

# Diabetes Care News

FOR FRONTLINE DIABETES EDUCATORS

## Hypoglycemia Unawareness

By Sheila Walker R.D. M.Ed., C.D.E.

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The central irony of diabetes control is that those who are the best at it are at the biggest risk of hypoglycemia. Beyond the immediate dangers of hypoglycemia are the longer term risk of hypoglycemia unawareness. Hypoglycemia unawareness (HUA) has been defined as the absence of specific symptoms that inform the patient that their blood sugar is dropping. Without warning signs the patient is unable to take appropriate treatment and prevent the blood sugar from dropping to a dangerously low level. It is estimated that 10-20% of patients with Type 1 diabetes suffer from at least 1 severe episode requiring outside intervention per year.

The DCCT demonstrated that intensively treated patients are three times more likely to experience severe hypoglycemia than patients on conventional therapy are. Over 50% of all episodes occur during sleep when lack of symptoms is particularly dangerous.

Early warning signs of hypoglycemia include sweating, hunger, anxiety, tingling around the mouth and visual changes. These signs are caused by the autonomic nervous system's response to hypoglycemia. If unheeded neuroglycopenic symptoms develop including confusion, lethargy, seizure and

coma. Normally in healthy humans as blood glucose levels fall (3.6-3.8 mmol/L) counterregulatory hormones are increased (glucagon, epinephrine, growth hormone and cortisol).

In an individual with Type 1 diabetes the glycemic threshold to produce these hormones will vary in relation to antecedent blood glucose levels. An episode of hypoglycemia will subsequently blunt the symptoms of hypoglycemia over the next few days. So the best way to prevent HUA is strict avoidance of hypoglycemia.

Risk factors for HUA include the following:

- Patients with low levels of HbA<sub>1c</sub>
- Patients with a long duration of diabetes. Warning signs diminish after a few years of diabetes
- Patients with a low body mass index
- Patients who self-report that they no longer feel their lows
- Patients who participate in vigorous physical activity
- Patients who have a high blood glucose variability and low average blood glucose concentration
- Patients who initiate intensive insulin therapy
- Patients on high doses of sulfonylureas, particularly the elderly

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Risk reduction strategies include the following:

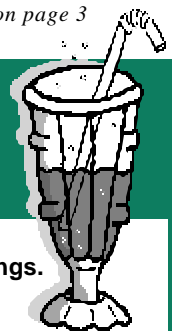
1. Discuss the issue of hypoglycemia at every visit (frequency, warning signs, treatment strategies). Teach the patient to be on “alert” after a hypoglycemic episode in the previous 24-48 hours and this may include additional testing overnight.
2. Discuss the effect of beta blockers on HUA. Beta blockers may impair the perception of hypoglycemia.
3. Ask about alcohol intake. Alcohol prevents liver glycogen from being released into the bloodstream and the patient may not recognize signs of hypoglycemia when he is drinking. It is best avoided if the patient has had a physically active day and/or hypoglycemia that day.
4. Set higher blood glucose/HbA<sub>1c</sub> targets for patients with HUA and patients with autonomic neuropathy. It is suggested that pre-meal targets be set at above 5.5 mmol/L and all sugars should be above 3.9 mmol/L.
5. Suspect HUA if HbA<sub>1c</sub> is less than 6% and the patient does not report autonomic symptoms when their blood sugar is less than 3.0 mmol/L.
6. Recommend frequent self-blood glucose monitoring particularly at bedtime to determine appropriate carbohydrate content of evening snack. Experience is a great teacher
7. Consider switching to Humalog insulin. Humalog has a shorter duration than regular insulin and is unlikely to contribute to overnight hypoglycemia.
8. Review records to best determine insulin adjustment for periods of increased exercise. Different activities often require a change in overnight basal insulin and/or pre-meal insulin dosage.
9. Refer the patient back to the dietitian to review:
  - a. carbohydrate counting
  - b. appropriate carbohydrate adjustments for increased physical activity
  - c. effective treatment of hypoglycemia, which is 15 or more grams of quickly, absorbed carbohydrate (not chocolate). The glycemic index can be used to identify foods which quickly raise blood glucose (e.g. dates and jelly beans). Additional fat and /or protein is not helpful.
10. Some diabetes education centers now have CGMS (continuous glucose monitoring system) which automatically monitors glucose levels every 5 minutes over a 72-hour period. This will help identify overnight hypoglycemia.

