

Department of Labor • Mine Safety and Health Administration • Joseph A. Holmes Safety Association

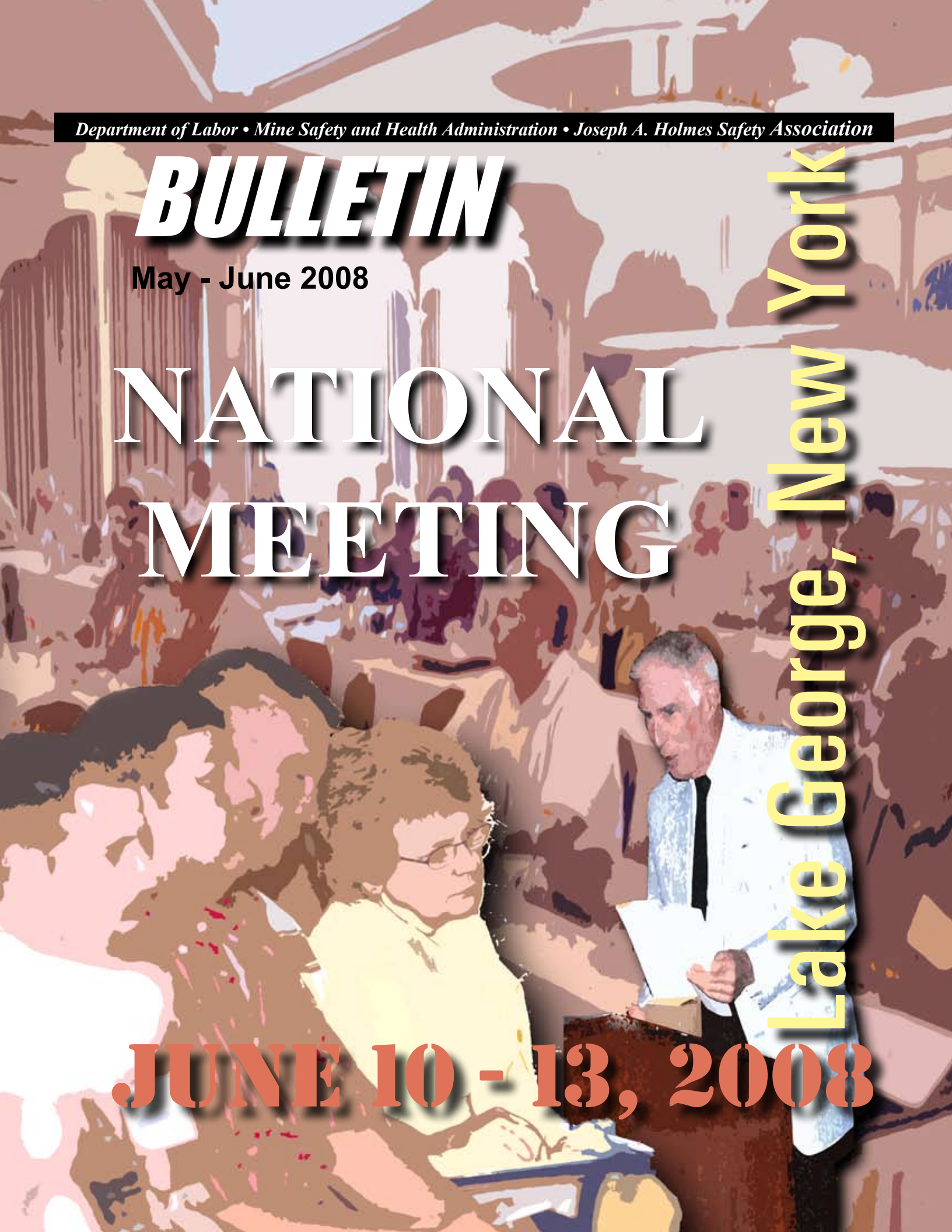
# **BULLETIN**

May - June 2008

# NATIONAL MEETING

Lake George, New York

**JUNE 10 - 13, 2008**



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The Department of Labor, Mine Safety and Health Administration and Joseph A. Holmes Safety Association Bulletin contains safety articles on a variety of subjects: fatal accident abstracts, studies, posters, and other health and safety-related topics. This information is provided free of charge and is designed to assist in presentations to groups of mine and plant workers during on-the-job safety meetings. For more information, visit the MSHA home page at [www.msha.gov](http://www.msha.gov).

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DUE TO A PREVIOUS ERROR IN THE HOLMES BULLETIN; THIS ARTICLE IS BEING REPUBLISHED. WE ARE SORRY FOR THE INCONVENIENCE TO THE AUTHOR AND TO OUR READERS.



# Reducing Musculoskeletal Injuries in Rail Operations

By Sean Gallagher,  
Ph.D. National Institute for Occupational Safety and Health (NIOSH)  
Pittsburgh Research Laboratory

## Introduction

Many mines use rail transport to send their commodity to market, particularly when large volumes of mineral must travel long distances. While rail is an efficient means of transport for mineral products, rail yard operations have often been associated with high rates of musculoskeletal injuries. This is undoubtedly due to the physically demanding nature of jobs in and around rail yards at mining operations.

The keys to reducing musculoskeletal injury risk in mine rail yards are: 1) reduce the force (or muscular effort) needed to perform tasks; 2)

improve the posture of the body; and 3) reduce the duration and/or repetition of physical exertions. Rail tasks historically have been associated with high force requirements and poor positioning of the body (especially bending the torso forward) due to the size and layout of the equipment. However, recent years have seen the development of improved designs or assist devices that have reduced physical demands and/or have improved the posture in which workers can operate. The following sections describe some of the solutions developed to reduce the risk of musculoskeletal injuries in rail yards based on the principles noted above.

## Switches

Throwing switches has historically been associated with a high risk of musculoskeletal injuries in rail yards. Figure 1(a) shows an old-style switch which is poorly designed and can place workers at increased risk of back injury. This switch design requires the worker to stoop down to throw the heavy switch, placing the back in a potentially unsafe position, if high forces or incorrect methods are used.

The so-called “bowtie” switch (Figure 1(b) is a much better design from the ergonomics perspective. The bowtie switch does not require the rail yard worker to bend to the ground to throw the switch, but allows the worker to grab the switch at knee height, which can reduce back stress by up to pmr-third compared to the old design. The long lever arm provided by the bowtie handle permits forces to be applied at a larger distance from the center of rotation of the switch, which reduces the force requirements from the worker. The worker can also use body weight and gravity to complete the switch-throwing process, which will also reduce muscular demands and the risk of injury.

Physical demands associated with throwing switches can be eliminated entirely by using solar-powered switches (Figure 1(c)). Solar-powered switches are more expensive initially (approximately \$10,000), but are becoming the standard at larger rail facilities.

(See next page)



*Figure 1. Switch designs: (a) old-style switch requiring awkward bending, (b) “bowtie” switch, (c) solar-powered (automated) switch.*

These new switches eliminate the need to manually throw switches, as the solar-power collected is used to drive an electric motor to throw the switch. This design eliminates the risk of experiencing a costly lost-time injury due to switching. In addition to eliminating the physical demands, these new switch designs often provide other benefits, including remote control capability and remote monitoring of the switch status.

