

In this issue of the Environmental Health and Safety (EHS) Listserv, June 7, 2018

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1. National Forklift Safety Day

June 12, 2018, is National Forklift Safety Day, sponsored by the Industrial Truck Association. OSHA (the Occupational Safety and Health Administration) estimates forklifts are involved in 85 fatal accidents per year, 34,900 accidents that result in serious injury, and 61,800 injury incidents classified as non-serious. Studies show that many of these incidents could have been prevented by better training. The focus of National Forklift Safety Day is to emphasize safe use of all Powered Industrial Trucks (PIT) and the importance of operator training.

PITs are an essential part of many operations and are used widely at UNL. They are used to carry, raise, lower, stack, or move materials, and come in various styles. PITs may be electrically-powered (battery) or internal combustion engine (gas/LPG/diesel) powered. Each style/type presents different operating hazards. For example, a sit-down, counterbalanced high-lift rider truck is more likely than a motorized hand truck to be involved in a falling load accident because the sit-down rider truck can lift a load much higher than a hand truck. Workplace type and conditions are also factors in hazards commonly associated with powered industrial trucks.

Workers must be trained to the specific type(s) of PIT(s) they will be operating, including potential workplace hazards. Daily, pre-shift inspection of PITs is required. Each type of PIT is unique. The Occupational Safety and Health Administration (OSHA) in collaboration with the UAW-Ford National Joint Committee on Health and Safety provides sample daily checklists for many different types of PITs. The owner's manual is another source of information on required daily inspection items.

Forklift operators must be 18 years of age; properly trained; evaluated and certified before independent operation of a PIT. EHS provides online **Powered Industrial Truck** training for UNL workers. After successful completion of this training, the second step is an on-site competency demonstration. Forklift training is required upon initial assignment and every three years thereafter.

Resources:

- EHS **Powered Industrial Trucks** web-based training
<http://ehs.unl.edu/web-based-training#PIT>
- **Forklift/Powered Industrial Truck Safety** SOP
<http://ehs.unl.edu/sop/s-forklift.pdf>
- OSHA *Sample Daily Checklists for Powered Industrial Trucks*
https://www.osha.gov/dte/library/pit/pit_checklist.html
- Industrial Truck Association <https://www.indtrk.org/>
- Occupational Safety and Health Administration *Powered Industrial Trucks – Forklifts*
<https://www.osha.gov/SLTC/poweredinustrialtrucks/index.html>

2. Safety Shorts – Forklift Safety

This series features links to short safety resource(s) each month. Provided this month are resources related to forklift safety.

- **Forklift Balance** (Supply Chain, duration 1:25 minutes)
<https://www.youtube.com/watch?v=la0GmqOpDvQ>
- **Forklift Stability Triangle – Forklift – 3D Animation** (NextEdgeVideo, duration 1:48minutes)
<https://www.youtube.com/watch?v=FmHMeVTeaF4>
- **Forklift Safety – 8 Rules – Avoid Accidents & Injuries – Safe Forklift Operation Starts with You!** (Safety Memos, duration 3:28 minutes)
<https://www.youtube.com/watch?v=0LW4XsgP43s>

NOTE: Resources provided are for informational purposes only. Publication does not indicate endorsement a particular company or product or affect current UNL policies and procedures.

3. Wisely Green for a Clean Stream

Lawn fertilizer contains the nutrients nitrogen and phosphorus, which are major sources of pollution in surface water. Rain can carry fertilizer from our lawns to storm drains in our streets, which empty directly into local streams and lakes. This can cause algae to grow which uses up oxygen that fish need to survive and can be harmful to us, our pets, and other wildlife.

Being wise about how to care for your lawn, including how to determine the correct type and quantity of fertilizer to apply can help protect our water resources and save you time and money. Here' are some things you can do this spring and summer:

- **Soil Test:** A soil test will tell you what, if any, fertilizer is needed for your lawn. You may find your lawn needs much less fertilizer than advertised.
- **Buy Low and Slow:** Choose a fertilizer with *low* or no phosphorus. Most lawns in our area already have enough and phosphorus is the primary cause of algae blooms. Also, choose a *slow* release fertilizer. These contain fewer water-soluble nutrients that can more readily wash off your lawn and into storm drains.
- **Mow High:** Follow the 3-inch rule. Tall grass promotes deeper root growth for a healthier lawn that may require less fertilizer to maintain.

Resources

- Spring Lawn Care Tips
<https://lincoln.ne.gov/city/pworks/watershed/home-lawn/lawn-care.htm>
- Fertilizer <https://lincoln.ne.gov/city/pworks/watershed/home-lawn/fertilizer.htm>
- NebGuide: Fertilizer Use in Home Landscapes
<http://extensionpublications.unl.edu/assets/pdf/q1941.pdf>
- NebGuide: *Stormwater* Management: Yard Waste Management
<http://extensionpublications.unl.edu/assets/pdf/q1855.pdf>

4. Situational Preparedness – The “Safe Brain” Lane

Situational preparedness is so important that we will be looking at various aspects over time, as well as providing resources to assist you to “be prepared” for whatever situations you may encounter at UNL.

