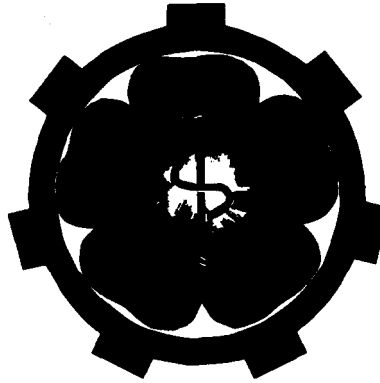
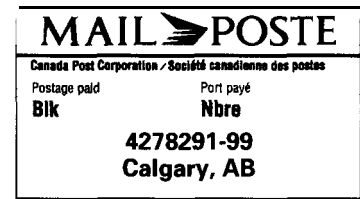


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ALBERTA OCCUPATIONAL MEDICINE NEWSLETTER

EDITORIAL COMMENTS

This first issue of the Newsletter for 1999 begins with a description of how the undergraduate program at the University of Calgary has evolved over the last several years. Most physicians are likely to remember having some lectures in medical school on occupational diseases (most likely lung and skin), and perhaps a not-so-memorable block of teaching on occupational health programs or workers' compensation. In the 1995 CMA Physicians' Survey, practicing physicians declared an average of 6.7 hours per week of activity in occupational or industrial medicine, suggesting an educational need at one or more of the undergraduate, graduate clinical, or continuing education levels. This need was described more precisely in terms of knowledge, skills, and attitudes by a series of surveys and focus groups that were part of the Educating Future Physicians of Ontario project.

As noted in our lead article, aside from the local challenges of developing and maintaining a curriculum in occupational medicine, there is a need to communicate and coordinate with other Canadian teachers, sharing strategies, successes, failures, and resources. Since 1988, the US National Institute of Environmental Health Sciences (NIEHS) has funded approximately, 24 U.S. medical

schools to develop teaching materials and methods in occupational and environmental health. Dr. Gary Liss (Ontario Physician's Education Project in Workplace Health) and I have been attending the annual meeting of this group for several years. Over the next year, most of these teaching materials will become available on the 'Second Nature' website (go to <http://www.2nature.org> and select 'Programs') adding to the growing number of educational websites in occupational health. Interested readers should also have a look at the lending library of the US Association of Occupational Health Clinics (<http://gilligan.mc.duke.edu/oem/LLDIR.htm>).

We invite any readers who teach, or have an interest in teaching, occupational medicine to join our maillist, and to attend the first meeting of the 'teachers section' at the upcoming Occupational and Environmental Medical Association of Canada (OEMAC) conference in Toronto, Ontario, on October 2-5, 1999 (<http://www.oemac.org/conferen.htm>).

In this issue, we have also republished two short articles from the Workers' Compensation Board Alberta, one on a series of workshops to develop 'models of causation' for occupational injuries and illness, and another describing the materials of interest to health professionals on their

website. And, as always, have a look at our updates on conferences, new additions to our Southern Alberta Occupational Medicine Page, and links to other interesting websites.

Kenneth Corbet MD FRCPC
Editor

* * * *

The Teaching of Occupational Health within a Clinical Presentation Curriculum

Kenneth Corbet MD FRCPC*

Introduction

The undergraduate medical program at the University of Calgary is three years in duration; the first two years are primarily lecture-based, followed by a clinical clerkship year of in-hospital and outpatient rotations. Prior to 1996, the lecture curriculum consisted of a series of courses based on body systems, in parallel with courses based on developmental stages (e.g., the infant and newborn, childhood development, aging and the elderly).

In 1996, the lecture curriculum was re-organized around approximately

**Prepared in the Department of Community Health Sciences, Faculty of Medicine
The University of Calgary, through funding by The Workers' Compensation Board - Alberta**

120 clinical presentations, which were defined as “a common or important way in which a patient, group of patients, community, or population presents to a physician”. For example, the lectures for the Respiratory Course (MDCN 307) were re-organized under clinical presentations such as ‘cough and fever’, ‘dyspnea without chest x-ray changes’, and ‘hemoptysis’, in contrast to organization by diagnostic categories such as pneumonia, asthma, or lung tumors.

