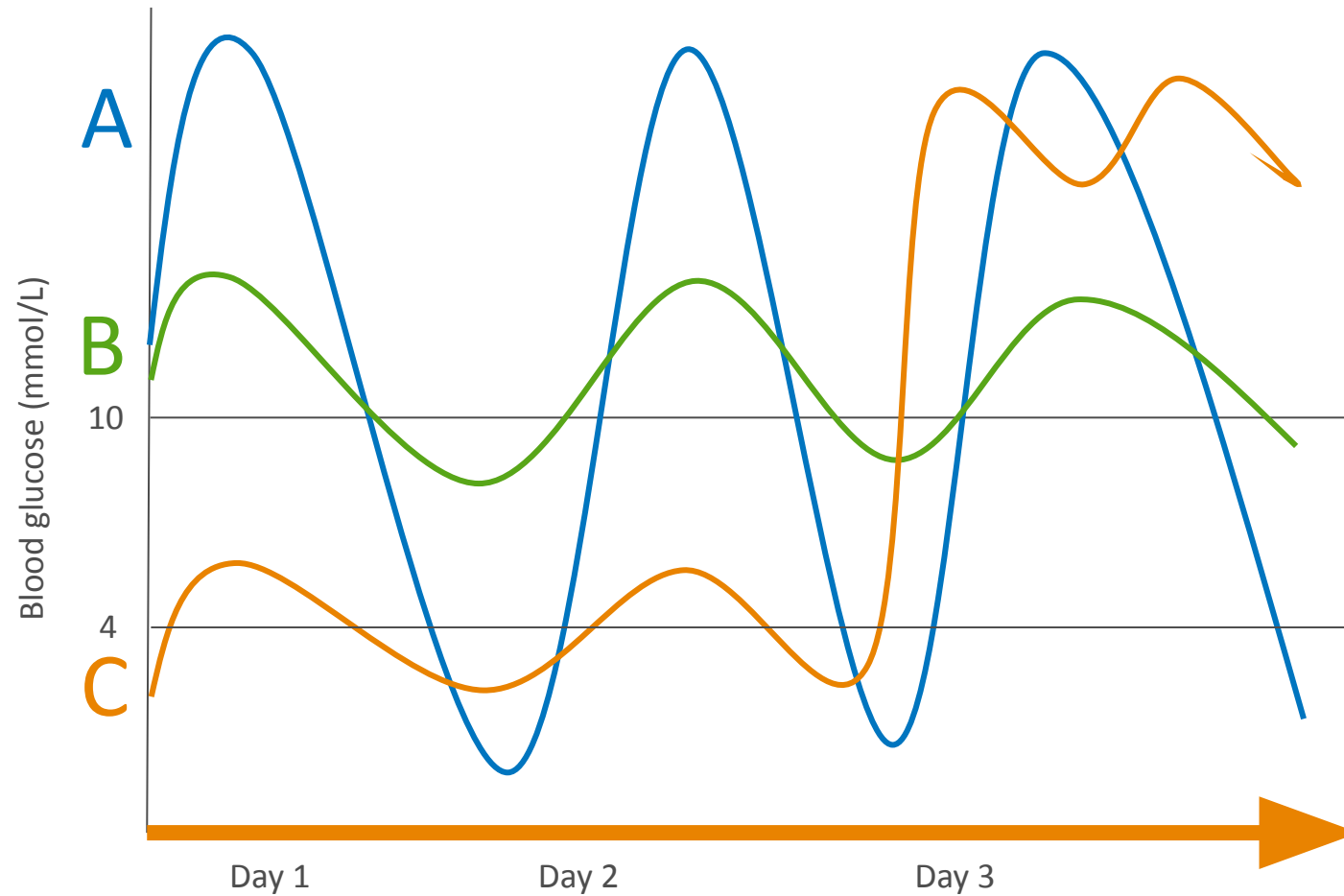
THE DIABETES REVOLUTION

CGM



AUTOMATION

A1C DOES NOT PROVIDE THE FULL PICTURE¹



- Same hemoglobin A1c very different patterns

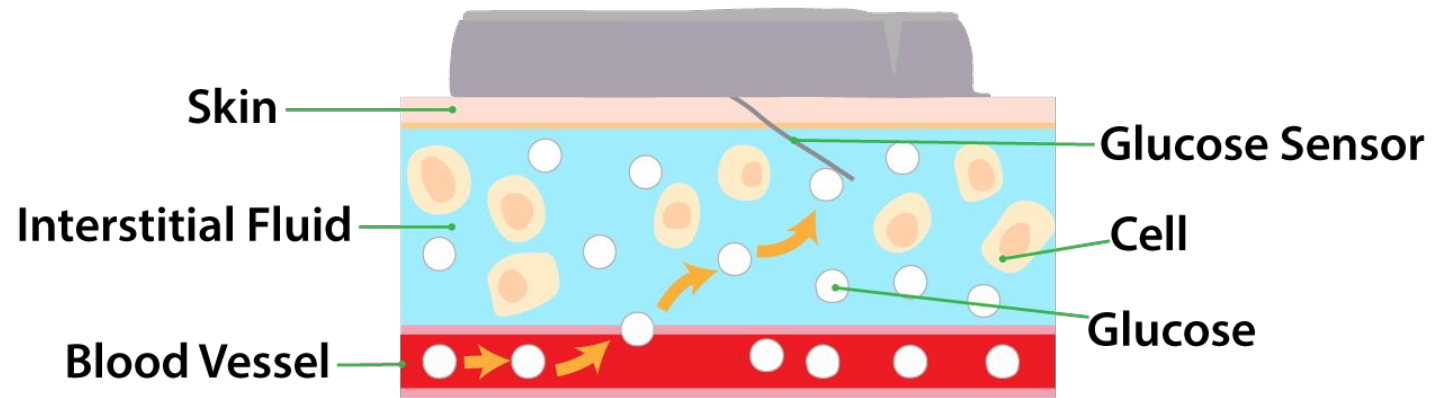
$$eAG = 1.6 * A1c - 2.6$$

A1C, hemoglobin A1c. Images for illustration purposes only.

1. Sunghwan S, and Kim JH. *Diabetes & Metabolism Journal*. 2015;39(4):273–282

WHAT IS A GLUCOSE SENSOR?

