

Diabetes Care in Nova Scotia

a newsletter of the Diabetes Care Program of Nova Scotia

1278 Tower Rd., Bethune Bldg., Suite 577, Halifax, NS B3H 2Y9 Tel: (902) 473-3219 Fax: (902) 473-3911
E-mail: dcpns@diabetescareprogram.ns.ca; Website: www.diabetescareprogram.ns.ca

State of the Art

The Adolescent Brain: Grey Matter in Transition

During the DCPNS Spring Workshop last year, Dr. Beth Cummings presented "*Pediatric to Adult Diabetes Care: How Can We Facilitate Successful Transition?*" Since that time, the DCPNS has formed a working group to address the issues around transition in Nova Scotia. Crucial to the successful development of effective transition guidelines and age appropriate educational materials is a true understanding of adolescence. However, as we know, understanding the "adolescent" is not always so easy!

This article presents some enlightening discoveries about the physiological development of the teen brain that help us to understand why teens act the way they do. Hormones and sleep, additional factors impacting teen brain development, are also considered. The implications for adolescents with diabetes will be discussed along with strategies to help the diabetes educator deal with this intriguing yet challenging age group.

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Reflections of a Diabetes Educator

Kids can be so challenging, especially those teens! Do we really make a difference in the management of their disease? They don't seem to listen to us anyway! What will today bring...more "fudged" blood glucose numbers, forgotten record books, meters that have lost their batteries to a hand held video game - the list goes on.

Physiology of the Teen Brain

Recent technology has revealed that contrary to previous understanding, a twelve year old has **not** reached full brain maturity; but in fact, growth continues into the late teen years and even through the twenties. Growth and development of the brain during early adolescence is characterized by three distinct processes: *proliferation*, *pruning*, and *myelination*.¹ These stages of development influence the adolescent's behavior (attitude, response, and actions) and contribute significantly to our understanding of productive interactions.

Proliferation

Proliferation or over production of *grey* matter, the thinking part of the brain, **first** occurs in utero and continues for about the first 18 months of life. Research by Dr. Jay Giedd, using magnetic resonance imaging (MRI), revealed that proliferation occurs for a **second** time during early adolescence, peaking at age 11 for girls and age 12 1/2 for boys. Neurons grow bushier, making dozens of connections to other neurons creating new pathways for nerve signals. This stage provides the opportunity for a teen to develop new neuronal pathways such as

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those required for diabetes management skills. A final, critical part of this wave of proliferation occurs in the late teens.²

Pruning

Pruning involves the thinning out of neurons. This process is believed to be guided both by genetics and by a “use-it-or-lose-it principle.” Neuronal pathways frequently used remain and are strengthened, and unused neurons wither away. Begley (2000) quotes Giedd as stating, “Teens thus have the power to determine their own brain development, to determine which connections survive and which don’t. Whether they do art, or music, or sports, or videogames, the brain is figuring out what it needs to survive and adapting accordingly.”⁴ Pruning occurs primarily in areas of the brain that govern selected functions such as self-control, judgment, emotions, organization, multitasking, and goal-directed behavior.¹ Consider neuronal connections that underlie diabetes management skills. They will stick around if they are used but will wither away and die if they are not!

Myelination

During myelination, a layer of insulation called “myelin” envelops nerve fibers making them more efficient - just like the insulation on electric wires improves conductivity.³ A process that results in increased brain efficiency with fewer but faster connections. However, the downside to myelination is a decreased ability for nerve cells to recover from trauma as well as a decreased capacity for learning.² Neuronal pathways, governing the teen’s diabetes management skills, that survive the pruning stage, become more efficient, but development of related new pathways becomes increasingly difficult.

Brain Development

Studies show that in brain development, this maturation of grey matter occurs in a distinct back-to-front pattern. Knowledge of the progressive development and function of each region of the brain enables the healthcare professional to provide age appropriate interventions. It also provides insight as to why teens act the way they do!

Back of Brain

The back of the brain, the cerebellum, is the first to mature. This area of the brain is responsible for controlling and coordinating sensory functions such as vision, hearing, touch, and spatial processing. The amygdala, the area responsible for emotions such as

fear and rage, is also located in the back of the brain. This area of the brain matures earlier than the frontal part; therefore, teens tend to respond more impulsively than adults. Emotional outbursts, reckless risk taking, and rule breaking may be the result of teens thinking with their emotions due to lack of the cognitive controls needed for mature behavior.² This age group has not yet developed the ability for planning, reasoning, and organizing thoughts. It is best to provide simple yet direct instructions.

Middle of Brain

The middle part of the brain, which includes the basal ganglia and the corpus callosum, is the next to undergo changes. The basal ganglia act as a secretary to the frontal functions of the brain by organizing and prioritizing information. The corpus callosum, a cable of nerves that connects the right half of the brain to the left, is associated with such tasks as problem solving and decision making and is considered to be the origin of creativity and critical thinking.² As this area of the brain starts to mature, 13 to 15 year olds begin to acquire an increased capacity for abstract reasoning. Helping teens to identify problems and teaching them how to solve these problems through role-playing scenarios helps them develop the skills required to successfully manage their diabetes. This area of the brain continues to mature well into the twenties.