Safe operation of hand-operated rail switches requires regular maintenance. Periodic inspection, adjustment, and lubrication of switches and switch points are needed to keep forces within safe limits. Switch forces can change with the movement of trains and as the result of weather conditions. Use of point roller bearings, correct adjustment, and lubricants such as graphite or white grease (more environmentally friendly) can keep switch forces moderate.

### **Brake stick**

Setting and releasing brakes on railcars is a common rail yard task. In the past, it was necessary to set the brake wheel by climbing up on the railcar and manually turning the wheel to set the brake. Climbing on the railcar both puts the worker at risk of a serious fall and puts the worker in a tenuous position during forceful turning of the brake wheel (Figure 2a). Use of a brake stick (Figure 2b eliminates the need to climb and hang on to the railcar when setting brakes, and

permits the worker to set the brakes more quickly while safely positioned on the ground. Brake sticks permit application of adequate force with very low muscular effort by using gravity and biomechanical advantage. These devices are very popular among rail yard workers.



*Figure 2. Setting brakes (a) after mounting railcar, (b) using brake stick.*

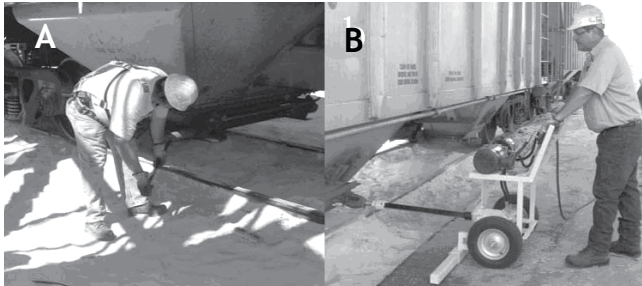
### **Gate Openers**

Gates for each railcar “pocket” (chutes used to dump/unload material from a railcar) are often opened using a heavy steel bar. The worker has to reposition and crank the bar repeatedly in order to open the gate. This is often performed in a hazardous bent back posture (Figure 3a). The risk factors of high physical force exertion and bent torso posture place the worker at high risk of back injury.

Of particular concern is the unexpected loading that may occur if the bar slips free or the gate is stuck when it is expected to move (as may happen

when gates are frozen). Devices are now commercially available that open gates mechanically and which can easily open frozen or stuck gates (Figure 3b). Use of these mechanical gate openers eliminates repeated high force exertions in awkward postures when manually opening gates, reducing back injury risk.

### Hatch Opener



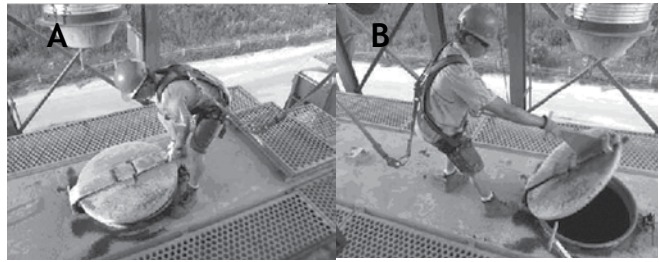
*Figure 3. Opening hopper car gates (a) using steel bar and (b) using mechanical gate opener.*

Some mines transport their commodity in covered hopper cars, especially when keeping the material dry is an issue. These hopper cars often have heavy steel hatches that need to be opened so that material can be loaded. Workers typically open these hatches while standing on top of the railcar which requires them to bend forward to grab one end of the hatch and lift (Figure 4a). This again puts the back in a hazardous posture during a heavy exertion. The bending and lifting exertion is repeated when the hatches (again lying flat on the car) need to be closed. Hatches sometimes get stuck or frozen leading to high opening forces (up to 155 pounds!).

A prototype hatch opener assist device developed by the National Institute for Occupational Safety and Health (NIOSH) is currently being field tested. This device allows the worker to maintain a more upright posture when opening the hatch, and props the hatch open for loading (Figure 4b). Propping the hatch open greatly reduces the stresses associated with closing hatches and the hatch opener can be used to easily control the closing of the hatch. An analysis using a low-back biomechanical model (Chaffin 1997) indicated that low back stress is reduced by approximately 30% when using the device (compressive forces on the low back were 1193 pounds when lifting

the hatch by hand versus 835 pounds when using the hatch opener).

### Latch opener assist tool



*Figure 4. Opening covered hopper car hatches (a) manually and (b) using rail hatch opener.*

Opening the hatches on covered hopper cars requires releasing a latch that is under spring tension. This requires considerable force due to the short lever arm available on the latch arm itself. Workers at one mine rail operation developed an assist device that can be used to effectively increase the lever arm (and the mechanical advantage) available to unload the spring tension on the latch, decreasing the force needed for this task. Figure 5 shows an example of a worker using this device.



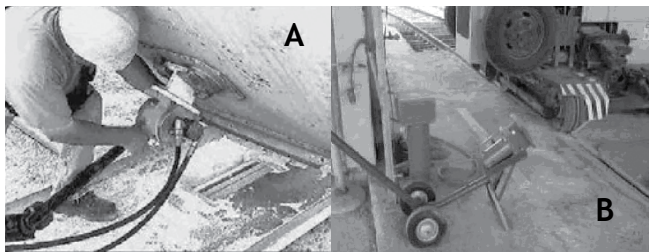
*Figure 5. Latch opener assist tool.*

### Installing railcar shakers

Railcar shakers are sometimes used to help clean out railcars. Shakers are quite heavy (approximately 40-50 pounds) and manual installation on the railcar requires use of a bent back posture creating high stress on the low back (Figure 6a).

(See next page)

However, carts to facilitate shaker installation have been developed to avoid having to handle or lift the shakers. Figure 6b shows an example (American Portland Cement Alliance, 2002). The cart is wheeled up to the hopper car that needs to be cleaned out and is tilted into place. The cart shown below was fabricated by an on-site company shop. Similar (more sophisticated) devices of this sort are commercially available from rail safety suppliers. Eliminating the need to manually lift a heavy railcar shaker greatly reduces low back injury risk.



*Figure 6. (a) Manual installation of railcar shaker, and (b) cart developed to install railcar shaker without manual lifting.*

### **Rail yard storage and organization**

The author has visited a number of rail operations where frequently used items were poorly stored and the yard disorganized. In many cases, heavy pieces of equipment (hoses, shakers, and other heavy items) were “stored” on the ground, which is unsafe and unproductive (Figures 7a and 7b). Lifting such items from ground level can triple the risk of a low back injury; compared to if they were stored at waist height. Improved storage procedures can eliminate many tripping hazards as well.

