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SHAPE UP
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DIABETES SINGAPORE
Apr - Jun 2014

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OMRON

CONTENTS

2012/2014
YOU ARE NOT ALONE

Hello to you readers, our new Diabetic Society of Singapore members and anyone new to diabetes.

In this issue, we cover the medical, psychological, physical and nutritional aspects of someone who has just been diagnosed with diabetes.

There are many others who face the same challenges but who have overcome. You can find strength and comfort in their experiences, especially if you join a support group that understands your medical condition and empathises with your situation.

Our DSS Diabetes Nurse Educators are also well trained to guide and counsel you on matters pertaining to your condition, so you will definitely be in good hands.

Our magazine has been around for more than ten years and it has been well circulated among our DSS members, family general practitioners, consultants, polyclinics and hospitals. Take time to go through our articles and make use of our recipes.

We also recommend that you visit our website, www.diabetes.org.sg, or ‘LIKE’ our Facebook page under “Diabetes Singapore” to get the latest news on diabetes and on our upcoming forums, conferences and health screening programmes.

We will be organising two major events towards the end of this year:

1. World Diabetes Day to be held on Sunday, 9 Nov 2014
2. IDF-Western Pacific Region Congress to be held from 21 to 24 Nov 2014

Both events will be held at Suntec Convention & Exhibition Centre and we want to invite you to the second event to join us as a volunteer to welcome our overseas delegates. Here you can learn so much more about diabetes and its latest treatments as well as meet with others in the same boat, and have the assurance that you are never alone on this journey.

We hope you will enjoy this magazine and that you will pass it around so that others can benefit from it as well.

Yong Chiang Boon, PBM
President of DSS

Diabetic Society of Singapore is a non-profit organisation affiliated to the International Diabetes Federation and the National Council of Social Service. DSS gratefully accepts donations of any amount to help fight diabetes. All donations are tax exempt. Cash donations must be made in person at our HQ. Cheque donations should be made payable to Diabetic Society of Singapore. You may also make online donations via www.sggoes.org/diabetes.

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**Diabetes Workshop**

**Diabetes Management Made Easy**

Rodiah Hashim

It is a topic that will never go stale—Glycaemic Index (GI). On Saturday, 22 February 2014, Soyjoy sponsored a workshop that consisted of two sessions teaching participants how to manage their diabetes with the right diet.

Speakers were from the Glycaemic Index Research Unit of Temasek Polytechnic and led by their head, Ms Kalpana Bhaskaran. Research officer Mr Ramesh Kumar started the programme by presenting facts and figures on Understanding Food Labels. Lecturer Ms Siti Hussain followed with a hands-on session showing participants how to choose the right food products with actual supermarket items.

Peppered her message on managing blood sugar levels via low GI diets with humorous anecdotes, Ms Kalpana received the thumbs up from one participant for her ‘excellent presentation, informative, humorous and well paced’, she did not browbeat or talk down to the audience’. A sharing session with the panel of speakers and guest speaker, consultant endocrinologist Dr Ben Ng of Arden Endocrinology Specialist Clinic Pte Ltd, ended the workshop on a fruitful afternoon.

Soyjoy Workshop

**HEALTH SCREENING PROGRAMS**

19 Jan 2014

Health Screening at Bishan North Community Club

9 Mar 2014

Diabetes Awareness Talk and Health Screening for Baweanese Community at Bedok DECC Activity Room

**HEALTH TALKS**

28 Jan 2014

“Healthy Lifestyle – Diabetes Prevention is in Your Hands” – for Singapore Police Force Welfare Division at Police Cantonment Complex New Bridge Road

5 Mar 2014

“Diabetes Prevention & Management” – for Leica Instruments Singapore Pte Ltd at 12 Teban Gardens Crescent

26 Mar 2014

“Understanding Diabetes & Its Management” – for staff of Mendaki at Wisma Mendaki Kee Sun Avenue

**DSG DIARY**

Juliana Lim, Chandra Shekar and Kenji Mirassou

**MacRitchie TreeTop Walk**

The first Diabetes Support Group (DSG) walk of the year was held on 15 February, the last day of the Chinese Spring festival. Twenty four participants gathered for the occasion, all looking forward to galloping into the Year of the Horse.

The group woke up early to meet at 9am at Marymount MRT station. After a quick briefing and a word of caution by Juliana and Kenji about the monkeys, we took the bus to the Venus Drive car park, the closest entrance to the Treetop Walk.

The Treetop Walk is a 250m-long suspension bridge linking Bukit Kalang and Bukit Peirce which are the culminating points of the Central Catchment Nature Reserve. Nestled in the northern part of the reservoir, the aerial walkway rewards hikers with a panoramic view of the verdant forest.

The weather was warm and sunny that day. Fortunately, a gentle breeze kept us going despite the steadily rising temperature. Walking in the lush rainforest, we came across many tall trees as well as a wide variety of flowers and quite a few adventurous joggers. After about an hour of strenuous walking, going up and down the rocky trails, we arrived at the Rangers station. As we entered the thick forest, we saw a family of monkeys perched on the hand rails, eyeing us. One of them eagerly and excitedly rushed over to greet us in front of the Treetop hut, allowing us to take photos of him. We were most amused by his monkeying around!

And there it was, finally! Hoevering 25 metres above the ground and stretching across the forest canopy was the Treetop bridge. The aerial walkway only allows one-way traffic; for some of us who have a fear of heights, stepping onto this narrow passage was pretty scary. But once past that first step, we could enjoy the breathtaking and awe-inspiring view of the MacRitchie.
Beating Diabetes with FIRE . . .

