Introduction

Over the last decade, primary care and some specialty physicians have seen an increasing number of patients who complain of symptoms potentially related to poor indoor air quality (IAQ). There are several theories for such an increase in patients whose symptoms may be related to IAQ. The most popular theory relates to building design for better energy conservation. In addition, California building codes mandate a certain degree of earthquake-proof. However, in exchange for earthquake-proof, waterproof cannot be completely achieved. The need for energy conservation, earthquake and waterproof creates an indoor environment with less natural ventilation and it has been postulated as a possible cause of IAQ problems in modern houses and buildings, even though, from an engineering perspective, the mechanical ventilation provides above-standard indoor ventilation. Discussions on the hypotheses of why certain individuals are more prone to experience symptoms related to real or perceived poor indoor air quality is beyond the scope of this review. Additional information can be found in a current toxicology textbook. Recently, the popular media has generated public interest and attention to the adverse health effects due to black mold exposure. While several national institutions have addressed the issue of health problems due to poor IAQ, few publications offer practical suggestions for primary care physicians on mold exposure issues. This paper summarizes the current data linking human health effects to indoor mold exposure using an evidence-based approach and provides some recommendations for practicing physicians on the topic.

As an effort to provide current information regarding the health effects of indoor mold exposure, a published search of the database was conducted using the keywords bioaerosol(s), mold (mould), fungus, mycotoxin, dampness, indoor, indoor environment, health effects, respiratory, and sick building to find English language studies published between 1966 and November 2002. The search yielded a total of 417 articles. Only human studies related to fungal exposure were included in the selection process. Bioaerosol sampling methodology, dust mite, insect, animal dander, bacteria, plant and non-human studies were excluded. All original articles were obtained and reviewed for study purpose, methodology, exposure assessment, results and conclusions. A more detailed discussion on the review of individual studies can be found in a recent publication.

Health Effects Associated with Indoor Mold Exposure

Despite significant limitations, these human studies suggest a trend toward increased respiratory symptoms among those who occupied...
houses and buildings containing excessive moisture. Factors other than mold (volatile organic compounds, endotoxins and insects) may play some role in the symptoms experienced by the occupants of that building. An association between indoor mold and respiratory symptoms is also suggested. Case reports indicate that the patients recovered completely after treatment or removal from further mold exposure.

Based on systematic review and analysis of the published human studies, the following health effects can result from indoor mold exposure:

**Allergy and hypersensitivity diseases** such as rhinitis, asthma and hypersensitivity pneumonitis result from exposure to mold allergens that stimulate specific immunological responses.

**Infection** refers to the entry and multiplication of a biological agent (fungus) in a host's body. Unless the person is significantly immunocompromised, it is quite rare that healthy individuals are infected by indoor mold. The most common fungal disease is superficial mycosis, such as tinea infection that has no association with indoor mold exposure.

**Irritation** due to bio-aerosol exposure may result in conjunctivitis, rhinitis and asthma under unusual circumstances. Mold can produce a variety of organic chemicals including alcohols, aldehydes and geosmin producing typical musty and pungent odors. Glucans are glucose polymers found in most fungal cell walls. Exposure to excessive airborne (1β3) beta-D-glucan has been associated with airway inflammation. Fortunately, irritation effects are transient and self-limiting.

**Toxicity** due to fungal exposure is caused by mycotoxins produced by molds. Documenting toxic effects from any mycotoxin should include (a) presence of airborne spores containing toxin; (b) levels of toxin exposure sufficient to cause disease; (c) observed health effects related to toxin exposure rather than other mold components. Current scientific evidence does not support an association between symptoms and indoor mycotoxin exposure in non-agricultural setting. Although cancer has been associated with ingestion of mycotoxins, current evidence indicates that cancer due to inhaling mycotoxin requires chronic exposure in heavily contaminated agricultural environments.

