



Revision Series 2022

AQA A-Level Physical Education

Exercise Physiology

◆ Notes pages ◆



The EverLearner

Welcome to the 2022 Revision Series for AQA A-Level Physical Education! We hope you find it useful. Before we start, please make sure you have all of the documents below, as they will be great help for your revision:

-  Notes pages
-  Practice questions
-  Mark schemes
-  Model answers
-  Infographics
-  Revision timetable

You will find all these documents on our [AQA A-Level PE Revision page](https://pages.theeverlearner.com/2022-aqa-a-level-pe-revision) (<https://pages.theeverlearner.com/2022-aqa-a-level-pe-revision>).



Key terms

relating to laboratory conditions and field tests

Laboratory conditions

Field tests



Key terms relating to laboratory and field tests

Quantitative	Qualitative	Objective	Subjective	Validity	Reliability
<ul style="list-style-type: none"> • Numerical data • Objective • Scores, fitness test results, times, measures • Absence of opinion 	<ul style="list-style-type: none"> • Non-numerical data • Subjective • Linguistic • Can contain opinions and interpretations 	<ul style="list-style-type: none"> • Direct measures • No interpretation or opinion 	<ul style="list-style-type: none"> • Opinions, assumptions, interpretations • Via observations or surveys 	<ul style="list-style-type: none"> • Test measures what it claims to measure 	<ul style="list-style-type: none"> • Test results are consistent when repeated

Notes



Injury prevention

Injury prevention				
Screening	Protective equipment	Warm-up	Flexibility training	Taping and bracing
<ul style="list-style-type: none"> ● Identify past/current injuries ● Identify muscle imbalances ● Assess joint mobility ● Identify postural weaknesses ● Identify performers at risk of complications from exercise ● Identify suitable rehabilitation 	<ul style="list-style-type: none"> ● Prevent probable injuries due to the sporting context ● Gum shield ● Padding ● Helmets ● Ankle supports 	<ul style="list-style-type: none"> ● Increased muscle and blood temperature ● Muscles gradually work to competition intensity ● Joints become lubricated due to the release of synovial fluid ● Muscles stretched through full RoM ● Psychological element increases focus ● Skill familiarisation improves the quality and accuracy of movements 	<ul style="list-style-type: none"> ● Improves RoM at joints and helps prevent joint injury ● Increases elasticity of soft tissues including muscle and tendon ● Improves the accuracy of technique which decreases chances of injury 	<ul style="list-style-type: none"> ● For joints ● For soft tissue including muscle ● Increases stability ● Offers support to sheathes around muscles and tendons ● Needs to be done by a specialist/Often applied poorly

Notes



Rehabilitation

Injury rehabilitation				
Proprioceptive training	Strength training	Hyperbaric chambers	Cryotherapy	Hydrotherapy
<ul style="list-style-type: none"> ● Stimulate proprioceptive receptors such as muscle spindles and golgi tendon organs ● Involves continuous readjustment of posture/balance ● Improves joint alignment and stability ● Improves confidence in a previously injured joint ● Improved muscle mobility ● Reduced muscle compensation 	<ul style="list-style-type: none"> ● Machine weights, free weights, body weight, therabands ● Strengthen non-injured area ● Machine weights gradually introduced to recovering area ● Therabands offer variety of resistance ● Body weight exercises put less weight on the body 	<ul style="list-style-type: none"> ● Pressurised environment ● Air contains higher PP02 than at sea level ● Hb becomes fully saturated ● More O2 reaching the injured area ● Reduced swelling ● Stimulates white blood cell production ● Removes lactic acid 	<ul style="list-style-type: none"> ● Exposure to extreme cold for a short period of time ● Temperature as low as -170 degrees ● Acclimatisation chamber then cryo chamber ● <60s exposure ● +Causing capillary flushing which removes toxins from the injured area ● Decreased exercise-induced muscle damage ● Prevents DOMS ● Fewer injuries 	<ul style="list-style-type: none"> ● Excellent for lower body joint injuries ● Used to reintroduce weight bearing due to fat tissue being lighter than water ● Helps to maintain aerobic conditioning ● Can be relaxing

Notes



Recovery from exercise

Recovery from exercise				
Compression garments	Massage/ Foam rollers	Cold therapy	Ice baths	Cryotherapy
<ul style="list-style-type: none"> • Increase venous return by acting as the skeletal muscle pump • Starling's law: Venous return = stroke volume • Greater venous return means greater stroke volume, which means faster recovery 	<ul style="list-style-type: none"> • Prevention of DOMS • Removal of toxins • Reduces tightness • Train/compete again sooner 	<ul style="list-style-type: none"> • Decreased swelling/inflammation • Better sleep • Improved immunity • Better focus 	<ul style="list-style-type: none"> • Prevents blood pooling • Prevention of DOMS • Capillary flushing 	

Notes

