



Government of **Western Australia**  
Department of **Health**

# Continuous Glucose Monitoring Systems

Rockingham Endocrinology and Diabetes Service

# What is Continuous Glucose Monitoring (CGMS)

CGM tells a more complete story like a “movie” not just snapshots of the glucose levels.

It provides insight into glucose trends between blood glucose tests, leading to improved knowledge and improved glucose control.

Interstitial glucose reflects Plasma glucose.

The sensor is placed subcutaneously and measures glucose in the fluid between the blood vessels and the cells, called the interstitial fluid.

# The Various Continuous Glucose Monitoring Systems

Veo plus Sensing



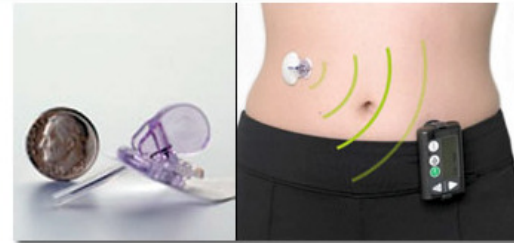
The worlds first pump  
With personal CGM



Guardian



Superior Protection  
And control



IPro2



The easier way to reveal  
Glycaemic patterns

# The Various Continuous Glucose Monitoring Systems

Animas Vib plus Sensing



Dexcom 4



# The MiniLink™ REAL-Time Transmitter

So small it makes a big difference in comfort



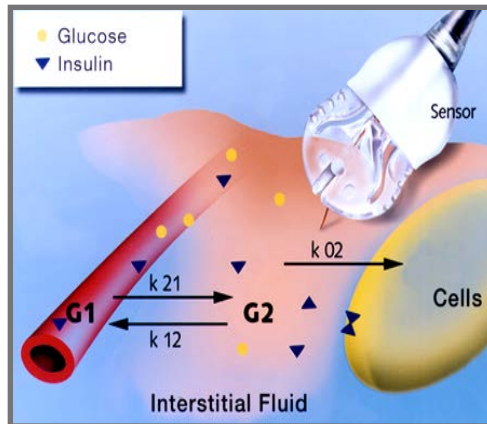
- **Comfort**  
Small, lightweight, ergonomically shaped, and designed to minimise skin irritation
- **Discretion**  
An ultra-sleek, thin profile allows transmitter to lay flat without a bulge
- **Waterproof**  
Fully immersible to depth of 2.4m for 30 min.
- **Long-lasting**  
Rechargeable system allows for long-term use and convenience
  - 1 AAA battery
  - 14 days before recharging



# The subcutaneous glucose sensor was first introduced to market in 1999...

- A tiny, sterile, flexible electrode inserted just under the skin
- Measures glucose in the interstitial fluid

Our latest sensor is called the  
**Enlite™ Sensor**



- CGM data is available for analysis and treatment adjustment after download in Therapy Management Software



# Enlite™ sensor components









**Enlite™ Sensor**



**Enlite™ Serter**

# Medtronic CGM used in clinical practice

CGM type and device	Indications	Critical Success Factor
<p><b>Professional CGM</b></p> <p> <b>Medtronic iPro™2 System</b></p> 	<p><b>Short term Diagnostic</b></p>	<p><b>Patient blinded to data.</b></p> <p><b>Interpretations of glucose profiles by HCP</b></p>
<p><b>Personal CGM</b></p> <p> <b>Minimed Paradigm™Veo™ System</b></p>  <p> <b>Medtronic Guardian™ System</b></p>  <p>Delivering a Healthy WA</p>	<p><b>Short or long term therapeutic use of CGM data</b></p>	<p><b>Patient empowerment to read and act upon CGM information</b></p>



