TEL PE Revision

Revision Series 2024

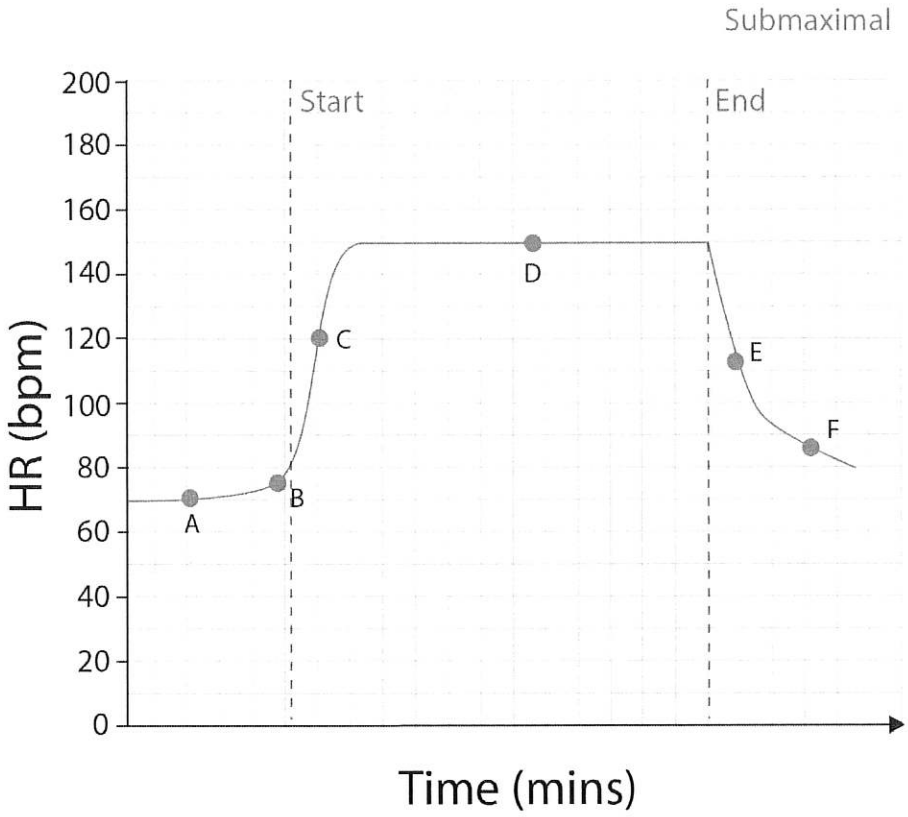
AQA A-Level PE - Paper 1

• Notes pages •

The EverLearner

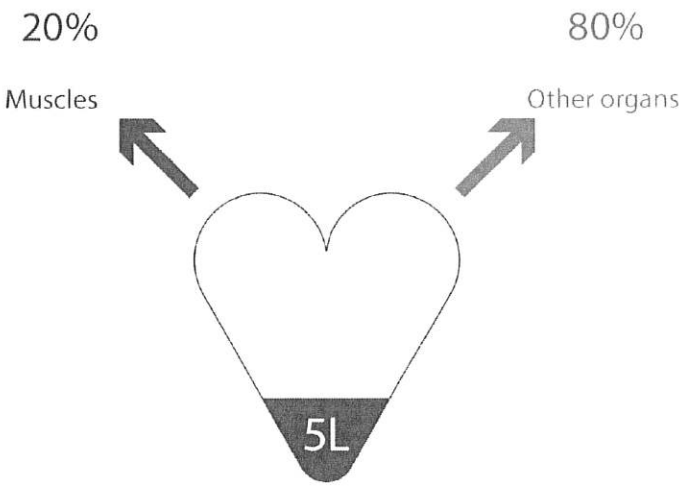
Topic 1: Hormonal, neural and chemical regulation of responses

