

Evaluation and audit of an adult pump service

Sue Griggs is a Diabetes Specialist Nurse, Eleanor Gurnell is Diabetes Consultant and Liz Hartley is a Diabetes Specialist Nurse, West Suffolk Hospital

The pump service started in 2004 when one of our teenage patients with type 1 diabetes was failing to improve her control and had numerous admissions with diabetes ketoacidosis (DKA). In order to move this teenager onto a pump, we had to gain new skills and were helped enormously by the pump educator. Switching the teenager to a pump stopped her hospital admissions and improved her control, so it was clear we needed to offer this service. We are now starting 20 adults on pump therapy each year and have over 80 pump users. The age range of our pump users is 17–73 years.

We have been collecting data to monitor the effectiveness of our service – a consultant who takes the lead in this alongside a specialist nurse. Initially both attended national training days and then organised training from recognised pump professionals here at the diabetes centre. The other specialist nurses in our team have had to develop a good knowledge of pumps to support our patients.

NICE criteria is followed for selection for pump therapy and in addition to this patients have to attend a pump interest session where we have a current pump user and a dietitian and the lead specialist nurse. From these sessions some attendees decide not to pursue a pump, but for those that are keen, they then need to attend and be competent in carbohydrate counting and knowledge. We offer this course monthly and knowledge

is assessed by completion of a carbohydrate food diary which is reviewed by our dietitian. Team members discuss each patient and if all agree they would be put forward for a pump. Waiting time from the start of the process could be 12 months, this partly is due to our resources as we have had to offer this service within our current capacity.

We have set up twice-monthly pump clinics and patients are reviewed every 6 months, unless they are experiencing a problem. They are also expected to attend ongoing education sessions every 6 months and so far we have achieved good attendance.

Data evaluation

We collected data on HbA_{1c}, hypoglycaemic awareness, quality of life and DKA admissions prior to pump start and at 6 and 12 months.

The average HbA_{1c} before pump therapy was 72 mmol/mol (8.7%). At 6 months the average was 63 mmol/mol (7.9%); a 0.8% reduction. At 12 months the average was 61.7 mmol/mol (7.8%), representing continued stable improvement.

Hypoglycaemic awareness was scored prior to pump therapy; 75% recognised the symptoms. At 6 months 87% had improved hypoglycaemic awareness and at 12 months 90% had improved awareness. This represents an excellent improvement in hypoglycaemic awareness.

Prior to pump therapy, the average

Problem Areas In Diabetes (PAID) score was 19 (where 0 = no problems and 80 = high problems). At 6 months and 1 year, the score was 12, showing quality of life improvement.

We looked at DKA admission over 3 years (2009–11) and found that 5% of these admissions were pump users (eight patients). Two of these people had been admitted at least six times each year for DKA prior to being on a pump. Since becoming pump users they have not been admitted at all.

Conclusion

The results so far indicate that appropriate patients have been selected for pump therapy and have benefited from improvement in control, quality of life and improved hypoglycaemic awareness. The reduction in admission to hospital with DKA has a cost-saving benefit. We now have 85 adult pump users and 30 children who will be moving to the adult service. We have a waiting list of 20 people who are ready to start pump therapy.

Our study shows that a successful pump service can be developed within a district general hospital, with no extra resources being allocated for this service. However, with the increasing numbers of pump users and ongoing interest in pump therapy we are having to prepare a business case for more resources to support this service ■

NICE (2008) *Continuous Subcutaneous Insulin Infusions*. NICE, London

The IMPROVE™ Control Campaign

The Global Task Force on Glycaemic Control is a group of physicians and specialists in the field of diabetes from around the world that is working in collaboration with Novo Nordisk with the ultimate aim of identifying and developing practical solutions to the global problem of poor glycaemic control in people with diabetes. Since early 2008, the *Journal of Diabetes Nursing* has featured articles and submissions under the banner of IMPROVE™ Control – a global public awareness campaign focused on the need for improved control, as part of the Task Force's work. Throughout 2012, the journal will continue to bring you articles on the barriers to good glycaemic control, and submissions from *you*, our readers, outlining the strategies you have used to help people with diabetes improve their control.

For example, perhaps you have implemented a new educational session in your area that has helped break down barriers to control, or maybe you have set up a new referral pathway that has helped improve HbA_{1c} levels. The *Journal of Diabetes Nursing* would like to help you share your practical solutions for improving control, no matter how big or small, with other nurses working in diabetes. We encourage you to take part in this global initiative by calling 020 7627 1510, or emailing jdn@sbcommunicationsgroup.com.

