

# Saginaw Chippewa's Continuous Glucose Monitors (CGMs) and Insulin Pump Therapy Overview

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Saginaw Chippewa Indian Tribe  
Nimkee Memorial Wellness  
Center

Centrally located in the lower  
peninsula of Michigan



# Nimkee Diabetes Program

- Nimkee Diabetes Program- 3 staff to serve patient community
- Diabetes Clinic offered 5 days per week
  - a. Annual diabetes education
  - b. Diabetes follow up
  - c. CGM and Insulin Pump
  - d. Prediabetes
- JVN and foot exam clinic offered 5 days per week

# What drives use of CGM at Nimkee Clinic?

## Clinical:

- Frequent low glucose
- Frequent high glucose
- Real time information to help drive medication and/or lifestyle changes for glucose control
- Referral from PCP

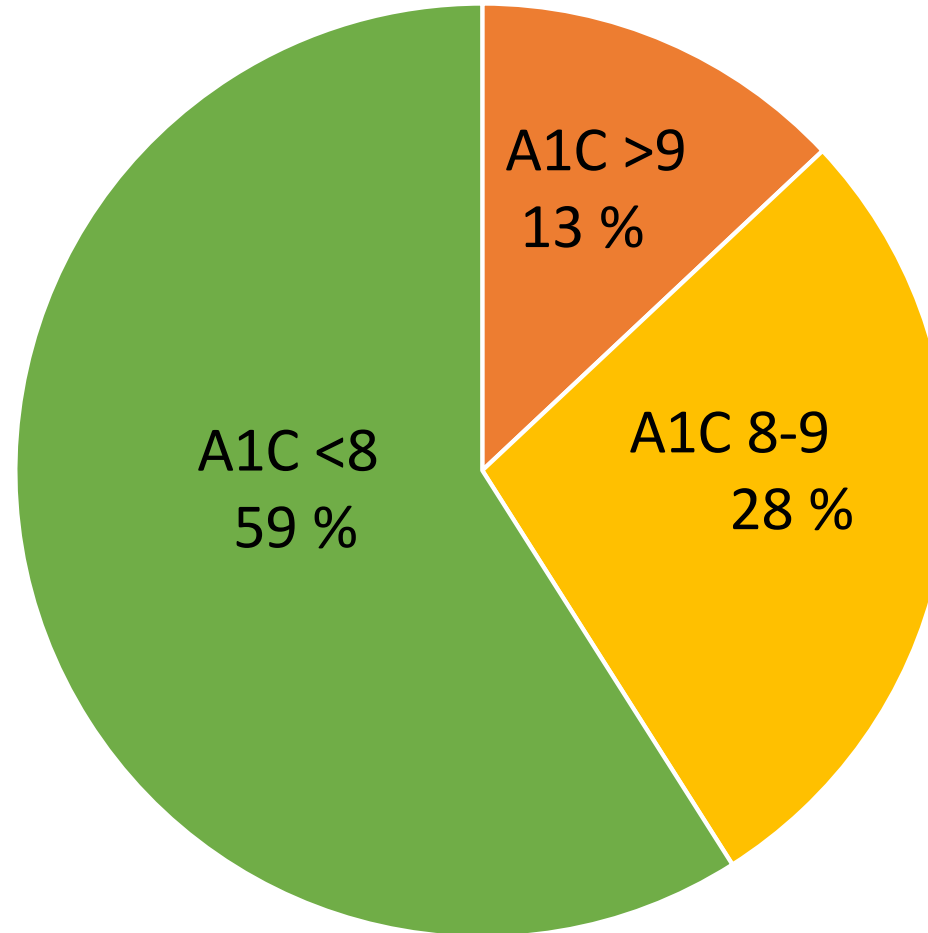
## Patients:

- Family member or friend uses CGM
- Patient aversion to finger pokes for blood glucose monitoring
- Advertising on TV or social media

Current CGM patient total 69

A1C levels for CGM patients

A1C average for  
CGM patients 7.6



# What drives use of Insulin Pump Therapy at Nimkee Clinic?

## Clinical:

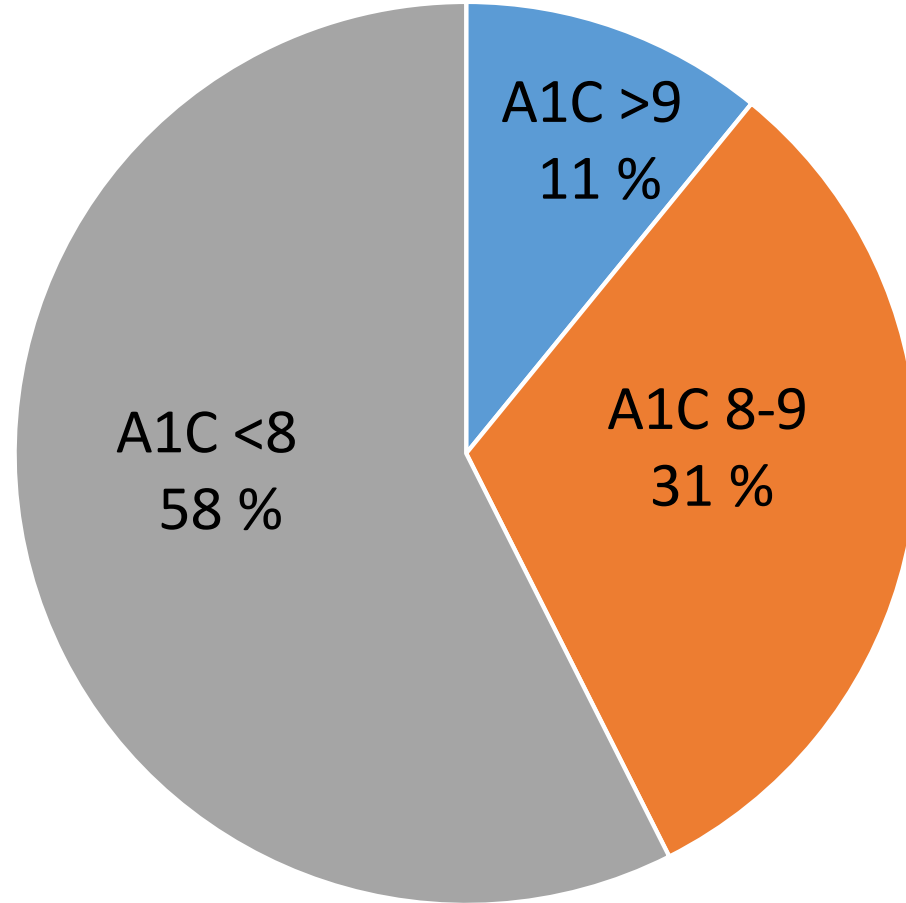
- High use of insulin
- Forgetting insulin doses
- Frequent low glucose
- Frequent high glucose