**Assessing and Controlling Mold Exposure**

Overall, there is a lack of discussion in the studies reviewed on how to appropriately manage individuals exposed to indoor mold and also a lack of specific mold level that may prevent mold related illnesses. In contrast to the well-established health effects of asbestos and other mineral dusts at various levels, there is a lack of epidemiological and clinical data that establish exposure-disease and dose-response relationships for fungal exposure. The diversity of biological agents, and their various effects on individuals, makes it difficult to establish acceptable or safe levels.

Currently, the methods of collecting and measuring fungi and their metabolic byproducts are not well standardized. There is a paucity of data on levels in the environment, and the health effects in exposed populations are not well understood. Therefore, no exposure limits can be set at this time. Additional review of published documents on patient management revealed only guidelines. Guidelines for assessing and controlling fungal exposures are based more on a consensus of researchers and practitioners rather than objective scientific data.

**Medical Management**

Building occupants or residents of a home should be evaluated for possible building related illness if they experience symptoms temporally related to the suspected exposure. If mold related illness is suspected, physician should request a general IAQ assessment of the building or home at issue. It is important that the medical provider not jump to the conclusion that the illness must be related to mold since there are many potential etiologies for the symptoms. The exposure can be the result of chemical, physical and other non-fungal (bacterial, viral) exposures.

Physicians should use a combination of clinical tools such as history, physical examination, lab test (CBC), chest x-ray and CT scan for building occupants or residents.
Indoor Mold Exposure
Continued from Page 2

accurate diagnosis. Referral to allergist, toxicologist or occupational medicine specialist may be necessary if the diagnosis is unclear or further environmental studies are indicated. More comprehensive environmental mold assessment may be necessary in order to establish a link when medical diagnosis is consistent with a mold-associated illness. In general, such investigation is needed when there is a history of water intrusion, visible mold continues after repetitive cleaning AND patients experience symptoms consistent with fungal illness.

A causal link may be established when a specific disease (allergy to specific mold species, fungal infection with positive culture from bodily fluid and mucous membrane inflammation) is diagnosed AND there is evidence of fungal contamination in that indoor environment. Problems such as leaking roofs or cracked pipes should be obvious, and relatively easy to correct.

However, moisture problems (and consequential mold growth) in some building systems may be more difficult to resolve. In these cases where condensation, capillary movement of water, moisture in building envelopes, etc. are suspected, engineering, architectural, and other professionals should be consulted. When water intrusion and moisture problems are identified and remediated, mold related issues should eventually resolve.

Conclusions

Health effects caused by exposure from fungal sources include allergy, infection, irritation and toxicity. Current published human studies demonstrate an association of allergy and respiratory symptoms, and exposure to moisture/mold. While the first three categories have well established mechanisms, there is a lack of dose-response data, and a highly variable degree of individual susceptibility. Specific toxicity due to inhaled mycotoxins is not well documented, and remains unproven. Recent reviews concluded that currently there is no scientific evidence to support the allegation that human health is affected by inhaled mycotoxins10,11.

In the absence of specific illness and respiratory symptoms among the occupants of a home or office, caution is warranted in responding to visible mold with knee-jerk advice such as, “Move out of your house” or “Evacuate the building,” since such actions would have significant psychosocial and economic consequences. Excessive moisture is a risk factor for mold proliferation. If there is water intrusion and significant visible mold then there is probably no need to do air sampling.

It therefore, is prudent to identify the source of moisture or water leak, and then repair and fix water intrusion problems before starting an expensive and comprehensive environmental investigation. Future research in fungal exposure should include the standardizing protocol for assessment and control of mold based on best available scientific evidence; identification of specific components that define clinical disease or syndrome; and development of a validated bio-marker for fungal exposure.

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References

WOEMA Launches Five State Legislative Initiative

The WOEMA Board of Directors has hired the Advocacy and Management Group (AMG) as a legislative advocate for all WOEMA member states (HI, CA, UT, NV, AZ). AMG will assist WOEMA in analyzing and tracking legislation, help the WOEMA Board and Legislative Affairs Committee develop strategy for making sure that the voice of occupational medicine physicians is heard by state legislators and policy makers, and advise WOEMA members on how to effectively influence policy.

