

Are you warming up properly?

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Welcome to the first issue of Train Smarter. As with all training and competitions, I am going to kick this off with a discussion on warming up; or Performance preparation as I like to call it – sounds better than warming up and also takes into account the psychological element needed to optimize performance (however, this is beyond the scope of this article and will be discussed in a later issue). Quite often, the transition from resting to high level training is overlooked or rushed through to get on with the main part of your activity and athletes/sports people will go from sitting at a desk to running or gym work without consideration of ‘warming up’. However, poor preparation for sports and training can lead to reduced output or worse –

injury which can have devastating consequences for the athlete. Throughout this article I am going to take you through the structure of the R.A.M.P. warm up developed by Ian Jeffreys (professor in strength & conditioning) which focuses on integrating the warm up into every training session to optimize athletic performance during the session to follow and also contribute to long term development and resilience against injury.

The R.A.M.P. method is a logical and progressive sequence physiologically preparing your body for the activity ahead and should also be considered in relation to other benefits of training rather than a means of short-term preparation for exercise. Unlike traditional warm ups, the RAMP sequence considers the ‘skills’ component of sports and training – whether this is a team sport, running technique or gym-based training, a high level of skill is involved in these activities that can be incorporated into your preparation phase not only for the shorter-term benefits of a warm up but for the longer term development of movement quality, skill development and athletic performance.

The acronym R.A.M.P stands for:

R: Raise

AM: Activate and Mobilize

P: Potentiate

Warm up to optimize athletic performance, long term development, and resilience against injury

The Raise Phase

Like traditional warm ups the first part of the R.A.M.P. sequence is to RAISE physiological parameters including heart rate, blood flow, core and muscle temperature, muscle elasticity as well as raise neural activation and conductivity. This can be achieved with low intensity cardiovascular activity such as jogging, cycle ergo, rowing etc. these activities may

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have no resemblance to the activity performed in the main part of the training session, but certainly achieve the aim. For team sports it may be more time efficient to incorporate low level sports skills into this phase such as jogging whilst throwing / catching a ball, dribbling or bouncing a ball. Even gym sessions can be made more specific to the activity to follow by incorporating technique-based movements that progressively increase as the RAISE phase increases and this will lead very nicely into the ACTIVATE and MOBILIZE phase of the R.A.M.P.

Activate & Mobilize

The benefits gained during the RAISE phase should now be carried forwards into the ACTIVATE & MOBILIZE phases. Previous warm up protocols have included stretching at this point. However, research has shown that stretching has no carryover to athletic performance and in some studies has shown a decrease in power. What we do know is that there is no link between stretching and injury prevention. (More on stretching in a later edition of Train Smarter).

The ACTIVATE & MOBILIZE phase focuses on the longer-term development of functional patterns and NOT increased movement about a specific joint. I often see athletes or soldiers with a good range of movement at a joint but are unable to integrate this into a movement pattern. This is because effective movement is an integration of co-ordinated patterns of movement at multiple joints which requires not only flexibility but stability, motor control and strength throughout range.

Dynamic lunges, overhead squatting and trunk rotational movements are all great examples of fundamental movement patterns that require co-ordinated, optimal range of movement at multiple joints.

Potential phase

This phase is the transition between the warm up and the main part of the training or competition. In team sports this may involve a rehearsal of drills at near full speed. For runners and gym training sessions the inclusion of speed and agility training can be performed which is all too often overlooked. Very little activities on

the sports field or in athletic competition are performed slowly, therefore this is an opportunity to integrate speed and agility into your weekly training program with very little addition to your training volume

or time and has a massive benefit or carryover to performance, prevention of injury and all-round athletic robustness. [RAMP warm up for runners](#)



MUSCLE OF THE MONTH

GLUTEUS MAXIMUS

Greek: *gloutos*, buttock: Latin: *maximus*: biggest



The Gluteus Maximus is the large muscle that gives your bum its shape. It is an extremely powerful muscle producing hip extension – and so is very important in low level activities such as walking, rising from a chair and climbing stairs as well as more powerful movements like sprinting and jumping. It also plays a role in external hip rotation and through its attachments to the iliotibial band, helps to stabilize the knee joint which helps to explain why gluteal exercises are prescribed for patello-femoral knee pain (read more about [Patello-Femoral Pain Syndrome \(PFPS\)](#) here). Weakness of these muscles is often compensated for by the hamstrings which can become overactive causing other problems if untreated. The Gluteus Maximus also assists with extension of the trunk and so offloads the back-extensor muscles which may also become overloaded if the Gluteus Maximus is not effective. Low level exercises include the all 4s hip extension exercise. This helps to

isolate the muscle and target hip extension. If the hip joint is stiff or the muscles that flex the hip are tight, then the Gluteus Maximus will not be able to contract through its full range, leading to atrophy and weakness. The Gluteal bridge has been shown to be a great exercise to target the Gluteus Maximus and can be progressively loaded as you get stronger. For strength gains, five sets of five repetitions has been shown to be beneficial. To transfer strength gains into function, it is important to integrate functional activities into your rehabilitation or training program. Squats with a jump requires the Gluteus Maximus to contract explosively along with the rest

of the lower limb muscles to replicate common sporting movements. Click here to watch demonstrations of more Gluteus Maximus strength training exercises: [Gluteus Maximus strength exercises](#)

Tightness in the Gluteus Maximus muscle along with myofascial trigger points may develop after unaccustomed activity resulting in diffuse pain locally or just below the gluteal fold. There are many other muscles in this area that could also be affected and so if you are unsure, seek physiotherapy advice. Self help techniques include stretching and trigger point massage using a ball or foam roller.



Watch the videos for more exercise demonstrations and follow me on Instagram for more TRAINSMARTER content. Next month I will be uncovering the truth behind stretching and focus will be on the Hamstrings. Train Hard, Train SMART!



Access this article at www.niccostiff.co.uk/resources

HOW TO DO THE R.A.M.P.

5. RAISE

INCREASE YOUR HEART RATE, RESPIRATORY RATE AND BODY TEMPERATURE AND NEURAL ACTIVATION BY PERFORMING LOW INTENSITY ACTIVITIES SPECIFIC TO THE TYPE OF ACTIVITY TO FOLLOW.

6. ACTIVATE

ENGAGE THE MAJOR MUSCLES THAT WILL BE USED IN THE ACTIVITIES TO FOLLOW. IF YOU ARE SQUATTING, DO SOME SQUATS, IF YOU ARE THROWING, DO SOME ROTATIONAL WORK AT THE SHOULDER.

7. MOBILIZE

PERFORM MOVEMENT PATTERNS THAT WILL BE INVOLVED IN THE GAME OR TRAINING SESSION AHEAD. FORWARD AND LATERAL LUNGES, OVERHEAD WORK.

8. POTENTIATE

THIS IS THE REHEARSAL. GRADUALLY BUILD UP THE DEMANDS OF YOUR BODY BY INCLUDING SPEED DRILLS, LATERAL DRILLS, HURDLES, JUMPING AND BOUNDING WORK. IF YOU ARE HAVING A BENCH-PRESSING SESSION, SOME UPPER BODY PLYOMETRIC WORK SUCH AS MEDICINE BALL THROW FROM THE CHEST.