Hormonal, neural and chemical regulation and response - **Anticipatory rise**

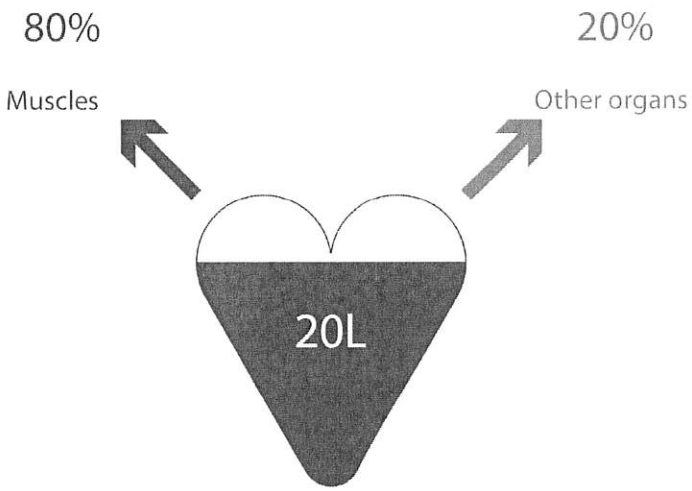


Describe what is occurring at point B.

Hormonal, neural and chemical regulation and response - **Redistribution of blood**



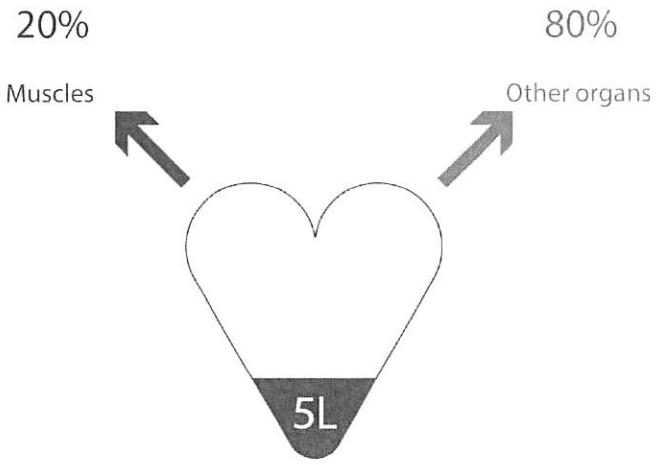
At rest



Maximal exercise

- Arterioles leading to the working muscles vasodilate.
- Precapillary sphincter muscles leading to the capillary beds at the working muscles vasodilate.
- Vascular shunt occurs.
- Q shunted through central capillary to increase resistance to blood flow and redirect to the skeletal muscle.
- Arterioles leading to the other organs vasoconstrict.
- Precapillary sphincter muscles leading to the capillary beds at the other organs vasoconstrict.

