

Major characteristics of the human energy systems

XXXXXXX	ATP-PC	Lactic Acid	Oxygen	Oxygen
Main energy source	ATP; phosphocreatine	Carbohydrate	Carbohydrate	Fat
Intensity level	Highest	High	Lower	Lowest
Rate of ATP production	Highest	High	Lower	Lowest
Power production	Highest	High	Lower	Lowest
Capacity for total ATP production	Lowest	Low	High	Highest
Endurance capacity	Lowest	Low	High	Highest
Oxygen needed	No	No	Yes	Yes
Anaerobic/aerobic	Anaerobic	Anaerobic	Aerobic	Aerobic
Characteristic track event	100-meter dash	400-800 meters	5000-meter (5km) run	Ultradistance
Time factor	1-10 seconds	10-120 seconds	5 minutes or more	Hours

- *Keep in mind that during most exercises, all three energy systems will be operating to one degree or another. However, one system may predominate depending primarily intensity of the activity.*