

## **Briefing Paper**

# **An Overview of Health Issues for Performing and Visual Art Students**

**March 1991  
Reprinted May 2009**

### **Council of Arts Accrediting Associations**

Taken from pages 2 through 5 of this publication:

## **Physical Stresses and Arts Study**

Significant physical stresses are placed upon arts students, which place them at increased risk for injury. Dancers and theatre performers may be considered athletes, given the physical requirements, intensive training, and environmental demands placed upon them. Just as an inadequately managed or rehabilitated injury affects athletic performance, so it affects artistic performance. For example, the neuromuscular component of high-level musicianship renders the instrumentalist susceptible to a variety of disabling problems: small errors in the biomechanics of the arm or hand due to pain, joint stiffness, muscle weakness, altered sensation, or any other abnormality may have disastrous effects on rhythm and pitch. Performance anxiety, physical or emotional stress, poor nutrition, poor general health, and the effects of drugs, alcohol, and toxic materials may profoundly influence an arts student. Given these conditions, the provision

of high-quality comprehensive medical care to performing and visual arts students is a necessity.

Studies show that university performing arts students appear to see physicians frequently, most do receive a “yearly checkup,” and they make more physician visits per year than other adolescents the same age. Despite this regular medical care, many of their medical needs are unmet, with 15% having ongoing concerns about their health, and a significant number being unassisted with a current problem related to a previous injury. In addition, many desire help with depression, fatigue, nervousness, weight control, bone or joint pain, headache, and acne. Unfortunately, 37% of these students have no regular source of medical care. Eleven percent have not seen a physician in the past year. These figures, extrapolated to students of all the arts disciplines, demonstrate the wisdom of thoughtful, appropriate involvement by administrators and faculties of arts units.

## **Problems of Artists Who Work with Their Hands, Mouth, and Voice**

### **Emphasis: Music, Art/Design, Theatre**

Overview. Many arts disciplines involve constant, intensive work with a particular part of the body. The possibilities for medical problems are compounded in these circumstances. Since intensive music study often begins earlier than work in the visual arts and theatre, studies related to these problems are often focused on music. However, the findings and principles involved are applicable to the visual arts and to theatre as well.

In a 1987 survey of International Conference of Symphony and Opera Musicians (ICSOM) members, 76% reported having at least one medical problem severe enough to affect performance, and 36% reported four severe problems. When members of eight

orchestras were interviewed and examined, 64% had painful overuse syndromes. The prevalence ranged from 75% among strings players to 32% among percussionists. Keyboard players were also at high risk. The reasons for instrument-specific variations in prevalence are complex. However, the total daily playing time, instrument size and weight, playing position, differences in the distribution of men and women in various orchestra sections, technical demands of the music, and personal drive all contribute. Student musicians also experience painful overuse syndromes at rates that have been reported to range between 9% and 49%. Approximately 5% to 11% of music majors at one university music school developed hand problems each year during a four-year period. The incidence of hand problems in women was about twice as high as that in men.

Medical injuries related to musical performance are becoming increasingly visible. They are likely to have implications during the early phases of musical training. Many musicians indicate that tolerating pain is acceptable in their attempts to overcome technical problems. The high incidence of medical problems and musicians' tolerance of these problems suggests that changes are needed in the teaching of music with more emphasis on physical conditioning and prevention measures.

**Overuse Syndromes.** The majority of patients suffer from overuse syndromes: symptom complexes defined as injuries caused by the cumulative effects on tissues of repetitive physical stress that exceeds physiologic limits. Women are more commonly affected than men. Immediately before the syndrome develops, increases in practice or work time, in the technical difficulties of the repertoire or equipment use, or in the levels of psychological stress are common. Use of new instruments or equipment, previous injury, or excessive joint mobility may be contributing factors.

Each instrument or piece of equipment has its own unique size and shape and utilization

requirements that lead to overuse injuries. Because problems are exacerbated or frequently evident only while the musician or the artist/designer is working, they should be examined during and immediately after working.

Common locations for overuse syndromes include the fingers, wrist, elbow, shoulder, neck, and low back. Common symptoms include pain, weakness, and loss of fine motor control. Overuse syndromes can affect bones, ligaments, bursae, tendons and muscle, and can become serious problems if not appropriately treated.

**Neural Impingement.** Nerve entrapment may occur when a nerve passes between rigid structures such as bone, ligament, tendon, or muscle, or close to the body surface. Pain (which may be aching in nature and poorly localized), loss of strength, and sensory abnormalities are common symptoms of nerve entrapment. These symptoms may occur only while working. Constant motion, hypertrophy of muscle and inflammation of muscle and tendons can cause pressure on adjacent nerves. Common sites of involvement include the wrist (carpal tunnel), forearm, elbow, shoulder, and neck. Position-dependent pain associated with motor or sensory symptoms should raise suspicion.

**Focal Dystonias.** Artists who work with their hands may be unusually susceptible to the development of focal dystonias, which are manifest as abnormalities of muscle control. Writer's cramp is a familiar form of this disorder. As many as 14% of musicians with medical problems suffer from focal dystonias. The presentation is characteristic: incoordination while playing, frequently accompanied by involuntary curling or extension of fingers during rapid forceful movements. Facial muscles may be involved with loss of embouchure or air seal. There are no associated sensory symptoms.

