

Insulin pump therapy in practice: Don't set out to fail, set out to achieve. A toolkit for success

'Is pump therapy for me?' asked Philip Weston and Gill Morrison (Consultant Physician and Diabetes Specialist Nurse, Liverpool, respectively). They set up a pump service in 2001 and train all patients to use their pump in-house, in addition to providing education for other professionals. They recommended training patients in-house as 99% of their patients maintain therapy, as opposed to 56% who receive training from another provider.

Pumps should be recommended for people who experience frequent hypoglycaemic episodes, severe early morning hyperglycaemia, and are hypoglycaemia unaware. It should not be used for people with 'brittle' diabetes, poor adherence to therapy, poor motivation and those with significant psychological problems.

The speakers stressed the importance of a holistic approach to assessing someone before starting them on pump therapy. A review of general health and complications, the person's understanding of diabetes, psychiatric or psychological issues and learning barriers are all important before initiating pump therapy. It is vital that the health care team has the skills and resources to undertake

these assessments, which can be time consuming – up to 2 hours for each individual. To set up a pump service, the speakers advised that logistics should be considered and experience should be gained (for example, by visiting established centres, attending a pump course and working in partnership with experienced centres). It is also important to find the right patients as those who are poorly motivated, poor clinic attenders or who do not work in partnership do not do so well.

Making NICE guidance work for your patients

'National Institute for Health and Clinical Excellence (NICE) guidance on continuous subcutaneous insulin infusions is flawed,' according to Peter Hammond (Consultant Physician, Harrogate). He said that the guidance uses old data, only considers evidence from randomised controlled trials and forces people to suffer hypoglycaemia before 'earning' a pump. NICE guidance is also based only on reducing disabling hypoglycaemia as this is the only way of achieving an acceptable quality adjusted life expectancy (QALE) figure.

Dr Hammond recommended that: 'Negotiating with your commissioner is one way of making pumps available

to more people. A business case that states benefits for the organisation commissioning the service would be needed (benefits such as, a reduction in long-term complications and in reduced costs to secondary care). With so many more people using pumps in other developed countries, a case could also be made for there being an unmet need. To assure commissioners that you are providing value for a pump service, a robust process for monitoring ongoing suitability could be initiated.' He also suggested working with one PCT in the first instance, then asking other PCTs to join when the first service is established and showing the benefits of pump use.

The future of pumpology

'Insulin pumps are clinically proven to provide the most effective glucose control in diabetes care,' said David Kerr (Consultant Physician, Bournemouth). Dr Kerr suggested that the NHS could look at contracting with one or two pump providers as a way of reducing costs and thus making pumps available to more people.

Reviewing new pump systems, Dr Kerr mentioned patch pumps which are affordable, small, lightweight and easy to use. He said that they are likely to be a replacement for existing insulin pumps. 'The Starlet pump-based delivery system [Starbridge Medical Systems, Swansea], for example, contains a micropump and a reservoir, is attached directly to the skin and lasts for 3–9 days. Another system is the OmniPod [Bedford, Massachusetts] which has no tubing, it has automated cannula insertion and an integrated blood glucose monitor, and a personal diabetes manager. These are just a couple of advances among many that insulin pump manufacturers are developing.'

Finally he pointed out that advances in communication technology, such as for the Internet and mobile phones, may





Fiona Campbell, Consultant Paediatrician, Leeds

bring new ways to communicate with patients and manage therapy.

Establishing a network

'Where should the PUMP group go from here?' asked Fiona Campbell (Consultant Paediatrician, Leeds) in a session on developing a national pump network. Issues that could be addressed included whether the PUMP group network would be formal or informal and what the relationship would be with the Department of Health, patient groups, industry and the media.

The benefits of a formal network include shared standards, the potential for high quality clinical guidelines and joint training. However, there could be a loss of spontaneity and it would be challenging to find the optimal level of hierarchical control and accountability. A managed clinical network was defined in

1998 by the Scottish Office as:

'Linked groups of health professionals and organisations from primary, secondary and tertiary care work together in a co-ordinated manner to ensure equitable provision of high quality, clinically effective services.' (The Scottish Office, 2002)

'If networks are a step in the right direction, then current mechanisms for commissioning services still do not fit well with a network concept,' said Dr Campbell. This is because of the development of practice-based commissioning and payment-by-results. 'We need to provide truly joined-up services with services commissioned on a networked basis,' she concluded.

'15–20 % of patients should have a pump trial'

At least 15–20 % of people with type 1 diabetes should be offered a pump trial on clinical reasons said John Pickup (Professor of Diabetes and Metabolism, London). In the UK we lag behind the rest of Europe with fewer than 1 % of people with diabetes receiving a pump. The figure in Germany is 15 % and 20 % in the US.

He discussed an unpublished meta-analysis (of 21 trials) of multiple dose insulin injections and continuous subcutaneous insulin infusion therapy. A 75 % reduction in the rate of severe hypoglycaemia in people using pump therapy was observed. 'Long-acting

insulin analogues do not overcome the need for pumps,' he said, 'because they do not reduce the incidence of severe hypoglycaemia. The quality of life is also better on pump than multiple injection therapy.' He concluded by asking a rhetorical question: 'Should patients who simply prefer pumps as their form of therapy be allowed to use them?'

The dawn phenomenon can often be managed by glargine or detemir, he said. Therefore the dawn phenomenon is becoming a less frequent reason for using pump. However, pump reduces hypoglycaemia and between-day blood glucose variability and is most effective in the patients who are poorly controlled on multiple dose insulin injections. ■

Scottish Office, The (2002) *Community Health Partnerships. Consultation Paper on Guidance.* The Scottish Executive, Edinburgh



Phillip Weston, Consultant Physician, Liverpool

The event was held on Tuesday 31 October 2006 at The Renaissance Manchester Hotel, Manchester, and had the following companies as its principal sponsors.



For further details of this year's PUMP conference please email Suzanne Sinclair on suzanne@sbcommunicationsgroup.com