Don Schinske will present “The Politics of Medicine,” a Legislative Roundtable and Dessert at 8:00 pm on Thursday September 16 at the Western Occupational Health Conference at the Hyatt Regency Lake Las Vegas.

WOEMA thanks the following members have contributed to the Legislative Fund to protect further the future of occupational medicine and our livelihood.

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YES!! Add me to the list of occupational physicians who support WOEMA’s Legislative and Regulatory Initiative.

Here is my contribution of:

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Mail along with your contribution to WOEMA, 74 New Montgomery St. Suite 230, San Francisco, CA 94105.

Questions? Call 415.927-5736.
WOEMA: STRENGTH IN DIVERSITY

WOEMA is a diverse organization. Members hail from Utah, Arizona, California, Nevada and Hawaii. We are corporate medical directors, practicing physicians, insurance industry medical executives and academics. Our associate membership includes nurses, nurse practitioners, physician assistants and chiropractors, to name a few.

We have different backgrounds, educations, work situations and political environments. We can, and should, draw strength from the differences we bring to the organization. Education, legislative activities, professional networking, clinical problem solving, mentoring, resource identification – these are but a few of the many areas where our differences make us stronger, collectively and individually.

The same differences that give us strength can, however, also lead to division and dissent. Professionals often hold strong opinions and, given our diverse membership, the possibility for heart-felt differences of opinion is significant.

It was with the above realities in mind that the Board recently engaged the Advocacy and Management Group (AMG) to help WOEMA in the legislative and advocacy arenas. AMG’s contractual mandate includes informing and educating all WOEMA component states on how to approach their legislature and on what current issues are arising in each state, including periodic written legislative updates for all component states. Additionally, as California’s workers’ compensation system undergoes massive change, including the legislatively mandated adoption of the ACOEM Guidelines, AMG will advise our Association in crafting our image and guide us in working with ACOEM and their California Legislative Advisor. To the extent that California is a bellwether state for change, whose policies are likely to influence legislative and regulatory policy throughout the region, AMG’s guidance will help all WOEMA members successfully ply these turbulent waters in a sea of change. Finally, AMG will assist WOEMA in identifying and obtaining grants, donations, sponsorship and other fund raising sources as a means of offsetting the cost of their services. Your WOEMA Board deliberated long and hard before embarking on this initiative. They decided that the time had come for WOEMA to have a place at the legislative, regulatory and other policy forming tables. We have a collective voice that, if heard, can positively affect the delivery of healthcare for employees, employers and the non-working public. In a like fashion, your voice is important. The Board draws strength from the diversity of knowledge and opinion within our organization but only if individual members make their voices heard.

Call, email or write your officers and board members or send email to the WOEMA office at woema@hp-assoc.com. They want to hear from you.

Notice of Annual Business Meeting
WOEMA Board Election

The WOEMA Nominating Committee has submitted the following slate of nominees to the Secretary for the September 2004 election. The slate will be put for approval before the Annual Business Meeting to be held on Friday September 17, 2004 at 11:45 am during the Western Occupational Health Conference at the Hyatt Regency Lake Las Vegas Resort. Contested positions will be decided by mail vote after the business meeting.