**Voice problems.** Musicians and actors are at risk for many disabling ailments. These include vocal abuse in singing or speech; vocal cord nodules, polyps, cysts, or swelling;

and infectious or allergic laryngitis. In addition, the human voice is particularly sensitive to endocrinologic changes, systemic illnesses such as anemia or mononucleosis, and any inhaled or ingested substance. Symptoms of hoarseness, breathiness, loss of range, vocal fatigue, chronic cough, frequent throat-clearing or unusual sensations in the throat should be evaluated.

## **Problems of Artists Who Work with Their Whole Body**

### **Emphasis: Dancers and Theatre Performers**

Overview. Dancers and theatre performers are at high risk for a number of medical problems. Their difficulties with numerous orthopedic injuries have been well reported. Injuries in dancers are caused, in large part, by unphysiologic demands placed upon the body. Some studies suggest overall injury rates for ballet dancers and students that are similar to those of collegiate athletes. Acute and chronic bony injuries consisting of stress and nonstress fractures in the lower extremities and feet, and degenerative arthritis of multiple joints have been reported in classical ballet dancers. However, most injuries suffered by these performers are to muscle, tendon, or ligament, with actual fractures being rare. The most common sites of injury include the back, hip, knee, ankle, and foot. In one study, collegiate dancers and theatre performers averaged 1.2 injuries per student per year. Overall, 75% had sustained an injury at some time, and 12% sustained injuries at least monthly. Twenty-one percent had suffered four or more injuries in the past year. A significant number of injuries sustained by these students are not evaluated by a physician and do not receive supervised rehabilitation.

The large majority of injuries sustained by dancers and musical theatre students occur during class or rehearsal. In addition, approximately 24% of injured students miss one

week or more of class because of the injury. Approximately one-third of dance and musical theatre students have reported exercising at least weekly while in pain, and one quarter desire help with chronic bone or joint pain. Some of the aspects of athletic training, such as increased emphasis on conditioning, strength, and flexibility, may need to be applied to performing arts students. In addition, dancers need better access to orthopedists, sports medicine specialists, and athletic training facilities.

**Nutritional Practices.** Studies on the nutritional habits of female ballet dancers indicate that, in general, they ingest food of low energy and nutritional density; they do not seem to know much about basic nutrition; and a significant degree of food faddism exists. Adolescent ballet students are more likely than non-athletic students to be underweight, to have distorted body image, and to engage in binge eating.

Nutritional practices among these dancers include frequent use of fasting, binge eating, and selective food restriction. Many consume significantly fewer calories than recommended. In one study, 29% of female university dancers consumed less than two-thirds of the Recommended Dietary Allowance (RDA) for energy. Twenty-four percent consumed less than two-thirds of the RDA for three or more nutrients.

Performing arts students in general may be at significant risk for nutrient deficiency, and would benefit from basic nutrition education to provide a background for knowledgeable food choices and the application of necessary practices to affect behavior.

**Eating Disorders.** Distinguishing between normal dieting and anorexia nervosa is especially crucial for physicians, dance and theatre instructors, choreographers, administrators, and actors and dancers themselves. Dancers and actors are weight conscious, and most have dieted to control their weight. Some utilize stimulants or laxatives and even vomit to keep trim. Anorexia nervosa has been reported to occur in up

to 6.5% of students in professional dance schools. Anorexia nervosa may be more common in national rather than regional ballet companies, suggesting that it is related to the level of competition.

The incidence of bulimia is hard to derive, but may be as high as 15%. It remains unclear whether performing arts students with features of eating disorders actually have the same underlying psychological issues as those which are seen in eating-disordered patients. Nonetheless, performing arts students are at high risk for eating disorders and should be monitored closely. Important warning signs of anorexia nervosa include: drastic loss in weight; preoccupation with food, calories, and weight; wearing baggy or layered clothing; relentless or excessive exercise; mood swings; and avoiding food-related social activities. Similarly, warning signs of bulimia include: noticeable weight loss or gain; excessive concern about weight; bathroom visits after meals; depressive moods; stringent dieting followed by eating binges; and increased self-criticism of one's body. The presence of any of these warning signs should alert faculty and students to the possibility of an eating disorder and the need for a medical or psychological evaluation.

**Menstrual Irregularities.** Performing arts students, particularly dancers and theatre performers, have a high incidence of delayed onset of menses, cessation of menses, and irregular menses. Among young ballet students, up to 55% have irregular menses and 39% have amenorrhea (no menses). Delayed onset and pro-longed cessation of menses are recognized risk factors which predispose to scoliosis and stress fractures. The frequency of scoliosis among dancers (24%) is strikingly above that found in the general population (1.8%). Increasing concern has arisen over the relationship of amenorrhea to osteoporosis in young women. Several reports suggest that some young women may not be able to completely replace vertebral bone lost as a result of extended interruptions in the normal menstrual cycle. Amenorrhea, if left untreated, may lead to

irreversible bone loss. Consequently, any performing arts students with irregular menses should be evaluated.