Siemens Healthcare Diagnostics, a global leader in clinical diagnostics, provides healthcare professionals in hospital, reference, and physician office laboratories and point-of-care settings with the vital information required to accurately diagnose, treat, and monitor patients. Our innovative portfolio of performance-driven solutions and personalized customer care combine to streamline workflow, enhance operational efficiency, and support improved patient outcomes.

Product availability may vary from country to country and is subject to varying regulatory requirements. Please contact your local representative for availability.

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Women's health depends on a lifetime of answers—one test at a time.

Women and Diabetes

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Answers for life.

Women and Diabetes

Diabetes is the seventh-leading cause of death worldwide and the ninth-leading cause of death in women, responsible for more than 2.1 million deaths per year. Diabetes is a serious health condition that affects women in all stages of life, and it can impact the health of both a mother and her unborn child. With the expanding lifespan of women and the rapid growth of minority populations, the number of women at high risk for diabetes and its complications will continue to increase.

Diabetes and lesser forms of glucose intolerance can now be found in almost every population in the world. Epidemiological evidence suggests that, without effective prevention and control programs, the burden of diabetes is likely to continue to grow globally.

What Is Diabetes?

Diabetes is a chronic disease that arises when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone made by the pancreas that enables cells to take glucose from the blood and use it for energy. Failure to produce insulin, failure of insulin to act properly, or both, leads to elevated levels of glucose in the blood (hyperglycemia) or in some cases decreased levels of glucose in the blood (hypoglycemia). These conditions are associated with long-term damage to the body and failure of various organs and tissues, including development of retinopathy, nephropathy, and neuropathy. People with diabetes are at increased risk of cardiac and cerebrovascular disease.

Diabetes is categorized into three main types:

Type 1 diabetes used to be called juvenile-onset diabetes. It is usually caused by an autoimmune reaction in which the body's defense system attacks the cells that produce insulin. The reason this occurs is not fully understood. People with type 1 diabetes produce very little or no insulin. The disease may affect people of any age but usually develops in children or young adults. People with this form of diabetes need injections of insulin every day in order to control the level of glucose in their blood.

Type 2 diabetes used to be called non-insulin-dependent or adult-onset diabetes and accounts for at least 90% of all cases of diabetes. It is characterized by insulin resistance and relative insulin deficiency, either or both of which may be present at the time diabetes is diagnosed. The diagnosis of type 2 diabetes can occur at any age. Type 2 diabetes may remain undetected for many years, and the diagnosis is often made when a complication appears or a routine blood or urine-glucose test is performed. It is often, but not always, associated with excess body weight or obesity, which itself can cause insulin resistance and lead to high blood-glucose levels.

Gestational diabetes mellitus (GDM) is a form of diabetes in which high blood-glucose levels arise during pregnancy. It develops in 1 in 25 pregnancies worldwide and is associated with complications to both mother and unborn child. GDM usually disappears after pregnancy, but women with GDM and their children are at an increased risk of developing type 2 diabetes later in life. Approximately half of women with a history of GDM go on to develop type 2 diabetes within 5–10 years after delivery.

The Global Burden of Diabetes in Women

In 2012, the number of women with diabetes was estimated at 181 million. By 2030, this number is expected to rise to >250 million. Diabetes is the ninth-leading cause of death in women globally, causing 2.1 million deaths per year. The majority of these deaths occur in low- and middle-income countries.

Gender Differences

While the ratio of men to women afflicted with diabetes is roughly equal, women are uniquely, and often more severely, affected by its complications. Women with diabetes are routinely offered less-aggressive treatment and interventions for comorbid symptoms than are men. In many developing nations, women in traditional families are often denied medical care, even if their situation is life-threatening.

- The risk of death from coronary heart disease is 50% higher for women with diabetes compared to men with diabetes, a statistic that increases dramatically if the woman is also a smoker.
- The risk of diabetic ketoacidosis (DKA), or diabetic coma, is 50% higher among women than men.
- The odds of developing depression are consistently and significantly higher in women with diabetes than in men.
- The prevalence of diabetes during pregnancy is as high as 30% among high-risk populations.
- During pregnancy, women with diabetes have a higher risk of vascular complications. Pre-existing vascular complications may also worsen.
- Retinopathy worsens during the course of pregnancy. Diabetic retinopathy may also worsen for weeks following pregnancy.
- Women with gestational diabetes (GDM) are 40–60% more likely to develop diabetes in the 5–10 years following pregnancy.