Chairman.....................................................Constantine Gean, MD
President .....................................................Robert Orford, MD, MPH
President-Elect............................................Craig Conlon, MD, MPH
First Vice-President.....................................James Seward, MD, MPP
Second Vice-President (vote for one) ..........Roman Kownacki, MD, MPH
Treasurer: (2 year term — 2005-2006) .......Alan Randle, MD
Director (2 names receiving the most votes are elected.)
                                      (3 year term – 2005-2007) ..........Roger Belcourt, MD, MPH
                                      Patrick Luendetke, MD
                                      Walter Newman, MD

The following will continue as Directors:
* Sarah Jewell, MD, MPH (term expires 2006)
* Ellyn McIntosh, MD (term expires 2005)
* Paul Papanek, Jr, MD, MPH (term expires 2006)
* Jay Westphal, MD, MPH (term expires 2005)
WOEMA Now Largest ACOEM Component

The Western Occupational & Environmental Medical Association (WOEMA) now has the highest total membership of the 31 components of ACOEM. WOEMA represents five states—California, Hawaii, Arizona, Nevada, and Utah. With 700 members as of July, WOEMA’s membership totals exceeded that of the Central States component by 8%. Previously, the Central States component had the highest total membership of the ACOEM components.

"WOEMA’s growth is due to several factors including strong membership retention through a concerted effort by the board of directors to maintain contact with the members," said Constantine Gean, MD, WOEMA’s President. Monthly update e-mails are sent encouraging members to be involved in various activities including local meetings, committees, etc. In addition, the members who haven’t renewed their membership receive a phone call from a board member to keep them involved and engaged. "We’ve been working hard to communicate with and serve our members well," said Gean. WOEMA expanded its membership benefits this year when the board of directors hired a lobbyist to represent the political interests of its five states.

This appealed to many new and existing members as did the awareness of legislation in CA requiring the ACOEM Guidelines to be used to determine scope and extent of treatment for work-related injuries under CA Workers’ Comp. Additionally, WOEMA has organized a 30-member legislative affairs committee to address issues of reimbursement, scope of practice, and other political issues that affect occupational medicine physicians across the five western states.
News You Can Use from the Literature

The overall risks for squamous cell carcinomas (SIR [standardized incidence ratio] = 2.45) and basal cell carcinomas (SIR = 1.52) of the skin were increased in patients treated with glucocorticoids, particularly those with 15 or more prescriptions, during an 8-year (1989-96) study of 59,043 individuals. An elevated risk was also found for non-Hodgkin lymphoma among those with 10-14 prescriptions (SIR = 2.68). J Natl Cancer Inst. 2004 May 5; 96(9):709-11.

800,000 more adults abused the drug or had marijuana dependency (rise to 1.5% from 1.2%) over the past 10 years despite the fact that the use of marijuana by U.S. adults remained stable at about 4%. Data from 1991-1992 ([IN LAES study] n = 42,862) and 2001-2002 ([N ESARC study] n = 43,093). Authors suggest that the concomitant increase in potency of Delta9-THC may have contributed to the rising dependence/abuse rates. JAMA. 2004 May 5; 291(17):2114-21.

Short term (up to 2 weeks) improvement in symptoms of osteoarthritis of the knee after intra-articular corticosteroid injection (also longer term [16-24 weeks] response in fewer studies) was the conclusion of a meta-analysis. The pooled relative risk (RR) for improvement in symptoms of osteoarthritis of the knee at 16-24 weeks after intra-articular corticosteroid injections was 2.09 and number of treatments= 4.4. The pooled RR for improvement up to 2 weeks after injections was 1.66. The numbers needed to treat to get one improvement in the statistically significant studies was 1.3 to 3.5 patients. A dose equivalent to 50 mg of prednisone may be needed to show benefit at 16-24 weeks. BMJ.

Use of a topical cream consisting of cetylated fatty acids showed improvement in timed stair climbing ability, the up-and-go test, medial step-down test, and in supine ROM, compared with control group in patients (n = 40) with osteoarthritis of one or both knees randomly assigned to treatment or sham treatment groups. Study was over 30-day treatment with cream application twice per day. J Rheumatol. 2004 Apr; 31(4):767-74

Using multipolar, static magnetic shoe insoles for 4 months resulted in statistically significant reductions in visual analog scale scores for numbness or tingling and burning and quality of life (QOL) in 375 subjects with symptomatic diabetic neuropathy (DPN). In a randomized, double-blind, placebo-controlled trial performed by the Dept. of Neurology, NY Medical College subjects with DPN stage II or III were randomly assigned to wear 450G insoles for 4 months; the placebo group wore unmagnetized devices. Arch Phys Med Rehabil. 2003 May; 84(5):736-46.