Distribution of Q during recovery

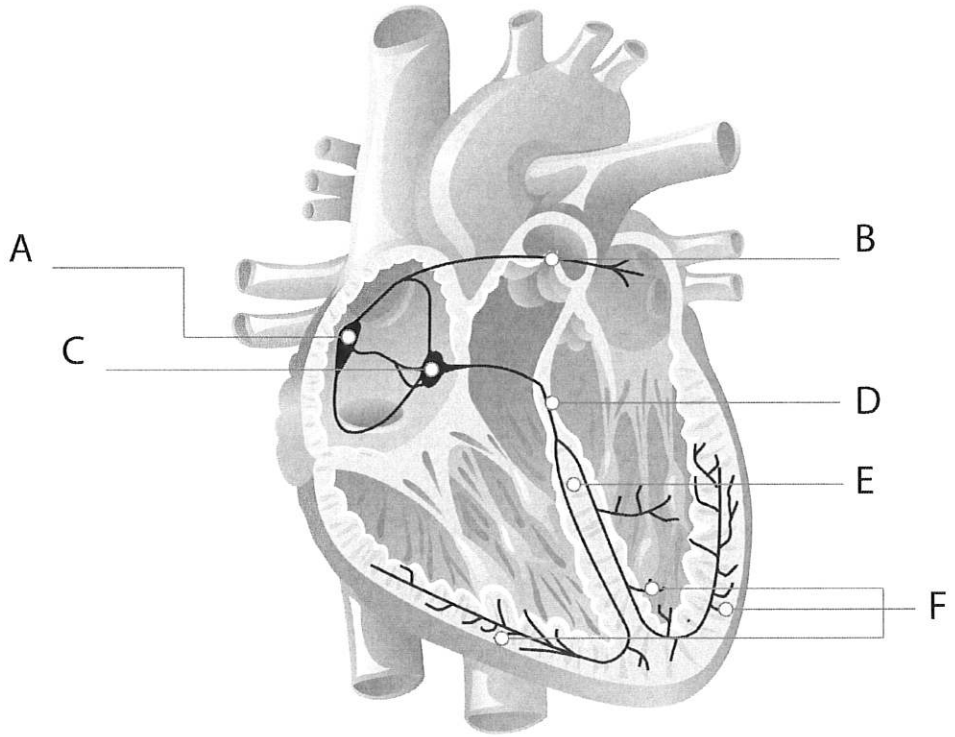


At rest

- Q shunted through central capillary at the muscle to increase resistance to blood flow and redirect to the other organs.
- Q shifts from 80% to skeletal muscle down to 20% to skeletal muscle gradually.
- Arterioles leading to the working muscles vasoconstrict.
- Precapillary sphincter muscles leading to the capillary beds at the working muscles vasoconstrict.
- Arterioles leading to the other organs vasodilate.
- Precapillary sphincter muscles leading to the capillary beds at the other organs vasodilate.

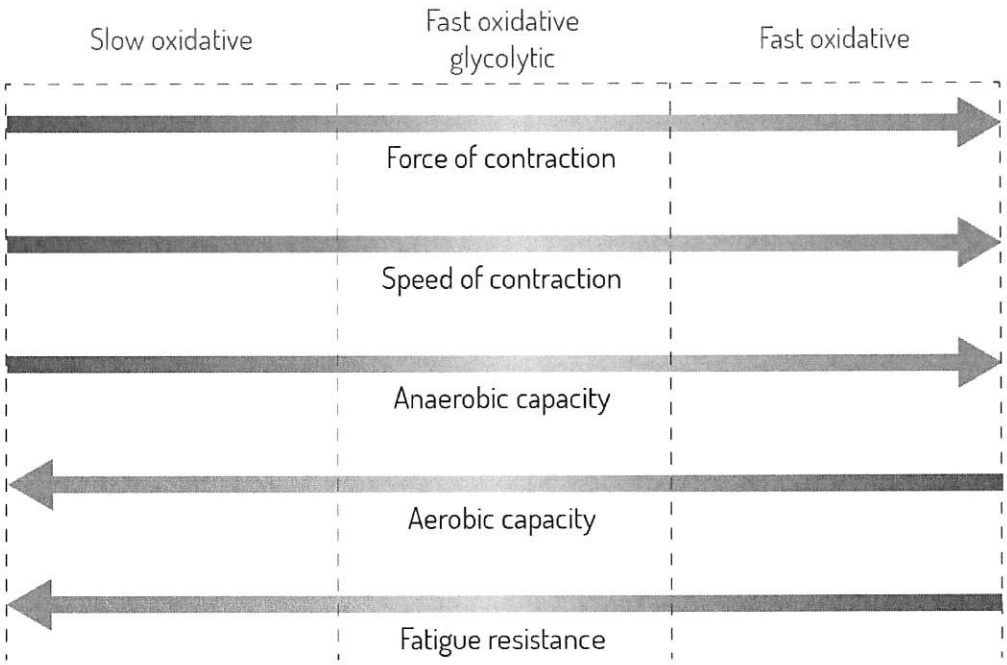
Sympathetic	Parasympathetic
_____ vasomotor tone	_____ vasomotor tone
Causes vaso_____ of arterioles and pre-capillary sphincters.	Causes vaso_____ of arterioles and pre-capillary sphincters.
_____ resistance to blood flow	_____ resistance to blood flow

