

Insulin Initiation During a 20-Minute Office Visit: Part 1: Setting the Scene

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Editor's note. This article is the first of a two-part series examining the challenge health care professionals face in initiating insulin therapy in patients with type 2 diabetes within the confines of a typical 20-minute office visit. Here, the author sets the scene with a discussion of patient education from identification of behavioral goals through creation of an individual action plan. Part 1 also explores the key issues that should be covered in initial discussions with patients. These include the concerns patients are likely to have regarding insulin initiation and how to overcome these barriers to early insulin therapy.

Part 2, which will be published in *Diabetes Spectrum* issue 4, 2010, focuses on how to start insulin therapy. It includes discussion about tailoring treatment in terms of A1C targets; the various insulin preparations available and their suitability for different patient groups and glucose profiles; initiating and intensifying insulin therapy; and the role of self-monitoring of blood glucose in the successful management of type 2 diabetes.

Together, these articles offer real-world strategies for making the best use of limited clinical visit time to prepare patients for starting and intensifying insulin therapy.

In a 2006 survey, only 42% of patients with diabetes had A1C levels below national targets,¹ suggesting the need for a more inclusive approach encompassing lifestyle change, frequent glucose monitoring, and rigorous treatment. Several individually controlled factors, including

diet, physical activity, stress, and medications, affect blood glucose control; therefore, it makes sense to empower patients with diabetes to take an active role in their diabetes care. Too often, patients with diabetes have been treated as if they have a character flaw rather than encouraged to become actively engaged in the management of this “inherited metabolic disarray.”²

Support for empowering patients' engagement in their own diabetes management can be found in the results of the worldwide Diabetes Attitudes, Wishes, and Needs (DAWN) study involving 3,170 patients with type 2 diabetes.³ In this study, the quality of patients' collaboration with their health care professional (HCP) was the strongest predictor of patient-reported outcomes. Access to and relationship with the HCP were strongly associated with patients' well-being and perceived diabetes control.⁴ Patients who had a higher level of interaction with their HCP were also more likely to adhere to their treatment regimen, presumably as a result of being more fully informed and involved in treatment decisions.⁴ Similarly, access to a nurse during treatment also improved adherence, suggesting that the involvement of HCPs who can take on a supportive educational role has a positive influence on treatment outcomes.

Effective management of type 2 diabetes demands a high level of commitment on the part of patients because it involves the performance of numerous self-care behaviors. This is particularly true for patients who require insulin therapy, even though today's advanced insulin

formulations and delivery systems have helped to simplify insulin management.

Unfortunately, HCPs (patients' key health care providers) are typically only able to spend ~ 10–20 minutes with patients in a normal clinical office visit to discuss options and treatment. This can result in frustration on the part of both patients and HCPs. In an ideal world, referral to a diabetes educator can help address the need for ongoing education and reassurance, enabling patients to accept their condition and gain the skills, self-confidence, and motivation necessary to achieve glycemic goals. However, many HCPs lack resources for making such referrals.

This article reviews the behavioral goals for patients with type 2 diabetes and the real-world strategies that providers, diabetes educators, and other HCPs can use to make short office visits more effective, particularly when insulin therapy is being initiated.

Patient Education

Both the American Association of Diabetes Educators (AADE) and the American Diabetes Association (ADA) recognize the value of involving patients in the management of their diabetes.^{5,6} The ADA states that, "Any plan should recognize diabetes self-management education (DSME) and ongoing diabetes support as an integral component of care."⁵ The ADA recommends that factors such as age, school or work commitments, activity level, eating patterns, and comorbidities should be taken into consideration when developing a treatment plan.⁵

The value of education was demonstrated in a 1996 study⁷ that reported a fourfold higher risk of major complications in patients who had not received diabetes education. Similarly, a meta-analysis of 31 studies⁸ showed that self-management education improves A1C levels at immediate follow-up.