Front of Brain

The pre-frontal cortex is the **last** part of the brain to mature. Often referred to as the “area of sober second thought,” it is responsible for planning, setting priorities, organizing thoughts, suppressing impulses, and for weighing the consequences of one’s actions.¹ Therefore, it is not surprising that prior to frontal brain maturation, teens frequently “forget” to check their blood sugars, take their insulin, record blood sugars, or keep scheduled appointments. They lack the cognitive ability to reason and to comprehend that controlling their blood glucose can reduce the incidence of future complications of their disease. As the front of the brain matures, older teens develop an increased capacity to solve more complex problems. They are better equipped to understand the consequences of their actions and as a result, are capable of making wiser choices when confronted with the challenges of managing their diabetes.

Other Contributors to Brain Development

Hormones and sleep are two additional factors that impact the development of the teen brain and, therefore, play a role in teen behavior.

Hormones

At about the same time the brain switches from proliferating to pruning, the body comes under the hormonal assault of puberty.² Estrogen and testosterone stimulate the brain's emotional center, or the limbic system. This is thought to be the origin of mood swings and the sensation seeking so inherent in the teen years.⁵ Serotonin enables the individual to govern mood and create controls over excitability. Dopamine, a neurotransmitter, is the brain chemical involved in motivation and reinforcing behavior and is particularly abundant and active in the teen years.² Dopamine has been thought to be associated with risky behaviors and novelty seeking, characteristics inherent to the teen years. Research indicates that dopamine mediates pre-behavior thoughts and the inclination to launch into certain behaviours.¹ Happy one minute, crying the next, are behaviors that make the teenager both endearing and exasperating!

Sleep

Sleep deprivation is often apparent in teens. This too is related to brain function. As nighttime approaches and daylight recedes, the pineal gland produces melatonin, a chemical that signals the body to shut down for sleep. Studies have shown that it takes longer for melatonin levels to rise in teenagers than in younger kids or in adults, regardless of exposure to light or stimulating activities. "The brain's program for starting nighttime is later."² This process is slowed down in teens, resulting in frequent late nights and insufficient sleep and rest.

Implications for Practice

Knowing that the teen brain is indeed "a work in progress"³ helps us to better appreciate teen behavior. We can apply this knowledge to practice as we assist adolescents and their families to develop diabetes management skills. Consider the following strategies adapted from the article, *The teen brain as a work in progress: Implications for pediatric nurses*, by Dr. Judith Herrman:¹

- Remember that adolescents are **not** younger adults. They are still growing and developing and warrant special understanding and care.
- It is not that teens are solely trying to be reckless, moody, and irrational, rather that developmentally, the cognitive controls are "under construction."
- Help teens to develop decision-making skills by offering opportunities at developmentally appropriate periods.

- Communicate with teens by applying principles of brain development and adolescent behaviors to formulating responses, selecting methods of communication, and fostering teen communication skills.
- Offer graduated opportunities for independence, decision-making, and recovery from mistakes.
- Focus on incremental guiding of teens, rather than drilling teens about logical reasoning and appreciation of consequences.
- Help teens to develop their own means to organize thoughts and lives through experimentation, role modeling, and guidance.
- Explain adult rationales for decision-making rather than "because I said so."
- Rationally approach confrontations as learning experiences rather than power struggles.

Our knowledge of brain development in adolescents is integral to the development of effective educational programs and policies. Understanding why teens act the way they do allows us to view them differently, as adolescents not adults! We must strive to see things from their perspective not ours. Age appropriate teaching strategies must be implemented at each stage of their development to ensure acquisition of the knowledge and skills they require to successfully transition from pediatric to adult care.*

Bev Harpell, RN, BScN, CDE
Diabetes Consultant

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News From the Care Program

At this time of year, it is a challenge to start or finish a conversation without a "Happy New Year" and all the best wishes that come with. On behalf of the Program staff, we wish you and yours all the best in 2007. We hope that this year holds great pleasure, excitement, and enthusiasm that spans both your family and work lives.

This issue of the newsletter (our 63rd issue) includes a number of great contributions that are both thoughtful and insightful. It is these types of articles that provide great food for thought and influence how we approach practice. Our State of the Art feature article provides a peek into the adolescent brain and gives a better appreciation for some of the changes we notice in this age group as both providers and parents. The Yarmouth Regional Hospital Diabetes Centre (DC) also shares the value of learning from and with our patients as we plan programs and services. In keeping with this theme, a letter submitted by a participant of the HUGS program, as offered on the Eastern Shore, demonstrates the value specific approaches provide to people who participate in innovative programming. Last, but not least, local practices in the IWK Health Centre Pregnancy and Diabetes Program may lead the way in better understanding the role of newer therapies in pregnancy management. As evidenced by our contributions, this newsletter continues to provide a valuable forum for sharing and networking. We would welcome your individual contributions in this New Year.

