

## CMEARTICLE

## Diabetes mellitus: the first visit

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*You are reviewing Mr Lim whose fasting plasma glucose is 7.5 mmol/L. Mr Lim works as a taxi driver and consulted you last week for his increased thirst and frequent urination in the past few weeks. He is worried that he may have diabetes mellitus. Both his parents and his elder brother are diabetic, and he has heard of many accounts of diabetes mellitus from his customers. Mr Lim asks, "Doctor, is my blood test normal? Do I have diabetes?"*

**HOW COMMON IS THIS IN MY PRACTICE?****What is diabetes mellitus?**

Diabetes mellitus was initially discovered in association with glycosuria, and its name means 'production of abnormal amounts of urine (diabetes) that is honey-sweet (mellitus)'. Diabetes mellitus is commonly shortened to 'diabetes'. In a patient with symptoms of hyperglycaemia (e.g. polyuria and polydipsia) a diagnosis can be made with a fasting plasma glucose of  $\geq 7.0$  mmol/L (126 mg/dL).<sup>(1)</sup> Simply put, diabetes is an 'insulin problem', as the maintenance of normoglycaemia is affected due to reduced pancreatic insulin production and/or cellular insulin resistance.

**How relevant is this to my practice?**

As about 11.3% of adult persons in Singapore have diabetes,<sup>(2)</sup> the general practitioner is often the first point of medical contact for the patient with newly diagnosed diabetes. Like other chronic medical conditions, the diagnosis carries lifelong implications. Management often entails changes, which are occasionally radical, to the person's lifestyle. While there are many available guidelines on diabetes care, this article suggests a set of consultation tasks to be considered during the first visit of a patient who has newly diagnosed type 2 diabetes.

**DISCLOSURE OF DIAGNOSIS**

During the patient's first visit, the doctor needs to consider the patient's readiness to accept the diagnosis before revealing it. The doctor should also explore the patient's ideas, concerns and expectations (ICE) and skill sets before determining what will populate the rest of the consultation time. The disease label and socio-financial implications are also real issues that patients, and possibly their families, have to grapple with. There could be many years ahead of a relatively young person who is newly diagnosed with diabetes.

Diabetes is often insidious and asymptomatic even up to the stage of diagnosis. Thus, reactions at diagnosis could range from

denial and anger to surprise. Indeed the loss of the normalcy of health may even result in a grief reaction, although not in the same magnitude as the learning of a cancer diagnosis. In planning how to break the news of a diagnosis of diabetes to a patient, doctors should be mindful of these implications and employ the principles of breaking bad news. Poor communication of bad news undermines the therapeutic alliance between the doctor and the patient, and creates treatment barriers such as patient compliance issues later on.

We propose adapting the use of SPIKES<sup>(3)</sup> as an approach for the disclosure of the diagnosis of diabetes (Table I). Not every case requires the execution of all the steps of SPIKES, but the sequence in which the steps are used should be followed. After disclosing the diagnosis, it is extremely important to convey in the same sitting that there is plenty that the patient can do to maintain good diabetes control. There is no incentive more powerful to patients than the knowledge that the outcome of the disease is completely within their control. At the same time, patients must be free of any doubt that the attending doctors are fully committed in helping them achieve the desired long-term goals. This should be followed by an easy-to-understand explanation of the disease pathophysiology.

**BUSTING MYTHS AND MISCONCEPTIONS**

A quick assessment of the patient's general knowledge of diabetes (e.g. using the question: "What is your understanding of diabetes?") is often useful in planning the individualisation of patient care and education. The myths and misconceptions about diabetes are numerous and often influenced by cultural beliefs, anecdotal hearsay and old wives' tales. There is a high prevalence of myths and misconceptions among both diabetic persons and the general population.<sup>(4,5)</sup> These myths and misconceptions, if not addressed, could lead to poor health-seeking behaviour, delayed diagnosis, and more eminently, poor treatment adherence and compliance. It is thus crucial for early identification and address of the myths and misconceptions

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**Table I. SPIKES approach to breaking the news of a diagnosis of diabetes mellitus [adapted from Buckman<sup>(3)</sup>].**

