



**EDITOR'S CORNER**

**DIABETES TYPE 2: WHAT'S NEW? (AUGUST 2009)**

**Q:** Can you clarify the issues about tight glycemic control in type 2 diabetes that were raised in module? The June issue of *Canadian Family Physician* had an excellent debate on this issue.<sup>1,2</sup> The pro and con arguments were **both** persuasive.

**A:** The argument "for" tight glycemic control in type 2 diabetes<sup>1,3</sup> centres on evidence from large, long-term randomized trials showing that tight glycemic control (<0.07) can reduce microvascular and macrovascular complications.<sup>4,5,6,7</sup> This effect (the so-called legacy effect) is evident over the long-term if tight control is applied early in the course of the disease.<sup>8,9</sup>



The argument against tight control comes from more recent studies<sup>10,11,12</sup> showing that intensive glycemic control reduces microvascular complications but not cardiovascular events in type 2 diabetes. The ACCORD trial<sup>10</sup> found that intensive therapy was associated with a small (1%) increased risk of death. The "pro" camp points out that, compared to the DCCT and UKPDS, these studies were short (3.5–5 years), enrolled older participants who had diabetes longer (e.g., 10 year average<sup>10</sup>) and were at higher risk for cardiovascular events. Furthermore, the ACCORD trial attempted the most aggressive glycemic lowering (A1C <0.06 in six months) and its increased risk of death was "less than the predicted rate (4%)."<sup>1</sup>

The "pro" camp concludes that "Tight glycemic control in type 2 diabetes, with HbA1C target levels of less than 7%, reduces microvascular complications of diabetes. It might also reduce

macrovascular complications if initiated early, although it might take longer for the benefits to become evident."<sup>1</sup>

The argument "against" tight glycemic control takes issue with the evidence cited above, specifically the DCCT3 and EDIC5 trials which included only patients with type 1 diabetes—a "profoundly different disease."<sup>2</sup> Furthermore, the reduction in microvascular complications (e.g., reductions in proteinuria, not renal failure, or in retinal photocoagulation, not blindness) may be unimportant to patients. They may well be more concerned about an increased risk of death from tight control, an increase that is of the same relative magnitude as the reduction in microvascular complications.

The fact that macrovascular complications "may be reduced" is described as a weak basis for imposing the burden of tight glycemic control on patients—complex treatment regimens, cost, weight gain and hypoglycemic events. "And there is currently no evidence for its prevention of cerebral or peripheral vascular disease."<sup>2</sup>

The "con" camp concludes that "single minded pursuit of tight control diverts resources from more rewarding investments for health promotion...and lifestyle counselling that could reduce the prevalence of type 2 diabetes."<sup>2</sup> – CT/GA/JW/LC

***There is no bottom line for the debate on tight glycemic control at this time. The evidence is weighted in the middle and practitioners need to consider factors related to their own patients when deciding about glycemic targets.***

**References**

1. Clement M, Bhattacharyya O, Conway, JR. Is tight glycemic control in type 2 diabetes really worthwhile? Yes. *Canadian Family Physician* 2009;55:580-82.
2. Wilson G, Perry T. Rebuttal. Is tight glycemic control in type 2 diabetes really worthwhile? No. *Canadian Family Physician* 2009;55.

3. Flegel K. Controlling the complications of diabetes: It's about the sugar. CMAJ 2009; 181 (67): 357. DOI:10.1503/cmaj.091354.
4. The Diabetes Control and Complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. N Engl J Med 1993;329(14):977-86.
5. UK Prospective Diabetes Study (UKPDS) Group. Intensive blood-glucose control with sulphonylureas or insulin compared with conventional treatment and risk of complications in patients with type 2 diabetes (UKPDS 33). Lancet 1998;352(9131):837-53.
6. Nathan DM, Cleary PA, Backlund JY, Genuth SM, Lachin JM, Orchard TJ, et al. Intensive diabetes treatment and cardiovascular disease in patients with type 1 diabetes. N Engl J Med 2005;353(25):2643-53.
7. Ray KK, Seshasai SRK, Wijesuriya S, et al. Effect of intensive control of glucose on cardiovascular outcomes and death in patients with diabetes mellitus: a metaanalysis of randomized controlled trials. Lancet 2009;373:1765-72.
8. Holman RR, Paul SK, Bethel MA, Matthews DR, Neil HA. 10-year follow-up of intensive glucose control in type 2 diabetes. N Engl J Med 2008;359(15):1577-89. Epub 2008 Sep 10.
9. Gaede P, Lund-Andersen H, Parving HH, Pedersen O. Effect of a multifactorial intervention on mortality in type 2 diabetes. N Engl J Med 2008;358(6):580-91.
10. Action to Control Cardiovascular Risk in Diabetes Study Group, Gerstein HC, Miller ME, Byington RP, Goff DC Jr, Bigger JT, et al. Effects of intensive glucose lowering in type 2 diabetes. N Engl J Med 2008;358(24):2545-59.
11. ADVANCE Collaborative Group, Patel A, MacMahon S, Chalmers J, Neal B, Billot L, et al. Intensive blood glucose control and vascular outcomes in patients with type 2 diabetes. N Engl J Med 2008;358(24):2560-72.
12. Duckworth W, Abraira C, Moritz T, Reda D, Emanuele N, Reaven PD, et al. Glucose control and vascular complications in veterans with type 2 diabetes. N Engl J Med 2009;360(2):129-139.

