

Insulin pump evaluation

Mike Jensen, who lives in New Zealand, discusses his experience of using an insulin pump for a trial period of three weeks

Sleep

I experienced a significantly better quality of sleep overnight and woke feeling more refreshed and ready for the day. Usually (under MDI) I would wake feeling tired and unrefreshed and would struggle to get out of bed and into the day. I experienced significantly more energy to start the day with.

Additionally, it was a relief to not be tied to 7:30am and 9:30pm Lente injections. Having to have these injections means not being able to go to bed early or sleep-in in the morning. Being able to enjoy flexible (and restful) sleep was heavenly!

Weight Management

Years of intensive therapy have given me good *BG* control but have resulted in a steady weight gain. Weight gain associated with good glycemic control is a well-known phenomenon of course. I have found it to be impossible to keep my weight down in conjunction with good glycemic control and a balance of exercise. The pump enabled me to manage my weight really well using the proven weight management scenarios possible with insulin pumping. During the three weeks on the pump I steadily lost weight (approximately 2kg) but since going back on MDI have put this back on! Carrying this excess weight is unlikely to help my long-term prognosis.

Dawn Phenomenon

My dawn phenomenon continues to be aggressive. During setting of the pump basal rate I was able to quantify exactly how intense it is (the overnight basal rate varies between 0.8 and 1.4 units/hour whereas between 6am and 9am the required basal rate was 3.0 units/hour).

Trying to closely match my dawn requirements with MDI has been impossible. The best I can do is to tune the bedtime Lente by increasing/decreasing the dose to try and achieve acceptable fasting *BGs*. However, I am indeed lucky if I can actually obtain a good *BG*. My fasting *BG* is typically on the high side and to make matters worse the variability of these fasting *BGs* is confounding. I loved how I could match my requirements much more precisely using the pump and the results were excellent.

Flexibility and Lifestyle

I like to lead a varied and flexible life. It's who I am. For me this includes variable eating, sleeping, leisure, and exercise. For the first time in my life I could say that the pump offered the possibility of getting close to the degree of flexibility and lifestyle that I need. Under MDI I am simply unable to achieve this.

Feeling Better and Stability

On the pump I "felt better" than on MDI. I can best describe this as feeling less fragile, more relaxed, more confident and in control, and with a better peace of mind. This was noticed by other people who recognised the difference in me and gave favourable comments back to me. I felt "in control" and was able to relax about my diabetes and to finally give it a less dominant role in my life.

Finally I could relax knowing my *BGs* were stable and predictable. Under MDI I can never be confident of stability, the *BGs* always seemed to be going somewhere.

Energy Levels

Overall I experienced a significant boost in my energy levels when compared to living with MDI. I would

rate this boost as quite significant. I certainly felt better in the morning after a good night's sleep, and I was far less prone to having waves of sleep roll over me after lunch.

General Comments

I believe that as I diabetic with a demanding control scenario and with particular lifestyle requirements I am well placed to make some general comments.

A quality of life has been lost to diabetes. Indeed, I thought my world was crumbling when I was diagnosed in 1984 at the age of 25. Suddenly the "best" years became "not the best" years. I was consumed by confusion, irritability, fluctuating *BGs* and weariness and these are definitely highly significant issues for me to this day. I struggled to manage my care and was given a mixture of very good and very indifferent advice from my medical support personnel around the country. As far as I could see, as long as I did not show up in Accident and Emergency I was doing fine. I believe that as I appeared to medical staff to be well motivated, articulate, cooperative, and intelligent, that I conveyed a false picture that I was "OK". I also believe that my understanding of diabetes was inadequate and that I felt unable to ask for what I really needed from the medical system (thankfully this is no longer the case). Note that much trial and error has resulted in the most stable MDI regimen that I have ever experienced (a combination of twice daily Lente for basal and Humalog for bolus) and that this regimen was chosen by myself and tuned largely by myself).

Clearly though, I am less than "OK". Conventional therapy using MDI has not really worked well for me and I am totally convinced that my quality of life is only "average". I am increasingly weary and struggling to get by. My reality of living with "difficult" diabetes is extremely unpleasant and anything to assist the management of my condition would be received with open arms. Pump therapy, I believe, offers the real promise that this can be changed forever for me.