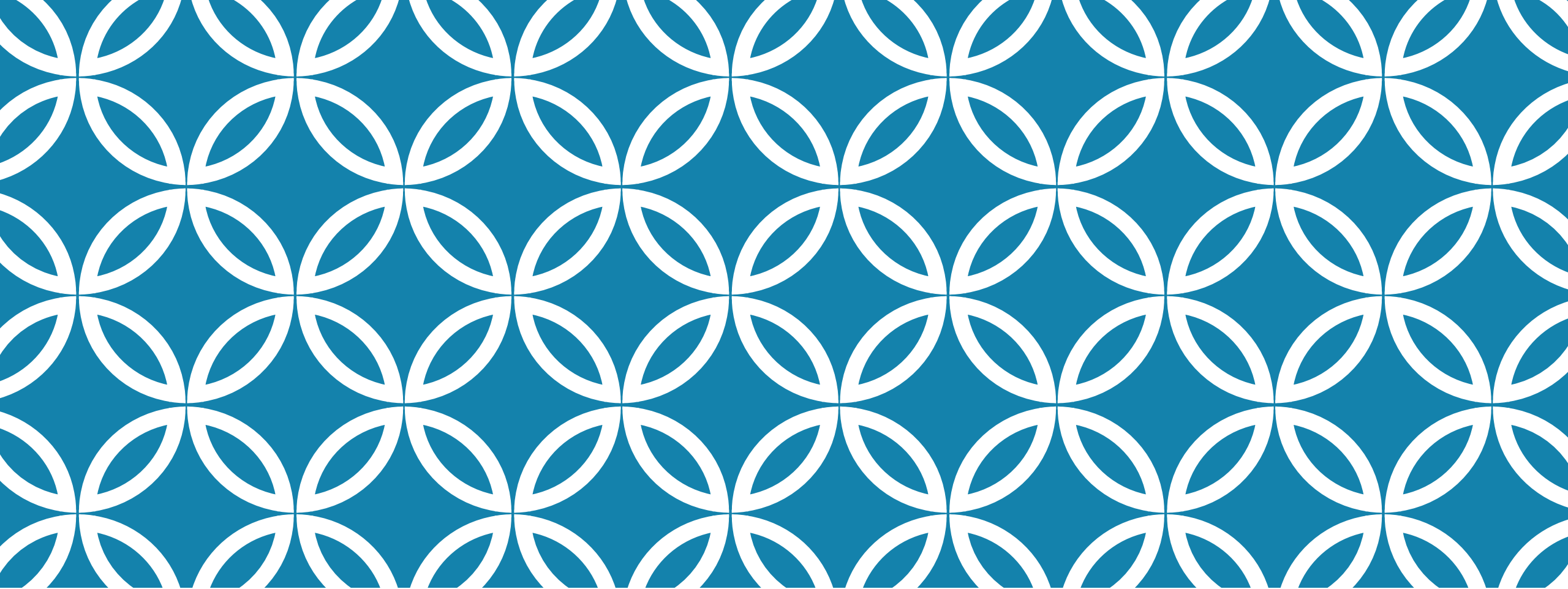
## Patient:

- Advertising on TV or social media
- Family or friends use an insulin pump

### A1C levels for Insulin Pump patients

Average A1C for  
pump patients  
7.8 %





# CONTINUOUS GLUCOSE MONITOR AND INSULIN PUMP USE AT SCIT/NIMKEE CLINIC

Why and How?



# WHAT IS THE DIFFERENCE IN CGM AND INSULIN PUMP THERAPY?

**Continuous Glucose Monitoring** is the use of a subcutaneous device used to give real-time glucose levels in the interstitial fluid.

Continuous subcutaneous insulin infusion (CSII), commonly referred to as **insulin pump therapy**, delivers rapid-active insulin through a small catheter inserted into the subcutaneous tissue. It can give insulin continuously throughout the day and night (basal) and one-time doses of insulin for meals or high glucose correction (bolus).



# Continuous glucose monitoring (CGM)

FreeStyle Libre

Dexcom

# Continuous glucose monitors

- A wearable sensor that automatically measures the amount of glucose in intestinal fluid.
- Delivers readings all day and night compared to self-monitoring blood glucose finger-sticks that reveal glucose values at a particular point in time.
- Nurses play an important role in providing education to people with diabetes and highlighting the importance of CGM
- Blood glucose self-monitoring helps patients understand the interrelationships among food, activity and medication to achieve their glycemic targets. Since early 2000s, CGM revolutionized home monitoring.
- The American Association of Clinical Endocrinology (AACE) and The American Diabetes Association (ADA) recommend CGMs for all patients who administer multiple injections of insulin per day or use an insulin pump to quickly assess glycemic patterns to prevent hypoglycemia and also to capture information that helps providers create treatment plans based on real-time glucose results.