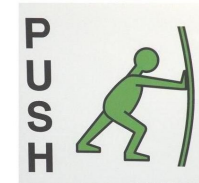
A small wearable device that measures interstitial glucose concentration continuously



Intermittently-scanned CGM (i.e. Freestyle Libre)



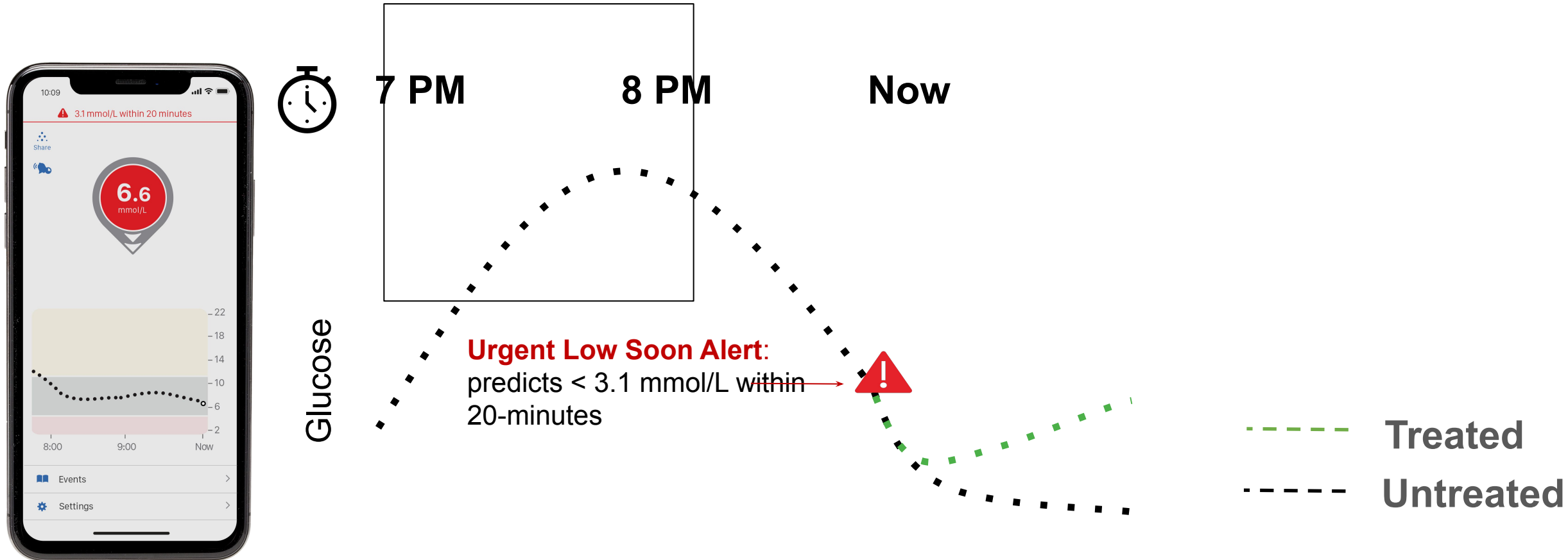
Real-time CGM (i.e. Dexcom G6)



CGM, continuous glucose monitoring. Images for illustration purposes only.

HOW IS A PREDICTIVE LOW ALERT DESIGNED TO WORK¹?

Available with Dexcom G6

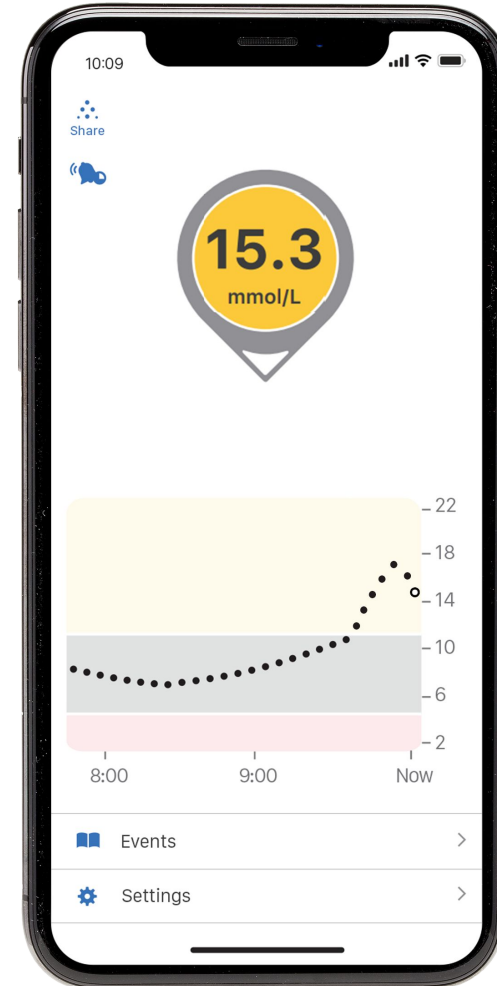
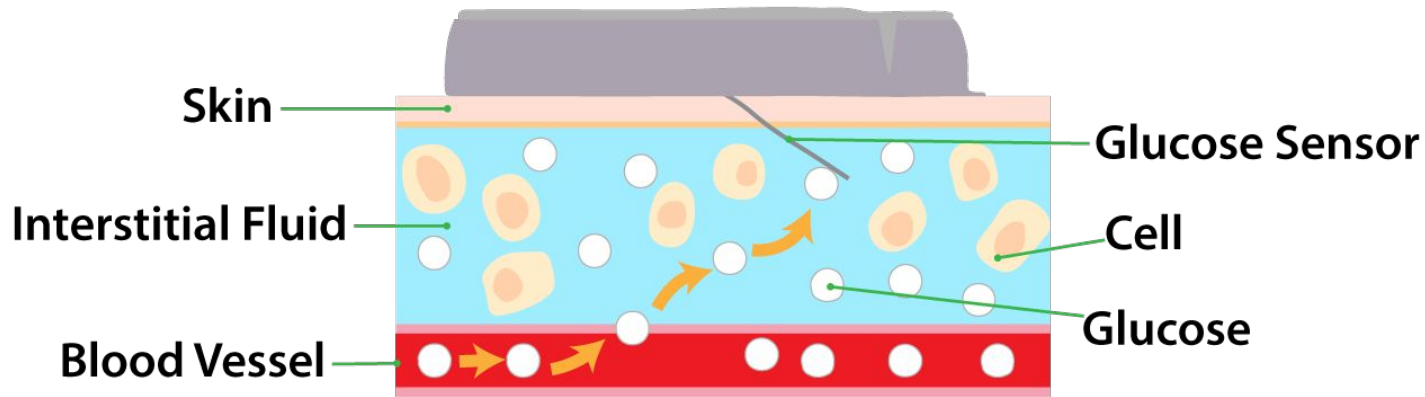


Images are for illustrative purpose only.

