HIGH PRIORITY
KEEP BLOOD PRESSURE UNDER CONTROL

DASH DIET: MORE THAN JUST THE SALT

Hearty Herbs
RELAXATION Techniques & Exercises
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A WORD FROM THE PRESIDENT

THE PRESSURE IS ON...

According to the statistics in the Heath Promotion Board website (www.hpb.gov.sg), hypertension is a fairly common problem in Singapore. Slightly less than one in four Singapore residents aged between 30 and 69 suffer from hypertension. In the 60 to 69 years age group, more than one in two persons have hypertension.

Hypertension is one of the major risk factors for coronary artery disease and stroke. Furthermore, untreated hypertension can cause heart as well as kidney failure.

Indeed, the pressure is on for us to tackle this problem head on and to educate both young and old on the dangers of high blood pressure and the benefits of exercising, not smoking, and eating a healthy and balanced diet. Our articles this issue focus on the importance of keeping blood pressure under control through lifestyle changes, including stress management, weight management and exercise.

DSS conducts health checks and complications screening, as well as talks and forums. Give us a ring at 6842 6019 /3382 or check out our website at www.diabetes.org.sg to find out more.

The Diabetes Support Group provides an informal platform for people with diabetes to share their experiences and learn how to manage the condition, and avoid complications. Come join the fun and active DSG walks and exercise programmes and support one another!

We look forward to seeing you at our events! Till then, keep calm and read on.

Yong Chiang Boon, PBM
President, Diabetic Society of Singapore

Diabetic Society of Singapore (DSS) was founded by Dr Frederick Tan Bock Yam on 25 September 1971 to help diabetes patients manage their condition.

DSS 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.sggives.org/diabetes.
44th AGM 2015
A bustling year...

Rodiah Hashim

The Society's 44th Annual General Meeting was held at the Drama Centre Function Room 2 of the National Library Building on 25 April 2015.

DSS President Mr Yong Chiang Boon called the meeting to order promptly at 2.30pm. The year 2014 proved to be an active and bustling one, with successful events such as the DSS Flag Day and our hosting of the 10th IDF-WPR Congress 2014/6th AASD Scientific Meeting 2014.

The financial report was discussed and confirmed by members. There being no other matters, the meeting ended at 3.30pm with a tea reception.

The 45th Annual General Meeting, which will also see new nominations to the management committee, will be held in April next year. Please save the date.

DSS would like to thank Gardenia Foods for their continuous support of our activities and sponsoring multi-grain loaves for this event.

LENDING A HAND
Stamford American International School Students Hold Charity Bake Sale

Helping people with diabetes—that was the objective of two big-hearted Grade 5 students of Stamford American International School when they did their school projects. Rahaf Alsanad (right) and Liv Rosenblum (left) both love baking but realise that cakes and cookies with their high sugar and fat content may not be all that healthy. Rahaf, whose family members have diabetes, wanted to look at how she could adjust the method of preparation while Liv cut the sugar in regular recipes to make the treats healthier but just as tasty. They then held a bake sale, selling an assortment of goodies—strawberry sorbet, blueberry crunch, carrot cookies and fruit kebabs.

The students visited DSS HQ on 26 May 2015, and donated the proceeds of S$266 from their bake sale. We are most encouraged by their support and honoured to receive their gift. Their thoughtful act only confirms that one is never too young to start doing good.
PUBLIC FORUMS

Penjagaan Diabetis Menjelang Ramadan
30 May 2015

In anticipation of the fasting month, a forum in Malay was held at the activity room in Bedok Reservoir. DSS Members and the public were given advice on important facts to note for people with diabetes who wish to fast during the month of Ramadan.

Dr Ben Ng, consultant endocrinologist with Arden Endocrinology & Specialist Clinic Pte Ltd, and DSS Vice-President, dispelled myths that insulin jabs and finger pricks will break a person’s fast. Speaking in Malay, he advised that early consultations with medical doctors are crucial for patients to manage and monitor their diabetes better during the fasting month.

Sister Rohanah Pagi, a senior nurse clinician, talked about the importance of managing one’s diet before and during the fasting month.

The event was kindly sponsored by MSD Pharma (Singapore) Pte Ltd with support from the Lions Foundation.

Establishing A Firm Foundation in Diabetes Care
13 Jun 2015

Dr Ben Ng presented, this time in English, a talk targeted at those new to diabetes. Titled ‘Can early detection and treatment reduce the risk of complication in diabetes mellitus?’, his presentation touched on the progression of diabetes and the actions to take to manage its control.

Diabetic retinopathy is a complication of diabetes mellitus. Stressing the importance of eye care for people with diabetes, Dr Nikolle Tan, ophthalmologist from Eye Max Centre at Mt Elizabeth Novena Specialist Centre, said that if not treated in time, diabetic retinopathy can cause irreversible blindness, which is preventable in most cases. Dr Tan went on to provide details of how diabetes affects the eye, the signs and symptoms of diabetic retinopathy and the treatments available.

Last but not least, Mr Henry Lew, a psychologist from a local hospital and a regular contributor to Diabetes Singapore, provided insights into managing stress and coping with chronic illnesses. Engaging the participants, he demonstrated simple stress relieving movements that can be done anywhere, any time.

DSS wishes to thank Dr Ben Ng, Dr Nikolle Tan and Mr Henry Lew for their invaluable support and speaking at the forum. Our thanks also to our participating partner Roche Diagnostics Asia Pte Ltd for their kind sponsorship and presence at the event.