Deindustrialisation contributed to the decline of fatal occupational injury rates in the United States from 1980 to 1996, but explained only 10-15% of the total change, using data from death certificates and the population census. The fatal occupational injury rate for all industries declined 45% (RR=0.55). Expanding industries enjoyed more rapid reduction in risk (-3.43% /yr) than those that contracted(-2.65% /yr). Occup Environ Med. 2004 Jul; 61(7):616-21.

In children aged 13-14 and 6-7 years the prevalence of asthma symptoms, assessed by written questionnaire, increased by 2.7% with an increase in the estimated annual mean of indoor relative humidity of 10%. Prevalence of eczema symptoms correlated with latitude (positively) and mean annual outdoor temperature (negatively). Questionnaire study of approx. 171,000 children done between 1992 and 1996 in 12 Western European countries. Occup Environ Med. 2004 Jul; 61(7):609-15.

Excess risks were observed for mortality from all causes cancers and lung cancer in a cohort of 6647 individuals in three New Zealand meat processing plants between 1988 and 2000 compared with matched population statistics. There were significant trends of increasing risk of lung and lymphohematopoietic cancer with increasing duration of exposure to biological material. Occup Environ Med. 2004 Jun;61(6):541-7.

After work, a statistically significant increase of venous pressure of the lower limbs and reactive oxygen species (ROS) from levels measured before work was found in 62 workers with a standing occupation (OR nurses) and when compared with 65 outpatient nurses who can walk during work. Authors note that several epidemiological studies associate standing work and chronic LE venous insuf-

Continued on page 10
Health threats from man-made compounds or climactic change may someday rival those caused by viruses. Physicians who practice occupational medicine, in or outside of a clinical setting, must become better advocates for the health of those most vulnerable to the hazardous by-products of the developed world.

Organized medicine tends to behave carefully in the often highly-charged battles of environmental policymaking. Fairly typical is the issue of perchlorate contamination, perhaps the most heated environmental battle now in Sacramento. Perchlorate is an inorganic salt with a variety of uses; most is used as an oxidizer in rocket fuel and explosives. It has turned up in much of the state’s water supply although mostly in Southern California, and recently 31 of 32 samples of store-bought milk in Los Angeles and Orange Counties tested positive for the substance.

Legislation calling for development of state standards on perchlorate was passed in 2001, with the standards due in 2004. There remains no federal standard, although there is an EPA “reference dose” on the books that gives an acceptable range of 4 to 18 parts per billion. (Of 4,500 water supply wells tested in the state, several dozen have given perchlorate readings greater than 18 ppb). Until the standards appear, the state Department of Health Services has set a “public health goal” of 2 to 6 ppb.

Proponents argue that a stiff standard is needed, as perchlorate can inhibit the thyroid gland’s uptake of iodine and poses a threat to fetal development. Not surprisingly, chemical companies and defense contractors argue for a looser standard. The scientific data just isn’t there, they say, and banning perchlorate use would cost the economy unnecessary millions because there is no cost-effective alternative. A Senate Select Committee on Perchlorate Contamination has convened to try to sort everything out.

As it happens, what little we do know about perchlorate’s effect on the body derives from medical practice. For decades, physicians used it to treat hyperthyroidism, in doses tens of thousands times higher than the limits currently discussed. In the laboratory, high doses given to mother rats have been shown to affect their babies. No evidence exists, however, that perchlorate ingested in tiny doses over time has any effect on the human thyroid.

Still, in the interest of public health, should not physicians of occupational and environmental medicine support such a ban despite the incomplete science? (And does your answer change at all knowing that perchlorate also serves as a propellant for automobile airbags?)