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Diabetes Care News is published quarterly by Sampling Canada for inclusion in the Canadian Diabetes Care Guide Professional Pack

## CRYSTAL LIGHT

### Strawberry Orange Banana Refresher



#### Just follow our 3 simple steps:

1. EMPTY 1 pouch CRYSTAL LIGHT Strawberry Orange Banana Low Calorie Drink Mix in blender container.
2. ADD 1 ½ cups cold water, ½ cup cold orange juice and 1 Tbsp lime juice, cover. Blend on high speed until drink mix is dissolved.
3. ADD 4 cups crushed ice or ice cubes. Cover, blend until smooth. Serve immediately.

**Makes 5 (1 cup) servings.**

**Per Serving**  
 Calories 16    Protein .28 g  
 Fat .02 g      Carbohydrate 3.17 g

**Canadian Diabetes Association  
 Food Choice Value**

1 serving = 1/2

# Fibre 1\*

# 3

General Mills has included a full sized sample of their Fibre 1\* cereal. Fibre 1\* currently offers the highest source of dietary fibre among high fibre cereals (Source: Survey, Chatelaine, June 2000). Fibre 1\* is also low in fat, and cholesterol free. As you teach your clients to be label savvy you will probably want to point out that a half cup serving of Fibre 1\* has 13 grams of fibre and, although it has no sugar added, aspartame gives it a palatable sweetness. The half cup (30g) serving has a Canadian Diabetes Association Food Choice Value of 1 Starch Choice. The two separately sealed packs guarantee freshness and crunch.

## Summary

Near normal glycemic control prevents or delays long term complications of diabetes. Unfortunately this will result in an increased risk of hypoglycemia and HUA. It is important that all tightly controlled patients learn the strategies to decrease their risk of hypoglycemia.

## Case Study

Mr. B.L. – 52 year old retired male

- 28 year history of Type 1 diabetes HbA<sub>1c</sub> – 0.083.
- 3 recent episodes of nocturnal hypoglycemia which were treated by his wife. Patient stated that he no longer feels his lows.
- Insulin – Lente and variable regular before breakfast, variable regular before supper and lente at bedtime
- Patient says he has no memory of what happened or possible causative factors.
- Patient assessed by nurse, dietitian and doctor.

Changes suggested to patient:

1. Humalog insulin rather than regular before breakfast and dinner.
2. Review of carbohydrate counting with the patient and his wife. This was found to be extremely variable and ranged from 25 – 75 grams at supper.

3. Patient was advised to monitor at bedtime. Had been monitoring before breakfast and dinner previously.
4. Blood glucose records were reviewed to see whether patient had any lows in the previous 1-2 days on the nights of the hypoglycemia.
5. Discussed alcohol intake with patient. He stated that he rarely drank but that it could range from 0-4 beers.
6. Discussed any unusual activity on these 3 occasions and how to modify overnight insulin dosage.
7. Patient's wife was taught the use of glucagon.

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## LIPID MANAGEMENT

In May 2000, a working group of Canadian experts updated the Canadian guidelines on the management and treatment of dyslipidemia<sup>1</sup>. They made numerous changes from the previous guidelines that are important. The most significant, however, affects people with diabetes.

In these guidelines, individuals over the age of 30 who have diabetes mellitus (defined as a fasting blood glucose level of  $\geq 7.0$  mmol/L) have been moved into a new category. They are now considered to be at “very high risk” for CAD — placing them at the same risk level as people who have had a heart attack or stroke.

A recent study published in the U.K. has also shown that in diabetic patients, lipid management is even more important than glucose management for the reduction of cardiovascular risk<sup>2</sup>. It was found that intensive blood glucose control in patients with type 2 diabetes reduced the incidence of retinopathy and nephropathy, but had less of an impact on CAD risk. It has been shown in a study published in the *New England Journal of Medicine* that type 2 diabetes increases the risk of CAD by a factor of two to four<sup>3</sup>. For this reason, the Canadian working group described lipid lowering and blood pressure control as “major priorities” for these patients.

The guidelines also recommend target lipid levels for people in various risk groups. They suggest that very high-risk patients, including people with diabetes, aim to keep LDL cholesterol levels below 2.5 mmol/L, triglyceride levels below 2.0 mmol/L and the ratio of total cholesterol to HDL cholesterol below 4.0.