PAST OUTREACH PROGRAM

<table>
<thead>
<tr>
<th>Date</th>
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<tr>
<td>11 Apr 2015</td>
<td>KTPH Diabetes &amp; Metabolism Symposium 2015 at One Farrer Hotel Grand Ballroom</td>
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Healthy Baking & Vegetarian Cooking
16 May 2015

The support group and members came together to participate in a healthy baking and vegetarian cooking demonstration by Ms Juliana Lim and Ms Lakshmy Bhaskar. Contributing two yummy and healthy recipes each, both volunteers showed that healthy meals need not be bland and boring, a fact that the participants heartily concurred after the food tasting. Said Mdm Wong Heng Kew, a wheelchair-bound member who had diabetes since an accident in 1996 and a regular participant of DSS activities, "I like attending these cooking sessions and the talks very much. The speakers and doctors always give useful information and advice". Accompanied by her helper, Mdm Wong said that she will not hesitate to use public transport to attend the activities, adding that she is used to it.

DSG Park Connector Walk:
Woodlands, Canberra, Yishun
25 April 2015

The 5.6km walk with about 20 DSG members started from Admiralty MRT and covered three park connectors—Woodlands Avenue 7 Park Connector, Canberra Park Connector and Yishun Park Connector, and ended at Yishun MRT.

Everyone had a really good walk, burning calories and posting healthy blood sugar readings. Everyone came in proper footwear and avoided any discomfort in the feet.

There was a 15-minute sharing on hyperglycaemia by Juliana to help everyone understand how to prevent high blood sugar as well as manage it if you experience spikes in blood sugar.

We were also privileged to have Dr Tan Hwee Huan with us for the third time, together with Madam Lai and Shu Jun, our trusty and ever faithful DSS diabetes nurse educators.

DIABETIC SUPPORT GROUP (DSG) CALENDAR (JULY TO OCTOBER 2015)

Date: 11 July 2015  Time: 11.30am
Healthy Eating cum Meet & Share
Bedok DSS Activity room

Date: 25 July 2015  Time: 4pm
Park Connector (PCN) Walk – Central Route 6 (5.3 km)
Tiong Bahru MRT Passenger Service

Date: 29 August 2015  Time: 4pm
Park Connector (PCN) Walk – Central Route 7 (4.5 km)
Bukit Gombak MRT Passenger Service

Date: 26 September 2015  Time: 4pm
Park Connector (PCN) Walk – Central Route 8 (4.2 km)
Choa Chu Kang MRT Passenger Service

Date: 31 October 2015  Time: 4pm
Park Connector (PCN) Walk – Central Route 9 (7 km)
Buangkok MRT Passenger Service

Care to join us for our next DSG outing/meeting?
Ring Juliana at 9278 2084 for information.

Bring an umbrella and wear a good pair of walking shoes for outdoor activities.

Please bring your own blood glucose meter for all DSG activities.
Hypertension and Diabetic Eye Disease

Krystal Khoo
Year 3 Student
Yong Loo Lin School of Medicine
National University of Singapore

What is Hypertension?

Hypertension, otherwise known as high blood pressure, is defined as a sustained blood pressure of 140/90 mm Hg. Your blood pressure is a measurement of the force exerted by your circulating blood on the walls of your blood vessels. The reading on the left is known as the systolic pressure and the reading on the right is the diastolic pressure. A normal healthy reading would be 120/80 mm Hg.

What is Diabetic Eye Disease?

In patients with either Type I or Type 2 diabetes, complications affect both larger blood vessels (macrovascular) and smaller blood vessels (microvascular). The three main macrovascular complications are stroke, heart attack and peripheral vascular disease. For microvascular complications, the vessels in our kidneys, nerves and eyes are affected. When the blood vessels in our eyes are affected, it is known as diabetic eye disease or diabetic retinopathy. This is when the vessels become leaky and start to affect the innermost, light-sensitive layer of our eye - the retina. Damage to the retina can be extremely detrimental to our vision and a person with diabetes is 25 times more likely to go blind than someone who does not have diabetes.

Almost one third of diabetics have signs of diabetic retinopathy, among which 10% of it is vision-threatening. This is defined as severe retinopathy or macular oedema. It is estimated that around 2.5 million people worldwide are blind from diabetic retinopathy.

Hypertension & the Risk of Diabetic Eye Disease

Did you know that the presence of hypertension is associated with an increased risk of diabetic eye disease? As diabetics are already predisposed to leaky blood vessels in the eye, an increased blood pressure exacerbates this problem. Hypertension is a disease that can both co-exist with diabetes and develop in pre-existing diabetics. Around 30% of Type I diabetics and 80% of Type 2 diabetics develop hypertension at some stage. Thus, it is extremely important to keep both hypertension and diabetes under good control.
Here are some practical ways to manage hypertension:

1. **COMPLIANCE**
   Hypertension can be well controlled by medication when taken at the right time and at the right dose. If unsure, please check with your doctor prescribing the medication.

2. **GO EASY ON THE SALT**
   A daily intake of no more than 6 grams of salt per day is recommended. That is equivalent to about one teaspoon of salt. Sodium contributes to holding in more water in your blood vessels, thus, increasing your total blood volume. This causes an increase in blood pressure.

3. **WEIGHT**
   Blood pressure can fall by up to 2.5/1.5 mm Hg for each excess kilogram lost. Cutting down on caloric intake consistently will result in an overall loss of weight.

4. **STAY ACTIVE**
   Exercise can lower your systolic blood pressure by an average of 4 to 9 mm Hg, and that can be as effective as some anti-hypertensive medications! Aim for aerobic activity- anything that increases your heart rate and breathing rate. The American Heart Association recommends at least 150 minutes of moderate exercise, 75 minutes of vigorous exercise or a combination of both each week. Aim for at least 30 minutes of aerobic activity most days of the week. Three 10-minute sessions of aerobic exercise are equally beneficial to a single 30-minute session.

5. **KEEP MONITORING**
   Home monitoring on top of regular monitoring at your doctor’s clinic will help ensure your blood pressure is under optimal control as hypertension is a largely symptomless condition.

