

## DIABETIC MEDICINE



### Transition of young people from paediatric to adult diabetes care

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

**1** The authors evaluated the transition of 118 young people with T1D from paediatric to adult healthcare services.

**2** Young people were evaluated during their senior year of high school (T1) and 1 year later (T2). HbA<sub>1c</sub>, self-reported self-care, physician specialty, transition timing and demographic and parent relationship variables were recorded.

**3** Most young people saw a paediatric endocrinologist at T1 and T2 (*n*=64). The remaining saw an adult care physician at both assessments (*n*=26), transitioned from paediatric to adult care services (*n*=19), or did not see a physician (*n*=9).

**4** Younger age of transition to adult care was associated with poorer glycaemic control, lower social status, non-white race and lower levels of parental involvement in their daily lives.

**5** The best self-care was reported by young people who remained in paediatric healthcare at T1 and T2; glycaemic control did not decline over time in this group and they reported the greatest parental involvement in diabetes care.

**6** The authors concluded that further research is needed to identify factors that determine optimal timing of transition of young people to adult diabetes care services.

Helgeson VS, Reynolds KA, Snyder PR et al (2012) Characterizing the transition from paediatric to adult care among emerging adults with Type 1 diabetes. *Diabet Med* 15 Nov [Epub ahead of print]

### Transition – are we getting it right?



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Adolescence can be a horrid time – narcissism plagued by self-doubt and loathing. A desire to break free from one generation replaced with a desperate need to blend in to one's own. Sex hormones in excess, ridiculous quantities of hair products and make up, loud music guaranteed to

upset and experimentation with alcohol and drugs are commonplace. Try fitting that into a schedule of blood testing, “carb” counting and corrective dosing. Then right in the middle of GCSEs your paediatrician hands you over to a clinic on the other side of town, full of elderly, fat people with one leg and poor vision!

Transition does not have to be like that, but in many diabetes services around the country there is either little or no joint handover. The publication *Diabetes Transition: Assessment of Current Best Practice and Development of a Future Work Programme to Improve Transition Processes for Young People with Diabetes* (NHS Diabetes, 2012) together with *Quality Standards for Transition* (NHS Diabetes, 2013) are useful guides by which we can measure our own arrangements for helping the young person with diabetes move from paediatric to adult services in the least disruptive way.

Having said that there is little hard evidence of what works best, and certainly we should not be tied by historical agreements, such as handover at a particular age. In the paper by Helgeson et al (summarised alongside), children with diabetes in the US who transition early from the paediatric healthcare system to the adult healthcare system have worse glycaemic control, which is associated with psychosocial variables. In many European countries, young people stay with their paediatrician up to the age of 21, and there is a lot to be said for the continuity that would provide.

Transition is about the differing needs of the child, the adolescent and the young adult, and how we as a provider of care respond to these demands. Continuity and consistency are vital, and whatever the age of transition, paediatricians and adult physicians must work to ensure common aims and a smooth transfer from one service to another. We have plenty of evidence that failure to achieve this is associated with worse long-term outcomes.

NHS Diabetes (2012) *Diabetes Transition: Assessment of Current Best Practice and Development of a Future Work Programme to Improve Transition Processes for Young People with Diabetes*. NHS Diabetes, Newcastle upon Tyne. Available at: [www.diabetes.nhs.uk/document.php?o=3842](http://www.diabetes.nhs.uk/document.php?o=3842) (accessed 18.03.13)

NHS Diabetes (2013) *Quality Standards for Transition*. NHS Diabetes, Newcastle upon Tyne. Available at: [www.diabetes.nhs.uk/document.php?o=4036](http://www.diabetes.nhs.uk/document.php?o=4036) (accessed 18.03.13)

## DIABETIC MEDICINE

### Experiential learning enables adolescents with T1D to better self-manage diabetes

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓✓✓

**1** In this qualitative phenomenological study, the authors sought to determine adolescents' experiences of self-managing T1D as well as their parents' perspectives.

**2** The study comprised 20 adolescents aged 13–16 years with T1D and 27 of their parents; in-depth interviews were conducted to determine each adolescent's ability to adapt to the

diagnosis, to learn to self-manage T1D and to become independent.

**3** Adolescents and their families had to adapt to the diagnosis of T1D; gaining clinical knowledge and experiential learning were pivotal to families' ability to adapt.

**4** The process of experiential learning was key to enabling adolescents to learn to self-manage their diabetes and gain independence; it was important that parents and healthcare professionals facilitated adolescents to learn through trial and error.

**5** Results have been used to develop an online, interactive Adolescent Diabetes Needs Assessment Tool.

Spencer JE, Cooper HC, Milton B (2013) The lived experiences of young people (13–16 years) with type 1 diabetes mellitus and their parents – a qualitative phenomenological study. *Diabet Med* 30: e17–24. doi: 10.1111/dme.12021. Available at: <http://1.usa.gov/XVZ95N> (accessed 18.3.13)

**“Inaccurate carbohydrate counting was associated with daily blood glucose fluctuations, and there is potential benefit of improving nutritional support and education for people with T1D.”**

## DIABETES RES CLIN PRACT

### CHO counting accuracy affects blood glucose variability in T1D

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓

**1** Estimating the carbohydrate (CHO) content of meals is an important determinant of post-prandial blood glucose levels and glycaemic variability in people with T1D.

