Gadgets and Gizmos

School Nurses Conference 2016

Wake Forest Baptist Health Brenner Children’s Hospital Diabetes Center

We Have Come A Long Way!!
Choices, Choices, Choices

Accu-Chek Aviva Combo  Animas One Touch Ping or Vibe
Medtronic Revel or 530G- soon to include 630G and 670!!
Omni Pod  Tandem T-slim

Advantages of pump therapy

• Improved blood sugar control and decreased complications.
• Convenience of insulin delivery.
• Lifestyle flexibility and freedom.
• Ease of adjusting insulin dosage with exercise and other daily activities or sickness.
Advantages of Pump Therapy

- Reduction of hypoglycemia.
- Ability to deliver smaller doses of insulin.
  - Can deliver micro increments (0.025 unit) – useful in those who are very insulin-sensitive.

The OmniPod system: just two simple parts

1. **Built-in BG meter** that automatically incorporates BG levels into suggested bolus calculations and history records

2. **Waterproof pod**

**All-in-one**
- Infusion set, insulin reservoir, automated inserter and batteries

**Automated processes**
- Cannula Insertion
- Priming

**Intuitive user interface**
- Full text navigation
- Set-up wizard
- Easy to teach, easy to learn
Animas Ping Insulin pump with meter and remote

Artificial Pancreas Device – SmartGuard™

MiniMed® 530G with Enlite®
Insulin is infused through a set that is changed by the patient every 2-3 days.

Successful Pumping
Choosing an infusion set
Site Selection

Preferred area:
- Abdomen for faster absorption
- Upper outer thighs and back of hips/buttocks
- Backs of the arms

Continuous Glucose Monitoring (CGM)

- Some pumps have CGM that connect and display on pump screen. Others require a separate receiver for viewing the CGM screen.
If this was your meter reading what would you do? How would you respond if you saw the phone on the right instead.

Dexcom G5 Mobile Continuous Glucose Monitor System
Dexcom G4 Continuous Glucose Monitor
Tandem t:slim with Dexcom G4

Medtronic Mini-Med 640 G
# Reasons for High Blood Sugar

- **Insulin pump not delivering insulin**  
  - Air in tubing  
  - Set not connected to body  
  - Leaking insulin  
  - Kinked cannula  
  - Set left in longer than 3 days  
- **Insulin problems**  
  - Forgot or underestimated insulin for carbs  
  - Empty cartridge  
  - Old or “bad” insulin  
- **Illness or increased stress**

## Action Plan for High Blood Sugar

- **Blood sugar 250-300 mg/dl**  
  - Do correction bolus  
  - Recheck in 2 hours  
- **Blood sugar over 300 mg/dl**  
  - Check for ketones  
    - If negative ketones, give correction bolus by pump.  
    - If moderate or large ketones, give injection and recheck blood sugar in 1-2 hours. Do not give more insulin for BG until at least 3 hours after last dose of insulin.