DCPNS Staff

This was a busy fall for Program staff starting with the CDA/CSEM Professional Conference and Meetings in Toronto, ON. This was followed with a number of road trips/presentations on the local, national, and international levels. Presentations were given at the following conferences/meetings:

- *Prediabetes 2006* (a workshop presented by the Public Health Agency of Canada), Ottawa, ON.
- *The 2nd Annual Patient Adherence and Chronic Disease Management Strategies Workshop*, Toronto, ON.
- *The Hemispheres Diabetes Meeting Argentina-Canada*, Buenos Aires, Argentina.
- *The Institute of Health Economics Consensus Conference on Self-Monitoring in Diabetes*, Edmonton, AB.
- *Diabetes and Vision Loss—Options and Opportunities*, (a CNIB evening program), Halifax, NS.
- CDA DES Meeting, Halifax, NS.

Subcommittees

Care of the Elderly with Diabetes Residing in Long-Term Care (LTC) Facilities

DCPNS met with Continuing Care, DOH, to discuss plans for dissemination of quick reference guidelines (aimed at health professionals) on hypo and hyperglycemia for residents with diabetes in LTC facilities. The guidelines are based on information prepared by the Diabetes in LTC Committee. This work continues with further development and eventual piloting of the proposed resources.

Best Practice

The Dyslipidemia Guidelines are just about ready and will be shared with the DoH for information purposes. The accompanying patient education module is now complete and incorporates the feedback from reviewers. DCs will be informed when this is available for distribution.

The DCPNS has contracted Acadia University to develop a simple assessment tool and physical activity guidelines for use by diabetes educators in Nova Scotia. This work will continue through the spring/early summer.

Committee members are currently reviewing a prediabetes straw-dog (draft template). Each point (diagnostic criteria, baseline and follow-up laboratory testing, frequency of follow-up, etc.) brings valued discussion. Work will continue on defining the best approach for Nova Scotia DCs.

Pregnancy and Diabetes

This committee, under the capable lead authorship of Judy Mahar, has completed and submitted a draft chapter on pregnancy and diabetes to the CDA. This consumer-focused chapter will be included in "Beyond the Basics." The subcommittee will next start discussions on a strategy to address the need for preconception care and counseling in women with preexisting diabetes early in the New Year.

Children and Adolescents with Diabetes

A needs assessment is being prepared and is currently in the draft stages for circulation later in 2007.

Epidemiology of Diabetes

This committee met for the first time in a number of years in October 2006. Members have revised terms of reference, discussed enhanced committee membership, and generated a few questions for the DCPNS Registry to be reviewed during 2007.

New and Revised DCPNS Resources

Consumer-Focused Resources

Four DCPNS resources have been reprinted in quantity and now reflect current target values and recommendations in keeping with those of the Canadian Diabetes Association. These revised materials can also be downloaded in pdf version from the DCPNS website.

- *Diabetes...Eyes and Feet Can Last a Lifetime*
- *Diabetes...Take it to Heart*
- *Diabetes...Preventing Nerve and Kidney Disease*
- *Can you catch diabetes? No!, but it could catch you!*

Planning for an Emergency

The DCPNS, with the assistance of Fran Martin, DCPNS Special Projects Student, is developing a handout titled "*Planning Your Diabetes Care During Emergency Conditions.*" It is planned that what we develop will be shared with Emergency Preparedness, Department of Health Promotion and Protection, for their website. It will also be made available through Diabetes Centres and the DCPNS website. If any educators are interested in reviewing and providing comment, please contact Bev Harpell directly (902-473-3219).

Foot Assessment

The DCPNS *Foot Inspection Form* currently used in the Diabetes Centres is being revised in anticipation of the recommendations found in the DCPNS foot issues paper. While continuing to be a user-friendly tool, the revisions will reflect current guidelines for assessing the "diabetic foot." If any educators are interested in reviewing and providing comment, please contact Bev Harpell directly (as above).

Orientation Manual

This introduction to the DCPNS resources and services will be provided to all DCs by the end of January. This is a useful reference tool for existing DC staff and will provide a good overview of the DCPNS to new DC staff.

2005/06 Annual Report

The annual report is available on the DCPNS website.

Pediatric to Adult Care Transition Working Group

This working group has met on two occasions (October and November), with a focus on developing a provincial strategy to facilitate the transition of adolescents from pediatric to adult diabetes care. The group will meet again in February. In development:

- The "*Adolescent Transition Checklist*" (for completion by diabetes educators).
- The "*Adolescent Transition Knowledge & Skills*

Checklist" (for completion by the adolescent and the parent/guardian).

- The "*Pediatric to Adult Diabetes Centre Transition Summary*" (to be completed by diabetes educators and the referring pediatrician).

Diabetes Data Report

Work continues on the DCPNS Diabetes Data Report. This report (expected early in 2007) will include DC data and some key clinical indicator data in addition to the usual National Diabetes Surveillance System (NDSS) data.

