

## **SAFE DANCE / ANATOMY**

Because dancers may often exceed the limits of their bodies or inadvertently place themselves in situations where violent forces are imposed, the body becomes traumatised. Traumatic injuries may be categorised as either external or internal. External injuries are the exposed type and include such skin conditions as blisters, abrasions (scrapes), lacerations (tears) and incisions (cuts). Internal injuries are for the most part unexposed, constituting conditions of the musculoskeletal system such as contusions, strains, sprains, dislocations and fractures, as well as injury to the internal organs of the body in some cases.

### **INFLAMMATION AND HEALING**

The inflammatory process is involved in both exposed and unexposed injuries. Inflammation occurs when the body tissues are irritated and react with redness, heat, swelling and pain. When an injury occurs, blood vessels constrict at the point of injury, emptying the area of blood for a short time. The blood vessels then dilate, which allows a flood of blood into the area, causing pressure on exposed nerve endings, resulting in pain. Repair and healing begin with the injured site becoming organised into a blood clot that later becomes a fibrous scar. Ideally, healing should occur with as little scarring as possible. Scar tissue is basically an inferior tissue and is susceptible to repeated injuries.

### **ACUTE INJURIES**

Dancers are susceptible to acute musculoskeletal problems caused by forces that overly stretch or compress selected tissues of the body. A force that causes sudden insult to the body produces an acute injury that, if managed properly, should be of short duration.

Five procedures are usually followed in the initial stages of caring for an acute injury to assist nature in the inflammation process and repair. These five procedures are :

- \* Compression – helps prevent accumulation of fluids
- \* Cold – constricts blood vessels, helps keep swelling under control
- \* Elevation – slows circulation at the injured site
- \* Proper rest – allows the body to effectively carry out the healing process
- \* Immobilisation – prevents further damage to the injured area

I.R.I.C.E.R – Immobilisation, Rest, Ice, Compression, Elevation, Referral.

## **CHRONIC INJURIES**

An acute injury that is not managed properly in its early stages or that is aggravated by repeated injury may become chronic. A chronic problem is defined as one that has a *gradual onset and long duration*. At all costs, dancers should avoid repeated injuries to any area in an attempt to prevent a chronic condition. Once a chronic condition has been incurred, it must be cared for by conservative means. This usually includes rest and elimination of further aggravation, combined with appropriate physical therapy and supportive procedures. Once a chronic condition has been incurred, there is usually a tendency for recurrence under similar conditions.

## **MUSCLE STRAIN**

Muscle strain, which is caused by an overstretching of the musculotendinous unit (the entire muscle and tendons), is the most common problem that the dancer must face. It can range from a mild stretch to a complete rupture, or avulsion (tearing of the tendinous tissue away from its place of insertion).

In dancers the most common sites of strains are in the legs and lower trunk regions. However, strains also occur in the shoulder girdle and the neck.

The exact cause of muscle strain is often very difficult to ascertain, but is often due to a lack of co-ordination in one agonist muscle group, and its antagonist, which may be due to faulty posture. Muscle fatigue, cramping, or muscular imbalance can also produce muscle strain.

Muscle strain intensity can be graded according to standards of mild, moderate and severe, or first, second and third degree.

## **SPRAIN**

A sprain is one of the most disabling injuries that can occur to the occur. A sprain is a wrenching of a joint that produces a stretching or tearing of the joints stabilising connective tissue. When the joint is forced beyond its anatomical limits it can be adversely affected.

## **DISLOCATION**

A dislocation is a disunion of one bone in its relationship to another bone. Dislocations may be divided into two types – partial dislocation, or *subluxation*, and complete dislocation known as *luxation*.

## **INJURY INSPECTION AND EVALUATION**

When injured, dancers frequently tend to ignore what the body is telling them about injury. As a result, acute injuries become chronic, and relatively mild problems become serious. The extent of pain and loss of function are a dancers best indication of the degree of injury.

## IMMEDIATE CARE

For an acute acute injury, five major procedures are performed –

I.R.I.C.E.R. – Ice, rest, compression, elevation and referral

As long as the injury is still haemorrhaging and has not begun to heal, it must continue to be treated by the appropriate procedures, for as short as 1/2 hour to as long as 72 hours.

## FOLLOW-UP CARE

Follow-up care implies all the procedures that are applied to assist in the healing process.

Eg –

**Cold** (Cryotherapy) - cold application reduces muscle spasm and associated pain by reducing pressure on the pain receptors.

**Heat** (Thermotherapy) - Speeds up circulation, provides a pain reducing effect, encourages lymphatic drainage, thus assisting in the healing process. Should not be applied while haemorrhaging is still present.

**Massage** – Encourages lymphatic drainage, stretches soft tissue. Again, must not be applied while haemorrhaging is present.

## EXERCISE AND THE INJURY

Exercise properly executed is one of the most important aspects in follow-up care. There are two exercise considerations that are important to the dancer who is attempting to recover from a musculoskeletal injury. These considerations are divided into a generalised program and a specific therapeutic exercise program.

*A general program of exercise* prevents deconditioning that comes from inactivity. This program includes exercising the entire body with the exception of the specific injured part, which is isolated from activity until it can engage in a specific therapeutic regime.

*Therapeutic exercises*, like the general exercise program, involves four primary factors – strength, flexibility, muscle endurance, and co-ordination. Each of these factors must be restored before the dancer may safely return to a full activity program.

## SUPPORTIVE TECHNIQUES

Supportive and protective techniques such as bandages, wraps, tapes and padding can prove useful and beneficial to the dancer in providing protective and support in an injury situation.