

The Rocky Mountain Center

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“Ground-Breaking Work” ACOEM 3rd Edition Guidelines

The 3rd Edition of the Occupational Medicine Evidence-Based Practice Guidelines for the American College of Occupational and Environmental Medicine (ACOEM) has been released. This "ground-breaking work" conducted over the past 5 years was led by a team from the RMCOEH headed by Drs. Hegmann (Editor-in-Chief), Hughes, Thiese and Biggs. It included over two dozen research assistants who conducted systematic literature reviews and drafted tables to summarize findings from studies. The articles were then scored by the RMCOEH faculty for quality. Guidance along with the evidence tables was drafted and forwarded to national multispecialty panels of physicians (including occupational medicine, orthopedics, neurosurgery, pain management), therapists, psychologists, chiropractors and researchers. The panels of practitioners created the final guidance for treatment of workers. Editing was accomplished by Dr. Hegmann and ACOEM.

These efforts involved over 100 physicians, with ACOEM's Guidelines Director Chris Wolfkiel, PhD noting "The Guides are, by far the largest project involving the most ACOEM members in the history of the College." The Guides are available in print and electronic formats, with electronic being the most popular, though texts being a sentimental second. These guidelines are in use in every state in the US, and especially are used by providers and essentially all insurers. In some states, particularly California and Nevada, these guidelines are considered presumptively correct for the treatment of occupational disorders.

The Guides incorporate 12,476 studies and the panels developed over 2,500 treatment recommendations. The conditions addressed have been extensively expanded to include non-operative to invasive to surgical to rehabilitation treatment for nearly all common musculoskeletal disorders and injuries. Dr. Hegmann notes, "Despite the herculean effort to synthesize these guidelines, our challenge is to change practices to become truly evidence-based. We at the RMCOEH have been working on doing that for the past 4 years and it is unquestionably the most difficult task I have encountered in over 25 years in medicine. Throughout adult education, we imprint what is taught to us, and we find trying to reprogram our memories and patterns is exceedingly humbling."

Gateway to OSH

Occupational Safety and Health

NIOSH Grant Awarded to RMCOEH's Dr. Matt Thiese

Matthew S. Thiese, Assistant Professor at RMCOEH, has been awarded a 3 year career development grant from the National Institute for Occupational Safety and Health totaling \$323,636. Dr. Thiese will lead a team of researchers from the University of Utah, Harvard University, Virginia Tech Transportation Institute, as well as individuals from two private companies, to investigate factors associated with long-haul commercial driver crashes. He is combining health data from a large medical facility, driver data from a company, and U.S. crash data to evaluate risk factors for fatal crashes and non-fatal crashes.

Approximately 4,500 trucking industry deaths occur each year. The costs associated with a non-fatal crash are reportedly \$30,000 and costs associated with a fatal crash are approximately \$2.3 million. There is evidence suggesting modifiable factors cause over 1,000 of these deaths. The goal is to quantify individual and environmental risk factors for commercial truck drivers involved in non-fatal and fatal crashes compared with drivers who were not involved in a crash, in a large (n=119,670) retrospective cohort study. The study will contain approximately 370,000 person-years of data and is anticipated to identify potential risk factors after adjustment for other factors. Personal factors may include body mass index, neck circumference, diabetes mellitus, high cholesterol and high blood pressure. Occupational factors that will be investigated include miles driven, segments driven, tenure as a truck driver, and age of the truck. Environmental factors that will be evaluated include time of day, weather, road conditions, type of road (e.g. divided two lane highway), and specific crash circumstances. This study will likely provide important information about factors that lead to crashes. Subsequent studies are anticipated to address the factors identified to reduce crashes and fatal crashes among drivers.

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RMCOEH ADVISORY BOARD MEMBERS

*T*homas E. Bingham is President and CEO of the Utah Manufacturers Association, representing nearly 1,000 member companies from throughout Utah. He has led UMA, one of the state's premier and oldest trade associations, since 2000.