Diabetes Assistance Program (DAP) for Uninsured Nova Scotians with Diabetes

Please see the update provided by Lisa Tay, Project Manager, on pages 10-11.

Diabetes Centre Grants

The DCPNS DC 2007/08 grants were introduced during a mailing to all DCs mid-November 2006. Letters of intent are requested by January 12, 2007. For more information on the grants, please contact the DCPNS.

DCPNS Spring 2007 Provincial Workshop

Mark your calendar! The provincial workshop will be held the evening of April 26 and the full day April 27. We are currently exploring workshop topics and potential speakers and will provide this information on both our website and in a direct mailing to DCs and others in the near future.

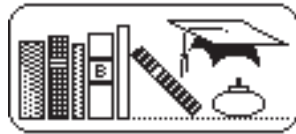
DCPNS Registry Enhancements

The DCPNS Registry continues to improve in response to feedback from its users. The most recent changes are currently being piloted in two DCs and will soon be available to all Registry users. Among others, the enhancements include changes to:

- The "Medication" screens that now result in quicker access. This should encourage the entry of indicators data.
- The Physician Report now allows the report to be copied to the Referring Physician, and vice versa. The screen now prompts for the "Next Appointment Date," and treatment medication is now presented in a time sensitive order.
- The IOC section includes an increased expected weight range (30 to 130 Kg), and the foot assessment date now defaults to the 1st day of the month rather than requiring a specific day. The Meal Plan and other screens have had some changes/corrections made in wording of the message boxes.*

Peggy Dunbar
Coordinator, DCPNS

New Resources



These resources are available from the DCPNS for loan across Nova Scotia. Please call (902) 473-3219 for borrowing information.

BOOKS

- **Diabetes Nutrition Q & A for Health Professionals: 101 Essential Questions Answered by Experts** (2003).
- **Meals for Good Health: Low Fat, High-Fiber Meals** (includes DVD - 2006).*

Pregnancy Focus

PUMP

Pumps Used to Manage Pregnancies

Even though the IWK Health Centre Pregnancy and Diabetes Clinic was established in 1995, insulin pump therapy did not begin until late in 2001. At that time, this therapy was seen as a possible solution for a young woman who was having diabetes management challenges, particularly with overnight blood sugar control. She very much wanted to have children, but had already endured two pregnancy losses.

References in the professional literature warn of an increased risk of diabetic ketoacidosis (DKA) with insulin pump use in pregnancy. Some even go so far as to suggest that this therapy should be stopped prior to pregnancy. As DKA can be caused by a "kinked" or dislodged infusion set interrupting insulin delivery, the risk can be reduced by securing the site and checking infusion sites frequently; for example, when the patient goes to the bathroom during the night. It may also be necessary to change the site every 1-2 days to ensure appropriate insulin absorption. Continuous glucose monitoring with pre-set alarms for high and low blood sugars can also be considered. Some Centres even prescribe a small dose of intermediate insulin at bedtime to ensure some insulin availability; thereby, reducing the risk of DKA. However, we have not used this approach in our practice.

Poor glucose control increases the risk of pregnancy loss and the development of birth defects. Therefore, in all pregnancies complicated by pre-existing diabetes, the patient should strive to obtain optimal control of blood sugars during the preconception period so as to create the healthiest environment possible for the developing embryo. For this reason, women who are planning to change from multiple dose insulin (MDI) therapy to pump therapy should do so prior to becoming pregnant. In an unplanned pregnancy where there is poor glycemic control, it may be beneficial to change to a pump as early as possible during the pregnancy. In the early stages of pregnancy, whether planned or unplanned, it is especially important for a health care professional to follow the patient very closely. And for the duration of the pregnancy, insulin pump therapy should be implemented and managed by a skilled multidisciplinary team experienced in both pregnancy and diabetes.

In the past few years, the IWK Health Centre Pregnancy and Diabetes Clinic has had more patients start on insulin pump therapy (CSII) preconceptually and during pregnancy, and the overall use of pumps has also increased. In the period April 2005 to March 2006, there were as many patients with type 1 diabetes being managed by pump therapy as there were on MDI.

We recently undertook a retrospective cohort study of women with type 1 diabetes where we compared the maternal and fetal outcomes of 18 women using insulin pumps during singleton pregnancies with those of 46 women using MDI. All pregnancies occurred from April 2002 to the end of March 2006. Data was obtained through the Reproductive Care Program of Nova Scotia using the IWK Pregnancy and Diabetes Database and the Atlee Perinatal Database. As the sample size was small, no statistical analysis was done. We compared:

- A1C for each trimester.
- Maternal weight gain.
- Mode of delivery.
- Pregnancy-induced hypertension (PIH).
- Fetal outcomes of macrosomia, shoulder dystocia, preterm birth, and respiratory distress syndrome (RDS).

A1C:

Only 34% of patients who were managed on MDI met the benchmark recommended by the Canadian Diabetes Association Clinical Practice Guidelines (A1C under 7%) prior to pregnancy, while the majority of pump patients (82%) did meet the benchmark. By the second trimester, A1Cs on patients in both groups had

improved, although 21% of patients in the MDI group still had levels of 8-10%. By this time, all patients on pump therapy had achieved an A1C of 7% or less. In the third trimester, 11% in the MDI group continued to have significantly higher levels.