Measurable Behavior Change

Setting behavioral goals is considered key to the success of DSME strategies by the ADA and AADE. The ADA National Standards for

DSME,⁹ which were most recently updated in 2009, emphasize that patients must assume an active role in their care while interacting with a multidisciplinary education team, at least one member of which being a registered dietitian, nurse, or pharmacist. The standards recommend that an individual assessment and education plan should be developed "collaboratively by the participant and instructor(s) to direct the selection of appropriate educational interventions and self-management support strategies."⁹

AADE has identified seven crucial self-care behaviors for patients to successfully manage diabetes and other chronic diseases. AADE suggests that behavior change can be most effectively achieved using its AADE7 Self-Care Behaviors framework.¹⁰ The seven self-care behaviors are healthy eating, being active, monitoring, taking medication, problem-solving, reducing risks, and healthy coping. The timing and implementation of insulin therapy is a particularly crucial area to address because many patients may be reluctant to take this step when it is needed, and failing to do so can have long-term consequences.

Of course, it is not possible to address all behavioral goals in one office visit, which is why collaboration among HCPs and other health care professionals such as registered dietitians and diabetes educators can prove to be invaluable, with each specialist addressing different goals. It should be noted, however, that in the real world, access to multiple members of a diabetes team may be limited by funding and geography.

Of equal importance is collaboration between health care professionals (either HCPs alone or all members of a multidisciplinary team when available) and patients. This relationship is crucial to successful patient involvement and behavior change. Although education aimed at purely ensuring adherence is still important, it is also essential that HCPs take their lead from their patients, to help them take control of their own condition.¹¹ Close interaction with patients allows a meaningful assessment of patients'

attitudes and knowledge, highlighting any problems and identifying needs. The challenge to HCPs is to achieve this level of collaboration and behavior change within the confines of the routine office visit.

Creating an Action Plan

To encourage informed, self-directed decision making, individually tailored action plans can be developed that take into account the wishes of each patient.¹¹ Several factors need to be considered, including collaborative goal setting, identification of personal barriers and support, problem-solving strategies, and assessment of attitudes to self-management.

The key to making this work is to follow a step-by-step approach to identifying and achieving behavioral goals.

- **Step one:** Talk to patients about the need for medications beginning soon after a diagnosis of diabetes, with the inclusion of insulin as one of the possible medications to be used to achieve goals. One effective strategy is to include information about how different groups of medications work on different aspects of the diabetes disease condition (e.g., when HCPs review the concepts of insulin resistance, insulin deficiency, and excessive liver glucose, they can identify the different classes of medications that work on each physiological defect).
- **Step two:** Explain the rationale for achieving near-normal goals for control consistent with ADA⁵ or American College of Endocrinology/American Association of Clinical Endocrinologists (ACE/AACE)¹² goals based on individual patient needs. Goals for control should be reviewed and reinforced at every visit.
- **Step three.** Help patients identify personal reasons for achieving goal-range glycemic control. This may require multiple conversations to achieve a clear understanding of what motivates them (e.g., not just "to avoid complications" but rather "to walk my daughter down the aisle at her wedding").

- **Step four:** In collaboration with each patient, create a simple list of behavioral goals. Assure patients that these will not be addressed all at once, but rather that only one or two goals will be addressed at each visit. Engage patients in prioritizing their goals and establishing a timeline. These conversations may take place over many visits and are an ongoing part of the process to identify behavioral changes and barriers to achieving goals. By helping to track behavioral goals and ongoing achievements, these conversations will result in positive behavior change and goal achievement.

Discussing desired lifestyle changes provides an ideal opportunity for patient-HCP interaction, reinforcing the self-management message and encouraging patients to take an active role in controlling their condition. Long-term commitment to such lifestyle modification is, of course, necessary to sustain glycemic control. Unfortunately, patients with diabetes often have poor adherence to exercise regimens outside of settings in which support is available and progress can be closely monitored. Relapse rates of up to 90% have been reported when a support structure is no longer in place.^{13,14}