Step	Explanation and practical points
<b>S</b>	<p><b>SETTING</b> up the consultation</p> <ul style="list-style-type: none"> <li>• Prepare and review the plan for informing the patient and the plan on how you will respond to the patient’s emotional reactions or difficult questions.</li> <li>• Bad news should be given face-to-face and not over the phone.</li> <li>• Maintaining eye contact and proper body language are useful ways to establish rapport.</li> </ul>
<b>P</b>	<p>Assessing the patient’s <b>PERCEPTION</b></p> <ul style="list-style-type: none"> <li>• Find out how the patient perceives the medical condition so that you can adjust your delivery based on what the patient may already know.</li> <li>• Explore the patient’s ideas, concerns and expectations.</li> </ul>
<b>I</b>	<p>Obtaining the patient’s <b>INVITATION</b></p> <ul style="list-style-type: none"> <li>• Assess how much information the patient wants to know at this first visit.</li> </ul>
<b>K</b>	<p>Giving <b>KNOWLEDGE</b> and information to the patient</p> <ul style="list-style-type: none"> <li>• Giving prior warning before breaking the diagnosis may lessen the impact that follows from the disclosure of the diagnosis (e.g. “I’m sorry to tell you that...”).</li> <li>• Consider using words that the patient can understand. Avoid technical jargon and use simple layperson terms.</li> <li>• Give information in little bits and check from time to time that the patient understands.</li> </ul>
<b>E</b>	<p>Addressing the patient’s <b>EMOTIONS</b> with <b>EMPATHETIC</b> responses</p> <ul style="list-style-type: none"> <li>• Put yourself in the patient’s shoes. Understand that the diagnosis results in issues such as use of medications, cost of treatment, work changes, dietary restrictions, lifestyle changes, etc.</li> <li>• Observe for any emotion displayed and respond appropriately by addressing it (e.g. “I can see that you are worried about this”).</li> </ul>
<b>S</b>	<p><b>STRATEGY</b> and <b>SUMMARY</b></p> <ul style="list-style-type: none"> <li>• Engaging the patient from the start is important, as the treatment of diabetes is chronic.</li> <li>• Patients presented with a clear plan are less likely to be anxious and uncertain, as they have a strategy for management.</li> <li>• End the disclosure with a summary.</li> <li>• Check whether the patient has any questions up to this point in time.</li> </ul>

relating to diabetes. Table II lists some common myths and misconceptions.

### GETTING INFORMATION ON LIFESTYLE PRACTICES

It is easy for the doctor to plunge straight into a prescribed set of medical treatment upon diagnosis. However, the assessment of the impact of diabetes on the patient’s psychological and social situation is the cornerstone in the whole-person management of the patient with diabetes. It begins at the first visit and continues during subsequent routine visits as the impact of lifestyle changes, and the treatment and progress of the disease takes root. A detailed account of current eating habits, daily activities, amount of physical activity, work schedule and availability of caregivers at home are important information to be gathered during the first visit. Work arrangements such as rotating or split shifts may have a significant effect on the patient’s control of

**Table II. Some myths and misconceptions about diabetes, and the corresponding facts.**

Myths and misconceptions	Facts
I have diabetes, so I can’t eat rice.	<ul style="list-style-type: none"> <li>• Rice is only one of many types of Asian staple food, which includes noodles (e.g. kway teow, bee hoon), bread and pasta.</li> <li>• Some patients only avoid rice, and end up eating more of the other carbohydrate staples.</li> </ul>
I test for diabetes at home using urine dipsticks and the result is normal. Therefore, I don’t have diabetes.	<ul style="list-style-type: none"> <li>• Urine dipsticks for glucose should not be used to diagnose or monitor diabetes.</li> </ul>
Diabetes is caused by eating too much sweets and sweet food.	<ul style="list-style-type: none"> <li>• Diabetes is an ‘insulin problem’, it is caused by insufficient pancreatic insulin production or the body’s inability to use insulin properly (insulin resistance).</li> </ul>
I can drink a lot of fruit juices as long as the packaging states “No sugar added”.	<ul style="list-style-type: none"> <li>• Fruit juice contains fructose (i.e. fruit sugar) even if no sugar is added. Intake should therefore be limited in diabetic patients.</li> </ul>
I can stop taking medication/insulin once my blood sugar level is well controlled.	<ul style="list-style-type: none"> <li>• Diabetes is a chronic condition that requires lifelong adherence to lifestyle modification and long-term medication, as well as follow-up to assess control. Medication or insulin should not be stopped without the advice of the doctor.</li> </ul>
I can eat as much special ‘diabetic foods’ as I like.	<ul style="list-style-type: none"> <li>• Diabetic foods generally offer no special benefit.</li> <li>• Most of them still raise blood glucose levels, are usually more expensive and may also have a laxative effect if they contain sugar alcohols.<sup>(6)</sup></li> </ul>
If the doctor says I need to start insulin therapy, it means that I’ve failed to control my diabetes properly.	<ul style="list-style-type: none"> <li>• Type 2 diabetes is a progressive disease. When first diagnosed, many people with type 2 diabetes can keep their blood glucose at a healthy level using oral medications. However, over time, the body gradually produces less and less of its own insulin, and eventually oral medications may not be enough to keep blood glucose levels normal.<sup>(6)</sup></li> </ul>

