Employees Forgot Their Hard Hats Again? Seven Lessons from Behavior Based Safety for Increasing PPE Use[1.]

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The issue of using appropriate personal protective equipment (PPE) is very simple: It is provided to employees who either use it or face disciplinary actions. Although it may be tempting to subscribe to this viewpoint, the principles of behavior-based safety can offer better alternatives for long term maintenance of PPE use as well as other safe behaviors.

At its most basic, BBS is a process by which employees identify at-risk behaviors, analyze the reasons they are performed, and implement and evaluate interventions to increase safe behavior and reduce at-risk behavior. One misperception is that BBS encourages the use of low-level hazard controls such as PPE, over more effective, higher-level ones such as engineering controls. Therefore, let me first acknowledge the acceptance of the following intervention hierarchy:

1st - eliminate the hazard (substitution of materials, automation)
2nd - engineering controls (guarding, interlocks)
3rd - warnings (signs, alarms)
4th - administrative controls and training (job rotation, lockout/tagout training, equipment inspections)
5th - PPE (eye protection, respiratory protection, fall protection)

This hierarchy clearly regards PPE as the least effective. However, it is not always feasible to engineer out or administratively control all risk. In the short term, PPE is often the only or last line of defense against certain hazards. Using behavior-based safety can increase appropriate PPE use.

Involve employees in an observation and feedback process

There are many instances in which using PPE is simply less comfortable, less convenient and less efficient than employing an engineering or administrative control. Increasing the quality and quantity of interpersonal feedback regarding safety is one of the best methods of increasing safety behaviors. Knowing your coworkers are looking out for you, not for the purpose of "writing you up" or other disciplinary action, but because they care about you, can be a powerful motivator. Also, individuals who give feedback to others regarding safety-related behaviors are more likely to act appropriately themselves, even when no one is watching.

Reinforce targeted PPE behaviors

People tend to do what they are reinforced for doing. Reinforcement can take many forms. It is optimal to create situations were reinforcement is intrinsic or "built in" to what we do. For example, we may use safety glasses not only because we know they protect our eyes, but because the new styles look cool, or use certain gloves because they actually make handling materials easier. However, it is often not possible to build reinforcement into performing safety behaviors.

1. In *Safety and Health*, October 2000.

Therefore, it can be useful to add recognition or rewards to reinforce safe behavior. An organization could systematically increase supervisory recognition and praise for respirator use. Safety glasses lanyards or "Chums" could be given to those using safety glasses, gift certificates for soda or ice cream could be given for using a hard hat, or a "thank you card" could be given for using a safety harness as opposed to a STOP card for not using one. When small items such these are given as safety recognition, you should be careful not to imply they are the payoff or reason for behaving safely, but simply a token of appreciation for a job well done.

Consider the various factors influencing PPE use

Many factors contribute to performing safe or at-risk behavior. Simply labeling a behavior inconvenient ignores the many actions that should be taken to encourage safe behavior.

In one company, people were inspecting a pipe rack about 60 feet long, 25 feet off the ground. Workers were wearing safety harnesses, but many would not attach the lanyard. After observation and discussion, the cause was identified. The horizontal lifeline, although located overhead, had multiple breaks in it, forcing workers to hook and unhook every few feet. A simple intervention was to replace the multiple lifelines with one that had no breaks or anchors, allowing workers to hook up only once.

In another company, it was a 20-minute walk to get from wherever you happened to be to the one locker containing fall protection. And chances were, only old dirty harnesses in poor condition would be there. The intervention was to provide additional lockers, resulting in only a five-minute walk, supplied with a variety of harnesses in good condition.

In a third situation, an employee was about to work at only 9 feet off the ground. This individual asked for fall protection and his coworkers called him a wimp as well as other derogatory names. This required a meeting with the people in the area and a frank discussion about what the group truly wanted to motivate among themselves.

The first two of these examples could simply be labeled inconvenient. Whereas in the last, the person should stick to his personal values. However, when we apply these simple labels without also considering possible intervention strategies, we will miss many opportunities to positively influence safety-related behaviors.