# Continuous Glucose Monitoring

## What is a Continuous Glucose Monitor?

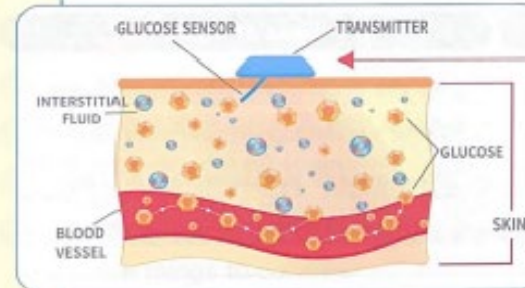
Continuous glucose monitors (CGMs) are devices you wear that give you minute-by-minute readings on how glucose (sugar) levels are going up and down. CGMs have alarms to alert you if your sugar goes too high or too low.

CGMs help you understand how diabetes medications (especially insulin), food, exercise, stress, and sick days affect your blood sugar. Understanding your blood sugar patterns may make it easier to reach your target A1c.

## How does a CGM work?

### Sensor

The CGM sensor is disposable. It uses a thin flexible material, called a filament, to measure sugar in the fluid under your skin. It is held on by an adhesive, allowing you to shower or swim. Most sensors last 10-14 days.



### Transmitter

The transmitter is attached to the sensor and sends sugar values to the reader or a smart phone with a CGM application. Using a wireless connection CGMs transmit values every 1-5 minutes.

### Reader

A reader displays your sugar levels throughout the day. It is a device about the size of a cell phone. You may be able to view and share the information with those you authorize, such as a family member or your health care provider.

# How does CGM work?



# CGM vs. Finger-stick Blood Glucose Readings

Think of a roller-coaster

BG in front, cgm in the back

Finger-stick glucose required for treatment decisions if symptoms or expectations do not match readings of cgm



# Professional vs. personal CGM

## **Professional**

- Owned by the healthcare practice for professional use.
- Worn by the patient for a short period, usually 7-14 days.
- Most are “blinded”, the patient has no interaction with the sensor.
- After wearing the device they return to the office and data is uploaded to an on-line program to be reviewed.
- Patient and provider/nurse discuss needed changes in medications and/or lifestyle to achieve glycemic goals.

## **Personal**

- Purchased by patient or covered by insurance.
- Allows patients to see and respond quickly to prevent both hypoglycemic and hyperglycemic events.
- Permits informed decisions about insulin doses and self-management.
- Glucose readings and trend arrows provide information about glucose highs and lows to assist in problem-solving related to meals, physical activity and illness.
- Patients can share data remotely with healthcare providers and some can share with family, caregivers, etc

# FreeStyle Libre

## Libre14-day (Flash Sensor)

- Age 18 and older.
- It is designed to replace blood glucose testing for diabetes treatment decisions.
- Patient must swipe or scan the receiver over the sensor to obtain reading.
- Now has real-time glucose high and low alarms



## Libre2

- 14 day wear duration.
- Can be used by children age 4 and older.
- Optional, real-time glucose high and low alarms
- Taking more than 500 mg of Vitamin C per day may affect Sensor readings, which could cause missed severe low glucose event.

# FreeStyle Libre

## Libre3

- The most accurate 14-day CGM system
- The world's smallest, thinnest and most discreet sensor (so far)
- Optional, real-time high and low alarms.
- The most affordable CGM system, even without insurance coverage
- Allows family members, caregivers to also view glucose readings, if using compatible smart phone
- Do not need to scan to record glucose levels.





# AGP Report

The Ambulatory Glucose Profile (AGP) is an American Association of Clinical Endocrinologists (AACE)-recommended standardized report for CGM interpretation created by the International Diabetes Center (IDC).

- AGP targets cannot be changed, but you can change target goals in settings and view on a separate report.
- Target goals will be different for pregnancy, elderly, other factors. (live alone, fall risk, elderly, other illness).

## AGP Report

December 7, 2019 - December 20, 2019 (14 Days)



### GLUCOSE STATISTICS AND TARGETS

December 7, 2019 - December 20, 2019      14 Days  
% Time CGM is Active      97%

Ranges And Targets For		Type 1 or Type 2 Diabetes
<b>Glucose Ranges</b>		<b>Targets</b> % of Readings (Time/Day)
Target Range 70-180mg/dL		Greater than 70% (10h 40min)
Below 70 mg/dL		Less than 4% (57min)
Below 54 mg/dL		Less than 1% (14min)
Above 180 mg/dL		Less than 25% (6h 0min)
Above 250 mg/dL		Less than 5% (1h 12min)

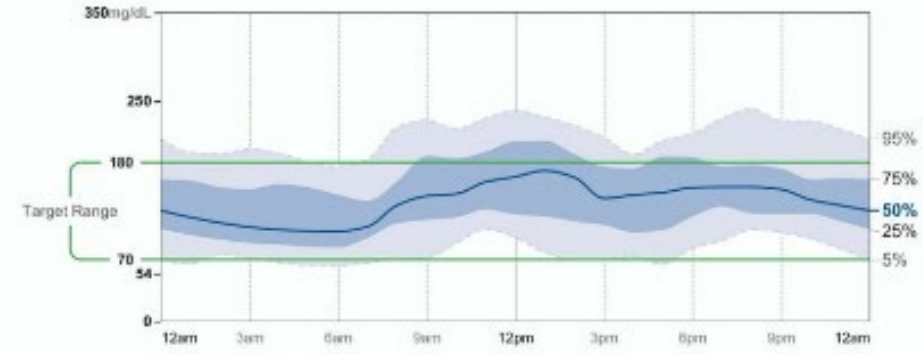
Each 5% increase in time in range (70-180 mg/dL) is clinically beneficial.  
**Average Glucose**      141 mg/dL  
**Glucose Management Indicator (GMI)**      6.7 %  
**Glucose Variability**      31.6%  
Defined as percent coefficient of variation (%CV); target ≤36%

### TIME IN RANGES



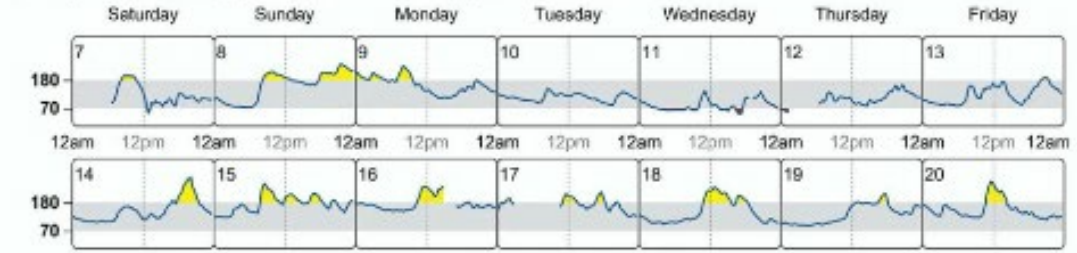
### AMBULATORY GLUCOSE PROFILE (AGP)

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 its date displayed in the upper left corner.



