

# Removing barriers to insulin use

Patients with type 2 diabetes and their physicians are often reluctant to begin insulin therapy—despite evidence of its efficacy. Here’s help in overcoming this other form of “insulin resistance.”

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## PRACTICE RECOMMENDATIONS

› Reassure patients who fear stigmatization that the small needles and devices available today make it easy to discreetly incorporate insulin therapy into everyday life. **C**

› Consider making a referral to a diabetes support group or a mental health counselor when a patient is reluctant to pursue insulin therapy, despite the benefits to his or her health. **C**

### Strength of recommendation (SOR)

- A** Good-quality patient-oriented evidence
- B** Inconsistent or limited-quality patient-oriented evidence
- C** Consensus, usual practice, opinion, disease-oriented evidence, case series

For patients with type 2 diabetes, control of hyperglycemia through diet, exercise, and pharmacologic therapy reduces the risk of microvascular complications and may have long-term cardiovascular benefits.<sup>1,2</sup> But when the disease progresses and oral medication and lifestyle changes are no longer sufficient, many patients experience long periods of elevated glucose concentrations before insulin is added to (or replaces) a failing oral regimen.<sup>3</sup>

Both the American Diabetes Association and the American Association of Clinical Endocrinologists recommend early initiation of insulin therapy<sup>4,5</sup> for patients with significantly elevated HbA1c, and a stepwise treatment approach, beginning with oral medications, for more modest elevations. Overall, insulin therapy offers the greatest potential for improved glycemic control.<sup>4,6,7</sup> Yet patients, as well as their physicians, are often reluctant to initiate it. In the review that follows, we identify common barriers to insulin therapy and provide practical tips on how best to overcome them.

## Why patients are “insulin resistant”

Patient barriers to insulin therapy can be divided into 3 general categories (TABLE 1)—psychological resistance, harmful effects (whether real or perceived), and financial barriers. Understanding what’s behind their hesitancy (as well as your own) makes it easier to overcome these barriers and properly integrate insulin into their health care regimen.

### Most barriers are psychological

Because insulin therapy is typically introduced some time after diagnosis (and conservative management), patients often view the need for insulin as an indication that they have failed to manage their type 2 disease effectively. What’s more, many patients are convinced that insulin will provide few, if any, benefits.<sup>8</sup>

The Diabetes Attitudes, Wishes, and Needs (DAWN)

**Patients often view the initiation of insulin therapy as an indication that they have failed to appropriately manage their disease.**

**TABLE 1**  
**Patient barriers to insulin<sup>8-11</sup>**

<b>Psychological</b>
Belief that insulin represents failure of self-care
Lack of perceived benefit
Pain/fear of injections
Belief that insulin use is complicated
Loss of independence/change in lifestyle
Stigma related to needle use
<b>Harmful effects</b>
Hypoglycemia
Weight gain
Perceived adverse effects
<b>Financial</b>
Cost of insulin and supplies

study, a large international trial, found that only 27% of noninsulin-dependent patients believed that insulin could help manage their disease.<sup>8</sup> Patients' lack of belief in insulin's efficacy can be attributed to negative experiences with insulin therapy, which may have been related by family or friends or simply reflect societal views. The complex nature of insulin therapy is another problem, as patients often feel overwhelmed by the prospect of having to adhere to what they consider to be a stringent daily regimen.

And for many, resistance to insulin therapy is triggered by fear of:

- needles and subcutaneous injections<sup>9-11</sup>
- loss of independence and lifestyle changes (eg, having to sacrifice pleasurable activities, such as eating out and traveling)<sup>9</sup>
- adverse effects, most notably hypoglycemia and weight gain.<sup>9-11</sup>

Other psychological barriers can be attributed to perceived societal norms, including the stigma associated with the use of needles and illicit drug use and the potential embarrassment of self-injection.<sup>9</sup>

■ **Harmful effects.** Concern about insulin's negative effects may be exacerbated

by the fact that symptoms or complications of diabetes itself, which often develop as the disease progresses, are often mistakenly attributed to insulin therapy.

■ **Financial concerns,** too, are often associated with resistance to insulin therapy, relating to the costs of newer insulin analogs and insulin administration devices.

**Replace misconceptions with facts**

Patients respond in different ways to a discussion of insulin initiation, and it is important to identify barriers and help resolve them. Yet there are few validated measurement tools designed for this purpose. We've created a patient handout, "Is it time for insulin?" on page 581, which addresses a number of common concerns. The tips that follow here should also help.

**"It won't help me"**

If a patient tells you that insulin therapy will be of little or no benefit, explain that type 2 diabetes is largely due to a lack of insulin activity and that the newer insulin analogs mimic the normal physiologic response. Make it clear that insulin use is not a punishment or evidence of personal failure, but a therapeutic option that most patients need as their diabetes progresses.<sup>9,10,12</sup>

**"My friend takes insulin, and her diabetes still isn't under control"**

Tell a patient who is convinced that insulin provides few benefits or has heard about people whose diabetes was not controlled by insulin that the dosing may not have been appropriate,<sup>9</sup> and that it is important for you to work together to make any necessary adjustments.

Fear of hypoglycemia can be addressed through patient education about how to recognize signs and symptoms of low blood sugar and what actions to take to resolve it.<sup>13</sup> Explain that frequent blood glucose monitoring; regularly scheduled, balanced meals; increased physical activity; and referral to a dietitian, when needed, will go a long way toward preventing swings in blood sugar as well as weight gain.<sup>9,14</sup> Emphasize that exercise will improve insulin sensitivity, helping

to control weight and ensure better glucose uptake, as well.

### “I hate needles!”

Address needle phobia and fear of social stigma with reassurance and a demonstration of the small, thin needles on the market and the devices designed to conceal them. Point out that such devices promote privacy and make it easy for patients to discreetly incorporate insulin therapy into everyday life.