Maternal Weight Gain:

More patients (41%) on insulin pump therapy than on MDI (33%) tended to fall within the recommended weight gain range (12-17 kg) for pregnancy. This may be because of the less frequent need to treat hypoglycemia on pump therapy.

Mode of Delivery:

Caesarean sections rates were 50% in each group. Since women with diabetes are considered high-risk during pregnancy, we expected interventions to be more common than in low-risk populations.

PIH:

There were no cases of severe PIH in either group.

Fetal Outcomes:

- *Macrosomia* rates (>4500 grams) were low in both groups, with a slightly higher rate in the pump group (11% versus 6.5%).
- There were no incidents of *shoulder dystocia* in the pump group and 8% in the MDI group.
- We initially questioned the data on the rates of *preterm birth* (less than 37 weeks gestation) as it was in excess of 30% (33% on pumps versus 37% on MDI). Upon closer examination, we found that 10% of the deliveries in both groups were during the 36th week of pregnancy.
- It is reassuring that there were no cases of *RDS* in the pump group and only 7% in the MDI group, since we might have expected a higher rate of *RDS* to correspond with the number of deliveries under 37 weeks gestation.

The first patient that we put on an insulin pump to manage for pregnancy has remained on the same therapy and now has two healthy children.

While our data represents only a small number of patients, we feel that insulin pump therapy is not only safe, but may also be the preferred method of insulin delivery for pregnancy. A1C results, weight gain, and neonatal outcomes in particular may be favourably influenced. We have had no incidents of DKA in either group, indicating insulin pump therapy in pregnancy to be a safe management option.*

Lois Ferguson, RN CDE
IWK Health Centre

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Research to Practice

To Test or Not to Test - Where is the Middle Ground?

Self-monitoring of blood glucose (SMBG) is gaining increasing attention from a variety of sectors. Growing numbers of people with diabetes (primarily type 2) and prediabetes, are poised to enter our fragile health care system. With these increasing numbers, come considerable individual and system costs. Both the American and Canadian Diabetes Associations hosted debate-style presentations on the pros and cons of SMBG during their 2006 annual professional conferences. These discussions are timed to address governments' concerns with increasing costs and to frame the search for evidence in support of SMBG. Significant issues arise when we look at the evidence (or lack thereof) in specific diabetes treatment categories.



Most recently, the Institute of Health Economics (IHE) hosted the first Canadian Consensus Conference on Self-Monitoring in Diabetes, November 14 to 16, 2006, in Edmonton. This conference provided a venue for the clinical evidence, economics (cost), policy, and consumer perspectives to be heard and assimilated by an expert panel (a broad-based, non-government, non-advocacy group). This panel then formulated responses to predetermined questions into a consensus document

for distribution across Canada. It is intended for use by all sectors in future decision-making around SMBG. The final consensus document can be found at www.ihe.ca. The consensus statement will also be published in the January 2007 issue of *International Journal of Technology Assessment in Health Care*.

Proponents of SMBG cite the evidence in support of monitoring in type 1 diabetes as well as the value of this tool in self-management and patient empowerment—central points in chronic disease management. It is not the testing itself that is important, but more importantly, knowing how to accurately interpret and act on the results. It is believed that SMBG, when used as intended, serves to assess the adequacy of the treatment plan in real time; improve glycemic control; prevent and/or assist in the treatment of hypoglycemia and hyperglycemia; reduce unnecessary hospital/ER/physician office visits; and provide autonomy, comfort, and confidence in day-to-day decision making for the person living with diabetes. Although the evidence is clear on improved clinical outcomes (A1C) in the type 1 population (with limited evidence in some insulin-managed type 2s), the other “beliefs” have not yet been proven.

Opponents of SMBG cite the lack of effect on clinical outcomes in type 2 diabetes (specifically managed with oral agents or diet/activity only) and cost, while at the same time promoting the need for more “opportunity spending” - are there places where the money currently spent on monitoring could be better used to truly impact outcomes? These might include more treatment programs for the other metabolic abnormalities and/or diabetes teams, improved access to newer medications, screening programs, prevention programs, opportunity to enhance technological advancements, and research. (Costs attributed to strips have increased dramatically and, in some provinces, now make up a substantial portion of the diabetes drug and supply costs.) Others in this camp cite inappropriate utilization (testing too frequently or not enough, testing at the wrong times, etc.) and the spiraling out-of-pocket costs for consumers. The cost of monitoring strips remains unchanged in the past 10-15 years (~\$0.85/strip) where the costs of most drugs decrease overtime. Our most vulnerable populations are felt to be the ones at greatest risk due to increased costs and related pressures around treatment opportunities and choices.

Others say that monitoring provides evidence of the continuing presence of diabetes and can result in

destructive thoughts and self-blaming. In addition, often the results of SMBG are counterintuitive. This can lead to frustration and mixed interpretations in the role foods, activity, and medications play in initial and ongoing diabetes management.