Initial Discussion With Patients

Diet and exercise are the most obvious areas to target when motivating patients recently diagnosed with type 2 diabetes because both can delay the deterioration in β -cell function.^{15,16} ADA recommends a goal of 5–7% weight loss for all overweight and obese patients with diabetes and states that programs involving patient education, counseling, diet control, and regular physical activity are required to achieve this goal.^{17,18} However, there may be a point in the disease when withholding insulin to avoid weight gain is counterproductive to achieving glycemic control goals. Indeed, the modern basal insulin analog insulin detemir offers lower weight gain when compared with NPH treatments, and, in some cases, weight loss.^{19–21} Lower weight gain has also been reported in two

trials comparing insulin glargine with NPH insulin.^{22,23}

As the disease progresses, β -cell function continues to decline, and active agents such as insulin become vital glycemic management components. In fact, most patients will require insulin at some point as their condition progresses, and it is important that patients understand this as part of their initial discussions about their diagnosis.

Patients who implement lifestyle changes are also likely to have fewer complications. Medical nutrition therapy provided by a registered dietitian can decrease A1C by 1% in patients with an average 4-year duration of type 2 diabetes.²⁴ Weight loss can also improve lipid profiles and blood pressure,²⁵ which may help to counteract adverse cardiovascular outcomes associated with poor glycemic control. Furthermore, exercise can decrease A1C levels, enhance glucose utilization, and decrease insulin requirements beyond the improvements associated with weight loss.^{25,26}

The logistics of a program that can provide continual support are clearly challenging, and there is no easy solution to this problem, particularly in times of financial constraint. Although discussion of such a complex issue is beyond the scope of this article, the economic cost of implementing and staffing long-term support for patients must be balanced against the economic burden of poor glycemic control, with its well-documented potential for morbidity and mortality.

Overcoming Patient Barriers to Early Insulin Therapy

Insulin choices available to patients with type 2 diabetes are numerous and varied, and it is important for patients to be involved in their treatment strategy from the beginning of insulin initiation. A comprehensive discussion about potential patient concerns related to insulin initiation is crucial to successful insulin therapy. Table 1^{27–30} provides a summary of commonly encountered patient objections to initiating insulin therapy, along with suggestions for addressing such concerns. Any negative attitudes to insulin therapy

need to be identified and dealt with early in the course of the disease so patients can make an informed choice about their therapy options.

Common misconceptions about insulin therapy include the perception that initiating insulin represents a personal failure and is a last resort. Patients often are also concerned about complications, the complexity of the insulin regimen, the risk of hypoglycemia, potential weight gain, and the impact of insulin therapy on their lifestyle. Some patients are also apprehensive about needles and injections.

To ensure that patients understand the rationale for using insulin, patients should be informed at the time of diagnosis that type 2 diabetes is a progressive condition and that insulin may be helpful in the event of deterioration in β -cell function. Also, educating patients about the similarity of modern insulin products to endogenous insulin and the effectiveness of such products in achieving optimal glycemic control should provide reassurance that this treatment option should reduce, rather than cause, complications.

Recent advances in insulin formulations and delivery systems have eased the task of HCPs, educators, and other members of the diabetes team who seek to reassure patients about the efficacy and acceptability of modern insulin therapy. Insulin analogs have allowed for simplified insulin regimens. The long-acting basal analogs are relatively peakless and can usually be given once daily, whereas rapid-acting analogs can be given close to meals. Insulin analogs are also associated with a lower frequency and degree of hypoglycemia than human insulin,^{31,32} and basal insulin analogs have been shown to produce less weight gain than conventional insulin.^{20,22,33}

The impact of insulin therapy on lifestyle has been reduced by the use of insulin analog pen delivery devices that allow patients to discreetly carry their daily doses of insulin to work, school, or social activities and to quickly and accurately administer their injections without having to draw up their doses using a vial and syringe.³⁴ Advanced needle technol-

Table 1. Common Patient Concerns When Initiating Insulin Therapy and Suggested Responses for HCPs^{27–30}