1. Wadwa P. et al. Diabetes Technology and Therapeutics 2018;20(6):395-402

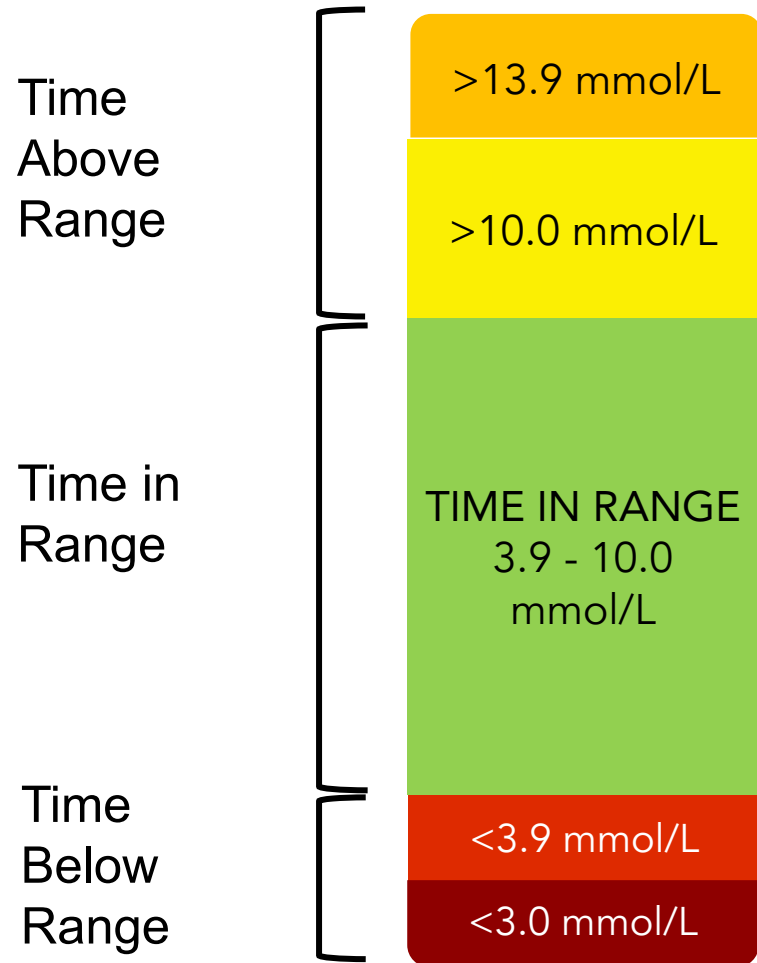
SETTING THE RIGHT EXPECTATIONS

- Two different types of body fluids: interstitial fluid (CGM) and blood (glucometer)
- Readings can be different and still be considered accurate

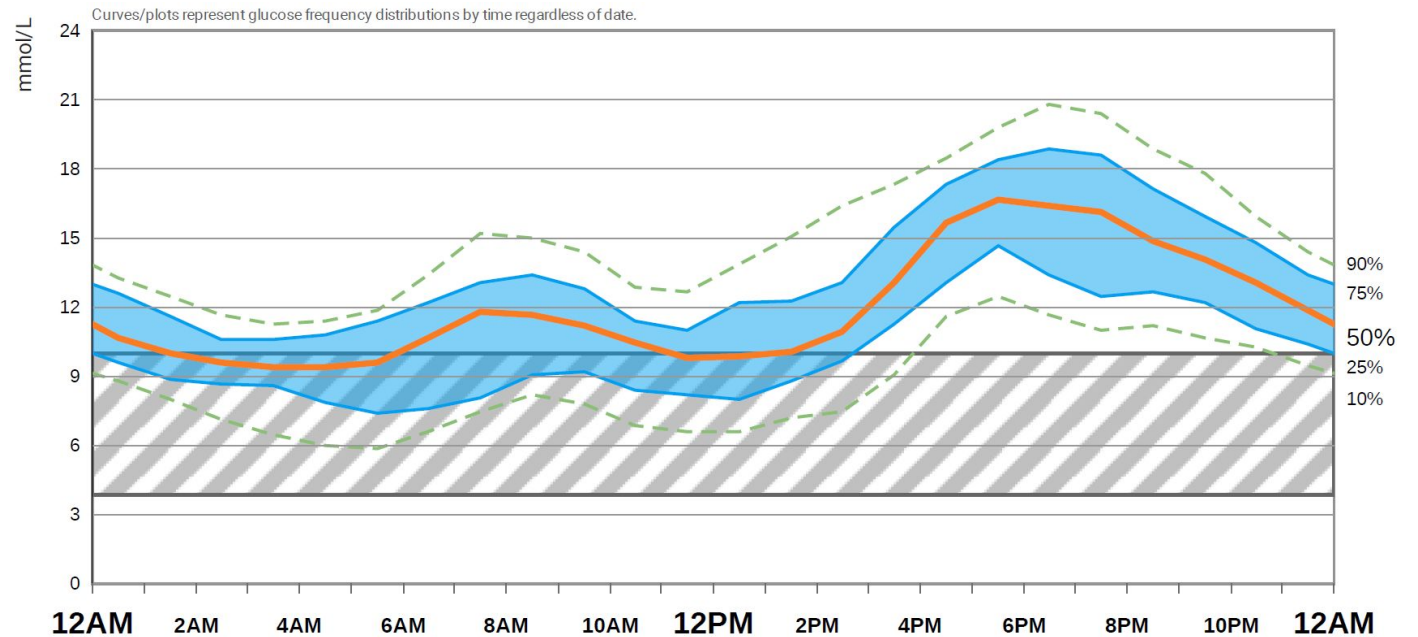


CGM, continuous glucose monitoring
Images provided for illustration purposes only.

TIME IN RANGE¹



AMBULATORY GLUCOSE PROFILE



Images provided for illustration purposes only.

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

AGP INTERPRETATION¹

Dexcom

capturAGP[®]

