**COVERAGE STORY**

**4 Diabetes and Influenza**

- Coming down with a case of the flu is no fun for anyone. But it poses extra risks for people with diabetes or other chronic health problems.

**FEATURE**

**7 Flu Symptoms & Complications**

- It’s important to be aware of the symptoms of influenza and what they can include.
Feature 10 Immunization Schedule

• The best time to get a flu shot is beginning in September. It takes about two weeks to take effect. For extra safety, it’s a good idea for the people you live with or spend a lot of time around to get a flu shot, too. You are much less likely to get the flu if the people around you don’t have it.

Feature 14 You Will Soon Be Able to Visit Your Local Pharmacy for Simple Diagnostic Tests

• You will be happy to learn that the U.S. Food and Drug Administration (FDA) has approved Becton Dickinson’s new Veritor™ System as a diagnostic test for Influenza A+B.
Flu symptoms such as fatigue can make it harder to perceive both high and low blood-glucose episodes. Some medicines, antibiotics and steroids used to treat illness can also raise blood-glucose levels. A bad case of the flu can lead to viral or bacterial pneumonia, dehydration, ear infections and sinus infections, especially in children. Influenza can also make chronic medical conditions such as diabetes, asthma and congestive heart failure worse. Though numbers vary from year to year, an annual average of more than 200,000 hospitalizations and approximately 36,000 deaths are attributed to influenza or complications from influenza in the United States alone. On a global scale, the flu is responsible for the deaths of half a million people each year.

People with diabetes make up a disproportionately large number of those affected. They are six times more likely to be hospitalized with flu complications than the population at large. Deaths among people with diabetes rise 5 to 15 percent during flu epidemics, according to the Centers for Disease Control. Each year, between 10,000 and 30,000 deaths among people with diabetes are associated with influenza and pneumonia.

**WHY INFLUENZA IS ESPECIALLY DANGEROUS FOR PEOPLE WITH DIABETES**

Flu symptoms such as fatigue can make it harder to perceive both high and low blood-glucose episodes. Some medicines, antibiotics and steroids used to treat illness can also raise blood-glucose levels.

“A lot of times people will think that because they aren’t eating, their blood sugar isn’t going to go up,” said Kris...
Bischoff, certified diabetes educator and registered dietitian at Adams Memorial Hospital in Decatur, Ind. “What people don’t understand is that when you’re sick, your body has that fight-or-flight response.” Because your body can’t run away from the germs that are causing the infection, it dumps sugar into your bloodstream to help prepare for battle. “For some people,” she explains, “a higher blood sugar reading is the first sign that they’re getting sick or getting an infection.”

Diabetes can compromise the body’s immune system, making it less effective at fighting viral infections such as the flu. This puts people with diabetes at greater risk of developing secondary infections such as pneumonia. And pneumonia is nothing to take lightly; according to the CDC, about 5 percent of cases involving adults who develop pneumonia result in death.

People with type 1 diabetes who get influenza may be more prone to dangerous levels of ketones. This can cause diabetic ketoacidosis (DKA), which can result in coma or even death.

**THE HIDDEN BENEFITS OF GETTING A FLU SHOT FOR PEOPLE WITH TYPE 2 DIABETES**

The best way to protect yourself against influenza and the complications that can arise is to get a flu shot. Not only does the vaccine protect against some of the viruses that can cause influenza, a recent study has suggested that people with type 2 diabetes who receive flu vaccinations may have a reduced risk of cardiovascular disease.

Diabetes can compromise the body’s immune system, making it less effective at fighting viral infections such as the flu. This puts people with diabetes at greater risk of developing secondary infections such as pneumonia.
The study, published in July 2016 in The Canadian Medical Association Journal, sought to examine the effectiveness of influenza vaccination in preventing hospital admissions for cardiovascular and respiratory conditions. The research subjects were 124,503 British adults with type 2 diabetes who were studied over a seven-year period, from 2003 to 2010. About two-thirds of the people in the study had received influenza vaccinations.

Even after controlling for variables such as age, sex, smoking, medications and body mass index, the researchers found that having received a flu shot was associated with a 30 percent reduction in flu-season hospital admissions for stroke. Hospital admissions for heart failure were down 22 percent, hospitalizations for heart attack were down 19 percent and hospitalizations for pneumonia or influenza were down 15 percent among people with type 2 diabetes who had received a flu shot.

Most significant of all: The death rate among those who received a flu shot was 24 percent lower than in those who had not been vaccinated, the researchers said.