Christine Rubi-Cruz

DSS BUZZ

CARE CORNER

FIRE categories

FIRST steps in DIABETES MANAGEMENT

Crystal Lee, diabetes nurse educator, Diabetic Society of Singapore

Diabetes is a growing concern in Singapore. One in every nine Singaporean has diabetes. Diabetes is no longer a medical condition that affects the old, young people are getting it too. Regardless of the person’s age, or the type of diabetes that he or she may be found to have, the common question on everyone’s mind is still how to manage one’s blood sugar level.

1. Getting Over First Reactions

For most people who are first diagnosed with diabetes, their reactions range from denial to despair. It is natural to feel lost for a period of time after receiving the unwelcome news. It will certainly help if the person can talk to a family member or a close friend about the illness. Freeing up the mind and heart is better than bottling up the confused thoughts and frustrated feelings.

2. See A Diabetes Nurse Educator

After coming to terms and getting a grip on the initial “loss” that a newly diagnosed diabetes patient finds him or herself in, the common question on everyone’s mind is still how to manage one’s blood sugar level.

3. See A Dietitian

Patients can also prepare a food and nutrition logbook by recording their meal times, the type of food consumed and its portion. If possible, reserve a column in the record book to capture physical exercise routines such as timing, types, frequency and duration of exercise. It is also important to be aware of any symptoms experienced during the exercise. Under the guidance of the DNE, all the gathered information will empower the patient to better manage his or her diabetes.

3. Check Out Resources and Workshops

Managing diabetes is a long journey. Only when you start taking the right steps in diabetes management, can you put your blood sugar levels under control for the long term.

5. Join A Support Group

Before a diabetes patient attends the next medical appointment, it helps to gather some information beforehand. Information such as pre- and post-meal blood sugar readings will allow the doctor and DNE to determine the subsequent best course of treatment and management.

Low GI ingredients make better meals

Glycaemic Index (GI) is a number assigned to a particular food or ingredient that measures the way it will impact one’s blood sugar levels upon eating. Using at least one low GI food at every meal may lead to more stable blood sugar levels, an easier to control appetite and more stable weight. Moreover, when combined with high GI food, the glycaemic value of the total meal may become lower.

Low GI ingredients featured in the recipes worth switching to:

- Brown Basmati Rice
- Legumes and beans
- Wholemeal grains and pasta
- Most fruits and vegetables

Controlling food portions

While GI values serve as a guide in choosing the food to eat, Ms Bhaskaran also reminded the participants to watch how much they eat. Portion control is another way to help manage blood sugar (and waistlines). The amount and type of food to eat can be worked out best with a dietitian to suit individual requirements, eating style and medication prescribed.

Perhaps the greatest take-away lesson from this workshop is that healthier food options can be best prepared at home. By doing so, you can use healthier ingredient alternatives that may not available in traditional hawker food. So, instead of eating out frequently (which is common in Singapore), play with fire and cook up a storm!

...and a cooking pot! All decked out in aprons and hair caps, members of Diabetic Society of Singapore (DSS) enjoyed a hands-on experience cooking several easy recipes that can help manage blood sugar levels:

Tem Yam Goong Macaroni Soup

Featuring the popular quinoa grain that is rich in protein and fibre, this can easily become any family’s new nutritious meal.

Kidney Bean Burritos

Quite flavourful and filling, this snack was a favourite recipe among the group.

Baked Quinoa

Rice.

Low GI ingredients

- Wholemeal grains and pasta
- Most fruits and vegetables

Tom Yam Goong Macaroni Soup

Glycaemic Index (GI) from DSS’ master of food, participants also learned about filling the room with the tantalising aroma groups during the workshop. Apart from Temasek Polytechnic who also assisted the of Applied Food Science and Nutrition at

Kidney Bean Burritos

Using wholemeal pasta, this dish boasts flavour and good old comfort.

Baked Quinoa

Featuring the popular quinoa grain that is rich in protein and fibre; this can easily become any family’s new nutritious meal.

Vegan Lasagne

Meeting daily requirements for vegetable intake is easy when this dish is served.

Brown Basmati Pilaf

Featuring basmati and barley, this dish is surely a better choice than traditional fried rice.

The workshop was co-organised by students of Applied Food Science and Nutrition at Temasek Polytechnic who also assisted the groups during the workshop. Apart from filling the room with the tantalising aroma of food, participants also learned about Glycaemic Index (GI) from DSS’ master trainer and dietitian, Ms Kalpana Bhaskaran.

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4. Check Out Resources and Workshops

DSS also conducts Diabetes Self-Care Management Workshops (see back page). Its contents are modular in structure and split over a few sessions to cater to the varying needs of participants.

5. Join A Support Group

Joining a support group is another way of overcoming the initial mental and emotional barriers to clear the way towards doable diabetes management. DSS runs such a support group. Members of this group will meet up and enjoy nature walks in the many scenic parks around Singapore. During these walks, members discuss their varied experiences, share personal diabetes handling techniques, and, most of all, offer one another much needed support and encouragement.

Managing diabetes is a long journey. Only when you start taking the right steps in diabetes management, can you put your blood sugar levels under control for the long term.
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**First steps in Diabetes Management**

Crystal Lee, diabetes nurse educator, Diabetic Society of Singapore

Diabetes is a growing concern in Singapore. One in every nine Singaporean has diabetes. Diabetes is no longer a medical condition that affects the old, young people are getting it, too. Regardless of the person’s age, or the type of diabetes that he or she may be found to have, the common question on everyone’s mind is still how to manage one’s blood sugar level.