The guidelines also now recommend that people with diabetes whose lipid levels are above their targets immediately begin drug treatment in conjunction with diet and lifestyle changes, rather than first trying diet and lifestyle changes alone. This change underlines the need for aggressive lipid management in these very high-risk patients.

For patients with elevated LDL cholesterol levels, with or without abnormal triglyceride levels, the class of drugs called “statins” are recommended as the drugs of choice. Research has shown that in people with diabetes, a statin drug can reduce the likelihood of a cardiovascular event and may increase survival<sup>4</sup>. These drugs cause relatively few side effects and are all available in once-a-day tablet forms.

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*Sponsored by an unrestricted educational grant from Pfizer Canada Inc.*

**NEW!**

## MEALS FOR GOOD HEALTH RESOURCES

5

Most of you are familiar with the cookbook Meals for Good Health published in co-operation with the Canadian Diabetes Association. This is the book with the life-size colour photographs of calorie-equivalent meals. Many health workers are also familiar with the Meals for Good Health Manual which includes all the CDA Food Choice Values and other detailed nutrition information pertaining to the meals and recipes in Meals for Good Health. Now there are two new exciting resources, a teaching binder, and the translated version of Meals for Good Health. To view any of these resources please go to [www.mealsforgoodhealth.com](http://www.mealsforgoodhealth.com) You can now order online!

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### La santé au menu

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- Price \$29.95 (hard-cover)

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## Improving HbA<sub>1c</sub> by Targeting PPG

Anne Belton - Manager, Diabetes Education William Osler Health Centre, Member of the Professional Development Advisory Council, LifeScan Education Institute

*The key is letting patients learn by experience – or, to put it another way, by their mistakes...*

The challenge is getting people to realize that they can manage their own disease. We can't manage their disease for them; they have to do it, but they have to have the tools to do it.

There has been a shift in focus from fasting to postprandial glucose over the last few years. This new target has given us another tool in improving our patient education.

The exact relationship between postprandial glucose, fasting glucose and HbA<sub>1c</sub> is difficult to tease apart. There is increasing evidence that targeting postprandial glucose with rapid-acting insulins may give superior metabolic control.

In a study involving 882 patients with type 1 diabetes published last year in *Diabetes Care*, Philip Raskin and colleagues showed that insulin aspart, taken with a meal, reduced postprandial glucose significantly better than did human insulin taken 30 minutes before a meal. Also, by the end of the 6-month study, HbA<sub>1c</sub> was significantly lower in the patients taking insulin aspart than in the patients on human insulin ( $p < 0.005$ ).<sup>1</sup>

In type 2 patients the picture is similar. In another study published last year, HbA<sub>1c</sub> was significantly lower at the end of 3 months in patients taking insulin lispro plus glyburide than in patients on NPH at bedtime and glyburide.<sup>2</sup>

This clinical evidence is just what diabetes educators want to hear. Targeting postprandial glucose with rapid-acting insulins has allowed diabetes educators to apply the best principles of learning theory to the challenge of helping people change their behaviours.

A lot of people have been told in the past, 'You take this insulin, you never change this amount of insulin, you test your blood sugars', but they're testing their blood sugars in isolation from everything else. Once you explain to them how their medication works, and that this blood sugar is affected by that dose, and they see that with this food, that happens...they understand how they can make simple changes. The key, is letting patients learn by experience – or, to put it another way, by their mistakes: Better than saying to someone, 'Don't do that.' is to say, 'Well, go out and try it and test your blood sugar and let's see what happens and see whether you want to try it again.'

For example, consider one patient who drank a sugar-loaded doughnut shop coffee brought into work by her daughter and later logged her blood sugar at 26 mmol/L. She was amazed. She learned far better by experience than by being told not to drink it. The most powerful lessons are often those people learn by themselves. Focusing on postprandial glucose allows people to learn on their own, and will, we hope, result in behaviour change. This patient-centred approach has been at its most effective since the advent of rapid-acting insulins.

We, as diabetes educators should be focused on helping people with behaviour change. The rapid-acting insulins help people to make those changes. It's so immediate, they see the results, and it will help them make the right decisions.

