

# DIABETES INSIGHTS & OUTCOMES

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## MEDICATIONS FOR SMOKING CESSATION Deciding What to Prescribe

More than one-quarter of individuals with diabetes smoke cigarettes. Smoking is particularly harmful for these patients because it leads to:

- Poorer glycemic control. There's a dose-response relationship between the number of cigarettes smoked, insulin resistance, and insulin dosing requirements.
- Earlier microvascular complications, especially nephropathy and neuropathy. Microalbuminuria and macroalbuminuria progress faster and the rate of neuropathy is more than doubled in smokers with diabetes.
- Heightening of their already high risk for coronary artery disease, stroke, and early death

For patients who are ready to quit, intensive counseling and specific behavioral and cognitive strategies are the most successful approaches. Adding pharmacotherapy to the mix approximately doubles the chance of success. But sorting through the therapy options can be confusing. Here's a snapshot of success rates, advantages, and side effects to help you match the medication to the patient.

### NICOTINE-REPLACEMENT THERAPY (NRT)

**Nicotine patch.** Six-month success rate of 8 to 21 percent vs. 4 to 14 percent for placebo; 12-month success rate of 10 to 16 percent compared to 6 to 16 percent for placebo

**Advantages:** Delivers fixed nicotine amount over 16 to 24 hours. It is safe to use in those with a history of coronary heart disease.

**Cautions:** No clear benefits after eight weeks. Side effects include dizziness, headache, skin irritation at the application site, nausea, blurred vision, and sleep problems if used at night.

**Nicotine gum.** Six-month success rate of 27 percent vs. 18 percent for placebo when combined with a smoking-cessation program at a specialized clinic. In general medical practice, the success rate was the same as that of placebo.

**Advantages:** Flexible dosing; faster delivery than patch

**Cautions:** No clear benefits after eight weeks. It may cause jaw pain and is difficult to chew for some patients. Higher potential for addiction compared to nicotine patch.

**Nicotine nasal spray.** Six-month success rate of 31 percent vs. 14 percent for placebo

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## Hearing Loss: The New Diabetes Complication?

Hearing loss may be an unrecognized complication of diabetes, according to research published in the *Annals of Internal Medicine* (July 2008). Data from a 1999–2004 national health survey of 5,140 adults revealed that those with diabetes were about twice as likely to have hearing loss as those without diabetes. This higher risk was independent of noise exposure history and other risk factors for hearing impairment. Low- or mid-frequency hearing loss occurred in 21.3 percent of individuals with diabetes and 9.4 percent of adults without diabetes, while high-frequency hearing loss occurred in 54.1 and 32.0 percent, respectively.

This isn't the first study to show a link between diabetes and hearing loss. Several small clinical studies and a prior epidemiologic study have suggested an association. The pathophysiology of hearing loss in diabetes isn't clear, but hearing loss may be related to microvascular damage in the cochlea or sensory nerve damage.

# Helping Patients Overcome Weight-Loss Barriers

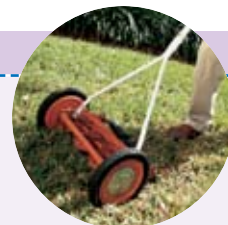
Losing weight is simple, right? Eat less, exercise more. But simple isn't the same as easy. The devil is in the details.

If you're one of the many health care providers who have counseled patients to lose weight, given them advice on how to do so, and been disappointed when patients don't lose weight, don't give up on the issue. By understanding why people fail to lose weight, you can better help your patients succeed. Here are three common barriers to weight loss.

## THE ENVIRONMENT

Eating out regularly, sedentary jobs, drive-up windows, and labor-saving devices—from garage-door openers to television remotes and riding lawn mowers—they all set the scene for gradual weight gain in our society. Living in a lower-socioeconomic neighborhood with limited access to supermarkets, exercise facilities, and safe walking routes also affects health behaviors.

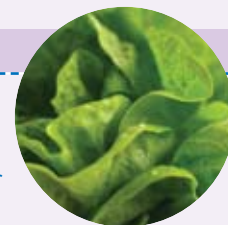
**Good tactic:** Empathize with the difficulty of maintaining a healthy weight in today's environment. Identify problematic environmental factors for the patient and agree on one or two concrete steps he or she can take to reduce calorie intake and be more active.



## THE PATIENT'S EXPERIENCE

Patients who have attempted to lose an unrealistic amount of weight, follow fad diets, or take questionable weight-loss supplements become frustrated and lose confidence in their ability to lose weight permanently.

**Good tactic:** Define a realistic goal. Let the patient know that losing just 5 to 10 percent of his or her current weight over six or more months will improve glycemic control. Encourage small but consistent changes in eating and activity habits. Small successes will renew self-confidence.



## LACK OF PROFESSIONAL SUPPORT

We know from the Diabetes Prevention Program and other research that people can lose weight when provided with the right tools. Patients need to learn successful behavior change tactics and need ongoing support. This is beyond what can be accomplished in the primary care setting.