Patient Concern	Reassurance
“I need insulin because I have failed.”	HCPs should present insulin in a positive light at the time of diagnosis, explaining that type 2 diabetes is a progressive disease with a gradual decline in β -cell function, meaning that most patients will eventually require insulin. Emphasize that oral anti-diabetic agents have failed the patient rather than this situation being related to any failure on the patient’s part.
“Insulin injections are painful.”	Modern needles are very fine, laser-sharpened, and silicone-coated for ease of entry. They are practically pain-free. A demonstration needle can usually dispel this concern.
“I have needle phobia.”	A number of injection aids are available, such as needle shields. A demonstration needle can usually dispel this concern. For genuine needle phobia, jet injectors deliver a high-pressure jet of insulin directly through the skin; however, HCPs should point out that jet injectors are not completely pain-free and can cause bruising in some patients if not used correctly.
“Insulin regimens are complex, restrictive, and intrusive.”	There are many insulin formulations and dosage combinations that can be tailored to suit each patient’s lifestyle with minimum disruption. For example, new insulin analogs mimic natural insulin much more closely than human insulins, and the rapid-acting formulation can be given just before mealtimes. Pre-filled insulin pens containing insulin analogs can be carried discreetly to work, school, or social activities. These devices are also particularly suitable for patients with visual or dexterity difficulties, cognitive impairment, or compliance issues.
“Insulin causes complications.”	This misconception may arise because the patient knows people who started insulin therapy late in their disease, when the adverse effects of long-term hyperglycemia were just becoming evident. Assure the patient that the opposite is true by discussing the evidence from studies demonstrating that good glycemic control can reduce microvascular complications such as nephropathy, neuropathy, and visual deterioration, as well as possibly reducing cardiovascular events.
“I will experience severe hypoglycemia.”	Because the new insulin analogs are more similar to natural insulin than older formulations, the risk of hypoglycemia is reduced with these agents. Patients should be reassured that severe hypoglycemia is rare and affects only about 0.5% of patients with type 2 diabetes. Patients can also take various precautions against low blood glucose such as taking their insulin as scheduled, learning to recognize the signs of hypoglycemia, always carrying low-glucose treatment, and learning to adjust their insulin dose, food intake, or exercise level according to any divergence from the agreed schedule.
“I will gain weight.”	Insulin analogs are much less likely to cause weight gain than human insulins; patients who eat sensibly and exercise should not experience excessive weight gain. HCPs can arrange for a meeting with a diabetes educator or dietitian to discuss strategies to prevent weight gain.

ogy has also rendered injections nearly painless. Almost all patients are able to successfully self-inject when instructed by a diabetes educator.

The accuracy and convenience of dosing allowed by these devices can also help to improve adherence, which in turn will reduce complications. Several studies have highlighted the benefits of pen delivery devices with respect to improved patient compliance and greater treatment satisfaction.^{35–39}

Establishing the correct attitude toward insulin will increase patients’ awareness of the benefits of early

insulin therapy and improve their understanding of the steps involved in initiating and intensifying therapy. Based on information obtained from patient assessment, HCPs can select an insulin plan and delivery system that matches each patient’s needs.

Introducing insulin therapy sooner rather than later can have a positive impact on outcomes, and patients should be made fully aware of how this option can potentially help them to improve their glycemic control.³³ Although basal insulins are traditionally introduced after oral therapy has failed, introducing insulin at an earlier stage can prevent

serious loss of glycemic control from occurring and has even resulted in remission in some patients.^{40–42}

Conclusion

Successful management of type 2 diabetes involves a close collaboration between HCPs, patients, and, where possible, diabetes educators and other diabetes care professionals to establish sustainable positive attitudes among patients. ADA and AADE have published guidelines^{5,6} to help busy HCPs make optimum use of consultation times to address their patients’ concerns about treatment

and to influence patient behavior by setting collaborative behavioral goals.

Although lifestyle intervention is the initial approach in newly diagnosed type 2 diabetes, it is likely that insulin therapy will ultimately be required to achieve A1C targets recommended by ADA and ACE/AACE. HCPs must be aware of common patient objections and misconceptions relating to initiating insulin therapy and be prepared to resolve these concerns and reassure patients about the potential benefits of early insulin therapy.

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