According to the National Safety Council, about 40,000 people die every year as a result of motor vehicle crashes. One way of looking at ways to reduce motor vehicle crash rates is through neuroscience. These five brain-centered hazards, when understood, can help make driving much safer:

- **The expectation bias.** Some scientific studies estimate that we make as many as 130 decisions per mile while driving.¹ To accomplish that, our brains set expectations for what we should see and experience on our drive. If something unexpected occurs, we may not be able to react quickly enough. The key is to be more open in our observations and “expect the unexpected” to allow us to perceive new hazards faster in order to react appropriately.
- **Seeing is suspect.** How many times have you seen a driver nearly swerve out of their lane? That’s because our seeing is not totally dependable if we only stare straight ahead in the near distance. We have a three-degree cone of central vision (think visual acuity or 20/20

vision) with focus on a relatively small field of vision and ignore what can be a bigger, more obvious object. This is why scanning the areas to the sides of the vehicle and all mirrors as well as farther ahead on the road is important.

- **Automation in action.** When performing any routine task our brain tends to go on “autopilot” to conserve energy, which can put us at serious risk. This is why we often do not recall details of our drive home or to work. Defeat this trap by paying conscious attention each time you get behind the wheel.

- **Divided attention or distractions.** Driving distractions come in three main forms:
 - Visual: Taking your eyes off the road, for example, to look at a billboard or something else on the side of the road or within the vehicle.
 - Manual: Taking your hands/a hand off the wheel, for example, to eat, tune the radio, etc.
 - Mental: Daydreaming, planning tasks at your destination, etc.

Scientific research tells us our brains cannot do two things that require concentration at the same time. We can eliminate this hazard by committing to “just drive.”

- **Micro-sleep mishaps.** Functional MRIs of the human brain reveal that having less than five hours of sleep makes us as much as 490 times more likely to be involved in a motor vehicle crash.² Rolling down the window, drinking coffee, turning up the air conditioner, etc., will not make up for lack of deep sleep. When your brain doesn’t get enough deep sleep it micro-sleeps to compensate. Micro-sleep is when your eyes are open but your brain is asleep. Get enough sleep to avoid micro-sleep mishaps.

While discussed in the context of driving a motor vehicle, these items and suggested mitigation can be applied to biking and walking.

References/Resources

1. Aaron, JE and Strasser, MK. “Driver and Traffic Safety Education: Contents, Methods, and Organization,” New York: Macmillan Inc., 1966.

2. Lombardi, D. et al. “Daily sleep, weekly working hours, and risk of work-related injury or incident.” Paper delivered at ICOH 19th International Symposium on Shiftwork and Work Time.

- Russell, Larry R. "Safety Leadership: Driving in the Safe Brain Lane." *Safety Health Magazine RSS*, Safety Health Magazine (The Official Magazine for the NSC Congress & Expo), 29 Apr. 2018, www.safetyandhealthmagazine.com/articles/16780-safety-leadership-driving-in-the-safe-brain-lane.

5. Hand Tool Safety

Non-powered hand tools are used widely in work settings across a variety of areas. According to National Institute for Occupational Safety and Health (NIOSH) a large number of injuries, known as musculoskeletal disorders, are attributable to hand tool use in occupational settings. These injuries can be reduced if users choose the right tool for the job.

Following are recommendations for hand tool selection to minimized musculoskeletal disorders:

- **Know the job that will be performed.** Before selecting a hand tool, research the task to find the tool that will accomplish the specific purpose in mind. Any tool that is used for a job other than its designed purpose may cause injury, pain or discomfort.
- **Select the right tool size for you.** The risk of injury may be reduced if the tool fits the worker's hand. The Center for Construction Research and Training (also known as CPWR) advises selecting a tool with a handle length longer than your palm size to avoid the handle "cutting into" your hand. When considering grip size, you want the tool to match or be as close to your own grip size as possible. Also, think about the weight of the tool itself. A lighter-weight version may reduce the amount of effort and force needed.

Following are a few general guidelines to optimize hand tool selection to minimize injury. Select hand tools:

- Without sharp edges or finger grooves on the handle
- That is coated with soft material
- With an angle that allows work to be performed with a straight wrist
- That can be operated with either hand
- That has a non-slip surface for a better grip

Selecting the correct tool is only part of the safety equation. Workers should be trained on safe procedures for working with or otherwise handling tools. Here are a few tips:

- **Improve your work posture.** When working, an awkward posture may create unnecessary demands on the body. In some cases, the placement of the work piece will affect the shoulder, elbow, wrist, hand or back.
- **Choosing a tool requiring the least continual force** will help minimize pain and fatigue by keeping the neck, shoulders and back relaxed.
- **Keep all tools in good condition** with regular maintenance.
- **Examine each tool** for damage before use and do not use damaged tools.

Observe safe handling of tools when preparing to work:

- Do not carry tools up or down a ladder in a way that inhibits grip. Ideally, tools should be hoisted up and down, using a bucket or strong bag, rather than being carried.
- Use care when exchanging hand tools between persons. Pointed tools should be passed either in their carrier or with the handles toward the receiver. Never toss hand tools.
- Never carry pointed tools such as chisels and screwdrivers in a pocket. Carry in a toolbox, pointed down in a tool belt or pocket tool pouch, or in the hand with the tip always held away from the body.
- Always put tools away when not in use.

