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Athletic Warm-up Activities

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Warm-up activities for athletic events have traditionally included jogging laps of the track and static stretching. Research now concludes that static stretching leads to reduced performance, force production, running speed, reaction time and strength endurance (Jeffreys, 2007). Dynamic stretching does not have the same detrimental effects as static stretching and should be the method that all athletes use for warm-up to prepare for training or competition. Jeffreys (2007) also states that the more functional dynamic stretching helps to activate the muscles through their range of movement assisting neural activation and mobilisation for many sports. Using the basic principles of RAMP (Raise, Activate, Mobilise and Potentiate) outlined by Jeffreys (2007) athletes can use warm-up time effectively to perform prehab (preventative rehabilitation) exercises and use technical drills and practise of the movements specific to the activity about to be performed. The following outlines exercises that can be used by athletes as practical examples for warm-up.

**Raise** through athletic movements (4-6 minutes)

**Games**
Games are particularly effective with younger children to create play with structure and specific goals. Games are also a great way of enthusing older athletes and performing warm-ups or training without a rigid structure. The coach must ensure that they have clear parameters and objectives for their games as intensity often rises quickly. Limiting the space of play, number of goals, or number of balls involved can easily adapt well known games such as netball, football or basketball. Simple ‘playground’ games such as stuck in the mud, tag and the treasure island game can easily be adapted to make great pulse raisers for warm-ups.

Running drills can be used to raise the pulse in a more formal manner and allow the athlete time to learn new skills and coordinate movements. The following are suggestions of the types of drills that can be used to raise the pulse, but also get the joints of the ankle, knee and hip working and mobilised. Start with slower movements such as walking, then move to jogging, jumping, and running.

**Ankling**
- Heel to Toe Walk
- Heel Walking
- Toe Walking
- ‘Silly Walks’- Make this fun with kids! Walk tall like a giraffe, wobble like a jelly-fish, walk like a penguin, walk on your toes like a ballerina
- Heel to Toe Jog
- Pogo’s- stiff legged jumping working on pulling up the toes and pushing through the ankle joint

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**Use this time to practise drills or play games that will raise the pulse**
Knees & Hips
Walking High Knees - right leg only, left leg only & alternating legs

Jogging High Knees - as above with a slow jog or fast feet in between

Running High Knees - as above with fast run in between

Remember to dorsi-flex the foot in the high knee position
Activate - Upper body
To activate the muscles of the shoulder girdle resistance bands are easy to use and portable enough for your kit bag!

Rotator Cuff Horizontal internal & external rotation with resistance band

Rotator cuff vertical internal & external rotation with resistance band

Press-up with a wide (as shown above) or narrow base activate shoulder and core muscles. Arm positions from wide to narrow will activate different muscles too.

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Activate - Lower Body
Squats either on one or two leg(s) provide a simple exercise to activate the lower body. Particular emphasis should be placed on technique; maintaining an upright posture, keeping the body weight back over the heels, and keeping the knees in-line with the second toe. Any valgus (internal rotation) or varus (external rotation) at the knee should be corrected and ROM decreased whilst strength builds up to maintain correct alignment. Add a weight, bar or medicine ball to make the movement more complex.
Mobilisation
Mobilisation can be done during many of the other activities previously mentioned (raise & activate) and is often best combined in this way. However, you may wish to add additional mobilisation activities into a warm up with an athlete that has a limited range of movement, previous joint injuries or are about to take part in an event that requires a high level of joint mobility. Dynamic stretching, moving smoothly through a full range of motion should be used to mobilise all the joints of the body. Below are some examples of these.

Hamstring Sweeps  Leg swings- forward  Crucifix leg taps
Walking lunge & twist  both ways- open & closed  Walking lunge & side-bend

Use these dynamic stretches as a guideline, for additional ideas Baechle & Earle (2008) is a superb resource.
Mobiliation continued

Lunge with elbow tap to same or opposite foot

To mobilise the arms, swimming strokes, such as back stroke, breast stroke, front crawl and butterfly, are easy to use and good fun to get the shoulder, elbow and wrist joints moving. You can do these movements whilst doing pulse raising activities such as walking or jogging and they can even be made into games with kids or to add some fun to your workouts.
Potentiate
This part of warm up is the final section to get the athlete ready for the sporting activity about to take place. High skips (right) are simple to perform and can be done on the spot or over a distance that won’t wear out the athlete too much. High skips are ideally used before sprinting or running activity due to the similarity of the movement pattern involved.

Other activities such as sprinting build ups where pace is increased steadily can also be used to potentiate. The technical coach can also use specific drills, and activities relevant to the specific event during this phase of the warm up. The specific event should also be practised before competition or intense training to prepare the body and mind.

The scope for warm up activities is endless and as a coach they need to not only prepare the athlete physically but also psychologically. Warm ups, therefore need to be appropriate and event specific but also fun, inspiring and stimulating ensuring the athlete is ready to perform the activity they are about to do, be it training or competition.

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References