Source: Parkin, Taday, et al. "Clinical Targets for Continuous Glucose Monitoring Data Interpretation: Recommendations From the International Consensus on Time in Range." *Diabetes Care*, American Diabetes Association, 2019.

# Abbott DM Pharmacy

## Patient

- Patient can get free sensor to try.
- My First Style Program and answer questions.
- If Medicare or Medicaid will get a voucher.
- My First Style Program has videos to get started and follow up.
- If patient doesn't qualify for sensor, patients can buy at IHS price of \$57.77 each. Normally around \$75 or more.

## Professional/Clinic

- IHS site, \$57.77 each sensor. Can get either Libre2 or 3 sensors for clinic. Can also buy readers for clinic use.
- Place on patient for 2 weeks to assess DM management and make treatment adjustments and to see if patient likes and wants to continue.
- 855-632-8658. Call to get connected with your representative for your facility.
- <https://www.freestyle.abbott/us-en/support/contact-us.html>

# Abbott DM Pharmacy

**FreeStyle Libre 2 Demo Kits are now available for you to use as a training tool. The Demo Kit comes in a compact case with a Reader, a demo Sensor, an uploading cable/charger, and a charging block.**

**The Demo Kit demonstrates how the FSL2 Reader works and how to scan the Sensor. Once scanned, the FSL2 Sensor is already connected to the FSL2 Reader and will give random Sensor Glucose readings (normal, high, low) to demonstrate how the alarms work.**

**Guidelines for distributing and shipping the Demo Kit:**

**One Demo kit per provider (CDE, Nurse, PA, MA, PharmD, Doctor, or anyone who trains CGM) per shipment. For example, if you have three providers within the same address, I must place three separate orders.**



Free Trial\*

Get A Free\* Trial With The MyFreeStyle Program

How To Set Up

How To Use

## Free guided support program

The MyFreeStyle program is here to help you with your diabetes management, and you may qualify for a free\* sensor.

Join today to get personalized resources

- Instructions for applying, starting, and monitoring your sensor readings on your smartphone<sup>SM</sup>
- Insights on how food and exercise affect glucose levels
- Advice for tracking your progress so you can celebrate your wins



MyFreeStyle Program Overview



Copy link

# MyFreeStyle



## PROGRAM OVERVIEW

Watch on YouTube

# dexcom

## Dexcom G6

- Tracks glucose levels every 5 minutes throughout the day. The system is made up of a sensor, transmitter, and receiver.
- Insert the sensor on skin areas, such as the back of the upper arm or belly.
- Each sensor can be worn up to 10 days, then must be replaced after that.
- Allows family members, caregivers to also view glucose readings, if using compatible smart phone
- “Talks” with OmniPod5 insulin pump.



# dexcom

## Dexcom G7

- Streamlined all-in-one sensor with built in disposable transmitter
- Shorter warmup — less than 30 minutes
- Extra 12-hour grace period at the end of the sensor session.
- Smaller sensor and shorter sensor wire for comfort
- Patch is smaller — half the size of G6
- Overpatch comes with each sensor. Must use it to keep the sensor secure.



## AGP Report

The Ambulatory Glucose Profile (AGP) is an American Association of Clinical Endocrinologists (AAACE)-recommended standardized report for CGM interpretation created by the International Diabetes Center (IDC). This report shows three distinct sections that:

- 1 Summarize glucose values to help assess the overall quality of glucose control.
- 2 Show variability around the mean glucose and patterned areas of highs and lows.
- 3 Show single-day glucose values to help identify patterns and progress.

- AGP targets cannot be changed, but you can change target goals in settings and view on a separate report.
- Target goals will be different for pregnancy, elderly, other factors. (live along, fall risk, elderly, other illness)



# Dexcom G7 Samples

- Available from your Dexcom Rep
- Call (888)-489-0221 to request a visit from a Dexcom Representative.

A site training session for the Dexcom Continuous Glucose Monitoring (CGM) System is available at no cost to health care providers and their staff for clinics wanting to offer training to their patients.

Training sessions are conducted by a Dexcom employee or trained designee.

A certificate is issued to clinics that complete the following review:

- |  |   |
|--|---|
| •Indications for use and maintenance       | •Reordering process                       |
| •Dexcom G6 components, setup and operation | •Dexcom CARE and Global Service & Support |
| •Training materials                        | •Dexcom CLARITY                           |
| •Troubleshooting                           | •CGM coding and reimbursement guidelines  |
| •Patient product training documentation    | •Dexcom Share and Dexcom Follow           |
-



# Insurance coverage varies for cgm

## ■ Commercial Insurance

- May be able to obtain from Pharmacies with script.

## ■ Medicare and Medicaid require DME supplier.

- Requirements include:

1. ICD 10 code for DM
2. Sufficient training using CGM
3. CGM is prescribed in accordance with its FDA indications of use
4. Meet at least one of the following criteria:
  - A. Insulin treated; or
  - B. History of problematic hypoglycemia with documentation of at least one of the following:
    - recurrent (more than one) level 2 hypoglycemia events (glucose <54mg/dL that persists despite multiple attempts to adjust medications(s) and/or modify the diabetes treatment plan; or
    - a history of a level 3 hypoglycemia event (glucose <54mg/dL characterized by altered mental and/or physical states requiring third-part assistance for treatment of hypoglycemia
5. Within (6) months prior to ordering the CGM, the treating practitioner has an in-person or Medicare approved telehealth visit with the patient to evaluate their diabetes control and determined items 1-4 above are met

# Insurance required documentation

- Office visit for DM management within every 120 days.
- Documentation of CGM use.
- Sample of what we document:

“Pt continues to use CGM as part of DM management

Pt continues to check glucose with meals, hs and as needed to adjust meals, activity and insulin doses.