**Decreasing the Risk of Other Diseases**

Hypertension is a risk factor for other diseases involving your blood vessels. With proper management of hypertension, the risk of heart attacks, strokes and peripheral vascular diseases will be reduced as well.

As diabetics are already predisposed to leaky blood vessels in the eye, an increased blood pressure exacerbates this problem.

Around 30% of Type I diabetics and 80% of Type 2 diabetics develop hypertension at some stage.

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http://www.patient.co.uk/health/diabetes-and-high-blood-pressure


http://www.mayoclinic.org/diseases-conditions/high-blood-pressure/in-depth/high-blood-pressure/art-20045206

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Double Jeopardy: Diabetes and Cancer

We have all heard the basic public message on diabetes prevention: stop smoking, eat right, be more active. But the better news is that maintaining a healthy lifestyle will prevent you from the risk of cancer as well. The much known complications of diabetes include heart and blood vessel disease, neuropathy, nephropathy, eye and foot damage. However, much less is known about the association between diabetes and cancer.

Epidemiological evidence has, however, suggested that diabetes has been consistently associated with increased risk of several cancers. In a study conducted among Singapore Chinese men and women, it was concluded that diabetes mellitus was a risk factor for colorectal cancer1.

Colorectal cancer is the leading cancer among males and second leading cancer among females in Singapore2. The association was attributed to potential risk factors common to both cancer and diabetes such as ageing, obesity, lack of physical activity, energy-rich diet, alcohol, and smoking1.

Cancer treatment and Diabetes Control

Chemotherapy and the use of glucocorticoids and steroids can exacerbate difficulties in achieving good diabetes control, particularly after meals. Because of this, chemotherapy doses may need to be reduced and glucocorticoids and steroids doses administered through the day instead of in larger, less frequent doses.

Nausea and vomiting can cause additional control challenges in those with diabetes, particularly if potent anti-hyperglycaemic medication such as insulin is taken.

Cancer and Metformin

One of the most common types of medication taken for Type 2 diabetes is metformin. It has been commonly linked with lower rates of a wide variety of cancers, especially among people with Type 2 diabetes.

Many different studies have shown evidence that metformin appears to lower the risk of developing cancer as well as increase the survival rates of people with cancer.

Coping with Cancer

“I simply cannot cope with this!” How often have you heard a diabetic patient utter these words when they feel completely overwhelmed by managing their condition as well as their professional and domestic responsibilities? Have you ever wondered exactly what that patient meant and how you might help them cope?

Being diagnosed with diabetes can be a very scary thing, and the reactions may vary from denial to depression. Some feel tremendous guilt and shame, or are stricken with uncertainty about the future. Coping strategies can be based on two key areas:

1. **Clinical Management**: One of the biggest challenges for physicians today is addressing the continued needs of patients and increasing treatment compliance. Regular follow-ups and effective communication between doctors and patients contribute to better metabolic control and improve disease outcome.

2. **Self-management and patient education**: This can range from increasing patient awareness of diabetes and its complications, medication, monitoring of blood glucose, practising daily hygiene along with reaching their self-selected goals. This approach not only acknowledges the patients’ expertise but also makes them feel committed and empowered.

As both diabetes and cancer are common diseases with tremendous impact on individual’s health, it is imperative that both clinicians and patient contribute in acquisition of successful disease coping skills. This will not only lead to positive health outcome and but also improve patients’ quality of life.

References

2. Ministry of Health
Hypertension affects about 26.4% of the adult population worldwide. It ranks as the leading chronic risk factor for mortality, accounting for 13.5% of all deaths. Hypertension is also closely associated with other chronic illnesses such as heart diseases and diabetes.

Although not a cause of high blood pressure, under stress, our body produces a series of physiological changes that increase our blood pressure. Prolonged exposure to stress puts us at further risk of developing, or exacerbating already existing, high blood pressure.

The American Heart Association issued a scientific statement in 2006, that it is reasonable for all individuals with blood pressure levels >120/80mm Hg to consider trials of alternative approaches.

One branch of these alternative approaches is relaxation exercises. It has been emphasised that these alternative approaches would not cure high blood pressure but could help to manage blood pressure more effectively.

We introduce two relaxation exercises below that have been found to help in the management of blood pressure.

**Transcendental Meditation**

Regular practice of Transcendental Meditation has been associated with significant reductions in both systolic and diastolic blood pressure. It has been suggested that Transcendental Meditation may have lead to reductions in stress and physiological arousal, thereby producing favourable effects on the autonomic nervous system balance and hence the observed reductions in blood pressure.

**To do Transcendental Meditation:**

- Sit in a comfortable position.
- Choose any word or mantra that is important to you and reflects your own belief system.
- Close your eyes and let your whole body relax for a few moments.
- Take deep breaths for a few minutes. As you breathe out, imagine the tension and stress draining away from your body and mind.
- Start repeating your mantra as you breathe out.
- Try focusing as best as you can on the mantra.
- You do not need to concentrate very hard. You are just supposed to breathe deeply and repeat your mantra as often and as best as you can.
- Do this for 15 to 30 minutes.
- Once more, breathe in…and now hold your breath. Hold…and relax.
- Continue to take regular breaths.

You have relaxed all of the key areas where tension can build up. Remember to relax these areas a few times each day, using this quick progressive muscle relaxation script, to prevent stress symptoms.
Relaxation exercises benefit both our physical and mental health. Do note that single-component relaxation exercises do not work but it is a combination of different relaxation exercises, stress management and medical treatment that jointly help to manage blood pressure better.

Progressive Muscle Relaxation

Progressive Muscle Relaxation (PMR) was first developed by Jacobson. It is a systematic technique for achieving a deep state of relaxation. PMR has effectively reduced heart rate, pulse rate, systolic and diastolic blood pressure in hypertensive patients. In one study, the mean systolic blood pressure of patients reduced from 155.8 to 121.7. And the mean diastolic blood pressure of patients reduced from 92.7 to 79.9. These reductions in blood pressure corresponded with reductions in stress levels of patients by 19.5%.