I believe that the decision to pump should not be based too strongly on the *HbA1c* as this doesn't take into account the factors I have discussed above. Note that it's only a general indicator and there are many things to be considered in a diabetic's overall quality of life. As a diabetic with a *HbA1c* of 6% I have to say that it's not all that significant. The question for me is not only how good my *HbA1c* is but how I am doing as a person overall. I feel strongly that I am not doing terribly well in a "total person" sense. Many doctors will say that improving my already good control by actively managing it won't help reduce the risk of complications but this really isn't the point. I know that my *BG* needs to be stable and my life flexible and enjoyable in order for me to be a "well person". I felt that with the pump there was a certainty of hope towards achieving this.

Why I Am I Not Going to Go On the Pump?

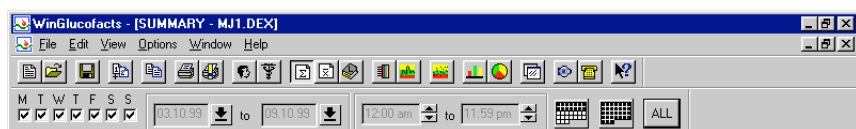
Well, it's a cost thing, pure and simple. I cannot afford to fund both the initial purchase and the ongoing cost of consumables.

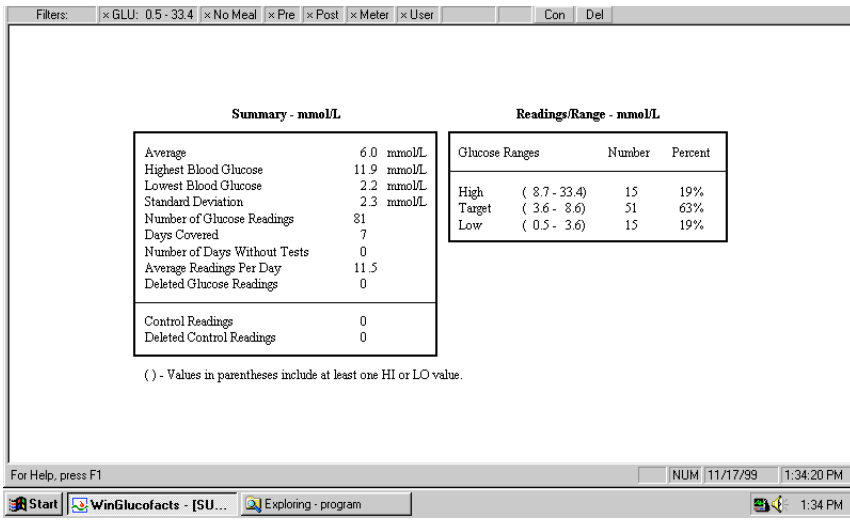
I would like to see the health system assisting diabetics to go on pump therapy. Clearly there are diabetics who have terrible control and who are immediate candidates for pump therapy. Clearly there are also diabetics, such as myself, who have issues of quality of life and additionally who are motivated to achieve a superior standard of health care for themselves. Both categories surely are deserving of both clinical and financial assistance to enable pump therapy to become an option.

I have to say without reservation though that I would love to be part of and to support the development of a pump program in Otago. I look forward to the time when conditions for a pump program are favourable. I believe that as an articulate person with a scientific background I am well able to help support and develop such an initiative.