Are there steps that we, as health care providers, can take now to improve the situation? The obvious answer is yes. To improve the areas of greatest concern, we need to:

- Ensure that our recommendations are neither excessive nor unnecessary, depending on the person/population. Testing frequency should be individualized within the context of “What you do with your results.” Frequency should vary as required by situation. Remember, we do not have evidence that supports many of our statements on the frequency and timing of testing in the majority of our patients.
- Ensure more consistent messaging (when to test, how often, and what to do with special circumstances). We often send mixed messages that vary by provider.
- Engage patients in the routine review of their self-testing results. As providers, we need to act on and provide necessary feedback. This should be coupled with assisting the person with diabetes to accurately interpret and act on all recorded results.

This is just the beginning of the conversation and many other conversations that will need to take place to adequately address the issues surrounding SMBG. Research is imperative as we strive to answer the following questions:

- Are there points in time where frequent self-monitoring has its greatest benefit; i.e., early in the diagnosis?
- Are there specific patients (characteristics) that will benefit from, or alternatively, experience negative results of testing?
- Should frequency of recommended testing be based on demonstrated ability and willingness to adjust treatment modalities (diet, exercise, medications)?
- What is the best (realistic) frequency of testing for the various age groups and treatment types?
- What outcomes attributed to monitoring are of greatest importance to the person with diabetes?*

Peggy Dunbar
Coordinator, DCPNS

Educator Sharing

HUGS

Health-focused, centred on Understanding lifestyle behaviours, Group supported, and Self-esteem building

A participant of the HUGS Program penned the following letter. The HUGS Program was offered on the Eastern Shore (Sheet Harbour) with the support of funding from a 2006 DCPNS Diabetes Centre Grant.

Recently, I received a certificate showing I had completed an 8-session course titled HUGS. This piece of paper proves that I reached a goal, but so much more important to me is what I discovered during those sessions. I learned valuable tidbits of information that will help me strive toward a goal of healthy living – a valuable reward indeed – and stored them in my memory bank for reference for today and tomorrow.

So what are some of these facts? The brief glimpse I am able to give here can only expose a tiny bit of what I learned and discovered through the HUGS program.

First of all, I learned that I am not a failure because I failed at a popular diet program. This concept really caused some raised eyebrows in the group. But when it was explained to us that diets do not provide what our bodies actually need to stay in good working order and that is why they fail us, it all made sense. This was a fact to hold on to.

If diets that restrict certain types of food are not what our bodies need, what *do* they need? We learned that we should go back to the “tried and true” method that worked when we were children: eat when you are hungry and stop when you are full. Radical thinking, huh? But those of us who felt we needed to diet had lost that truth somewhere along the way.

Reverting to our earlier type of eating will involve listening carefully to our body signals. It will also make us question why we eat when we are not hungry. Sometimes it is simply feeling bored or stressed that leads to eating. The HUGS program helped to make us aware of this and taught us some ways of dealing with these emotions, other than by eating.

One particular activity in the HUGS sessions prompted a few remarks and self-conscious snickers – having to look in the mirror and say something nice about the person looking back. What a boost it is when you are truthfully able to see something good in your own reflection.

Lessons in recipe modification with tasty samples gave us real examples of how to reduce fat and/or sugar as well as increase fiber in food. *Gradual* change became the watchword as we saw that slow changes are the ones most likely to become a permanent part of our lives.

Then the dreaded word “exercise” was brought out. When the leaders suggested we choose an activity that we really like to do, it seemed more like fun than exercise. What a difference a change in terminology can make.

I learned many valuable lessons during these sessions, but the one I have to recall daily is that I am responsible for making proper decisions. I can eat healthily – not by following the latest fad diets, but by listening to cues from my own body. I can choose to be healthy by gradually incorporating changes in my meal preparation and my activity level. I can choose to move about more each day to keep my body physically well. I can choose to take time out each day to rest and recuperate from a busy, demanding lifestyle. I can choose to live in such a way so that I feel better and look better. What freedom!

And what is more, I can get a HUG every day by recalling some of what I learned in my sessions.

My thanks go to the people who produced this program and to the leaders who brought the HUGS program to the Sheet Harbour area. I’m so glad I chose to attend each and every session.*



YARMOUTH DIABETES CENTRE (DC) 2006 INSULIN REUNION PARTY

On October 30, 2006, the Yarmouth Regional Hospital DC held its third annual "Insulin Reunion Party." As the date was so near Halloween, we encouraged staff and participants to dress up for the occasion to add to the atmosphere.

Needless to say, our insulin starters and staff rose to the challenge; and a stream of vampires, witches, spooks, devils – and even some good health fairies – paraded into the DC. In total, 12 insulin starters, 3 family members, a Novo Nordisk representative, a Dalhousie student nurse, our Medical Advisor, and all 3 DC staff were in attendance.

The event proved to be an ideal opportunity for people to meet up again after starting insulin, as well as to share stories and experiences and gather valuable program-building information.

