

## It Takes An Athlete To Dance, But An Artist To Be A Dancer

Lecture presented by Glenn Ruscoe, Musculoskeletal Physiotherapist of Riseley Physiotherapy, at Dance Explo, South Perth Yacht Club, 17<sup>th</sup> February 2008 on behalf of Dance Sport WA.

Dance is well recognized as a sport. And like all sports a key ingredient for successful participation is fitness. Fitness consists of five key elements, namely: strength, power, endurance, agility and flexibility. Different sports, often require emphasis on particular elements of fitness. The shot putter requires emphasis on power, whilst the long distance runner requires endurance. More complex sports require more of the elements of fitness, for example gymnastics requires strength, power, agility and flexibility, but not so much endurance. And within a single sport different roles can require different elements of fitness. Consider Australian Rules football where the rover who runs all day must have greater endurance, whilst the full forward who accelerates in shorter bursts and needs to leap, requires greater power. And so on for the full range of sports.

Using these components of fitness, it has been well demonstrated that dancers are often the fittest of all athletes - they require every single component of fitness, namely strength, power, endurance, agility and flexibility. Within dancing, some dancers are definitely fitter than others.

Physiotherapists are well placed to help dancers achieve greater levels of fitness. The five elements of fitness have been well researched and there exists much scientific literature outlining ways to test, measure and change them. Fitness training can help every dancer achieve greater fitness so that they may consistently perform at a high level, prevent the occurrence of injuries and to rehabilitate faster should injury occur.

Whilst the physicality of dance is unquestionable, considering dance as just a sport, is perhaps selling it short. Dance is more, it has some indefinable quality above and beyond the grunt and sweat of sport. In my efforts to find this difference I searched the World Wide Web and not surprisingly, found marked differences of opinion on the subject. I struggled to find clear agreement on the difference. The explanation that appealed most to me is perhaps provided in a quote from *Shanna LaFleur*, "It takes an athlete to dance, but an artist to be a dancer".

The dancer is often required to maintain an expression of detached effortlessness, focusing on their acting or expressive role rather than details of technique. Precision and efficiency of movement is admired. Imperfections in technical strength can mar the overall theatrical effect of this visual art form.

I would enjoy hearing all your thoughts on how art is the difference between dance and sport. And whilst I am sure there are many considerations, many opinions and many words to express the differences, **I would like to propose that the difference between dance and sport can be explained in a single word – and that word is "Grace".**

In relation to movement, **Grace may be defined as "Seemingly effortless beauty or charm of movement, form, or proportion. An elegance of manner, motion and action."** There are some pretty powerful words in there so I will repeat them "Seemingly effortless beauty or charm of movement, form, or proportion. An elegance of manner, motion and action". I am sure you will readily agree that "beauty or charm of movement, form or proportion" is vital for the successful dancer and we do see many examples of this, but what really separates the great dancers is that it is achieved in a "seemingly effortless way..." Effortlessness – the movement flows without signs of strain, effort or concentration. Effortlessness is not only more beautiful but is also incredibly efficient on the body, and therefore (from a physiotherapist perspective) significantly reduces the likelihood of discomfort, strain, pain and even, injury.

Unfortunately quantifying or measuring graceful movement is very difficult. Whilst we can all agree when we see graceful movement, finding the words to explain exactly what we are seeing can be very difficult. And without an ability to quantify graceful movement how can we measure it and then teach others how to make their movements more graceful? As scientists lack the tools to measure grace it therefore becomes the domain of the artist. For this reason most physiotherapists (who are scientists) balk at the concept of grace, but at our clinic we recognize that grace refers to the quality of the movement, as opposed to the quantity of movement we see demonstrated by the athlete.

How do we get grace then? Some would say, based on the movement of children, that all of us are born with grace and then through poor habitual patterns, disease, injury, and environmental factors we lose it. So if we could prevent these negative factors then we could all maintain our grace.

Certainly some are lucky enough to be naturally more graceful than others, but take heart because for the rest of us there does exist the opportunity to develop our grace. No matter where we currently sit along the spectrum from klutz through to Prima Donna we can improve the grace of our movement.

