

**Briefing Paper**

**An Overview of Health Issues  
for Performing and Visual Arts Students**

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**COUNCIL OF ARTS ACCREDITING ASSOCIATIONS**

**National Association of Schools of Art and Design  
National Association of Schools of Dance  
National Association of Schools of Music  
National Association of Schools of Theatre**

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## PREFACE

The Council of Arts Accrediting Associations is a joint, *ad hoc* effort of the National Association of Schools of Art and Design, the National Association of Schools of Dance, the National Association of Schools of Music, and the National Association of Schools of Theatre. The Council works with matters of general concern to the arts community in higher education, with particular focus on the issues and policies affecting instructional quality and accreditation.

The term “unit” as used in this document indicates an entire art/design, dance, music, or theatre educational program of an institution. Thus, in specific cases, “unit” refers to free-standing institutions; in other cases, it refers to departments or schools that are part of larger institutions.

*Please note: The purpose of this paper is to organize ideas and encourage thought, not to establish accreditation standards or inflexible positions. The ideas and suggestions presented herein represent the best information and analysis available at the time of completion. Recommendations should be used as the basis for planning only after careful consideration has been given to current and prospective local conditions.*

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

## **Introduction**

Health is increasingly regarded as a serious issue in the arts community. Concerns about incurable diseases and professionally related injuries have brought health issues into new focus. General health is receiving higher levels of attention along with specific diseases and conditions. Preventive maintenance toward long-term personal well-being is a more widely understood and accepted goal. Prevention and treatment are in a new relationship.

These conditions are a current manifestation of historic connections between the arts and medicine. Apollo the Physician, referred to in early versions of the Hippocratic Oath, was an accomplished musician. Shamans, who were perhaps the earliest health care providers, continue to use music and dance as the cornerstone of their therapy. In modern times, therapies based on the arts disciplines have developed a wide range of professional services. Many medical schools are now devoting significant research efforts to understanding the processes of creativity and perception, as well as enriching medical education through the arts. Artists have always had medical problems, and these have been attended to by practitioners using a wide variety of diagnostic and therapeutic techniques. There are now at least 17 specialized centers in the United States that focus on performing arts medicine. Nevertheless, there has been a perception by artists that their health care needs have not been well met. There is much more to be done, both in treatment and prevention.

## **The Role of Educational Institutions**

Educational institutions in general, and arts units in particular, have a powerful impact on the development of personal values about life as an arts professional. Counseling, role modeling, and the artistic/intellectual atmosphere all play a part.

Adolescence, which includes the college years, is a critical period for the formation of health behaviors and attitudes. It is therefore a critical opportunity for health intervention and education. Stress, depression, nervousness, and health worries, which may manifest themselves as medical concerns, social problems, and psychological issues, are recurrent themes emerging from most studies of adolescents' perception of their own health.

Administrators and teachers in arts units cannot and must not attempt to serve as health professionals, but they can maintain basic understanding of health maintenance issues sufficient to inform their work as teachers and mentors.

Arts units are encouraged to develop means of working with health maintenance issues through direct education, counseling, and referral services. This Briefing Paper addresses the substantive aspects of this recommendation. It reviews timely and relevant health care needs and issues for performing and visual arts students. It makes specific recommendations regarding comprehensive medical services and gives practical suggestions for ways that performing arts faculties can facilitate better overall health for their students.

## **Comprehensive Understanding**

The following text discusses medical issues for performing and visual arts students in general and by disciplines. While these breakdowns are useful, each administrator and faculty member should be generally familiar with the entire range of issues presented here. For example, toxic materials covered under the visual arts section are of concern in stage design for theatre, opera, and dance. Muscle problems of the hand may develop in musicians, writers, and studio artists. Perhaps most important is to know that such medical problems exist and that help is available.

## **Essentials of Health Maintenance**

The goals of preventive health maintenance, or wellness, are as follows: (1) to institute preventive health measures by directing attention to biologic and psychosocial high-risk issues and by counseling students, faculty, and parents about them; (2) to educate students and faculty about preventive health, and thus instill good health behavior patterns while preparing students to be effective health care consumers; (3) to identify and treat physical health problems early; and (4) to identify and treat psychosocial problems early.

Given the complexity of health issues facing performing and visual arts students, and young adults in general, an approach to wellness such as this will undoubtedly raise many controversial issues. Confidentiality must be maintained, and the individual's right to determine the nature of his or her own health care respected. Faculty should establish policies and procedures for handling sensitive health issues in a confidential manner. At the same time, they must recognize their role in helping students understand the issues and obtain necessary health care.

## **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 complexity associated with 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 members of the International Conference of Symphony and Opera Musicians (ICSOM), 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 suggest that changes are needed in the teaching of music with more emphasis on physical conditioning and preventive 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 binge eating; 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 prolonged 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.

