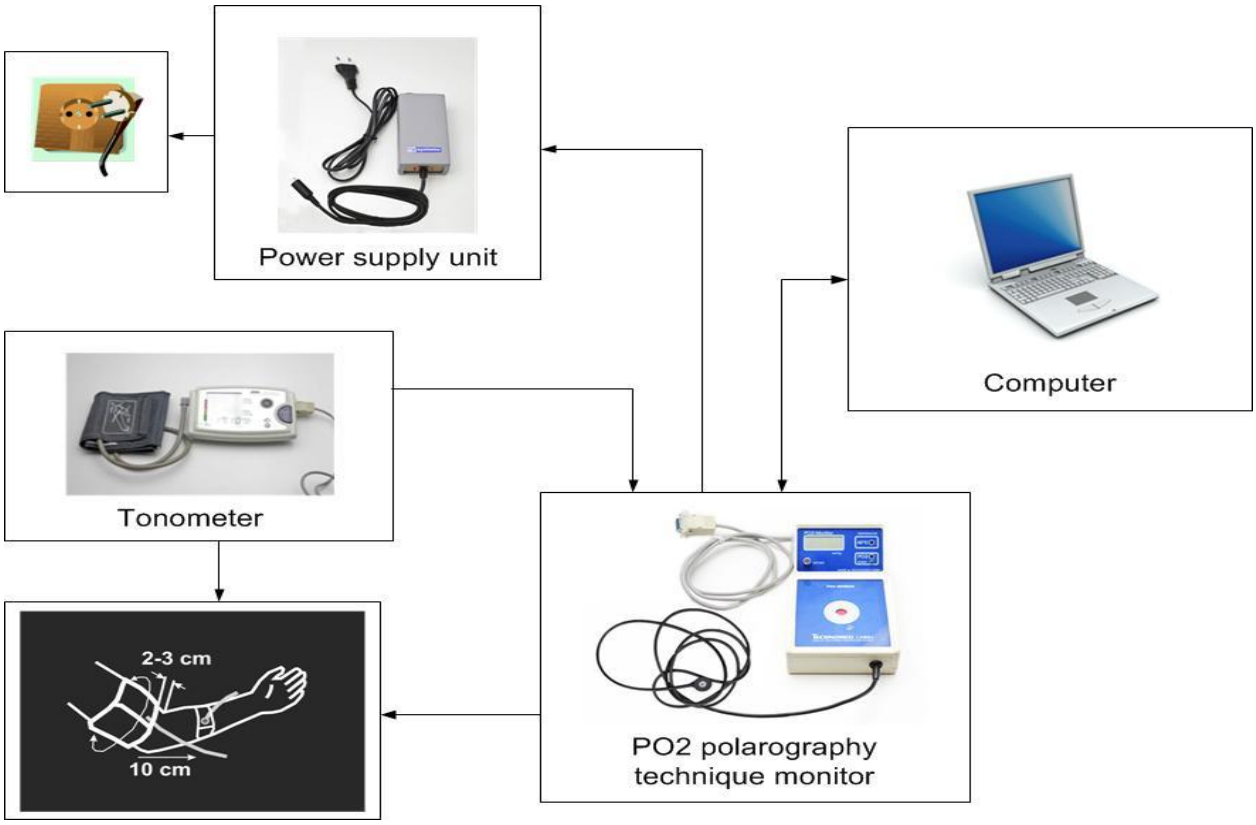
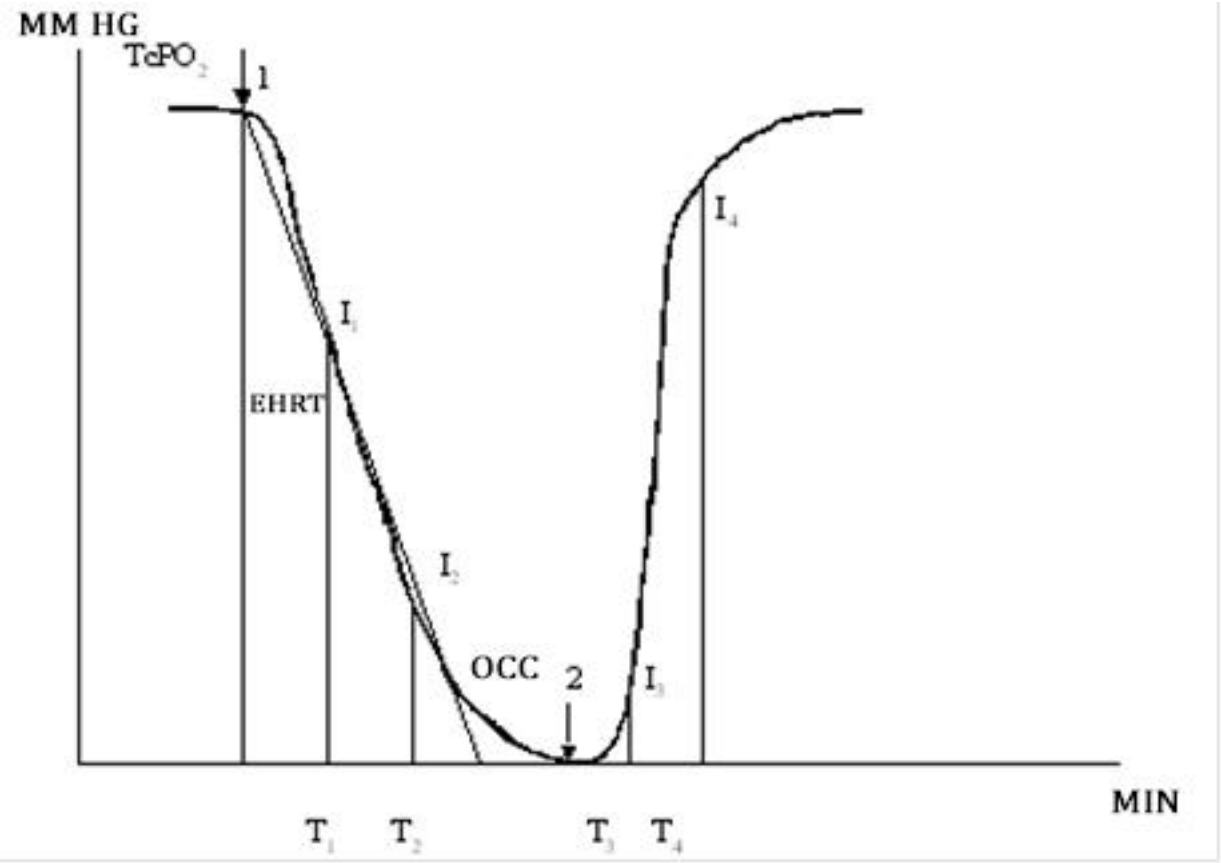
# Complex assessment of oxygen metabolism kinetics

