

Understanding the principles of alignment assists in injury prevention and aids the execution of movement and hence expression. It should be noted that different dance genres maintain different alignment. For example, classical ballet demands a vertical stress in the torso which facilitates the execution various movements such as multiple turns. On the other hand modern dance requires a more mobile spine to enable twisting, tilting, curving movements, and to allow a wide projection of expression throughout the body.

ACTIVITY: A SIMPLE STANDING NEUTRAL PRACTICE

Stand side on to a mirror, feet hip width apart, feet parallel. Feel even weight between the inner and outer foot. Lengthen the back of the neck from the crown imagining a magnet is drawing you towards the ceiling, allow the chin to softly drop and draw in slightly as this will allow the spine to straighten. If you feel like you have a double chin you have pulled it in too much.

Let the arms hang by the side with shoulders falling away from the ears and gently drawing back without pushing the ribs forward. Feel the chest open and wide from shoulder tip to shoulder tip.

Lift the pelvic floor up from the inside like you are trying to stop urinating. Try not to squeeze it together but aim for the feeling of lifting up inside like an elevator rising through a tall building. Then bring the navel to the spine without using force, this should feel light and give you a very internal feeling. It should look like you're doing nothing so the shoulders and ribs shouldn't lift. This is activating the core muscles which are very important.

Allow the tail bone to drop down to the floor as a sinker on the end of a fishing line drops into a riverbed. This is standing in neutral.

[adapted from *Dance Train* Jan-Feb 2007]

• TASK:

1. Choreograph a section of movement based on an exploration of body actions. Demonstrate your choreography and explain how you developed and maintained technical skills in your performance with consideration of:
 - body alignment and correct technique;
 - your body's capabilities and limitations.
2. Describe at least 3 unsafe ways of aligning the body in action:

(An example would be landing from a jump with on the flat of the foot with straight knees.)

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3. Discuss how the 3 unsafe ways of aligning stated above can affect the body in action.

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SAFE DANCE PRACTICE: a workbook for senior dance students is designed to be used in conjunction with THE DANCER'S BODY: function and care (Leitch – Kaloger Brown). The knowledge of the skeletal/ muscular systems and how the body moves gained from completing The Dancer's Body will inform the information presented throughout this workbook.

Safe dance principles include an understanding of:

- correct dance technique;
- principles of alignment;
- principles of training;
- causes, prevention and management of common dance injuries.



Before getting started it is important to acknowledge the need for a safe dance space.

Requirements for a safe dance space are:

- smooth, even flooring;
- good ventilation;
- a sprung floor;
- a relatively high ceiling;
- access to drinking water;
- a space which allows dancers to move freely;
- a space which provides adequate heating.

These aspects should be taken into account when choreographing, rehearsing or performing dance.

DANCE TECHNIQUE

Understanding the correct technique which underpins the execution of body actions will allow dancers to prevent injury by performing movements accurately and safely.

The following is a general overview of basic dance technique as applied to the basic movements. It should be noted that the description has been kept as generic as possible – stylistic nuances and choreographic preferences should be observed when completing the practical observation task given at the end of this discussion.

Preparation and landings in elevation:

The bending of both knees in the weight bearing position is common to all styles. The weight is distributed equally through both legs and therefore the amount of flexion of each knee is equal.

It commences with the body aligned and the correct muscle group engaged. The pelvis should be balanced by using the gluteus maximus and the abdominals. The hip – knee – ankle relationship should be aligned whether parallel, turned out or in a natural stance, and the weight held over the feet. If the weight is not correctly placed, the feet can tense and cause clawing.

When preparing for elevation, the descent into the bend is controlled by the gradual lengthening of the quadriceps muscles against gravity. The knees flex as far as the achilles tendons will allow with the heel still on the floor. The image should be of lifting the torso not descending. The weight is drawn up through the spine, the hips are kept open if turn out is required.

If the bend in the preparation is well positioned originally the position in the air will be well placed. If not, distortion can take place and increased effort can throw the weight back.

The floor is used to push up into the air. The full depth of the bend should be used and a strong action through the whole foot raises the body into the air. The descent reverses the action through the whole foot and lands back in the bend or plie. The bend acts as a shock absorber and protects the knees and shins from trauma and strain. Working through the feet is the most important aspect of elevation.

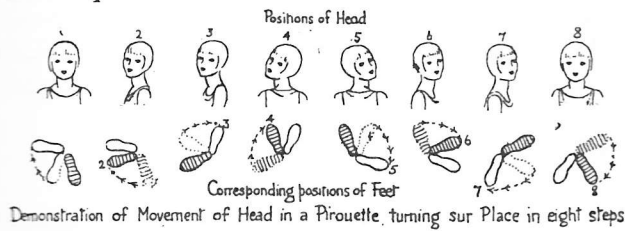
Turning movements:

A safe preparation for a turn also involves use of the plie or bend (as explained above). Correct alignment through the body should be observed at this stage so the dancer can push into the floor onto a rise. If the starting position is not aligned the leg muscles cannot work fully when rising. Therefore the weight should be well distributed over the front of the foot with muscles working equally.

As the rise into the turn takes place the weight is adjusted further forwards over a smaller base of support. The dancer should have the feeling of pulling forwards and upwards with the body pushing the floor away with the feet. The muscles which tighten are the gluteal and the quadriceps. In the calf and foot both sides of the gastrocnemius and soleus (medial side) work fully with tibialis posterior, and the peroneal (lateral side) stabilising and balancing the weight over the toes.

Use of focus is important to turning technique as it assists in maintaining balance. The theory of spotting is that the eye focus is the last to leave the point of focus and the first to return to it.

For example:



Co ordination of the arms, right left sides of the body and correct breathing will give the turn impetus and apparent ease.

Falling movements:

In classical ballet, the high level predominates, while one of the aims of early modern dance, by contrast, was to show the effort of moving against gravity, not to hide it. The latter trend increased the use of falling and of low level movement.

[Reference Essential Guide to Dance (2nd ed) L. Ashley p69]

To execute any fall correctly skill in coordination and control is required. One example of a fall is where the dancer experiences a relaxed successive giving in to the pull of gravity which happens over the centre of gravity and tends not to rebound. Another example is an off balance fall where the centre of gravity shifts off centre, making falling unavoidable as the pull of gravity takes over. You could brainstorm other ways of using the falling action in dance!

To execute a fall safely the following aspects need to be considered:

- during the descent 'pull up' the abdominal muscles;
- avoid landing on joints (knee, elbow, shoulder tip or sacrum);
- avoid landing on a straight arm to avoid undue strain at the shoulder joint;
- slide into the floor instead of landing heavily on the spot;
- spread the impact of the force by sequential bending through a series of joints;
- maintain correct body alignment when executing the fall;
- avoid uncontrolled falling into the splits.

Locomotion and transfers of weight:

When transferring weight from two feet to one or from one to two, a subtle adjustment of weight is important to maintain control of balance. The body must anticipate where to move the centre of gravity by lifting and moving slightly towards the new base of support. The torso should move as a unit and be placed over the new base with the weight falling in correct alignment. Transfers of weight happen all in time when performing movement – use this technique to make them controlled and seamless.

Stillness and Gesture:

Being still is active! It requires strong control. There is muscle activity in a pause, a feeling of ongoing energy. [Reference Essential Guide to Dance (2nd ed) L. Ashley p68]

Students need to develop an awareness of the muscles engaged, the use of correct alignment and placement to develop control of movement.

• **TASK:**

Throughout the semester maintain at least 10 journal entries from your weekly technique class which focus on the safe practice of technique through different sequences of movement.
(Photo copy 10 of the following proforma and keep in your workbook)

JOURNAL ENTRY NO:.....

NAME: DATE OF CLASS:.....

TEACHER:.....

1. Name the style of dance eg contemporary, modern, jazz, funk, ballet, musical theatre

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2. Describe the sequence of movement you would like to discuss.

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3. Which physical skills were shown through this sequence?

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4. Identify and describe at least two body actions involved in the sequence. Discuss in detail the technical skills required to execute the movement safely.

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5. Identify 5 corrections which relate to the execution of the selected body actions identified and described above (own or from your teacher)

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PRINCIPLES OF ALIGNMENT

A dancer's body works at its best when the skeletal system is aligned and maintained correctly. Body alignment is the correct placement of the bones allowing the muscles do less work. It can be static (stable as when standing still) or dynamic (when moving). It involves skills of balance and stability, muscular co ordination, and adaptation.

Maintaining correct body alignment:

- keeps bones and joints in the correct alignment so that muscles are being used efficiently;
- helps decrease abnormal wearing of the joint surfaces which could result in arthritis;
- decreases the stress on the ligaments;
- prevents fatigue because muscles are being used more efficiently, allowing the body to use less energy;
- prevents strain or overuse problems;
- prevents backache and muscular pain;
- contributes to good appearance as correct body shapes are maintained.

The principles of alignment involve awareness of

- trunk or core stability;
- the plumb line in static and dynamic movement;
- the centre of gravity;
- distribution of weight on the soles of the feet;
- reciprocal relationships between all body parts to maintain skeletal balance.

Trunk or core stability requires strength, endurance and co ordination of the abdominal, pelvic floor and lower back muscles. This is important in supporting and protecting the lower back from injury, to help with general postural alignment and to allow release of the hips for a greater range of movement.

The gluteal muscles also play a role in gaining core stability because they co ordinate with the abdominal muscles to help protect the lumbar spine, stabilise the pelvis and improve hip mobility.

The 'plumb line' or the imaginary straight line which runs from the head to the toes, should be maintained during movement. This line runs through the ear lobe, the centre of the shoulder and hip, in front of the ankle and down through the foot (see diagram 1 page 7). The shoulders, hips and knees should be level. As bones are the major weight bearing structures of the body, incorrect alignment of the plumb line places undue strain on the ligaments, tendons and muscles which may lead to injury, and physical energy is wasted pulling certain segments of the body into line.

A dancer's centre of gravity is also imaginary. It will vary depending on the dancer's body shape and weight distribution. Generally it is the point lying slightly below the navel.

Distribution of weight on the soles of the feet should also be noted. Rolling in on the arches of the feet or rolling out to the border should be avoided. Generally a triangular distribution of weight on each foot is optimum. Here the weight is distributed evenly between the points under the 1st and 5th metatarsals and under the heel bone or calcaneus (see diagram 2 page 7).

Diagram 1: The plumb line

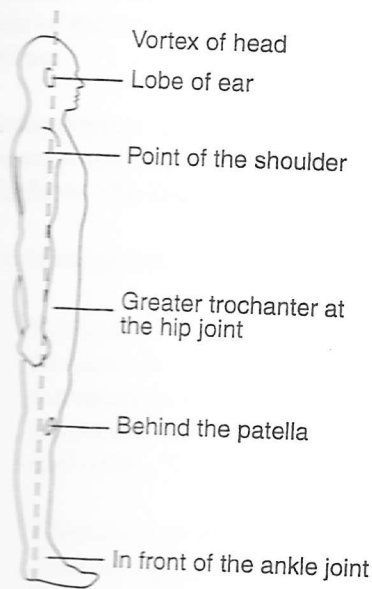
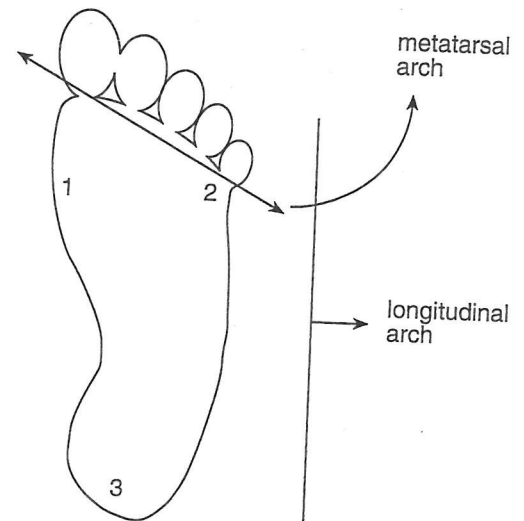


Diagram 2: distribution of weight on the foot.



[Reference Essential Guide to Dance (2nd ed) L. Ashley]

For effective movement each segment of the body must be in correct relationship to its adjacent sections. Good alignment relies on there being a reciprocal relationship between all body parts. This enables the different segments of the body to 'give and take' or engage in slight shifts of body weight in order to maintain skeletal balance.

Role of the pelvis

In order to develop good alignment a dancer must firstly have a strong controlled centre from which the limbs can work freely. The pelvis is the link between the spine and the legs therefore an incorrect tilt of the pelvis will affect the lumbar spine and hip joints. The correct tilt of the pelvis is maintained by the rectus abdominis and gluteus maximus engaging so as to balance the pelvis.

If these muscles are totally relaxed the pelvis tilts forward, the lumbar curve is increased and the lumbar spine and abdomen have no support.

If the pelvis is 'tucked under' then the exaggerated flattening of the lumbar curve will cause flattening of the spinal curves above and they will lose their shock absorbing qualities. It also produces an overuse and build up of tension in the gluteal muscles.