**RESEARCH NEWS** contact Stefanie Roder at 905.525.9140 ext. 22223 [rodgers@mcmaster.ca](mailto:rodgers@mcmaster.ca)

#### INVITATION TO PARTICIPATE IN A RESEARCH PROJECT ON SELF-ASSESSMENT AND PRACTICE CHANGE

FMPE is undertaking a three-year research project that was developed under the leadership of Dr. Kevin Eva and Dr. Heather Armson and will be funded by the Medical Council of Canada. This project will examine the role played by different types of feedback strategies and their value to physicians with respect to enhancing continuing education efforts. Family physicians agreeing to participate in this project will study two educational modules within their usual practice based learning session (small group or individual) that focus on clinical topics determined by participants' needs assessment. Participants will make their usual commitment to change statements, will complete a clinically-oriented test of their knowledge within the domains of study, and will provide feedback to the researchers regarding which feedback strategy was most helpful in influencing their practice. For further information and to sign up for the study, please, contact the research coordinator, Stefanie Roder at 905-525-9140 ext. 22223 or [rodgers@mcmaster.ca](mailto:rodgers@mcmaster.ca).

#### FOUNDATION NEWS AND NOTICES

#### IMPORTANT NOTICE – DIRECT CREDIT ENTRY FOR MAINPRO CREDITS TO CFPC – LAUNCH DATE: SUMMER 2010

We are currently in the development phase of the Direct Credit Entry system with the College Of Family Physicians of Canada (CFPC), and we will not actually go live with direct entry of your credits until **the end of your next membership cycle**; e.g. for those with a September 1, 2009 start date, the direct credit entry will begin at the end of this cycle: starting **August, 2010**; for those with a January 1, 2010 start date, the direct credit entry will begin at end of this cycle: starting **December, 2010**. **PLEASE NOTE:** Until then, your official study credits will still be processed and mailed to you in the current manner and it continues to be your responsibility to send them to the CFPC directly.

Just a reminder for those who have not yet signed and returned their important notice fax back/mail entry, to please do so at their earliest opportunity. If you have misplaced, please contact us via email at [fmpe@mcmaster.ca](mailto:fmpe@mcmaster.ca) or by calling 1-800-661-3249 and choose your program option. We will be happy to email/fax you a blank copy for signing and returning. **Note: For the upcoming January 2009-10 start dates, the Important Notice is included in your renewal.**

**FACILITATOR TRAINING WORKSHOPS** contact Heather Haywood 800.661.3249 [haywood@mcmaster.ca](mailto:haywood@mcmaster.ca)

#### SPRING 2010 (TENTATIVE DATES - MINIMUM REGISTRATION REQUIRED TO PROCEED)

Saturday, April 17  
Hamilton - **Open**

Saturday, April 24  
Vancouver - **Closed**

Saturday, April 24  
Ottawa - **Open**

**To avoid disappointment  
Book Early!**

**UPCOMING MODULES** Do you have a module topic suggestion? Send to: [fmpe@mcmaster.ca](mailto:fmpe@mcmaster.ca)

▪ ACUTE CORONARY SYNDROME: POST MI ▪ ANTIPLATELET DRUGS ▪ CANCER PREVENTION: THE ROLE OF EXERCISE ▪

Visit our Website at [www.fmpe.org](http://www.fmpe.org) or call (800) 661-3249