The actual Progressive Muscle Relaxation typically takes about 45 minutes to an hour.

Here is a brief version of the Progressive Muscle Relaxation:

- Tense and relax each of the following areas. When you tense the area, tighten but do not cause pain.
- Neck and Shoulders. Raise your shoulders up toward your ears...tension the muscles there...hold...feel the tension there...and then release gradually and let your shoulders drop.
- Hands. Clench your fists...hold...feel the tension in your hands and forearms...and release. Feel how much more relaxed your hands are now.
- Forehead. Raise your eyebrows, feeling the tight muscles in your forehead. Hold that tension. Squeeze your eyes tight, feeling the tension in your forehead and eyes...Hold it tightly...and relax...letting your forehead and eyes be relaxed.
- Jaws. Clamping your jaw shut tightly. Feel the tension in your jaws. Hold...and now relax. Release all of the tension.
- Breathe in deeply, hold that breath. Feel the tension as you hold the air in. Hold...and relax. Let the air be released through your mouth. Breathe out all the air.

References


In Singapore, both diabetes and hypertension are very common medical conditions. At the last National Health Survey in 2010, 11.3% of adults aged 18 to 69 have diabetes and 23.5% have hypertension. Commonly, patients with diabetes also have hypertension, high cholesterol levels and are overweight.

How is hypertension diagnosed?

Hypertension or high blood pressure is diagnosed when your systolic blood pressure (upper reading) is more than 140 mm Hg and when your diastolic blood pressure (lower reading) is more than 90 mm Hg. Blood pressure readings can be done by your doctor in the clinic. Usually your doctor will check your blood pressure over several visits before making a diagnosis of hypertension. You can also use a battery operated blood pressure meter to check your blood pressure at home. If you check your blood pressure at home, take the reading when you are seated and do make sure you are well, relaxed, rested. You should take two to three readings a few minutes apart. You can do this twice a day for a week and the average of all the readings is your blood pressure.

How common is hypertension in patients with diabetes?

Hypertension is very common in the general population and it is even more common if you have diabetes. It is estimated that hypertension is one and half times to two times more common in patients with diabetes than in patients without diabetes and that up 75% of patients with diabetes have hypertension. Patients with Type 1 diabetes usually do not have hypertension initially but hypertension becomes more common with increased duration of diabetes and when kidney damage develops. In contrast, in patients with Type 2 diabetes, hypertension is often present before or at the time of diagnosis of diabetes.

What is the significance of hypertension in patients with diabetes?

Most of the complications of diabetes result from damage to large and small blood vessels in your body. These complications include heart attacks, kidney disease, eye disease as well as disease of the blood vessels of the foot. Hypertension in patients with diabetes causes a significant increase in the risk of damage to these blood vessels. The presence of both hypertension and diabetes substantially increases the risk of heart attacks, kidney damage and damage to the retina of the eye.

What are the benefits of controlling hypertension in patients with diabetes?

Treatment of hypertension is particularly important in diabetic patients as it can prevent or delay heart disease and also reduce progression of diabetic kidney disease and diabetic eye disease. It is estimated that each 10 mm Hg decrease in systolic blood pressure is associated with a 12% reduction in the risk for any complication related to diabetes, a 15% reduction in deaths related to diabetes, an 11% reduction in heart attacks and a 13% reduction in complications to the kidney and eye.
If you have diabetes, it is very important to manage your diabetes well as this will reduce your chance of long-term complications. It is equally important to check your blood pressure and cholesterol and also treat these conditions if you have them.

How do I control my hypertension?

It is important to remember that hypertension cannot be cured but it can be controlled with treatment. Hypertension can be treated with lifestyle modification or antihypertensive medication. If your blood pressure is borderline or just slightly high, lifestyle modification alone may be sufficient to control your blood pressure. Lifestyle changes that you can make include weight reduction, sodium restriction, increased consumption of fresh fruits and vegetables, exercise and avoidance of smoking and excess alcohol ingestion.

KEEPING YOUR WEIGHT DOWN
If you are overweight, weight loss can lead to a significant fall in your blood pressure. You can reduce your blood pressure by 0.5 to 2 mmHg for every 1 kg of weight lost. Sodium is part of salt and is found in many processed foods and drinks. You can check the food label to see how much sodium is present in the food or drink that you consume. Many people also add salt or soy sauce to their food. Reducing your sodium intake can lower your systolic blood pressure by up to 5 mm Hg. You are advised to take less than 2g of sodium a day. You can do this by choosing foods with lower sodium content and by not adding or adding less salt or soy sauce to your food.

HEALTHY DIET
Diets that have more vegetable and fruits may also be beneficial. Excessive alcohol intake can increase your blood pressure so limit alcohol intake to not more than two drinks a day for men and one drink a day for women.

EXERCISE REGULARLY
Aerobic exercise and possibly weight training has been shown to be beneficial in reducing systolic blood pressure by 4 to 6mm Hg and diastolic blood pressure by 3mm Hg. You should also reduce or stop smoking. Lifestyle modification and weight management are key components to control both your diabetes and blood pressure.

MEDICATION
Often, lifestyle measures alone are not able to keep your blood pressure with the target range. Your doctor may decide to start you on antihypertensive medication if you cannot keep your blood pressure less than 140/90 mm Hg after lifestyle modification. While all types of antihypertensive medication can be used in patients with hypertension, there are two types of antihypertensive medication which are specifically recommended for diabetic patients with hypertension. The first type of medication is called angiotensin converting enzyme inhibitors (ACE-inhibitors). The second type of medication is called angiotensin II receptor blockers (ARB). Both of these medications have been shown to provide additional kidney protection compared to other types of antihypertensive medication. Sometimes you may need more than one type of medication to control your blood pressure. Commonly, a type of medication called a calcium channel blocker is added to either an ACE inhibitor or ARB if your blood pressure target is not achieved with one drug alone. Occasionally three or more antihypertensive medications may be needed to control your blood pressure.