Improved organization and storage can play an important role in decreasing injury risk and improving productivity. As an example, a large national railroad company experienced a high rate of injuries at one of its repair facilities (American Association of Railroads 1989). Of particular concern was the high incidence of back injuries, lost time, and absenteeism. For example, the year before changes were instituted at the maintenance yard, 9 of 13 lost time injuries were back injuries,

and 579 lost days and 194 restricted or limited work days accumulated. Only 1,564 cars were repaired that year, and absenteeism was 4 percent. Some relatively inexpensive facility changes, such as providing tables and/or racks and better tool storage, reduced the risk of injury and made the workplace more efficient and functional. An example of improved storage can be seen in Figure 7(c). Prior to the development of the table shown, heavy coupler knuckles were tossed in a pile on the ground and had to be lifted using an awkward stooping posture. The coupler knuckle storage table allowed workers to handle these heavy objects at waist height with the back in an upright posture, which can reduce the loading on the low back by up to 65% compared to lifting from the ground. As part of this effort, the company evaluated the back stress of all heavy lifting tasks, and instituted a training program on safe lifting. Over a four-year period, overall injuries decreased from 33 to 12, back incidents from 13 to 0, lost days from 579 to 0, restricted days from 194 to 40 (all non-back injuries), and absenteeism dropped from 4% to 1% (Table 1). The number of cars repaired per year increased from 1,564 in 1985 to 2,900 over this period, an increase in dollar value of \$3.96 million. The company calculated the cost-benefit ratio as approximately 1 to 10 (i.e., one dollar spent on ergonomics changes resulted in 10 dollars in savings).

### **Summary**

Rail operations have long involved heavy physical effort and work in awkward postures, both of which are major risk factors for musculoskeletal problems (particularly back injuries). However, there are many ways to reduce these risk factors, through improved design of switches, development and/or use of assist devices for physically demanding jobs, and better organization and design of rail yard facilities. As noted above, such improvements can reduce injury risk while enhancing productivity in rail operations.



*Figure 7. (a) heavy railcar shaker “stored” on the ground, (b) poorly organized tools and hoses, (c) improved rail yard organization and storage: storage table for coupler knuckles allows lifting at waist height rather than from ground.*

*Table 1. Injury experience at a rail repair shop before and after instituting a back injury reduction program (AAR, 1989)*

	1985 <sup>a</sup>	1986	1987	1988
Total incidents	33	23	10	12
Reportable incidents	29	10	2	7
Lost-time incidents	13	1	0	0
Back injuries	9	0	0	0
Lost days	579	11	0	0
Restricted days	194	15	2	40 <sup>b</sup>

a 1985 data are typical of data for previous 4 years.

b Increase is in non-back-related minor injury incidents.

## References

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- Association of American Railroads [1989]. Research Pays Off: Preventing Back Injuries. TR News, 140, 16–17.
- Chaffin DB [1997]. Development of Computerized Human Static Strength Simulation Model for Job Design, Human Factors and Ergonomics in Manufacturing, 7(4): 305-322.

## Acknowledgement

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# History of the Mine Safety Institute of America

(formerly Mine Inspectors' Institute of America)

Prior to 1908, various states with mining as a major industry, created by legislation the offices of State Mine Inspectors, and some states Mining Departments. The purpose of these offices was to inspect the mines to determine if the mining statutes for the preservation of health and safety were properly observed. In the mining states, the inspectors and safety personnel had meetings or conferences relative to conditions of their own state. Occasionally, representatives from a few states would meet together to discuss ways of inspecting different problems and questions.

The many mine disasters of 1907 brought about a need for a national organization. Some chief inspectors, after discussing the matter, prevailed upon J.J. Beard, Professor of Mining, Scranton, Pennsylvania, to formulate a letter concerning a conference, which was mailed to the chiefs of the mining states, and an affirmative reply was received from seven, insisting on having such a conference.

On Tuesday, June 9, 1908, the conference was held at Indianapolis, Indiana, and out of this meeting the MINE INSPECTORS' INSTITUTE OF AMERICA was formed. During the ensuing years, the Institute was expanded to include in addition to state personnel, Federal government, labor organizations, insurance companies, mining companies, associations, manufacturers, and others associated with safety. Through the ef-

forts of the Mine Inspectors' Institute of America there has been a very successful educational program, safer and healthier working conditions, more productivity in the mining industry, and they have supported good legislature pertaining to mining through the years.

With the foresight of the early leaders, the Institute has met annually in June with various states acting as host, and is one of the better Institutes in America today. On June 23, 1998, the constitution was re-amended and the organization known as the Mine Inspectors' Institute of America (MIIA) shall henceforth be known as the Mine Safety Institute of America (MSIA).



As a potential member of the Mine Safety Institute of America (MSIA) you should be aware that our organization needs active members. MSIA needs you for your future efforts on mine safety, and for your leadership in keeping this organization strong and true to its purpose. MSIA is comprised of members from all mining regions possessing skills unique to their background and current profession. Our collective purpose is to promote safety in mines through the exchange of ideas, technology, and experience. Our annual meeting provides a forum for the membership to hear presentations on current safety problems, new technology, new applications of existing technology, and changes in legislation and inspection. Ample time is allowed for fellowship, thereby allowing the free exchange of ideas concerning mine safety between individual members. The Institute is

unique in that its meetings cater to the whole family. Over the years, a "homecoming" tradition has been established. Our membership is varied and widespread.

We invite you to join our organization and to become active in its functions, and help attain its goals.



Application for Membership  
**MINE SAFETY INSTITUTE OF AMERICA**  
(formerly Mine Inspectors' Institute of America)

I desire to be enrolled as a member of the MINE SAFETY INSTITUTE OF AMERICA and enclose herewith the dues for one year, as provided in Article III of the Constitution.

(PLEASE PRINT)

\_\_\_\_\_ 20 \_\_\_\_\_

Name \_\_\_\_\_

Official Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_  
(Street) (City) (State) (Zip Code)

Membership dues are required  
For additional information contact:  
**Lisa Sikora, 319 Paintersville Road, Hunker, PA 15639**

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**ARTICLE III - MEMBERSHIP**

SECTION 1. The Membership of this institute shall consist of:

(a) "Members" shall include all persons engaged in, or having an interest in, the health and safety of miners, the protection of mine properties and the conservation of natural resources relating to mining commissioned by a State, Commonwealth, Province, County or by a foreign nation to act as Mine Inspectors, or Chief Officer of a state mine inspection agency; all persons employed by the Federal Government charged with protecting the health and safety of miners; all persons engaged in safety or responsible supervisory work in or around mines or in teaching safety pertaining to mines; all persons in a responsible position in the manufacture or distribution of equipment for the promotion and the preservation of safety for mine or mining employees; all persons in responsible positions with labor organizations of mining employees of Mining and Workmen's Compensation Liability insurers.

(b) "Life Members" shall include all Members who have retained their membership for twenty-five (25) years.

(c) "Honorary Members" may be elected by a unanimous vote of the registered members in attendance at any regularly convened meeting. Honorary Membership shall be conferred only for some distinct service, or services, rendered in furtherance of the purposes and objectives of the Institute.

# Safety First Means People First

By Red, Inc. Communications

If you ask Richard Wobby, professional miners are the luckiest kids in the world. With the biggest Tonka trucks and the biggest sandboxes on the planet, modern miners are living the dream of every 9-year-old American boy.