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## ERECTILE DYSFUNCTION: A Common Concern for Men With Diabetes

Diabetes, a medical condition that affects more than two million Canadians can also cause erectile difficulties (ED). About half of diabetic men between the ages of 40 and 50 have some degree of ED. By age 70, this figure is closer to 95 per cent. For these men and their sexual partners, loss of self-esteem, embarrassment and relationship difficulties are not uncommon – ED can cause significant personal and emotional stress that affects all aspects of their lives.

Yet, many men are still uncomfortable discussing ED with their physicians, and in some cases, their partners. It may surprise them to learn that the majority of Canadian family physicians have prescribed an ED treatment, reflecting their willingness and ability to diagnose and treat this condition. It also shows that men are not alone in their concern about ED.

“There is an increased incidence of ED among men with diabetes, which may be seen as a complication,” said Dr. Brewer Auld, urologist and Chair of the Canadian Male Sexual Health Council. “These men, however, can manage both their diabetes and their ED effectively – leading to a striking improvement in their well-being. With effective treatments readily available for ED, all men – including men with diabetes – are encouraged to talk to their doctor about their ED.”

For most Canadian adults, sexual health is an important part of their overall well-being. In fact, most men and women expect to enjoy a healthy sexual relationship, including the option of sexual intercourse, well into their older years. Men who receive effective treatment for ED are usually thrilled with their improved sexual activity.

### What Is ED?

ED is typically defined as the persistent inability to attain and/or maintain an erection that is satisfactory for sexual performance. The easiest to recognize, of course is complete ED, which is the inability to achieve an erection in any circumstance. But ED is more precisely

a condition that occurs in various degrees. In fact, the majority of men with ED (82 per cent) have mild to moderate ED, which can be defined as intermittent and/or increasing loss of penile rigidity with an associated impact on sexual activity.

Regardless of its degree of severity, men should consider ED a legitimate medical concern deserving of treatment. ED is not an inevitable result of aging.

### How Is ED Associated With Diabetes?

For men with diabetes, the blood vessel problems and nerve damage that may be present with diabetes can also cause a slow and progressive deterioration of erection quality over time.

ED may also be caused by factors such as smoking, obesity, excess alcohol use and stress. Scientists believe that these factors may also be associated with type 2 diabetes, the kind that affects 90 per cent of Canadians with diabetes. Removal of these contributing factors could be important in preventing or minimizing the physical and emotional impact of both diabetes and ED.

### Can ED be Treated in Men with Diabetes?

The good news is that regardless of the cause, the majority of cases of ED are treatable. ED doesn't need to be a difficult subject to discuss, especially since today's treatment options can give new hope for restoring sexual functioning. It is encouraging for men and their partners to know that there are safe and effective treatments now available. Your doctor can help you to decide whether or not to treat your erectile dysfunction and identify the best treatment option for you.

**For more information on ED in men with diabetes or ED in general, call 1-800-951-2033 (an ED information line answered by a nurse) or visit [www.yoursexualhealth.com](http://www.yoursexualhealth.com).**

*Sexual Health Inventory for Men (SHIM) questionnaires have been included in this package to facilitate self diagnosis of erectile dysfunction within individuals that consult with you.*

## Macular degeneration, Diabetic Retinopathy and Antioxidants

*By Dr. David Wong, Ophthalmologist in Toronto*

A trend to preventative healthcare is on the rise throughout medicine. Two of the leading causes of irreversible blindness, diabetic retinopathy and Age Related Macular Degeneration (AMD), are at the forefront of preventative healthcare. Tissue damage in AMD and possibly diabetic retinopathy is thought to be related to free radical formation that over time can cause injury to the tissues beyond the natural repair mechanisms. Preventing or reducing oxidative stress by absorbing these free radicals before they are able to damage tissue is the basis for the use of anti-oxidants such as vitamins.

In both insulin and non-insulin requiring diabetics, controlling the blood sugar has been correlated with reduced complications, including diabetic retinopathy<sup>1,2</sup>. The task of strict control is difficult and not all patients are able to achieve the ideal glucose levels. Elevated glucose levels result in higher levels of free radicals through glycosylated proteins (sugars attached to protein molecules). Vitamins C and E have been shown to reduce protein glycosylation and oxidative damage<sup>3</sup>. Although human trials on anti-oxidant use in diabetics is in the early phases, animal data indicate reduction in free radical damage resulting in preserving vascular function in the diabetic retina<sup>4</sup>. There is potential in human data similar results will be seen.

