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Tighter Glycemic Control Linked to Lower Prevalence of Retinopathy in Adolescents with Type 1 *20-Year Observational Study Confirms Conclusions of DCCT*

Alexandria, VA (October 24, 2011) – A trend to more intensively manage blood glucose levels in adolescents with type 1 diabetes over the past two decades has been linked to a corresponding decrease in retinopathy for this age group, according to a study being published in the November issue of *Diabetes Care*.

The study by researchers at the Institute of Endocrinology and Diabetes, at the Children’s Hospital at Westmead, Australia, followed 1,604 adolescents who had lived with type 1 diabetes for at least five years and were being treated with Continuous Subcutaneous Insulin Infusion (CSII) or Multiple Daily Injections (MDI) of insulin. This observational trial included 2,030 health assessments over a 20-year period (1990-2009). Researchers were able to confirm an association between intensive blood glucose management, improved glycemic control and lower risk of retinopathy without an increase in severe hypoglycemia.

“Our findings provide some reassurance for lower glycemic targets and increased use of MDI and CSII in children and adolescents with type 1 diabetes,” the researchers wrote. The study comes 18 years after the Diabetes Control and Complications Trial (DCCT) first showed that keeping blood glucose levels close to normal slowed the onset and progression of eye, kidney and nerve damage in people with type 1.

Retinopathy was found in approximately half of adolescents who had type 1 diabetes in the early 1990s, compared with only 12 percent in recent years (2005-2009), as an increasing number of adolescents (23%) achieved the target A1C range of 7.5 percent.

The study also found some evidence suggesting that those treated with CSII were at reduced risk for retinopathy compared with those treated with MDI, even though there was no difference in A1C between the groups. This suggests that the reduced risk level stems from reduced glycemic variability, the authors hypothesized.

“This is wonderful news for all the children with type 1 diabetes and their families and health professionals,” said lead researcher Kim Donaghue, MBBS, PhD, FRACP, Professor at the University of Sydney and Head of the Diabetes Service at the Children’s Hospital at Westmead in Sydney, Australia. “However, not all children with type 1 diabetes can access good health care and technology. We need to continue to advocate for these children and for the resources and technological improvements to further reduce morbidity from type 1 diabetes.”

To reach Professor Donaghue, email kimd@chw.edu.au.

Diabetes Care, published by the American Diabetes Association, is the leading peer-reviewed journal of clinical research into one of the nation's leading causes of death by disease. Diabetes also is a leading cause of heart disease and stroke, as well as the leading cause of adult blindness, kidney failure, and non-traumatic amputations.

The American Diabetes Association is leading the fight to stop diabetes and its deadly consequences and fighting for those affected by diabetes. The Association funds research to prevent, cure and manage diabetes; delivers services to hundreds of communities; provides objective and credible information; and gives voice to those denied their rights because of diabetes. Founded in 1940, our mission is to prevent and cure diabetes and to improve the lives of all people affected by diabetes. For more information please call the American Diabetes Association at 1-800-DIABETES (1-800-342-2383) or visit www.diabetes.org. Information from both these sources is available in [English](#) and [Spanish](#).

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