Pt denies skin redness, swelling or pain at sensor site

Pt denies problems removing old sensor, applying or activating new sensor every 14 (or 10) days.”

- Also add A1c test result in note, if improved, same, higher. Adding insulin change suggestions, lifestyle changes, etc.
- Cite into note medication list, problem list
- Add AGP report findings
- **Note must be signed by PCP, not nurse**. We send task to PCP with short summary of visit, ask them to review note and if agree with plan of care (including insulin adjustment, return visit, etc) to add notation and sign.

# Billing codes

Check with your coding staff for current codes they use

CPT Code	Definition	Medicare allowable (non-facility)	Who Bills
<b>95249</b> Personal CGM – Startup/Training	In this procedure, the provider measures the interstitial glucose levels at regular intervals via subcutaneously implanted sensors for a minimum of 72 hours. Use this code to report sensor placement, hook-up, monitor calibration, patient training, sensor removal, and recording printout. This code is used to report the service when the patient provides the equipment.	\$58.62	Physician, Advanced Practice HCP, or Institution (hospital outpatient department under OPPS)
<b>95250</b> Professional CGM – Startup/Training	In this procedure, interstitial glucose levels are measured at regular intervals via subcutaneously implanted sensors provided by physician or other qualified health care professional's office for a minimum of 72 hours. Use this code to report sensor placement, hook-up, monitor calibration, patient training, sensor removal, and recording printout. This code represents the technical component of the service only.	\$151.57	Qualified staff members under the supervision of a Physician or Advanced Practice HCP
<b>95251</b> CGM Interpretation	A provider analyzes and interprets data from a patient's continuous glucose monitor (CGM) and writes a report based on interpretation. This code represents the professional component of the service only.	\$35.30	Physician or Advanced Practice HCP

From Abbott Libre Site  
2022  
\*please check for  
updates\*

# Billing codes

Check with your coding staff  
for current codes  
they use  
\*please check for updates\*

## Dexcom

### 2023 Continuous Glucose Monitoring (CGM) CPT Coding Reference Chart

Refer to the chart below for CPT codes and frequently asked questions.

Codes and descriptions	Medicare physician office fee schedule <sup>1</sup>	Medicare outpatient diabetes center <sup>2</sup>	Private payer (2023 averages) <sup>3</sup>	Relative value unit (RVU) non-facility <sup>1</sup>
<b>CGM Services</b>				
<b>95249</b> Personal CGM - Startup/Training Ambulatory continuous glucose monitoring of interstitial tissue fluid via a subcutaneous sensor for a minimum of 72 hours; patient-provided equipment, sensor placement, hook-up, calibration of monitor, patient training, and printout of recording. <i>Bill only once during the time period that the patient owns the device.*</i>	\$61.67	\$57.48 APC 5733	\$130	1.82
<b>95250</b> Professional CGM Ambulatory continuous glucose monitoring of interstitial tissue fluid via a subcutaneous sensor for a minimum of 72 hours; physician or other qualified health care professional (office) provided equipment, sensor placement, hook-up, calibration of monitor, patient training, removal of sensor, and printout of recording. <i>Do not bill more than 1x/month.*</i>	\$147.07	\$120.86 APC 5012	\$320	4.34
<b>95251</b> CGM Interpretation Ambulatory continuous glucose monitoring of interstitial tissue fluid via a subcutaneous sensor for a minimum of 72 hours; analysis, interpretation and report. <i>Do not bill more than 1x/month.*</i>	\$34.56	Paid under physician fee schedule	\$98	1.02
<b>Evaluation and Management (E/M)</b>				
<b>99212-99215</b> For an established patient in non-facility or office setting. Appropriate code to be determined by the office.	\$56.93-\$179.94	–	\$99-\$316	1.68-5.31

Keep in mind that Medicare adjusts payment to physicians based on where the service is performed. There are 89 different fee schedule localities in the country and payments vary significantly. You can obtain the geographically adjusted payment rate for any code paid under the physician fee schedule through Medicare's [Physician Fee Schedule Lookup Tool](#).

These payment amounts do not reflect the impact of budget sequestration in Medicare.



Continuous subcutaneous insulin  
infusion (CSII)  
*insulin pump therapy*

# CCSI – Insulin Pump Therapy

- One of the most notable advancements in diabetes technology in the past 50 years.
- Since the conclusion of the Diabetes Control and Complications Trial (DCCT) in the early 1990's, insulin pump technology has advanced rapidly in an attempt to more closely mimic physiologic insulin secretion and help achieve tight glycemic control while minimizing the risk of hypoglycemia.
- Insulin pumps allow for more precise and flexible insulin doses with fewer injections.
- Many studies and reviews have demonstrated improved glycemic control and a reduction in hypoglycemia. Technology is evolving at an extraordinary rate, with new technologies becoming available every year.
- The integration of insulin pumps with CGM has drastically expanded the market with “smarter” pumps that suspend insulin for hypoglycemia and even automate insulin delivery to avoid hyperglycemia which lead the chronic long-term complications.