**2** The authors assessed the accuracy of CHO counting and the effect on glycaemic variability in real-life conditions in adults with T1D ( $n=50$ ).

**3** A dietitian taught participants how to complete a detailed food diary. Blood glucose excursions were recorded using a masked continuous glucose monitor worn for 72 hours.

**3** After 1 week, food diaries were analysed by a dietitian, and data were downloaded from the CGM. The mean CHO difference between the patients' estimates and the values yielded from analysis by the dietitian were calculated.

**4** A total of 448 meals were reported on; CHOs were underestimated in 62.7% of meals. There was a positive correlation between the adult's estimates and the computerised evaluation of CHO values ( $r=0.76$ ;  $P<0.001$ ).

**5** Glycaemic variability was predicted by greater differences in CHO estimates, measured by decreased time with blood glucose values between 4 and 10 mmol/L, the MAGE (mean amplitude of glucose excursions) index, and glucose standard deviation ( $R^2=0.110$ , 0.110 and 0.114, respectively).

**6** The authors concluded that inaccurate CHO counting was associated with daily blood glucose fluctuations, and that there is potential benefit of improving nutritional support and education for people with T1D.

Brazeau AS, Mircescu H, Desjardins K et al (2013) Carbohydrate counting accuracy and blood glucose variability in adults with type 1 diabetes. *Diabetes Res Clin Pract* **99**:19–23

## DIABETES CARE

### Insulin regimens and clinical outcomes

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

**1** The authors investigated the relationship between changes in insulin regimens and outcomes over time in young people with newly diagnosed T1D ( $n=1606$ ). Insulin regimen information and HbA<sub>1c</sub> were recorded at baseline and follow-up study visits.

**2** After a mean follow-up of 36 months, 51.7% of people ( $n=830$ ) had changed to a more intensive (MI) insulin

regimen, 44.7% ( $n=718$ ) did not change their regimen, and 3.6% ( $n=58$ ) changed to a less intensive (LI) regimen.

**3** Baseline HbA<sub>1c</sub> and increases in HbA<sub>1c</sub> over time were significantly lower in people on an MI insulin regimen or in those who did not change their regimen. Younger, non-Hispanic white children with a higher household income and higher parental education level were more likely to intensify their insulin therapy.

**4** The authors concluded that the positive outcomes of MI insulin regimens highlight a need to improve the socioeconomic disparities of insulin intensification in children with T1D.

Pihoker C, Badaru A, Anderson A et al (2012) Insulin regimens and clinical outcomes in a type 1 diabetes cohort: the SEARCH for Diabetes in Youth study. *Diabetes Care* **6 Sep** [Epub ahead of print]

## DIABETES METAB RES REV

### Seasonal and gender differences in T1D beta-cell function

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

**1** The aim of this study was to establish if seasonal and gender variation lead to a difference in residual insulin secretion at T1D diagnosis in a Swedish cohort ( $n=3824$ ).

**2** Non-fasting serum C-peptide was measured at T1D diagnosis before the first insulin injection.

**3** C-peptide levels were lower in children aged 0–10 years than those aged 11–18 years ( $0.23\pm 0.2$  nmol/L versus  $0.34\pm 0.28$  nmol/L; statistically significant).

**4** Non-fasting C-peptide varied seasonally, and correlated significantly with seasonal variation of T1D diagnosis ( $P<0.01$ ). This effect was more pronounced in girls than in boys.

**5** The authors concluded that the study results may influence allocation of immune therapy in T1D.

Samuelsson U, Lindblad B, Carlsson A et al (2013) Residual beta cell function at diagnosis of type 1 diabetes in children and adolescents varies with gender and season. *Diabetes Metab Res Rev* **29**: 85–9

## DIABETES CARE

### A novel, long-acting basal insulin versus insulin glargine

Readability	✓✓✓✓
Applicability to practice	✓✓✓
WOW! factor	✓✓✓

**1** The authors compared LY2605541, a novel, long-acting basal insulin, with insulin glargine (GL) in terms of reducing daily mean blood glucose levels in 137 people with T1D on a basal-bolus insulin regimen.

**2** Participants received either LY2605541 or GL once daily, and mealtime insulin for 8 weeks; this was followed by 8 weeks' crossover treatment. Daily 8-point self-monitored blood glucose profiles were recorded.

**3** Compared with GL, LY2605541 was associated with greater improvements in glycaemia, reduced nocturnal hypoglycaemia, increased total glycaemia, weight reduction and reduced mealtime insulin.

Rosenstock J, Bergenstal RM, Blevins TC et al (2012) Better glycemic control and weight loss with the novel long-acting basal insulin LY2605541 compared with insulin glargine in type 1 diabetes: a randomized, crossover study. *Diabetes Care* **27 Nov** [Epub ahead of print]