Diabetes Care in Nova Scotia

a newsletter of the Diabetes Care Program of Nova Scotia

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State of the Art

ASSESSMENT AND TREATMENT OF PERIPHERAL ARTERIAL DISEASE IN DIABETES

People with diabetes are 15 times more likely to have peripheral arterial disease (PAD) and 22 times more likely to have foot ulceration or gangrene than the non-diabetic population.[1] A common misconception is that diabetic ulceration is primarily due to microvascular disease. However, prospective studies have failed to confirm the presence of any obstructive arteriolar lesion in those with diabetes.[2,3] People with diabetes are unique in their propensity toward calcific obstructive atherosclerosis that is most prominent in the tibial arteries between the knee and ankle. The arterial lesions in this location are the most important reason for the increased risk of tissue necrosis and limb loss. This distribution of atherosclerosis is different from the non-diabetic person with PAD, where the occlusion mainly involves the iliac and/or femoral arteries.

It is important to be aggressive in clarifying the contribution of vascular disease to lower extremity symptoms in people with diabetes so that efforts can be made to modify risk factors and perform interventions when indicated to improve a person's quality of life.

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The first week of January, April, July, and October. Questions or contributions should be submitted at least 3 to 4 weeks prior to the publication date.

Vascular Assessment

The vascular investigation starts with a history and physical exam, frequently followed by noninvasive vascular studies. The vascular lab is a cornerstone in the objective evaluation of patients with PAD as vascular studies provide accurate information regarding the location and severity of the occlusive disease, the need for further studies such as angiography or magnetic resonance imaging (MRI), and the establishment of a baseline for serial follow-up. Routine tests may include:

- Ankle-Brachial Index (ABI): This is determined by comparing blood pressure at the ankle in one of the pedal arteries to the brachial artery pressure. However, in people with diabetes, peripheral arteries may be relatively incompressible secondary to marked medial calcification and, therefore, ABI may not be reliable in some diabetic patients.
- Toe Pressure: This digital systolic pressure measurement has been reported as being more informative and less influenced by arterial calcifications. Many studies have indicated that toe blood pressure in the range of 25 to 45 mmHg is a good indicator of the healing potential of ulcers and amputations in the diabetic foot.[4,5]
- Arterial Wave Form: This is an important component of lower extremity doppler blood pressure evaluations, especially in diabetics with non-compressible vessels. This technique becomes very useful for the evaluation of the disease in the femoral, popliteal, and tibial regions, where blunted monophasic waveforms suggest occlusive arterial disease even in the presence of normal doppler pressure secondary to incompressible vessels.

- Transcutaneous PO2 (TcPO2): This measurement of ischemic extremities seems equally applicable in people with and without diabetes; however, a wide variation in the threshold value of TcPO2 needed for adequate lower extremity wound healing has been reported.

As well, the advent of the Angio CT scan and MRI in the past 10 years have added new tools to the investigation of PAD. Anatomical details may be obtained without the risks associated with arteriography (arterial puncture, cholesterol embolism, bleeding, and renal insufficiency associated with contrast material). Invasive investigations such as arteriograms are usually only performed when surgical intervention is being considered.

Surgical Treatment

Intervention for revascularization of the diabetic extremity will depend on the segment of the arterial tree affected and the symptoms. Most patients with claudication only will be encouraged to walk, stop smoking, and control risk factors such as blood pressure, lipids, and glycemia. Patients with rest pain, ulcerations, or gangrene will be considered for surgical intervention such as angioplasty or bypass surgery. Lower extremity ischemia is classified according to the location of the arterial obstruction. Ischemic symptoms can result from intra-abdominal vascular disease or vascular lesions in the leg. The inguinal ligament serves as a convenient landmark to classify patients on initial physical examination. Obstructive infra-inguinal arterial lesions are further divided into femoral popliteal and more distal infrapopliteal disease. Combinations of abdominal inflow and infraingunal pathology (multilevel disease) frequently occur and this requires careful investigation and judgment to determine if only one or both levels of occlusive disease need to be corrected.

Diabetics are unique in their propensity to develop severe infrainguinal disease with relative sparing of the aortoiliac inflow segment. Without going into great detail, the diabetic population will do as well with revascularization in terms of limb salvage and long-term patency as the non-diabetic population. A common misconception is that the results of distal vascular reconstruction are worse in diabetics than non-diabetics. It is important to emphasize that distal vascular reconstruction is at least as successful, if not more so, in the diabetic population when compared to non-diabetics.▲

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News from the Care Program

Happy Spring! We hope this doesn't jinx things. It was only two weeks ago when my family was thoroughly enjoying a very snowy day at a local ski hill, and now we seem to have launched into what is certainly spring like weather. It may not be overly warm but it is certainly mild and rainy (not snowy). This is an exciting time for all of us as we move forward with renewed energy on a number of new initiatives.

As a provincial program, we welcome two new medical advisors, the completion of exciting learning opportunities for our students, renewal of a commitment by the Federal government to diabetes with announced funding for the Canadian Diabetes Strategy, and new initiatives that will result in partnerships and an increased understanding of Nova Scotia's good work related to diabetes. We are also extremely pleased, as evidenced by this issue of the newsletter, to report progress at the committee and working group levels. This issue, starting with the State of the Art feature and including articles on podiatry services and peripheral arterial disease (PAD), focuses on our ongoing efforts to improve the outcomes of people with diabetes as they relate to the potential devastating effects of diabetes complications on the lower limbs.