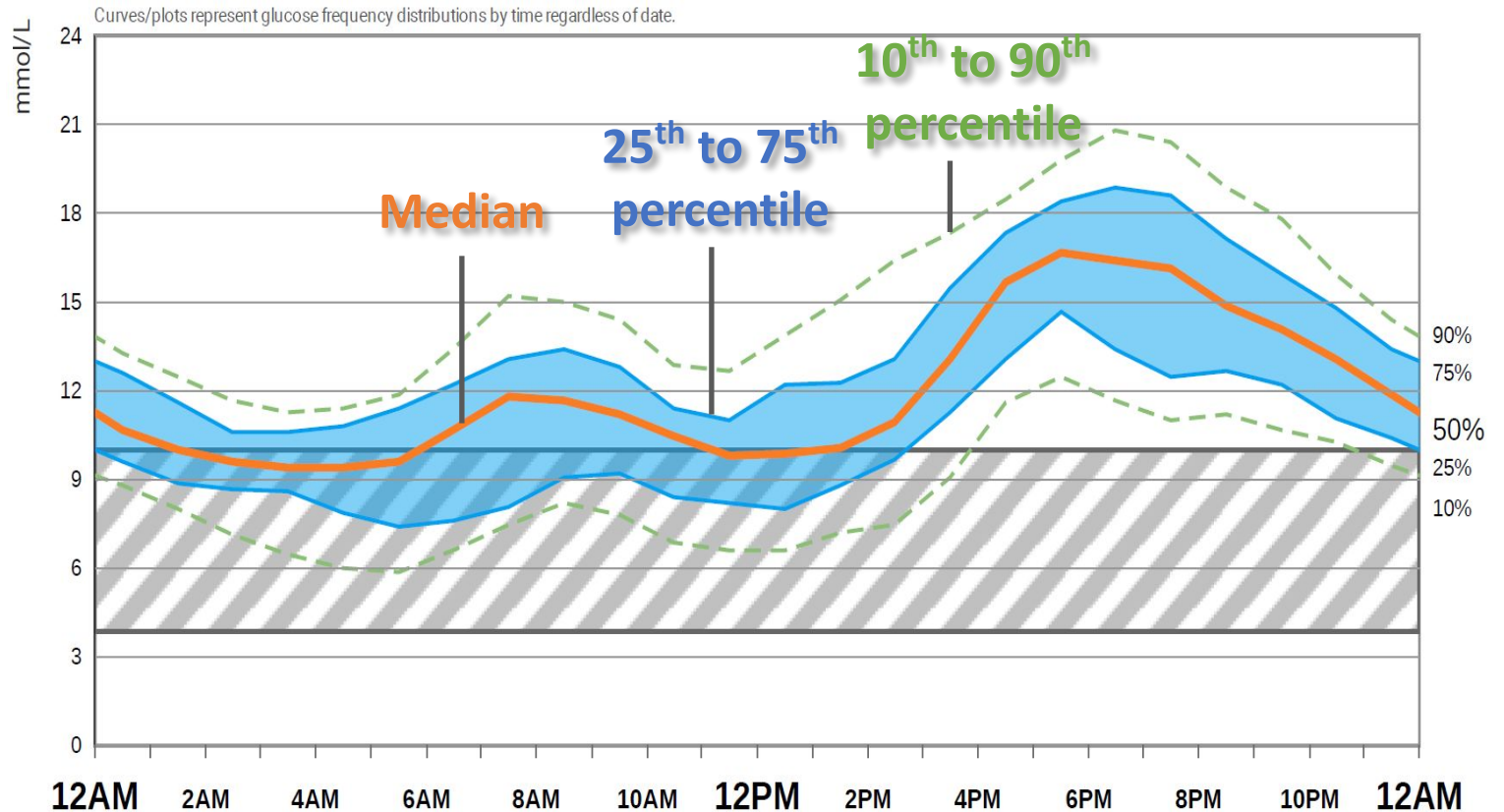
Glucose Statistics		Glucose Ranges					Glucose Variability		Data Sufficiency
Avg Glucose mmol/L	Estimated HbA1c	Very Low	Low	In Target Range	High	Very High	Coefficient of Variation	SD mmol/L	% Time CGM Active
9.2	7.4%	< 3.0 mmol/L 0.2%	< 3.9 mmol/L 2.2%	3.9 - 10.0 mmol/L 60.8%	> 10.0 mmol/L 37.1%	> 13.9 mmol/L 11.2%	37.4%	3.4	95.6%
Glucose Exposure							Glucose Variability		Data Sufficiency

STEP 1: Lows?

STEP 2: Median line in range?

STEP 3: Shape of the line?

STEP 4: How wide is the shaded area?

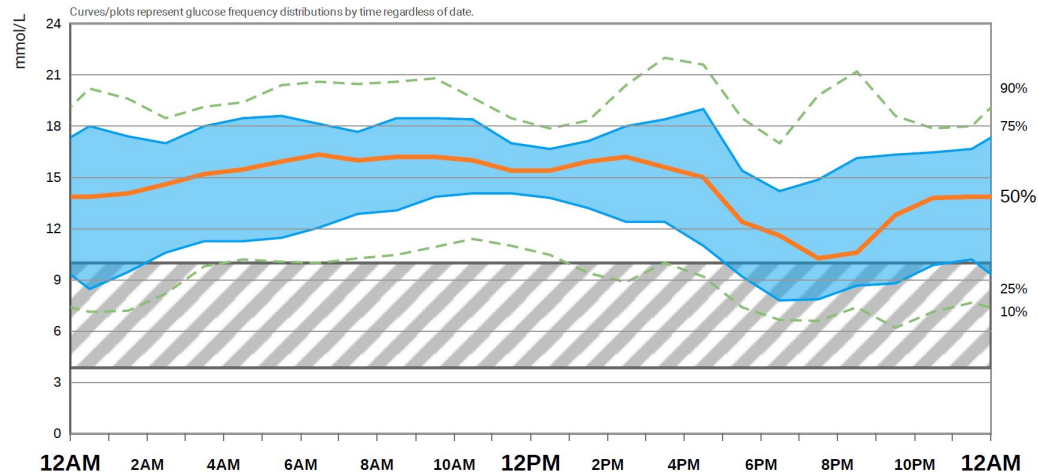


AGP, ambulatory glucose profile. Dexcom CLARITY Images provided for illustration purposes only.

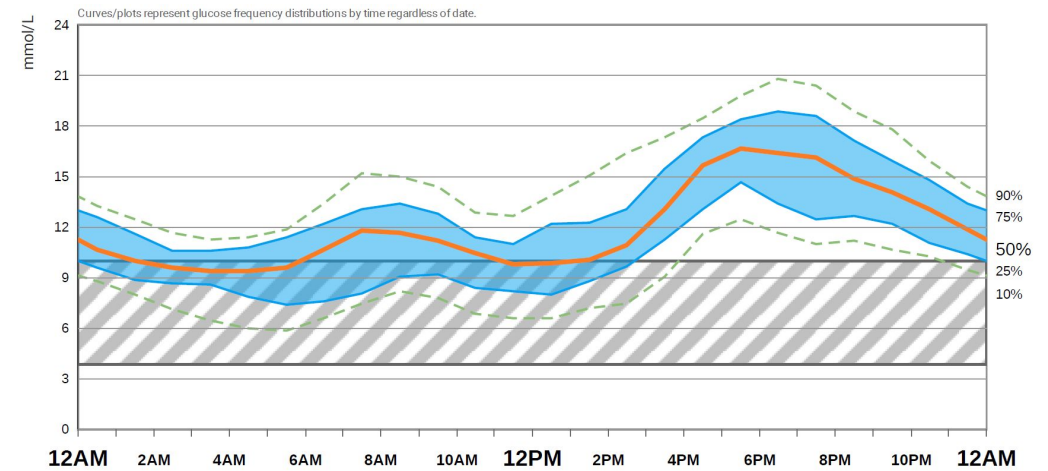
¹ Dunn TC et al. *J Diabetes Sci Technol* 2014;8(4):720-730.