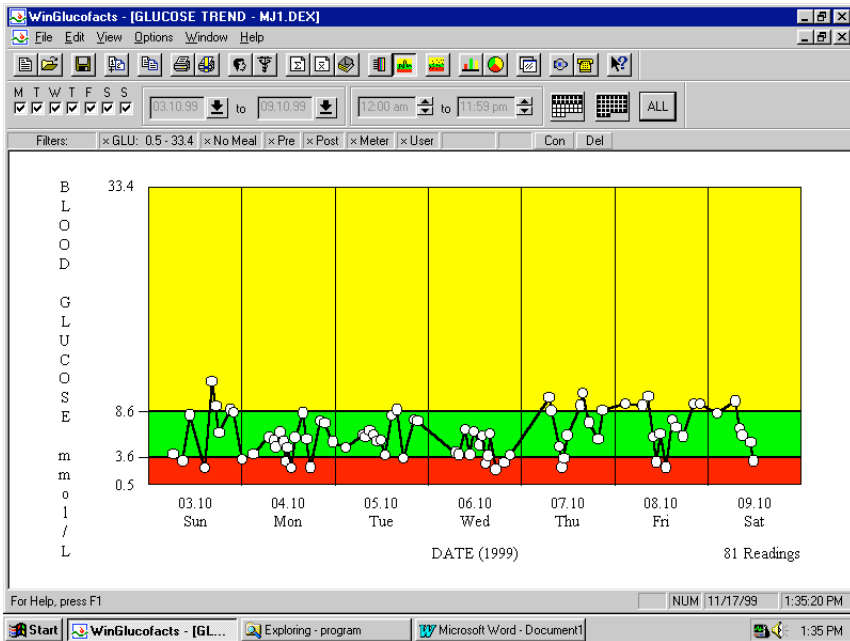
Graphs from Bayer WINGLUCOFACTS

CSII - Summary Profile

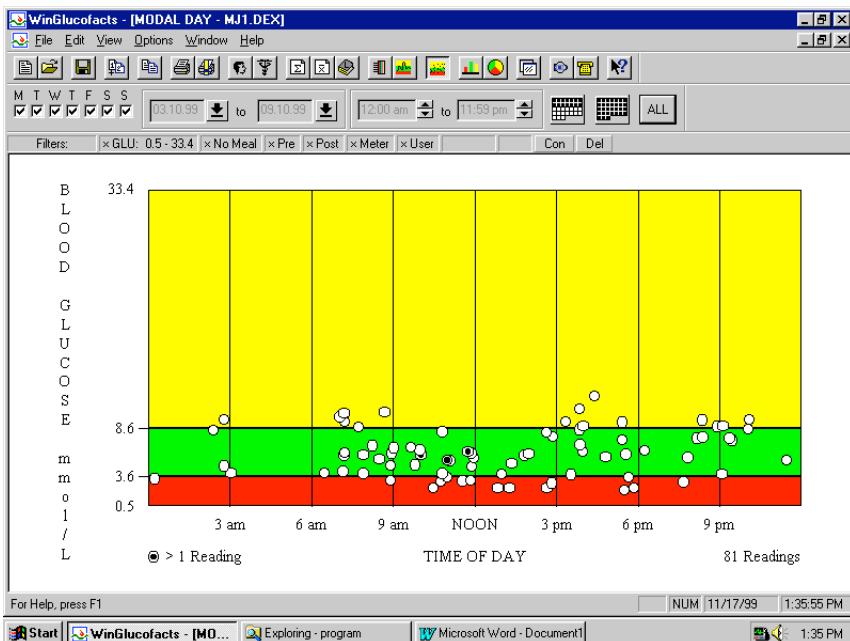




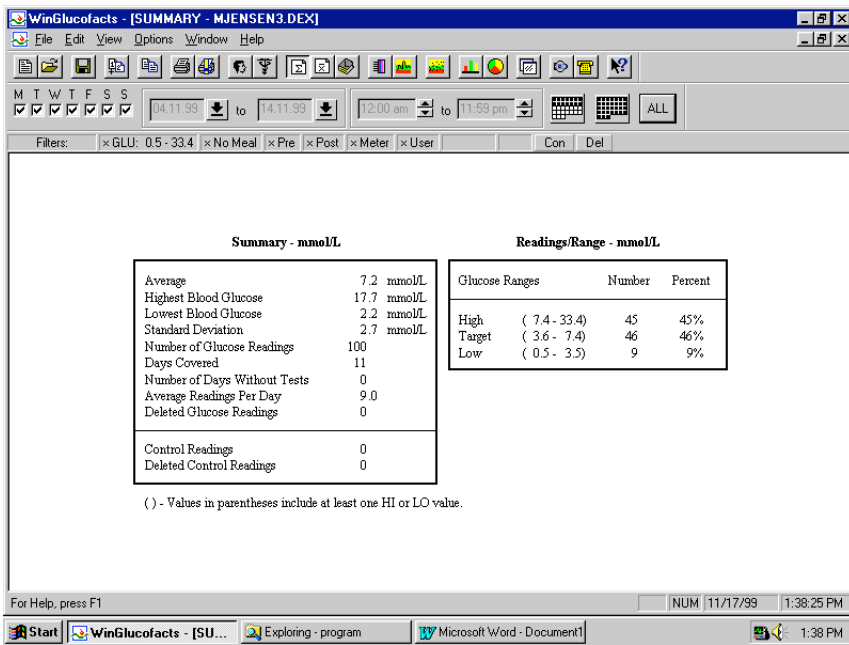
CSII - Glucose Trend Profile:



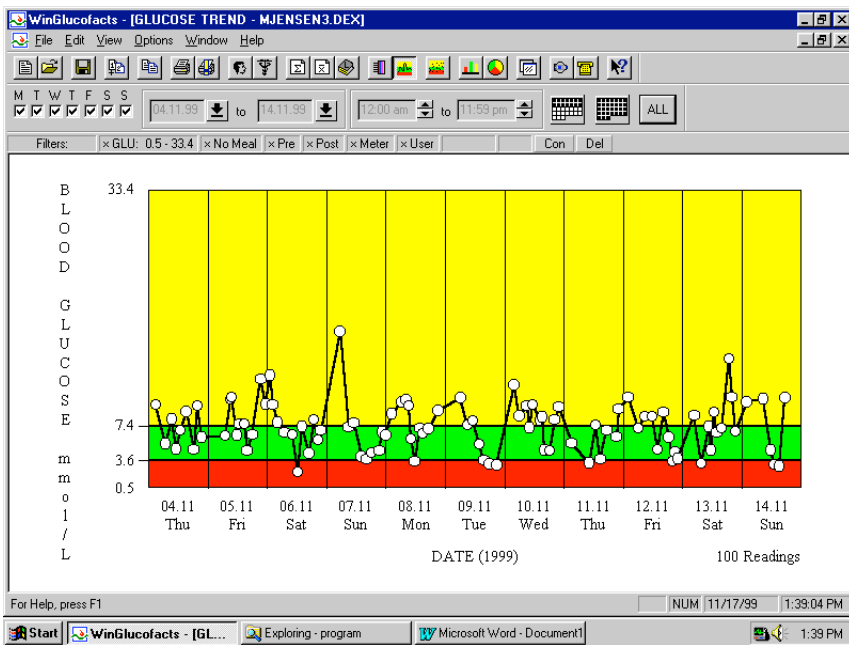
CSII - Modal Day Profile:



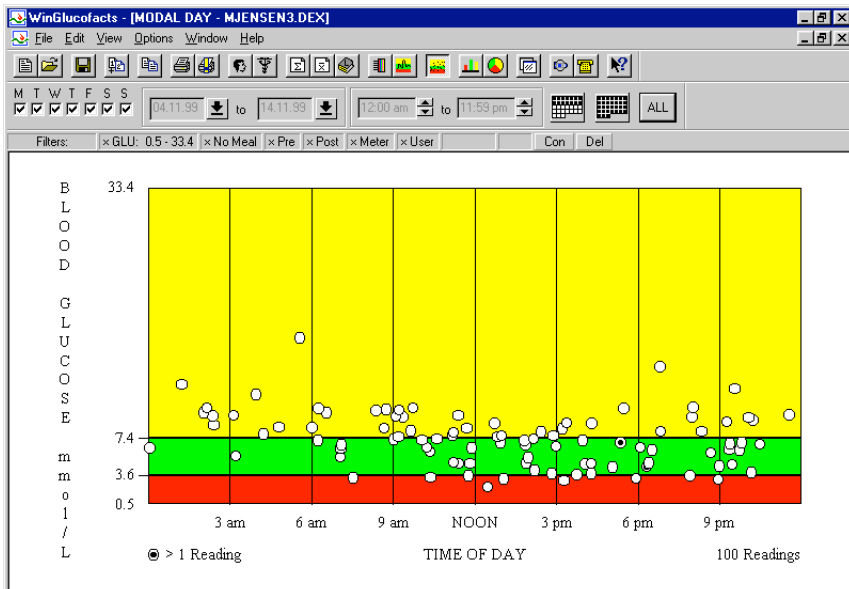
MDI - Summary Profile:



MDI - Glucose Trend Profile:



MDI - Modal Day Profile:





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Last updated: November 1999