DCPNS Board and Program Staff

The DCPNS Board is pleased to announce that Dr. Beth Cummings, Pediatric Endocrinologist, IWK Health Centre, and Dr. Lynne Harrigan, Internist, Valley Regional Hospital, have joined the DCPNS as Medical Advisors. In the coming months, roles and interest areas

will be defined; and we will start to see their involvement in specific committees reflective of expertise and key interest areas. As we round out our proposed group of four Medical Advisors, we will keep you informed.

Students who have been with the program since the fall of 2004 have been working to complete their projects. In this issue of the newsletter, you will find contributions from Faye Routledge, Master's of Nursing student, and Jennifer Mahaney, 1st year Pharmacy student. It is through our continued work with these and other students that we create an appreciation for a team approach to the management of diabetes. Students come to understand the role of the DCPNS and Diabetes Centres in providing persons with diabetes access to quality care through interactions with competent health professionals. Two additional nutrition students from MSVU (Tamberly Taylor and Tracy Clarke) are currently working with the DCPNS on a project related to preventing type 2 diabetes in families at risk.

Canadian Diabetes Association Official Opening

Left to right: Jim Casey, CDA Atlantic Region Executive Director; Peggy Dunbar, Coordinator DCPNS; George Archibald, CDA Regional Chair; Darrell Dexter, MLA & NDP Leader; Honourable John Hamm, Premier; Honourable Angus MacIsaac, Minister of Health; Councillor Mary Wile.

Congratulations to the Nova Scotia Division of the Canadian Diabetes Association on the official opening of their new offices on Feb. 24, 2005. Premier Hamm and Minister MacIssac as well as other dignitaries were in attendance for the ribbon-cutting ceremony and congratulatory speeches. For diabetes educators attending the May13, 2005 workshop, a welcome reception is being planned for the early evening of the 13th at the new offices. This will allow people to gain an understanding of the types of activities that are currently underway and being planned for the future.

District Meetings

To this point in time, DCPNS presentations have been held in all District Health Authorities with the exception of 2 and 5. District 2 had been booked as one of our first sites but was postponed due to the first winter storm of the year. We hope to repeat presentations with the districts on an annual basis to correspond with the DCPNS and DHA business planning processes. This will ensure that future plans address districts interests/needs in a very conscientious way.

Privacy Policy

The DCPNS and other provincial programs have been working very closely with the DoH to formalize our privacy policies in keeping with new legislation and to ensure consistency in approach and follow-through. Developed policies and procedures will be accessible through the DCPNS web site.

Canadian Diabetes Strategy (Renewal)

The Federal Budget (February, 2005) announced $300 million over five-years for an Integrated Strategy on Healthy Living and Chronic Disease. This $300 million includes $90 million earmarked directly for the Canadian Diabetes Strategy (CDS), bringing funding to $18 million a year for the CDS. While it is too early to know how the money will be distributed (past monies were allocated to four specific areas—prevention and promotion, national coordination, surveillance, and the aboriginal diabetes initiative), it is clear that diabetes remains a Federal priority.

The Diabetes Care Program of Nova Scotia will continue to be Nova Scotia's link to all areas of the newly funded Canadian Diabetes Strategy.

Delegated Medical Function (Insulin Dose Adjustment)

Insulin dose adjustment as a delegated medical function continues to be enthusiastically received by diabetes educators, physicians, and administrators across the province. To date, 26 educators have been certified. Congratulations to Janice Smith at the IWK on recently completing the certification process.

Work has begun to update some sections of the *DCPNS Insulin Dose Adjustment Policies & Guidelines Manual*. However, there is still time to provide us with any suggestions you have for changes. Input into this revision process is most welcome!

DCPNS Subcommittees

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

The meeting scheduled for February was postponed until April due to a storm. However, a great amount of

work was accomplished this winter drafting guidelines for foot care, nutrition, clinical assessment, medications, and hypoglycemia for the elderly with diabetes in LTC facilities. These draft guidelines will be refined at our next meeting before formatting of the document begins.

Best Practice Committee

Guidelines for Blood Pressure Monitoring and Education through Nova Scotia Diabetes Centres as discussed and approved at the December Board meeting were submitted to the DoH for information purposes. Copies of the finalized guidelines were sent to District CEOs, DC Managers, Medical Advisors, and staff in February.

The first draft of *Guidelines for Dyslipidemia Management* has been prepared for review internally before discussions with the Best Practice Committee members.

Work has also started on a dyslipidemia patient education module. Two diabetes educators (Shawna Boudreau and Suzanne DeWolfe) from the QEII Diabetes Management Centre have been contracted by the DCPNS to review the Dyslipidemia Module that was started in 2004 by two MSVU nutrition students. The intent is to develop and pilot test an education module for use in DCs across Nova Scotia. Wanda Firth, QEII Heart Health Clinic, will act as a resource/consultant. It is hoped that the module will be complete before the summer. The diabetes team in Cheticamp will assist with the review process to ensure it meets the needs of more rural settings.

Pregnancy and Diabetes Subcommittee

Applicable manual sections have been revised in keeping with the new CPGs (2003). Once key references are updated, these sections will be placed on the web site for easy reference. Work on the resource for women with gestational diabetes has been delayed. With the help of a summer student, we should be able to get this underway. The content will be determined with the help of focus group participants.

Wait Lists and Triage

The impact assessment is still in progress, and we are waiting to hear from a couple of districts. A report on the responses to the assessment will be presented to DoH. This will be followed with a review of suggested revisions and changes and then a plan to determine next steps.