It also provided a good environment for the DC to pose 5 focus group-type questions:

1. Think back to the day you first started insulin – what helped you the most?
2. What is the most important thing you learned that you would want future insulin starters to know?
3. Of all the items we put in your take-home kit, which ones do you think we should make standard in future kits?
4. How can we make giving insulin easier?
5. Where do we go from here, and how can the DC help you?

Our "expert panel" of insulin starters openly shared their thoughts and opinions about their experiences. Of all the valuable information gathered from the group – as in past years – one particular message rang out loud and clear: the importance and value of emotional support and encouragement from the DC staff, their doctors, community pharmacists, and nurses.

As a new initiative this year, we invited someone who had not yet started insulin but who would be doing so within a week. He stressed the great value of being given the opportunity to attend the event and how it had helped lower his anxiety about starting insulin. The dynamics of the group's interest in this person and the amount of encouragement they gave him both touched and amazed me. We hope to incorporate this new element into our plans for next year's "Insulin Party."

The special guest speaker was Dr R. Parkash, our DC Medical Advisor, who answered questions from the participants after his talk. Then we rounded off the party with a group photograph and a draw for door prizes, which, we are told, added greatly to the fun.

From a DC nurse's perspective, I must reiterate how useful I found this event for gathering valuable information for future team-based program planning. But most of all, as a health care professional, I found it recharged my energy and compassion levels, keeping my compass on "full steam ahead" towards greater involvement for our clients in the planning and delivery of their care. This is an essential component of population health as we consider all determinants of health.

If this third Annual Insulin Reunion Party had not taken place, we would have missed many magical and enlightening moments that could never be found in any textbook. And so I extend my sincere thanks to Steven Shears of Novo Nordisk Canada Inc., Rene Baptiste-Burns of Eli Lilly Canada Inc., and Trudy Murphy Sanofi of Aventis, whose generous support helped make the event happen.*



Shonda Jeffery RN
Yarmouth Diabetes Centre

UPDATE ON THE NOVA SCOTIA DIABETES ASSISTANCE PROGRAM

Happy Birthday!

The Nova Scotia Diabetes Assistance Program (NSDAP) is now one year old! There were close to 1900 individuals enrolled in the program at the end of November 2006. We hope that more uninsured Nova Scotians with diabetes will enroll in the coming year.

Just as a quick reminder, the NSDAP is the provincial Pharmacare program that aims to reduce the risk of developing the long-term complications of diabetes by providing registrants with both financial and educational benefits.

All Nova Scotians under the age of 65 who have diabetes and no private drug insurance coverage are eligible to register for the NSDAP. The program provides assistance with the cost of diabetes medications and supplies. This coverage includes insulin, oral

antihyperglycemic medications, blood glucose test strips, needles, lancets, and syringes as currently listed on the Nova Scotia Pharmacare Formulary. The cost-sharing arrangement with the government consists of a 20% co-pay plan and an annual family deductible (based on income and family size).

The program does not cover blood glucose monitors, insulin pumps, pump supplies, and medications specific to other medical conditions such as hypertension, dyslipidemia, and cardiovascular or renal disease. The NSDAP also provides a series of brochures which focus on the importance of self-care for persons with diabetes. The four brochures include *Healthy Living and Self-Care: Living with Diabetes*; *You and Your Blood Sugars: Testing for Better Health*; *Staying Well with Diabetes: Using Health and Other Community Supports*; and *Making the Most of Your Medications*. These materials do not replace information or interactions with health care professionals but rather reinforce key messages that are important in the daily management of diabetes. These materials will be more widely available once recruitment for the program evaluation is complete.

Communications

In the hopes of reaching more people, NSDAP advertisements were placed in a number of daily newspapers throughout the province during the last two weeks of November. Program staff members are also working with the Department of Community Services to inform case workers and social workers about the program. Case workers could identify people who may not be eligible for full social assistance but who may be eligible for this program.

In addition, a poster for the NSDAP is under development. It is hoped that Diabetes Centres, Primary Care clinics, and Pharmacies will display the poster. The program is seeking to put together a small group of health care professionals and support staff from these three areas to provide feedback on the draft version of the poster. The review process will be done via email. I encourage any of you who are interested to contact me.

Program renewal for 2006 registrants is now over. Renewal for the NSDAP takes place every fall and is required if registrants want to have continuous coverage of benefits from year-to-year. In order to renew, current registrants provide updated income and family size information at Pharmacare's request in the fall.

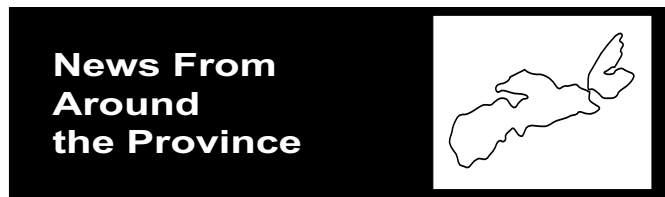
Pharmacare takes the updated information and calculates that registrant's deductible for the upcoming

calendar year. Pharmacare mails registrants a letter with the new deductible amount and a new NSDAP registration card. The deductible is paid at the pharmacy or CDA supply centre as the registrant pays for supplies and medications.