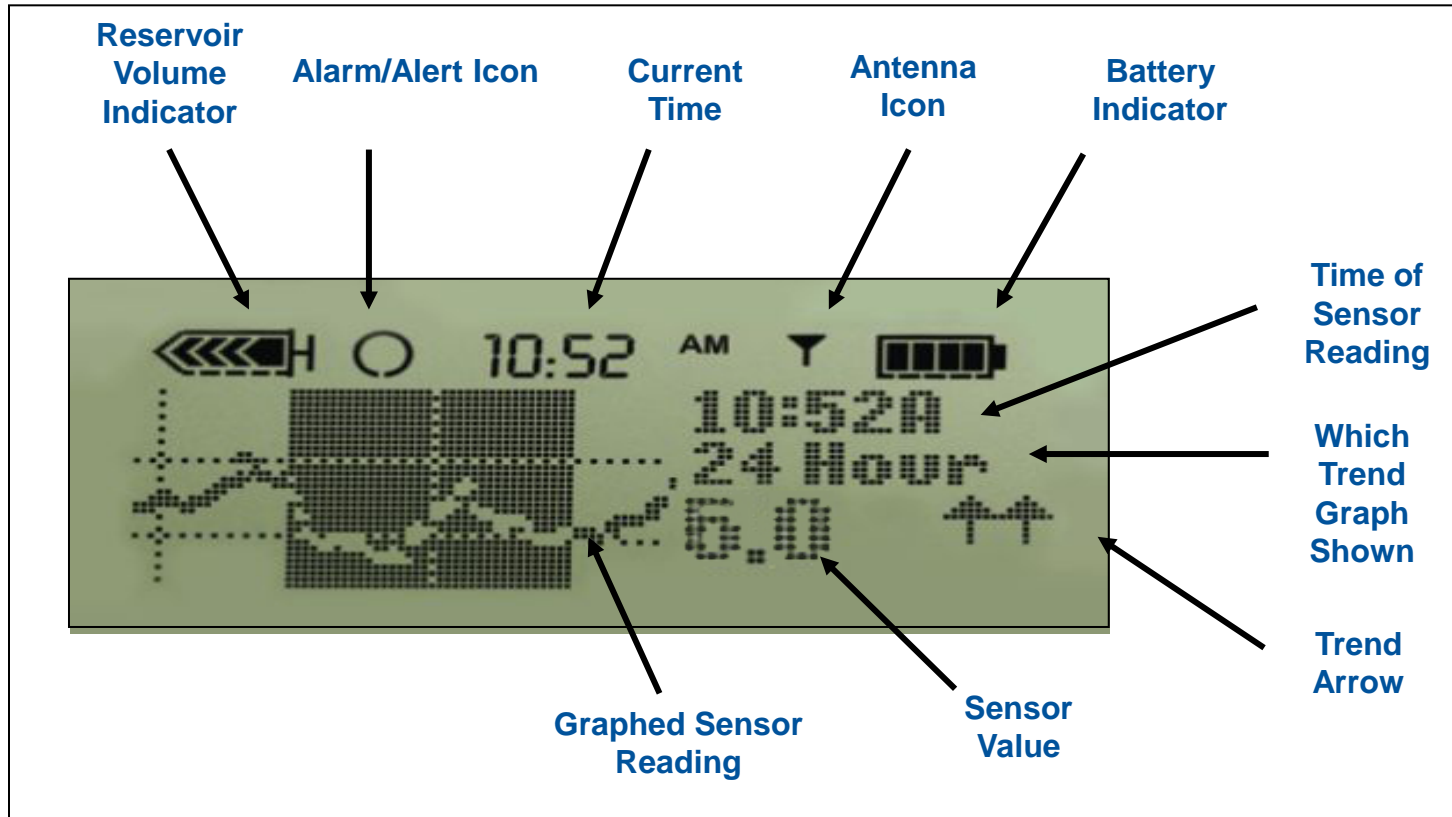
# CGM systems: Personal REAL-time systems



- **Glucose sensor inserted in subcutaneous tissue and worn for up to 6 days connected to the MiniLink™ transmitter**
- **Glucose sensor sends interstitial glucose values to the transmitter**
- **Transmitter then sends these values wirelessly via radio frequency to the insulin pump or Guardian™ monitor every 5 minutes, where data can be viewed and acted on\* in real-time**

\* ***Fingerstick measurements are required for sensor calibration (minimum every 12 hours) and prior to therapy adjustments***

# The patient view with Personal REAL-Time CGM



- 4 graphs – 3, 6, 12, 24 hours – clear picture over time

## Professional (Retrospective) CGM systems: iPro2 system

- **BLINDED TO THE PATIENT**
- Eliminates the “bias” from patient’s interaction.
- **Minimal patient training required and no intervention required during the procedure. No screen readings.**



# Continuous Glucose Monitoring System

## Downloading Data

### **iPro2**

Sign into the Medtronic Carelink iPro website  
for Blind Data download must have correlating  
BGL's from Patient to calibrate the data.

### **Realtime Guardian**

Clients own pumps may be downloaded at home using  
the Carelink personal program.  
Then accessed at the clinic (need to be linked first) using  
the Carelink Pro program

### **Paradigm Real-time**

Clients own pumps may be downloaded at home using  
the Carelink personal program.  
Then accessed at the clinic (need to be linked first) using the  
Carelink Pro program

# Continuous Glucose Monitoring System Downloaded Data Examples

