

# **TRAINING PHYSIOLOGY**

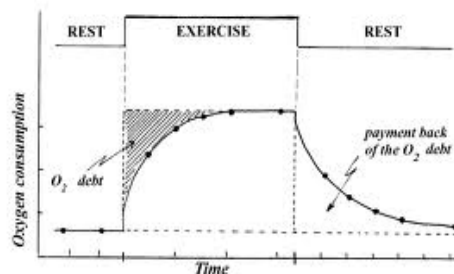
## *Basic terminology and concepts.*

1.- **TRAINING THRESHOLD (TTR)**: is a safe level at which to work, and should not develop **oxygen debt**. It is the working heart rate to maintain during training.

Ways to calculate TTR:

- 70-80% Method: this pre supposes that a maximun heart rate varies according to age. It is based on a individual working between 70- 80% of their own maximun heart rate for an effective and safe training level.

2.- **OXYGEN DEBT**: training down below the TTR is aerobic work. Training above the TTR is anaerobic work and will bring about an OXYGEN DEBT. This will produce at last LACTIC ACID which causes fatigue. To remove lactic acid the oxygen debt must be repaid.

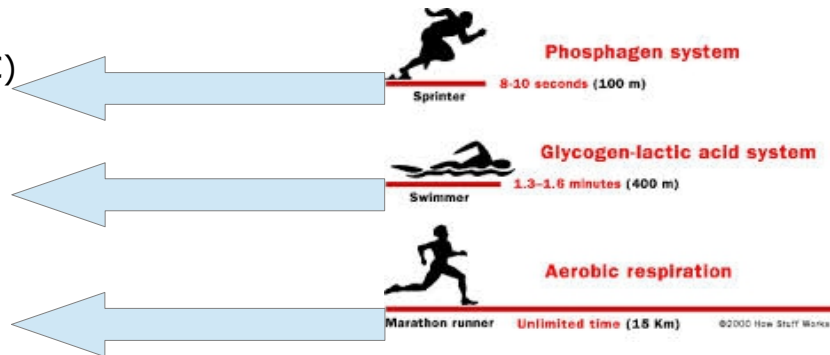


<b>ANAEROBIC TRAINING</b>	<b>AEROBIC TRAINING</b>
<ul style="list-style-type: none"> <li>- Carried out above TTR and causes oxygen debt.</li> <li>- Include repeated rest and recovery periods.</li> <li>- Improves:                             <ul style="list-style-type: none"> <li>• Lactic acid tolerance</li> <li>• Muscular strenght.</li> <li>• Fat use.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Carried out below TTR.</li> <li>- Can be prolonged.</li> <li>- Improves:                             <ul style="list-style-type: none"> <li>• Breathing, chest size, lung and heart capacity.</li> <li>• Endurance and cardiovascular fitness.</li> <li>• Reduces risk of cardiovascular deseases.</li> </ul> </li> </ul>

### 3.- ENERGY SYSTEMS AND EXERCISE:

#### BASIC NUTRIENTS

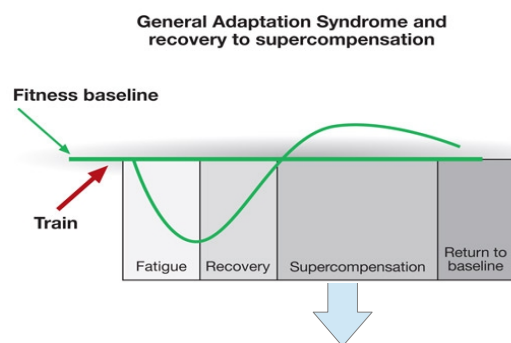
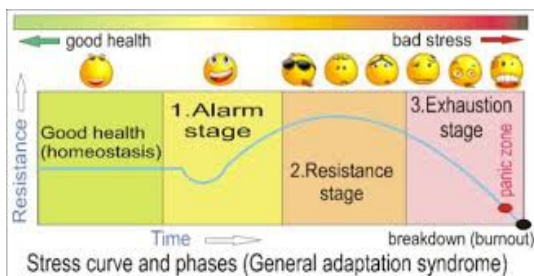
- Creatine Phosphate (ATP-PC)
- Carbohydrates.
- Carbohydrates, protein, fat.



4.- **FATIGUE:** involves the exhaustion of muscle from prolonged exertion or over-stimulation. The symptoms include:

- Depletion of energy sources.
- Increase of lactic acid.
- Dehydration.
- Electrolyte loss.

5.- **GENERAL ADAPTATION SYNDROME:** or GAS, is a term used to describe the body's short-term and long-term reactions to stress. Stressors in humans include such physical stressors as physical activity. Additionally, humans can suffer such emotional or mental stressors as the loss of a loved one, the inability to solve a problem, or even having a difficult day at work.



Is the post training period during which the trained function/parameter has a higher performance capacity than it did prior to the training period.