Hormonal, neural and chemical regulation and response - **Cardiac conduction system**



Feature	Name	Role within cardiac conduction
A		
B		
C		
D		
E		
F		

Topic 3: Characteristics and functions of different muscle fibre types



Slow twitch (Type I)		Fast oxidative glycolytic (Type IIa)		Fast glycolytic (Type IIx)	
Structural	Functional	Structural	Functional	Structural	Functional
Small muscle fibre diameter		Large muscle fibre diameter		Large muscle fibre diameter	
Small motor neurone size		Large motor neurone size		Large motor neurone size	
Red in colour		Reddish in colour		White in colour	
High mitochondrial density		Low mitochondrial density		Low mitochondrial density	
High myoglobin content		Low myoglobin content		Low myoglobin content	
High capillary density		High glycogen stores		High glycogen stores	

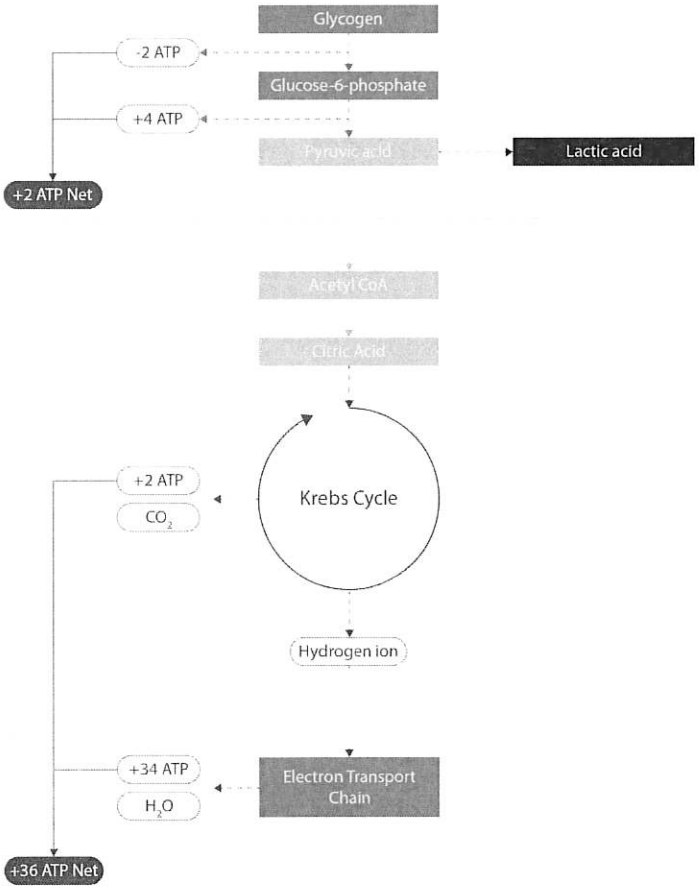
Slow twitch (Type I)		Fast oxidative glycolytic (Type IIa)		Fast glycolytic (Type IIx)	
Structural	Functional	Structural	Functional	Structural	Functional
Low myosin ATPase		Medium PC stores		High PC stores	
Low PC stores		Low capillary density		Low capillary density	
		High myosin/ATPase		High myosin/ATPase	

Athlete	% of muscle fibres sampled from the biopsy		
	Type I slow oxidative	Type IIa fast oxidative glycolytic	Type IIx fast glycolytic
Sandra	20	60	20
Milo	9	14	77
Yan	60	19	11
Clinton	30	51	19

Athlete	Sporting activity most suited to	Justification	Sporting activity least suited to	Justification
Sandra				
Milo				
Yan				
Clinton				

Topic 4: Energy transfer - Aerobic system

Aerobic System



Aerobic system evaluation	
Strengths	Weaknesses