WHAT AGP PROFILE ARE WE STRIVING FOR?¹

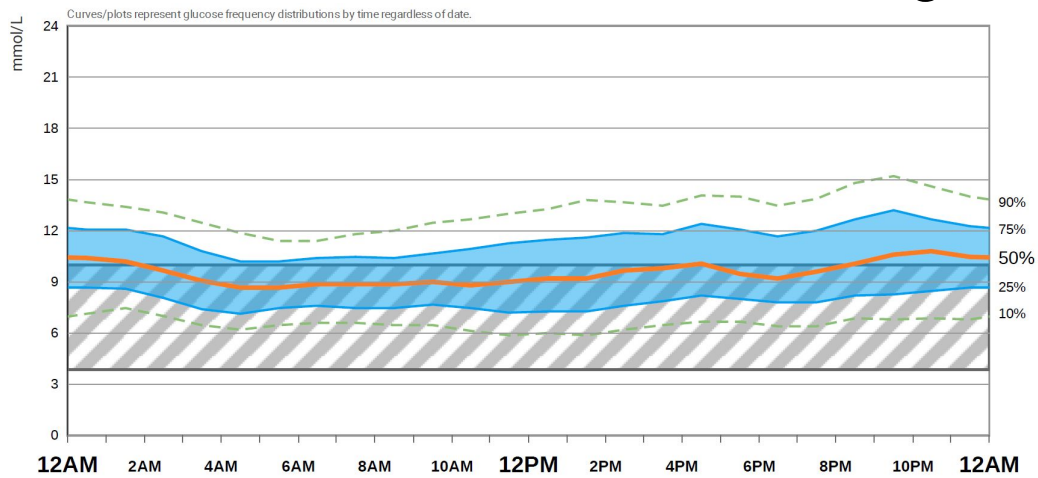
FNIR= Flat, Narrow, In Range



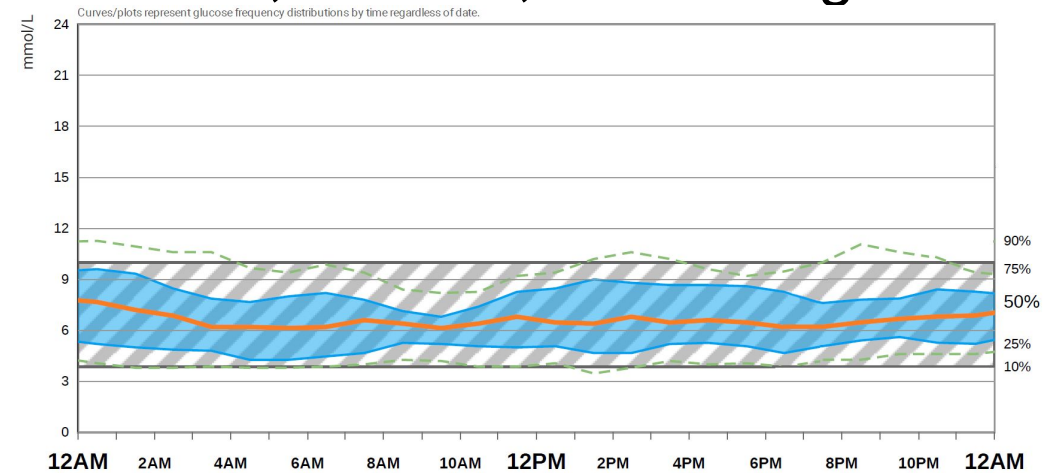
Not flat, not narrow, not in range



Not flat, **narrow**, not in range

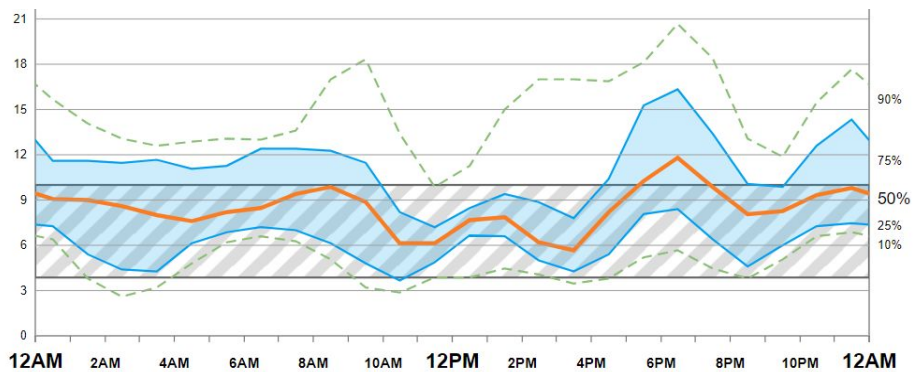
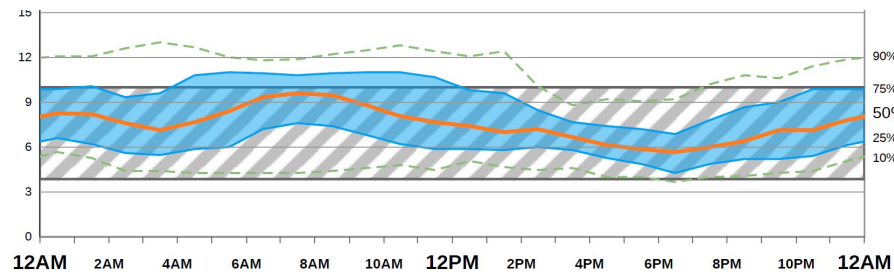
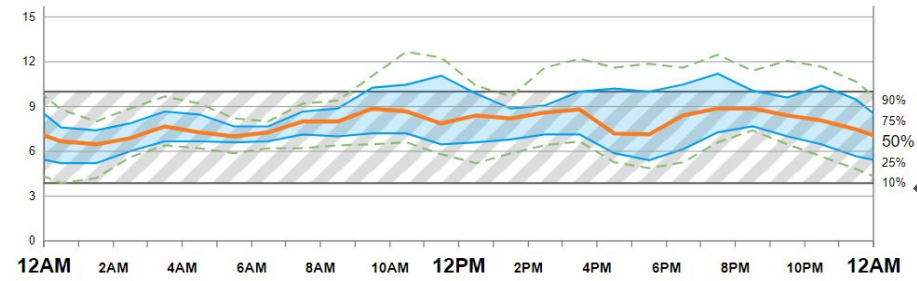


Flat, narrow, not in range



Flat, narrow, and in range

EVALUATING GLYCEMIC CONTROL: CGM METRICS OR A1C?



A1C	% Time Hypoglycemia	Glycemic Variability	% TIR
(%)	< 3.9 mmol/L	(CV %)	3.9 – 10.0 mmol/L

6.7

1

28

81

6.7

5
(1.2hrs)

37

69

6.7

10
(2.4hrs)

45

57



CLARITY FOR PATIENTS AND CLINICIANS

Dexcom CLARITY

Welcome to Dexcom CLARITY diabetes management application

Upload glucose data from a Dexcom CGM device and then view statistics and day-by-day data and then email them to your healthcare provider's webpage.

Home User

Connect your Dexcom receiver to upload and view glucose data in the way that works best for you. Then, with a few clicks, you can save, print or email your data reports.