Prior to 1996, the teaching of occupational health was in three 4-hour blocks within the Adult Lifestyles section of the Family Course, and included topics in the prevention and control of health hazards, diagnosis and treatment, rehabilitation and compensation, and occupational health programs. With the changes to the curriculum in 1996, however, blocks of time within the lecture schedule were no longer available: the challenge was to integrate the teaching of occupational health into the clinical presentations of several different courses over the first two years of the curriculum.

learning Objectives for Occupational Medicine

What knowledge, skills, and attitudes relating to occupational health and medicine are essential for the graduating medical student? There is certainly no Canadian consensus on this question. The 1992 Medical Council of Canada ‘Objectives for the Qualifying Examination’ include a section on occupational and environmental health issues, with several additional objectives under clinical presentations in medicine and surgery. Corbet and Liss (1998) undertook a full review of the 1992 Objectives, and extracted those that related most directly to occupational and environmental health. Our recommendations for additions and revisions were passed on to the Council for consideration in the development of its revised 1999 Objectives.

In the United States, the Institute of Medicine (Committee on Curriculum Development, 1988 and 1997) recommended several competency-based learning objectives in occupational and environmental health for the graduating medical student

Table 1:

Institute of Medicine Competencies for Graduating Medical Students (1997)

Graduating medical students should:

1. understand the influence of the environment and environmental agents on human health based on knowledge of relevant epidemiologic, toxicologic, and exposure factors,
2. recognize the signs, symptoms, diseases, and sources of exposure relating to common environmental agents and conditions,
3. elicit an appropriately detailed environmental exposure history, including a work history, from all patients,
4. identify and access the informational, clinical, and other resources available to help address patient and community environmental health problems and concerns,
5. discuss environmental risks with their patients and provide understandable information about risk-reduction strategies in ways that exhibit sensitivity to patients’ health beliefs and concerns,
6. understand the ethical and legal responsibilities of seeing patients with environmental and occupational health problems or concerns.

(Table 1). In 1998, the American College of Occupational and Environmental Medicine published a much larger document that outlined competencies in this area of medicine for both the general and specialized physician. For interested readers, all of these documents can be accessed through links at: www.med.ucalgary.ca/oemweb/educobj.

It was clear that a full embrace of the objectives recommended by these national committees would be impossible given the constraints of the lecture schedule and the availability of lecturers in occupational health. We had to establish priorities:

- which topics were essential for undergraduate medical students, and which could wait until graduate clinical training?
- which topics would be perceived by the students as the most relevant at their stage of training?
- which topics could be taught effectively in a lecture setting, given that the small number of faculty did not allow for small group sessions, projects, or worksite visits for all students?
- which topics could we most quickly convince the course chairpersons to include within their lecture schedule?

Through a largely informal process of

discussion and trial-and-error, we developed the following goals for the undergraduate lecture series (or theme) in occupational health:

To provide students with the knowledge, skills, and attitudes they require to:

- recognize and reduce the health risks they will encounter in their own medical training and practice
- recognize and manage common occupational health problems they will see in their patients
- meet their medicolegal responsibilities under workers’ compensation, occupational health and safety, and motor vehicle legislation.
- be successful on items of the Medical Council of Canada examinations that relate to occupational and environmental health
- make informed decisions regarding their post-graduate and continuing medical education.

Three Years of Progress

The teaching of occupational health and workers’ compensation is now spread across 12 sessions in the three years of undergraduate curriculum; Table 2 provides an outline of the current undergraduate lectures according to the course, key topics, year

of the curriculum, and allotted time. Compared to 'block' scheduling as is still used at most other Canadian medical schools, a clinical presentation curriculum has both advantages and disadvantages for the teaching of occupational medicine:

Advantages

- occupational health topics are presented earlier and more often in the curriculum, conveying to students that occupational health is an ongoing 'theme' in their medical education;
- topics are presented in a more timely fashion during the curriculum

(e.g. blood and body fluid exposures in the first semester);

- topics are presented in a clinical context, increasing the perceived relevance to students;
- the Medical Council of Canada bases its examination 'blueprint' for the national certifying examinations on a similar list of clinical presentations.

Disadvantages

- compared to block scheduling, there is considerably more administrative work required to coordinate with several different course planning and evaluation committees (e.g.,

lecture scheduling, course manuals and handouts, examinations, and course evaluation);

- some topics in occupational health and workers' compensation do not neatly fit into an existing clinical presentation, so some lectures remain at risk for being dropped when a new course chair is appointed, or a course undergoes reorganization.