1. **Getting Over First Reactions**
For most people who are first diagnosed with diabetes, their reactions range from denial to despair. It is natural to feel lost for a period of time after receiving the unwelcome news. It will certainly help if the person can talk to a family member or a close friend about the illness. Freeing up the mind and heart is better than bottling up the confused thoughts and frustrated feelings.

2. **See A Diabetes Nurse Educator**
After coming to terms and getting a grip on the initial “loss” that a newly diagnosed diabetes patient finds him or herself in, he or she will definitely be more confident to seek professional help from Diabetes Nurse Educators (DNE) and dietitians. DNE and dietitians are available in hospitals, polyclinics and at Diabetic Society of Singapore (DSS).

From the DNE, the patient can gain a better understanding of diabetes, learn effective diabetes management methods, discover the importance of self-blood glucose monitoring, find out how to interpret sugar readings, understand the effects and side effects of their medications and how to minimise and manage those side effects. All these knowledge and skills will allay unnecessary fears and cast aside undesirable myths.

Before a diabetes patient attends the next medical appointment, it helps to gather some information beforehand. Information such as pre- and post-meal blood sugar readings will allow the doctor and DNE to determine the subsequent best course of treatment and management.

3. **See A Dietitian**
Patients can also prepare a food and nutrition logbook by recording their meal times, the type of food consumed and its portion. If possible, reserve a column in the record book to capture physical exercise routines such as timing, types, frequency and duration of exercise. It is also important to be aware of any symptoms experienced during the exercise. Under the guidance of the DNE, all the gathered information will empower the patient to better manage his or her diabetes.

4. **Check Out Resources and Workshops**
Knowledge is power. Be sure to obtain diabetes news updates from established sources such as the Health Promotion Board and the Diabetes Singapore magazine. DSS also conducts diabetes self-care management workshops (see back page). Its contents are modular in structure and split over a few sessions to cater to the varying needs of participants.

5. **Join A Support Group**
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Managing diabetes is a long journey. Only when you start taking the right steps in diabetes management, can you put your blood sugar levels under control for the long term.
Emotions experienced by newly diagnosed diabetes patients have been likened to those of bereavement. The toll of these psychological experiences may lead to deterioration of self-care.

The Need to Manage Psychological Impact

The psychological experiences of being diagnosed with diabetes need to be managed as seriously as the disease itself. In fact, emotions experienced by newly diagnosed diabetes patients have been likened to those of bereavement. The toll of these psychological experiences may lead to a deterioration of self-care. These include not taking medications, missing appointments and not making dietary changes. Some individuals may develop clinical depression or anxiety.

Illustrative Experience of Newly Diagnosed Patients

Ali, who is in his fifties, was retrenched and unemployed for a year. His financial stress was increasing. Recently, he was diagnosed with type 2 diabetes. He experienced an episode of hypoglycaemia when alone in his flat, in which he fell and sustained a head injury. Since being discharged from hospital, he is anxious when alone, tests his blood glucose frequently, and allows his blood glucose to stay high in fear of hypoglycaemia. His stress and worries about his finances also worsened.

21-year-old Sujatha had just completed her university studies and started working when she was diagnosed with type 1 diabetes. She has been admitted to hospital multiple times with diabetes ketoacidosis (DKA), leading to long periods of time away from work.

Sujatha felt helpless and depressed about her situation. She started to miss her medical appointments as she did not want to jeopardise her employment. She also sees no point in seeking treatment as she feels her hopes for her career have been dashed by her illness.

P = Pick-up
Pick up knowledge about diabetes. Forming our own ideas about diabetes and how to manage hypoglycaemia, like Ali did, may be detrimental to our health. Thoughts of how diabetes will wreck our lives only serve to make us more stressed out. Accurate understanding about the illness, its seriousness and what you can do to manage diabetes, helps cope with the anxiety about your health. The most reliable way to pick up knowledge about diabetes is from your doctor, nurses or healthcare professionals. There are diabetes self-management programmes at some of the local polyclinics, where you can learn more about diabetes. Patients who go through such programmes were able to manage their diabetes and the psychological impact better. And these patients maintain the benefits three years after the programmes. Do consult your healthcare professionals.

E = Engage
Engage diabetes patients who are coping well. Although they may not be able to provide you with medical advice, they can share their ‘coping’ experiences. Find out how they navigated the newly diagnosed phase. Find out how they adjusted to the lifestyle habits recommended by healthcare professionals. You can meet these people in your social network or support groups for diabetes patients. Patients who engage ‘experienced’ diabetes patients, cope better psychologically.

A = Allow
Allow yourself to express the pent up emotions inside of you. The multitude of emotions you are going through is extremely hard to suppress. In fact, the more we try to suppress, the stronger the emotions are. Be kind to yourself. It is all right to have and feel these emotions. Manage them well through talking to someone you can trust. Or participate in tasks that help to regulate your emotions like taking a walk, writing a journal, etc. Allow your emotions to run its natural course. In fact, the ‘lifespan’ of an emotion is not more than a few minutes, according to research by Dr Paul Ekman. We do experience emotions for a longer duration. This is usually because, unintentionally, we feed our emotions by dwelling on them. Recognise that emotions can be like a flowing river. Whenever we catch ourselves dwelling on emotions, take a step back and let it flow.

C = Cultivate
Cultivate successful coping. The thought of coping and living successfully with diabetes may seem far-fetched. Yet, setting achievable goals of lifestyle changes can help to motivate us to live successfully with diabetes. It also enhances our confidence to cope. Furthermore, a feel-good feeling is generated to motivate us to continue making changes to cope! Cultivate quality of life. Diabetes may have invaded your life. But it need not invade the whole of your life. As much as the medical treatment and lifestyle changes require effort, try to ensure that your quality of life remains. Continue to do things you like or enjoy as best as you can.

