

Rush Hemophilia & Thrombophilia Center

Obesity Patient Education

Obesity, defined as a body mass index (BMI) of 30 or over, accounts for nearly 300,000 deaths in the US each year. It is associated with more chronic health problems than smoking, heavy drinking, or being poor. Stable weight depends on an even balance between energy intake from food and energy expenditure. Energy expenditure occurs during the day in three ways:

- As energy expended during rest (*basal metabolism*). This accounts for about two-thirds of expended energy, which is generally used to maintain body functions, such as maintaining body temperature and muscle contractions in the heart and intestine.
- As energy used to metabolize food (*thermogenesis*), accounting for about 10% of expended energy.
- As energy expended during physical activity.

When a person's caloric intake exceeds his or her energy expenditure, the body stores the extra calories in the fat cells present in adipose tissue. These adipose cells function as energy reservoirs, and they enlarge or contract depending on how people use this energy. If people do not balance energy input and output by adopting healthy eating habits and regular exercise, then fat builds up, and they may become overweight.

Obesity results when the body consumes more calories than it uses. Research points to several different factors that may influence weight gain. About 90% of people who diet gain every pound back that they lose regardless of their weight-loss method. Obesity is common, with a prevalence of 20-25% and may therefore have a considerable impact on the overall incidence of thrombosis. **Obesity** is then classified into three categories:

- class I: BMI of 30 to 34.9
- class II: BMI 35 to 39.9
- class III: BMI of 40 and greater

Children and adolescents who are obese have poorer health than other children. Studies are reporting unhealthy cholesterol levels and high blood pressure in obese children and adolescents. Of great concern is the dramatic increase in type 2 diabetes in young people, which is most certainly largely due to the increase in **obesity**. **Obesity** in children is also linked to asthma, gallbladder problems, sleep apnea, and liver abnormalities. Childhood **obesity** may be partly responsible for the declining age for onset of puberty in girls, with subsequent risks for breast cancer.

Obesity and Blood Clots

Abdollahi and colleagues (Thromb Haemost. 2003 Mar;89(3):493-8) showed that obesity (BMI greater than or equal to 30 kg/m²) doubled the risk of thrombosis. Obese individuals had higher levels of factor VIII and factor IX, but not of fibrinogen. Evaluation of the combined effect of obesity and oral contraceptive pills among women aged 15-45 revealed that oral contraceptives further increased the effect of obesity on the risk of thrombosis, leading to 10-fold increased risk amongst women with a BMI greater than 25 kg/m² who used oral contraceptives.

C:\Documents and Settings\lvalenti\My Documents\HTC\education\Obesity Patient Education.doc