Tom has spent nearly 40 years representing agriculture, mining and manufacturing interests before the Utah Legislature, the U.S. Congress and regulatory agencies in Utah. He is recognized as the senior lobbyist on Utah's Capitol Hill. He serves on a host of boards, commissions and advisory committees across a wide array of interests in the state. He currently is Chairman of the Board of Trustees for the Utah College of Applied Technology and is Chairman of the Board of Directors for the Tooele Applied Technology College. Tom joined the Rocky Mountain Center's

Advisory Board as a member in 2010.

Bingham is a 1972 graduate of Utah State University with a bachelor's degree in economics. He has spent his career representing industries in Utah that create the future.

Tom served as a missionary for the Church of Jesus Christ of Latter-day Saints in Australia for two years. He also is a graduate of the Wood Badge Training Program of the Boy Scouts of America and a Scout Master of Troop 462 in the Great Salt Lake Council.

Tom is married to Mary Ryan Bingham, has four sons, Matthew, Todd, Chad, and Brett and 14 grandchildren. He enjoys the outdoors- hunting fishing, sporting dogs, camping



RMCOEH Supporters!

*D*ear RMCOEH Supporter:

The RMCOEH survived the FY2011 budget debate! NIOSH incurred a \$49M cut in a World Trade Center fund. However, the NIOSH-sponsored Education and Research Centers as well as the Agricultural Centers are funded. Because academic fiscal years start in July, NIOSH is providing funding for this year (July 1 through June 30, 2012). So, we also have funding for our current students.

We much appreciate all who wrote letters or made phone calls on our behalf during this difficult process. As the White House has still kept us on the list for elimination in 2012, we will continue to work to preserve funding in the FY2012 budget. This will require doubling of our efforts, but our educational efforts have likely made progress on that. (See our website: <http://medicine.utah.edu/rmcoeh> for more details on the rebuttal to the information provided by the White House, such as the interesting suggestion that NIOSH and OSHA duplicate each other.)

We are now turning our attention towards another 5-year renewal of the RMCOEH. We will not be up for renewal this year as originally scheduled as NIOSH does not want so many centers in renewal. Further the RMCOEH had the best score nationally last time in 2007 (!). Consequently, we will be up for renewal in 2013 instead of 2012. For those who are RMCOEH graduates, please be sure you have completed our electronic questionnaire (see: <http://www.surveymonkey.com/s.aspx>) as data from our graduates are important for both the renewal as well as for informing those who are making federal budget funding decisions regarding NIOSH and the ERCs. For those who attend RMCOEH conferences, completing evaluation forms is equally important.

Again, thank you so much for all your wonderful support!

Kurt Hegmann, MD, MPH
Professor and Center Director

RMCOEH Ergo Lab Helps Vets Take to The Sky!

In January of 2010 Mark Gaskill and Christen Choma of Able Pilot, a Utah-based chapter of the United States Hang Gliding and Paragliding Association, contacted Dr. Don Bloswick, Professor of Mechanical Engineering (M.E.) at the University of Utah and Director of the Ergonomics Program at RMCOEH, to discuss the development of a system to allow persons with disabilities, particularly Spinal Cord Injuries (SCI), to learn to paraglide and become active paragliding pilots. Mark is a trained solo/tandem pilot who has been working in the area of paragliding for disabled persons for several years. Dr. Bloswick, who has overseen the development of many rehabilitation and assistive devices over the past 20 years, recruited a group of four mechanical engineering seniors for the project. Bryon Densley managed much of the design/fabrication effort for the initial chair (Phoenix 1.0) and the improved chair (Phoenix 1.5), and is continuing during his masters degree with the Phoenix project as his research area in the Ergonomics Lab.