Additional learning Resources and Opportunities

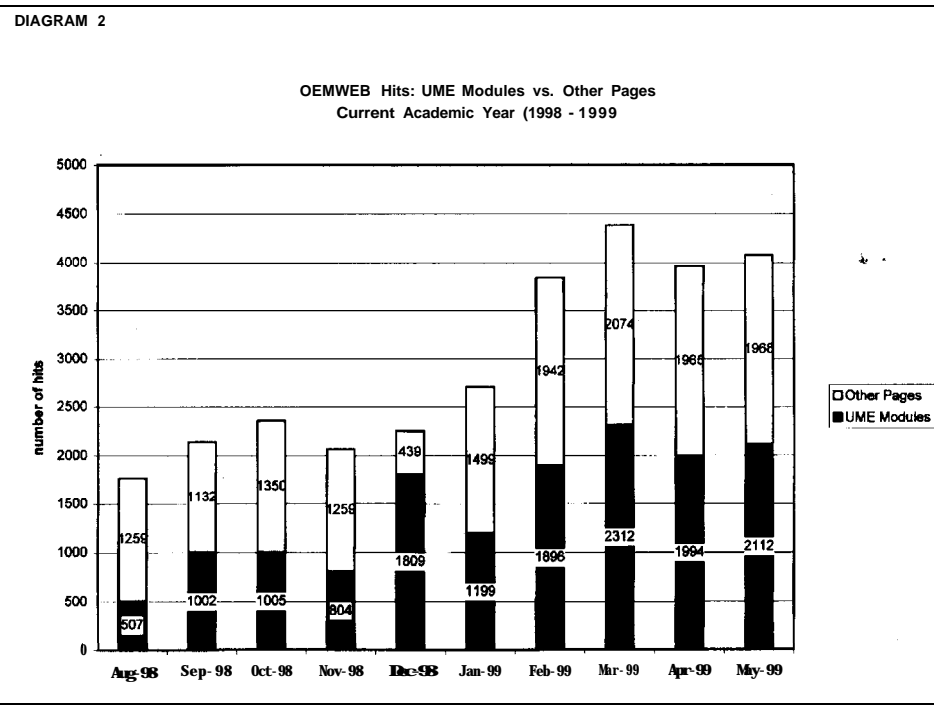
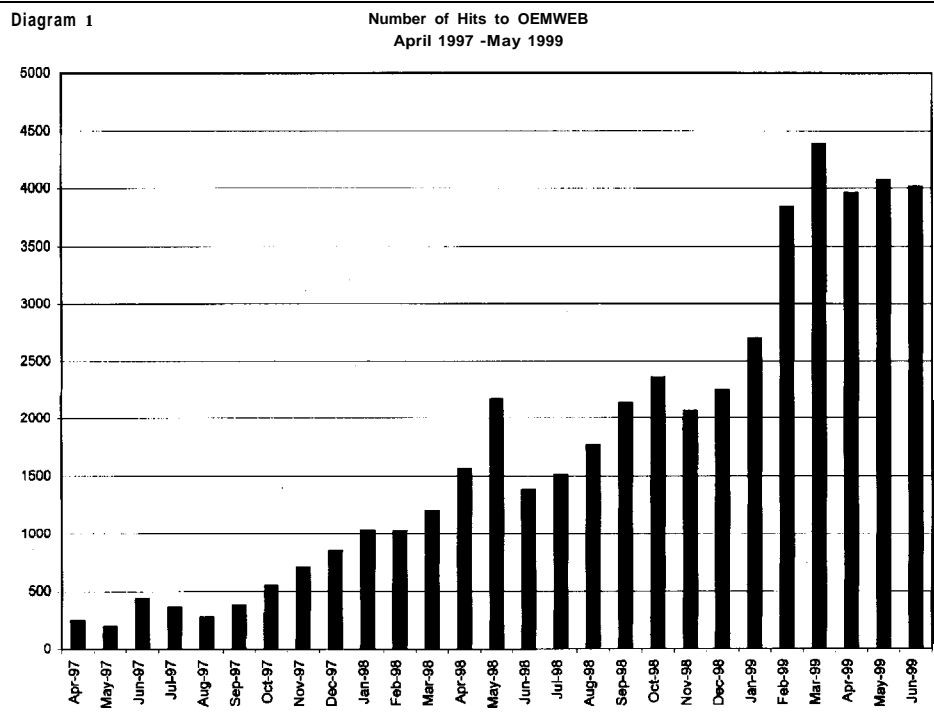
Most of the undergraduate lectures have a module on the Southern Alberta Occupational Medicine Page (www.med.ucalgary.ca/oemweb) that contains learning objectives, lecture overheads and slides, handouts and additional text, references, and internet links. The development and maintenance of this website is the major activity of our project assistant, Ms. Kim Blaikie, with technical support from Mr. Doug Hall, Medical Instructional Resources. It is hoped that other teaching faculty at Canadian universities will find these materials useful in the planning and presentation of their own curricula. Since its 'launching' in April 1997, the website has had a steady increase in the number of file requests ('hits'), now over 4000 hits per month, with more than half of these requests relating to the undergraduate modules (Diagrams 1 and 2).