E = Enlist
Enlist your family’s support. You do not need to face diabetes alone. Their support would allow you to express your feelings and manage them better. Family can be a good source of encouragement. They tend to see your illness as more serious. But, they are also more positive that there are things that can be done to manage your diabetes well. Hence, they are your ideal coach to spur you on.

Making PEACE with Diabetes

Henry Lew, psychologist

Individuals newly diagnosed with diabetes often experience an avalanche of emotions that can be tough to handle. They may experience disbelief, denial, anger, frustration, hopelessness, guilt, shame, depression and fear. These emotional experiences could arise as they try to comprehend and grapple with changes thrown at their face by diabetes. Or the diagnosis of diabetes may exacerbate pre-existing distress in their lives.

References
**Diabetes Singapore  Apr - Jun 2014**

**NEW TO TYPE 2 DIABETES?**

Dr Ben Ng Jen Min, consultant endocrinologist, Arden Endocrinology Specialist Clinic

**Q**

I have just been diagnosed with type 2 diabetes. What exactly is happening to me?

Type 2 diabetes is a complex disorder which is characterised by high blood sugars or hyperglycaemia. The main problem which arises in this condition is a combination of body insulin resistance and the body’s inability to produce enough insulin to maintain proper function.

Insulin is a hormone released by the pancreas. It is released into the blood stream to enhance the absorption of sugar from the blood stream to the cells and helps produce energy and make building blocks for the body.

However, as the body ages, it becomes less efficient in utilising insulin to produce energy. We call this state: body insulin resistance.

In this condition, more insulin is needed to do the same job. In the early stages of diabetes, this remains possible although the pancreas has to work doubly hard to produce more insulin in order to reduce blood sugars.

However, over time, the pancreas gradually gets exhausted and is unable to meet the demands of the body. As a result, the sugar levels in the blood start to rise and diabetes develops.

**Q**

I heard that people who have diabetes will go blind and have kidney failure. Is this true?

Although it is true that people with diabetes are at a greater risk of developing complications such as stroke, heart disease, eye and kidney disease, it is reassuring that many of these complications are preventable. The most important aspect of prevention is to make sure blood sugars are maintained well.

**Q**

I have diabetes so does it mean I cannot eat the things I like to eat and cannot do the things I like to do anymore?

This is clearly untrue. However, upon saying that, it is not wise to continue living an unhealthy lifestyle. Take this point as a turning point in your life. The take-home message for anyone who is diagnosed with diabetes is this—do not panic.

It is a very common illness and it is very treatable. Still you can do the things you like to do. There is no such thing as a diabetic diet. There is no such thing as a diabetic lifestyle. The lifestyle and diet recommended to anyone with diabetes is the same as anyone else. A healthy diet and a healthy lifestyle.

**Q**

Serious diabetes is not the amount of medication you take but what your sugar levels are and whether you have complications related to diabetes or not.

There is no point being on a single tablet a day for diabetes but your blood sugar results remain very high and there are complications with eyes and feet!

In my opinion, that is serious diabetes: when you have poor diabetes control and inadequate medications.

In contrast, a person may be on many medications for diabetes but has good sugar control and no complications related to diabetes or not.

There is no point being on a single tablet a day for your diabetes but your blood sugars remain very high and there are complications with eyes and feet!

Serious diabetes is not the amount of medication you take but rather what your sugar levels are and whether you have complications related to diabetes or not.

**Q**

Can I change only my diet and lifestyle? I do not want to be on medications.

Possibly. However, less than one in six people can maintain their blood sugars to good levels with lifestyle and diet alone. Very often, medications are required. The most important thing is that your blood sugars are maintained.

Many patients come to me very worried that they are on many medications for their diabetes and, hence, feel that their diabetes is ‘very serious’.

Serious diabetes is not the amount of medication you take but rather what your sugar levels are and whether you have complications related to diabetes or not.

**Q**

Find a doctor. It is, therefore, essential to find a doctor who understands you and your concerns. Discuss your concerns with him and ask him to help you design a treatment plan that is effective and acceptable to you.

Live with it. Make sure that you live with your diabetes, not suffer from it. Find and get the support you need. Very often, there are many people who have misconceptions about diabetes, even amongst family and friends. Bring them along to see your doctor or join support groups such as the Diabetes Support Group run by Diabetic Society of Singapore. You will find it a lot easier to live with diabetes if people around you understand and support you in what you are going through.

**Q**

Get yourself screened regularly. Make sure you have regular eye, urine and feet checks to identify early signs of diabetes complications. Normal health screening may not be enough as some of these tests are not included in basic health screening.

Very often, a balance will need to be sought between the lifestyle that one wishes to keep and the treatment that one may require.
Oatmeal Fish Porridge
serves 4

INGREDIENTS
Quick Cooking Oats 2 cups
Chicken Broth 500ml
Water 500ml
Fish (Mackerel) 300g, sliced
Egg 1, beaten
Carrot ½ big, diced
Wolfberries (Kei Chi) 1 tablespoon
Spring Onion 1 stalk, chopped
Salt To taste
Sesame oil To taste

METHOD OF PREPARATION
1. Lightly marinate fish slices with salt, pepper, sesame oil and cornflour, Set aside.
2. Bring chicken broth and water to a boil, add carrot and simmer over low heat for about 10 minutes until carrot is soft.
3. Add oats and continue to simmer till almost done (if the mixture is too thick, add another 150 to 200ml of hot water/soup broth)
4. Add fish slices and wolfberries.
5. When fish is cooked through, switch off the heat, drizzle beaten egg and give it a quick stir.
6. Scop oatmeal into serving bowls and top with chopped spring onion and sesame oil. Serve immediately.

