

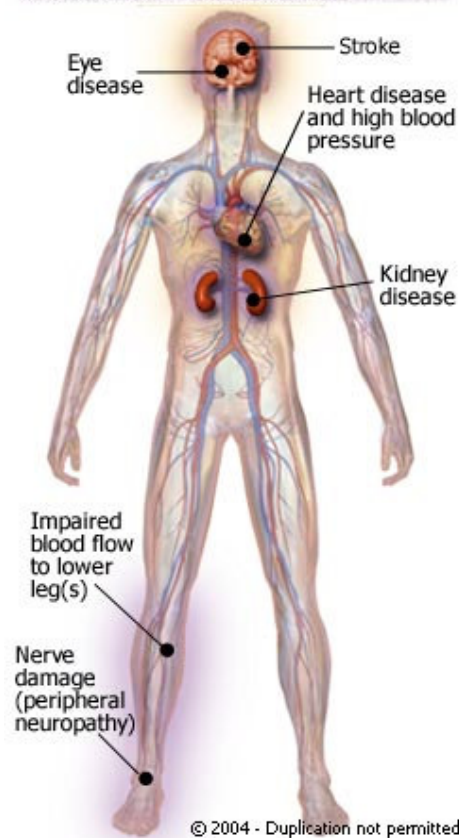
## DIABETES & WOMEN

### Summary

**Diabetes** can be diagnosed in females of any age, and the number of cases in both male and female patients is on the rise. Diabetes presents different challenges at different stages of a woman's life. Younger diabetic women may be more prone to recurrent yeast infections, nursing mothers may face new challenges avoiding low blood sugar (**hypoglycemia**) and women after **menopause** may face seriously increased risks of heart disease, **stroke** or reduced mental sharpness. Therefore, diabetic women are urged to learn all they can about their condition at each stage of life and to make healthy lifestyle changes that have been recommended by their physician.

### Diabetes-related Complications

Over time, high levels of blood sugar can lead to the following:



Women who do not have diabetes are strongly encouraged to take precautions against the development of the disease by eating a **heart-healthy diet**, achieving and maintaining a **healthy weight** and getting regular **exercise**.

### Young women's diabetes issues

Previously seen only in adults, "adult-onset" or Type 2 **diabetes** is now being diagnosed in both girls and boys as a result of the dramatic increase in the number of overweight American youths. According to the **American Heart Association**, almost five million children between the ages of 6 and 17 are considered **obese** (more than 20 percent over their ideal body weight), with many more classified as overweight.

Obesity in children is rapidly becoming a national crisis in the United States. Experts predict that if children continue to gain weight as they have been since 1964, then about 1 in 3 children are currently at risk of being overweight or are already overweight now.

### ***Potential complications for female diabetic teens***

It is often difficult for teenagers to control their **diabetes** by handling daily insulin injections and finger-prick glucose tests during the school day. In addition, beginning insulin therapy is associated with weight gain, which may impact on a teen's body image and esteem. In an unwise attempt at weight control, some individuals purposefully take less insulin than what is prescribed, so that food would be flushed from the body instead of being absorbed. This strategy can develop into eating disorders and overall risk to health. Parents are encouraged to monitor their diabetic daughters for any changes in behavior.

Recurrent yeast infections are one possible sign of diabetes. Teenage diabetic girls may develop yeast infections more often than their peers – a trend that often continues throughout diabetic women's lives. High blood sugar levels supply more nourishment to yeast, causing it to grow and multiply. Other risk factors for a yeast infection include the following:

- Taking a round of **antibiotics** or steroids to reduce infection or inflammation, respectively
- Wearing tight jeans, spandex or other tight-fitting clothing around the vaginal area
- Wearing underwear made of man-made materials instead of cotton or other natural fibers
- Douching

Anyone with recurrent yeast infections is encouraged to speak to her physician.

## **Adult women's diabetes issues**

### ***Pregnancy issues and diabetes***

It is imperative for pregnant diabetic women to control their **diabetes** in order to deliver a healthy baby. The high sugar levels resulting from uncontrolled diabetes have been associated with birth defects and an unusually heavy baby, which usually means a more difficult delivery for both mother and infant. Studies have shown that diabetic women are more likely to have a cesarian birth than women without diabetes.

Diabetic mothers who choose to breast-feed will likely be told by their physician about the additional strain that this will put on their bodies. For instance, breast-feeding requires the consumption of about 500 additional calories each day by the nursing mother. As a result, diabetic mothers are encouraged to speak with their physician about changes that need to be made in either their diet or their insulin dosage in order to avoid episodes of low blood sugar (**hypoglycemia**).

