

Wide Effect: Drugs That Promote Weight Gain

By Christina Johnson | March 03, 2015

More than two-thirds of American adults are overweight or obese, according to the [Centers for Disease Control and Prevention](#), yet, paradoxically, many drugs prescribed for high blood pressure, diabetes and depression – conditions common to persons with weight problems – may further tip the scales against good health.



“It’s a vicious cycle because patients already at risk for weight-related health conditions often receive medications that can exacerbate their problems,” said [Kelly Lee, PharmD](#), associate professor of clinical pharmacy and associate dean of [UC San Diego Skaggs School of Pharmacy and Pharmaceutical Sciences](#).

Here are six classes of drugs that can sabotage your waistline but don’t stop taking any prescribed medication without first talking to your physician. And don’t throw in the towel. There are often weight-neutral alternative drugs and lifestyle choices that go a long way in fostering mental and physical well-being.

“The take home message is that all weight gain can be prevented or reduced if a person is motivated to eat healthy foods and move their bodies for 30 minutes or more a day, even if it is just walking around the block,” said [Candis Morello, PharmD](#), professor of clinical pharmacy and associate dean for student affairs at Skaggs School of Pharmacy and Pharmaceutical Sciences.

Antidepressants

A [2010 study](#) found that people with depression were at 58 percent greater risk of becoming obese. Among the antidepressants most strongly linked to clinically significant weight gain, defined as at least a 7 percent increase in body weight, include older tricyclic antidepressants, such as amitriptyline (Elavil) and nortriptyline (Pamelor), as well as newer medications, such as paroxetine (Paxil) and phenelzine (Nardil).

The antidepressant mirtazapine (Remeron) is so potent at promoting weight gain that it is sometimes prescribed to underweight senior adults and AIDS patients.

Ibuproprion (Wellbutrin and Zyban), however, actually promotes weight loss and is used for depression and smoking cessation, Lee said. Interestingly, the FDA-approved weight loss drug [Contrave](#) is a combination of ibuproprion and naltrexone, prescribed to help former drug addicts stay off drugs.

Antihistamines

An estimated 50 million people in America suffer from hay fever and other allergies but if they take antihistamines, such as cetirizine (Zyrtec) and fexofenadine (Allegra), they are more likely to be overweight and have higher insulin concentrations.

[According to a 2010 study](#), men and women on antihistamines weighed on average of 9.5 pounds and 4.4 pounds more, respectively, than controls.

Why? The drugs target the H1 histamine receptor, which besides its role in allergen response, is part of the brain's appetite satiety circuitry. Suppression of this receptor's activity can stimulate appetite.

Beta Blockers

Prescribed for hypertension and heart attack prevention, older beta blockers, such as metoprolol (Lopressor) and atenolol (Tenormin), can cause sluggishness, reduced activity, low motivation to exercise and weight creep.

Newer beta blockers, calcium channel blockers and [ACE inhibitors](#) benazepril (Lotensin) and captopril (Capoten) are weight-neutral alternatives to controlling high blood pressure.

Morello recommends talking to a health care provider to discuss the risks and benefits of beta blockers, especially if prescribed for heart attack prevention.

Corticosteroids

When taken orally, powerful anti-inflammatory agents such as prednisone, methylprednisolone and hydrocortisone can cause insulin resistance, elevated blood glucose levels and ultimately more fat storage. Chronic oral use often leads to weight gain, Morello said. Nasal sprays are more weight-neutral due to their lower systemic absorption.

Diabetes Medications

Injectable or inhaled insulin for type 1 and type 2 diabetes is usually effective at stabilizing blood sugar levels to normal concentrations. If hypoglycemia (high blood sugar) occurs frequently, however, compensatory overeating may lead to increased body fat, according to Morello.

In addition, insulin is an anabolic hormone. It promotes storage of glucose, fat and protein. The way to counter its anabolic effect, according to experts, is to be extra vigilant about eating healthy

and being physically active.

Some oral medications for type 2 diabetes, including those in the class of [sulfonylureas](#), such as glipizide, and others, such as pioglitazone (Actos), stimulate the pancreas to secrete insulin and may also encourage weight gain.

[DPP-4 inhibitors](#), such as sitagliptin (Januvia) are weight-neutral alternatives for type 2 diabetes. Some classes of drugs, such as [GLP-1 analogs](#) like exenatide (Byetta) and metformin (Glucophage) and [SGLT-2 inhibitors](#), like canagliflozin (Invokana), actually facilitate weight loss – a major benefit for patient with diabetes.

“Researchers are creating newer drugs that result in no weight gain or even better yet, weight loss,” Morello said. “I’ve seen patients lose up to 10 to 15 percent of their body weight using the GLP-1 analogs and their diabetes significantly improves.”

Antipsychotics and Other Psychotropic Drugs

Second-generation antipsychotic drugs, such as olanzapine (Zyprexa) and Clozapine (clozaril), can induce a triad of symptoms – dramatic weight gain, diabetes and elevated blood cholesterol levels – that are associated with metabolic syndrome.

“I have personally seen patients gain 50 or 60 pounds within a year of starting an antipsychotic,” Lee said.

Aripiprazole (Abilify) and ziprasidone (Geodon) are much less likely to affect body weight, blood sugar regulation and cholesterol levels, she said, and may be used in patients with, or at-risk of, metabolic syndrome.

Why antipsychotics cause weight gain is uncertain but people who use antipsychotics have been shown to have higher levels of an enzyme in the brain called [AMP-kinase](#) that can block the H1 histamine receptor and, like antihistamines, boost appetite. Many antipsychotic drugs also interfere with blood sugar control, leading to insulin resistance and type 2 diabetes. Blockage of the [serotonin receptor 5HT2C](#) also seems to play a role in promoting excess weight gain.

The American Diabetes Association and American Psychiatric Association recommend that all people taking antipsychotics be [regularly monitored](#) for metabolic syndrome.

“Studies have shown that only 10 to 20 percent of patients receiving antipsychotics are actually being monitored closely for metabolic syndrome,” Lee said.

Care at UC San Diego Health

[Weight Management Program](#)
