

# **1. Continuous Glucose Monitoring**

## **A. CLINICAL NEED**

1. Physiology of interstitial fluid glucose
2. Comparison of CGM and self-monitored blood glucose (SMBG) data
3. Insulin dosing indication in BGM vs. CGM & the FDA
4. Protection from nocturnal hypoglycemia
5. Glycemic variability
6. Evidence review and major studies
7. Endocrine Society and American Association of Clinical Endocrinology (AACE) clinical guidelines

## **B. TECHNOLOGY: Patient Selection & Getting Started**

1. Components of real-time CGM systems
2. Components of professional CGM systems
3. Choosing the right device for each patient
4. Insertion and set-up
5. Trend information
6. Alarms and Settings
7. Calibration
8. Troubleshooting a CGM

## **C. APPLICATIONS: CASE STUDIES & More**

1. Sharing & downloading data
2. Identifying patterns of glycemia
3. Determining glycemic variability
4. Adjusting insulin dosing using CGM
5. Adjusting diet and exercise using CGM
6. Avoiding insulin stacking
7. Educating and motivating patients to use CGM data to make changes

## **2. Sensor Integrated Pumps**

### **A. CLINICAL NEED**

1. Current state of diabetes management and gaps
2. Burdens of living with diabetes: What we have and what is missing
3. Outcomes of insulin pump use compared with multiple daily injections
4. Setting realistic expectations for patients (and clinicians)
5. Indications for insulin pump therapy
6. Benefits of closed loop insulin delivery, identifying patients
7. Exploring the use of these technologies in different patient populations
8. Initial training strategy
9. Follow up training
10. Benefits of downloading devices and reviewing data

### **B. TECHNOLOGY: Patient Selection & Getting Started**

1. Components of sensor integrated pump system
2. Hybrid closed loop (HCL): What does it mean?
3. Bi-hormonal systems
4. Medtronic 670G system
  - How Algorithms work
  - Display
  - Alerts and alarms
  - Problem solving to remain in auto-mode
  - Modifiable settings that can alter insulin delivery while in auto-mode

### **C. APPLICATIONS : CASE STUDIES & More**

1. Preparing for success with adoption of hybrid closed loop (HCL)
2. Basic skills required prior to transition to HCL
3. Modifiable settings that alter insulin delivery while in auto-mode
4. Troubleshooting how to remain in auto-mode

5. Importance of calibrations
6. Understanding data downloads
7. The importance of updating usual pump settings

### **3. Blood Glucose Monitoring and Software**

#### **A. CLINICAL NEED**

1. Benefits of self-monitored blood glucose (SMBG) in insulin-treated patients
2. Benefits of SMBG in non-insulin treated patients with type 2 diabetes
3. Comparing BG monitor results to A1C
4. Calculating estimated average glucose (eAG)
5. Ambulatory Glucose Profile (AGP)
6. Assisted monitoring of blood glucose (AMBG)
7. Atypical patterns of hemoglobin glycation

#### **B. TECHNOLOGY**

1. The science behind BG monitors
2. Accuracy standards for glucose and A1C
3. Interfering substances for BG monitors
4. Need for Control solution
5. Methods for point-of-care A1C testing in ICU & general floors

#### **C. APPLICATIONS: CASE STUDIES & More**

1. SBGM testing frequency and timing: Case Studies
2. AMBG testing frequency and timing
3. Obtaining BG sample at home & in hospital: Efficacy & Comfort
4. Alternative site testing: When & How
5. Record keeping: Log Book vs. Downloads
6. Structured testing
7. Understanding BG Download Reports

8. Identifying patterns using reports: Case Studies
9. Adjusting diabetes medications, meals & physical activity based on BG patterns
10. Motivating patients to check BG
11. Using A1C to diagnose diabetes in community & hospital

## **4. Insulin Delivery: Pens, Patches and Pumps**

### **A. CLINICAL NEED**

1. Patient characteristics for successful pump use
2. Features of Patch vs. Tethered pump
3. Determining total daily insulin doses (TDD)
4. Determining and adjusting basal rates
5. Calculating the insulin-carbohydrate ratio (ICR)
6. Calculating the insulin sensitivity factor (ISF)
7. Calculating insulin on board (IOB) and avoiding stacking
8. Choosing the right pump for each patient

### **B. TECHNOLOGY**

1. Pump initiation and training
2. Insulin pump use in the hospital
3. Components of tethered insulin pump
4. Components of patch pump
5. Display screen information
6. Alerts and alarms
7. Infusion sets and insertion
8. Patch pumps and controllers
9. Troubleshooting a pump
10. Overview of types and features of insulin pens
11. Highlights of FITTER Insulin Injection Guidelines

### **C. APPLICATIONS (CASE STUDIES)**

1. Determining total daily insulin doses

2. Determining and adjusting basal doses
3. Determining bolus doses
4. Calculating the insulin-carbohydrate ratio (ICR)
5. Calculating the insulin sensitivity factor (ISF)
6. Calculating insulin on board (IOB) and avoiding stacking
7. Choosing the right pump for each patient