Diabetes Foot Care Working Group

This issue of the newsletter has been set up to promote the planned work of the DCPNS Foot Care Working Group. While progress has been somewhat hampered by the volume of work members of the group face on a daily basis, renewed efforts are focusing on draft sections of a discussion document that will outline the magnitude of the problem here in Nova Scotia with suggestions for potential solutions. If you would be interested in reviewing and providing input into later versions of the document, please contact Sharon directly.

Blood Glucose Monitoring Strip Program for Uninsured, Low-income Nova Scotians

The DCPNS, DoH, and CDA have been working toward the establishment of a program for uninsured, low-income Nova Scotians living with diabetes. Under the direction of the DCPNS, a small working group comprised of diabetes educators, pharmacists, and DCPNS staff has been working to develop draft self-management materials that will be used with program recipients. The materials will reinforce the value and need for SMBG, introduce pre and post meal targets, and present testing schedules for the various treatment categories. The most recent draft has been pilot tested with persons who have diabetes through the work settings of the various committee members. Pilot testing will continue before the final version is completed.

DCPNS Spring 2005 Workshop (Partnership with CDA)

Plans for the May 13th workshop at the Ramada Inn in Dartmouth are progressing very well. The Needs Assessment for the DCPNS workshop has helped to frame the program content. Most speakers have been secured. Registration now exceeds 100 (we intended to seal registration at 90). If registrants are unable to attend for whatever reason, we would appreciate notification as we now have a wait list.

Forms Revision

Three forms (prediabetes, re-referral, and adult education checklist) have been revised and printed. Continued revisions of other forms will take place early in the next fiscal year. We are looking for a couple of educators who would be interested in providing input into the revision of the mailed assessment form (how to shorten, how to format, etc.). Please contact the office if you have some interest in this project.

DCPNS Web Site

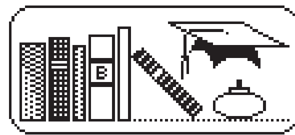
DCPNS staff has reviewed the web site and changes will be made to further enhance the location of specific information. Suggested changes are welcome from those of you that have used the web site in the past.

Registry Update and Services

DCPNS staff has been discussing the reporting needs for DCs using the Registry on-site. Additional reports have been discussed and will be developed including an indicators report (can be used for quality initiatives), report for pediatric patients, report for pregnant women, etc. Standard reports for DCs using the on-site Registry are being prepared as part of the district presentations. We'll keep you posted as to the planned availability of these reports.▲

Peggy Dunbar, MEd PDt CDE
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/MULTIMEDIA

- *101 Tips for a Healthy Pregnancy with Diabetes* (2003).
- *A Field Guide to Type 1 Diabetes: The Essential Guide to Type 1 Diabetes* (2002).
- *After Year One: Food for Children* (2000).
- *Breastfeeding Basics* (2004).
- *Diabetes and Obesity Time to Act* (2004).
- *Diabetes Lifetime Solutions*.
- *Diabetes Management Clinical Pathways, Guidelines, and Patient Education* (1999).
- *Healthy Pregnancy...Healthy Baby* (2002).
- *Life with Diabetes, Third Edition* (2004).
- *Therapeutic Choices* (2003).
- *Using Insulin* (2003).
- *Year One: Food for Baby* (2003).▲

Practice Points

The following questions all relate to use of the DCPNS Registry and the coding of types of diabetes and visits. As we start to use more of the Registry data in reports to the districts and to describe Nova Scotia's population with diabetes, we find a few common mistakes that can easily be corrected at the DC level.

1. *A woman attending our DC was diagnosed as IGTP (impaired glucose tolerance of pregnancy). Early in the course of her pregnancy her SMBG results indicated elevated fasting glucose levels, and she was started on insulin. There is no category in the statistics for IGTP on insulin, how should this woman be classified?*

   In discussion with the IWK Health Centre Pregnancy and Diabetes Program, this woman should be classified as GDM.

2. *We had a case where a man with IGT was attending our DC; after 2 years, he converted to type 2 diabetes (confirmed with 2 fasting glucose levels ≥7 mmol/L). Do we continue to classify this man's visits to the DC as follow up?*

   No. Whenever the type of diabetes changes for one of your patients, the first visit with this new diabetes type should be reflected as a new diagnosis (ND). In the case of this man, once the diagnosis is confirmed, he will be ND with Type 2 DM with the treatment reflective of the current practice. Remember a new diagnosis of any type of diabetes should be coded as visit type ND.▲

Pediatric Focus

GROWTH AND BMI ASSESSMENT IN CHILDREN AND ADOLESCENTS

Monitoring of growth is an essential component of assessment of health and nutritional status in children. Concerns surrounding childhood obesity have led to a renewed focus on growth assessment in this age group. In 2000, the CDC published new growth charts that have advantages over the older charts (e.g., derived from a more ethnically and geographically diverse population; include more breast-fed infants).

These growth charts include body mass index (BMI) percentiles for ages 2 to 20 and are available on the web (www.cdc.gov/growthcharts/).

A recent position statement from the Canadian Paediatric Society (CPS), Dietitians of Canada, and others suggests that all health professionals in Canada use the CDC 2000 growth charts and calculate and plot BMI as a screening tool for overweight in children two years and older.[1] Assessment of statural growth in

children depends on serial measurements. It is normal for children to cross percentiles during the first 2-3 years of life and in puberty. At other times, crossing of 2 or more percentiles lines is cause for concern and should be brought to the attention of the child's physician.