It is important to take your medication regularly as prescribed by your doctor and to see your doctor regularly for check-ups. Remember to continue with lifestyle changes as that will help to keep your blood pressure under control.

What are the target blood pressure readings for patients with diabetes and hypertension?

The most recent guidelines suggest that you should aim for a target of <140/90 mm Hg

However, if you have evidence of kidney damage such as protein leakage in the urine, we usually suggest a lower target of <130/80 mm Hg

Your doctor will be able to advise you on the target blood pressure.
高高血压和糖尿病

Article by Dr Peter Eng
李淑君译
糖尿病教育护士
新加坡糖尿病协会

在新加坡，糖尿病和高血压都是非常常见的医疗状况。在上次2010年的国家健康调查中，年龄介于18岁至69岁的成年人，有11.3%患有糖尿病，而23.5%患有高血压。一般情况下，糖尿病人也患有高血压，高胆固醇以及超重。如果你患有糖尿病，控制好糖尿病非常重要，因为这会降低你的长期并发症的几率。你也要常检查你的血压和胆固醇，如有偏高，及时的治疗也同样重要。

如何诊断高血压？
当你的收缩压（上读数）超过140毫米汞柱，舒张压（下读数）超过90毫米汞柱时便可诊断高血压。诊所的医生可以帮你测量血压读数。通常，医生会在你每次复诊时测量血压，几次之后才作出高血压的诊断。你还可以使用电池供电的血压仪测量在家的血压。如果你在家测血压，测量时你必须静坐，并确保你没生病，放松及休息的状态下测量。你应该每隔几分钟测量2-3次读数，在一个星期内每天测两次，所有读数的平均值就是你的血压。
糖尿病人伴有高血压的情况有多普遍？
高血压在普通人群中是很常见的，然而在糖尿病人中更是多见。据估计，糖尿病人患高血压的比例是非糖尿病人患高血压比例的1.5-2倍，甚至高达75%。1型糖尿病起初时通常不伴有高血压，但随着患病时间的延长和肾脏开始出现损害时，高血压逐渐显现。与此相反，在2型糖尿病中，高血压通常在糖尿病被诊断之前或被诊断之时便已伴有。

糖尿病加上高血压意味着什么？
大多数糖尿病的并发症是被全身大大小小的血管损害所导致的。这些并发症包括心脏病发作，肾脏疾病，眼科疾病以及足部血管病变。糖尿病加上高血压的患者导致损害这些血管的风险显著增加。同时患有高血压和糖尿病者实质上增加了心脏病发作，肾脏损伤以及眼睛视网膜损害的风险。

糖尿病患者控制高血压的好处有哪些？
高血压的治疗对于糖尿病患者尤为重要，因为它可以防止或延缓心脏疾病，并减少糖尿病肾病和糖尿病性眼疾的进展。据估计，收缩压每降低10毫米汞柱，糖尿病相关的任何并发症的风险降低了12%，与糖尿病相关的死亡率降低了15%，心脏病发作降低11%以及肾脏和眼睛的并发症减少13%。

糖尿病及高血压患者的血压读数指标是多少？
据最新的指导建议，你的血压指标应当低于140/90毫米汞柱。通常情况下，单单只靠健康的生活方式不足以让您的血压保持在指标范围内。如果改变成健康的生活方式后还是不能让你的血压控制在140/90毫米汞柱以下，你的医生可能会决定开始启动降压药物。尽管所有类型的降压药物可以在高血压患者中使用，特别建议其中两种类型的降压药物用于糖尿病伴有高血压的患者。

第一类型被称为血管紧张素转化酶抑制剂(ACE抑制剂)。第二类型被称为血管紧张素II受体阻断剂(ARB)。这种药物已被证明相比于其他类型的降压药物，提供额外的肾脏保护作用。有时你可能需要不止一种药物来控制血压。

通常情况下，如果你体重超重，减肥可以显著降低你的血压。每减轻1公斤的体重，你的血压便可降低0.5至1毫米汞柱。钠是盐的组成部分，普遍存在于许多加工食品和饮料当中。你可以查看食品标签，看看有多少钠存在于你吃的食物或饮料里。许多人还另加食盐或酱油在他们的食物中。减少钠的摄入量可以降低收缩压高达5毫米汞柱。建议你一天钠的摄入量少于2克。你可以通过选择含低钠食品，不加或少加盐或酱油到你的食物中来做到这一点。

如果你在家里测量血压，测量时你必须静坐，并确保你没生病，放松及休息的状态下测量。你应该每隔几分钟测量2-3次读数，一个星期每天测量两次，所有读数的平均值就是你的血压。

如何控制我的高血压？
重要的是要记住，高血压不能治愈，但可以通过治疗加以控制。高血压可以通过改变成健康的生活方式和降压药物来治疗。如果你的血压在临界点或稍高，单靠改变成健康的生活方式可能足以控制血压。生活方式的改变包括减轻体重，限制钠盐的摄入，多吃新鲜水果和蔬菜，锻炼，避免吸烟和摄入过量酒精。

糖尿病和高血压在新加坡，糖尿病和高血压都是非常常见的医疗状况。在上次2010年的国家健康调查中，年龄介于18岁至69岁的成年人，有11.3%患有糖尿病而23.5%患有高血压。一般情况下，糖尿病人也患有高血压，高胆固醇以及超重。如果你患有糖尿病，控制好糖尿病非常重要，因为这会降低你的长期并发症的几率。你也要常检查你的血压和胆固醇，如有偏高，及时的治疗也同样重要。

