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# **Continuous Glucose Monitoring in Medical Education** Bridging Pre-clinical Sciences with the Patient Experience

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# INTRODUCTION

- Continuous Glucose Monitors (CGM) are increasingly being used to manage patients with Type 1 and Type diabetes.
  - CGM use improves glycemic control and reduces hypoglycemic events.<sup>1</sup>
  - Primary care providers are often not experienced in prescribing, managing, and interpreting data from CGM.<sup>2</sup>
- There are <u>few studies regarding CGM training in medical</u> education.<sup>3-6</sup> A few studies have shown that education involving hands-on use of CGM improves comfort and understanding of these devices.<sup>3-6</sup>

### The purpose of this study was to:

- Improve CGM education at the Larner College of Medicine.
- Reinforce basic-science concepts of metabolism and nutrition in the pre-clinical curriculum.
- Allow students to reflect on the patient experience of using a CGM.

# **METHODS**

- During the M1 basic science Nutrition, Metabolism, and Gastrointestinal Systems course, 40 students elected to participate in continuous glucose monitoring.
  - Students completed a 45-minute session reviewing CGM technology, data reports, benefits in T1DM and T2DM populations, and practical considerations for prescribing CGM.
  - Students were provided with a Dexcom G7 monitor (N=20) or Libre Freestyle 3 monitor (N=20) to wear for 10-14 days.
- On day 6, students were invited to participate in an optional focus group discussion with faculty.
  - Students were encouraged to share and discuss their experience.
- Participation was voluntary and students consented.



LCOM students Lexi Amaio and Caroline Johnston, receiving their CGMs.

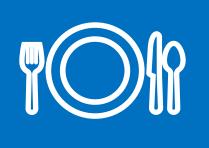
# **KEY THEMES FROM FOCUS GROUP**

# Insights on Health and Metabolism Concepts



exercise, including: -low-carbohydrate diet -glucose trends during Ramadan fasting

### **Improved Health Behaviors**



- Healthier choices while grocery shopping
- Increase in food experimentation
- Glucose awareness serving as meal reminders

#### **Technical Issues**



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- Device failures
  - Dermatitis from adhesive

### **Understanding of Patient Experience**

• Stigma of wearing a visible medical device



- Burden of frequent alarms
- Satisfaction with customer-service from medical device company

### **Negative Effects**



- Anxiety about glucose variability and high readings
- Increased phone usage
- Hyper-fixation on data



• Glucose responses to eating, fasting, stress, and

- Continuous Glucose Monitoring.
- curriculum.

Future curricular goals:

- of CGM use?



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### Larner College of Medicine

# DISCUSSION

This pilot study demonstrated the broad educational impact of a medical student curriculum regarding use of

Highly enthusiastic student feedback in support of CGM

# **FUTURE DIRECTIONS**

• Ensure working knowledge of CGM technology. • Formal assessment of impact on knowledge and attitudes regarding nutrition, health, and lifestyle modifications. • How can we better understand the patient experience? • How can we better understand the potential negative effects



Dexcom G7 and FreeStyle Libre 3 CGM devices used by students.

# REFERENCES