There is a dedicated area in the Bacs Medical Learning Resource Centre for posters, course readings, and other printed and audiovisual materials relating to the occupational health theme. Recent activities have included a major window display outlining occupational health and workers' compensation, and the development of several small poster displays relating to current lecture topics.

A multimedia computer-based tutorial titled "Return to Work Planning" is presently nearing the end of its pre-production phase. Using a shoulder strain injury as a case presentation, it will introduce the key concepts of return to work planning and medical reporting to workers' compensation. A draft version will be available by

Table 2
University of Calgary
Undergraduate Curriculum in Occupational Medicine
 Outline of Lectures: 1998 - 1999

TITLE / COURSE	YEAR	HOURS	TOPICS
1. INTRODUCTION TO OCCUPATIONAL MEDICINE Principles For Medicine MDCN 302	First	0.5	<ul style="list-style-type: none"> • overview of curriculum theme • introduction to website and BACS Centre • post-graduate training opportunities
2. HEALTH AND THE ENVIRONMENT Principles For Medicine MDCN302	First	1.5	<ul style="list-style-type: none"> • health hazards and health risk • exposure and susceptibility • options for the management of health risk
3. EXPOSURE TO CHEMICALS AND RADIATION Blood System MDCN 308	First	0.5	<ul style="list-style-type: none"> • principles of toxicology and radiation • assessing for lead toxicity • occupational and public health issues
4. EXPOSURE TO BLOOD & BODY FLUID Blood System MDCN 308	First	1.0	<ul style="list-style-type: none"> • prevention and immunization • exposure and risk assessment • post-exposure management
5. RETURN TO WORK PLANNING MSK & Skin System MDCN 312	First	1.0	<ul style="list-style-type: none"> • impairment, disability, and handicap • assessing capacity and risk • communication and confidentiality
6. WORKERS COMPENSATION REPORTING MSK & Skin System MDCN 312	First	1.0	<ul style="list-style-type: none"> • history and function of WCB Alberta • the claims process • physician roles and responsibilities
7. DERMATITIS IN HEALTH CARE MSK & Skin System MDCN 312	First	1.0	<ul style="list-style-type: none"> • recognition and control of skin hazards • clinical assessment • fitness to work
8. DRIVERS' MEDICAL EXAM Medical Skills MDCN 320	Second	2.0	<ul style="list-style-type: none"> • medical standards • clinical assessment • reporting 8 regulations
9. INHALATIONAL EXPOSURES Respiratory System MDCN 307	Second	3.0	<ul style="list-style-type: none"> • types and control of air contaminants • clinical assessment • fitness to work
10. DRIVING AND THE ELDERLY Human Development MDCN 412	Second	1.0	<ul style="list-style-type: none"> • assessing fitness to drive • legal and ethical aspects • driver testing
11. HEALTH HAZARDS IN CLERKSHIP Clerkship Orientation Third	Third	0.5	<ul style="list-style-type: none"> • blood and body fluid exposure • TB and other communicable diseases • skin problems
12. REVIEW OF OCCUPATIONAL HEALTH MCC Review Sessions Third	Third	1.5	<ul style="list-style-type: none"> • overview of examination process and content • overview of IO key clinical presentations



November, 1999, concurrent with the lecture on this subject in the Musculoskeletal and Skin course.

Several students with an interest in occupational health have undertaken research electives (MDCN 340/440) in several areas:

- "Fetotoxic Chemicals in the Workplace: A Draft Guideline for Physicians"
- "Evaluation of Clinic Billing Records as a Health Surveillance System"

- "Health Risk Assessment of Carbon Monoxide Exposure"
- "Lead Poisoning: Is it a Problem in Alberta?"

