Lab 3 Notes on Blood Pressure (Systolic/diastolic pressure)

Blood is pumped to the limbs and other parts of the body by a large artery called the aorta. Theoretically, blood pressure should be measured in this artery.

At each beat or cardiac contraction, called systole, the blood will be pumped by the aorta with the energy transformed into pressure. The blood pressure measured at this time is then called systolic and corresponds to the maximum.

As the heart is being filled up with blood (called diastole), the valves of the aorta will close themselves so that the blood cannot re-enter the heart. The residual pressure in the vessels is then called diastolic (corresponding to the minimum).

Thus, a person who has a blood pressure of 140/90 millimetres of Mercury (14/9) has in fact a pressure in the artery (aorta) of 140 millimetres of Mercury when the heart contracts and pumps the blood and 90 millimetres of Mercury of residual blood pressure when the heart is not contracting.

- Arteries

The blood leaves the heart by an artery of large diameter (approximately 3 centimetres), called the aorta, and then passes to the smaller arteries. The blood pressure increases in the small arteries.

2.6 - Cholesterol

A high level of cholesterol in the blood increases the risk of a cardiovascular complication, either an infarction or a cerebral vascular accident.

Cholesterol breaks up into " good " and " bad " cholesterol:

Total cholesterol = " good " cholesterol + " bad " cholesterol.

Good cholesterol is called HDL-cholesterol (HDL for High-Density-Lipoprotein), because it is the heaviest cholesterol and thus the least likely to penetrate into the wall of the artery.

Bad cholesterol is called LDL-cholesterol (LDL for Low-Density-Lipoprotein), because it is composed of small and light particles and thus it can easily penetrate into the wall of the artery.

At present physicians take the LDL-cholesterol rate as the basis to evaluate the cardiovascular risk of their patient and to adapt their medication.