Admittedly just a “big kid” himself, Wobby uses what he knows about miners to his advantage. As the Director of Member Services at the Northeast Training Academy (NERSA), in Montpelier, Vermont, Wobby wasn’t always a favorite of miners on the job site. When miners first saw Wobby and his government pick-up truck coming down the road years ago, they would scatter like ants under a magnifying glass.

“Here comes that safety guy,” they would say. “Yeah, he’s going to talk to us about safety and stuff. What are we doing wrong?”

But that’s not how Richard Wobby works. First and foremost, Wobby is an entertainer, and entertainers know how to work a room.

Tired of getting the cold shoulder from miners in Vermont, Wobby ditched his government pick-up for a sweet ride — a chromed-out, Honda Aero street bike complete with leather saddle bags and front tire whitewall. More than that, when Wobby talked safety, he talked about it in a way unfamiliar to most miners.

“I always have a stupid story for the miners — a story about something I have done lately in safety that was stupid,” Wobby said. “I would pull in on my bike and they would say, ‘Hey, here comes that mining safety guy. Let’s see if he’s added anything to his bike and find out what stupid thing he’s done this week.’”

## Let me entertain you ...

More than anything else, Wobby considers himself an entertainer. It is his belief that effective safety is learned through effective communication. He feels the best way to get the attention of a student miner is through mind-stimulating events rather than mind-numbing repetition.

As such, you won’t find Wobby standing in front of a classroom pointing at charts and reading out of a manual. That’s just not how things are done at NERSA.

Working with staffers such as Lonny Wade, Tracy Delude and Scott McKenna, Wobby aims to change attitudes about safety through unconventional means.

“When I watch Lonny and Tracy entertain a crowd, I know that crowd is learning something,” Wobby said. “My goal through entertainment is to ensure every miner goes home safely. And if you look at our safety record in the state of Vermont, it is second to none.”

True to his unconventional approach, Wobby has a knack for spicing up the AGC Annual Clambake which is a two-day lobster and crab cookout. When it is time to add safety themes to the golf tournament on cookout weekend, Wobby doesn’t stop with lectures on when to yell, “Fore!”

To keep the miners thinking safety on the golf course, Wobby sets up his fire extinguisher training device near one tee box and requires golfers to put out a fire before hitting their ball.

When it is time to teach the basics of respirator use, Wobby makes sure one of the masks is assembled with its straps backward. Unorthodox, perhaps, but curiously effective.

“To watch a miner try to put on a respirator upside down is quite humorous,” Wobby said. “But if you don’t know what you’re doing when you’re taking them apart, cleaning them and putting them back together, that could very well happen.” The miner with the backward mask is unlikely to

forget that lesson. So, too, says Wobby, is the rest of the group.

“It was a real-life situation, we got to see it, overcome it and that training worked.”

### **“People First”**

Bolted on the inside of nearly every door, front-end loader and lunch box in the mining industry is the tired, worn-out phrase “Safety First.” In his out-of-the-box approach to safety, Richard Wobby brands “Safety First” as an ineffective, nonspecific shortcut to the ultimate safety goal. It is the same thing as yelling “Score Points” at your favorite football team or “Lose Weight” at fat camp.

Obviously “Safety First” is the ultimate goal of NERSA, the Professional Miner Program and every miner with a light on their hardhat. Getting to “Safety First,” says Wobby, requires the adoption of his “People First” mantra.

In short, Wobby understands that the slogan “Safety First” is the destination; “People First” is how you get there.

“From day one our goal has been to put people first,” Wobby said. “If we put people first, we have safety. This means if I worry about you and you worry about me, we have safety out there.”

Even Vermont Governor Jim Douglas-(R) buys into the “People First” approach, endorsing Wobby’s notion of safety through attention to people.

### **Yesterday, Today and Tomorrow**

When Wobby and his staff first started training miners in 1998, meetings were conducted within the antiseptic walls of hotel meeting rooms. Flow charts, overhead projectors and notepads were the standard, all battling for attention against loud carpet, loud wallpaper and loud Musak ®.

In those days, Wobby and his training crew were proud to train 100 miners per year. Four years later that number grew to more than 1,300. Despite this increased efficiency and attendance, Wobby’s

training efforts were not meeting an ever-growing demand.

It was then that Wobby and MSHA EFS Training Specialist Jon Montgomery discussed that the Associated General Contractors training program needed more space and better facilities than a local motel could provide. The group’s training accommodations at other facilities were similarly insufficient.

Wobby sprang into action, modeling a new training facility on a 5,000-square foot building operated at the Occupational Safety and Health Administration (OSHA) Training Institute in Vermont.

“We just couldn’t imagine having a facility where people could actually walk in and pick stuff up,” Wobby said. “We couldn’t imagine a facility that wasn’t all white walls and wallpaper that actually had a white dry-erase board you could draw on.”

Today, NERSA operates out of a 10,000-square foot building complete with everything a safety instructor could want, including abundant hands-on working spaces and a working kitchen area. The Montpelier site also has two 70-seat sterile training rooms with ceiling-mounted PowerPoint projectors, surround sound and Internet access.

The facility is so complete, in fact, that numerous non-industry contractors regularly approach NERSA for training classes and events not specific to mining.

“It started out with us just doing training for the mining people,” Wobby said. “Now we do firefighter training and EMT training on nights and weekends. We put 4,500 people through this facility every year, discussing safety theory in one area, discussing practical application in another and doing hands-on stuff out in the main hall.”

From its modest beginnings in hotel conference rooms to its current state-of-the-art comprehensive layout, the Associated General Contractors

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NERSA program has become the standard for modern safety education.

“We are professionals,” he said. “We’re going to build your roads, we’re going to build your bridges, and we’re going to keep America running.” ■

## Escape & Survive: A Miners’ Town Hall Meeting on Emergency Preparedness

June 18, 2008, at 2:00 p.m. at the Four Points by Sheraton, 100 Sheraton Drive, Route 30 East, Greensburg, PA 15601

The Penn State Miner Training Program and the Mine Safety and Health Administration (MSHA) invite you to our Town Hall Meeting. This event will improve every miner’s ability to escape or evacuate a mine in case of an emergency.

A panel of leading mine safety experts and mine operators will lead the discussion, and the floor will be open for questions.

Topics include:

- **Types of Mine Emergencies**
- **Emergency Response Plans**
- **Self-Contained Self-Rescuers**
- **Communications and Miner Tracking**
- **Incident Command and Control**
- **Training**
- **Escape and Evacuation**

- **Breathable Air Safe Havens/Refuge Chambers,**
- **Mine Rescue**

### *Register to Attend*

To attend the town hall meeting, please fill out the online form at <http://www.minerstownhall.org/>

The meeting will be videotaped for a webcast and will be available on DVD. The taping is scheduled for one hour, but the discussion may continue afterwards if warranted. Check back for more details.

### *Submit Your Questions to the Panel*

The Penn State Miner Training Program invites you to submit questions for our panel in advance. Send your questions to Dr. Mark C. Radomsky at [mcr4@psu.edu](mailto:mcr4@psu.edu) or through the space provided on the registration form by May 30, 2008.

