

# Audit on Continuous subcutaneous Insulin Infusion (CSII- Insulin Pump) therapy.

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## OBJECTIVES:

Insulin pumps were introduced in the late 1970s. Their use has continued to grow and the technology has continued to improve along with the development of insulin substrates.

They can be a costly therapy (an average pump costs 2000-3000 pounds), therefore, NICE guidelines recommend pump therapy when patients are undergoing regular episodes of severe and sometimes unpredictable episodes of hypoglycaemia, HbA1c levels of over 8.5% despite attempts to lower it, difficult control during pregnancy, wide readings of blood glucose overnight, e.g dawn phenomenon and nocturnal hypoglycaemia and lastly patients choice.

Our audit's focus was to see if patients on insulin pump therapy complied with NICE guidance and to see whether insulin pump therapies improved their overall diabetic control.

## METHOD:

In our audit, 40 patients on insulin pump therapy at The Queens Medical Centre, Nottingham were chosen at random. The patient parameters gathered comprised: type of diabetes, duration of previous therapies and indication for commencing the pump. We also looked at HbA1cs over intervals across 5 years, weight and BMI. The rates of cannula site infection, diabetic ketoacidosis and admissions for disabling hypoglycaemic episodes was also documented.



## RESULTS:

Of the patient population studied 100% were Type 1 Diabetics. There was no improvement in their HbA1c at 5 years compared to their initial HbA1c. This conclusion was reached by comparing the average and standard deviation of the HbA1c at the various time intervals. (The average initially being 62.07 and 64.45 at 5 years. The SD being: 12.69)

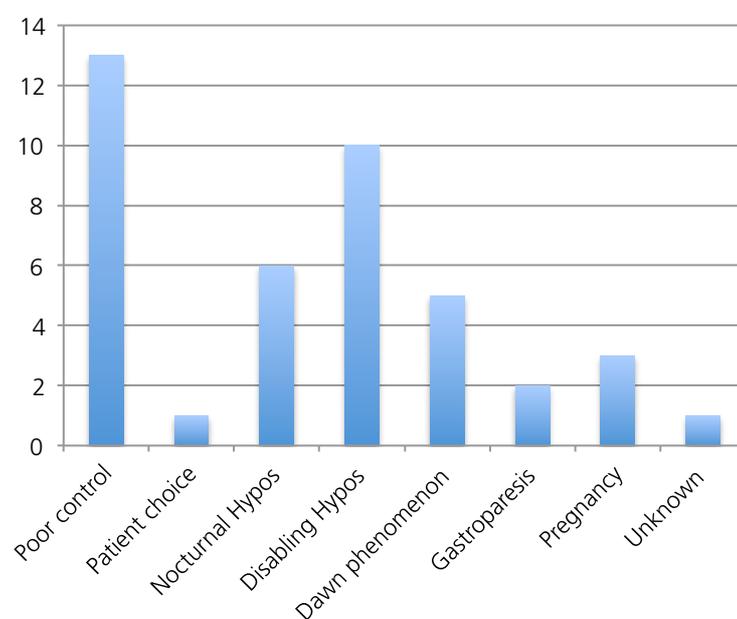


Figure showing the reasons for patients starting on pump therapy.

## CONCLUSION:

Although one of the many aims of insulin pump therapies is for tighter control of the HbA1c measurement, this was not seen in our patient cohort. However patients benefited from fewer admissions for diabetic ketoacidosis, disabling hypoglycaemic attacks and an overall improvement in quality of life with less need for continuous glucose monitoring and injections.