Multiple studies have pointed a correlation in the incidence of AMD to low levels of anti-oxidants. Early studies with antioxidants including lutein may reduce AMD progression; however,

recent publication from the Age Related Eye Disease Study (AREDS)<sup>5</sup> revealed statistically significant reduction in the visual loss with the use of antioxidant (vitamins C, E and beta carotene) and zinc therapy. Specifically, over a 7-year period, a 25% reduction in progression to advanced AMD from moderate AMD was noted with antioxidant and zinc supplementation when compared to placebo. A lesser effect of 17% (antioxidant) and 21% (zinc) were noted when there were used separately. Visual loss was also less by 27% when both anti-oxidants and zinc were used in combination compared to 17% (antioxidant) and 15% (zinc) when used separately. Reducing the progression and visual loss from early stages of AMD or preventing the development of AMD was not noted in the seven year period; however, the data is not yet clear on a longer prospect of 10 to 15 years. The intake of the vitamins (C, E and beta carotene) and zinc were increased 100% over the recommended daily allowance (RDA). The benefit trend was even seen in patients already taking a multivitamin supplement.

Data is now evident that the use of vitamins and other supplements such as zinc reduces disease progression in AMD and possibly diabetic retinopathy. With time these devastating diseases and possible others that cause visual loss maybe prevented. For now, vitamin and mineral supplementation is a good start to this ideal goal.

*References on page 9.*

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## Colgate Total\*

As Diabetes Educators, alerting your clients to the special care that people with diabetes need to take is all part of their diabetes management program. It's particularly important for them to take proper care of teeth and gums since studies have shown that people with diabetes tend to be three times more susceptible to gum disease.

**Colgate Total\*** Toothpaste is the only toothpaste clinically proven to go beyond cavity protection to fight plaque, tartar, and gingivitis, the first stage of gum disease. Therefore, brushing with **Colgate Total\***, flossing, eating a balanced diet, and making regular visits to your dentist are all important things to remember for proper oral health.

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## SMUCKER'S No Sugar Added Fruit Spreads

Here's a tasty treat for people who follow a sugar-reduced or carbohydrate-reduced diet. J.M. Smucker's delicious line of No Sugar Added Fruit Spreads is sweetened with Sucralose, the only sweetener that's actually derived from sugar.

"The advantage of Sucralose over other artificial sweeteners is that it delivers a similar taste to that of sugar," Product Manager Peter Saikali points out. "So our No Sugar Added Fruit Spreads really match the tasty, wholesome fruit flavour that makes our regular brand the best loved jams in Canada and the U.S."

Sucralose has other advantages for people with diabetes. The body does not recognize it as a sugar or carbohydrate, so it does not influence carbohydrate metabolism, insulin secretion, fructose absorption, glucose absorption, glucose utilization and short- or long-term blood glucose control.

The Smucker's line of No Sugar Added Fruit Spreads includes everyone's favourite fruit flavours – Strawberry, Raspberry, Apricot, Orange and Blueberry. Each 15 mL serving (1 tbsp) has just 20 calories, 0 g fat and 5.4 g of carbohydrate. In Canadian Diabetes Association food value terms, that represents a 1/2 Fruits & Vegetables Choice rating.

"People with diabetes and consumers with low sugar needs can spread our No Sugar Added Fruit Spreads on thick, just the way they used to enjoy their jam, but without the added sugar," adds Mr. Saikali. For anyone who is sacrificing sugar, that's sweet news indeed.

## Dr. Scholl's

In July 2001, the Canadian Podiatric Medical Association (CPMA) endorsed 13 Dr. Scholl's® foot care products as Diabetes-Friendly by giving its Golden Seal of Acceptance. The Golden Seal of Acceptance is based on a stringent approval process by the CPMA. To quote Anne Belton, registered nurse, diabetes educator and founding member of The Scholl Institute™: "There's a lot of confusion about what is safe for people with diabetes. It's important for people to know that the products they use will not cause harm, and may help treat minor foot problems. The CPMA Golden Seal of Acceptance is valuable because it easily identifies what is safe and recommended." The CPMA endorsed the Dr. Scholl's® Diabetes-Friendly products based on the recognition that given the special health needs of people with diabetes, proper foot care is an integral part of maintaining their overall health.