The study wasn’t intended to prove a cause-and-effect relationship between influenza vaccine and the reductions in death and hospital admissions. However, the results do suggest that the benefits of getting a flu shot extend beyond simple peace of mind.
HOW TO KNOW IF YOU HAVE THE FLU
It’s important to be aware of the symptoms of influenza. According to the CDC, they can include:

- Fever (Note, however, that it is possible to be infected with the flu virus and experience respiratory problems without having a fever.)
- Cough
- Sore throat
- Runny or stuffy nose
- Body aches
- Headache
- Chills
- Fatigue
- Some people may also have vomiting and diarrhea.

WHAT TO DO IF YOU GET THE FLU
Consult your doctor: Your physician may want to start an antiviral medication to reduce the risk of complications from influenza. These drugs can also reduce the duration of illness by a day or two, but they are most effective when they are started within 48 hours after symptoms begin.

There are three FDA-approved influenza antiviral drugs recommended by the CDC for use during the 2016-17 flu season. The brand names for these drugs are Tamiflu (generic name oseltamivir), Relenza (generic name zanamivir), and Rapivab (generic name peramivir). Tamiflu is available as a pill or liquid. Relenza is a powder that is inhaled; it is not recommended for people with breathing difficulties such as asthma or COPD. Rapivab is administered intravenously by a medical professional.

Your physician may want to start an antiviral medication to reduce the risk of complications from influenza. These drugs can also reduce the duration of illness by a day or two, but they are most effective when they are started within 48 hours after symptoms begin.
Ask your pharmacist before taking any over-the-counter medications: Some OTC medicines such as cough syrups contain sugar, which can affect blood glucose levels. Reading the label isn’t enough, Bischoff says, because it’s not always possible to recognize which ingredients are which. You’re always better off asking the pharmacist to help you find products that are safe for people with diabetes.

Monitor fluid and food intake: You may not feel like eating if you don’t feel well, but for people with diabetes it’s especially important to stay hydrated and to try to get at least a few carbs into your system on a regular basis, according to the CDC. If you’re not able to take in the same amount of carbohydrates as in your normal diet, you may need to talk to your doctor about adjusting your diabetes medication.

Bischoff advises people with diabetes to pack a food kit for sick days, “almost like a lunch box that you could keep up on the shelf.” When you’re sick, you probably won’t feel like going out to buy special supplies. Food kit recommendations include saltine crackers, graham crackers and single-serve cups of fruit, applesauce, Jell-O and soup. Beverages to keep on hand beside your food kit: Single-serve juice boxes, 7-Up or ginger ale, Kool-Aid,
lemonade, Gatorade or Powerade. And in the freezer, always try to keep a supply of Popsicles.

**Check your blood sugar regularly:** You may not want to bother if you don’t feel well, “but it can get out of control fast,” Bischoff said.

**If you have type 1 diabetes, monitor your ketones:** If they get too high you could develop ketoacidosis (DKA), which can lead to coma or even death.

**Step on the scale to help detect dehydration:** Unexplained weight loss can be a sign that blood glucose is too high and your body is attempting to flush it out. “Remember that two cups of fluids equals one pound,” says Bischoff. “So if you’re suddenly down a couple of pounds, you can figure you’re short on fluids.”

**Know when to seek medical attention:** People with diabetes who are too sick to eat or keep food down for more than six hours should call the doctor or go to the emergency room, the CDC advises. The same goes for those who are having trouble breathing or who have severe diarrhea, show signs of confusion or excessive sleepiness, lose five pounds or more, have a temperature over 101 degrees, or have a blood glucose level lower than 60 mg/dL or over 300 mg/dL.

Unexplained weight loss can be a sign that blood glucose is too high and your body is attempting to flush it out. “Remember that two cups of fluids equals one pound,” says Bischoff. “So if you’re suddenly down a couple of pounds, you can figure you’re short on fluids.”
WHEN’S THE BEST TIME TO GET A FLU SHOT?
The best time to get a flu shot is beginning in September. It takes about two weeks to take effect. For extra safety, it’s a good idea for the people you live with or spend a lot of time around to get a flu shot, too. You are much less likely to get the flu if the people around you don’t have it.

If you have a cold or other respiratory illness, wait until you are healthy again before getting your flu shot. Do not get a flu shot if you are allergic to eggs.

