

## ***Warming up and cooling down***

A warm up aims to:

- minimise the risk of injury
- improve performance
- be the complete physical and mental preparation that a student needs

The total warm-up should take about 15 to 20 minutes depending on ambient conditions.

Following a warm up, students should be able to begin the training session or competition at maximum intensity. It should leave most students sweating lightly and able to do flying kicks if need be.

<b>What does a warm up do?</b>	<ul style="list-style-type: none"><li>• Increases the core body temperature</li><li>• Increases heart rate and blood flow to muscles</li><li>• 'Wakes-up' the central nervous system - improves co-ordination, skill, accuracy and reaction time</li><li>• Increases the rate and force of muscle contraction</li><li>• Increases the suppleness of tendons and ligaments</li></ul>
<b>Warm up procedure</b>	There are two parts to the warm up: <ul style="list-style-type: none"><li>• the general warm up</li><li>• the specific warm up</li></ul>

<p><b>General warm up</b></p>	<p>The general warm-up consists of:</p> <ul style="list-style-type: none"> <li>• joint rotations</li> <li>• cardiovascular warm up</li> <li>• dynamic stretching.</li> </ul>
<p><b>Joint rotations</b></p>	<p>Start from distant joints (fingers) and work towards the centre, and from the top of the body to the bottom.</p>
<p><b>Cardiovascular warm up</b></p>	<ul style="list-style-type: none"> <li>• About 5 minutes of low intensity forward, backward and sideways jogging, line running or games.</li> <li>• This should lead on to medium intensity aerobic work like quick alternations of forward, backward and sideways running; jumping; agility games.</li> </ul>
<p><b>Dynamic stretching</b></p>	<p>Perform progressively more vigorous swinging of arms and legs to gain maximum joint range of motion, for example leg raises to the front, sides and back; arm swings.</p>
<p><b>Specific warm up</b></p>	<p>This consists of exercises that more closely resemble Taekwon-Do movements. Examples could include:</p> <ul style="list-style-type: none"> <li>• Shadow-sparring</li> <li>• Higher intensity leg raises</li> <li>• Basic hand and foot movements</li> </ul>

<p><b>Not so hot warm ups</b></p>	<p>Do not do static passive (relaxed) stretching before Taekwon-Do movements. This type of stretching allows the body to cool down and relaxes it, which is the complete opposite of the aims of a warm up.</p>
<p><b>Cool down</b></p>	<p>The purpose of the cool-down is to:</p> <ul style="list-style-type: none"> <li>• Improve joint range of motion</li> <li>• Remove waste products from fatigued muscles</li> <li>• Increase students' rate of recovery</li> <li>• Regulate levels of arousal</li> </ul> <p>The cool down could consist of some very light aerobic activity like jogging or walking, particularly after a vigorous workout.</p> <p>Self-myofascial release (aka rolling) massages tight muscles, minimises soreness and shortens recovery time by increasing blood flow to damaged muscles.</p> <p>It should always be finished off with flexibility exercises, as muscles are more responsive when they are warm.</p>