# CCSI – Insulin Pump Therapy

## COMMON MYTHS WITH INSULIN PUMP THERAPY

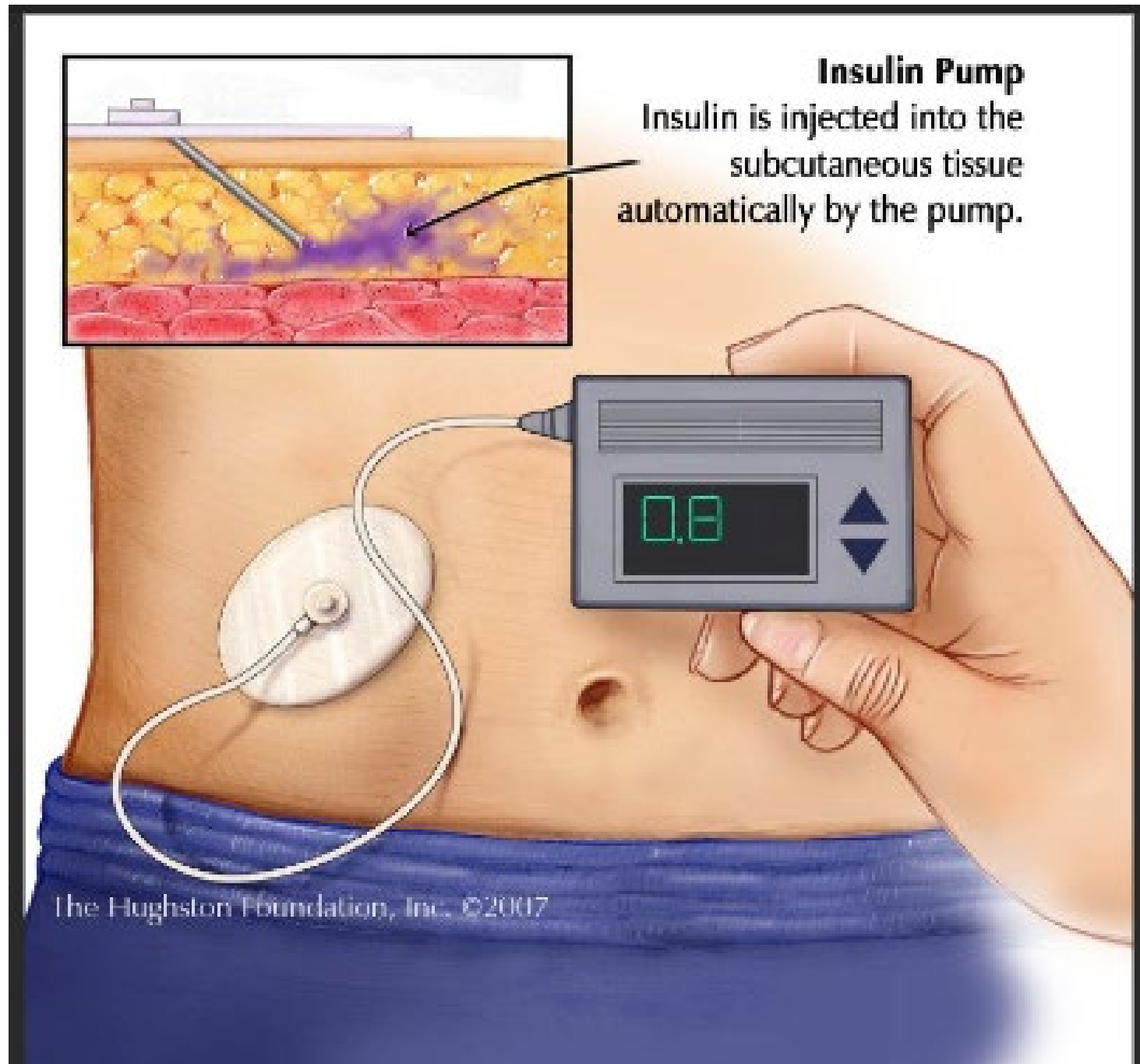
- Wearing an insulin pump is uncomfortable
- You can “forget” you have diabetes
- Anyone can use an insulin pump
- Only patients with Type 1 DM can use an insulin pump
- A patients needs to be “tech savvy” to use an insulin pump
- Everyone will see the pump
- Wearing an insulin pump will interfere with daily activities
- Insulin pumps and/or insertion sites are surgically implanted

# First Insulin Pump – Medtronic 1960's





# Medtronic Minimed



## Medtronic Minimed

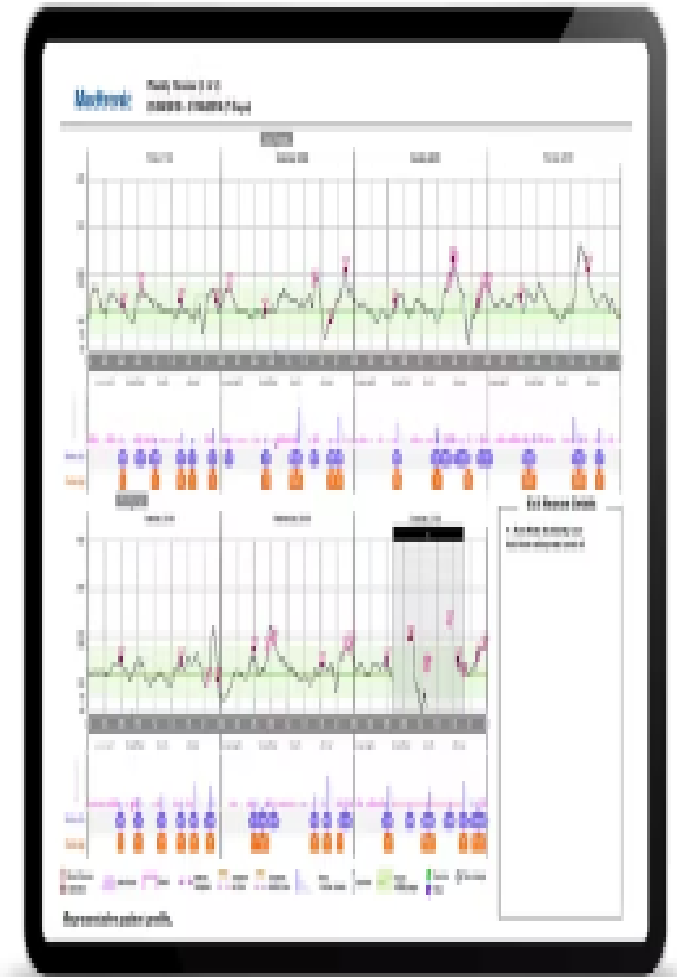
- Newest pump is 780G automated pump with Guardian CGM.
- Only the MiniMed™ 780G system can automatically deliver correction boluses of insulin **without patient initiating**, as quickly as every 5 minutes.