The assessment of oxygen metabolism kinetics can be estimated by a $PO_2$ polarography technique (Chizhov 1983, 1987) on a $PO_2$ monitor.




A regional limb ischemia test is taken to measure oxygen consumption.

*Polarographic curve in the assessment of oxygen metabolism kinetics*




## Measurement results

The program automatically generates the following indices

| **index** |
|---|
| **TcPo$_2$**, mm Hg |
| **КСПК (OARC)**, sec$^{-1}$<br>($O_2$ absorption rate constant) |
| **КСВК (ORRC)**, sec$^{-1}$<br>($O_2$ recovery rate constant) |
| **ККР (COR)** = (КСВК **ORRC** /КСПК **OARC**)<br>(coefficient of oxygen reserve) |
| **ККК (OCC)**, mm Hg<br>($O_2$ critical concentration) |
| **t$_{resp}$**, seconds<br>($O_2$ response time) |
| **ВАП**, **(APT)**, sec<br>(aerobic processes time) |
| **ВАнП (AnPT)**, sec<br>(anaerobic processes time) |
| **КААнГ(CAnGA)** = (ВАнП **AnPT** /ВАП **APT**), sec<br>(coefficient of anaerobic glycolysis activity) |

The program also estimates the meaning of the indices presented in the table above and generates a conclusion characterising:

- oxygen microcirculation in tissues;
- tissue respiration processes;
- the functional backup of oxygen dependent enzyme systems;
- tissue oxygen consumption and delivery