For more information about the town hall meeting, please contact Kathy Johnstonbaugh at 814-865-7472.





## At 91, He Keeps On Digging

### Longtime crane operator honored for a fine safety record

By Derek R. Smith,  
Greenfield Daily Reporter  
Republished with permission

Ralph Strubbe might be 91 years old, but the lifelong Greenfield resident doesn't find operating a crane to be any more difficult than it was in his younger years.

"It doesn't take a whole lot more effort than driving a car...once you get things set up right," said Strubbe, who recently was honored for his safety record by a national mining trade group. "It's just a matter of concentration and doing the right thing at the right time."

Strubbe has been operating cranes for about 50 years, first at his family's gravel business on the north side of Greenfield and more recently – well after a time when most crane operators are retired – at J.L. Wesley Enterprises, a Greenfield firm that operates a mining and transport operation.

Strubbe can still remember the days when materials were hauled by horse and wagon. He can name places all over the county where he has operated different cranes – several of them within easy walking distance of his house on New Road. It's safe to say that the Strubbe family business provided aggregates to many building projects in the county in the past 70 years. Strubbe mined a lot of that gravel.

Then, about five years ago, Strubbe retired – but not for long.

Jack Wesley remembers approaching an 86-year-old Strubbe to ask if he'd work for J.L. Wesley Enterprises. Wesley knew what Strubbe's answer would be.

"He's a real peach of a fellow to work with," said Wesley, safety director at J.L. Wesley. "Anytime we need to know something, we ask him." Strubbe's decades of experience as a crane operator are highly valuable commodity," said Bud Wesley, vice president of the firm. "He has kept our whole operation going. Crane operators – they're hard to find. They're a dying breed."

Founded in 1994, J.L. Wesley began operating its sand and gravel pit on CR300N in 2001. "The company has provided services for some high-profile projects like Super 70, the Honda plant in Greensburg, and the Nestle project in Anderson," Bud Wesley said.

Operating a crane is a dangerous job, but Strubbe has a stellar track record.

In fact, Strubbe has received a Professional Miner award from the Joseph A. Holmes Safety Associa-

(See next page)



*Strubbe is here seen receiving the Platinum Professional Miner Award from the Joseph A. Holmes Safety Association representatives.*

tion. The platinum award is for five years with no reportable injuries.

“He just comes in, does his thing and keeps everybody going,” said Jack Wesley, who applied for Strubbe’s award.

As Strubbe describes his years of operating cranes, it’s evident that receiving awards is not his motivation. Nonetheless, he said the award is an honor.

“I’m proud of him,” Strubbe’s wife, Julia, said of the award. “I think it’s wonderful. I think he’s been well blessed over the years. He has a zest to want to keep on living. A lot of people when they get old, they give up.”

Strubbe’s zest for life is apparent in his stories. He recalls the time in the 1970s when he unearthed prehistoric bones at CR600 North and Fortville Pike.

“I was just getting ready to quit for the evening and I pulled out the top half of the skull,” Strubbe said.

Confronted with curved, seven-foot-long bones, Strubbe knew the skeletal structure was way too big for a horse. He contacted an expert and the site was later excavated. The reconstructed skeleton, which turned out to be a mastodon, is now at The Children’s Museum in Indianapolis.

Nowadays, operating a crane still isn’t a challenge to Strubbe - as long as he doesn’t overdo it.



He might work three to four hours in the morning and come home to take a nap. Then he'll work another three or four hours in the afternoon.

Julia Strubbe thinks it's a love for the outdoors that has helped keep Strubbe active and industrious.

Jack Wesley plans to find out if the Joseph A. Holmes Safety Association will give Strubbe its "Double diamond" professional miner award for 40 years without a serious injury.

After all, his safety record goes back further than five years.

"He's a real great inspiration," Bud Wesley said. "I could sit there all day and watch him run it (the crane). It's just like fly fishing." ■



## Council Updates

The Holmes Safety Association's Capitol District Council had 26 attendees at their March meeting in Albany, NY. New officers were selected: Casey Taylor from Lafarge North America will be their new president; Charlie Klotz of Lehigh Cement, Vice President; Dennis Cevci of D.A. Collins and Christina Edgerly of Adirondack Mechanical will continue to be the treasurers. Jon Montgomery made a presentation on traffic control. Update submitted by Jon Montgomery.

The Northwest Ohio Council met on April 29, 2008. The meeting was hosted by Stoneco, Inc. MSHA Inspector Dennis Dobosh gave a presentation on the Four E's of Safety. Update submitted by Jeff Hoblick.

The Minnesota Mine Safety Association (State Holmes Council) has launched a new website: <http://minnesotaminesafety.org/>

On April 24, Jon Montgomery presented the JAHSA Certificate of Honor Award to Mr. Juan Berrios, Jr. at a M/NM Surface Grounding Seminar sponsored by the southern division of the NJ



*Ken Heintz presenting the certificate to Jaun Berrios at the Holmes meeting in NJ.*

State Holmes Safety council. This meeting was arranged by Mr. Ken Heintz, NJ DOL Mine Safety trainer. There were 18 electrical contractors in attendance. Mr. Jon Montgomery from MSHA-EFS and Mr. Ed Cunnie from the AEMC Company were co-presenters at this meeting. Mr. Heintz and Mr. Cunnie also were given certificates for their work of promoting the Joseph A. Holmes Safety Association. This update was submitted by Jon Montgomery.

(Continued on page 25)

# For Security Purposes — MSHA Initiates New Tracking System

To reduce the use of Social Security Numbers (SSN) for tracking purposes, MSHA has developed new procedures. Effective April 21, 2008, individuals who apply for or update an MSHA certification, qualification, or approval first must register with MSHA to receive their MSHA Individual Identification Number (MIIN). This 8-digit number preceded by the letter “M” will be used for all subsequent transactions concerning MSHA certifications, qualifications, or approvals.

MSHA is making this change in response to concerns about identity theft. This new procedure requires individuals to register with their SSN only one-time, directly with MSHA.

Certifications, qualifications, or approvals that a person currently holds will not be voided if they do not register at this time. People who are applying for or updating a certification, qualification, or approval must get a MIIN first. Also, people who hold an MSHA certification for collection of respirable dust samples and/or certification for the maintenance and calibration of respirable dust sampling units must obtain a MIIN to continue to perform these functions. MSHA will void any respirable dust sample submitted on or after July 1, 2008, that does not have a valid MIIN recorded in the certified person (item 13) section of the dust data card that accompanies each respirable dust sample. MSHA also will not accept samples with a SSN or blanks in the certified person section of the dust data card on or after July 1, 2008.

**Help Safeguard Your Identity**  
**Register for a**  
**MIIN**  
**MSHA Individual Identification Number**  
**Miners and Instructors!**  
**New MIIN Registration Program**

MSHA is establishing an MSHA Individual Identification Number (MIIN); this number will be substituted for the social security number. The MIIN will be used by Part 48 MSHA Approved Instructors, miners with MSHA qualifications and certifications along with Part 90 miners.