Doctors’ circumspection may owe to two chronic features of environmental policy- and regulation-making:

1) For a practitioner of evidence-based medicine, it may seem that the emotions aroused by a newly revealed environmental threat (and the pressure for politicians to do something about it) often run ahead of conclusive science, and

2) Policymaking in this area comes deep with possible trade-offs and unintended consequences.

Indeed, trade-offs between public health benefits are often part of the bargain in environmental policymaking. Sometimes the trade-offs are known upfront. On the issue the Legislature may take up soon is contamination from PBD Es (polybrominated diphenyl ethers). Two recent studies - one done in Indiana and one in the San Francisco Bay Area - found alarm-
ing concentrations of PBDEs in mother-infant pairs. PBDEs are known to cause permanent nerve damage in mice, and are similar in structure to PCBs, a banned class of chemicals that are proven neurotoxins and carcinogens. As it happens, PBDEs are superlative flame retardants – a life-saving addition to everything from construction materials to children's pajamas.

Sometimes policymakers are forced to confront such tradeoffs years later. One recent example is last year's imposed ban on MTBE, a clean-gas additive that reduces vehicle emissions but which has also contaminated groundwater supplies.

Often, too, the data and experience can help define the choices but give no clear course of action. This occurs easily when the projected gains and losses aren't measured in identical units, such as human lives for human lives. The modern environmental movement gained shape around one such issue in the early 1960s. The widely used pesticide DDT was found to linger in the food chain, and to be particularly detrimental to the breeding cycle of birds. After years of dispute, DDT was banned in the developed world and use was sharply curtailed elsewhere. Along the way, the United States adopted the landmark environmental protections that are now part of our national sensibility: the federal Clean Water and Clean Air acts, the Environmental Protection Agency, and all that derives from them.

Birds and everyone else in the U.S. are no doubt better off without DDT around. However, what often goes unmentioned is just how effective DDT did what it was designed to do, which is to disrupt the breeding cycle of mosquitoes, the agents of malaria. As a public health instrument, DDT was wildly successful – an inspiration, really. In the years following World War II, DDT directly saved tens of millions of human lives, as malaria was eradicated in all but the poorest countries.

One of this is to suggest that environmental policymaking often or routinely backfires.

What is important to accept, however, is that the scientific or public health rationale behind legislative proposals is often not as solid and convincing as one would hope. And without an “evidence basis,” policymaking in this area is often guided by a wider set of values that includes beliefs and ideas about economics, jobs, security, social justice, and international competition – that is, the raw stuff of opinions rather than experimental or clinical data.

It may be difficult for occupational physicians to take on environmental policy at a time when so many parts of the healthcare apparatus are broken. When patients have little or no access to healthcare services, how can physicians be concerned about the air? But perhaps this is short sighted. While we battle for access to health care, shouldn't we also work for changes that might lessen the need for so much healthcare?

Occupational physicians can play their greatest role in this area of policymaking by telling others what they see at work. Whether the issue is chemical contamination in a factory or pesticide contamination in the fields, chances are high that the problem will first present itself in the physician's office.

The opinions expressed are solely those of the author and do not constitute policy or recommendations of WOEMA. – Editor.
The Duke OEM-L Electronic Forum
The place to speak with your peers on relevant OEM issues
by GARY GREENBERG, MD, FACOEM

Are there still any OEM specialists who don’t know about the Duke OCC-Env-Med-L electronic forum? Maybe you signed off for a vacation, and then forgot to re-subscribe?

The OCC-Env-Med-L is a free (yes, FREE) electronic mail forum coordinated from Duke University for our discipline worldwide. Our virtual community is the largest and oldest (10+ years) maillist in Occupational & Environmental Medicine and has immediate reach to 3260 addresses in 60+ countries. These readers are themselves a major source of funding for the forum, by voluntary contributions collected just once this year. (see http://supporters.occhealthnews.net)

Discussion is continuous, dynamic and entertaining. It’s also (well, almost always) on-topic, professional in content, and civil in tone due to the obsessive monitoring of distributed messages by Gary Greenberg, M.D., the founder and moderator.