Achieving graceful movement is both incredibly simple and incredibly difficult. Difficult because to change ourselves is unquestionably the hardest thing to do. Simple because the secret of achieving grace can be explained in a single word. But more on that later.

First to lay some groundwork and clear up some misconceptions.

Graceful movement requires a strong foundation. And in the body that comes from the centre or the core. I am sure you have all heard of **core stability – the buzzword of the new millennium**. But do you know exactly what the core is? The core consists of a group of muscles in the trunk that stabilize and control our movement. These muscles consist of the deep transverse abdominal muscles and the deep muscles of the spine – multifidus. Transversus abdominus and multifidus form a kind of cylinder around the trunk, and when they contract they squeeze in against the squishy contents of our abdomen to create an increased pressure that produces a kind of turgid stability, like the kidney belt that a weightlifter wears to protect his back. It is easy to assume that simply stronger core muscles will create greater trunk stability, so we often see people training their core muscles over and over. But it is not so simple, overly-strong core muscles will in-essence create a “concrete corset” – remarkably strong, but rigid and devoid of movement. Not the ideal for the fluid movement required of a dancer.

This situation is complicated further when we delve deeper into the supporting cylinder-like role of these core muscles. Imagine a cylindrical tube of toothpaste without a cap; when squeezed, the contents will just flow out the ends. Fortunately the cylinder of our core muscles do have a cap on each end and these are the diaphragm, above and the pelvic floor, below. But these ‘cap’ muscles also perform other dynamic functions – the diaphragm is used for breathing and the pelvic floor for maintaining continence, keeping our pelvic and abdominal organs within and facilitating sexual function. With this in mind we can well imagine rigid core muscles could create difficulties beyond just limited movement.

I am sure you can appreciate that for dynamic movement of the trunk the interplay between the abdominals muscles, the pelvic floor and the diaphragm is incredibly complex and requires remarkable coordination and control via our nervous system. Good core stability must be considered as a dynamic neuromotor control system - the right muscles, working at the right time with just the right amount of strength. And when this happens we see a good foundation for movement.

Once we have our core under control we need to consider the other body parts and how they align. And this refers to posture. Now good posture is a little like pornography; we all know what it is but

defining it exactly is very difficult. Scientists have defined good posture as maintaining the three natural curves of the spine and have measured posture by dropping a plumb line from just behind the ear, running down the shoulder, through the hip joint, just behind the knee down to the lateral malleolus (or lump) of the ankle.

Good posture is incredibly graceful, therefore, by definition, it is effortless and efficient. Forcing oneself bolt upright is not good posture. Military posture is an extreme and exaggerated position - the body parts are not in good alignment and effort is required to maintain it. Ballerina's and models are often considered by lay people to have good posture but they often have to hold and maintain their positions with effort and strain. Similarly ball room dancers may hold a graceful-looking posture, but if it is held with effort and strain, it cannot be considered graceful.

The great news is it does not take great effort to have good posture. Indeed research conducted on posture by Australian physiotherapists has shown that when people move into positions of good posture their core-stability muscles switch-on automatically. If I may, I want to repeat this again – “when we move into positions of good posture the core-stability muscles switch on automatically”. This finding was intuitively discovered last century by practitioners like Frederick Alexander, Joseph Pilates and Moshe Feldenkrais and hundreds of years earlier by the developers of yoga, tai chi and some of the martial arts.

Further research has shown that finding good posture is difficult and does not come so naturally. But with only a little training and direction good posture can be learnt quickly.

EXAMPLE: Good Posture in Standing. Like a string pulling you up – Long neck.

Consider how changes to our external environment impact upon posture. A chair that is too small, a desk that is too big OR three inch heels.

EXAMPLE: Now imagine how raising the heels changes our posture. Tip toe and forward pelvic tilt occurs. Effect on back and posture. When wearing high heels stronger lower abdominal muscles are vital to help the dancer control their pelvis.

This training and direction required to learn good posture brings me to the major point of my presentation and that secret to achieving Graceful movement that I mentioned earlier. And again it is a single word, “Awareness”.