如何诊断高血压？
当你的收缩压（上读数）超过140毫米汞柱，舒张压（下读数）超过90毫米汞柱时便可诊断高血压。诊所的医生可以帮你测量血压读数。通常，医生会在你每次复诊时测量血压，几次之后才作出高血压的诊断。你还可以使用电池供电的血压仪测量你在家的血压。如果你在家里测量血压，测量时你必须静坐，并确保你没生病，放松及休息的状态下测量。你应该每隔几分钟测量2-3次读数，一个星期每天测量两次，所有读数的平均值就是你的血压。

*1个标准量:220毫升的啤酒，100毫升的葡萄酒，30毫升的烈酒。
**EASY BAKED CHICKEN MEAL**

serves 2

Abbie Sim Shin Yueh
Dietitian
National Healthcare Group Polyclinics

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### INGREDIENTS

- skinless chicken thighs: 250g
- carrot: 75g
- potato: 270g
- corn (frozen): 40g
- broccoli: 200g
- black pepper: 2 teaspoons
- mixed herbs: 2 teaspoons
- salt: ½ teaspoon
- wolfberry: 25g

---

### NUTRITION INFORMATION per serving

<table>
<thead>
<tr>
<th>Nutrition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>355 Kcal</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>45 g</td>
</tr>
<tr>
<td>Protein</td>
<td>17.5 g</td>
</tr>
<tr>
<td>Fat</td>
<td>11 g</td>
</tr>
<tr>
<td>Saturated fat</td>
<td>2.8 g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>34 mg</td>
</tr>
<tr>
<td>Dietary fibre</td>
<td>10 g</td>
</tr>
<tr>
<td>Sodium</td>
<td>474 mg</td>
</tr>
</tbody>
</table>

Carbohydrate exchange: ~3 exchanges

---

### METHOD OF PREPARATION

1. Preheat oven to 150 degrees Celsius.
2. Wash the chicken thighs and marinate with mixed herbs, black pepper and salt for 10 to 15 minutes.
3. While waiting for the chicken to be ready, cut carrots and potatoes into cubes and cut broccoli into small pieces.
4. Prepare a sheet of aluminum foil and wrap the chicken, wolfberry, corn, carrot and potato and bake for 15 minutes.
5. While waiting for the chicken to be cooked, boil the broccoli till cooked and set aside on a plate.
6. When the chicken is ready, serve it with the broccoli.
STIR-FRIED BEAN-CURD SKIN

serves 2

Abbie Sim Shin Yueh
Dietitian
National Healthcare Group Polyclinics

INGREDIENTS

- beancurd skin 80g
- carrot 1/3 medium
- corn 2 dessert spoon
- round cabbage 3 leaves
- black fungus 2 medium size
- red chilies 1/2 medium
- cucumber 1/3 medium
- salt 1/2 teaspoon
- vinegar 1 dessert spoon

METHOD OF PREPARATION

1. Slice the bean curd skin to about 1 cm in diameter and soak in hot water.
2. Cut the carrot, round cabbage, black fungus and cucumber into thin slices.
3. Soak the cucumber and carrot slices in vinegar.
4. Add oil to the non-stick pan. Add bean curd skin, cabbage, black fungus and corn when the pan is heated. Stir-fry till all ingredients are cooked.
5. Add the chillies before turning down the fire and add salt to taste.
6. Finally, garnish the dish with slices of carrot and cucumber and serve.

NUTRITION INFORMATION per serving

- Energy: 124 Kcal
- Carbohydrate: 9.6 g
- Protein: 12 g
- Fat: 4.5 g
- Saturated fat: 0.6 g
- Cholesterol: 0 mg
- Dietary fibre: 3.6 g
- Sodium: 400 mg
- Carbohydrate Exchanges = < 1 exchanges

- Suitable for vegetarians
- Add garlic for better taste and fragrance
MAKE A DASH FOR IT

DIET AND BLOOD PRESSURE: IT’S NOT ONLY ABOUT THE SALT

Chow Li Ming
Dietitian
National Healthcare
Group Polyclinics

According to National Health Survey 2010, one in slightly less than four (23.5%) of Singapore residents had high blood pressure or hypertension. Hypertension is a common co-morbid condition of diabetes mellitus, about one-third of patients with diabetes mellitus reported high blood pressure. High blood pressure and diabetes mellitus are powerful artherogenic* risk factors that increase the risk of stroke, heart disease, heart failure and chronic kidney disease.

What you eat affects your chances of getting high blood pressure. A healthy eating plan can both reduce the risk of developing high blood pressure and lower a blood pressure that is already too high.

You may wish to consider DASH, a dietary eating plan which stands for “Dietary Approaches to Stop Hypertension”.

DASH is not a traditional low salt diet but a balanced eating pattern to prevent or treat hypertension. DASH eating plan uses food high in minerals such as calcium, magnesium, potassium and fibre but low in saturated fat, total fat and cholesterol.

Why choose DASH?

DASH diet showed greater improvement in blood pressure compared to commonly known low salt diets. Studies also showed that patients with diabetes mellitus have better glycaemic control when DASH diet is implemented together with exercise and weight loss. DASH eating plan can be a good way to lose weight as it replaces high calorie food with more fruits, vegetables and low fat dairy products. Watch your portion to control overall calorie intake.

Principles of DASH diet

The DASH eating plan:

- Emphasises vegetables, fruits, and fat-free or low-fat dairy products.
- Includes whole grains, fish, poultry, beans, seeds, nuts, and vegetable oils.
- Limits food high in sodium, as well as sweets, sugary beverages, and red meats.

In terms of nutrition content, DASH is:

- Low in fat, especially saturated fats.
- Rich in potassium, calcium, magnesium, fibre, and protein.

