



Dietitians Association of Australia

Response to Post Market Review of Products Used in the Management of Diabetes on Stage 2: review of insulin pumps

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The Dietitians Association of Australia (DAA) is the national association of the dietetic profession with over 5000 members, and branches in each state and territory. DAA is a leader in nutrition and advocates for better food, better health, and better living for all.

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The DAA understands that Stage 2 of the Post Market Review of Products Used in the Management of Diabetes covers the terms of reference, 8-10, relating to the clinical benefits of insulin pump therapy for type 1 Diabetes:

8. Determine the clinical outcomes (e.g. HbA1C, health-related quality of life, and other potential benefits and harms) for people with type 1 diabetes) of insulin pump therapy. In this, consideration should be given to different age groups, with a particular reference to those under 18 who may be eligible for the Insulin Pump Program which is funded by the Australian Government;
9. Investigate the cost-effective use of different insulin pumps available under the Insulin Pump Program; and
10. Consider the clinical criteria and eligibility under the Insulin Pump Program, to ensure those who would most benefit from insulin pump therapy receive support to assist in their care.

Recommendations:

1. That Accredited Practising Dietitians (APDs) are involved in the assessment of all patients commencing insulin pump therapy by providing individualised nutrition assessment and medical nutrition therapy as part of a diabetes multidisciplinary team.
2. That APDs are involved with continuing nutrition education of pump users specifically regarding carbohydrate counting and maintaining a healthy weight.

Clinical criteria and eligibility for insulin pump program

Accredited Practising Dietitians are an essential part of the Diabetes multidisciplinary team¹. APDs are uniquely qualified to deliver medical nutrition therapy and should be involved in the assessment of all patients commencing insulin pump therapy.

The “use of Continuous subcutaneous insulin infusion (CSII) requires care by skilled professionals, careful selection of patients, meticulous patient monitoring, and thorough patient education.”¹ And “it is recommended that CSII therapy be initiated only by a trained specialist team, which should normally comprise a physician with a specialist interest in insulin pump therapy, a diabetes specialist nurse and a dietitian. Specialist teams should provide structured education programmes and advice on diet, lifestyle and exercise appropriate for people using CSII.”³

APDs work in large tertiary centres with paediatric endocrinology units as part of multidisciplinary teams. In this way, APDs are currently involved with clients commencing insulin pump therapy. APDs are involved in assessing suitability for insulin pump therapy, specifically in assessing competency with counting carbohydrates and providing individualised nutrition education to patients, carers and families.

Counting carbohydrates (CHO) is an important skill that pump users require as insulin doses are calculated based on patient carbohydrate intakes (with respect also to blood glucose level and anticipated physical activity). CHO counting allows increased flexibility in the timing, frequency and CHO amount of meals and snacks and additionally the management of physical activity.⁴ Accuracy in CHO counting is associated with improved glycaemic control⁵. Regular review of CHO counting skills is necessary to maintain accuracy⁶. Nutrition education delivered by APDs to pump users includes⁷:

- identifying CHO in foods
- quantifying CHO in meals and snacks
- using an insulin to CHO ratio to calculate pre-meal dose rapid acting insulin
- healthy eating principles
- consideration of meal timing and routines at childcare, preschool and school, , eating out and alcohol

- food label reading skills.

Clinical Outcomes of insulin pump therapy

There are numerous peer reviewed articles showing adjusting insulin for carbohydrates on an intensive insulin regimen improves HbA1c and results in more stable BGLs with fewer hypos^{3, 8,9}. DAA also acknowledges that improved quality of life is also considered a benefit of insulin pump therapy.

Pumps available

APDs working in the area indicate that potential pump clients are shown a variety of pump models, the pros and cons of each are discussed and the client is given the final choice in determining which they prefer. DAA does not have evidence to submit on the cost effectiveness of different insulin pumps, however an advantage of some pumps is continuous glucose monitoring (CGM) compatibility.

Other issues identified by APDs:

- Continuous glucose monitoring sensors are neither covered by most private health insurers nor the NDSS. CGM allows detection of glucose variability particularly with small children at risk of hypoglycaemia overnight¹⁰
- Adults with type 1 diabetes find the cost of pumping difficult. Though they may be eligible for subsidised insulin pump consumables via the NDSS they are not eligible for the insulin pump government subsidy program administered by the Juvenile Diabetes Research Foundation (JDRF).
- Potential pump users are often misinformed by health insurers about eligibility to be covered for insulin pump therapy equipment.

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