NUTRITION INFORMATION per serving
Energy 29kcal
Protein 2g
Carbohydrate 34g
Total fat 8g
Saturated fat 2g
Cholesterol 56mg
Dietary fibre 1.3g
Sodium 471mg
Carbohydrate exchanges – 2.5 exchange

Cereal Tau Kwa
serves 10

INGREDIENTS
Tau kwa 300g, cut into moderate thick square slices
Nestum Cereal 6 tablespoons
Garlic 8 cloves
Chili padi 3, chopped
Curry leaves 10
Shallots 2, sliced
Sugar ½ teaspoon
Corn Oil 1½ tablespoons
Salt To taste

METHOD OF PREPARATION
1. Pan-fry tau kwa with 1 tablespoon of oil till golden brown. Set aside.
3. Fry garlic, chili padi, curry leaves and shallots in a wok with remaining oil.
4. Add cereal mixture and turn off the flame when it is slightly brown. Continue to stir-fry for another 5 minutes.
5. Pour cereal onto tau kwa pieces and serve.

NUTRITION INFORMATION per serving
Energy 208kcal
Protein 16g
Carbohydrate 18g
Total fat 11
Saturated fat 2.2g
Cholesterol 0mg
Dietary fibre 1g
Sodium 373mg
Carbohydrate exchanges – 1 exchange

Chicken Yakiudon
serves 4

INGREDIENTS
Udon Noodles 2 packets
Chinese Cabbage 50g (shredded)
Red Chilli 1 (shredded)
Bean Sprouts 30g
Garlic 2 cloves (minced)
Skinless Chicken Breast 1 (sliced thinly)
Eggs 2
Corn Oil 4 teaspoons
Light Soya Sauce 4 teaspoons
Sweet Soya Sauce 1 teaspoon
Sesame Oil 2 tablespoons
Salt and Pepper (Optional) To taste

METHOD OF PREPARATION
1. Blanch the udon in hot water for 1 minute and immediately soak in cold water. Set aside after 30 seconds and drain before cooking.
2. Heat the corn oil in a wok till hot. Add the garlic and shredded chicken breast. Fry till light golden brown.
3. Break the eggs into the wok. Stir quickly to scramble. Lower the heat and fry Chinese cabbage, bean sprouts and red chili for 1 to 2 minutes.
4. Add in the udon, light soya sauce, sweet soy sauce, sesame oil and salt/pepper seasoning to taste.
5. Stir evenly and fry for 2 to 3 minutes till the udon is soft. Serve immediately.

NUTRITION INFORMATION per serving
Energy 304kcal
Protein 19g
Carbohydrate 35g
Total fat 9.5 (28.5 %)
Saturated fat 1.6g
Cholesterol 140mg
Dietary fibre 0.33g
Sodium 490mg
Carbohydrate exchanges – 2.5 exchange

HOT TIPS
- Use lean cuts of meat (e.g. skinless chicken breast, lean pork or beef) as they are flavourful yet lower in fat. Remove visible fat and skin, where possible, before cooking.
- Enhance the dish by adding vegetables. Vegetables are rich in vitamins, fibre and phytochemicals (beneficial plant substances, e.g. carotenoids and flavonoids) that help to lower the risk of some cancers.
Pump up on ANTIOXIDANTS

Lock Poh Leng, senior dietitian, Mount Elizabeth Novena Hospital

What is Antioxidant?

Antioxidants help protect body cells and DNA from free radical damage by reducing the risk of development of chronic diseases such as heart disease, stroke and cancer.

Antioxidants are made of nutrients such as vitamins (C and E), mineral (particularly Selenium) and plant chemical compounds or phytosubstances such as carotenoids (mainly beta carotene, lycopene and lutein), flavonoids (mainly from anthocyanins, catechins and isoflavones) and phenolic compound (Ellagic acid) found in fruit, vegetables and whole grains.

The best sources of antioxidants are found naturally in our food particularly in colourful fruits and vegetables. Examples are deep-coloured fruits and vegetables such as apricots, peaches, berries (strawberries, raspberries and blueberries), citrus fruits, grapefruit, grape, mango, papaya, prunes, watermelon, bell peppers, beets, beans, broccoli, spinach, carrots, corn, eggplant, garlic, onions, sweet potatoes and tomatoes.

Dietary antioxidants are the best sources because fruit, vegetables and whole grains are an integral part of a healthy diet, and their consumption is associated with reduced risk of cardiovascular diseases (e.g. heart disease and stroke) and cancer. In addition, plant-based foods contain an array of vitamins, minerals, fibre and phytochemicals needed for good health.

Health Benefits

• Fruits and Vegetables

A study, examining the effect of fruit and vegetable intake and cardiovascular disease (CVD) risk in adults aged 25 to 74, found that fruit and vegetable intake three or more times a day versus less than once a day was associated with a reduction of 27% in stroke incidence and 27% in CVD mortality.

Consuming three or more servings of fruits and vegetables a day reduced mortality from stroke and heart disease by 42% and 24% respectively.

Green leafy vegetables and fruit and vegetables rich in vitamin C (> 30mg/ serving) such as asparagus, mustard green, spinach, tapioca shoots, Chinese cabbage, broccoli, cauliflower, eggplant, bitter gourd, capsicum, pumpkin, guava, papaya, kiwi, longan, lychee, orange, rock melon, strawberry, apricot, etc, have a greater impact on CVD risk, i.e. with every one serving/day increase in intake, the risk reduction is 11%.