Under the overall guidance of Mark Gaskill, the Phoenix 1.0 was flown approximately 100 times during 2010 and the first half of 2011 by expert able bodied and disabled pilots. In addition, several persons with disabilities were taken aloft in a tandem configuration by trained able-bodied pilots. Based on feedback from pilots and passengers who flew the Phoenix 1.0, the Phoenix 1.5 was designed and fabricated in summer 2011. To facilitate bending and welding, the Phoenix 1.5 uses steel in the frame instead of the aluminum used in the original Phoenix 1.0. The 1.5 version also includes “knock-off” wheels to improve transportability, has a modified head support to improve passenger visibility, and includes



fewer welded joints to improve manufacturability. Important additions to the team that designed and built the Phoenix 1.5 in 2011 are Dr. Andrew Merryweather (UU RMCOEH and M.E. faculty) and Faris Ali (UU Ergonomics masters student). Dr. Merryweather and Faris have been instrumental in the remodel of the Phoenix 1.0 and the design/fabrication of the Phoenix 1.5.

In August, five injured armed forces veterans attended a training camp in Sun Valley, Idaho for the initial phase of a training program to learn how to use the paragliding chair. The Sun Valley camp and the UU/ AblePilot paraglider were featured on the front page of Sunday's NY Times on September 4 of this year. (“Thrill-Seeking Injured Veterans Take Wing” at <http://www.nytimes.com/>; see also videos). The focus of the Sun Valley camp story was naturally on the injured veterans paragliding with minimal mention of the design and fabrication process of the paragliding-chair system accomplished by M.E. undergraduate and graduate students. Dr. Bloswick did his best to credit UU, but “When the reporters and photographers are watching injured vets sail around the sky whooping with excitement, it’s hard to get them to listen to a discussion of the critically important pros and cons of swing-arm suspension, steel vs. aluminum, and bends vs. welds. The Sun Valley camp was definitely exciting and it was great to see the results of the excellent work of our talented students. The volunteer instructors, as well as engineers from the University of Utah, took notes as the students suggested ways to change teaching methods and improve the wheelchair design to better fit their needs.”

Based on feedback from the Sun Valley training camp an improved system, the Phoenix 2.0, will be designed and fabricated in academic year 2011/12 and will be the basis for a production model.



Upcoming Continuing Education Classes and Events

November Courses

- OSHA 510 Occupational Safety and Health Standards for the Construction Industry
- Hazardous Waste Management Simplifies
- Certified Hazardous Material Manager
- Chemical Reactivity Hazards
- Lead Inspector Refresher
- Lead Risk Assessor Refresher
- Lead Supervisor Training

December Courses

- NIEHS—Hazardous Materials Leadership Academy
- OSHA 511 & 501 Occupational Safety and Health Standards for General Industry
- Lead Safety for Renovation, Repair, and Painting (RRP) Training Course (limit 25)
- Asbestos Contractor/Supervisor Refresher & Inspector/Management Planner Training

January Courses

- Asbestos Project Designer, Contractor/Supervisor, Inspector/Management Planner, Worker in Spanish Refreshers
- OSHA 510 & 500 Occupational Safety and Health Standards for the Construction Industry
- NIEHS 40-Hour HAZWOPER Training (St. George)
- NIEHS—8-Hour HAZWOPER Refresher (St. George)
- Asbestos Contractor/Supervisor Refresher (Burley, ID)
- OSHA 6000: Collateral Duty Course for Other Federal Agencies

February Courses

- Pulmonary Function Testing
- CAOHC—Approved Occupational Hearing Conservation and Refresher
- OSHA 511 & 501 Occupational Safety and Health Standards for the General Industry

- OSHA 2264 Permit Required Confined Space Entry

March Courses

- OSHA 510 & 500 Occupational Safety and Health Standards for the Construction Industry
- Asbestos Contractor/Supervisor & Inspector/Management Planner Refresher
- Comprehensive Review of Industrial

April Courses

- OSHA 511 & 501 Occupational Safety and Health Standards for General Industry
- 10th Annual Regional NORA Young/New Investigators Symposium
- OSHA 7845 Recordkeeping
- OSHA 3095 Electrical Standards
- OSHA 2250 Principles of Ergonomics Applied to Work-Related Musculoskeletal and Nerve Disorders
- NIOSH—Approved Spirometry Refresher

May Courses

- OSHA 510 & 500 Occupational Safety and Health Standards for the Construction Industry
- NIEHS—8-Hour Hazardous Operations
- NIEHS—40-Hour HAZWOPER Training (Denver, CO)
- NIEHS—8-Hour HAZWOPER Refresher (St. George, UT)
- Asbestos Inspector Refresher (Green River, WY)

Correspondence Courses (Enroll at any time)

- Accidents Investigation, Analysis & Prevention
- Behavior-Based Safety
- Practical Aspects of Health and Safety Management

For additional information on CE classes, including distant learning courses, please visit the continuing education section of the RMCOEH website: <http://medicine.utah.edu/rmcoeh/>

RMCOEH News

*R*oyce Moser, Jr., retired from the University of Utah, School of Medicine, Department of Family and Preventive Medicine, Rocky Mountain Center for Occupational & Environmental Health (RMCOEH) on September 30, 2011. Dr. A Lorris Betz, granted him Professor Emeritus of Family & Preventive Medicine effective October 1, 2011, becoming the first emeritus professor in the RMCOEH's history. Dr. Moser came to RMCOEH in 1986 and was the Director of the Center from 1987 until 2003.



*M*atthew Hughes, MD, MPH, resigned as Deputy Director, July 31, 2011, taking on a new position as Medical Director for

Huntsman Chemical. He will remain on faculty part-time as an instructor and advisor. He will particularly assist with the OHS Administration and Management course. Dr. Eric Wood has accepted the assignment of Deputy Director. (which requires NIOSH approval).



RMCOEH News Corner

Medical School Outreach

Occupational Medicine (OM) Residency Program Director, Eric Wood, MD, MPH, and OM Chief Resident Melissa Cheng, MD, MOH met with the University of Utah School of Medicine Public Health Interest Group on April 29, 2011. Jesse Powell, a third year medical student who completed an elective rotation with the OM program requested this special session to introduce the specialty of Occupational Medicine to his classmates. Thirty-eight students participated in the lunchtime lecture.

Mr. Powell introduced the specialty to his class noting, "This is the small but sophisticated medical specialty of experts

who are trained in managing the health and safety of environmental exposures." Dr. Cheng led off the session with a lecture describing the health hazards of Ionizing Radiation focusing on the recent experiences at the Fukushima nuclear reactor after the tsunami struck Japan on March 11, 2011. Following the lecture, Dr. Wood led a discussion on Occupational Medicine that included training requirements, career opportunities, and special elective opportunities at the RMCOEH. Many students expressed strong interest, and commented on how much they appreciated the opportunity to learn about the specialty in this setting.

MSOH Degree Program Receives Renewal of ABET ASAC Accreditation for Maximum Period of Time

On August 2 of this year, the Rocky Mountain Center for Occupational and Environmental Health (RMCOEH) received official notice from the ABET Applied Science Accreditation Commission (ASAC) that the commission is continuing accreditation of the Master of Science in Occupational Health (MSOH) degree programs for Industrial Hygiene to September 30, 2017. This particular accreditation was for the Industrial Hygiene emphasis in the MSOH degree program, which includes both the Industrial Hygiene and Hazardous Substance Academic Training Programs. This six year renewal of accreditation for this degree program is the maximum reaccreditation period available for such programs by ABET. They also noted there were no program deficiencies, weaknesses, or program concerns.

Reaccreditation by ABET ASAC for an industrial hygiene program is no small accomplishment. Maintenance and renewal of this accreditation requires a significant ongoing effort by the faculty and staff of the RMCOEH that is involved in ensuring currency, relevance, and effectiveness of the Industrial Hygiene and the Hazardous Substance Academic Training Programs. (HSAT is also an industrial hygiene program, but with additional emphasis on areas related to hazardous substances) These efforts involve assurance that the degree program includes a broad range of science-based courses with appropriate course content, as well as opportunities for students to receive hands-on experiences through practica, and course work.