BMI in children is a useful tool to screen for overweight and obesity but has not been validated for assessment of underweight.[1] Calculate BMI in the same way as for adults by the formula BMI = Weight (kg)/ Height m^2, or Weight (kg) /Height cm^2 x 10000. However, BMI in children cannot be interpreted without plotting on the appropriate growth chart. A BMI of 20 kg/m^2 in a 7-year old boy is above the 95th percentile and falls in the obese range. BMIs between the 85 and 95th percentiles are classified as overweight, and above the 95th percentile are considered obese. It is important to remember that BMI is a screening tool, and identification of BMI outside of the desired range should prompt an evaluation. A family centerd approach to management that focuses on promotion of healthy eating and active lifestyles and reducing sedentary time is recommended.[1] The goal is to assist families to make gradual changes to achieve the goal of limiting screen time (TV, computer, video games) to a maximum of 90 minutes per day and increasing activity to at least 90 minutes per day.[2] Often simple dietary changes such as limiting intake of sugar-containing beverages (pop, fruit drinks, juice) and switching to lower fat milk can be helpful. Many resources are available to assist with this counseling (e.g., CPS Healthy Kids Active Kids – www.cps.ca/english/proadv/HAL/practicetools.htm; Canada's Physical Activity Guide - www.paguide.com; Eat Well Play Well - www.dietitians.ca/english/frames.html).

Note: The CDC website (www.cdc.gov/growthcharts/) has links to helpful interactive training modules regarding use of growth charts and BMI.▲

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Research to Practice

POLY APPROACHES TO FIRST MEDICATION AND THEN DIET

Recently, increasing press has been given to the Polymeal. A light-hearted study published by an international group of researchers in the *British Medical Journal* promotes the Polymeal as a way to reduce the risk of cardiovascular disease (CVD) by more than 75% and add years to life.[1] Abbreviated versions of this article (promoting the foods and their virtues) can be found in recent issues of *Canadian Living*, *Doc News* [ADA publication], and others. Although deemed satirical by a number of readers from the medical community and even the authors (as indicated by the discussion and conclusions), the underlying messages are important ones; e.g., pharmacological methods are not always the only way to go.

This newest article focused on the Polymeal appeared in response to an article focused on the Polypill (a single pill containing a combination of six active components) for people over the age of 55 (earlier in those with a diagnosis of CVD or diabetes) as a means of reducing CVD by over 80%.[2] Active ingredients for this pill include a statin (daily dose 10 mg), three blood pressure lowering medications (thiazide, a β blocker, and an ace inhibitor, each at half the standard dose); folic acid (0.8 mg); and aspirin (75 mg).[2]

In developing the Polymeal, researchers reviewed the literature for evidence in support of foods with known CVD benefit. Data from the Framingham offspring study were then used to build life tables and allow modeling to show the benefit in the general population over the age of 50. Their work was driven by the concerns of the medical community on the costs, compliance, and adverse effects of the Polypill intervention. "The researchers wanted to define a safer, non-pharmaceutical, and tastier alternative to the Polypill."[1] To be included in the Polymeal, ingredients with level of evidence 1 or 2 (randomized control trials [RCTs], meta-analysis of RCTs, and meta-analysis of observational studies) had to have individually reported effects on reduction in CVD events or modification of risk factors for CVD. Ingredients that met the criteria included wine (150 ml/day), fish (114 g four times a week), dark chocolate (100 g/day), fruits and vegetables (400 g/day), almonds (68 g/day), and garlic (2.7 g/day). Daily wine (150 ml) for example, reduced CVD by 32%; fish (114 g) four times a week, by 14%, etc. Where the direct risk reduction was more difficult to calculate for

almonds and fruit and vegetables, as their impacts were recorded on values such as systolic blood pressure or cholesterol rather than reduced CVD risk, assumptions were made by the authors. The combined effects of the ingredients were calculated using the same method as the Polypill (multiplying by their correspondent relative risk estimates).

The discussion provides added insight into the lightheartedness of the article. Adverse effects such as malodorous breath and body odor from garlic were easily dismissed as the authors felt that with mass treatment, few people will notice after a while. No other adverse effects would be expected from the recommended amounts of the foods. Advantages included taking ingredients alone or in combination at various times of the day where the Polypill would need to be taken once daily.[1]

Costs were identified as a concern as the cost could vary substantially from country to country. Other cautions included avoidance of other alcoholic beverages while consuming the Polymeal to avoid intoxication and conflicts with friends, driving after consuming the Polymeal, and avoidance of garlic prior to a romantic rendezvous. A half-hour walk after the Polymeal was felt to prevent further CVD events. For those earnestly trying to prevent CVD, the authors suggested that the Polypill could be combined with the Polymeal. Flour fortification could be considered and redundant cardiologists could be retrained as polymeal chefs and wine advisers.