## **Problems of Artists Who Work with Industrial Materials**

### ***Emphasis: Artists and Designers***

Visual artists/designers are exposed to a large number of hazardous chemicals and environmental toxins, frequently at levels similar to those in industry. A significant number of case reports document that artists can develop dermatitis; lead poisoning; silicosis; liver, kidney, and nerve damage; reproductive problems; carbon monoxide poisoning; cancer; and other occupational diseases caused by chemical exposure. Artists have a higher rate of death from heart disease, leukemia, and cancers of the brain, kidney, bladder, and colon.

Many materials used by artists and designers contain extremely toxic chemicals, and these are frequently inadequately labeled. In addition, students and faculty are often inadequately trained about art hazards. While discussion of the many illnesses and issues related to visual art hazards is beyond the scope of this briefing paper, informative and comprehensive resources are available (*see references*).

Illnesses related to toxin exposure can be difficult to diagnose. If an artist is having symptoms that appear only while he or she is working or soon after, and these symptoms tend to dissipate while the artist is away from work, they may be related to exposure to visual art materials. Such materials may cause illness directly or exacerbate an underlying condition. When seeking medical care, the visual artist/designer needs to alert the physician to the materials being used and any information available about their effects. Using an occupational health clinic may help identify physicians knowledgeable about environmental exposures.

Administrators and faculty have crucial responsibilities for developing and maintaining a safe workplace, ensuring that students are aware of occupational health issues, and developing a climate of concern for safe practices.

## Common Problems

**Substance Abuse.** Substance abuse is one of the most common risk-taking behaviors of adolescents and college students. While the use of illicit and performance enhancing drugs by performing and visual arts students has not been extensively evaluated, these students may be at high risk for substance abuse because of the stress, competitive pressures, low self-esteem, and the association of substance abuse with other problems such as eating disorders. A few studies have shown that performing arts students are significantly involved in substance abuse. In one study of university dancers and theatre performers, in the previous 30 days, 26% had used tobacco, 12% marijuana, and 71% alcohol. Eighteen percent admitted to using drugs other than alcohol or marijuana, 2% on a monthly basis. Seven percent admitted to using drugs to improve their performance.

Warning signs of possible substance abuse include: worsening of artistic or academic performance; absenteeism; symptoms of acute or chronic depression; unexplained or recurrent accidents; repeated overt intoxication; preoccupation with social activities where alcohol or drugs might be present; decreased communication with family, friends, or instructors; drug-using peer group; changes in dress or hygiene; and legal difficulties including any driving-under-the-influence charges. Any concerns by faculty or others about possible substance abuse by a student should be conveyed to that student with a strong urging to seek medical or psychological evaluation. Given the magnitude of the substance abuse problem and the potential impact upon performing and visual arts students, substance abuse education and prevention efforts should be a priority for arts programs in higher education.

A survey of ICSOM musicians asked subjects whether they were concerned about the adverse effects of cigarettes, alcohol, and prescription or nonprescription drugs. Overall, 10% worried about smoking, 21% about alcohol, and 20% about use of prescription and/or nonprescription drugs. Fully 27% of ICSOM musicians have used propranolol or some other beta blocker. Of those using beta blockers, 70% do so without a doctor's prescription or supervision. Four percent of occasional users report taking beta blockers before every orchestral performance.

While some artists have clear medical indications for the use of beta blockers for medical illness or in association with performance anxiety, careful patient education and physical supervision for side effects or substance abuse should be provided. Research needs to be conducted on the effects of drugs upon performing and visual arts students' performance and health.

**Acquired Immunodeficiency Syndrome (AIDS).** AIDS presents a tremendous problem for administrators and faculty in performing and visual arts units. Discussions about AIDS are crucial because the disease is lethal, but difficult because AIDS is normally transmitted in the most private of human activities, sexual intercourse. Too often, the easiest path seems to be benign neglect or a cursory review of the issues, in hope that the broader public discussion will provide the information sharing and counseling that each student needs.

Fortunately, much help is available in dealing with various aspects of the AIDS crisis (*see references*). Administrators and faculty do not have to create everything for themselves. But at the very least, some common goals should be established for all involved in a particular arts unit.

1. A set of local and national information sources should be maintained so that the unit can keep current with developments.
2. All students should receive basic AIDS education.

3. All faculty should receive basic AIDS education with an emphasis on counseling and referral issues.
4. The unit should be connected to one or more counseling networks. Special emphasis should be placed on prevention – placing the AIDS issue in the context of wellness.
5. The unit should have a basic plan and set of policies for dealing with AIDS cases should they appear among students or faculty.

These goals should be pursued in a systematic way and activities evaluated to ensure that goals are being achieved. Even though there is no specific data concerning AIDS in student artists, college students represent one of the fastest-growing age groups for new AIDS cases. This indicates that arts units in higher education have urgent responsibilities to address this issue effectively.