Role of the spine

When a dancer is correctly aligned the natural curves of the spine are lengthened as the spinal column is stretched upwards. The spine needs to be flexible and strong at all times, lengthened and supported by its muscular corset. This lengthened position maintains the spinal curves and

their shock absorbing qualities. Rectus abdominis hold the pelvic tilt with gluteus maximus. Both abdominal obliques support and lengthen the sides of the waist. Latissimus dorsi hold the shoulder girdle down with the lower fibres of the trapezius, giving support and strength either side of the thoracic spine. Erector spinae actively lengthen the spine and the head balances freely above.

Some dancers may need to work a little harder to maintain alignment in the spine during movement due to structural or functional problems in this area.

(Refer to *The Dancer's Body* for more specific information.)

Common postural problems which may affect spinal alignment include:

- *Scoliosis:*
Scoliosis is a sideways curvature of the spine and can be discerned from a back view. The curvature involves rotation of one vertebra upon the next. It may cause a serious postural deviation – an asymmetry of the rib cage (as the ribs articulate with the vertebrae), the pelvis and limbs. Where there is a curvature there is also a stiffness which exacerbates the problem.
- *Thoracic kyphosis:*
Thoracic kyphosis is the abnormal hyperflexion of the thoracic spine. We see a marked stiffness in the mid thoracic spine with decreased extension in this area. It is often associated with round shoulders, a hump back and a poke chin. It is generally attributed to weak trapezius, and tight pectorals. In this situation the lower back has to absorb most of the extension used in dance and in time becomes vulnerable to overuse.
- *Lumbar lordosis:*
Lumbar lordosis is an exaggerated hypertension of the lumbar spine or sway back. It is often associated with weak abdominal muscles and tight erector spinae muscles (lower back).

Common problems which may contribute to lumbar lordosis:

➤ *Tight hamstrings:*

weak and tight hamstrings interfere with the flexibility of the lumbar spine. Tightness in the lower fibres of the hamstring group (which pass behind the knee) prevent the quadriceps from fully stretching the knee, and engage to a greater extent the lumbar spine and sacroiliac joints resulting in lumbar spine problems.

➤ *Swayback knees:*

swayback knees are knees which over extend. This happens when the ligaments of the knee are long and the muscles which pass over the back of the knee are over stretched. The swayback knee upsets the whole balance of the body. The comfortable position for the individual with this problem is an increase in the lumbar lordosis and the weight back over the heels. This must be discouraged by bringing the weight over the front of the foot and by strengthening the quadriceps muscles in pulling up the front of the thighs. The pelvis must be balanced to allow good use of the adductor muscles, and in doing so the lumbar curve should decrease to the correct degree. It is advisable to pull up through the quadriceps muscles in all work instead of locking back the knee to maintain correct alignment and prevent long term injuries.

The shoulder girdle and head

When alignment of the pelvis and spine are correct the alignment of the shoulder girdle should follow suit. The scapulae will settle flat against the ribs, and the neck will be relaxed. If however, general placement of the feet is faulty, the shoulder girdle will suffer and you may experience winging scapulae, tension or dropping in the shoulder area and a poking chin.

When good posture and balance is achieved the shoulder girdle is held directly over the pelvic girdle. The tip of the shoulder lies directly above the greater trochanter. Latissimus dorsi supports the back and holds the shoulder girdle down with the lower fibres of the trapezius. The upper fibres of the trapezius lengthen and there is a stretch below the scapula rather than tension above it. This enables the shoulder joint to move freely with a great range.

The head should be balanced lightly on top of a lengthened neck. The dancer should feel a lengthening up through the top of the head. Movements of the head should be led by the eyes as this will maintain focus and balance.

The hip – knee – ankle relationship

Since the primary function of the lower body is weight bearing for walking and locomotion through space, there is an integration of all the structures in order for this to happen efficiently.

There are several important considerations at the knee which relate to this issue. The first is the relationship between the static and the dynamic stabilisers around the knee joint. The knee joint is not inherently stable from its bony structures and it must rely on other structures to provide that stability. The ligaments, capsule and menisci are considered the static stabilisers that actively contract to provide both motion and muscular stability at the knee. For optimum knee function it is important to have good integrity of the static stabilisers and good strength in the dynamic stabilisers.

The static stabilisers are at a high risk of injury and are usually injured when the foot is planted and the individual twists or pivots the body. It is important for students to have strong lower extremity muscles to protect the static stabilisers. Maintaining good alignment of the knee under the trunk and over the foot will help minimise the risk of injury.