Readers may recall that the first paper was published in the Alberta Occupational Medicine Newsletter (Caplan and Corbet, vol. XIV, no. 2, 1997). It was subsequently reviewed by the Committee on Reproductive Care of the Alberta Medical Association, who recommended that it be forwarded to the Clinical Practice

Guideline Committee for further development. This article was also used by the Division of Continuing Medical Education, University of Alberta for its rural teleconference program on Occupational Health and Pregnancy.

Lastly, we are exploring other learning opportunities outside the formal curriculum (non-examinable) such as clerkship orientation sessions, student health and safety committees, pre-travel orientation for international electives, and interest groups or journal clubs.

Institutionalization and Promotion of Teaching in Occupational Health

To avoid reliance on a single member of faculty for the majority of teaching in the occupational health theme, there has been an ongoing effort to 'institutionalize' by involving more faculty in curriculum development. We had had some success involving full-time faculty from other departments (e.g. occupational lung disease, driving and the elderly), but less success involving clinical part-time faculty. As has been the experience at other Canadian universities, recruitment of part-time teachers to assist with the development and teaching of the curriculum is likely to remain difficult because of the:

- relatively few physicians with formal training in occupational health
- lack of familiarity with the curriculum and clinical presentation model,
- time requirement and complexity in developing an undergraduate lecture.

In conjunction with Dr. Gary Liss (Ontario Physicians Educational Project in Workplace Health) and the Occupational and Environmental Medical Association of Canada (OEMAC) we have compiled a national list of teaching faculty in occupational health. We have launched an internet discussion group (mail list) for this group of teachers, with a first meeting for the group at the upcoming OEMAC meetings in Toronto, Ontario, on October 3, 1999.

Into the Next Millennium

Public, corporate, and governmental expectations of physicians' competency in occupational and environmental health are likely to increase as do the costs (human and financial) of illness and injury resulting from work and the environment. As with other areas of medicine, however, the demands on medical students (and teaching faculty) continue to grow, so educators in occupational health must develop strategies that are both effective and efficient. Consensus on what is essential for undergraduate students, sharing of learning resources and experience, and formal evaluation of teaching methods are necessary if our students are to meet the challenge of medical practice in the next millennium.

* Clinical Assistant Professor, Department of Community Health Sciences, University of Calgary.

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WCB Alberta News

Medical Advisory Guidelines on WCB website

To ensure WCB medical advisors have access to the most current medical information and research on specific conditions, the WCB introduced medical advisory guidelines in 1995. These guidelines are now available through the WCB website at www.wcb.ab.ca.

Medical guidelines are intended to help practitioners/clinicians better understand the prevailing medical opinion related to work injuries and illnesses. They also allow WCB medical advisors to provide consistent advice in support of the case management process.

Background papers related to the guidelines were prepared independently of by the University of Alberta Occupational Medicine Department to objectively document the status of current permanent clinical impairment criteria. In circumstances where documentation was absent or inconclusive, guidelines were developed through consensus of all WCB medical advisors

In addition to the Medical Advisory Guidelines; the Alberta Disability Duration Guidelines, WCB forms, fact sheets and publications are available through the WCB website.

New causation model to assist in injury evaluation

In conjunction with the Policy Consultation project the Workers' Compensation Board has retained the services of Dr. Phil Harber, an expert in the field of occupational medicine, to develop a causation model for the WCB-Alberta.

This causation model will be used to evaluate the cause and effect relationship between an incident or exposure and an illness or injury. The model will build on clinical information, exposure information, the medical diagnosis and the facts of a claim to assist in more consistent causation decisions. The model will also assist in clarifying when medical evidence alone can resolve case issues or when administrative decisions are required.

"A specific model in combination with expert clinical evidence and medical expertise will support consistent and fair causation decisions for injured workers," says Dr. David Linklater, medical advisor, WCB-Alberta.

The causation model will be reviewed by experts in occupational medicine, family practice clinicians and WCB Medical and case management staff. It will provide the framework for considering current medical research for conditions such as ganglion and degenerative joint disease.