Risk Factors

There are numerous modifiable and nonmodifiable risk factors for the development of type 2 diabetes:

- Family history of diabetes
- Increasing age—women over 50 years
- Obesity
- Poor diet
- Poor nutrition during pregnancy
- Physical inactivity
- Ethnicity

Symptoms

Diabetes may be diagnosed after a fasting plasma glucose or glucose tolerance test.

Diabetes symptoms present in a variety of ways, and some people have no signs or symptoms.

Signs or symptoms include:

- Abnormal thirst and dry mouth
- Frequent urination
- Extreme tiredness/lack of energy
- Constant hunger
- Sudden weight loss
- Slow-healing wounds
- Recurrent infections
- Blurred vision

Related Diseases and Conditions

Uncontrolled diabetes may lead to even more serious health-related complications including cardiovascular disease, stroke, high blood pressure, kidney disease, neuropathy, retinopathy or amputation.

Siemens solutions for diabetes testing

	ADVIA Centaur® Systems	ADVIA® Chemistry Systems	Dimension® RxL Max®/ Xpand® Plus Systems	Dimension® EXL™ Systems	Dimension Vista® Systems	IMMULITE® Systems	Other Siemens Systems
Detection and Monitoring							
C-peptide	●					●	
Fructosamine		●*					
Glucose		●	●	●	●		
Hemoglobin A1c		●	●	●	●		●
Insulin	●					●	
Management of Related Diseases							
Creatinine		●	●	●	●		●
Cystatin C		●			●		
Urinary albumin		●	●	●	●	●	●
Cholesterol		●	●	●	●		
HDL cholesterol		●	●	●	●		
LDL cholesterol		●	●	●	●		
Triglycerides		●	●	●	●		

*Under FDA review. Not available for sale in the U.S. Product availability may vary from country to country and is subject to varying regulatory requirements.

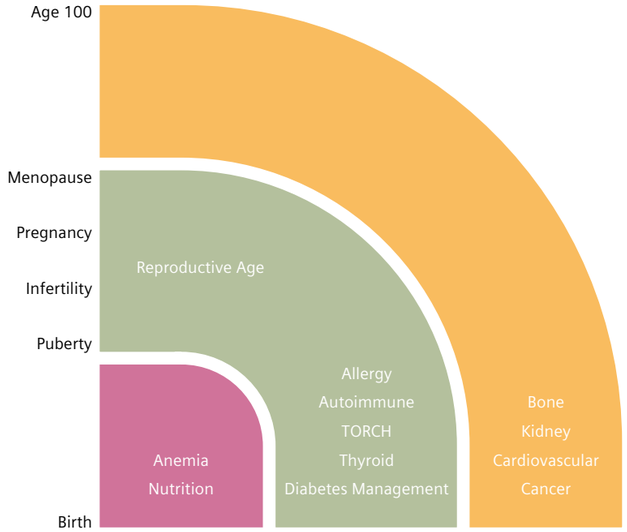
References
1. IDF Diabetes Atlas. 5th ed. [Internet]. Brussels (Belgium): International Diabetes Federation, 2011. [cited 2013 April] Available from: http://www.idf.org/
2. World Health Organization website [Internet]. [cited 2013 April] Available from: http://www.who.int/en/
3. Global Alliance for Women's Health [Internet]. [cited 2013 April] Available from: http://www.gawh.org/home.php5

Caring for Women with Diabetes

Reducing the burden of diabetes in women includes understanding risk factors, making rapid, accurate diagnoses when symptoms occur, implementing appropriate therapies, and monitoring treatment. Laboratory diagnostic testing plays an integral role in helping care for women throughout the continuum of diabetes and of life.

As an integrated diagnostics company, Siemens' comprehensive solutions, which include multiple imaging modalities, follow the complete continuum of care for diabetes, including risk assessment and early prevention, diagnosis, therapy, and aftercare. In addition, our solutions in healthcare information technology (IT) support the exchange of data for making informed decisions.

Women's Lifetime Health Continuum



Your results. Her lifetime.

Empowering you to advance the health and vitality of women throughout the continuum of life.