For MIIN registration information visit the MSHA homepage at [www.msha.gov](http://www.msha.gov).

**Coming April 21, 2008...**

Department of Labor  
Mine Safety and Health Administration

If you have any questions please contact the Qualification and Certification Unit at 1-800-579-2647 or ZZMSHAEPDQC@dol.gov





MIIN registration is simple and can be done in several ways. Applicants can register after April 21:

- **Online through E-Gov at [www.msha.gov](http://www.msha.gov) (click on: Forms/Online Filing)**
- **Toll free number 1-800-579-2647**
- **Fill out MSHA Form 5000-46, “Request for MSHA Individual Identification Number (MIIN)” (this form can be found at the MSHA website under Forms/Online Filing) and**
- **Send by secure FAX to (303) 231-5474 or**
- **Mail to: Mine Safety and Health Administration**  
Qualification and Certification Unit  
P.O. Box 25367, DFC  
Denver, CO 80225

A MIIN is only required for a person applying for or modifying one of the following qualifications, certifications, or approvals:

- Electrical Qualification Training, Low/Medium Voltage (Underground)
- Electrical Qualification Retraining, Low/Medium Voltage (Underground)
- Methane/Oxygen Qualification (Underground/Surface)
- Hoisting Qualification (Underground/Surface)
- Explosives/Blasting Qualification
- Impoundment Qualification
- MSHA Approved Instructors (Part 48 and Part 49, Electrical)
- Dust Data Card (Bi-monthly operator sampling)
- Underground Foreman
- Underground Assistant Foreman
- Preshift Examiner
- Surface Foreman
- Dust Sampling
- Dust Equipment Calibration

If you have any questions, contact MSHA’s Qualification and Certification Office at 1-800-579-2647 or [zzmsha-epdq@dol.gov](mailto:zzmsha-epdq@dol.gov).

**MIIN**  
MSHA INDIVIDUAL IDENTIFICATION NUMBER

# Food Poisoning

By RED, Inc. Communications

Food poisoning is a common illness that affects millions of Americans every year. Food poisoning can affect one person or it can occur as an outbreak and affect many people. Cases of food poisoning range from mild to severe and in some instances can even lead to death.

This article is intended to raise awareness about food poisoning by presenting some interesting statistics and explaining some of the causes, symptoms, and treatments for this illness. Steps that can be taken to prevent food poisoning are also included.

## Facts about Food Poisoning

Although food poisoning is a common illness, it can be distressing and sometimes life-threatening. According to the National Library of Medicine and the National Institutes of Health, food poisoning is responsible for 6 to 8 million deaths worldwide each year.

The Centers for Disease Control and Prevention (CDC) reports:

- **An estimated 76 million cases of food-borne illness are reported in this country each year resulting in 325,000 hospitalizations and up to 5,000 deaths.**
- **Salmonella is one of the most common bacterial forms of infection, accounting for \$1 billion in medical expenses and lost work time.**
- **More than 250 different food-borne diseases have been identified, most of which are infections from bacteria, viruses, and parasites.**
- **Other food-borne diseases are poisonings caused by harmful toxins or chemicals that have contaminated the food.**

## Causes of Food Poisoning

Most cases of food poisoning are caused by consuming food (or beverages) containing certain types of bacteria or viruses. Common bacteria such as Staphylococcus, E. coli, or Salmonella are responsible for food poisonings as are viruses such as Hepatitis A and the Norwalk virus. Parasites are also known to cause food poisoning, although much less frequently. Parasites are typically transmitted in contaminated water. Giardia is an example of one such illness caused by drinking contaminated water from lakes or streams.

Toxins and poisonous chemicals can also cause food poisoning. For example, eating poisonous mushrooms or failing to wash pesticides from fruits or vegetables before eating can cause illness. For more information on these agents (i.e., bacteria, viruses, parasites, toxins, and poisonous chemicals) and their association with food-borne illnesses, see the references listed below.

Food can become contaminated from poor sanitation or improper preparation. People who are handling food and do not wash their hands after using the restroom, or who have infections themselves, can often cause contamination. Food that is not packaged properly or stored at the wrong temperature also promotes contamination.

Young children, elderly people, and people with chronic or serious illnesses and/or weakened immune systems, are particularly vulnerable to food-borne illnesses. People who travel outside of this country to areas where there may be more exposure to organisms causing food poisoning are also at high risk. Women who are pregnant or breastfeeding need to be especially careful due to the potential risk to the unborn child or infant.

## Symptoms of Food Poisoning

Symptoms of food poisoning depend on the type of contaminant and the amount consumed. The symptoms may appear within a short time of consuming the contaminated food or drink (within 30 minutes) or may come on slowly, worsening over days or weeks.

The most common symptoms of food poisoning include abdominal cramps, nausea, vomiting, diarrhea, fever and chills, weakness, and headache. Often times, food poisoning is not too serious and will run its course in 24-48 hours. However, the symptoms of food poisoning may resemble other illnesses or medical conditions. Therefore, a healthcare professional should be consulted for proper diagnosis.

## Treatment for Food Poisoning

As mentioned above, most people recover from common food poisoning within a few days. In such cases, the goal of treatment should be to help the individual feel better (reduce vomiting and diarrhea) and avoid dehydration (replace fluids). However, in serious cases of food poisoning, hospitalization may be necessary. In cases where a healthcare professional is consulted, a physical examination will be conducted for outward signs and symptoms of food poisoning. He or she will conduct various tests to determine the level of seriousness of the illness.



## Steps to Prevent Food Poisoning

The National Library of Medicine and the National Institutes of Health recommend the following steps to help prevent food poisoning:

- **Wash hands thoroughly before handling food and after touching raw meat, seafood, poultry, or eggs.**
- **Wash food preparation surfaces, dishes, and utensils after each use.**
- **Use plastic cutting boards for cutting raw fish, poultry, or meat as they are more easily sanitized than wood.**
- **Cook beef, poultry, fish, and eggs thoroughly before eating. Cook beef to an internal temperature of at least 160°F, poultry to at least**

**180°F, and fish to at least 140°F.**

- **Never place cooked meat or fish on the same plate used for uncooked meat, unless it has been thoroughly washed.**
- **Wash all produce thoroughly before eating.**
- **Promptly refrigerate any food that will not be eaten right away. Keep the refrigerator set to around 40°F and the freezer at or below 0°F.**
- **Do not eat meat, poultry, or fish that has been refrigerated uncooked for more than 1 to 2 days.**
- **Do not use outdated foods, packaged food with a seal that is broken, or food in bulging or dented cans.**
- **Do not use foods that have an unusual/spoiled odor or taste.**
- **If you can foods at home, follow proper canning methods to prevent botulism.**
- **Do not eat wild mushrooms.**
- **Do not feed honey to children younger than age 1, as it is known to cause infant botulism.**
- **Do not eat shellfish that have been exposed to red tides.**

Help others avoid food poisoning by notifying anyone who may have eaten the same food that made you ill or by contacting the store, restaurant, and/or local health department if you think the food was contaminated when you purchased it from the establishment.