### “It will be too expensive”

Patient assistance programs are available for eligible patients, with online resources such as [www.Rxassist.org](http://www.Rxassist.org) and [www.xubex.com](http://www.xubex.com). You can also remind patients that health insurers, including Medicare and Medicaid plans, contribute to the cost of glucometers, test strips, and lancets, as well as the insulin itself. Diabetes supplies are often available from medical supply companies that bill health insurers directly but mail the supplies to the patients.

### Are you putting up some barriers of your own?

Reluctance to introduce insulin therapy or negative feelings about it (TABLE 2)<sup>9,14,15</sup> on the part of clinicians creates, or contributes to, “clinical inertia”—defined as awareness of a problem but a lack of action to resolve it.

TABLE 2

### Provider barriers to insulin<sup>10,14,15</sup>

Negative attitude
Time constraints
Lack of health care system support/resources
Concern about adverse effects
Fear of patient response/lack of adherence

What’s more, any hesitancy you have about insulin therapy is likely to influence the perception of your patients.<sup>10,14</sup>

In general, physician barriers center on the fact that managing insulin therapy can be a cumbersome task for which they may not have the time or the resources. A study of clinician encounters with patients with type 2 diabetes in primary care clinics supports that belief. Each additional concern raised by a patient during the course of a visit was associated with a 49% reduction in the likelihood of a change in medication.<sup>15</sup>

Hypoglycemia is a particular concern for clinicians because of its close association with tight glucose control—which relates to another barrier: the problem of patient adherence. Evidence-based findings, algorithms, and guidelines for insulin therapy can help you handle these and other clinical issues with confidence. (See “Removing physician barriers with education and evidence” below.)



In one study, only 27% of patients with type 2 diabetes who were not insulin dependent believed that insulin could help manage their disease.

## Removing physician barriers with education and evidence

Learning more about insulin administration, including which formulations to use and how to ensure proper dosing, will go a long way toward eliminating clinician barriers to insulin initiation. These online resources can help.

■ **The Treat-to-Target Trial** (<http://care.diabetesjournals.org/content/26/11/3080.short>), for example, demonstrated that patients using long-acting insulin had lower rates of nocturnal and symptomatic hypoglycemia and were more likely to reach their target HbA1c than those on intermediate-acting insulin.<sup>16</sup> The researchers also found that weight gain was more significant in patients with prescriptions for multiple doses of insulin each day vs those on a once-daily regimen, and that when metformin was used in conjunction with insulin therapy, weight gain was avoided.

■ **Continuing education courses and treatment algorithms** published by the American Diabetes Association (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2606813/pdf/193.pdf>) and the American Association of Clinical Endocrinologists (<https://www.aace.com/sites/default/files/GlycemicControlAlgorithmPPT.pdf>) can provide additional guidance.

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## Don't go it alone—draw on other resources

Patient education regarding insulin therapy can also be time consuming and cumbersome, and difficult to manage in a busy primary care practice. Certified diabetes educators can help reduce your burden and address patient concerns, as can nurses, pharmacists, case managers, and behavioral therapists, as needed.

For patients who need insulin but continue to resist or reject it based on overwhelming or unfounded fears, a referral to a diabetes support group, mental health provider, or behavioral counselor may be in order. **JFP**

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➤ Address needle phobia with a demonstration of the small, thin needles and the devices designed to conceal them.

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## Is it time for insulin?

Many people with type 2 diabetes control their blood sugar by eating right, staying active, and taking oral diabetes medicine. But as time goes by, diet, exercise, and oral medication may not be enough. That's when it's time to begin taking insulin.



### Why do I need insulin?

Oftentimes, insulin is unavoidable. Diabetes is a progressive illness, and patients often find that it gets harder and harder to keep their blood sugar at a healthy level. Over time, high blood sugar (hyperglycemia) can lead to many serious complications, such as heart disease, nerve damage, kidney disease, and damage to your eyes (retinas). Taking insulin is the best way to control your blood sugar when other steps like changes in your diet and exercise are no longer working. This does not mean that you failed in your efforts to control your diabetes—it simply means that your disease has progressed.

### What can I do about low blood sugar?

Consider these steps to reduce your risk of hypoglycemia (low blood sugar) and to deal with it if it happens.

■ **To avoid low blood sugar**, take insulin exactly as prescribed; check your glucose levels often; and eat regularly scheduled, balanced meals.

■ **If your blood sugar does get low** and you start to feel very tired, begin yawning a lot, start to sweat, or feel light-headed, eat some hard candies or a handful of raisins, or drink some fruit juice.

Your doctor will work with you to adjust the amount of insulin you take to keep your blood sugar levels from getting too high or too low.

### Will insulin make me gain weight?

It may. When you start taking insulin and your high blood sugar is corrected, your body will begin using glucose properly. This means that part of the food you eat, and the energy it provides, will no longer be wasted. Regular exercise will be more important than ever, both to prevent weight gain and to improve your body's ability to use the insulin you are taking. If you are still concerned about diet and weight gain, ask your doctor to refer you to a dietitian.

### Will insulin interfere with my life?

It doesn't have to. The very small needles and devices that are now being used make it easy to incorporate insulin into your lifestyle and, if necessary, to administer it without being noticed. You will, of course, have to plan your meals and mealtimes carefully to avoid blood sugar peaks and dips, as you're probably doing already.

### Where can I go for more information?

There are 2 resources that you may find especially helpful. The American Diabetes Association Web site ([www.diabetes.org](http://www.diabetes.org))—particularly its "Living with diabetes" page—is an excellent resource. In addition, the National Institutes of Health provides many helpful facts and figures in its PubMed Health patient resource (<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0002194/>).