### ***Menopause issues and diabetes***

After **menopause**, women who are not taking **hormone replacement therapy** (HRT) may notice some sexual changes as a result of their body's new hormonal balance. For example, they may experience a decreased desire for sex, particularly if sex has become painful due to a lack of vaginal moisture or lubrication. Postmenopausal diabetics are at greater risk of uncomfortable sexual changes because **diabetes** tends to reduce the oxygen-rich blood flow that travels to areas such as the vagina. As a result, there tends

to be less moisture, less elasticity and greater risk of vaginal infections (e.g., yeast infections). HRT is one option for relieving some of these concerns, and women are urged to speak with their physician about the risks and benefits of this treatment.

Earlier studies suggested that hormone replacement therapy (HRT) provided an added benefit in postmenopausal women by protecting them against **heart disease**. Current research has found differently. The Women's Health Initiative, which enrolled over 16,000 women, was terminated earlier than anticipated when it was shown that the risks of HRT outweighed its benefits. HRT involves the replacement of estrogen that is lost during menopause. For women who still have their uterus, estrogen is typically taken in combination with progesterone for protection from uterine cancer (women who have had a hysterectomy can take estrogen without progesterone).

HRT can relieve some symptoms of menopause (e.g., hot flashes), and has also shown to reduce the risks of osteoporosis. It seemed plausible, therefore, to extend estrogen-progesterone HRT to the possible protection from heart disease. However, after about five years, the study, which was to end in 2005, was terminated. Researchers found that HRT consisting of estrogen and progesterone increased the risks of heart attack, stroke, breast cancer, blood clots, and overall cardiovascular disease. The estrogen-only part of the Women's Health Initiative continues, and no conclusions have yet been drawn about its long-term health outcomes.

### **Cancer risk and diabetes**

Studies have shown higher mortality rates from breast cancer among **obese** diabetic women. There has also been a noted increased risk for developing colorectal cancer among women with type 2 **diabetes**; this may be due to the role of insulin in promoting the growth of colon cancer cells.

### **Heart disease risk and diabetes**

More than seven percent of American women have been diagnosed with **diabetes**. African-American women are more likely to develop diabetes than white Americans or African-American men. Diabetes is a **risk factor** for both heart disease and **stroke**. The increased risk may be due to the diabetics' higher likelihood of developing **blood clots**. These blood clots could block the blood flow through a **coronary artery** (which supplies oxygen-rich blood to the heart); if the artery has already been narrowed by **coronary artery disease**, then a **heart attack** could result. Alternatively, the blood clots could block the blood flow through a cerebral artery (which supplies oxygen-rich blood to the brain); if the artery has been previously narrowed by **carotid artery disease**, then a stroke could result.

Many lives have been saved as a result of information from the **Framingham Heart Disease Epidemiology Study**, which identified diabetes as a heart disease risk factor. However, the rate of cardiovascular deaths among diabetic women has continued to increase. A 1999 report published in the *Journal of the American Medical Association* revealed important statistics about how death rates from heart disease have changed in recent years. These data are summarized as follows:

<b>Group of People</b>	<b>Change in Death Rate from Heart Disease in Recent Years</b>
Nondiabetic Men	Down over 36 percent
Diabetic Men	Down over 13 percent
Nondiabetic Women	Down over 26 percent
Diabetic Women	Up over 22 percent

Studies are investigating why diabetic women appear to be at such high risk for heart disease. There seems to be a tendency for more cardiovascular risk factors in diabetic women than diabetic men. These risk factors include low **HDL** ("good") cholesterol levels and being overweight.

It remains, though, that diabetics can do much on their own to control their condition, such as adopting and staying on healthy **exercise** programs and **heart-healthy diets**.

### **General health tips for diabetic women**

Some general health tips for women with diabetes are:

- Unless you choose not to drink, moderate **alcohol** use may be good for your heart. Studies have suggested that women with type 2 **diabetes** could be able to cut their risk of heart disease by approximately 50 percent by having a drink or two per day. However, moderation is the key. Heavy alcohol use has been linked to breast cancer in some research studies.
- Discuss with your physician the risks and benefits of **cholesterol reducing drugs**. Studies of diabetics taking **statins**, for example, found significantly less risk of **heart attack** or need for procedures such as **balloon angioplasty** or **bypass surgery**. This risk reduction was true even for those whose **cholesterol** levels had not been high to begin with.
- Speak with your physician before taking **birth control pills** while breast-feeding. Although the "progestin only" birth control pills do not interfere with nursing (because they contain no **estrogen**), these pills can be harmful for women who had gestational diabetes while pregnant. Such patients may be significantly more likely to develop diabetes later in life.
- See your OB/GYN if you are experiencing unusually heavy or irregular periods, missing periods, or having trouble getting pregnant. These may be symptoms of *polycystic ovarian syndrome*, which appears to be more common among women who are diabetic than women without diabetes.