Recent topics have included: NIOSH ‘s reorganization, American Heart Association’s Statement on Air Pollution, Spanish occupational medicine textbooks, CNS effects of Lariam in U.S. Military, screening health standards for volunteers who drive at ‘work,’ and much more. In fact, the forum delivers 300+ messages monthly, and the most common reason readers exit is the excessive volume of discussion (and mail). The mechanics are simple, once signed up you receive e-mail from the forum’s participants as they write an e-mail on the issue and send this to the group. You can respond with your own e-mail to the group (responses are filtered to eliminate non-acceptable advertisements, profanity, etc.).

Sometimes several e-mails come each day and options to reduce this flood of ideas, announcements and opinions include:

- Signing up for the digest (a subscription option that combines a day’s messages into a single mail package for easy reading).
- Designating an OEM-L reader in your group or institution, who forwards only the most pertinent messages among yourselves.
- Signing up for JUST the announcement messages (not the discussion among the readers) at http://announce.occhealthnews.net
- Dropping by the archives every few days just to see what’s new, but sparing your mailbox the volume of any delivered mail—see http://recent.occhealthnews.net

Remember, only subscribers can post to the forum (and engage the topics of the day), so you are greatly encouraged to subscribe! Do so at: http://subscribe.occhealthnews.net.

If you have questions, please contact Gary Greenberg by e-mailing: Gary.Greenberg@Duke.edu.

News You Can Use
Continued from Page 7

Efficiency and this has been associated with an enhanced oxidative stress (a possible risk factor for cardiovascular and other systemic diseases). Occup Environ Med. 2004 Jun; 61(6):548-50.

Beijing residents with a history of squatting at age 25 had an increased chance of developing tibiofemoral (tf) osteoarthritis (OA) in a study of 1,800 men and women age 60 and older in China compared with matched subjects from the Framingham study. For time/day spent squatting of 30-59 min, 60-119 min, 120-179 min, and for > or =120 min, OR (odds ratio)= 1.1, 1.0, 1.7, and 2.0 (for men) and OR = 1.4, 1.3, 1.2, and 2.4 (for women) for evidence of OA (as assessed by questionnaires and x-ray Kellgren/Lawrence (K/L) grade of > or =2 at the tf joint and medial joint space narrowing score of > or =2), Arthritis Rheum. 2004 Apr; 50(4):1187-92.

Lack of a close confidant, but not depression, predicts further cardiac events after myocardial infarction in a prospective cohort design. After controlling for demographic factors and severity of MI, the absence of a close confidant predicted further cardiac events (hazard ratio 0.57) at 12 months’ follow up of further cardiac events in 583 patients. Heart. 2004 May; 90(5):518-22.

There are three distinct subgroups of patients with fibromyalgia (FM) (patients who exhibit extreme tenderness but lack any associated psychological/cognitive factors, an intermediate group who display moderate tenderness and have normal mood, and a group in whom mood and cognitive factors may be significantly influencing the symptom report) per a study of 97 individuals meeting the ACR criteria for FM who were analyzed for (1) mood (2) cognition, and (3) hyperalgesia/tenderness. Arthritis Rheum. 2003 Oct; 48(10):2916-22.
UCSF and WOEMA jointly presented Grand Rounds at the Pyramid Ale House in Berkeley on June 23. Dr. Gary Rischitelli from Oregon Health & Science University discussed lessons learned from the Echazabal v. Chevron case, debated in the U.S. Supreme Court in 2002.

This case highlights many of the challenges that exist in our field, such as protecting employee autonomy and health without imposing employer bias or excessive paternalism.