Health Benefits

• Whole Grain

The protective dietary factors against CVD identified in whole grains (a source of carbohydrate) are insoluble cereal fibre, magnesium, folate, vitamins B-6 and E, which are inherent in the whole grain.

The protective mechanisms of whole grains were mediated by multiple pathways, notably through decreased LDL cholesterol (bad cholesterol), increased insulin sensitivity especially in obese people, i.e. BMI ≥30.

Studies have demonstrated that insulin resistance is higher in obese subjects, i.e. BMI ≥30. The insulin sensitivity is mediated through the effect of magnesium and insoluble cereal fibre in whole grains, therefore protect against development of type 2 diabetes and CVD.

About 4.6g/day of cereal fibre (equivalent to two slices of whole wheat bread) particularly from dark breads; rye or whole wheat has greater effect on CVD risk than fibre from bran or granola cereals or cold cereals. Consumption of cereal fibre lowers the incidence of CVD by 21%.

How much fruit, vegetables and whole grain to eat?

Consume antioxidants naturally from dietary sources. Aim to eat at least two servings of fruit and two servings of vegetables a day, along with two to three servings of whole grain products a day.

I serving of vegetable is:

• 1 cup (250ml) of cooked leafy or non-leafy vegetables (100g)
• 100g raw non-leafy vegetables
• 1 round plate (10 inches) of cooked vegetables
• 150g raw leafy vegetables

I serving of fruit is:

• 1 small apple or pear or persimmon (100g)
• Half a mango (160g)
• 1 slice of papaya (200g)
• 1 slice pineapple (120g)
• 1 wedge of honeydew (200g)
• 10 large cherries (120g)

I serving of whole grain product is:

• 2 slices of whole-meal or whole wheat breads
• 4 whole wheat biscuits
• 1/2 bowl of brown rice
• 2/3 cup of uncooked oats (50g)

Other sources of Antioxidants:

Other dietary sources for selenium include whole grains such as brown rice and oatmeal, egg, chicken, salmon, tuna and seafood.
Quinoa is a good source of fibre, both soluble and insoluble fibre, and provides a sustained feeling of fullness. They bind to toxins and aid in excreting them from the body. Like oats and carrots, the soluble fibre in quinoa plays a major role in reducing the formation of LDL cholesterol!

A Mineral Package
Quinoa is rich in magnesium, manganese, potassium, iron, copper, calcium and phosphorus.

The high level of magnesium helps to relax the blood vessels and reduce the risk of heart disease. It has a higher amount of potassium, compared with other whole grains, which aids in controlling one’s blood pressure.

Manganese and copper are co-factors that help the body produce one of the most powerful antioxidants that protect the cells from free radical damage. Quinoa has twice the amount of calcium than whole wheat! Calcium, together with phosphorus, helps maintain healthy bones and teeth.

Quinoa is a good source of iron, essential for the formation of red blood cells that supply oxygen to the body. To enhance the absorption of iron, have quinoa with a food that is a good source of vitamin C—fruits such as orange, kiwi, grapefruit, pineapple and berries. Manioc and bell peppers are also good sources of vitamin C.

Cooking quinoa:
Prepare quinoa as you would prepare rice. Cover it with water or vegetable broth and boil until soft, about 15 minutes.

QUICK FACTS
Nutritional content of quinoa:
According to CalorieCount, one-third cup of cooked quinoa has 6.0 grams of protein, 3.8 grams of fibre, 2.5 grams of fat and 160 calories.

You will find quinoa in two different colours—red and white. They are nutritionally similar, and a rich source of protein.

In addition, red quinoa is packed with anthocyanin, a powerful antioxidant. Cherries, cranberries, blueberries, blackcurrant, plums, skin of grapes, kidney beans, black beans, red cabbage and eggplant are among the other few good sources of anthocyanin, a pigment that gives beautiful colour to these fruit and vegetables.

Quinoa is the most preferred and favoured ingredient in granola, bread, and crackers. Quinoa pasta is also highly enjoyed by those who follow a gluten-free diet.

It is easy to prepare Quinoa and it can be incorporated into many recipes including soups, salads, vegetable dishes, burgers and desserts. Quinoa is also easily digested and an excellent source of nutrition for infants and kids, so do try to get them keen on quinoa!

How to make it
Combine all ingredients in a bowl and mix together. Serve with grilled chicken or baked salmon.

References
http://www.wholegrainscouncil.org/
http://www.celiaccentral.org/
http://www.hpb.gov.sg/
http://www.mayoclinic.org/
Many supplements and medications that we consume contain sugar (most commonly cough sweets and lozenges) or may cause a rise in blood sugars (e.g. steroids, some blood pressure medications).

Though this may be true, it does not always mean that people with diabetes or abnormal sugars should avoid these medications completely.

Many sweets and cough drops do contain some sugar and they do cause a rise in blood sugars shortly after they are consumed. Although this can be viewed as potentially ‘harmful’, the small spike in glucose caused by the cough drop in itself is usually unlikely to cause problems unless consumed in excess.

Having said that, most of the lozenges and cough drops nowadays have sugar-free options which to do not cause a rise in blood sugars. For people with diabetes, this is, of course, preferred when it comes down to blood sugars.

An exception to the rule is of some laxatives which contain sugar. Because the agents can change the transit time in which carbohydrate is absorbed in the gut, some clinical papers have actually shown a small reduction (rather than an increase) in blood sugars post meal after this medications are consumed.

In summary, there are many over-the-counter medications that contain sugar. It must be pointed out that these therapies are not to be used as anti-diabetic agents as the effect is small but it is reassuring to know that the agents can be used in people with diabetes.

