Your notes

GCSE PE: revision notes

The effects of exercise

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Immediate effects (during exercise)

- Hot, sweaty and red skin, as blood moves near the skin to lose heat.
- Breathing gets deeper and faster, so tidal volume and breathing rate rise.
- Heart rate rises to pump more blood and oxygen to the working muscles.

Short-term effects (up to 36 hours after)

- Tiredness and **fatigue**.
- Light-headedness and nausea, especially after very hard exercise.
- **DOMS** (delayed onset of muscle soreness): aching muscles a day or two later, caused by tiny tears in the muscle fibres.
- Cramp: sudden, painful muscle contractions.

Long-term effects (months of training)

- Changes in body shape, such as losing fat or gaining muscle.
- Improvements in components of fitness, such as muscular endurance, speed, strength and stamina.
- **Cardiac hypertrophy**: the heart gets bigger and stronger, so stroke volume increases.
- A lower resting heart rate (**bradycardia**), because each beat pumps more blood.
- Better cardiovascular and respiratory systems, such as more capillaries around the muscles and alveoli.

Why it matters

- Knowing the effects helps performers plan rest and recovery, such as not training hard while they have **DOMS**.
- A lower resting heart rate shows improved fitness, so it can be used to monitor training.

Key terms

DOMS	Delayed onset of muscle soreness: aching muscles a day or two after exercise.
Cardiac hypertrophy	The heart getting bigger and stronger from training.
Bradycardia	A resting heart rate below 60 bpm, often caused by training.
Fatigue	Tiredness that reduces a performer's ability to keep working.
Immediate effect	A change that happens during exercise.
Long-term effect	A change that happens after months of regular training.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. Which is an immediate effect of exercise?
2. What is DOMS?
3. What causes DOMS?
4. What is cardiac hypertrophy?
5. What is bradycardia?
6. Why does resting heart rate fall with long-term training?
7. Why does skin go red during exercise?
8. Which is a short-term effect of exercise?

Answers

1. An increased heart rate
2. Delayed onset of muscle soreness
3. Tiny tears in the muscle fibres
4. The heart getting bigger and stronger
5. A resting heart rate below 60 bpm
6. The heart pumps more blood per beat
7. Blood moves near the skin to lose heat
8. Tiredness and fatigue

What to do next

Practise 11 questions on this topic

Try 5 exam questions, with mark schemes

Read the lesson, one step at a time

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