Reprinted from WCB Health Care Matters, Spring 1999 (Vol.3, No. 1)

SOUTHERN ALBERTA OCCUPATIONAL MEDICINE PACE

<http://www.med.ucalgary.ca/oemweb/>

Web News

- New at our home (www.med.ucalgary.ca/oemweb/):
 - have a look at our new **Family Medicine** module **The WCB Claim**
 - also view the newly posted article **High Pressure Injection Injuries of the Hand** by Murray Flotre
- The Occupational and Environmental Medical Association of

Canada has launched its website, (www.oemac.org). OEMAC is the national specialty association for occupational medicine in Canada. Have a look at their membership information, current projects, and upcoming conferences.

- Interesting websites:
 - Ergonomic Guidelines for arranging a Computer Workstation: 10 tips for users (<http://ergo.human.cornell.edu/ergoguide.html>)

- 3M's Office Ergonomics Self-Help Site (www.mmm.com/cws/selfhelp/index.html)
- Medical Multimedia Group, provides some depth on the medical aspects of various musculoskeletal disorders. See A Patient's Guide to Cumulative Trauma Disorder (www.sechrest.com/mmg/ctd)

UPCOMING CONFERENCES

CANADA:

- **4th ICOH International Conference on Occupational Health for Health Care Workers**

Focusing on the practical aspects of prevention of occupational diseases and injuries in health care settings, invited speakers will review the current state of knowledge in various fields such as infectious diseases, ergonomics, musculoskeletal injury prevention, exposure to chemical products, psychosocial factors of health, and issues in developing countries. Pre-conference courses will also be offered.

September 28 -October 1, 1999
Montreal, Quebec.

Contact:

4th ICOH HCWs Conference Secretariat
5100 Sherbrooke Street, east, room 950
Montreal, Quebec, **HIV 3R9**

Email:icoh1999@asstsas.qc.ca

Web:<http://www.santepub-mtl.qc.ca/icoh1999/anglais.html>

- **1999 Occupational and Environmental Medical Association of Canada Scientific Conference**

The Postgraduate sessions include searching and retrieving needed occupational health and safety information; evaluating the credibility of published information in clinical decision making; the updated guidelines in recognition, evaluation, control, management and prevention of a common occupational disease, occupational asthma; and, the return-to-work policy and strategies in minimizing disability in the workplace.

The Scientific Conference has been designed to emphasize the need to measure and evaluate occupational health and safety programs and services in the workplace to demonstrate their value, effectiveness and efficiency.

October 2-5, 1999
Toronto, Ontario

Contact:

Conference Planner
Email:oemac@esc.net
Fax: 519/439-8840

Web:<http://www.oemac.org./conferen.htm>

- **Reproductive Hazards and Outcomes/A Worker's Health Concern for the New Millennium**

October 3-6, 1999
Toronto, Ontario

Contact:

Conference Planner
Phone:41 6-441-1 939
Email:reproconf@whsc.on.ca.

INTERNATIONAL:

- **"Non-Ionizing Radiation Protection" course**, taught by Tim Hitchcock, author of "Radio-Frequency & ELF Electromagnetic Energies: A Handbook for Health Professionals."

Sept. 13-15, 1999
Portland, Oregon.

Contact:

Adrienne Norquist
Phone:206-543-1069

Email:ce@u.washington.edu for more information,

Web:http://depts.washington.edu/envhlth/conted/ce/course_descriptions/radiation.html

- **North American Agromedicine Consortium (NAAC) 12th Annual Meeting**

In association with the International Association of Agricultural Medicine and Rural Health, the Agromedicine Consortium provides a forum for health care providers, veterinarians, university researchers, government agency staff, agribusiness representatives and rural residents in the United States, Canada, and Mexico to exchange information related to agricultural health and safety.

September 25-28, 1999
Raleigh, North Carolina

Contact:

W. Gregory Cope
Department of Toxicology
North Carolina State University
Box 7633, Raleigh, NC 27695
Phone:91 9-515-5296

Fax:91 9-515-7169

Email:greg_cope@ncsu.edu

- **State-of-the-Art Conference (SOTAC 1999)**

The State-of-the-Art Conference is the annual fall meeting of American College of Occupational and Environmental Medicine (ACOEM). The Conference will offer scientific sessions, postgraduate seminars, two-day courses, technical exhibits, and guest activities.

October 17-21, 1999
San Antonio, Texas

Contact:

ACOEM
114 N. Arlington Heights Road
Arlington Heights, Illinois, 60004
Phone:847/818-1800
Fax:847/81 8-9266