1. Do I really need to take this medication? I think it is useful to think about why you are taking the medication or supplements and how this is going to benefit you. For people with diabetes, the question is whether a suitable alternative can be sought.

2. How long do I have to take this and what harm will it do? As pointed out, if you are taking sugar-containing lozenges for a few days, my thoughts are that it is very likely to be safe.

A sweet contains usually about 10g of sugar which would cause a minimal rise in your blood sugar, if only one is consumed. Of course, if a large amount is to be consumed over a long period of time, perhaps an alternative form of therapy can be sought.

The good news is that ALL of these ill effects of diabetes ARE PREVENTABLE!

People with diabetes need our help, and yours, too! They need to learn to cope with diabetes.

The Diabetic Society of Singapore has been given the privilege to lend a helping hand in educating people with diabetes, their loved ones and the general public on HOW TO LIVE WITH DIABETES:

Helping people with diabetes is a privilege. Be that privileged person today. Diabetes may not be curable BUT its risks can certainly be reduced and so can the dreaded ill effects of heart attacks, amputations, blindness and kidney failure.

An estimated 300,000 adults in Singapore have diabetes. Many have to deal with drastic changes to their lifestyles such as having to swallow handfuls of pills and getting up to four injections of insulin a day. Some, unfortunately, cannot cope and sadly go on to suffer from the ill effects of diabetes - heart attacks, amputations, blindness and kidney failure.

I want to make a donation today:

Name: ________________________
NRIC/Passport No.: ________________________
Address: ________________________
Postal Code: ________________________
Contact No.: ________________________
Home ________________________
Office ________________________
Mobile ________________________
Fax ________________________
Email ________________________

Please indicate amount and mode of payment:
Amount paid: $ ________________________
Cash/Cheque ________________________
Cheque No.: ________________________

*Cheque to be made payable to Diabetic Society of Singapore. Kindly address all cheques to: Diabetic Society of Singapore Bld 141 Bedok Reservoir Road #01-1529 Singapore 470141

Donations are tax exempted. Cash donations can be made personally at our office at the above address. THANK YOU!
You will be pleased to know that chocolates are not always bad for you. Yes you can eat chocolate, if the chocolate is dark. Dark chocolate improves insulin resistance and sensitivity. So, go for dark chocolates with higher cocoa content. Many are not too fond of dark chocolate, due to its bitter taste. But it is low in sugar and has no added milk or fat!

Dark chocolate contains healthy flavonoids, a class of polyphenols, that are also found in red wine, tea, fruit and vegetables. Polyphenols have a cardio-protective effect, because of their ability to scavenge free radicals and inhibit lipid oxidation. Catechin, which is known to improve hypertension, from chocolate is more bioavailable* than green tea.

Dark chocolate is less processed and, hence, its flavonoids are retained which help lower the blood pressure and cholesterol. The higher the percentage of dark chocolate, the higher the amount of flavonoids the chocolate has!

While shopping for chocolate, choose 70% or higher cocoa content with cocoa butter and sugar. Seventy per cent or more cocoa concentration will improve vascular functions and plasma antioxidant status.

Cocoa butter, a fat from cocoa bean, is found predominantly in dark chocolate. It contributes to the flavour release of the chocolate. Cocoa butter contains a saturated fat called stearic acid that has a neutral effect on blood cholesterol.

Dark chocolate is 75% cocoa while a standard milk chocolate is 25% or less cocoa. Milk chocolate is made by combining milk solids with sweetener and flavourings and has only 12 to 25% cocoa content.

The sugar, milk and other ingredients like processed fats, palm oil, etc, added to the cocoa powder eventually increase the caloric load of commercially available chocolate and also reduce the health benefits of the natural cocoa powder. The effect of flavonal is also reduced when cocoa is consumed with milk.

Studies show that having dark chocolate (20 to 30g) once or twice a week will reduce the risk of developing heart failure by a third.

A balanced diet and regular physical activity is the key to a healthy heart. But take note that 30g of 70% dark chocolate still has 160 calories and 12g (7g from saturated fat) of fat. So, it is wise not to eat too much!

References
Cesar G Fraga. Cocoa, diabetes, and hypertension: should we eat more chocolate. Am J Clin Nutr March 2005 vol. 81 no. 3 541-542
Janice F Wang, Derek D Schramm, Roberta R Holt, Jodi L Ensunsa, Cesar G Fraga, Harold H Schmitz, and Carl L Keen. A Dose-Response

Cold sweat is a common symptom of night time hypoglycemia and it may be life-threatening. When unaided, it may result in coma or even death during sleep.

Hypoband is a cold sweat alarm worn on your wrist during sleep. It continuously monitors your skin temperature and humidity, and is connected to your Android smart phone via Bluetooth. Upon the onset of cold sweat, 3 SMS or phone calls are automatically triggered, alerting your loved ones to administer treatment.

Cold sweat is a common symptom of night time hypoglycemia and it may be life-threatening. When unaided, it may result in coma or even death during sleep.

WHO NEEDS HYPOBAND?

Hypoband is suitable for adults and children with Type 1 and Type 2 diabetes who experience frequent cold sweats from night time hypoglycemia.

It also has a panic button that serves as an alarm for the elderly in case of fevers, heart-attacks or falls during the night.

LEARN MORE

For more information, contact DSS or visit www.hypoband.com

DSS members get to bring a Hypoband home at the special price of $199. Get your very own Hypoband at DSS today.

