Troubleshooting Diabetes Technology: Keeping Consistent Connections

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Introduction & Background

Insulin pumps and continuous glucose monitors (CGM) continue to gain popularity.

- 81% relative increase in device-focused appointments over the past ten years in our department.
- Factors include device advancements and accuracy, glycemic benefits,^{1,2} enhanced qualify of life¹ and expanding insurance coverage.
- Continuous, user-approved data access when paired with a compatible smartphone
- Mobile apps allow data to be shared with a user's healthcare team and care partners (Table 1).

Although diabetes technology is growing, barriers exist to starting and maintaining these benefits and preventing loss of connection

Table 1: Insulin Pump & CGM Options

	Device Upload Options		Caro Partnor	Data
Devices Options	Manual via cable or USB	Auto via Mobile App	Feature	Management System
Insulin Pumps				
Medtronic 770G	\checkmark	\checkmark	5 followers	
Medtronic 630/670G	\checkmark		unavailable	CareLink
Medtronic 530G & Revel	\checkmark		unavailable	
Omnipod 5	\checkmark	\checkmark	unavailable	
Omnipod Dash	\checkmark	\checkmark	12 followers	Glooko
Omnipod Classic	\checkmark		unavailable	
Tandem X2 Control IQ	\checkmark	\checkmark	unavailable	
Tandem X2 Basal IQ	\checkmark	\checkmark	unavailable	t:connect
Tandem X2 Flex	\checkmark		unavailable	
Continuous Glucose Monitors				
Dexcom G6	\checkmark	\checkmark	10 followore	Clarity
Dexcom G5	\checkmark	\checkmark	TO IOIIOWEIS	Clarity
Eversence		\checkmark	5 followers	Eversence
Libre 3		\checkmark		
Libre 2	\checkmark	\checkmark	20 followers	LibreView
Libre 14-day	\checkmark	\checkmark		
Medtronic Guardian		\checkmark	5 followers	CareLink

Creating & Maintaining the Connection

The CDCES team at OSUWMC provides training and support to users utilizing insulin pumps and CGMs. Aside from the routine training topics, considerable attention is given to connectivity. We rely on a team approach to ensure users with a compatible smartphone are connected by the end of training.

Before Training – Patient Navigator

- 1. Sends personalized message to the user
 - Directions to download mobile app(s) and create user account(s)
- 2. Connects user to data management system

During Training – CDCES

- 3. Ensures device(s) are paired to remote monitoring system
- 4. Assists in connecting care partners
- 5. Reviews manual upload options if appropriate
- 6. Documents connection in user's medical record

Discussion

Pairing users to the data management system(s) and providing support to troubleshoot signal loss (Table 2) has many benefits.

- User can make on-demand treatment decisions • User can respond to urgent alarms
- Share with care partners
- Ability to review retrospective data
- Allows HCP the option to review data prior to appointments
- Streamlines HCP appointments by reducing potential IT issues
- Provides data for telethealth appointments
- Allows HCP to bill for CGM interpretation when appropriate

Table 2: Troubleshooting Gaps in the Data



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References

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• The mobile app is not running in the background • Previous generation mobile apps have not been deleted • Transmitter ID is not up to date or entered accurately

Operating system is not compatible Multiple Bluetooth connections

• Old CGM transmitter(s) is not deleted

 Adhesive issues that cause user to remove device Dexcom transmitter is not cleaned between sessions Insulin pump & CGM is not in line of sight

• Real-time CGM user too far from smartphone/receiver Intermittently scanned CGM user not scanned for > 8 hours Smartphone, receiver, or insulin pump is not facing out

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