Question: Assess the relevance of the types of training and training methods for a variety of sports.

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| What are the types of training and training methods? | Briefly describe the details/features/characteristics of EACH training type and method. | Explain the purpose or function of EACH feature. WHAT is it for? WHAT is EACH feature about? | Explain HOW EACH training type or method operates. HOW does it do what it does? | Explain the advantage/ or disadvantage of EACH part or feature. Explain how EACH feature or part is positive and/or negative. | Explain to what extent EACH feature or part is effective/useful. |
| Aerobic – Continuous | * Heart rate is elevated and maintained (70-85% for 30 mins – 2 hours)
 | * To produce a training adaptation (effect)
 | * Training around 70-85% of MHR for 30 mins – 2 hours)
 | * + Is effective in producing a training effect.
* - Might not replicate performance requirements.
 | Therefore, continuous training is relevant for endurance type sports activities where participants work between 70 – 85% of MHR. |
| Aerobic – Aerobic interval  | * Involves breakdown of the training period into intervals of exercise or work, followed by intervals of rest or relief.
 | * To produce either a aerobic or anaerobic training adaptation.
 | * Duration of exercise interval needs to be long enough to allow athletes to reach their maximal oxygen uptake (max VO2), but short enough to delay fatigue.
* Intensity should allow athletes to reach their max VO2, but rest intervals should usually be active
* Moderate duration and high intensity 85 – 90% of MHR, very near to lactate threshold for 30 – 60 minutes in bouts of 4 – 10 minutes.
 | * + Highly regarded, but only one of many forms of training.
* + Application of intervals is beneficial to both athletes and non-athletes.
* - Close attention required to methodology employed.
 | Therefore, (link to variety of sports) |
| Aerobic – Fartlek | * Combination of continuous training and interval training, involves continuous effort with periods of high intensity, followed by a recovery period.
 | * To produce an aerobic training adaptation.
 | * Bursts of speed are usually for 5-10 seconds duration, and are repeated every 2-3 minutes.
* Performed over undulating terrain and is less formalised than interval training
* The degree of aerobic v anaerobic work is dependent on the athletes and how they feel.
 | * + Predominant improvements made in aerobic capacity.
* + Speed play can be easily adjusted to meet the needs of most athletes, and the needs of both interval and continuous systems.
* - May be difficult to determine thresholds for specific sporting activities.
 | Therefore, (link to variety of sports) |
| Aerobic – Circuit trainingFixed resistance circuitsIndividual resistance circuits | * Arrangement of exercises that requires the athlete to spend some time completing each exercise before moving on.
* The resistance and the number of repetitions are fixed.
* Each exercise is carried out with a fixed resistance for as many repetitions as possible in a given time.
 | * Improve general fitness or can be highly specialised to meet the specific needs of certain athletes.
* As above
* As above
 | * Usually consists of 6 – 10 strength-type exercises that are completed one after the other.
* Body parts are also alternated so that consecutive exercises don’t work the same muscle groups.
* As above
* As above
 | * + Excellent way to improve mobility and build strength and stamina.
* + The strength-type exercises can be interspersed with more aerobic-type activities, or with rest.
* + Simple circuit may be performed up to three times in a training session.
* + Time taken to perform the circuit can be recorded to measure progress.
* + Allows individual athletes to work at their own pace.
* + Suitable activities for circuits do NOT have to involve gym equipment.
* + Skills used in athlete’s sport may be introduced.
* + Resistance can be varied.
 | Therefore, (link to variety of sports) |
| Anaerobic training | * Involves activities requiring the use of the two anaerobic energy pathways as the major supply of energy.
 | * Anaerobic training adaptation.
 | * Very high intensity, most activities being undertaken with a HR in excess of 85% of MHR.
* Short intervals generally between 10 seconds and 2 minutes, with a work to rest ratio of 1:3, meaning for every 10 seconds of work, you rest for 30 seconds
* Intervals are performed in sets of repetitions that are designed to overload the anaerobic energy systems. Maximal effort repetitions are designed to improve ATP-PC stores within the muscles. Slightly longer efforts aim to improve the body’s tolerance to lactic acid within the blood stream.
* There is not enough time for the lactic acid to be removed from the body between repetitions and sets.
 | * + Body will be working with higher levels of lactate in the blood, which will lead to improved tolerance over time.
* + Does not require any equipment.
* - Will be painful.
 | Therefore, (link to variety of sports) |
| Flexibility - Static | * Gradual lengthening of the muscle.
 | * Increase flexibility
 | * Gradual lengthening of the muscle to a point where it is held for 10-30 seconds.
 | * + Safe and effective because it is slow and sustained.
* + Overcomes the stretch-reflex mechanism
* + Allows muscle to be stretched to its fullest possible length.
* - Painful
 | Therefore, (Link to variety of sports) |
| Flexibility – Dynamic | * Also called ‘Active’ or ‘Range of motion (ROM)’ stretching
* Gentle repetition of the types of movements that will be experienced in a performance.
* Specific to performance
 | * Increase flexibility to reduce likelihood of soft tissue injury.
 | * Body is warmed up using rhythmic movements of the large muscle groups.
* The body is stretched to gently take the major joints through their full range of motion before increasing the intensity.
 | * + Specific to performance.
* - Not slow and sustained, which could lead to soft tissue injury.
* - May not allow muscle to be stretched to its fullest potential.
 | Therefore, (Link to variety of sports) |
| Flexibility – Ballistic | * Bounce stretching
* Popular in the 1950’s and 1960’s.
 | * Increase flexibility to reduce the likelihood of soft tissue injury.
 | * Stretch reflex comes into play and places great pressure on the muscle fibres through ‘bouncing’.
 | * + Can be useful in some performances where ballistic and explosive actions are required.
* - Places great pressure on muscle fibres.
* - Extended use of ballistic stretching will, in fact, decrease flexibility.
 | Therefore, (Link to variety of sports) |
| Flexibility – PNF | * A static stretch
* An isometric contraction that is held for
* A further static stretch, which may be assisted.
 | * Increase flexibility to reduce the likelihood of soft tissue injury.
 | * A muscle can relax better after it has undergone a maximum isometric contraction as its resistance is to stretching is reduced.
* A muscle becomes stronger if its antagonist is isometrically contracted immediately beforehand.
 | * + Has emerged from the field of rehabilitation, and is one of the most effective forms of stretching.
* - Over-stretching is a possibility. Person performing this stretch should therefore watch for feeling of tension, mild pain or quivering muscles.
 | Therefore, (Link to variety of sports). |