These two key articles and the related rapid responses[3,4] (especially to the Polymeal) are well worth the read…▲

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DIABETES AND PERIPHERAL ARTERIAL DISEASE

Diabetes can affect almost every blood vessel in the body. Therefore, it is not unusual for people with diabetes to develop vascular diseases. Many of us have heard of peripheral vascular disease (PVD). PVD is a general term encompassing several arterial, venous, and lymphatic diseases.[1] Peripheral arterial disease (PAD) is a specific peripheral vascular disease. It is a progressive atherosclerotic disease characterized by arterial stenosis and occlusion. PAD most commonly involves the arteries of the lower extremities.[2,3] Therefore, affected individuals are at risk for decreased blood flow to the legs and feet often leading to pain, functional impairments, tissue loss, gangrene, and amputation.[2,4] In addition, PAD is often a marker for generalized atherosclerosis.[1,3] Consequently, an individual with PAD is at increased risk of MI, stroke, and death.[1-4]

It is estimated that 27 million people in Europe and North America have PAD.[2] More disturbing is the fact that it is largely underdiagnosed and undertreated.[2] The PARTNERS (PAD Awareness, Risk, and Treatment: New Resources for Survival) study found that people with PAD received less intensive management for dyslipidemia and hypertension and were prescribed antiplatelet therapy less often than their CVD counterparts.[2] The diagnosis of PAD is frequently overlooked for several reasons. Many patients present with concurrent medical problems; consequently, treatment of intermittent claudication may not be given priority in patients with multiple comorbidities.[5] For sedentary patients, intermittent claudication may not be reported because it is not troublesome in their daily routines. However, even patients with obvious claudication symptoms tend not to inform their doctors because they accept it as an inevitable ache or pain of getting older.[5]

Unfortunately, awareness of PAD remains low among physicians, other healthcare professionals, and the general public.[2] The purpose of this article is to provide an overview of PAD, including the factors that should be assessed and information that should be provided to people with diabetes so that all efforts can be undertaken to preserve mobility and health status.

Risk Factors:

Diabetes and smoking are the most significant risk factors for development of PAD. A person who has diabetes or smokes is 3-4 times more likely to develop PAD compared to their non-diabetic or nonsmoking counterparts.[4] Other risk factors include advancing age, hypertension, dyslipidemia, and sedentary lifestyle.[2]

Signs and Symptoms:

The classic symptom of PAD is intermittent claudication. It is often described as a cramping-type pain. It is reproducible ischemic muscle pain precipitated by exercise but relieved with rest.[4,6] The pain is caused by inadequate blood flow to the muscle to meet its needs during exercise.[6] Claudication develops in a muscle group immediately distal to the obstructed artery.[4] It most commonly occurs in the calf; but depending on the location of the obstruction, the leg pain may be present in the buttock, hip, or thigh. In such cases, it may be mistaken for orthopedic back or hip pain.[4]

Unfortunately, over half of affected individuals are asymptomatic or have atypical symptoms.[2] This is common among individuals with diabetes due to distal small vessel involvement eliminating the likelihood of calf pain, as well as decreased sensation associated with neuropathy.[2] These people may experience walking related fatigue (slow speed or poor endurance) or a sensation of tiredness in their leg muscles. Such functional deficits lead to poorer physical health, decreased quality of life, and inability to live independently.[2,6]

Assessment:

People with diabetes should have a yearly assessment to improve their chances of early detection of PAD. Assessment should consist of a careful walking history including questions regarding the location, character, severity, frequency, duration, and precipitating factors of pain and how it is relieved.[3,6] Pulses, color, sensation, and movement in the feet should also be assessed. Potential warning signs of vascular insufficiency to the feet/legs include nonpalpable pulses, cool skin, dependant rubor, pallor on elevation, numbness, tingling, pain, impaired movement, slow capillary refill, patchy hair loss, thickened nails, and ulcers.[3,6] When PAD is suspected, it is recommended that individuals undergo vascular testing for diagnosis.[6]

Education:

Although PAD and other cardiovascular diseases share common risk factors and management approaches, it should not negate the importance of educating people with diabetes about their heightened risk of developing this serious complication.

Developing PAD Resources and Tools:

Resources specific to PAD are limited. During my time with the DCPNS, resources were reviewed and an education session (including a brief questionnaire and handout material) was planned and delivered for persons with diabetes attending the Dartmouth General Hospital Diabetes Centre (DC). This 15-minute session was very well received by class participants. A brief multiple-choice questionnaire filled in by participants prior to the class showed that only 2 of 12 people knew what PAD is and no one knew the classic symptom. An overview of PAD was provided using PowerPoint slides and a hands-on model of occluded vessels. Signs and symptoms, the importance of informing the doctor, management, and prevention were discussed. The handout and PowerPoint slides developed for this class will soon be available on the DCPNS website. Disseminating information on this important and often overlooked diabetes complication in DCs is of paramount importance.▲

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News From Outside the Province

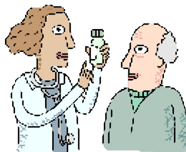
New Website Launched as Part of the Healthy Eating Week Activities (PEI)

"This site includes made for PEI information on health and lifestyle choices as well as links to other credible information resources." For more information contact, www.healthyeatingPEI.ca▲

Educator Sharing

DIABETES STRESS MANAGEMENT AND THE ROLE OF THE COMMUNITY PHARMACIST

My name is Jennifer Mahaney, and I am a first year student at the College of Pharmacy, Dalhousie University. I have been volunteering with the DCPNS since October 2004, where I have been exploring stress management in diabetes. I have reviewed the physiological relationship between stress and persons with diabetes, available community resources for coping with stress, as well as the role of the community pharmacist in diabetes stress management. The following is a brief synopsis of my findings.