diabetes. This information is essential to help individualise the management of the disease and not have the patient work around the management of the disease.

### SMART LIFESTYLE GOAL SETTING

Non-pharmacological management of diabetes using lifestyle modification does not simply entail telling patients what to eat and not eat, and what exercises to do. An assessment of the patient’s willingness to learn and the identification of learning barriers is a good starting point. Following that, the doctor should acquire information regarding the patient’s current lifestyle in order to give patient-specific advice. We recommend using the SMART approach to collaborative goal setting with the patient,<sup>(7,8)</sup> rather than general goals (e.g. “Do more exercise”). The action plan is decided upon by the patient in consultation with the doctor. It should consist of behaviour changes rather than results. For example, “lose 5 kg” is a result, whereas the behaviour change for the result may

**Table III. An example of SMART goals to increase physical activity [adapted from Eat Well and Be Active Educational Toolkit<sup>(6)</sup>].**

Goals should be:	Guiding questions	Examples/comments
<b>Specific</b>	<b>What do you want to do?</b> Ask the patient to describe what he/she would like to achieve.	The patient may say, "I would like to start exercising."
<b>Measurable</b>	<b>How much and how often will you do it?</b> Indicate a quantity, such as duration and frequency, for the goal. This way, progress can be monitored using a calendar or a journal, giving tangible proof of progress, which helps motivate patient to continue.	The patient's plan may be to brisk walk for 15 minutes, three days a week.
<b>Attainable</b>	<b>How will you do it?</b> Assist the patient to think of ways in which the goal can be achieved. Attitudes, abilities, skills and support should be well matched to the goal the patient is trying to achieve.	The patient's plan may be to walk in the park near his/her house with his/her spouse for company.
<b>Realistic</b>	<b>Can you do it?</b> The goal should be something that the patient is willing and able to commit to. It should be challenging, but not to the extent that it is unachievable.	For example, jogging every day may not be a good start if the patient had previously never exercised regularly. Brisk walking three times a week is a more realistic goal.
<b>Timely</b>	<b>When will you do it?</b> Specify a time frame for the patient to work toward the goal. The patient should decide when to start working on the goal and by when it should be achieved.	The patient's plan may be to start the week after, brisk walking on Monday, Wednesday and Friday evenings. The doctor's response could then be, "When you see me in a month's time, I will check to see whether you have started brisk walking."

be "walk 10 minutes, 3 days a week". It is easier to start with small changes that the patient can easily achieve.<sup>(9)</sup> This instils a sense of confidence, which will in turn spur the patient to attain greater achievements, as small tangible improvements drive positive behaviour. An example of the SMART approach to increasing physical activity is shown in Table III.

## BLOOD TESTS FOR DIABETES CONTROL: BLOOD GLUCOSE AND GLYCATED HAEMOGLOBIN

The first visit is also a good opportunity to introduce common and important laboratory adjuncts that are used to monitor the degree of diabetes control. Blood glucose levels indicate 'at-the-moment' blood sugar levels, while glycated haemoglobin (HbA1c) gives a three-month average estimation of diabetes control. Patients often get confused over their blood glucose levels and HbA1c test results. Explaining what these tests are, what they measure and their individualised targets can help patients understand their own diabetes control during subsequent follow-ups. The ability to monitor trends using these laboratory indicators allows patients to easily track the level of their diabetes control. This encourages and empowers them to be proactive in the management of their diabetes.

## SCREENING FOR DIABETIC COMPLICATIONS AND COMMONLY ENCOUNTERED MEDICAL CONDITIONS

The concluding task would be to explain to the patient the need for regular screening for complications of diabetes and medical conditions commonly encountered with diabetes.