**Good tactic:** Refer motivated patients to a comprehensive weight management program, such as those offered by health plans and hospitals, or make a referral to a dietitian.



You can't do it all, but by empathizing, identifying problems, encouraging small changes, and connecting patients with support and resources, you'll boost their chance for successful weight loss.



[www.acog.org](http://www.acog.org)

American College of Obstetricians and Gynecologists

[www.aafp.org](http://www.aafp.org)

American Academy of Family Physicians

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## HEALTHY MOM, HEALTHY BABY

# Preconception Counseling and Care

About two-thirds of women with diabetes have an unplanned pregnancy. That’s of enormous concern because poor glycemic control at conception increases the risk for spontaneous abortion and congenital malformations.

A study in the U.K. found that congenital anomalies occurred twice as often and that rates of stillbirth and perinatal death were four to five times higher in the diabetic maternity population than the nondiabetic maternity population. Preconception counseling reduces adverse outcomes and is a standard of care in guidelines from the American Diabetes Association (ADA) and American College of Obstetricians and Gynecologists (ACOG). Here are the key points.

### PATIENT AWARENESS

The most important step in reducing adverse outcomes is to make sure female patients of childbearing age with diabetes—including adolescents—are made aware that to have a healthy baby, a pregnancy must be carefully planned. Two crucial points are that:

- Glycemic control should be achieved before conceiving
- Until then, contraceptives should be used

### PRECONCEPTION CARE

For women planning a pregnancy, take a thorough history, including diabetes duration, medications, and complications. Appropriate exams include blood pressure measurement, a dilated retinal exam, a cardiovascular exam, and a neurological exam. Recommended lab tests include hemoglobin A1c, serum

creatinine, total urinary protein and/or albumin, and serum thyroid stimulating hormone and free thyroxine level (for women with type 1 diabetes). Women should be counseled about the risk for congenital anomalies and how to prevent them. According to the ADA, patients taking oral diabetes medications, which may not be safe during early pregnancy, should be switched to insulin.

### GLYCEMIC GOALS

The A1c goal is less than 1 percent above the normal range (less than 7 percent) or as close to normal as possible without hypoglycemia prior to conception. To achieve this, the preprandial capillary plasma glucose goal is 80 to 110 mg/dl (4.4 to 6.1 mmol/l), and the two-hour postprandial goal is lower than 155 mg/dl (8.6 mmol/l). Monitor patients at one- to two-month intervals until their blood glucose is stable. At that point, contraceptives can be discontinued.

### TEAMWORK

A multidisciplinary approach to preconception care works best. A diabetes educator or dietitian can help patients reach their glycemic goals, and mental health counseling can reduce stress and improve diabetes self-management, too. By providing your patients with supportive preconception care, you’ll significantly improve their chance for a healthy baby.



## Medications for Smoking Cessation: Deciding What to Prescribe

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**Advantages:** Flexible dosing; fast delivery; quickly reduces cravings

**Cautions:** The most addictive form of NRT; consider tapering off over four to six weeks. It may cause throat irritation, coughing, runny nose, watery eyes, sneezing, and nasal irritation.

**Nicotine inhaler.** Six-month success rate of 23 percent vs. 11 percent for placebo

**Advantages:** Flexible dosing; provides hand-to-mouth activity

**Cautions:** Slower delivery than nasal spray; frequent dosing required; may irritate the mouth and throat. It should be avoided in patients with asthma.

**Nicotine lozenges.** Six-week and six-month success rates of 46 percent and 24 percent vs. 30 percent and 14 percent for placebo, respectively

**Advantages:** Flexible dosing; fast delivery of nicotine

**Cautions:** Requires frequent dosing. Wait at least 15 minutes after having food or drink before using. It may cause throat irritation, dyspepsia, and mouth (gum and teeth) soreness.

Combining a patch with another form of NRT is safe and more effective than using the patch alone. It's especially helpful for heavy smokers, as even the 21-milligram patch produces



just 40 to 50 percent of the blood nicotine level seen in a 1.5-pack-per-day smoker. No form of NRT should be used for 30 days after a myocardial infarction, serious arrhythmia, or unstable angina unless the benefits outweigh the risk.

### OTHER MEDICATIONS

**Bupropion SR.** Six-month success rate of 21 to 30 percent vs. 10 to 19 percent for placebo. It's not clear whether bupropion plus NRT is more effective than bupropion alone.

**Advantages:** Easy to use; can be combined with NRT. It may delay weight gain and therefore be especially beneficial for diabetes patients.

**Cautions:** Start at least two weeks prior to quit date. Avoid in patients currently taking bupropion or MAO inhibitor and those with seizure risk, uncontrolled hypertension, anorexia, bulimia, or head trauma. Common side effects include insomnia and dry mouth.

**Varenicline.** One-year success rate of 21.9 percent vs. 8.4 percent for placebo, after 12 weeks of therapy

**Advantages:** Easy to use; may be marginally more effective than bupropion

**Cautions:** Possible side effects include nausea and severe changes in mood and behavior.