## References

Department of Health and Human Services, Centers for Disease Control and Prevention, Division of Bacterial and Mycotic Diseases. (2005). Foodborne illness. ([http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm)).

U.S. National Library of Medicine (NLM) and the National Institutes of Health. (2006). Food Poisoning. (<http://www.nlm.nih.gov/medlineplus/ency/article/001652.htm>).

WebMD Medical Reference in collaboration with the Cleveland Clinic. (2006). Digestive diseases: Food poisoning. (<http://www.webmd.com/content/article/909/100617.htm>).

The University Hospital of Columbia and Cornell. (2003). Food Poisoning. (<http://www.nyp.org>).



## Poison Prevention in the Home

By RED, Inc. Communications

Millions of unintentional poisonings are reported to poison control centers across the country every year. The vast majority of these poisonings occur in the home. Fortunately, unintentional poisonings can be prevented. You can protect yourself and your family by becoming aware of potentially hazardous household products and by taking some steps to poison-proof your home. This article will help you do just that. Read on to learn more about accidental poisonings and what you can do to prevent such incidents from occurring in your home.

### The Facts

A poison is any substance taken internally or applied externally that causes injury, illness, or death of a living organism. According to the National Safety Council (NSC), every year poisonings result in nearly 900,000 visits to hospital emergency rooms and some 1,100 deaths.

The NSC also reports—

- In 2004, over 2.4 million human toxic exposures were reported in the U.S.
- 84.1% of these poison exposures were unintentional.
- 93% of these exposures occurred in homes.
- More than 50% of these cases involved children under age 6.
- Ingestion was the means of poisoning in

76.8% of the cases, followed by dermal (skin), inhalation (breathing), and ocular (eye).

- The majority of cases were handled in non-healthcare facilities, typically the home.
- Poison control centers in the U.S. handle 1 poison exposure every 13 seconds.

## Poisonous Substances in the Home

As consumers, we purchase thousands of potentially hazardous products every year. These products are routinely used in and around the home and include such things as—

- **Medicines and vitamins.** Pain relievers, antidepressants, heart medications, cough and cold medicines, etc.
- **Household cleaning and maintenance products.** Drain cleaners, oven cleaners, toilet bowl cleaners, furniture polish, room deodorizers, paints and stripping agents, fertilizers, pesticides, etc.
- **Personal care products.** Cosmetics, mouthwash, nail polish and remover, perfumes, body oils, etc.
- **Miscellaneous products.** Glues, batteries, gasoline, windshield washer fluid, anti-freeze, lighter fluid and tobacco products, etc.
- **Plants.** Wild mushrooms, philodendron, holly berries, pokeweed, foxglove, and others.



While these items may serve important purposes in our daily lives, they are potential hazards and can, particularly when misused, cause illness, injury, and even death.

## Keeping Your Family Safe

Here are some precautions you can take to ensure your safety and the safety of your family.

- Keep the phone numbers for your local poison control center\*, the nationwide poison control center (1-800-222-1222), and your healthcare provider on or near the telephone.
- Get down to a child's level and look at potential hazards from their viewpoint.
- Keep household poisons and medicines in original, labeled, child-resistant containers and out of the reach of children.
- Read the label on household products and follow directions for safe and effective use, storage, and first aid.
- When using a poisonous product, never leave it unattended if there are children in the home.



- Properly dispose of unused household products and unused or expired medicines.
- Store products out of the reach of children,

(See next page)

even if you do not have small children. Many poisonings occur in homes where children are visiting.

- Use hazardous products away from children, toys, food, and pets, as directed.
- If you have small children in daycare, check to see if the provider keeps cleaning products, medicines, and other potentially hazardous products out of children's reach.

Be as cautious with nonprescription drugs as you are with prescription medications. Do not refer to medicine as candy or take medicine in front of children.

Teach your children about poisonous substances in and around the home.

\*You should be able to find the number for your local poison control center inside the front cover of your phonebook or at the American Association of Poison Control Centers (AAPCC) website (<http://www.aapcc.org>).

## What to Do if a Poisoning Occurs

In case of poisoning, the AAPCC advises the following:

1. Remain calm.
2. Call your local poison control center immediately and be prepared with the following information:
  - Condition, age, and weight of person poisoned.
  - Name of product and ingredients.
  - Amount of product taken.
  - Time poisoning occurred.
  - Your name and telephone number.
3. Follow directions given to you by the poison control center.

Keep in mind that products may or may not con-

tain the correct first aid instructions (e.g., instructions may be outdated, incomplete, or inaccurate). Therefore, it is important to contact the poison control center or your healthcare provider immediately if you suspect exposure to a poisonous substance.

Poison control centers are staffed with qualified personnel (e.g., pharmacists, nurses, etc.) who provide emergency information. These specialists in poison information are available 24 hours a day, 7 days a week. They will advise you of the steps to take based upon the information you give them.

Remember, prevention is the best path for keeping yourself and your family safe from accidental poisoning.

For more information on poisonings, contact your local poison control center or the organizations listed in the reference section below.

## References

American Association of Poison Control Centers. Poisoning fact sheet; Preventing poisonings in the home; and Prevention tips. (<http://www.aapcc.org>).

National Safety Council. (2005). How to Prevent Poisonings in Your Home; Poison Prevention; and Poison Prevention Tips. (<http://www.nsc.org>).

Poison Prevention Week Council. Frequently Asked Questions. (<http://www.poisonprevention.org>).



# **M/NM**

## **TROUBLESHOOTING**



The contest will be held in conjunction with the 2008 Mine Construction and Surface Haulage Operation, Maintenance, and Repairs Seminar  
National Mine Health and Safety Academy  
September 9-11, 2008

### **Contact Information**

**Tom Bonifacio, Seminar Coordinator**  
1301 Airport Road  
Beaver, WV 25813-9426  
Phone: 304-256-3357  
Fax: 304-256-3247

See next page for enrollment form.

# Metal/Nonmetal Electrical Troubleshooting Contest Enrollment Form

The contest will be held in conjunction with the 2008 Mine Construction and Surface Haulage Operation, Maintenance, and Repairs Seminar at the National Mine Health and Safety Academy, September 9-11, 2008.