### **Recommendations for Medical Services**

Performing and visual arts students are a unique population with a wide variety of medical needs and concerns. An increased level of awareness is needed in the arts community, including professional artists, faculty and instructors, of the need to attend to medical issues and the impact of physical and mental health problems upon artistic performance. The following suggestions concerning the medical needs of performing and visual arts students are offered:

1. The faculty, parents, and medical care providers of performing and visual arts students need to be aware of the particular health care needs of these students and the availability of resources to help meet them.
2. Students should undergo yearly medical evaluation with particular emphasis on:
  - a. Evaluation of overall conditioning and rehabilitation of prior injuries
  - b. Detection of orthopedic abnormalities or limitations
  - c. Screening for substance abuse, eating disorders, and mental health problems
  - d. Assessment of menstrual function and dietary practices
3. Whenever possible, routine monitoring of menstrual function, dietary changes, weight changes, and skin-fold thickness should be performed. This may require the coordinated efforts of medical care providers, faculty, and possibly parents.
4. Students with amenorrhea or irregular menses should receive complete gynecologic and endocrinologic evaluations.
5. Health services for performing and visual arts students should include:
  - a. Education and counseling for students, parents, and faculty or instructors regarding proper nutrition, basics of injury management and rehabilitation, substance abuse, eating disorders, hazardous materials, and common mental health problems.
  - b. Regular access to services needing for proper injury assessment, management, and rehabilitation. This might include an orthopedist or sports medicine specialist, athletic trainer, physical therapist, and athletic training facilities. Special emphasis should be placed on education, physical conditioning and training to help prevent injuries.
  - c. Regular access to confidential mental health services.

## Recommendations for Arts Units

The faculty and administrators working with performing and visual arts students can be instrumental in meeting many of these health care needs. Schools need to pursue available knowledgeable care for the overall health and specific performance related problems of all performing and visual arts students. Modeling collegiate sports medicine programs may be helpful. Attention needs to be focused on all artists who may be subject to disability and poor access to health care. Locally, faculty and administrators can encourage interest and awareness among health care providers of the medical needs of performing and visual arts students. Suggestions for practical ways to become involved include:

1. Give health related issues a high profile within the arts unit.
2. Make the above medical recommendations available to parents and students, and give consideration to requiring a yearly medical checkup. Such a medical evaluation should be provided by a physician knowledgeable about any developmental, orthopedic, and special problems of the specific group. Student health services can be a helpful starting point.
3. Establish regular opportunities for faculty and students to participate in educational/discussion sessions about proper training and conditioning techniques, proper injury management and rehabilitation, substance abuse, hazardous materials, eating disorders, safe sexual practices, and depression and other mental health problems. This could be accomplished through a regularly scheduled health series, elective course work, printed materials and handouts, or with the assistance of a committee on health issues composed of faculty and students.
4. Establish close liaisons with student health services, the athletic trainer, and psychological services on campus.
5. Utilize local resources such as schools of medicine, schools of nursing, public health departments, eating disorder units, substance abuse treatment facilities, sports medicine groups, and physical or occupational therapy departments, and any of the several dozen arts medicine programs throughout the country. Counseling on issues of general wellness will best be handled by student health services on each campus and by local academics of medicine or pediatrics. Both the American Medical Association and the American Academy of Pediatrics (*see references*) have local and state branches dedicated to health promotion activities.

## **For More Information:**

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Art Hazards Information Center  
Center for Safety in the Arts  
5 Beekman Street  
New York, NY 10038  
212-227-6220

National Anorexia Aid Society  
1925 East Dublin Granville Road  
Columbus, OH 43229  
614-436-1112

### **Organizations**

AIDS Hotline: 1-800-342-AIDS. For more information and support groups.

American Academy of Pediatrics  
141 Northwest Point Boulevard  
P.O. Box 927  
Elk Grove Village, IL 60009  
800-433-9016

American Anorexia/Bulimia Association  
133 Cedar Lane  
Teaneck, NJ 07666  
201-836-1800

American College Health Association  
P.O. Box 28937  
Baltimore, MD 21240  
410-859-1500  
www.acha.org

National Associations of Anorexia Nervosa and Associated Disorders  
Box 7  
Highland Park, IL 60035  
312-831-3438  
www.anad.org

National Clearinghouse for Alcohol and Drug Information  
Information Services  
P.O. Box 2345  
Rockville, MD 20852  
301-468-2600

Overeaters Anonymous  
P.O. Box 44020  
Rio Rancho, NM 87174  
505-891-2664  
www.oa.org

### **Books and Articles**

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## Acknowledgments

The Council of Arts Accrediting Associations is a joint, *ad hoc* effort of the National Associations of Schools of Art and Design, the National Association of Schools of Dance, the National Association of Schools of Music, and the National Association of Schools of Theatre. The Council works with matters of general concern to the arts community in higher education, with particular focus on the issues and policies affecting instructional quality and accreditation.

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