WHY YOU SHOULD ALSO GET A PNEUMONIA SHOT
People with diabetes are about three times as likely to die from flu or pneumonia than the population at large. Yet according to the American Diabetes Association, only one-third of people with diabetes make the effort to get a pneumonia shot. What most people don’t realize is that one out of every 20 adults who get pneumonia die. When you consider that sobering statistic, getting a shot seems much more worthwhile.

A pneumonia shot is recommended for anyone with diabetes age 2 or older. You can get one any time of the year. If it’s been more than five years since your last pneumonia shot and you are over 65 years of age, you should get revaccinated.

A pneumonia shot can also protect you from other infections caused by the same bacteria, such as bacteremia (a blood infection) and meningitis (an infection of the covering of the brain). About 10,000 people die each year from these bacterial infections. But a pneumonia shot is considered to be about 60 percent effective in preventing the most serious pneumonias, as well as meningitis and bacteremia.
WHICH TYPE OF PNEUMONIA SHOT DO YOU NEED?

There are two types of pneumonia vaccines. Your doctor or your pharmacist can recommend which is best for you, but here are the general guidelines:

**PCV13**
The pneumococcal conjugate vaccine (PCV13, also known as Prevnar 13) protects against 13 types of pneumococcal bacteria. According to the CDC, before this vaccine was developed there were about 700 cases of meningitis, 13,000 blood infections, and 200 deaths from pneumococcal disease each year among children younger than 5 years old. These numbers have since dropped off considerably, but could again become a threat if children aren’t vaccinated with PCV13.

PCV13 is recommended for use in infants and young children. Certain older children may also need a dose of PCV13.

PCV13 is recommended for all adults 65 years or older.

One dose of PCV13 is also recommended for adults 19 years or older with conditions that weaken the immune system, such as HIV infection, organ transplantation, leukemia, lymphoma, and severe kidney disease. If you have one of these conditions, talk to your doctor.

**PPSV23**
The pneumococcal polysaccharide vaccine (PPSV23 or Pneumovax) protects against 23 types of pneumococcal bacteria.

It is recommended for all adults 65 years or older and for those 2 years or older who are at high risk for disease. According to the CDC, this includes people with chronic illnesses such as diabetes, alcoholism and kidney disease, as well as those with immune-weakening conditions such as HIV or cancer.
PPSV23 is also recommended for adults 19 through 64 years’ old who smoke cigarettes or who have asthma.

RECOMMENDATIONS FOR ADULTS WITH NO PREVIOUS PNEUMOCOCCAL VACCINATIONS

Those who received one or more doses of PPSV23 before age 65 should receive one final dose of the vaccine at age 65 years or older if at least five years have elapsed since their previous PPSV23 dose.

The Advisory Committee on Immunization Practices (ACIP) recommends that all adults 65 years of age or older receive a dose of PCV13 followed by a dose of PPSV23 at least 1 year later. PCV13 and PPSV23 should not be administered on the same day.

The advisory committee also recommends that adults 19 years of age or older with immunocompromising conditions who have not previously received either PCV13 or PPSV23 should receive a dose of PCV13 first followed by a dose of PPSV23 at least 8 weeks later.

A second PPSV23 dose is recommended five years after the first PPSV23 dose for persons aged 19 through 64 years with immunocompromising conditions.

Those who received one or more doses of PPSV23 before age 65 should receive one final dose of the vaccine at age 65 years or older if at least five years have elapsed since their previous PPSV23 dose.

RECOMMENDATIONS FOR ADULTS WITH PREVIOUS PPSV23 VACCINATIONS

Adults 65 years of age or older who have not previously received PCV13 and who have previously received one or more doses of PPSV23 should receive a dose of PCV13. The dose of PCV13 should be given at least one year after receipt of the most recent PPSV23 dose.

Adults 19 years of age or older with immunocompromising conditions who have previously received one or more
doses of PPSV23 should be given a dose of PCV13 one or more years after the last PPSV23 dose was received. For those who require additional doses of PPSV23, the first such dose should be given no sooner than eight weeks after PCV13 and at least five years since the most recent dose of PPSV23.

**HOW MANY DOSES OF PPSV23 CAN AN ADULT GET IN A LIFETIME?**
Some adults may be recommended to receive up to three doses of PPSV23 in a lifetime. Two doses of PPSV23, given five years apart, are recommended for adults younger than age 65 with immunocompromising conditions. People in this category should then receive a third dose of PPSV23 at or after age 65, as long as it has been at least five years since the previous dose.