The Effects of Stress

During a stress or "fight or flight" response, hormones such as cortisol and adrenaline rise which increases available glucose levels for use as energy. In a person with diabetes, insulin to cover this increased glucose may not be sufficient causing glucose to accumulate. The result is hyperglycemia. The lifestyle choices required to manage diabetes on a daily basis are themselves very stressful. During periods of extreme or unusual stress, diet, activity, or other diabetes care practices (such as medication dosing or timing and self monitoring of blood glucose) may be altered or even ignored. Stress management is important for the person with diabetes as high glucose levels may lead to acute complications such as hyperglycemia, while accelerating the development of long-term complications such as retinopathy, nephropathy, heart disease, and stroke.

Sources of Stress

Stress is normal and even inevitable; yet it is manageable if acknowledged. Stresses vary from person to person and can be positive or negative. Causes may include microstressors like a busy day at the office or macrostressors like illness, surgery, trauma, etc. Diabetes itself provides additional stress including everything from being diagnosed with the disease to the daily demands of self-care such as glucose monitoring, medication usage, eating at regular times in controlled amounts, and exercise.

Resources for Stress Management

There are numerous activities any person may use to cope with stress. These include breathing and relaxation exercises, hobbies such as crafts, physical exercise (like walking and Tai Chi), massage therapy, and talking to family and friends. Diabetes educators such as nurses, dieticians, pharmacists, social workers, and physicians are the main resource for diabetes patients; and they each have a role in stress management (helping to identify sources of unhealthy stress and assisting with management strategies). This includes encouraging the use of support networks, linkage to community resources, and/or referral to trained mental health therapists. Additional resources for those with diabetes include local and online diabetes support groups, and weekend retreats and information sessions which are available through the Nova Scotia Region of the Canadian Diabetes Association (CDA). Resources specific to diabetes stress management are difficult to find and are not listed in one place. To see a qualified psychologist or other specially trained counsellor through mental health services may require a diagnosis of depression or some other mental disorder. The number of available counsellors throughout the province is variable by district and highly limited.

The Role of the Community Pharmacist in Diabetes Stress Management

In my survey of a small number of community pharmacists, it may be concluded that the role of the pharmacist is to counsel those with diabetes on prescription medications, testing products and supplies, over the counter drugs (OTC) and other OTC products, and to direct patients with diabetes to other health care professionals or resources. Again, it appears that stress and diabetes are not often linked as some pharmacies offer clinics specific to stress or specific to diabetes but do not relate the two. Diabetes Centres as well as the CDA are common referral sources to assist patients with diabetes. By reassuring people on proper use of medications and glucose meters, providing information about financial options, and referring patients in the right direction for their concerns, the community pharmacist has a valuable role in diabetes stress management.

Summary

Unmanaged stress is critical to the health of a person with diabetes by inducing high glucose levels that may result in dangerous complications. Everyone is susceptible to stress and those with diabetes have additional stressors. There are several resources available to those experiencing stress, although many are not related to diabetes specifically. For those dealing with stress and diabetes management, there are local options including the Nova Scotia Region of the CDA and health care providers found within Diabetes Centres. The role of the community pharmacist is developing and includes mainly counselling on medications and OTC products and referring a patient with diabetes in the right direction.▲

Jennifer Mahaney, College of Pharmacy
Dalhousie University (Class of 2008)

References:
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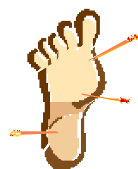
2. American Diabetes Association. *Stress*. (http://www.diabetes.org/type-1-diabetes/stress.jsp).
3. American Diabetes Association. *Coping*. (http://www.diabetes.org/for-parents-and-kids/living-with-diabetes/coping.jsp).
4. Bauer G. Breaking Free of the Stress Zone. *Diabetes Dialogue*. 2003;50(2):8-11.
5. D'Arrigo, T. Stress and Diabetes. *Diabetes Forecast*. 2000;53(4):56-60.

THE PODIATRIST'S ROLE IN DIABETIC FOOT CARE



We know that prevention of foot problems in people with diabetes is of utmost importance. Diabetic neuropathy can impair protective sensation to the feet as well as result in structural changes. This places people at high risk for ulceration and infection that can lead to amputation. Early detection and treatment of foot problems can save needless pain and suffering. A podiatrist has a key role to play in this.

What is a Podiatrist?

A podiatrist is a specialist who provides a comprehensive service for foot disorders. Podiatrists are highly trained in the examination, diagnosis, and treatment of a wide variety of disorders and diseases affecting the foot, ankle, and lower leg. The services can include:

- Treatment and management of corns and calluses.
- Simple nail care to treatment of nails that are thickened, deformed, ingrown, discolored, or infected.
- Foot care for people who cannot reach, see, or manipulate instruments to perform their own basic foot care.
- Foot care for individuals with underlying medical disorders such as diabetes and peripheral vascular disease.
- Treatment of dermatological conditions such as plantar warts, athlete's foot, and sweaty or dry feet.
- Treatment of painful conditions such as bunions, hammertoes, clawtoes, heel spurs, plantar fascitis, arch pain, bursitis, tendonitis, shin splints, sports and overuse injuries, and nerve pain including Morton's neuroma.
- The prescription and manufacturing of orthotics.
- Education on all aspects of foot health.

Is there coverage for patient visits?

Most private health plans and some government agencies (including Veterans Affairs Canada) cover the cost of treatment. However, podiatry services are not covered by MSI; so a physician's referral is not necessary.

How can I find a podiatrist in my area?