Any registrants who do not have an expiry date of December 31st, 2007, on their NSDAP registration card should call Pharmacare immediately to begin the renewal process. The Pharmacare telephone number is 1-800-305-5026 (toll free) or 429-6566 (Metro Halifax).

Registration forms and program information are available from the NSDAP web page (www.gov.ns.ca/health/pharmacare/dap). In addition, if you have any questions or comments about the NSDAP, please do not hesitate to contact me at any time.*

Lisa Tay, NSDAP Project Manager
 ltay@diabetescareprogram.ns.ca
 902-473-2622



New Faces

Welcome to:

- **Trish MacLeod.** In our error, we welcomed Trish to this position as a professional dietitian before she obtained Nova Scotia Diabetes Association approval. Trish is currently an NSDA candidate and is working at the Colchester Regional Hospital DC, Truro.

Please remember if you have a change in any staff (professional or clerical) to let the DCPNS office know ASAP to ensure our contact list remains current. Thanks!

Certified Diabetes Educators (CDEs),

Congratulations to our new or recertified CDEs:

- **Elizabeth Skelhorn, PDt,** Hants Community Hospital DC.

What's New at the Canadian Diabetes Association (CDA)

Diabetes Month:

In November 2006, the CDA kicked off Diabetes Awareness Month with a brand new nationwide campaign. Focusing on cardiovascular disease, the campaign also featured its own special web site (www.getserious.ca) containing a cardiovascular age quiz, along with prevention and management tips. Also highlighting the campaign were several education events - an MLA Reception and a special *Research Night* with the Association's own Donna Lillie. Thank you to everyone for helping to make the 2006 diabetes month campaign a success.

Seeking the help of Health Professionals for Summer Camps:

Once again, the CDA needs health professionals for our summer camps. This is a great "hands on" learning experience, as well as an opportunity to help children with diabetes have both an educational and enjoyable week at camp. If you would like more information, please contact Marie Brown at (902) 454-4232 or toll free at 1-800-326-7712, ext 226.

Check out the 2007 Diabetes Expo:

Mark your calendar for the *LiveSmart* Canadian Diabetes Association Expo. Following on the heels of last year's sold-out success, this year the event will be held on April 28th at the Membertou Trade & Convention Centre in Sydney. Dr. Ian Blumer will be the plenary speaker with morning and afternoon

breakout sessions on topics such as nutrition & exercise, eye care, aboriginal perspectives on diabetes, new therapies, and more. There will also be an interactive trade show featuring a variety of diabetes-related products and services. The Expo brochure will be distributed early in the New Year with a detailed schedule of events. For more information or to register, call 1-800-BANTING(226-8464) or visit www.diabetes.ca.

Team Diabetes:

Team Diabetes adds brand new destinations in 2007 & 2008. The CDA Team Diabetes program has recently announced some exciting destinations: San Diego Marathon, Okanagan Marathon (Kelowna, BC), Walt Disney World, Barcelona Marathon, and Venice Marathon. If you're interested in walking or running with the Team, check out www.teamdiabetes.ca or call Leslie at 453-4232, option 2, for more information.

Coffee with the Experts:

Continuing with our "Coffee with the Experts" series in 2007, we have a new line-up of sessions: February 20 at the Holiday Inn in Dartmouth, Gillian Yates, RN, NP, CCN (C), QEII Health Sciences Centre, will speak about Heart Health. On March 20 at the CDA office in Bayer's Lake, dietitian Laurie Barker-Jackman will focus on Nutrition Month and "Cooking it up healthy!" And on April 17, also at the Association office, a VON representative will discuss healthy foot-care practices. All sessions are free but registration is required.

*For more information on any of the above, please contact the CDA at (902) 453-3230 or 1-800-326-7122.**

Nothwood Responds to the Needs of Nova Scotians through Technology with the New Fall Detector

December 4, 2006, Halifax, NS: Northwood Intouch, Nova Scotia's leader in Personal Emergency Response Service, is introducing a Fall Detector, the first launch in a series of 'Smart Sensors' designed to help people live safely and independently in their own homes.

Each year in Nova Scotia, one out of every three seniors will experience a fall. Almost 62% of injury-related hospitalizations for seniors are the result of falls. However, a fall victim has a significantly improved likelihood of a positive outcome if treatment is received within the first hour of a fall.

The Fall Detector is an add-on to the Northwood Intouch Personal Emergency Response service and has the ability to detect falls and automatically place a call for help. Worn at the waist, the Fall Detector ensures clients get the medical help they need immediately after a fall.

Northwood Intouch is installed and maintained by a network of volunteer partner service clubs in local communities throughout Nova Scotia. Our Response Centres are located in the Maritimes. For more information, contact us at 1-800-461-3346 or 492-3346.

Tisha White, Marketing Manager
Northwood Intouch, (902) 425-6920