This reaccreditation is only granted after the institution (University of Utah, RMCOEH in this case) requests to be evaluated for accreditation or reaccreditation and submits a self-evaluation of their program(s) a year before the

ABET Full Committee review. After the institution submittal of its internal review information, a team of ABET ASAC evaluators is assigned to conduct a three to four day on-site review of the programs. This on-site review includes review of course syllabi; qualifications of faculty; interviews with university administrators, faculty, students and applicable program oversight committee members; and systems in place for assuring sustainability of programs (e.g., financial support systems, record keeping, and tracking of program graduates).

Although this accreditation requires a rather intensive on-going effort to maintain, there are several valuable reasons for a program to become ABET ASAC accredited. For example, this accreditation is a non-governmental, peer-review process that helps ensure the quality of the postsecondary education students receive. It is also important to note that ABET has been recognized by the Council for Higher Education Accreditation (CHEA) since 1997. Employers recruiting students graduating from ABET-accredited programs know the students should be well-prepared in that field. In addition, most federal agencies and many large companies seek applicants that have graduated from ABET-accredited programs. A significant advantage to students graduating from an ABET-accredited program is that they may take the Certified Industrial Hygiene (CIH) exam one year earlier than graduates from non-accredited programs.

It is believed this accreditation is worth the effort for both the recognition the quality of our program and for the sake of the students in or graduating from these programs.

RMCOEH now has over 470 graduates and we would love to know where you are. Please send a photo of yourself either alone or in front of the sign of your employment and a brief description of your job to: Toni.Chambers@hsc.utah.edu

We plan to highlight 3-4 alumni in every newsletter.



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More RMCOEH News ~ Alumni

Christopher Dea, MD, MPH Class of 2010: I joined Caterpillar Inc., located in Peoria, IL, in July 2010. I keep busy with my very active three-year-old son, Henry and my nine-month-old daughter Eliza. In my spare time, I provide care for employees in three different clinics and have been developing expertise in the area of health effects of diesel emissions. This year I will also begin presenting the

ACOEM Practice Guideline recommendations to the other providers in my group to improve care for our workers. It has been a stimulating and rewarding experience and I hope for more good things to come.



Brian McQuivey, MSME Class of 1997. I have been at ATK Aerospace Systems for the past 24 years and received my advanced degree with an emphasis in Safety and Ergonomics. ATK and the U of U have been operating a distance-based MS program since 1991. Since 1999 I have been the ATK education coordinator helping over 50

engineers/students complete an advanced degree while working. Many of these graduates also enjoyed and are using the Safety and Ergonomics emphasis training to further their careers. I have had the privilege of working on the Space Shuttle program and the solid rocket motors for the past 24 years.

Cody Lallatin, US NAVY, MSPH Class 2007: I reported as the Safety Officer onboard USS FRANK CABLE (AS 40) in Agana, Guam in Jun 2007. CABLE is one of two Submarine Tenders in the U.S. Navy responsible for providing maintenance support to the deployed submarines in the Pacific Ocean. I was the Commanding Officer's recognized safety expert and responsible for implementation of the Navy Safety and Occupational Health Programs for the crew of 1500+ Sailors. While onboard I made port visits to Vladivostok, Russia; Subic Bay, Philippines; Hong Kong; Yokosuka, Japan and Saipan. In my spare time, my wife and I became PADI certified SCUBA divers. I had the opportunity to dive in the Philippines, the Great Barrier Reef, Palau, Saipan and Guam. In July of 2009 we were "forced" to move to Hawaii where I am currently the Afloat Safety and Environmental Compliance Director on the staff of Commander Submarine Force, U. S. Pacific Fleet. I am responsible for oversight of the Navy Safety and Environmental programs for the 41 submarines, 2 Submarine Tenders and 8 Submarine Squadrons in the Pacific Fleet. While



here I have successfully completed my Certified Safety Professional certification, coached youth soccer, taken up geocaching and been promoted to Lieutenant Commander. Unfortunately we only have one more year here in paradise.