An up-to-date listing of podiatrists is provided by provincial podiatry associations. Members of the Nova Scotia Podiatry Association are:

B. and R. Bennett *Halifax, NS* (902) 429-1416	**M. Ostli** *Chester, NS* (902) 275-4626
R.J. Retson *Halifax, NS* (902) 453-2891, or (902) 453-3511, Ext.5 *Truro, NS* (902) 893-0222 *Lower Sackville, NS* (902) 865-1524	**S. Lent** *Kentville, NS* (902) 678-2733
J. Lewis *Halifax, NS* (902) 453-1126 *Yarmouth, NS* (902) 742-7603	**R. Mackwood** *Sydney, NS* (902) 567-1727
M. Steele *Bridgetown, NS* *Granville Ferry, NS* *Middleton, NS* (902) 665-4769	**J. Tucker** *Amherst, NS* (902) 661-0887

R.J. Retson, BA BED DCh

Doing Better: Tools for Diabetes Care is a new initiative of the American Diabetes Association that provided practical tools for improving diabetes management. These tools include:

- A PDF version of the ADA Clinical Practice Recommendations.
- An on-line walking tracker, Club Ped that enables users to record walking milestones and provide fun and engaging motivational experiences; (go to http://www.diabetes.org/ClubPed).
- A web-based Health Risk Assessment tool, Diabetes PHD.

To find out more, visit diabetes.org or call 1-800-DIABETES (800-342-2383)

WORKING WITH THE COMMUNITY OF NORTH PRESTON

TYPE 2 DIABETES PRIMARY PREVENTION MODEL FOR HIGH-RISK ETHNO-CULTURAL GROUPS THE JOURNEY FROM THEORY TO PRACTICE

Do you work with a population considered at high-risk for developing diabetes? Have you ever considered a screening program for this population but were unsure where to start? If you answered yes to either of these questions, this article should be of interest to you.

Background

On November 4, 2004, we were fortunate to attend an information workshop that introduced a Type 2 Diabetes (DM) Primary Prevention Model targeting high-risk ethno-cultural groups including Hispanics, Latinos, and African Americans. Betty Harvey, Nurse Practitioner, London InterCommunity Health Centre, and Sucy Eapen, Project Coordinator, Canadian Ethno-cultural Council (CEC), Ottawa, facilitated this session. These two individuals provided information and shared their experiences in the development and delivery of a community diabetes risk-screening program in the Latino community. This program was then used to develop a user-friendly, comprehensive manual outlining everything you need to know to deliver a similar program in your own area. The information session we attended was intended to introduce a new phase of their work where groups in different provinces would be funded and supported to conduct community-screening events and learn more about their approach to working with high-risk ethno-cultural populations. With the opening of the Community Health & Wellness Centre in North Preston in September 2004, this project couldn't have come along at a better time.

We just established a Diabetes Clinic at the Community Health & Wellness Centre in November where we work with a primarily African Nova Scotian population. We know from American research that individuals of African descent have more than 2x the risk of developing diabetes compared to the general population. Without Canadian statistics depicting ethnicity in relation to disease prevalence, we do not have the information to present these communities with an accurate picture of their health and risk profile. What we do know from Nova Scotian reports developed from focus groups with African Nova Scotians is that diabetes is a priority health concern within their communities.

Moving Forward

Once we decided to take on the project, the response from Capital Health employees and the community was overwhelming. We were all excited about this great learning opportunity and anxious to see how it would all come together. We had a total of 19 health care volunteers, largely representing the various Diabetes Centres (DCs) across the District and 8 community volunteers. Betty Harvey and 3 of her colleagues travelled from London, Ontario to provide training, set up for the event, and learn along with the rest of us. All the AV equipment, tents, glucometers, test strips, forms, etc., that were needed to carry out the event were provided free of charge. We had the capacity to screen 200 people. We were ready to take on the challenge and be the first group of health professionals to deliver this program in Atlantic Canada!

Delivery Day

On March 5, 2005, we put our plans into action and implemented the Community Diabetes Risk Screening Program at the North Preston Community Centre. The screening program took place from 8:30 a.m. to 12 p.m. and included a complimentary breakfast. The screening program was divided into 2 phases and 7 stations.

Phase 1:

Station 1: Registration.

Station 2: Fasting capillary blood glucose test was taken. If their blood sugar level did not exceed 8.0 mmol/L, they were given a trutol drink.

Stations 3 & 4: Individual risk factors were assessed by completing a brief interview and having anthropometric measurements taken by a health professional.

Station 5: Individuals were guided to a risk management presentation and static display area. The 45-minute risk management presentation was delivered to help increase awareness of diabetes – what it is, how it is managed, and how it can be prevented. The static display area showcased 8 interactive displays representing various community resources. Displays included information on nutrition (including dietitian services at Sobey's), physical activity (including community walking trails), stress management, blood pressure monitoring, smoking cessation, physiotherapy, HRM

Recreation, the Canadian Diabetes Association, and the Canadian Ethno-cultural Council.

Phase 2:

Station 6: 2-hour capillary blood glucose test.
Station 7: The results and importance of the ac/pc blood glucose tests were explained, and participants were instructed on appropriate follow-up. Participants were encouraged to make an appointment with their family doctor for a confirmatory lab test if blood sugar levels were abnormal. If both results were normal, they were encouraged to repeat testing with their family doctor in one year or return to the screening event next year. An action plan, based on the information provided in the risk management assessment, was reviewed with each participant and direction provided.

