

#### "Know Your State"

#### The Hidden Risks In Emergency Response

Haws Corporation

### Today's

### Outcome

- Share Research
- Provide New Insights
- Provide 6 Steps To Mitigate Risk





### Why It Matters...







## 12.5% vs. 63%

Acid Burns: The difference in the % of deep tissue burns when proper first aid is provided vs. when it is not





# 7.5 vs. 20.5

Acid Burns: % of days in hospital when proper first aid/emergency response is provided vs. when it is not





# 9.5% vs. 20.1%

Alkali Burns: Mortality rates when proper first aid/emergency response is provided vs. when it is not





# 19% vs. 36%

Alkali Burns: % of victims needing skin grafts when proper first aid/emergency response is available vs. when it is not.





Ensuring the state of "readiness" of emergency equipment can make a major difference in outcomes!





### Know Your Current State

Research Findings Show That On Average Only 1 Out of 4 Emergency Showers/Eyewash units are working properly and capable of providing proper first aid.....despite weekly or monthly checks!



#### Level of Compliance

944 Inspections - 20 Facilities





### Odds of Employee Access To Properly Functioning Emergency Equipment

### 1 in 4 Chance !





### Top Reasons For Non-Compliance







# 1. No Dust

#### Covers

Outlets shall be protected from airborne contaminants. (Sec. 5.1.3, 6.1.3, 7.1





### 2. Lack Of Visible Signage

Emergency equipment location shall be well lit and identified with a highly visible sign. (Sec. 4.5.3, 5.4.3, 6.4.3, 7.4.3)









### 3. Incorrect Application

#### Eyewash vs. Eye/Face Wash







### 4. Obstructed Access

Safety station shall be located on the same level as the hazard and the path of travel shall be free of obstructions. (Sec. 4.5.2, 5.4.2, 6.4.2, 7.4.2)









## 5. Incorrect Installation

Showerhead must be 82 to 96 inches above the surface floor of user (Sec. 4.1.3, 7.1)

Actuator can not be more than 69 inches from the surface floor of the user (Sec. 4.2, 7.2)







### 6. Inoperable Components

Valve shall be simple to operate and go from "off" to "on" in one second or less (Sec. 5.2,6.2,7.2)





### 7. Too Much Flow

Must provide a means of *controlled flow* to both eyes simultaneously at a *velocity low enough to be non injurious.(*Sec. 5.1.1, 6.1.1, 7.1















Ophthalmologists say **comfortable water pressure** and **tempered water** are the most important features to consider.



#### Importance of Eyewash Station Features





# 8. Too Little Flow

Eye/face wash equipment must deliver minimum of 3 gallons (11.4 L) per minute of water for 15 minutes. (Sec. 6.1.6, 7.1) Eyewash only must deliver minimum of.4 gallon (1.5 L) per minute for 15 minutes.(Sec 5.1.6, 7.1)







### 9. Flow Pattern

The flushing fluid of an eyewash – eye/face wash shall cover the areas between the interior and exterior lines of a gauge at some point less than 8 inches (20.3 cm) above the eyewash nozzle. (Sec. 5.1.8, 6.1.8, 7.1)









### 10. Shower Flow Rate

Shower must deliver minimum of 20 gallons (75.7L) per minute and provide a column of water 20 inches (50.8 cm) wide at 60 inches (152.4 cm) above the surface floor of user. (Sec. 4.1.2, 4.1.4, 7.1)





### 11. Shower Flow Pattern

Shower must deliver minimum of 20 gallons (75.7L) per minute *and provide a column of water 20 inches (50.8 cm) wide at 60 inches (152.4 cm) above the surface floor of user.* (Sec. 4.1.2, 4.1.4, 7.1)







# 12. Temperature Of Water 60 - 100°

Deliver tepid flushing fluid.\* (Sec. 4.5.6, 5.4.6, 6.4.6, 7.4.5)





# 13. Simultaneous Use

Combination unit components shall be capable of operating simultaneously and shall be positioned so that components may be used simultaneously by the same user. (Sec. 7.3, 7.4.4)







### 14. Simultaneous Positioning

Combination unit components shall be capable of operating simultaneously and shall be positioned so that components may be used simultaneously by the same user. (Sec. 7.3, 7.4.4)









### Root Causes

- Lack of Knowledge
   Knowing what to look for and how to conduct a weekly or annual inspection
- Accountability Clear Ownership & Process for Reporting & Resolving Issues



### 6 Steps To Mitigating Risks & Improving Reliability of Your Emergency Equipment





# Decide on Priority: Compliance vs. "Reliability"





### Minimum ANSI Requirements For Weekly Activation

- Ensure Flow to Heads
- Clear Dead Legs

#### Not Sufficient to Ensure Reliability





### 2. Know Your Current State: Shower Survey by SME





# 3. Assign Accountability



- Who Owns Inspections?
- Who Owns Reporting of Non-Compliant Issues
- Who Owns Issue Resolution?

THE 72<sup>ND</sup> ANNUAL

How Tracked?



# 4. Provide Training

Ensure those doing weekly and annual inspections are SME's - provide Competent Person Training





# 5. Provide Tools Needed

- ANSI Weekly & Annual Checklists or use of Inspection Software
- Eyewash Gauge
- Shower Sock & Bucket
- Tape Measure





# 6. Explore New Technology

#### To Improve Performance & Reliability



#### Yes Undecided No

**Medical Study Research** 

- 76% believe not all eyewash are the same
- 15% undecided
- 9% believe no difference