* tending to promote the formation of fatty deposits in the arteries.
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Dietary Approaches to Stop Hypertension (DASH) is a diet designed to prevent high blood pressure. It is associated with better blood pressure control, reduced risk of stroke, and reduced risk of deterioration of the kidneys.

High in Calcium
Calcium intake from food has an effect on blood pressure. If calcium intake is low, more calcium will be drawn into the vascular muscle cells and increases vascular resistance. Increase vascular resistance raises blood pressure for blood flow. Calcium intake from supplements has not been shown to have the same effect.

The recommended dietary allowance of calcium for adult is 800 to 1000mg daily. Food sources rich in calcium include low fat dairy products, calcium-fortified soybean milk, yoghurt and cheeses, fish with edible bones such as sardines and anchovies, nuts and green leafy vegetables such as kailan, broccoli and spinach.

Tips to increase calcium intake:
• Have 1 to 2 cups of low fat milk or calcium-fortified soybean milk daily.
• Choose low fat yoghurt as a snack.
• Eat a variety of foods to top up calcium intake in a day.

High in Fibre
Foods high in fibre keep you feeling full and stabilise blood sugar level. Fruits, vegetables, legumes and wholegrains are rich in fibre. Patients with diabetes mellitus need to be aware that fruits, wholegrains and legumes are part of carbohydrates. Health Promotion Board recommends 2 plus 2 servings of fruits and vegetables as well as 2 to 3 servings of wholegrain daily.

How to increase fibre in diet:
• Replace refined grains with wholegrains. Options of wholegrain products include wholemeal bread, wholewheat crackers, brown rice or wholegrain pasta.
• Add legumes to salad, soup, stew or dishes.
• Have fruits as dessert or snack.
• Include vegetables in each meal.

Low in Fat especially Saturated Fat
Saturated fat increases your total cholesterol and ‘bad cholesterol’ thus increasing your risk of heart disease. As fat provide almost twice the number of calories for amount of protein and carbohydrates, cut down total fat intake helps in weight loss.

Tips to reduce total fat intake:
• Choose lean meat or skinless poultry.
• Use soy-based products such as tofu, tempeh as source of protein.
• Use cooking oil with ‘Healthier Choice’ symbol in cooking.
• Choose low fat dairy products instead of those with full cream.
• Opt for soft margarine instead of butter.
• Limit deep-fried food and gravy intake.

High in Potassium and Magnesium
Magnesium and potassium have vasodilatory effects (widening of blood vessel) and hence associated with lowering blood pressure. Nuts, wholegrain bread and cereals are good food sources of magnesium. Tubers and fruits are great sources of potassium. Dark green leafy vegetables are high in both magnesium and potassium.

Eating tips:
• Enjoy variety of fruits and vegetables.
• Add vegetables into soup, noodles, pasta or sandwiches.
• Choose nuts or dried fruits as snacks instead of chips and sweets.

Low in Cholesterol
Cholesterol is found only in animal products. Daily cholesterol intake should be less than 300mg.

Tips to reduce cholesterol intake:
• Limit to no more than 4 egg yolks a week.
• Limit consumption of organ meats and seafood.

Low in Sodium
If sodium is consumed excessively, kidney is unable to excrete excess sodium. Sodium attracts water and it increases blood volume which makes the heart to pump harder and increases the blood pressure. Sources of food high in sodium include sauces/seasoning, processed food and canned food. The Health Promotion Board recommends a daily allowance of 2000mg of sodium (equivalent to 1 teaspoon of salt). DASH is naturally low in sodium as it emphasises fresh foods.

Tips to reduce sodium intake:
• Buy fresh products: choose fresh vegetables, poultry and meat but not processed, cured and pickled food.
• Use natural seasoning (lemon juice, lemongrass, ginger, fresh chili or herbs and spices) to spice your food up.
• If you must have convenience food, opt for those that are lower in sodium. Look out food products with the “Healthier Choice - lower in sodium” symbol.
• Taste your food before you add salt/seasonings. Use it sparingly.

Low in Total Fat
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### How do I make the DASH?

The serving size of each food group varies with each individual’s calorie requirement in a day. Below is a sample of a DASH eating plan based on 1800kcal.

<table>
<thead>
<tr>
<th>Meal/snack</th>
<th>Food items</th>
<th>Quantity</th>
<th>Approximate number of servings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breakfast</strong></td>
<td>Wholemeal bread</td>
<td>2 slices</td>
<td>Brown rice, wholemeal bread</td>
</tr>
<tr>
<td></td>
<td>Low fat cheese, Reduced salt</td>
<td>1 slice</td>
<td>and others</td>
</tr>
<tr>
<td></td>
<td>Low fat milk</td>
<td>1 cup (250ml)</td>
<td>Vegetables</td>
</tr>
<tr>
<td><strong>Mid-morning snack</strong></td>
<td>Nuts (baked, unsalted)</td>
<td>1 handful</td>
<td>Fruits</td>
</tr>
<tr>
<td></td>
<td>Apple</td>
<td>1 fist-size</td>
<td>Lean meat, and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>alternatives</td>
</tr>
<tr>
<td><strong>Lunch</strong></td>
<td>Brown rice</td>
<td>1 bowl</td>
<td>Nuts and seeds</td>
</tr>
<tr>
<td></td>
<td>Steamed fish</td>
<td>1 palm-sized</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stir-fried vegetables</td>
<td>1 medium bowl</td>
<td></td>
</tr>
<tr>
<td><strong>Afternoon snack</strong></td>
<td>Papaya</td>
<td>1 wedge</td>
<td></td>
</tr>
<tr>
<td><strong>Dinner</strong></td>
<td>Yong Tau Fu Kway teow soup</td>
<td>1 bowl</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vegetables</td>
<td>3 choices (~1 medium bowl)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tofu</td>
<td>2 small blocks</td>
<td></td>
</tr>
<tr>
<td><strong>Supper</strong></td>
<td>Low fat milk</td>
<td>1 cup (250ml)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High fibre Crackers</td>
<td>3 pieces</td>
<td></td>
</tr>
</tbody>
</table>