Foot problems in diabetics usually stem from three primary problems: diabetic neuropathy, poor circulation and deficient immune response to infections. Also considered is how these factors interplay with a number of contributory factors such as limited mobility, altered foot pressure, glycemic control, etc. The combination of these factors and the resulting absence of sensation may lead to trauma or injuries that are unnoticed and thus untreated for prolonged periods of time. Serious foot conditions like deformities, foot ulcers, fungal infections, bone infections or gangrene can be a result. It is estimated that about 15% of diabetes patients will develop a serious foot problem at some point.

Diabetic neuropathy is a complicated and difficult problem to treat. Although it is a very common long-term complication of diabetes, there is no uniform treatment that works for all patients, which remains a source of frustration for patients and health professionals. The current research has not yet resulted in tools to prevent or even reverse neuropathy leading to the importance of prevention and patient education.

New approaches afforded by the development of podiatric research have made preventative foot care a bedrock of the management of the diabetic foot. Appropriate footwear and foot care can significantly reduce the incidence of complications and has to have an important place in any foot care plan designed to prevent foot complications.

Appropriate footwear serves to relieve areas of excessive pressure, reduce shock and shear, and accommodate, stabilize, and support the diabetic foot. Properly constructed and fitted shoes can minimize localized stresses by redistributing pressures during walking, so much so that the use of special inserts to protect the diabetic foot is highly recommended.

Although some people may require custom orthotics in order to redistribute metatarsal and great toe pressures, most diabetic patients in the early stages of neuropathy can still wear regular cushioned running or walking shoes. Patients of low or moderate-risk require shoes that have a stable heel counter allowing for the best biomechanical support, a soft upper part and thick shock-absorbing outsoles. Off-the-shelf products such as Dr. Scholl's® Insoles, Heel Liners and Heel cushions may provide the additional support and/or comfort that maybe needed and provide a more affordable choice than custom orthotics prescription depth footwear.

Equally important is the foot care (either by the diabetic patient himself or in the case of elderly or vision impaired diabetic patients by the caregiver). The feet should be checked at least once a day, so it should be made part of the daily routine. Nails need to be trimmed very carefully and cut straight across. The feet have to be washed often in warm (not hot) water, but not be soaked to avoid drying out. The skin between the toes needs to be dried particularly carefully and powder helps to keep the skin dry. The rest of the foot needs to be well lubricated, but no lotion should be rubbed in between the toes as that might cause infection. Here Dr. Scholl's® Foot Powders, Creams and Deep Penetrating Moisturizer will help making the diabetic's daily foot care regimen convenient and effective.

The diabetic foot remains a major public health issue as more than 2 million Canadians are suffering from Diabetes today and the numbers will increase with the spreading of Diabetes as the population ages. Diabetic foot complications are not only a disabling and resource-consuming long-term problem; they also have a significant impact on a patient's quality of life. The loss of mobility and loss of the ability to perform a great number of everyday tasks as well as leisure activities often lead to severe depression and much poorer quality of life than is experienced by diabetics without foot complications.

The use of appropriate footwear and foot care products therefore must be an integral part of any preventative-care-regimen for diabetics. The range of *Diabetes-Friendly* products by Dr. Scholl's® offer a valuable and affordable over-the-counter option for the treatment of minor, as well as the prevention of major, diabetes-related foot complications and therefore help the diabetic retain the mobility and the active lifestyle so crucial for quality of life.

*These are the Dr. Scholl's® foot care products approved by the CPMA as Diabetes-Friendly by giving its Golden Seal of Acceptance*