Also, two of the above examples include administrative or engineering controls, therefore may not seem to demonstrate BBS. However, the process by which the interventions were implemented was BBS. That is, employees identified an at-risk behavior they and their coworkers were performing, analyzed the reasons for the at-risk behavior, and suggested intervention strategies to reduce it.

Involve workers in determining appropriate interventions

This might seem obvious, but it is often time consuming and difficult to bring a group together for an honest discussion regarding safe and at-risk behaviors. More often, a key person or persons decide which interventions will be implemented. The at-risk workers have little if any impact on the process.

We should never assume the reason for behaviors without first having a real discussion with the people involved. This discussion should be structured according to the ABC model. That is, first consider the events or conditions occurring before the behavior (i.e., activators) and the events occurring during and after the behavior (i.e., consequences). Examples of activators are time pressure, environmental conditions, and co-worker behavior. Examples of consequences include comfort, time effectiveness, or rewards or recognition.

In one company, several people regularly failed to use a face shield while grinding, even though the face shield was hanging beside the grinder. The convenient location of this face shield made it seem those who failed to use it had a "bad attitude" regarding safety. However, after much discussion, someone finally

admitted they were not using the shield because one individual with allergies often sneezed into it and no one wanted to use it afterwards. The solution was to provide an alcohol spray bottle and wipes beside the face shield. Another intervention could have been to provide everyone who used the grinder with individual face shields.

Focus on the potential for injury, not safety rules

Interpersonal feedback citing rules can seem impersonal and cold. People often tune out. When focusing on a worker's potential for getting hurt instead of the rules, it is easier to convey a genuine concern for a person's welfare. Also, there is necessarily extensive overlap between compliance with safety rules and the behaviors to best reduce risk, but the two are not the same.

At a large auto manufacturing facility, where auto bodies were being welded together, I was told I did not need safety glasses as long as I stayed within the warning lines on the floor. As I was walking through this area, large red sparks from robotic welders began to shoot in front of my face, ricochet off the wall beside me and back in front of my face again. Although a change in shielding around the welding process may be the most appropriate long-term solution, the short-term solution was to immediately turn around, don safety glasses with side shields, and take an alternate path away from the welding. While the potential for getting hurt is not always so apparent, communicating risk is key to motivating safety-related behaviors, not compliance with rules.

Use examples, images and case studies

There are multiple ways of focusing on injury potential rather than rules and regulations. Don't rely on statistics to get the job done either. Statistics such as injury rates are useful for providing context, identifying the problem's scope, and prioritizing behaviors to target. But communicating with statistics is not the best way to motivate safe behaviors.

Years ago, many vendors selling safety eyewear used a poster-size photograph of an eyeball. The photo was very close-up and clear; it showed a nail lodged dead center in someone's eye. While I have long ago forgotten statistics regarding eye injuries, the image of that eye is still as clear in my mind as the first time I saw it. Whenever I need extra motivation to put on safety glasses, I bring up that image and find putting on the glasses much easier.

Consider issues beyond PPE

PPE use is often seen as a behavior under the direct personal control of the individual. When discussing safety responsibilities, management will sometimes focus on those behaviors under direct personal control, such as PPE. However, there are multiple causes for injury such as inadequate training, rewards for safety short cuts, inadequate tools and equipment, as well as failure to follow procedures, many not under the control of the individual. As explained above, PPE is a low-level control. However, it is often treated as the only necessary health and safety activity. On the other hand, many employees will focus on activities under the control of management such as facilities/equipment and management systems.

When one group focuses primarily on one issue without acknowledging the relevance of the other, the resulting defensiveness and reactionary behaviors can damage credibility. Management's willingness to acknowledge and address the factors influencing those at-risk behaviors under their control will often increase feelings of teamwork. It also will lend more credibility to efforts targeting behaviors more under the control of the individual worker, such as PPE compliance, when higher level controls are not feasible. This increased sense of teamwork and caring by the organization will not only influence employee participation in safety efforts, but will also increase cooperation and involvement in other important areas such as production and quality.

There are often varied and complicated reasons people do not consistently use appropriate PPE. Treating all PPE use as simply a matter of personal choice often proves

unsuccessful. BBS provides a framework for identifying problem behaviors, analyzing the factors influencing their occurrence, as well as implementing, evaluating and increasing appropriate intervention activities.