

FORTH VALLEY PAEDIATRIC DIABETES TEAM PUMP CHOICE

What is insulin pump therapy ?

- An insulin pump is a small electronic device which provides a continuous infusion of fast acting insulin (Novorapid) into the subcutaneous (fatty tissue just under the skin). It is designed to allow delivery of insulin in a way that is more like that of the pancreas of a person without diabetes, than is possible with insulin injections.
- The pump is programmable and the settings can be changed if required by activating the on-screen menus (patients/parents are trained how to change the settings).
- Insulin is delivered through an infusion set from the pump, and a short plastic cannula (placed just under the skin) which is changed every 2-3 days using a needle insertion set. Some pumps are tube free, called Patch pumps.
- All patients require a continuous infusion of Novorapid which acts as basal (or background) insulin. Most people require several different basal rate settings over the course of the day.
- Insulin boluses are also required (previously given as meal time injections) in addition to the basal insulin, when carbohydrate containing foods/drinks are consumed. The bolus is given through the pump, and the settings for the amount of insulin required for carbohydrate are pre-programmed into the pump or sometimes an app.
- An insulin bolus is also required when the blood glucose reading is high, the amount of insulin required is calculated by the Correction Factor or Insulin Sensitivity Factor (ISF) which is programmed into the pump.
- Some of the pumps listed below can be used alongside a CGM [continues glucose monitor] eg Dexcom G6 or Guardian to provide an automated insulin delivery system. NHS does not currently fund CGM unless certain criteria are met however self funding is an option for this.

If you are interested in insulin pump therapy then you can currently choose from a list of 4 pumps in Forth Valley.

The following information gives a brief description of each pump but you can access further information through each company's individual website.

T slim – Air Liquide company

<https://www.tandemdiabetes.com/en-gb/home>

Medtronic 780G pump

<http://www.medtronic-diabetes.co.uk/>

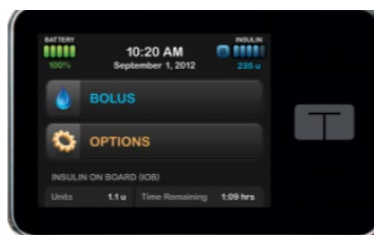
Omnipod Dash

<https://www.omnipod.com>

Ypsopump [My Life]

<https://www.mylife-diabetescare.com>

T:SLIM X2 PUMP



This pump can be used as a standalone pump or can be used alongside Dexcom G6 continuous glucose monitoring [CGM] system. When used with CGM you can use either Basal IQ or Control IQ technology. Basal IQ will predict low glucose events and suspend insulin delivery reducing hypoglycaemia and Control IQ which is an advanced hybrid closed loop technology which can automatically adjust insulin delivery to prevent highs and lows when linked with dexcom CGM. You still have to bolus for meals. You can try this using the Tandem T simulator app.

Pump Features			
Colour touch screen	Watertight [3 feet /30mins]	USB rechargeable battery	Remote software updates
Attaches with Infusion set and cannula	Holds up to 300 units insulin	Lowest basal rate is 0.1u/hr	Up to 6 different basal profiles
Uploads to Diasend/Glooko	Compatible with Dexcom G6	Max bolus 25 units	Extended bolus available

OMNIPOD DASH SYSTEM



The Omnipod Dash consists of a tubeless Pod which you fill with insulin and attach to your body with a small cannula and a handheld Personal Diabetes Manager [PDM] that you use to program your insulin delivery via Bluetooth. It can provide up to 3 days of insulin delivery. The Pod and PDM need to be within 1.5m to start a bolus or change settings but basal will run when PDM further away.

Pump Features			
Touch screen PDM	Pod is waterproof	USB rechargeable battery in PDM	Manually fill Pod
Pod attaches with cannula but no tubing.	Holds up to 200 units insulin	Lowest basal rate is 0.05u/hr	Up to 12 different basal profiles
Uploads to Diasend/Glooko	Can pair with Contour Next 1 BG meter	Max bolus 30 units	Extended bolus available

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MEDTRONIC MINIMED 780G



This pump can be used as a normal pump but also has an additional programme called Smart Guard which can be used with the Guardian continuous glucose monitor. Smartguard technology automatically adjusts insulin delivery based on sensor glucose readings and autocorrects. Pump is connected to the body with a cannula and tube.

You can try this using by using following link <https://eu.medtronicvirtualpump.com>

Pump Features			
Not touch screen	Watertight [12 feet /24hrs]	AA battery -3 -5 weeks life	Currently not able to update software.
Attaches with Infusion set and cannula	Holds up to 300 units insulin	Lowest basal rate is 0.025/hr	Up to 8 different basal profiles
Uploads to Carelink manually or via Minimed mobile app	Compatible with Guardian sensor 3 /4 Links wirelessly with Accu-check meter	Max bolus 25 units	Extended bolus available [Not in smartguard]

YPSOPUMP {MYLIFE}



The Ypsopump is a small touchscreen pump that connects to your body with a cannula and tubing, [the cannula can rotate 360 degrees] It comes with pre filled or self filled cartridges for easy set up. You can either have standard pump therapy ie Ypsopump & Mylife app with remote bolus feature from your phone or closed loop ie Ypsopump with CamAPS app on phone linked to Dexcom G6 CGM. The CamAPS app allows automated insulin delivery adjustments and corrections to blood glucose based on CGM readings.

Pump Features			
Touch screen	Watertight [1m /60mins]	AAA battery	Holds up to 160 units insulin
Attaches with Infusion set and cannula	Mylife Unio Neva BG meter links to Mylife app	Lowest basal rate is 0.02u/hr	2 different basal profiles
Standard pump uploads to Diasend/Glooko. CamAPS uploads to Diasend only [Glooko soon]	Links with Dexcom G6, CamAPS app and MyLife app.	Max bolus 30 units	Extended bolus available on standard pump and 'slowly absorbed' feature available on CamAps