### 1. Annual diabetic eye screening

Annual diabetic retinal photography, using high-quality digital imaging of the fundus, allows the detection of most cases of

clinically significant diabetic retinopathy. It is an effective way to screen patients for diabetic retinopathy.<sup>(10)</sup> If significant abnormalities are detected, the patient can then be referred to an ophthalmologist for further management.

### 2. Annual diabetic foot screening

All patients with diabetes should undergo an annual foot examination to look for early signs of peripheral neuropathy, peripheral vascular insufficiency, and ulcers or nonhealing wounds. If foot screening services are not available, doctors can do the screening through visual inspection of the patient's feet, testing for foot pulses and loss of protective sensation using a 10-G monofilament, and any of the following: vibration sense using a 128-Hz tuning fork, pinprick sensation, and ankle reflexes. Educating patients on foot care and footwear is also important. High-risk findings should be referred to a podiatrist or orthopaedic surgeon for further management.<sup>(11)</sup>

Both eye and foot screenings are available at community resources such as the Diabetic Society Singapore, Community Health Centres and polyclinics.

### 3. Annual microalbuminuria and renal function testing

All patients with type 2 diabetes should undergo an annual test for urine albumin excretion. A renal panel consisting of electrolytes (sodium, potassium and chloride) and serum creatinine should also be obtained annually. Serum creatinine level is useful for the estimation of glomerular filtration rate and for staging the level of chronic kidney disease, if present.<sup>(11)</sup>

### 4. Coronary heart disease screening

As long as cardiovascular disease risk factors are treated, asymptomatic patients do not require routine screening for coronary artery disease.<sup>(11)</sup>

## 5. Hypertension and hyperlipidaemia screening

Hypertension and hyperlipidaemia in combination with diabetes increases the risk of developing cardiovascular disease. As part of the optimisation of a patient's long-term cardiovascular risk, regular screening and effective management of these associated conditions are part of diabetes management. In the case of hypertension, blood pressure should be measured at every routine visit and treated if persistently raised. Whereas for hyperlipidaemia, annual fasting lipid panel should be done to monitor for hyperlipidaemia, and if levels are persistently high, treatment should be initiated.<sup>(12)</sup>

### A LIFELONG JOURNEY

The management of a patient with diabetes is like planning an itinerary for an overseas trip, except that the journey is for life. The first visit is but the beginning of the journey ahead, which the doctor can walk with the patient, playing the roles of physician, counsellor and life coach.

*You reveal and explain the diagnosis of diabetes using SPIKES and help correct Mr Lim's misconceptions about diabetes. You address his ideas, concerns and expectations, and map out his daily schedule and typical choice of meals. A contract of agreement on modifying his dietary intake and increasing his physical activity was made using SMART goals. Mr Lim has appointments made for diabetic retinal photography and foot screening. You also plan to obtain his blood and urine samples for a laboratory panel consisting of fasting lipids, electrolytes, creatinine, HbA1c, fasting glucose, urinalysis and urine for microalbuminuria. You arrange to see Mr Lim in a month's time to review his progress.*

### TAKE HOME MESSAGES

1. In disclosing a diagnosis, it is important to consider the biopsychosocial implications of the diagnosis and find out what the patient's ICE about diabetes are.
2. Misconceptions and myths about diabetes should be addressed early.
3. Food intake, daily activities and work schedule are some important initial information that will help individualise the management of the disease and tailor it to the patient, and not vice versa.
4. Lifestyle target setting using the SMART approach helps the patient see tangible improvements, which motivates them to develop further action.
5. Doctors should explain to the patient the need for early and regular screening for complications and other medical conditions commonly encountered with diabetes.
6. The management of a patient with diabetes is akin to planning an itinerary for a lifelong journey.

**ABSTRACT** Diabetes mellitus is an 'insulin problem' as the maintenance of normoglycaemia is affected by either reduced pancreatic insulin production or cellular insulin resistance. During a patient's first visit for type 2 diabetes mellitus, there are several consultation tasks that the doctor should consider. First, the doctor has to disclose the diagnosis. Second, there is a need to correct any myths and misconceptions that the patient may have on the disease. Next, to allow the doctor to provide patient-specific disease education and advice on lifestyle modifications and goal setting, the biopsychosocial impact of the disease on the patient should be assessed, and relevant lifestyle information gathered. Lastly, screening for the complications of diabetes mellitus and its associated medical conditions should be planned.

*Keywords: biopsychosocial, consultation tasks, diabetes, goal setting, lifestyle modifications*

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### RECOMMENDED READING

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