# CARELINK™ SYSTEM

## Therapy Management Software

CareLink™ system software is a diabetes therapy management software for healthcare professionals. This software helps healthcare professionals to better manage patients on diabetes therapy by transforming data from insulin pumps, continuous glucose monitors and blood glucose meters into trends, patterns and insights about their patients' glycemic control. The CareLink™ system provides easier access to vital insights.

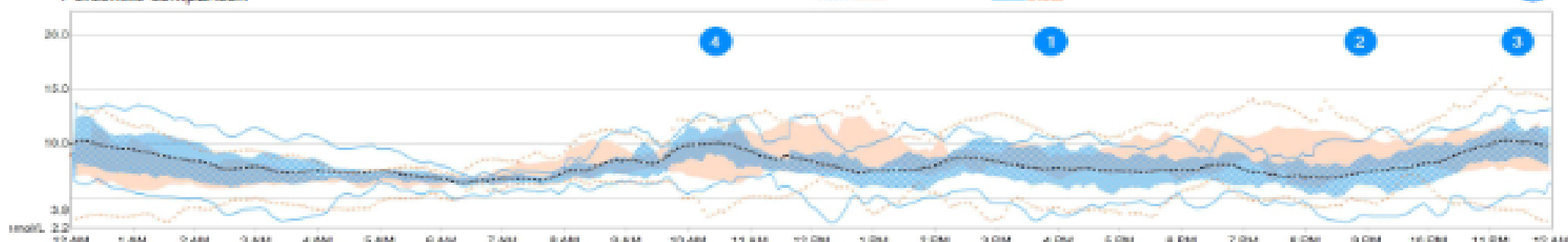


**A** 6/13/2017 - 6/27/2017 (15 Days)

**B** 5/13/2017 - 5/27/2017 (15 Days)

Percentile comparison

25-75% 0-100% Average



Time (hr)	A	B
12 AM - 3 AM	1.5	1.5
3 AM - 6 AM	1.6	1.4
6 AM - 9 PM	1.8	1.8
9 PM - 12 AM	1.7	1.7

Hypoglycemic patterns(2)

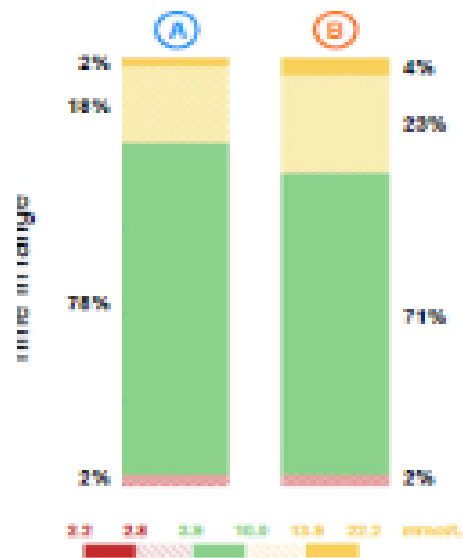
Hyperglycemic patterns(2)

**1** 3:27 PM- 4:19 PM (2 occurrences)

**2** 8:09 PM- 9:39 PM (2 occurrences)

**3** 11:05 PM- 11:50 PM

**4** 10:10 AM- 10:45 AM



Auto Mode Exits

Exit Reason	A	B
No Calibration	0	1
High SG Auto Mode Exit	0	2
Auto Mode max delivery	0	0
Auto Mode min delivery	0	0
SG required for Auto Mode	0	1
Sensor Algorithm Undersad	1	0
Sensor Updating	0	3
No SG values	2	0
Sensor Expired	0	0
Auto Mode disabled by user	0	0
Alarms	0	0
Pump Suspend by user	0	0
Large timestamp change	0	0
Undertimed	1	1

Statistics

Statistic	A	B
Auto Mode (per week)	95% (6d 23hrs)	90% (6d 08hrs)
Manual Mode (per week)	1% (1hrs)	9% (16hrs)
Sensor Wear (per week)	96% (6d 21hrs)	91% (6d 05hrs)
Average SG ± SD	8.1 ± 2.3 mmol/L	8.6 ± 2.7 mmol/L
Estimated A1C	6.7%	7.0%
Average BG	9.4 ± 3.1 mmol/L	10.7 ± 4.4 mmol/L
BG / Calibration (per day)	5.7 / 3.3	6.3 / 3.1
Total daily dose (per day)	45 units	30 units
Bolus amount (per day)	22U (43%)	16U (47%)
Auto Basal / Basal amount (per day)	23U (51%)	20U (53%)
Set Change	5	4
Reservoir Change	4	4
Meal (per day)	6.3	4.0
Carbs entered (per day)	12.2 ± 2.6gx	9.7 ± 2.5gx
Active insulin time	2:30 hrs	2:15 hrs