**HOW MANY DOSES OF PCV13 CAN AN ADULT GET IN A LIFETIME?**
All adults are recommended to receive one dose of PCV13 in a lifetime. If they received a dose of PCV13 prior to turning 65 years of age (due to a medical indication), they are not recommended an additional dose of PCV13.

**WHAT ELSE YOU CAN DO TO PREVENT SEASONAL FLU AND OTHER COMMUNICABLE DISEASES:**
Cover your nose and mouth with a tissue when you cough or sneeze. Make sure you then throw the tissue in the trash.

Wash your hands frequently with soap and water, especially after sneezing or coughing. Alcohol-based hand cleaners are also effective.

Prevent the spread of germs by avoiding touching your eyes, nose or mouth. Stay as far away from people who are ill as possible.

If you get sick, stay home from work or school and limit contact with others to keep from infecting them.

Some adults may be recommended to receive up to three doses of PPSV23 in a lifetime. Two doses of PPSV23, given five years apart, are recommended for adults younger than age 65 with immunocompromising conditions.
You Will Soon Be Able to Visit Your Local Pharmacy for Simple Diagnostic Tests

Diabetes Health Staff

If you don’t like going to a hospital and standing in a long line, or visiting your physician’s office and waiting for your name to be called for a flu test, you will be happy to learn that the U.S. Food and Drug Administration (FDA) has approved Becton Dickinson’s Veritor™ System as a diagnostic test for Influenza A+B.

In the near future, local community pharmacies will be offering this influenza test with same-day results. Not only will it be convenient, it may also cost you a lot less than a hospital or clinic co-payment.

HOW IT WORKS
Veritor™ System is a simple test where the pharmacist swabs your nose, and the results come back in under 11 minutes. With the Veritor™ System you no longer need to wait days before you receive your flu test results. This swift feedback lets you conveniently test for flu at the same time you’ve stopped by your local community pharmacy to pick up a prescription or shop for other items.
Becton, Dickinson & Co. (BD) reports that the Veritor System “successfully tests against 70 strains including multiple strains of H3N2 and the novel H7N9.”

As a preventative measure during winter, when you’re exposed to people coughing in public areas, make sure to get your flu inoculation as early as September. If you have a cough, sore throat, chills, are fatigued, and your body aches, these could be flu symptoms. Rule out Influenza A+B by getting tested at your neighborhood pharmacy.

The sooner you get a diagnosis for influenza, the sooner you can start the road to recovery by stocking up on what you need to insure a rapid recovery.

As a preventative measure during winter, when you’re exposed to people coughing in public areas, make sure to get your flu inoculation as early as September. If you have a cough, sore throat, chills, are fatigued, and your body aches, these could be flu symptoms.

Make sure to let your friends and family know that this new pharmacy diagnostic flu test is available. The family and friends that surround us are the ones that expose us most to the flu. To break the cycle it’s important to make sure everyone around us is free of Influenza A+B.
Are you up to date on your vaccines?
Ask your pharmacist for more information.

**Adult routine vaccines**
- Seasonal flu (influenza) vaccine once a year
- Human papillomavirus (HPV) vaccine
- Varicella (chicken pox) vaccine series
- Measles, mumps, rubella (MMR) vaccine series
- Vaccine to prevent whooping cough and tetanus

**Age 65+¹**
- Seasonal flu (influenza) vaccine once a year
- Vaccine to prevent whooping cough and tetanus (Tdap)
- Pneumococcal “pneumonia” vaccine
- Zoster “shingles” vaccine (ages 60+)
- Varicella (chicken pox) vaccine series

**Heart disease² and diabetes³ type I or type II**
- Seasonal flu (influenza) vaccine once a year
- Human papillomavirus (HPV) vaccine
- Vaccine to prevent whooping cough and tetanus (Tdap)
- Pneumococcal (PPSV23) vaccine
- Zoster “shingles” vaccine
- Measles, mumps, rubella (MMR) vaccine series

**Back-to-school⁴**
- Seasonal flu (influenza) vaccine once a year
- Meningococcal “meningitis” vaccine series
- Human papillomavirus (HPV) vaccine
- Vaccine to prevent whooping cough and tetanus (Tdap)

**Travel vaccine checklist⁵**
- Polio
- Rabies
- Routine⁶ (MMR, Tdap, varicella, flu)
- Typhoid
- Yellow fever⁷
- Meningococcal conjugate (groups A, C, W, Y)


Please consult CDC website to confirm destination-specific vaccine needs. *Only available direct from manufacturer ©2017 Health Mart Systems, Inc. All rights reserved. HM-90976-08-17*