Awareness is essential for any change. Without knowledge of how we are operating now how can we possibly change how we operate in the future. For this reason “awareness” is the very enlightenment that all those gurus of the East and the Psych's of the West are seeking to help people find. But fear not, spiritual enlightenment is way too deep for us today, in this presentation I will be focusing on kinaesthetic awareness, or in an attempt to coin my own million dollar book title, kinaesthetic intelligence.

Kinaesthesia is the perception of body position and movement and muscular tensions - the ability to feel movements of the limbs and body. Through your kinaesthetic sense, you know your body's exact position in space and you know how it is changing as you move. Well... you **would** know if your kinaesthesia were reliable. Very few people have a reliable kinaesthetic sense. Unless you are one of those very few, you **don't** register your movement very accurately. What you are doing is subtly different from what you think you are doing.

It gets worse: you don't even realise that you don't know. A faulty kinaesthetic sense is so convincing that you will often believe what it tells you even when the evidence of your own eyes shows otherwise.

Kinaesthetic sense can be measured along a continuum from very bad through to very good. Most dancers, like yourselves, would live towards the very good end, but there is always room for improvement. Where do you fit along the spectrum?

EXAMPLE: Standing on the spot. Stand, close eyes, stand on one leg, leg split thing, Jump - quarter, half, full.

The key to improving your Kinaesthetic awareness is through external feedback – objective feedback that cannot be biased by our own systems. External feedback is achieved visually via mirrors, video or coaching.

So strong is our faulty kinaesthetic sense that we may even reject the external advice of people observing us and vehemently argue that our own perception is correct. Mere identification of an error is not enough. A good coach will need to provide verbal imagery and tactile guidance to overcome the strength of our faulty kinaesthesia, in order to improve our posture and movement patterns.

Verbal imagery is provided by finding the right words to help the dancer visualize the correct movement. It is non-confrontational and offers an alternative. Accessing into the dancer's analogies is the key.

EXAMPLE: For the dance position with elevated shoulder girdles. "Don't lift your shoulders up" may get an immediate response, but won't help in the long term as all the person thinks about is "shoulders up". Slightly better is "Get your shoulders down" but again it is confrontational and challenges the dancer's ego.. But try this, "Feel a long neck" or "Imagine you are a giraffe and you want to look up and over everyone else" offer an alternative that the person can try. The right words can make all the difference to facilitating the right action.

Tactile cueing is achieved by repositioning or even better, by facilitating movement through pressure, stroking or tapping. In the new position the dancer is asked to "become aware of the new position" - to FEEL the new position.

EXAMPLE: Same dance position with elevated shoulder girdles. Many un-enlightened coaches might react to the situation by pushing the dancer's shoulders down. Unfortunately this has exactly the opposite effect, and the dancer tends to respond to the pressure by pushing their shoulders back up. Whereas tactile facilitation to the muscles that do the action will be more successful. In this case the inferior trapezius muscles will pull the shoulders down.

Together verbal imagery and tactile cueing can be very powerful in changing posture and movement patterns, and improving our kinaesthetic sense. Remember that position and movement are neuromusculoskeletal. We are training the nervous system as much as the muscles and bones. Our best means of accessing this system is through facilitating the movement that we desire

A final practical piece of advice - graceful movement is a skill and therefore can be trained. It requires practice but it has to be good practice. Six good repetitions are far better than thirty bad ones. An alert coach looks for signs of fatigue and poor technique and stops the movement immediately, and then moves onto another task.

## **CONCLUSION**

I hope from today's presentation I have given you a new appreciation of your body and some clues to help improve the grace of your movement and perhaps that of your students. I cannot miss this opportunity to let you know that at our Riseley Physiotherapy practice we employ a sports physiotherapist, exercise physiologist and a pilates instructor who have a special interest in dance and

through our DANCE BODY program can help you fine tune this wonderful instrument into a dancer's body. I would encourage you to visit them to be posturally assessed and to learn how to become more aware of your movement. As a special opportunity for attendees I have attached a \$20 voucher to help facilitate your movement in our direction.

If dancing with grace were not difficult enough you guys make it more challenging by adding a partner. Now we have two people who need to move together with grace. Perhaps we could explore that next time.