Warm-Ups

A performance-based approach

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Why warm-ups are important

Planning the warm-up should be given as much attention as the main training content itself, and the content of the warm-up should be relevant and harmonious to the specific training session objectives.

For example, a training session that is primarily focussed upon maximising an athlete's explosive jump capacity (which will include the use of plyometrics) should incorporate the use of 'priming' exercises such as lower-limb movements (e.g. squats and lunges), hopping, jumping, and landing. All of which should be progressively planned and translate unidentifiably into the main content (exercises) of the session.

As well-designed warm-ups have been continuously proven to reduce injuries and enhance performance, exercise professionals should pay great attention to the objectives and content of every warm-up delivered. Furthermore, warm-ups should not only be tailored to each training session or competition, but also to each athlete's highly-specific strengths and weaknesses.

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How to perform a proper warm-up

Warm-ups most commonly last for approximately 10-30 minutes, meaning all desired content must be strategically factored in this short period of time. Though each warm-up is short, over a long timeframe such as a 12-week training cycle, the accumulation of a 10-30 minute warm-up each session equates to a huge increase in total training time. For example:

A 15-minute warm-up performed 4 x per week for 12-weeks = **12 hours of training time.**

Over a 12-week training cycle, the exercise professional can utilise an additional 12-hours of high-quality training time. This further demonstrates the importance and potential of a strategic and effective warm-up.

In an attempt to advance current performance preparation practices, two primary warm-up models have been developed by Dr. Ian Jeffreys (4) and Mark Verstegen (11). The framework "**RAMP**" protocol developed by Dr. Jeffreys allows for activities to be easily classified and constructed in the following warm-up sequence:

Raise
Activate and **M**obilise
Potentiate/Performance

It should be the aim of the exercise professional to have the athletes fully prepared both mentally and physically following the end of the third phase (i.e. potentiation phase) of the RAMP protocol and ready for competition or activity. Each of the three phases of this warm-up model plays an important role in the athlete's preparation.

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Phase 1
Raise

The principles/aim of the 'raise' section is too:

↑ Body temperature
↑ Heart rate
↑ Respiration rate
↑ Blood flow
↑ Joint viscosity

Although this is often a common practice in the form of a 'jog around the field', this is often viewed as a large waste of valuable training time. Whilst the primary aims of this section should match those listed above, it can, and perhaps should be performed using exercises or simplified sports-specific movements which will be abundant during the session. For example, if the athletes are preparing for a technical rugby session, then this section of the warm-up may include low-intensity, multi-directional movements or dynamic range of motion exercises which will be abundant during the session. Some examples of raise exercises may include:

Basic line drills (sport-specific session)
Cycling, jogging or skipping (gym-based session)
Barbell complex (gym-based session

Get creative, but don't go overboard

Now you know the principles behind the raise, you can do whatever ticks those boxes.

Phase duration = approximately 5-minutes

Examples
Click the video to watch

Phase 2
Activate & Mobilise

The principles/aims of this phase of the warm-up is two-fold:

Activate key muscle groups
Mobilise key joints and ranges of motion used in the sport or activity

During this phase of the warm-up, typical activation and mobilisation movements include:

Dynamic stretching
Balance work
Superman's and inchworm's
Squats and lunges
Sumo shuffles
Spinal mobility exercises (flexion, extension, lateral flexion, and rotation)

When designing the activation and mobilisation phase, it is essential the strength and conditioning coach carefully considers the fundamental movements and demands imposed by that particular sport or activity. For example, what fundamental movements will occur during a rugby match, or during an Olympic Weightlifting session in the gym? This will allow the coach to be very specific with the movements/exercises selected for the warm-up and therefore have the best possible chance to effectively prepare the athletes for training or competition and preventing them from injury.

Phase duration = approximately 5-minutes

Examples
Click the video to watch

Phase 3
Performance/Potentiation

The principle/aim of this phase is to 'prime' the athletes for their session or competition.

This phase of the warm-up is fixated on exercises which will directly lead to performance improvements in following activities. This phase of the warm-up will now begin to unidentifiably transit into the workout/sport itself, meaning it will begin to incorporate sports-specific activities using rising intensities. This phase serves two primary objectives:

↑ Intensity to a comparable level the athletes' are about to compete in.
↑ Improve subsequent performance utilising the effects of post-activation potentiation.

Therefore, the content of the potentiation/performance phase will see high-intensity drills which are highly specific to the sport. For example, the potentiation phase of a sprint session may include sprint-specific drills such 5-10m accelerations, rolling 30-40m sprints, plyometrics and so on. In team-based sports such as football (soccer), this may include the use of plyometrics, reactive agility drills in a chaotic environment, and sprints using various intensities and distances.

An example of potentiation/performance exercises for a technical rugby session may include:

Plyometric exercises (unilateral and bilateral jumps and bounds)
Short-moderate distance accelerations and sprints and (0-20m)
Involvement of tackling pads
Reactive agility drills (e.g. evasion games in chaotic environments)

In the gym, this would now be the incremental loading phase, where the weight is slowly increased to match the load you wish to use in the session. In other words, "loading the bar".

Phase duration = approximately 10-minutes

Examples
Click the video to watch

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Putting it all together

Now you understand each phase and the principles/aims behind each of them, now you can watch these good warm-up examples and understand the "structure" of the warm-up the coach has designed.

Examples

Click the video to watch

And there you have it, a "performance-based", strategically designed warm-up for both sport-specific sessions and gym-based sessions.

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