Resources:

- OSHA Publication *Hand and Power Tools*
<https://www.osha.gov/Publications/osh3080.html>
- CDC Workplace Safety and Health: A Guide to Selecting Non-Powered Hand Tools <https://www.cdc.gov/niosh/docs/2004-164/pdfs/2004-164.pdf>
- Electronic Library of Construction Occupational Safety and Health “Hand Tools Training Guide”
<http://www.elcosh.org/document/1515/d000260/Hand%2BTools%2BTraining%2BGuide.html>
- “Hand Tools: What’s the Right Size for You?” *Safety Health Magazine RSS*, Safety Health Magazine, 26 Feb. 2018,
www.safetyandhealthmagazine.com/articles/16590-hand-tools-whats-the-right-size-for-you.
- “Non-Powered Hand Tools.” *Safety Health Magazine RSS*, Safety Health Magazine, 2 June 2015, www.safetyandhealthmagazine.com/articles/non-powered-hand-tools-2.
- “Safe Handling of Tools.” *Safety Health Magazine RSS*, Safety Health Magazine, 10 Feb. 2018, www.safetyandhealthmagazine.com/articles/safe-handling-of-tools-2.

6. Help Improve Our Service

Environmental Health and Safety is committed to excellent customer service and offers a *Customer Satisfaction Survey* as an easy method for the campus

community to provide feedback on our services and staff. By taking a few moments to complete the survey (<http://ehs.unl.edu/survey>), you will be helping us to identify areas where we might need to focus our attention.

In order to effectively evaluate potential areas for improvement, please provide specific information or examples and your name and contact information. The Director, Brenda Osthus, follows up on all submissions. We greatly appreciate your participation.

Please feel free to contact Brenda Osthus, EHS Director, at 402-472-4927 or bosthus1@unl.edu if you would rather communicate outside the parameters of this survey.

7. Safety Poster – Spill Kit

EHS provides a number of safety posters of relevance to the campus community. This poster is a reminder regarding Spill Kits. Spill kits must be readily available in all areas where chemicals are used. They must contain supplies appropriate for the type and quantity of chemicals used. This poster provides a “fill-in” space for spill kit location to maintain awareness of all who might need to access the spill kit.

Spill Kit



Contents should include:

- Personal Protective Equipment (PPE)**
- Diking/Absorbent materials**
- Collection equipment (hand broom, etc.)**
- Collection container**
- Disinfectant if necessary**

Kit Location: _____

Safe Operating Procedures (ehs.unl.edu):



Preplanning for Responding to Hazardous Chemical Spills



Spill and Exposure - Biohazardous Materials

Request your FREE poster(s). Contact ehs@unl.edu or 402-472-4925 with your name, campus mailing address, and quantity desired. If you have an idea for a safety poster, contact Elizabeth (Betsy) Howe, ehowe2@unl.edu, 402-472-5488.

Resources:

- Safety Posters <http://ehs.unl.edu/safety-posters>

8. Revised Safe Operating Procedures – Program Document - Training

Program Document

Respiratory Protection Program

https://ehs.unl.edu/programdocuments/respiratory_protection.pdf

Clarified that the exposure assessment is shared with the physician upon request. Removed reference to the supervisor receiving a copy of the physician's determination of whether an employee can wear a respirator. (This is received by the employee and EHS.) Removed reference to "filters" in the cartridge change schedule. Added reference to operations generating respirable crystalline silica to those specific operations that should be reported to EHS for evaluation.

Training Updated

Chemical Safety (Units 1-4) <https://ehs.unl.edu/web-based-training>

Changes primarily to improve clarity and readability.

Safe Operating Procedures

- ***Biosafety Training*** <https://ehs.unl.edu/sop/s-bio-training.pdf>
Revised to reflect the three new modules that compose the "core biosafety training program" at UNL and include the purpose and requirements for these modules. Requirements for biosafety refresher training were revised with expanded options to meet the requirement. Recordkeeping requirements were simplified.
- ***Personal Protective Equipment (PPE) – Body Protection***
https://ehs.unl.edu/sop/s-ppe-body_protection.pdf
Updated to reference the newly titled biosafety training modules.
- ***Personal Protective Equipment (PPE) – Eyes and Face***
https://ehs.unl.edu/sop/s-PPE_eyes-face.pdf

Updated to be consistent with ANSI's most current eye and face protection selection chart.

- **Personal Protective Equipment (PPE) – Foot Protection Evaluation & Checklist** https://ehs.unl.edu/sop/s-foot_protection.pdf

Revised to remove chainsaw cut resistance from the scope of ASTM standards F-2412 and F2413 and to reference standard F-1818 which now addresses footwear. Basically, ANSI moved the provisions from one standard to another and added different marking requirements for F-1818.

Remember...SAFETY IS AN ATTITUDE!

Environmental Health and Safety

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