U.P. $315
$199
EXCLUSIVE FOR DSS MEMBERS ONLY

* Bioavailability is the rate at which a drug or supplement gets absorbed by the bloodstream and is made available to be used by the body.
THE RIGHT DOSE OF EXERCISE

Ray Loh, exercise physiologist, Sports Medicine and Surgery Clinic, Tan Tock Seng Hospital

Research has shown that an acute bout of high intensity workout raises the blood glucose level but it gets lowered fairly quickly and stays low for the next 12 to 24 hours providing additional benefits not seen in typical moderate intensity cardio exercises.

However, it should not be confused with individuals with poorly controlled blood glucose and low level of fitness as they might also experience blood glucose rebound (increase in blood glucose level) after a moderate intensity exercise session. Exercise intensity and duration for this group of individuals should be reduced and closely monitored. Moreover, high intensity exercise is not suitable for all, especially those with complications and chronic heart disease. Always consult your doctor before starting any new exercise regime.

An effective exercise programme has to consider the intensity, duration, individual fitness and current body conditions (e.g. blood sugar level) to reduce the risks of hypoglycaemia and maximise exercise outcome. The programme sessions should start at a lower intensity in the first few weeks and progress in intensity as one gains strength. For example:

- Start with a goal of exercising 30 minutes a day in moderate intensity for six to seven days a week or target a weekly energy expenditure of about 1000 kcs.

In this issue, we introduce some basic resistance exercises that target big muscle groups and can be easily added to your exercise regime for additional benefits. All you need is a pair of dumbbells of the right weight.

Intensity should be monitored during each session, a rating of perceived exertion (RPE) of 12 to 16 on a six to 20 scale is recommended. Do not use sweating as an indicator of a good workout as high humidity reduces the evaporative loss of sweat, which can reduce body’s ability to control core temperature leading to heat illness.

There are many benefits of exercise for both physically and psychologically. But it requires long term commitment and consistency to see the full effects. If you are previously sedentary or has been exercising irregularly, my call is to pre-plan your weekly workout, start easy and slowly with any physical activities you like to do, be it learning a new sport or just evening walks with the dog. Give yourself a few months to returning to start position slowly, while breathing in. Hold position for 1 second, before returning to start position slowly, while breathing in. Hold for 1 second and repeat.

As a precaution:

- always do an SMBG check to make sure you are safe to exercise before every exercise session.
- always monitor your blood glucose level during and after every exercise session to prevent going into post-exercise hypoglycaemia.
- avoid exercising late at night unless recommended by a doctor or exercise specialist.

Tip: If unable to maintain synchronised movement between left and right arms, start with single arm first.

Illustrations by Tilen Ti

<table>
<thead>
<tr>
<th>Repetitions</th>
<th>Muscle Group</th>
<th>Sets</th>
<th>Exercise</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-15</td>
<td>Shoulders</td>
<td>1-2</td>
<td>Standing shoulder press</td>
<td>Stand with legs shoulder width apart and toes pointing forward. Hold dumbbell by the side of your shoulder in neutral grip. Breathe in and extend your arms upwards at the same time while breathing out. Hold position for 1 second, before returning to start position slowly, while breathing in. Hold for 1 second and repeat.</td>
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</tbody>
</table>
| 12-15       | Back         | 1-2  | Bent-over row | Stand with legs shoulder width apart and toes pointing forward. Bend forward with knees slightly bend and keep your back straight throughout the exercise. Hold dumbbell by the side perpendicular to the floor in neutral grip. Breathe out and pull dumbbell towards your chest while breathing in. Hold position for 1 second, before returning to start position slowly, while breathing out.
| 12-15       | Chest        | 1-2  | Floor press | In supine position, both knees flexed at around 90 degrees and feet on the floor. Keep your back flat, touching the floor throughout the exercise. Hold dumbbell in overgrip and abduct elbow at around 80 to 90 degrees and forearm perpendicular to the floor. Breathe in, push dumbbell towards the ceiling maintaining arms perpendicular to the floor, while breathing out. Hold position for 1 second, before returning to start position slowly, while breathing in. |
### SHAPE UP

<table>
<thead>
<tr>
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<tr>
<td>12-15</td>
<td>Abdominals</td>
<td>1-2</td>
<td>Squat</td>
<td>Stand with legs shoulder width apart and toes pointing forward. Hold dumbbell by the side in neutral grip. Breathe out, lower your body till your thigh is parallel to the floor. Your knees should be moving forward in line with your second toe while breathing in. Hold position for 1 second, before returning to start position, while breathing in.</td>
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<tr>
<td>Repeats</td>
<td>Muscle Group</td>
<td>Sets</td>
<td>Exercise</td>
<td>Description</td>
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<tr>
<td>12-15</td>
<td>Upper legs</td>
<td>1-2</td>
<td>Squat</td>
<td>Stand with legs shoulder width apart and toes pointing forward. Hold dumbbell by the side in neutral grip. Breathe out, lower your body till your thigh is parallel to the floor. Your knees should be moving forward in line with your second toe while breathing in. Hold position for 1 second, before returning to start position, while breathing in.</td>
</tr>
<tr>
<td>Repeats</td>
<td>Muscle Group</td>
<td>Sets</td>
<td>Exercise</td>
<td>Description</td>
</tr>
<tr>
<td>12-15</td>
<td>Lower back</td>
<td>1-2</td>
<td>Good morning with dumbbell</td>
<td>Standing with legs shoulder width apart and toes pointing forward. Hold dumbbell in front of thigh in over grip. Breathe in, maintaining elbows extended, knees extended, upright shoulder and your back flat, lower your shoulder towards the floor while breathing out till upper torso is parallel to the floor. Hold position for 1 second, before returning to start position, while breathing in.</td>
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**Tips:** If your upper back starts to crouch when lowering your upper body, reduce the weight of the dumbbell.