#### Total servings

- 5 ½
- 2
- 2
- 3 ½
- 1

#### Significance of food group to DASH diet
- Good source of energy and fibre
- Good source of fibre, magnesium and potassium
- Good source of protein, calcium and magnesium
- Good source of magnesium, fibre and protein

*# Consult your dietitian for an individualised meal plan.*

### References

Hearty Herbs

Fresh herbs and spices are as essential as fruits and vegetables in our daily diet. They are packed with naturally occurring抗氧化ants and loads of flavour. Just 4g of cilantro will give you 2% of the daily value of Vitamin C and 5% of the daily value of Vitamin A! Try adding some of these fresh herbs to your meals...

Cilantro, sometimes referred to as Chinese parsley or coriander leaves, is one of the richest herbal sources of vitamin K that is required for blood clotting; it is also rich in folate, potassium, manganese, and choline and antioxidants beta-carotene, beta-cryptoxanthin, lutein and zeaxanthin. When added to food, Cilantro delays and prevents spoilage by inhibiting unwanted oxidation processes. It also has an antibacterial effect. Add cilantro leaves to cut down the sodium in your meals. Cilantro goes well with chicken, fish, lamb, lentils, mayonnaise, peppers, pork, rice, salads, salsas, shellfish and tomatoes.

Garlic, or Allium Stivum, has been used since ancient times to treat respiratory problems, parasites, and poor digestion. Allicin in raw galic, once crushed is converted to organosulfur compounds which act as anti-clotting agents and help prevent cardiovascular disease. Allicin is also found to have anti-bacterial, anti-viral and anti-fungal activities. Throughout history in the Middle East, East Asia and Nepal, garlic has been used to treat bronchitis, hypertension (high blood pressure), TB (tuberculosis), liver disorders, diabetes and fevers.

Mint, also known as mentha, has great health benefits. The menthol in mint is a natural decongestant that helps break phlegm and mucus. It is generally considered a calming herb that soothes stomach upsets such as indigestion and inflammation. The pleasing aroma of mint activates our salivary glands as well as glands that secrete digestive enzymes, thus facilitating digestion. It is also a quick remedy for nausea, headaches and motion sickness. Try mint limeade by mixing chopped mint leaves to lime juice with a dash of honey.

Basil, derived from Greek word “Basileus,” means “King.” This highly fragrant herb is rich in Vitamin A, K, C, and mangesium, iron, potassium and calcium. It is rich in polyphenols such as flavonoids, and anthocyanins. Basil is more helpful in reducing the inflammation and swelling too. Basil is highly effective in killing the harmful molecules and preventing damage created by free radicals in the liver, brain and heart. Beta-caryophyllene in basil helps to treat arthritis and other inflammatory bowel diseases. Try stir-fried chicken with basil for a delightfully aromatic dish.

Ginger aids in relaxing and soothing the intestinal tract. Fresh ginger just before lunch could fire up the digestive juices. It also has an anti-vomiting and anti-inflammatory actions. The gingerols in the ginger help to inhibit the growth of human colorectal and ovarian cancer cells. Using fresh ginger is an easy way to flavour foods and drinks without adding unnecessary sodium. Grate some ginger root into your carrot or lemon juice for a refreshing drink, or use fresh ginger to spice up any fish recipe.
SHAPE UP

Relaxation & Recovery Exercises
KEEPING BLOOD PRESSURE DOWN

Stress has a major effect on our body’s metabolic activity. It stimulates the release of stress hormones which can lead to an elevated blood pressure and glucose levels. Relaxation is the key to reduce stress and appropriate exercises produces endorphins which has been shown to be more effective in reducing stress than resting alone. Deep breathing and active stretching exercises can have an acute effect in reducing stress and high blood pressure. Practise these exercises daily and you will feel more energised and healthy.

Corner wall push up
- Find a corner, stand 1 to 2 steps away from the wall, lean forward and place hand on each side of the wall at chest level with arms parallel to the floor.
- Stand with pressure on your forefoot and heel slightly lifted off the floor.
- Keep tummy tight, ear, shoulder, hip and ankle in a straight line. Inhale, bend and move your elbow to your back while your upper body moving towards the wall.
- Maintain arms parallel to the floor and head being pulled back at neutral position during the movement.
- Exhale, press the wall and extend your elbow till elbow fully extended to complete the movement.
- Perform in a slow and controlled form, each complete movement should take about 5 seconds.
- Repeat 10 to 20 times.

Side lying trunk rotation
- Lie on your side with legs bend and together, hip and shoulder flexed at 90 degrees with both hand together, elbows extended and parallel to your thigh.
- Keep your tummy tight and both knee together, inhale and rotate your trunk and turn your shoulder backward till upper back is flat on the floor. Maintain both knee together during the movement, if needed stop at the point where both knee starts to separate from each other.
- Hold for a second or two, exhale and return to start position.
- Repeat 2 sets of 10 repetitions on each side.

Lying leg extension
- Lie face up, tuck in the tummy and tilt your pelvic for a neutral spine position. Bend one leg and bring it towards your chest.
- Maintaining neutral spine, Inhale, extend your knee maintaining the position of your thigh with support of your hands.
- Exhale and return leg to start position.
- Repeat 2 sets of 10 repetitions on each leg.

Prone with alternate leg curl
- Lie face down with both legs straight and together.
- Tighten your tummy, inhale and curl your leg while dorsiflexing your feet. Exhale and return to start position.
- Repeat 2 sets of 20 repetitions on each leg.

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