Tallying our Successes

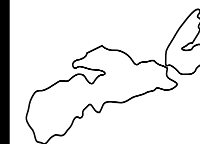
Overall, the diabetes-screening event proved to be a great success! We received excellent feedback from volunteers and the community. A total of 45 participants attended the diabetes screening. Preliminary results show us that of the 45 participants 21% presented with impaired glucose tolerance and 12% had pre-existing diabetes. In comparison, the expected findings from a screening of this nature in the general population would be 10% and 2%, respectively. The team from the London InterCommunity Health Centre was very pleased with our results, and they will continue to provide funding for t-shirts, trutol tests, and catered breakfasts. All the equipment and forms used at the diabetes-screening event were given to the Community Health & Wellness Centre for future use.

Next Steps

Over the next year, we hope to conduct another large diabetes risk screening event within the high-risk population groups and develop a post-screening pre-diabetes follow-up group program. If anyone would like to volunteer for any upcoming diabetes screening events, have any ideas for future locations, or would just like to know more about the diabetes screening program, you can contact Heather Bowie, RN, or Tara MacKinnon, PDt. at the Community Health & Wellness Centre in North Preston at (902) 434-3807.▲

Tara MacKinnon, PDt
Diabetes Centre
North Preston Community Health & Wellness Centre

News From Around the Province



New Faces

Welcome to:

Paula Canning, PDt Paula rejoins the staff of the IWK Health Centre Children and Adolescents with Diabetes Program.

Debbie MacMillan, RN Debbie joins the staff of the Valley Regional Hospital DC.

Norma Campbell, PDt Norma joins the staff of the Inverness Consolidated Memorial Hospital DC during Mary Beth Walker's maternity leave.

Anna MacLeod, RN Anna joins the staff of the Cape Breton Regional Hospital DC during Kim MacDonald-Currie's maternity leave. Congratulations to Kim on the birth of her daughter, Hannah.

Certification Exam
Certified Diabetes Educator

We'll be thinking of all of you writing on Saturday, May 28, 2005. Best of Luck!

CDA Nova Scotia Division News

Camp Director: The Canadian Diabetes Association, Nova Scotia Region, is pleased to welcome Heather Sinclair as Camp Director for Camps Lion Maxwell and Morton and the Leadership Training Program 2005. Heather has been involved with the CDA, Nova Scotia Region, Camping Program for many years, as well as with other camps. Heather is an Occupational Therapist and will continue to work part time in this field. Welcome Heather!

Health Professionals Required for Summer Camps: The Canadian Diabetes Association still 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 a

special 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.

Beyond the Basics Poster: The Canadian Diabetes Association has developed a new meal planning guide, *Beyond the Basics*, that will replace the *Good Healthy Eating Guide*. This new tool was designed primarily for educators to talk to their clients about food choices. The new meal planning guide has adjusted portion sizes and types of foods and reflects current thinking on heart health, glycemic index, and carbohydrate counting. *Beyond the Basics* is now available for order from our Literature Order Desk at www.diabetes.ca/literature.

Diabetes Awareness Days: The Kings County Branch will be hosting a Diabetes Awareness Day on April 23 at the Kingston Lions Hall. The day will consist of information sessions, exhibits, foot assessments, blood glucose testing, door prizes, and a healthy lunch. Admission is free, and everyone is welcome. To register, or for more information, contact Judy Swift at (902) 542-3870.

CDA Regional Annual Meeting: The Canadian Diabetes Association, NS Region, is having their Regional Annual Meeting on May 14, 2005, at the Ramada Plaza Hotel in Dartmouth. The day will consist of a trade show, an annual meeting, and presentations by Dr. Ali Imran, Dr. Michael Vallis, and Ginger Kanzer-Lewis. For more information on this event, or to pre-register, call (902) 454-4232 or toll free at 1-800 326-7712.

Weekend Retreat for Families of Young Children with Diabetes: Our Annual Family Weekend Retreat is scheduled for May 27-29, 2005, at Tatamagouche Centre. Please pass these dates along to families of young children with diabetes (birth to age 9). Registration forms are now available. There are only a few spaces remaining; so families should contact the CDA at (902) 454-4232 or toll free at 1-800 326-7712 as soon as possible.

New Programs and Approaches

We look forward to some of the sharing that will take place during the DCPNS spring 2005 Provincial Workshop. Look to future issues of the newsletter for summaries of these new and innovative approaches.▲

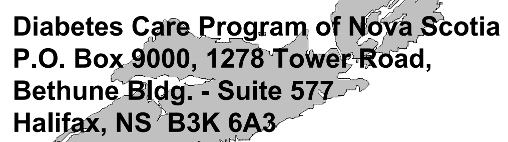
Our thanks to the companies noted below for their continued support of DCPNS activities. We are pleased to have these industry sponsors for our upcoming provincial workshop to be held May 13, 2005.

Gold sponsor:	Sanofi-Aventis
Silver sponsor	Novo Nordisk Canada Inc.
Bronze sponsors:	Bayer Healthcare Division
	Disetronic Medical Systems
	Medtronic MiniMed (Atlantic)
	Roche Diagnostics

Steven Shears and Colin MacNeil, Novo Nordisk, are pleased to announce that effective April 1st, 2005, Nova Scotia Pharmacare has provided full benefit listing of the New NovoFine 32 gauge needle tip. The NovoFine 32G is "the new standard in gentle injections." "With the tapered tip technology, its unique shape tapers needle to a 32G tip, making it the thinnest insulin needle available." For more information, contact Colin or Steven directly at 1-800-465-4334 (Steven's extension 4507).▲

***This information has been brought to our attention to share with educators around the province. Endorsement is not implied by appearance in the newsletter.*

The End!



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