[Dexcom CLARITY for Home Users](#)

English

Dexcom CLARITY Patients Staff Settings Manage Receiver Anonymous Upload Support

Search by last name or Patient ID [Add new patient](#) [Export all data](#)

PATIENT NAME	DOB	PATIENT ID	LAST UPLOADED	DATA SHARING
[blurred]	[blurred]	[blurred]	[blurred]	[blurred]
[blurred]	[blurred]	[blurred]	[blurred]	[blurred]
[blurred]	[blurred]	[blurred]	[blurred]	[blurred]
[blurred]	[blurred]	[blurred]	[blurred]	[blurred]

[Delete](#) [Edit](#) [Export](#) [Stop sharing data](#)

Save or print report

Primary date range to display:

14 Days Fri Mar 26, 2021 - Thu Apr 8, 2021

Report sections to display:

- Overview
- Patterns
- Overlay
- Daily
- Compare
- Daily Statistics
- Hourly Statistics
- AGP

[Save as PDF](#) [Print report](#) [Cancel](#)

Dexcom CLARITY accessible at clarity.dexcom.eu
Images for illustration purposes only. https://bit.ly/NS_BCD

BCD Clinic Team



increase ICR & ISR by 10%

text to patient email to caregiver

CGM report type [↗](#)

none daily weekly 6 month/custom

CGM start date: 21/06/2021 start time: 00:00 CGM end date: 22/06/2021 end time: 20:50 units: mmol glucose charts: distribution percentile day to day



Range	% of Readings	# of Readings	Average	Median	Std.Deviation	A1c Est*
Low < 4	0%	0	N/A	N/A	N/A	-
Normal	56.3%	278	6.5	6.7	0.8	-
High > 8	43.7%	216	10.8	10.9	2.3	-
Overall	100%	494	8.5	7.6	2.7	6.9%

* This is only a rough estimation that can be very inaccurate and does not replace actual blood testing. The formula used is taken from: Nathan, David M., et al. "Translating the A1C assay into estimated average glucose values." Diabetes care 31.8 (2008): 1473-1478.



JOSEPH

55 year old assembly line worker **with Type 2** diabetes x 10 years

- Tests FBS~ 1x/day (4.9 - 11.3 mmol/L) and adjust insulin dose by 4u weekly
- Occasionally tests more often and finds his readings inconsistent
- Finds fingerpicks very painful and inconvenient, especially at work
- History of infrequent hypoglycemia and associated symptoms

Current meds:

- Metformin 1g bid, Empagliflozin 25mg daily
- Semaglutide 1mg weekly, Degludec 48u qhs
- Atorvastatin 20mg daily
- Perindopril 8mg daily

Most recent labs:

- A1c: 7.8%
- eGFR 55
- ACR 3.2
- LDL 1.64

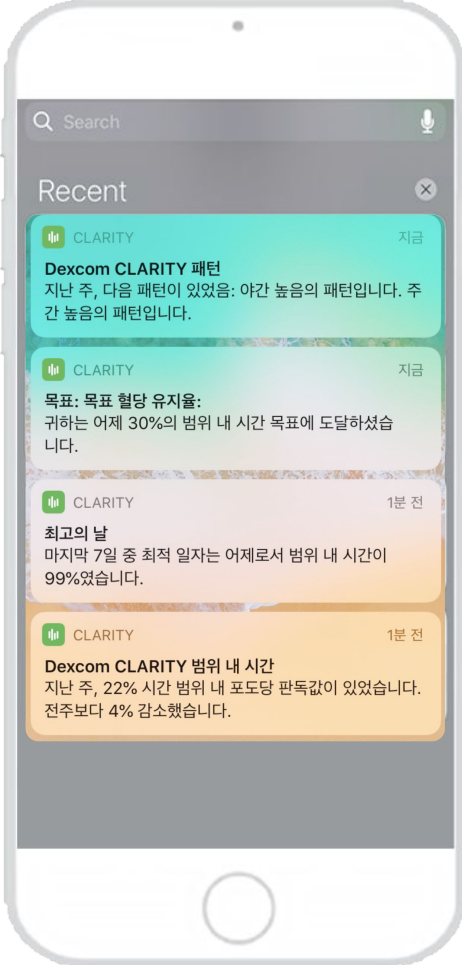
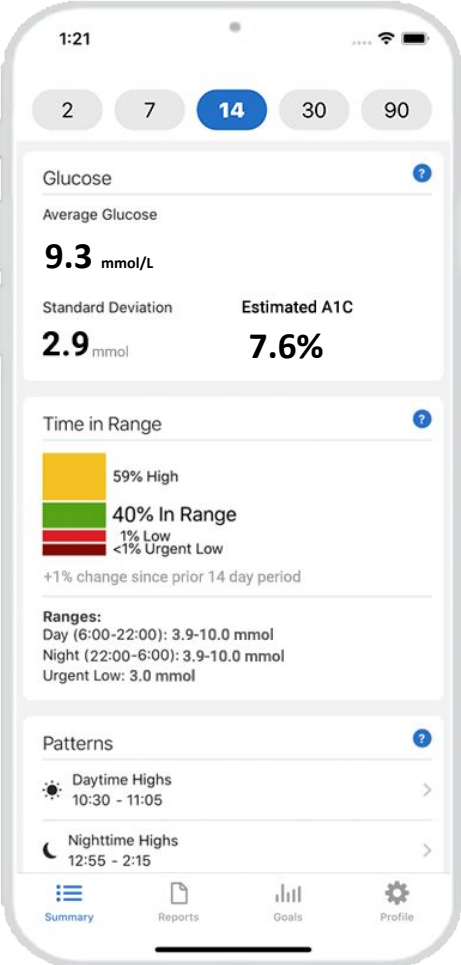
Vitals:

- BP 129/83
- HR: 84
- BMI 32

**Joseph is frustrated as he is following directions but his A1c remains high
What do we tell him?**

JOSEPH STARTS A GLUCOSE SENSOR

Joseph can see the results of his efforts and take action between health care visits



Images provided for illustration purposes only.

CLARITY is available in over 20 languages: Dansk, Deutsch, English, Español, Français, Français (CA), Italiano, Magyar, Nederlands, Norsk (bokmål), Polski, Português, Slovenčina, Slovenščina, Suomi, Svenska, Türkçe, Čeština, العربية, עברית, 한국어.

JOSEPH STARTED DEXCOM G6 A MONTH AGO

Dexcom

captur**AGP**[®] ?