Contact Information:

Tom Bonifacio, Seminar Coordinator  
1301 Airport Road  
Beaver, WV 25813-9426  
Phone: (304) 256-3357  
Fax: (304) 256-3247

Attendee Information:

Company: \_\_\_\_\_

Address: \_\_\_\_\_

State/Province: \_\_\_\_\_

Zip/Postal Code: \_\_\_\_\_

Main Contact: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Attendee Names:

(1) \_\_\_\_\_ Experience \_\_\_\_\_

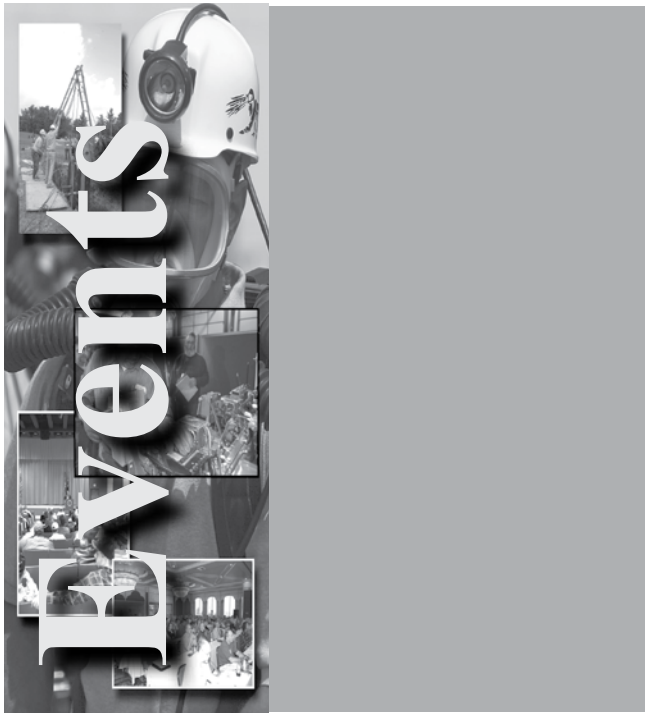
(2) \_\_\_\_\_ Experience \_\_\_\_\_

(3) \_\_\_\_\_ Experience \_\_\_\_\_

(4) \_\_\_\_\_ Experience \_\_\_\_\_

(5) \_\_\_\_\_ Experience \_\_\_\_\_





## Event Schedule:

June 10-13, 2008 - 2008 National Joseph A. Holmes Conference, Lake George, NY. For more information, contact [smckenna@catamountconsultingllc.com](mailto:smckenna@catamountconsultingllc.com) or call Jessica at 518-623-2352

June 9-13, 2008 - 12th U.S. / North American Mine Ventilation Symposium, Reno, NV. For more information, call 775-784-6959 or 559-452-0182

June 17-18, 2008—2nd Annual Conference for the Mining Industry (substance abuse in the mines), Salt Lake City, UT., <http://www.msha.gov/events/SCTrainingPreventSubAbuseInMining.pdf>

June 18, 2008—Escape & Survive: A Miner's Town Hall Meeting. For more information and to register, visit: <http://www.eme.psu.edu/town-hallmeeting> or call Kathy Johnstonbaugh at (814) 865-7472.

July 15-17, 2008 – National MNM Mine Rescue Contest, Reno/Sparks Convention Center, Reno, NV. Entry forms will also be available on MSHA's homepage under the "Mine Rescue" heading at [www.msha.gov](http://www.msha.gov), by a written request or by e-mail to: Metal and Nonmetal Mine Safety

and Health Administration, 1100 Wilson Boulevard, Arlington, VA 22209. Phone: (202) 693-9609 E-mail: [Mayhugh.Christine@dol.gov](mailto:Mayhugh.Christine@dol.gov)

September 9-11, 2008—1st Annual MNM Electrical Trouble Shooting Contest, National Mine Health and Safety Academy, Beaver, WV. For more information contact Tom Bonifacio 304-256-3357

September 9 -11, 2008—1st Annual Cutting and Welding Contest, National Mine Health and Safety Academy, Beaver, WV. For more information contact Tom Bonifacio at 304-256-3357

September 9-11, 2008—Construction, Maintenance and Repair Seminar, National Mine Health and Safety Academy, Beaver, WV. For more information contact Tom Bonifacio at 304-256-3357 [www.msha.gov](http://www.msha.gov)

October 14-15, 2008—TRAM: Training Resources Applied to Mining Conference, National Mine Health and Safety Academy, Beaver, WV. For more information contact Belinda Browning at 304-256-3326

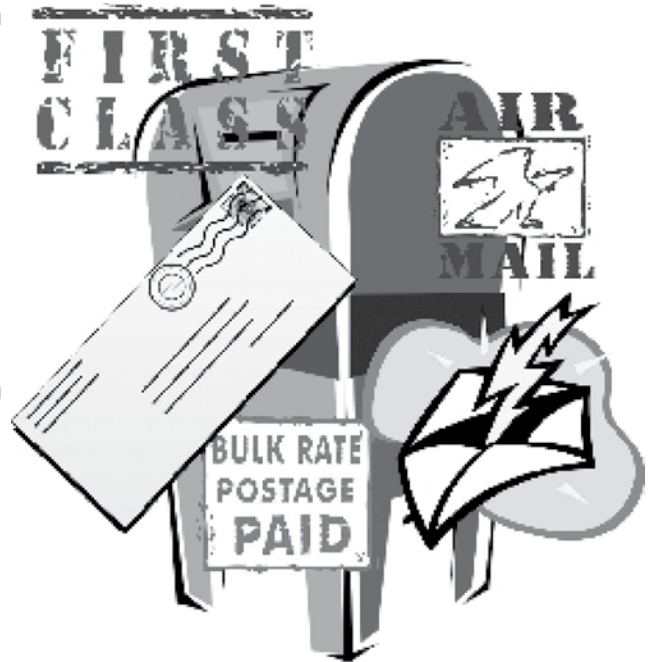
## Council Updates (cont.)

The Cajun Council Meeting was held May 21, 2008 and hosted by AMPOL in New Iberia, Louisiana. Thirteen members were in attendance. In addition to the normal meeting activities Joe Olivier, MSHA EFS, gave a presentation on the need to update training plans. He wants to ensure the proper training is being given by auditing our upcoming training sessions. He offered to assist us with obtaining the new MIIN and answer any other questions we may have. Jon Montgomery of MSHA EFS gave a very entertaining demonstration on explosive dusts. All present were involved in the demonstration. Jon also discussed the upcoming National Holmes Safety Council Meeting in New York. Please attend if at all possible. Our next quarterly meeting is set for Wednesday August 20, 2008. Mark your calendar and plan to attend. Update provided by Jon Montgomery.

# For address changes, comments, suggestions and new subscription requests:

Contact:  
Bob Rhea  
Joseph A. Holmes Safety Association Bulletin  
Mailing List  
MSHA-US DOL  
1100 Wilson Blvd. Rm. 2147  
Arlington, VA 22209-3939  
Tel: 703/235-0249, Fax: 202/693-9571  
E-mail: rhea.robert@dol.gov

Please address any comments to:  
Belinda Browning  
Joseph A. Holmes Safety Association Bulletin  
DOL-MSHA  
National Mine Health and Safety Academy  
1301 Airport Road  
Beaver, WV 25813-9426  
Tel: 304/256-3326, Fax: 304/256-3461  
E-mail: browning.belinda@dol.gov



Reminder: The District Council Safety Competition for 2008 is underway—please remember that if you are participating this year, you need to mail your quarterly report to:

Mine Safety & Health Administration  
Educational Policy and Development  
Joseph A. Holmes Safety Association Bulletin  
P.O. Box 9375  
Arlington, VA 22219



U.S. Department of Labor (MSHA)  
Joseph A. Holmes Safety Association  
P.O. Box 9375  
Arlington, Virginia 22219

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