<b>Diabetes-Friendly Foot Care Products</b>	<b>Rationale</b>
Dr. Scholl's® All Purpose® Men's Work & Sport Insoles	Light weight, provides cushioning comfort and support for heel and arch areas
Dr. Scholl's® Advantage® Sport Insoles	Absorbs shock, guides motion and improves stability
Dr. Scholl's® Advantage® Work Insoles	Absorbs shock, guides motion and improves stability
Dr. Scholl's® Heel Liners Women's	Improves shoe fit and comfort
Dr. Scholl's® Massaging Gel Heel Cushions	Protects heel and comforts
Dr. Scholl's® Odour Destroyers® Insoles	Keeps feet fresh, dry & comfortable
Dr. Scholl's Odour Destroyer Shoe Shot Powder	W/Baking soda & z.oxide/absorbs moisture; unique packaging makes it easier to reach inside shoes.
Dr. Scholl's Odour Destroyer Spray	Controls foot odor and wetness. Keeps feet fresh and dry
Dr. Scholl's® Athlete's Foot Cream	Cures Athletes Foot & relieves itching & burning
Dr. Scholl's® Athlete's Foot Gel	Cures Athletes Foot & relieves itching & burning
Dr. Scholl's® Foot Powder	Prevents excess moisture that can contribute to Athlete's Foot
Tinactin® Athlete's Foot Cream	Cures and prevents Athlete's Foot, relives the itching, burning, and cracking
Tinactin® Athlete's Foot Powder	Cures and prevents Athlete's Foot, relives the itching, burning, and cracking
Tinactin® Athlete's Foot Powder Spray	Cures and prevents Athlete's Foot, relives the itching, burning, and cracking
Dr. Scholl's StepWell® insole	Dual layer provides even pressure distribution for maximum comfort and protection; improved localized circulation. Designed specifically for diabetes and arthritis sufferers.
Dr. Scholl's Smooth Touch® Deep Penetrating Moisturizer	Soothes and Moisturizes. Prevents dry, cracked skin.

## FEEDBACK

We'd like to hear from you! Please contact us if you have comments, questions, or suggestions. Just send us an e-mail.

Email: [info@diabetescareguide.com](mailto:info@diabetescareguide.com)

## The Amazing Healing Power of Blueberries

By Lael Edistein, Registered Dietitian

Each day, we learn more about the amazing health benefits of blueberries. In fact, recent research links a substance in blueberries, called anthocyanin, not only with blueberries' beautiful indigo colour, but also with possible strengthening of eyesight in certain individuals. There is also evidence that antioxidants in blueberries help fight the ill effects of smog, cigarette smoke and other substances that may cause or speed up ageing.

Besides tasting delicious, blueberries are naturally fat-free and low in calories. A one-cup serving of fresh blueberries contains just 80 calories, with no fat, cholesterol or sodium. One serving also contains 5 grams of dietary fibre, 19 grams of total carbohydrates, and 1 gram of protein!

Enjoy the benefits of blueberries all year long

Freezing blueberries is an easy way to enjoy them all year long. Simply take fresh blueberries and place them in a single layer on a cookie sheet. (Don't wash them!) After they're frozen, transfer to an airtight plastic bag or freezer container and store. When you're ready to use your blueberries, take them out and wash gently to thaw.

### Fact!

Blueberries are ranked among the top fruits or vegetables in antioxidant power.

If you'd like to get more blueberries into your meal plan, this luscious recipe will give you a delicious head start. So go ahead... enjoy a slice of the sweet life today with Equal Blueberry Pie!

### Equal Blueberry Pie



Makes 8 servings - 30% calorie reduction from traditional recipe

Pastry for double-crust 9-inch pie

6 Cups	Fresh blueberries or 2 packages (16 oz each) frozen unsweetened blueberries
3 Tablespoons	Lemon juice
6 Tablespoons	Cornstarch
1 Cup plus 2 Tablespoons	Equal Spoonful

- Toss blueberries and lemon juice in large bowl. Sprinkle with combined cornstarch and Equal and toss to coat. Let stand 30 minutes.
- Roll half of the pastry on lightly floured surface into circle 1 inch larger than inverted 9-inch pie pan. Ease pastry into pan; trim within 1 inch of edge of pan. Roll remaining pastry to 1/8-inch thickness; cut into 10 to 12 strips, 1/2-inch wide.
- Pour blueberry mixture into pastry. Arrange pastry strips over filling and weave into lattice design. Trim ends of lattice strips; fold edge of lower crust over ends of lattice strips. Seal and flute edge.
- Bake in preheated 425°F oven until pastry is browned and filling is bubbly, about 1 hour. Cover edge of crust with aluminum foil if browning too quickly. Cool on wire rack; refrigerate leftovers.

#### Nutrition information per serving

257 cal., 3 g pro., 42 g carb., 10 g fat, 10 mg chol., 128 mg sodium  
Food exchanges: 1 fruit, 1 ½ bread, 2 fat