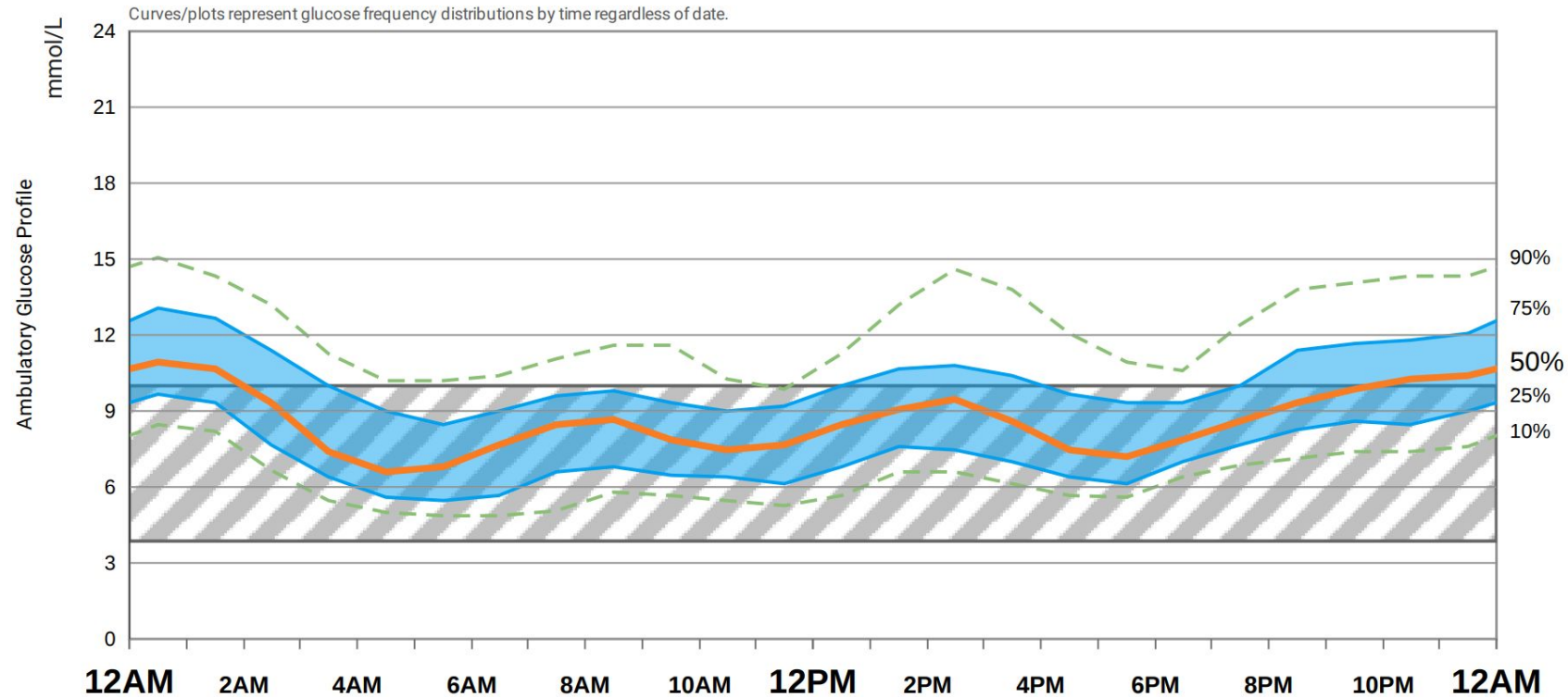
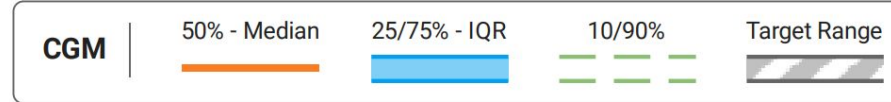
Fri Oct 2, 2020 - Thu Oct 15, 2020 (13.5 days)

Glucose Statistics	Avg Glucose mmol/L	Estimated HbA1c
	8.9	7.2%
	Glucose Exposure	

Very Low	Low	In Target Range	High	Very High
< 3.0 mmol/L	< 3.9 mmol/L	3.9 - 10.0 mmol/L	> 10.0 mmol/L	> 13.9 mmol/L
0.0%	0.2%	69.9%	30.0%	5.5%
Glucose Ranges				

Coefficient of Variation	SD mmol/L
29.8%	2.7
Glucose Variability	

% Time CGM Active
99.0%
Data Sufficiency



- Hypoglycemia?
- Are the readings within target range?
- What are the measures of glycemic variability?
- What is the shape of the median curve?

What do we advise Joseph?

Images for illustration purposes only.

SANDEEP

58 year old **with Type 2** diabetes x 15 yrs

- On **ODSP** for physical disability from a workplace injury 20 yrs ago. He relies on spouse for several ADLs and DM management.
- Monitors blood glucose approx. 1-3x/day. Knows he should test more often but “hates it”.
- Experiences hypoglycemia regularly but denies a recent episode requiring 3rd party assistance.
- Regular follow up with CDEs at diabetes program. No follow up with endocrinologist in 5 years.

Current meds:

- Janumet XR 50/1000 bid, Empagliflozin 25 mg daily
- Glargine U300 60u qam, Aspart 12acB, 15acL, 20 acD
- atorvastatin 20mg daily, perindopril 8mg daily
- Pregabalin 100mg tid, ASA 81mg once daily, HCTZ 25mg bid

Most recent labs:

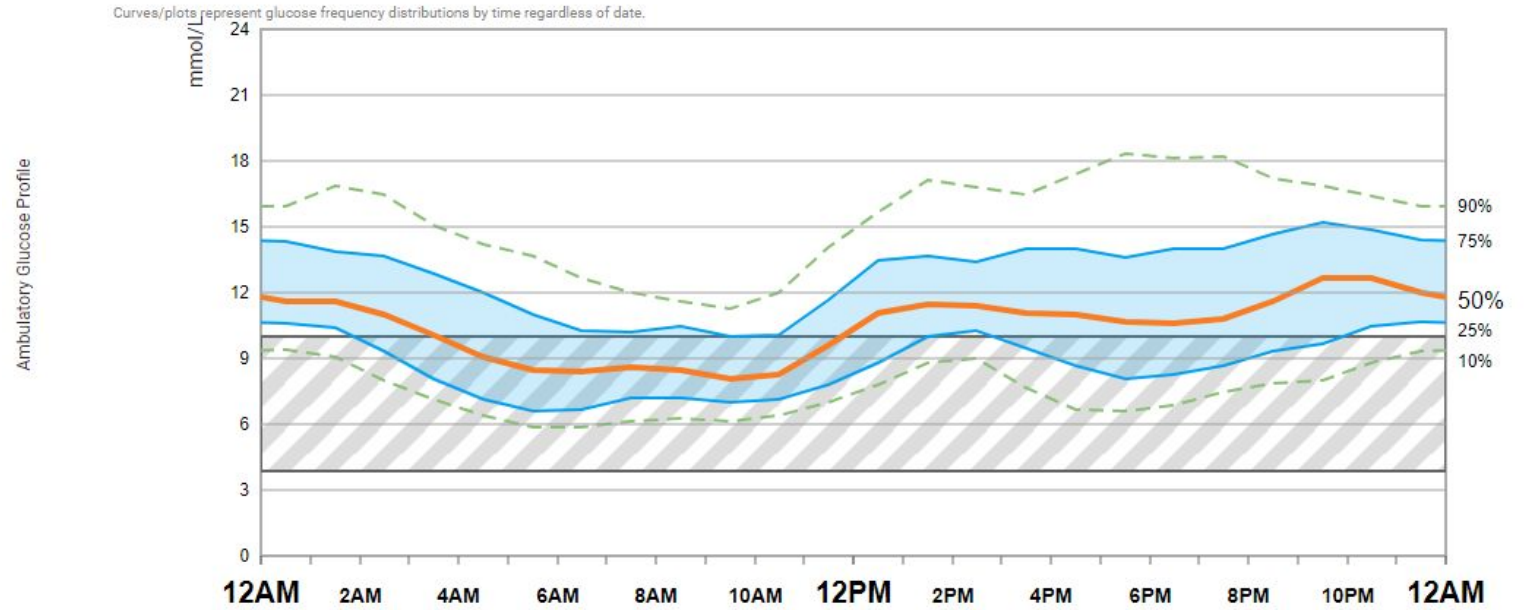
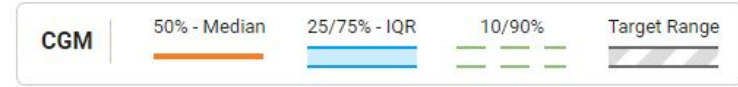
- A1c: 8.6%
- eGFR 53
- ACR 4.2
- LDL 1.83

