

Preventing Injury with Mental Imagery

Last month I reviewed the behavior-based principles of safety self-management. I described ten techniques we can use to increase our own safe behaviors and decrease our at-risk behaviors. One of these self-management procedures is mental imagery, which I covered only briefly last month. The versatility and potency of this self-improvement technique warrants more discussion. So the theme of this article is how to use mental imagery for safety self-management.

What is Mental Imagery?

Mental imagery is using our "mind's eye" to picture situations without actually being there. We use mental imagery everyday. When we look forward to a particular event we use imagery. Sometimes we visualize the expected outcome of an upcoming event, and this affects our motivation. Picturing pleasant consequences can lead to excitement, even an emotional high, but imagining negative outcomes can evoke fear. In fact, one of the most effective ways to relieve distress or anxiety is to visualize yourself in a serene and relaxing setting (like lying on a sandy beach and hearing the calming rhythm of the ocean waves, and feeling the warm sun and cool breeze).

When you think about the behavioral steps or procedures needed to complete a task, you're using imagery rehearsal. Before their performances, athletes practice their sport mentally, actors run through their lines and stage positions in their mind's eye, surgeons mentally rehearse the steps of a complex operation, and musicians imagine playing or singing the right notes on key and on time. And public speakers often practice their lines mentally just prior to their actual delivery.

Research has shown significant benefits of mental rehearsal, whether practicing an athletic skill, an occupational task, or a script of verbal dialogue. It's not clear whether the mental rehearsal actually strengthens the correct behavior or merely increases one's motivation to perform at a higher level. In other words, we don't know why mental rehearsal improves performance, only that it does. The more vividly individuals can imagine themselves performing desired behaviors, the greater the beneficial impact of this technique on actual performance. Now what does all this mean for industrial health and safety?

Mental Imagery and Safety

I could not find any research on the effects of imagery on safety-related behavior. But given the variety of behaviors imagery rehearsal has been shown to benefit, it's obvious we can use mental imagery to prevent injury. We can use it to anticipate and prepare for events. We can use it to direct our behavior (as an activator) or to motivate our behavior (as a consequence). More specifically, for safety self-management you can use imagery to:

- clarify your safety goals
- enhance your motivation to choose the safest behavior
- build your self-efficacy, personal control, or optimism
- rehearse safe acts and actively caring behaviors
- reward yourself for success at self-management

Your imagery can activate a chain of safe operating procedures, as well as motivate action. The motivation comes from imagining potential consequences following safe versus at-risk behavior. Figure 1 depicts a negative consequence one

might visualize to motivate the use of personal protective equipment. This image also suggests the safe behavior needed to avoid injury. So, with this imagery, the worker motivates himself to use the necessary protective equipment. The image is both directing and motivating.

<Insert Figure 1 about here>

It's often more useful to create a mental picture of positive consequences resulting from your safe actions. By focusing on positive outcomes from safe behaviors you anticipate achievement and the good feelings it brings. This can increase your confidence in being successful, as well as increase your desire to reach your goals.

When using mental imagery for safety self-management you should:

- see yourself performing the appropriate safe behavior with ease and convenience
- visualize avoiding specific negative consequences with the safe behavior
- imagine feelings of accomplishment following the safe behavior
- take an active rather than passive perspective
- share your imagery with others to solicit social support and perhaps increase another person's safe behavior.

It's important to be active in your image. Don't see yourself as a passive observer watching a movie with you in it. Rather, imagine yourself acting within the complete activator-behavior-consequence (ABC) framework. That is, see the activators in the situation which cue the desired behavior, then visualize yourself actually performing the safe acts, and then imagine positive feeling states from setting the safe example and acknowledging safety as a value.

Before imaging the ABC sequence, I find it quite motivating to visualize the negative consequence of getting hurt, as illustrated in Figure 1. When I reach for the skill saw I imagine getting a finger caught in the blade. And, I imagine the ringing in my ears getting worse after not using hearing protection. All too often I imagine one of my two daughters in a vehicle crash. Such negative imagery might be too morbid for you, but it sure motivated me to assure my family believed in vehicle safety belts and always used them.

I have also found it useful to share my motivating imagery with others. In fact, one reason personal testimonies of injuries or near misses are powerful motivators is because the listeners can get a mental image. They can readily visualize the speaker in the precarious situation described, especially if the presenter gives a passionate and realistic delivery. Even more motivating is when listeners can put themselves or a family member in the situation that caused negative consequences for the speaker. Of course, it's essential to focus on the specific behaviors that can be performed to avoid the injury or near miss discussed.

My point here is that it can be useful to share personal experiences in ways that conjure up a motivating image. But sometimes the same situation will not evoke the same mental pictures for different people. Figure 2 illustrates what I mean, and shows again how imagined consequences can influence ongoing behavior. In this case, the passenger should share her image with the driver. But this might not change the driver's behavior, if his imagery paints a contrary picture. I see a root cause for interpersonal conflict, don't you?

<Insert Figure 2 about here>

In Conclusion

When you're out there by yourself, with no one to hold you accountable, do you choose the safe behavior or a more efficient or expedient at-risk behavior? In other words, do you take a calculated risk when you think you can get away with it? The safety self-management techniques discussed in my last three [ISHN](#) articles, including this one on mental imagery, can help you choose the safe way consistently. But you need to choose to use these techniques, and this takes commitment and personal responsibility.

The right kind of mental imagery can motivate us to assume increased personal responsibility for the safety of ourselves and others. For example, visualizing ourselves or someone else getting hurt because an environmental hazard wasn't removed or PPE wasn't used can direct and motivate us to avoid a calculated risk and perform a safe act. We can also rehearse mentally the safe way to complete a particular job, and thus increase the likelihood the job will be accomplished both safely and efficiently.

We can also extend our personal responsibility for safety to others by increasing their use of the right kind of mental imagery. We can do this by teaching others how to use mental pictures for injury prevention, as reviewed in this article, and by encouraging personal testimonials of injuries or near misses that could have been prevented by certain action -- the avoidance of a particular at-risk work practice -- and/or the performance of specified safe behavior. Unfortunately, many work cultures stifle the kinds of interpersonal conversations that can elicit injury-preventive mental imagery.

The bottom-line: We can use mental imagery to direct and motivate safe behavior in ourselves and others. We need to hold ourselves accountable for using and teaching this effective safety self-management technique.

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NOTE: E. Scott Geller, Ph.D., is professor of psychology at Virginia Tech and senior partner with Safety Performance Solutions. Portions of this article are taken from Dr. Geller's latest book, *Beyond safety accountability: How to increase personal responsibility* (J. J. Keller & Associates, 1998). For more information on this book and related audiotapes, videotapes, and seminars please call Safety Performance Solutions at (540) 951-7233.

Figure 1. Activators that show how to avoid negative consequences can be powerful.



Figure 2. Mental images can vary dramatically across people and influence different behaviors.