# OmniPod (with or without cgm)

## OmniPod DASH (without CGM)

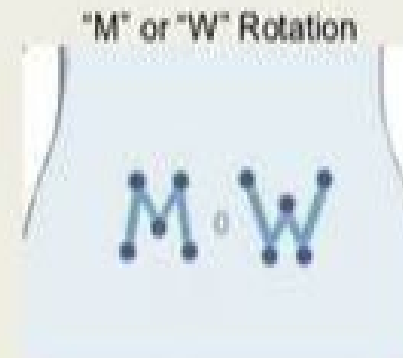
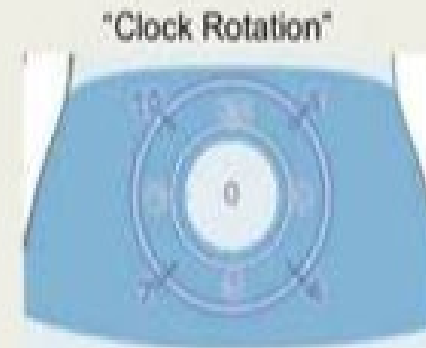
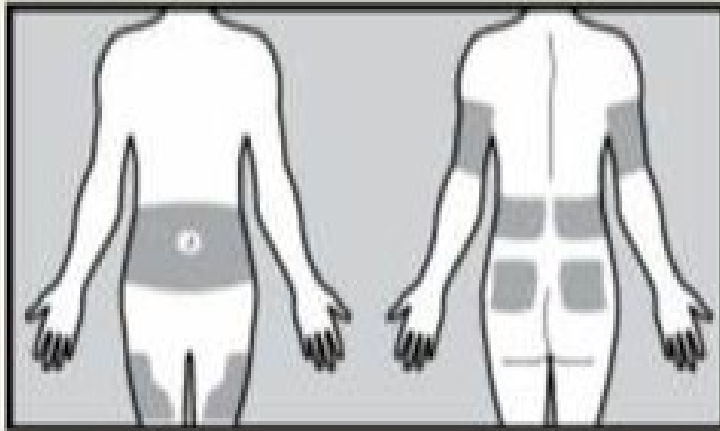


## OmniPod 5 with CGM using Dexcom G6





# Infusion Set Sites



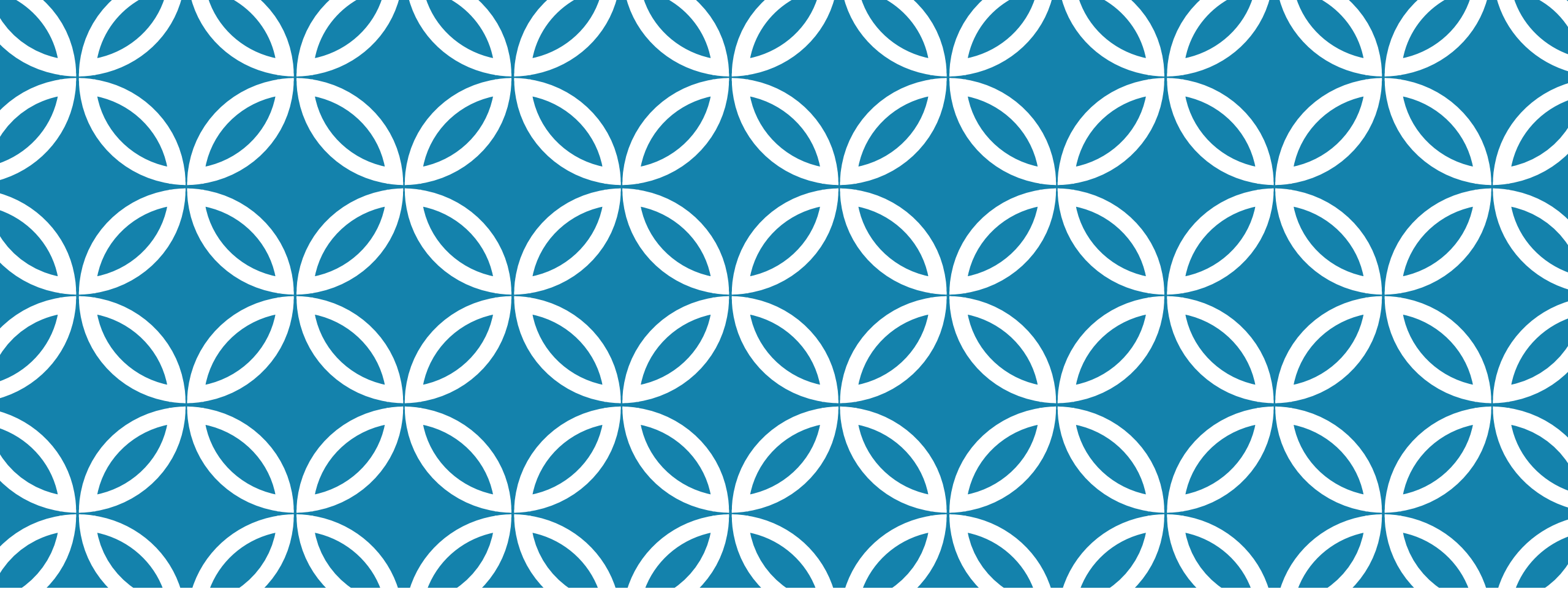
- Common sites
  - *Abdomen, hips and buttocks, outer thighs, back of arms, and breast tissue*
  - *Should be changed every 2-3 days*
    - Prevent infection
    - Prevent scar tissue build-up

# Insurance requirements (through Medical Benefits)

- Insurance requires evidence that patients are checking glucose levels at least 4 times a day prior to using a pump
  - Medicare/Medicaid require fasting BG and fasting C-Peptide lab be drawn at same time.
  - Must send in chart notes, A1c as required. A visit for insulin pump management needs to happen within every 90 days
  - PRC covers patients out-of-pocket costs, if eligible. We call PRC during the initial order phase to confirm this.
- What we chart:
  - “Pt continues to use insulin pump as part of DM management.
  - Pt continues to check glucose with meals, hs and as needed to adjust meals, activity and insulin doses
  - Pt denies skin redness, swelling or pain at site
  - Pt denies problems removing old set/pod, filling, applying or activating new set/pod every 3/2/1 days.”
  - PCP must sign note, not nurse.



- It works well at our clinic that the DM program follows patients as insurance requires, every 90 days for insulin pump and 120 days for CGM.
- For insulin pump training, we have the Company Reps contact the patient to schedule. Some choose a virtual training but most come into our clinic to have training with rep.
- We fill out order form, with the Reps assist, have PCP review and sign
- We continue education at these visits on care of equipment, emergency back up plan if supplies as not available, etc. Extra insulin pens at home, glycogen kits and use, finger-stick glucose meter and supplies, Rule of 15 for hypoglycemia treatment, and all other DM ED.
- If after a while patient wants to stop using CGM or insulin pump therapy it is ok. It is their choice and are just tools for helping them manage their diabetes. We continue following them as per DM Standard of Care.



**QUESTIONS?** |