Vitals:

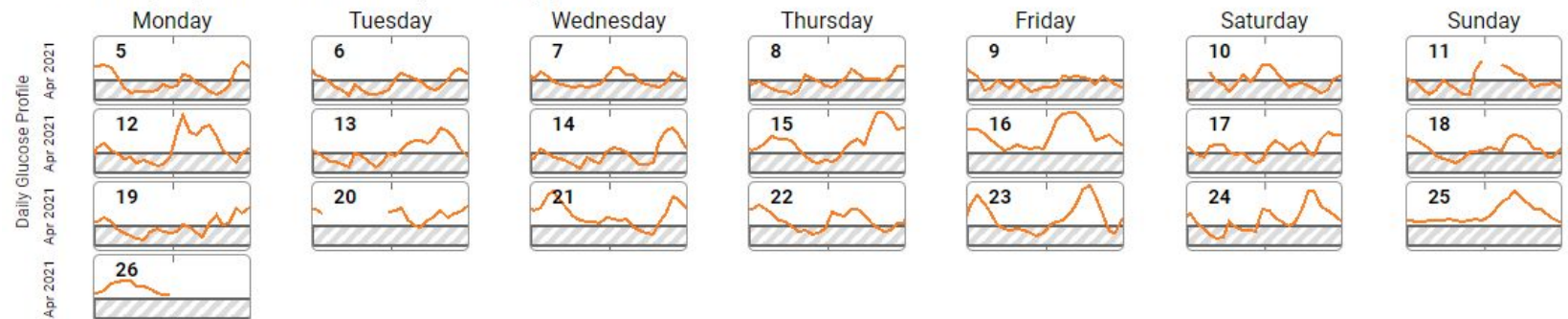
- BP 132/87
- HR: 79
- BMI 33.5

What do we advise?

SANDEEP STARTED DEXCOM G6 A MONTH AGO



The Y axis and target range are the same as on the Ambulatory Glucose Profile graph above.



- Hypoglycemia?
- Are the readings within target range?
- What are the measures of glycemic variability?
- What is the shape of the median curve?

Next steps?

Images for illustration purposes only.

SUMMARY

Real-time continuous glucose sensors in primary care

1

Glucose sensors provide a more complete picture of glycemic control for patients and clinicians compared to fingersticks

2

Real-time CGM can assist with Diabetes engagement and behavioral modification

3

Patients on insulin therapy and those with hypoglycemia unawareness can benefit clinically from hypoglycemia predictive alert

The Dexcom G6 Continuous Glucose Monitoring (CGM) System is now covered through BC PharmaCare under Fair PharmaCare, Plan C or Plan W.

Eligible patients must be residents of British Columbia, 2 years of age and older who live with diabetes mellitus (DM) and meet the following criteria:

1. Requires multiple daily injections of insulin¹ or insulin pump therapy as part of intensive insulin therapy, **AND**
2. The patient/family/caregiver agrees to comprehensive and age-appropriate diabetes education by an interdisciplinary diabetes healthcare team and commits to regular follow-up, **AND**
3. The patient has one of the following:
 - Hypoglycemia unawareness², **OR**
 - Frequent and unpredictable hypoglycemic episodes³, **OR**
 - Unpredictable swings in blood glucose⁴, **OR**
 - At least one functional restriction that inhibits the use of blood glucose test strips (BGTS) (e.g., dexterity, mobility, dermatological problems), **OR**
 - An occupation where hypoglycemia presents a significant safety risk (e.g., pilots, air traffic controllers, commercial drivers).

For a complete description of coverage criteria, please visit: <https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/pharmacare/prescribers/special-authority/special-authority-request-forms-drugs-medical-devices-and-supplies>

¹ Multiple daily injections of insulin is defined as 1 (or more) injection(s) of basal insulin and three (or more) injections of bolus insulin, with a minimum of at least 4 total insulin injections per day.

² Hypoglycemia unawareness is defined as the inability of a patient to recognize or communicate early symptoms of hypoglycemia resulting in the inability to take corrective action to prevent severe hypoglycemic episodes.

³ Frequent hypoglycemic episodes are defined as greater than 3 episodes per week. Unpredictable hypoglycemic episodes are defined as those that are not associated with predictable causes (e.g., physical activity, reduced food intake, acute illness, medication dosing errors).

⁴ Unpredictable swings in blood glucose is defined as variability in blood glucose levels of less than 4 mmol/L and/or greater than 10 mmol/L throughout the day that are not associated with a predictable cause (e.g., physical activity, food intake, acute illness, medication dosing errors).

How do patients get coverage?

Patients should first contact their primary care provider or endocrinologist to initiate the BC PharmaCare [Special Authority approval process](#) and receive a written prescription. If their approval is successful, their future Dexcom purchases will need to be made at their local pharmacy.

What are the next steps for the patient?

Once the Special Authority application has been submitted, approval may take up to 3-4 weeks. Patients should confirm that the request has been approved before bringing their prescription to their local pharmacy. Patients may call their prescriber or pharmacist to confirm, or call PharmaCare at 1-800-663-7100 (toll-free) or 604-683-7151 (from the Lower Mainland).

When presenting their prescription at the pharmacy, the pharmacist will submit their coverage claim to BC PharmaCare and, when needed, coordinate coverage between BC Pharmacare and private insurance.

Please be aware that BC PharmaCare will not retroactively reimburse patients for benefits purchased before approval of a Special Authority request.