

Warm-up

The Warm-up...Why?

Whilst some injuries are unavoidable, many are the result of your body not being prepared for what you are asking it to do. There is an unwritten law among both elite athletes and casual exercisers that a warm-up before exercising is an important part of injury prevention.

However, within the population of dance teachers and students there has been confusion in the past as to what that warm-up should involve. Many in the Ballet world have believed that the first few exercises at the barre are the warm-up, but this is not so. The body needs to be thoroughly warmed up before any set exercises take place if they are to be carried out as successfully and safely as possible.

Although putting on an extra layer of clothing or turning up the heating in the studio may mean the dancer feels warm, this does not have the same effects on the body.

A good warm-up is a group of exercises performed immediately before an activity that provides the body with a period of adjustment from rest to exercise. It is designed to improve performance and reduce the chance of injury by preparing the dancer mentally as well as physically.

A warm-up should have the following beneficial effects:

- To make the muscles stretchier.

This allows greater movement at the joints and reduces the risk of injury. Muscle elasticity depends on how much blood is running through it, so cold muscles with little blood in them are more likely to become injured or damaged. Think of muscle being like a blob of Blu-tack. When Blu-tack is cold you can stretch it so far and then it will snap. But when Blu-tack is warm you can stretch and stretch it and it feels gooey. So it is with your muscles - it is simply the warm blood rushing through the muscle that warms it up on the way past and makes the muscle fibres more elastic. It's a bit like the hot water in the radiator heating up the whole of a room.

- To make your breathing faster and deeper.
This allows more oxygen to be breathed in and more carbon dioxide to be breathed out. If you have warmed up well you will feel less 'out of breath' in the exercise that follows than if you try it from 'cold'.

- To make your heart beat faster and stronger.
This delivers more oxygen and glucose to the muscles. Oxygen and glucose are used as fuel to make energy, and then the muscles use this energy to create movement.

- To increase the internal body temperature.
Capillaries in the skin will dilate (open up) and so you will look more pink, or even red. You will also start sweating as the intensity of the exercise increases. The reason you sweat is to lose heat so that your body does not become dangerously hot inside.

- To allow your nerve fibres to work more efficiently.
Messages carried down from the brain go to muscles, so these muscles will react faster and in a more co-ordinated way. Messages carried up to the brain tell it about what is happening in the muscles and joints. The brain can then react by telling the muscles to work in a certain way, and so many potential mistakes and injuries are avoided.

- To allow time to focus.
This means the dancer can concentrate on the exercise to follow, and if you are less distracted then you are less likely to have an accident.

- To increase the range of movement available at joints.
This is due to an increase in the elasticity of the tendons, muscles, ligaments and other connective tissues. So, for example, you may find that your kicks are higher after a warm-up than before.

- To redistribute blood to where it is needed.
Blood is diverted away from some areas of the body (e.g. gut) and into other areas (e.g. muscles and skin). This happens suddenly when we have a sudden shock, such as nearly hitting a car when riding a bicycle, or nearly slipping over on icy ground.

After these, our legs tend to shake and feel wobbly, and we often feel 'sick' in our stomach. But if these same changes happen more slowly (as in a warm-up) then this is not a problem.

The Warm-up...How?

A warm-up is necessary no matter how warm the environment. All the above benefits can be obtained by a warm-up routine that should include the following features in this order:

- Gentle jogging, marching, skipping or similar rhythmical activity.
- Exercises of a steady rhythmical nature involving other joints of the body, such as gentle knee bends, arm swings, sways, trunk rotation, step ball change. None of these should reach end of range of movement so muscles and joints are not overstretched. Incorporating arm movements at this stage will increase the effects of the warm-up.
- Gentle stretches to the large muscle groups, holding each stretch for 10-15 seconds. An increase in flexibility through stretching may reduce the incidence of muscle and tendon injuries. You might want to stretch your quads, hamstrings, inside-thigh and calf muscles at this time.
- Balance exercises, such as standing on one leg, then being able to control bending and straightening the supporting leg and rising on to demi-pointe.

How long a warm-up takes will depend on your age and fitness level. A young child would be exhausted if they had to jump around for more than a couple of minutes, but a teenage student might need to take 10-15 minutes to be fully warmed.

Interestingly, the fitter you are and the more often you train, the longer your warm-up needs to be to have the same effects.

The steps in the warm-up should be not overstretch you and should not include sudden changes in direction, complicated leaps or turns. Keep the steps simple and repetitive and leave the technical bits to the class when the body is warmed up and better able to cope with them. At the end of the warm-up you should feel warm, relaxed and ready for action. If not, you have either done too much, or not enough!