The case involved whether a company can refuse to hire someone because his existing disability and the intrinsic nature of the job could endanger his own health. Mr. Echazabal was denied employment at an oil refinery (where he had done similar contract work over a 20 year period) because the company stated that the working environment presented a direct threat to his health.

One of the central disputes in this case concerned the difference between the language of ADA and EEOC regulations; the latter permit medical disqualification from a job on the basis of a direct threat to personal health and safety (and to that of others, as stated in ADA law) if the risk of significant harm cannot be reduced or eliminated by accommodation.

Initially, the Ninth Circuit Court found in favor of Mr. Echazabal. On appeal in 2002, the U.S. Supreme Court reversed this decision, ruling that being qualified for a job means being able to perform the essential functions of the job without undue risk to one’s personal health and safety.

Although considered a victory for Chevron, the Supreme Court essentially only answered the question if it was legally permissible for an employer to refuse to hire an individual because the work environment is likely to aggravate a preexisting medical condition.

The Court did not rule on the merits of the specific case and sent it down to a lower court for review. Still at issue for the District Court to decide is the fundamental issue of whether the employer obtained adequate evidence of a direct threat to self during the entrance medical evaluation process.

The take home points were as follows:

1. ADA regulations do not specifically address direct harm to self. The EEOC did address it in their regulations but it was never tested until Mr. Echazabal sued Chevron.

2. The Supreme Court upheld the right of employers to deny hiring employees whose health will become further compromised by exposure to the work environment.

3. The Supreme Court favors the reasonable exercise of business discretion even when doctors’ opinions differ about the harm and liability threats arising from working conditions.

4. Occupational physicians need to base their decisions about the medical qualification of entering employees on current medical knowledge and best available evidence (rather than on subjective concerns about risk). Factors to be considered thoroughly before determining that there is a disqualifying “threat to self” include:
   • the essential functions required for the specific job
   • the duration of the risk
   • the nature and severity of the potential harm
   • the likelihood that the potential harm will occur
   • the imminence of the potential harm
   • whether and how reasonable accommodation may reduce or eliminate the threat of harm
Quick and Easy Access to ICD-9’s

BY CONSTANTINE GEAN, MD, MBA, FACOEM

I don’t know about you all, but I have a heck of a time trying to keep up with my specialist colleagues. My psychiatrist buddy often notes, “Oh yeah, clearly 296.3.”

To help you cope, there is an exceptional tool to get you into the swing of things at http://icd9-chrisendres.com/ sponsored by the Practice Mgt. Info. Corp. (whose web page indicates it is a publisher of medical coding books). The free version is good for occasional users, and allows a large, but limited, number of accesses per day (for $40 per year unlimited use is offered).

The interface is intuitive and easy to learn. This site has tabular and alphabetic listings of “diseases” and “injuries and procedure” ICD-9’s and Appendices with “Drugs/Chemicals,” “External Causes” and a medical dictionary, all hot-linked to ICD-9’s and sub-groups.

You can put in an ICD-9 and get a response with a text translation of your ICD-9; you can put in a general term like “Depression” and get a pick-list of ICD-9’s next to their description (and sub groups) that is easy to use.

Click on a pick-list choice and the ICD-9 comes up with a description and just on top of it is listed the whole major group for the specific ICD-9 you chose. Click on this and the entire group unfolds with all sub-groups for amazingly fast orientation to the location of your ICD-9 choice in the overall group. Very useful site that qualifies as the “Swiss Army knife of Coders.”

Bonus Site
MerckMedicus.com

Here is a very useful site put together by Merck. The mome page is http://www.mercnard.com/pp/us/hcp/hcp_home.jsp and the data page (which you can access through the “White Coat e-Assistant” Tab on the upper right part of the home page) is https://www.mercnard.com/pp/us/hcp/hcp_login.jsp?resaccess=true.

You have to register and reside within the United States to use it. You can search multiple textbooks, search the literature, use MD Consult for free, and even get up to 25 units of CME credit per year just by doing medical searches. Well worth a look.