

Insulin pump therapy: Pump up the volume

This is a report from the 6th Annual Conference of the Insulin Pump Association, which took place on 27 November 2012 at the Renaissance Manchester Hotel, Manchester.

This conference, organised by the Insulin Pump Association, brought together experts in insulin pump therapy to discuss practical solutions to common clinical scenarios and to share best practice from experienced specialist teams. Talks covered topics such as the role of pump therapy in type 3 diabetes, the use of pumps during and after exercise and complications of insulin pump therapy. Phase 1 results from the National Insulin Pump Audit, and the implications for practice, were also discussed. This document presents a summary of the conference.

Gill Morrison (Diabetes and Continuous Subcutaneous Insulin Infusion [CSII] Specialist Nurse, and Conference Chair) opened the conference and welcomed delegates to the event before introducing the first session of the day.

Session 1: National Insulin Pump Audit: Implications for practice

Dr Philip Weston, Consultant Diabetologist and Endocrinologist from the Royal Liverpool University Hospital, presented the results for the first phase of the National Insulin Pump Audit. The aims of the audit, he said, were to provide data on the number of adults and children on continuous subcutaneous insulin infusion (CSII) and continuous glucose monitoring in the UK, and to define a national standard for insulin pump therapy service provision, whilst ironing out inequalities in pump provision and training. Dr Weston announced that the first full presentation of the audit results was set to take place at the 2013 Diabetes UK meeting, followed by a second presentation of the results at the meeting of the Association of British Clinical Diabetologists.

Session 2: Type 3 diabetes and the role of pump therapy

Gill Morrison gave an overview of the causes and pathology of type 3 diabetes, and the therapeutic considerations when using CSII in this patient group. The causes of type 3 diabetes, she explained, include specific genetic defects such as cystic fibrosis and pancreatitis, and following pancreatic surgery. Gill noted that people with type 3 diabetes are a group

of very complex patients with multifaceted pathology who require multidisciplinary involvement in their diabetes management, easy access to pump therapy, holistic flexible specialist care, and structured, individualised education programmes.

Session 3: Pump use in pregnancy planning and beyond

Mary Bilous, Diabetes Specialist Nurse at James Cook University Hospital, spoke on the use of insulin pump therapy in pre-pregnancy planning and during pregnancy, and the management of labour, delivery and the post-partum period on CSII. Mary discussed the indications for pump therapy at the different stages of pregnancy and presented the evidence base in support of the use of CSII over multiple daily insulin injections in this setting.

Session 4: Adolescence and pumps

In her second talk of the day, Gill Morrison discussed the considerations for pump use in adolescence, and the associated challenges, with a particular focus on managing the transition of young people on CSII from children to adult health services. "Transition is a process, not an event," she said, and explained that paediatric and adult teams must work together to develop a joint care plan that ensures maintenance of blood glucose control and pump management skills, and encourages the young adult to take responsibility for his or her own healthcare.

Session 5: Exercise and pumps

Dr Dinesh Nagi, Consultant in Endocrinology and Diabetes Mellitus at the Mid Yorkshire

NHS Trust, discussed the issues associated with insulin pump therapy in exercise, including managing the risk of hypo- and hyperglycaemia and ketoacidosis, and calculating carbohydrate (CHO) requirement (he advised short "bursts" of CHO intake during exercise rather than taking a single CHO load). Dr Nagi said that managing exercise in people with a pump relies on an individual's key skills for using the technology. He also discussed the two main strategies to use while engaging in exercise – "pump on" and "pump off" – which, he argued, broadly offer no advantage over each other, but are used to suit individual needs and preference.

Session 6: Complications of pump therapy

Dr John Pickup, Professor of Diabetes and Metabolism at King's College London, spoke about the complications that can be seen with CSII therapy and how best to manage them. Metabolic complications, problems with the infusion site (infection, lipohypertrophy and dislodgement), cannula (leaking, kinking and blockage) and the pump (electromechanical failure and other specific issues), and "patient problems" such as weight change, coping and the social implications of using an insulin pump were discussed. Professor Pickup advised that cannula blockage with aggregated insulin is infrequent when the pump-use duration is ≤ 3 days, and does not differ between insulins, and that a "pump dietitian" should be involved in a pump user's diabetes management to help prevent weight gain. He also advised that caution is needed when treating some adolescents with "brittle diabetes", who respond less well to insulin pump therapy. ■