

Adaptations.

Physiological Adaptations made by the respiratory system

Respiratory System	
Structural adaptation	Functional effect
Respiratory muscles -	Mechanics of breathing – Lung Volume –
Alveoli -	Gaseous exchange -
Overall:	Overall:

Physiological Adaptations made by the cardiovascular system

Cardiovascular System	
Structural adaptation	Functional effect
Cardiac Hypertrophy -	–
Elasticity of arterial walls-	Vascular Shunt- Vasoconstriction – Blood Pressure –
Blood plasma/volume -	Blood Viscosity -
Red Blood cells/haemoglobin content	Gaseous exchange -

Capillarisation -

Surface area and blood flow -

Overall:

Overall:

Physiological Adaptations made by the musculoskeletal system

Musculoskeletal System	
Structural adaptation	Functional effect
Oxidative muscle fibres hypertrophy-	Aerobic energy production –
Size and density of mitochondria -	Utilisation of oxygen -
Myoglobin-	Storage and transport of oxygen -
Glycogen and triglycerides stores -	Aerobic energy fuels -
Oxidative glycolytic fibres become-	Aerobic energy production –
Strength of connective tissue –	Tendons and ligaments -
Thickness of articular cartilage –	Synovial fluid -
Bone density –	Calcium absorption –

Overall:	Overall:
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Physiological Adaptations made by the metabolic system

Metabolic System	
Structural adaptation	Functional effect
Aerobic enzymes-	Metabolism of triglycerides and glycogen –
Fat mass -	Lean mass-

Insulin resistance -	Glucose tolerance – Type II diabetes -
Overall:	Overall: