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# Boosting Safety with an Aging Workforce

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Like it or not, plan for it or ignore it, the workforce is aging. This is due to many factors – from the population in North America getting older (a la Baby Boom of post World War II) to people staying in the workforce longer for financial or social reasons – or because their skills are too valuable to lose from an already thinned-down workforce. Strategic leaders see the positive and negative sides of this trend and find ways to accentuate the advantages an older workforce brings while diminishing the downsides.

## The Advantages of an Older Workforce

Despite rising concerns, the advantages of an older workforce are many. These workers:

- are more experienced and often well-understand job and Safety expectations and requirements
- have "survived", successfully found ways to do their jobs that work for them
- have a healthy skepticism about superficial or pressuring calls for instant improvements
- understand they are not the center of the universe and tend, in general, to be more realistic than their younger peers about organizational needs for productivity, profitability, and compliance with regulating agencies
- are generally receptive to practical methods for working smarter (as long as it can be proven to them they can function more effectively and safely with less effort)
- most important to Safety leaders, realize they are no longer "ten feet tall and bullet-proof" and are therefore more highly motivated by Safety and Health than their younger co-workers.
- have fewer numbers/incidence of injuries, likely for the reasons mentioned above.

## Some Challenges with an Aging Workforce

Of course, aging workforces present challenges as well. Some of these include:

- in many companies, reductions in force have resulted in older employees working harder in their fifties than they did in the twenties – not an ideally-designed scenario

• more years of exposures from working and living can result in greater amounts of cumulative trauma. Not surprisingly, soft tissue injuries – of the back, neck, knees, arms, shoulders - tend to be more prevalent and costly among older workers
• negative perceptions of older workers – among their managers, younger peers and even within themselves – might lead to self-fulfilling prophecies of expecting to be injured (which might be an excuse for not taking needed preventative measures that may include increased vigilance, lifestyle adjustment, etc).
• skepticism that "you can't teach an old dog new tricks", which again, if believed, reduces the likelihood older workers would try to learn new and needed Safety (and other) skills
• higher severity rate (perhaps due to increased healing time) when they are injured.

## Getting Older May Not Be Pretty, But It Beats The Alternative

Several things occur as part of the natural aging process – many of which go beyond the scope of this article. These include changes to:

- heart rate
- lung capacity
- cholesterol level and mix (LDL and HDL)
- kidney function
- metabolic rate
- body fat percentage and distribution
- blood sugar tolerance
- blood pressure
- bone density
- ability to regulate body temperature
- skin changes
- hearing loss
- reduction in acuity of sense of smell

– and much more.

## Five Key Skill Areas For Promoting Safety and Health with an Aging Workforce

While no one that I know of can arrest the aging process (in a way we'd want to live with), there are five key areas that:

a. are affected by aging
b. have, in turn, negative potential for increased injuries and occupational problems
c. are skills that can be addressed and improved, at most any age and condition.

These five are:

1. Balance

2. Agility
3. Energy
4. Focus
5. Strength

For each of these attributes below, I will look at:

1. which injuries are associated with a loss of these skills or abilities
2. the affects of aging on them, and
3. examples of strategies and methods that can practically improve these five, in order to promote increase in Safety and Health with older workers. We've successfully transferred these below-mentioned skills and strategies to thousands of workers throughout the world. But this cannot be done in writing. I've not found it possible – for others as well as for myself - to transmit a kinesthetic skill or practice solely through words (or even via visual images), no more than one can "get" the taste of salt by reading about it, nor learn how to feel right balance to ride a bicycle through an instruction manual or even through watching a video of a multiple Tour-de-France champion.

## 1. Balance

Balance is the ability to stay on your feet, especially while on the move.

Clearly, balance loss can result in increased likelihood of slips, strips and falls, both on same level, on stairs or from small changes in elevation (e.g. off curbs). But bodily reaction injuries are also due to a loss of balance but without the impact. In effect, they are the beginning of a slip or trip, where a person manages to regain their balance – at least enough so they don't fall – but at the expense of an overreaction of muscle use (e.g. they may "throw out"/strain their back or neck by trying not to fall).

Reduced balance can also result in increases in soft tissue injuries in two ways. First, the result of a bodily reaction injury or slip or trip may be soft tissue damage. Second, the more off balance I am, the more muscle tension I need to stand or walk upright to compensate for the pull of gravity. If I am 15% off balance, I may use approximately 15% extra muscle tension to fight gravity. This might fatigue me more quickly - which can lead to not lifting feet fully while walking, then tripping over small surface changes. Additionally, increased muscle tension may set the stage for greater numbers and severity of strains – in the same way that it is easier to cut a string that is taut than one that has slack in it.

There are a variety of reasons why balance can lessen as we age. For example, cumulative tension often increases over time, resulting in our becoming more rigid and stiff. This makes it more likely we will fall or not recover from unexpected changes in the environment (stepping onto a slippery surface, small changes in surface, wind, small obstacles on the ground, etc).

In addition, as we age, our slow twitch nerve cells – those that facilitate our moving away from wobbling and towards steadier balance – become less sensitive and offer less precise feedback to which we can make adjustments. Our cochlea hairs in the inner ears, which also

provide feedback we use to maintain balance, lose sensitivity. A greater amount of attention is required to prevent sway – increasing attention requires increased energy.

Here is a sampling of methods for boosting balance and overcoming age-related balance loss.

- Emphasize whole body internal alignments. "Posture" – adapting and resuming natural alignments - is more than the shape of the spine. It encompasses 7 elements: ankle alignment, knees, hip cant, shape of spine, neck rotation, shoulder position, elbow placement and rotation, wrists and finger alignment and use. By practicing best internal alignments, balance can more easily be maintained with least amount of effort.
- Enhance self-monitoring skills by daily practice of directing attention to internal alignments, breathing, tension buildup and reduction, changes in levels of comfort/discomfort. It's most important to emphasize inner cue awareness, to monitor propiocentric feedback (e.g. over what part of my foot is my weight falling right now? And how can I make slight shifts to bring it to where it should be for best balance?)
- Practice dynamic relaxation. There is a positive correlation between relaxation and balance. Balance is a state of low kinetic energy. Dynamic relaxation refers to economy of motion – only using least amount of muscle tension needed to accomplish a desired task and no more. Another of those "easy to say, more difficult to do" skills, but one that can readily be learned with effective guidance and ongoing practice. In fact, all of the methods listed in this article are skill-based and can be readily learned.

## 2. Agility

By agility, we mean a combination of reasonable range of motion and effective reaction time in order to perform tasks and avoid injury (often through recovery).

Reduced range of motion can lead to increases in Sprains and strains, slips/trips/falls and bodily reaction injuries; slower reactions times are associated with all of these injuries plus driving injuries and struck by/struck against and caught between injuries. Lack of range of motion can also contribute to motor vehicle accidents, where drivers don't have sufficient flexibility to turn their heads to see changing risks.

How is getting older associated with decrease in agility?

- cumulative tension can lead to stiffness, reducing flexibility and slowing the ability to react quickly. According to soft tissue expert, Michael Sears, people lose approximately 1% of their flexibility each year after the age of thirty; most affected are the calves, hamstrings, lower back and front of shoulders.
- previous injuries
- collagen, which accounts for 85% of the dry weight of tendons and ligaments, breaks down over time. I call this the "old rubber band" effect.
- age-related loss of quick twitch muscles (which facilitate quick reactions) faster than slow twitch muscles.

Some methods that can boost agility in aging workers:

- Emphasize eye-hand coordination methods. It is possible to demonstrate that by initiating movement by first leading with the eyes, range of motion can be significantly improved.

• Under physician's advice and direction, consider changes to diet to include supplements that may improve range of motion. These can include, but aren't limited to, MSM, Chondroitin Sulfate and others.
• Breathing techniques for enhancing flexibility
• Relaxation methods that can extend range of motion
• Movement techniques for improving flexibility
• Visualization (also called "mental rehearsal") methods for reducing reaction time. Such methods have shown to decrease time needed to protectively react to a threat.

## 3. Energy

"Energy" refers to having sufficient resources to direct attention, recall safest procedures, accomplish tasks in safest manner (without having to resort to "energy saving" shortcuts).

Lowered energy levels/reserves can affect all types of injuries. For example, we've heard of numerous people who, when fatigued, tripped and fell because they reported not having the energy to either see potential small tripping risks or to lift their feet over these small obstacles.

Contributors to age-related lowered energy levels/reservcs include:
• difficulty sleeping. Sleep health expert Jill Glenn reports that sleep problems significantly increase with aging. She says that sleep deprivation can specifically hamper reaction time, reduce attention span and contribute to muscle fatigue.
• cumulative tension that can drain reserves, as muscles fire and work harder than is needed for accomplishment of tasks
• uncontrolled stress can shunt energy away from engaging in safe behaviors (especially if recently introduced) toward individual worries and concerns.
• "blocked", shallow breathing patterns that reduce energy.

Sample methods to boost energy among aging workforce:
• Posture power
• Specific energizing breathing methods
• Motion efficiency techniques
• Sleep health practices that focus on getting efficient restful, replenishing sleep (rather than only emphasizing quantity of sleep)
• Pacing for efficiency
• Stress control techniques that effectively facilitate moving and working with minimal negative stress, while under time or other pressures.

## 4. Focus

Focus refers to the abilities to select where you wish to direct your attention (internally or externally), sustain your attention on a desired task, switch your attention as needed to another need and recall needed information, procedures or training.

Uncontrolled focus can be a contributing factor in all accidents, but especially slips, trips and falls, struck by/struck against injuries, motor vehicle accidents and strains and sprains. Poor focus may also be a contributor to repeat accidents. And experience with companies worldwide has shown that lack of focus is a major contributor to hand injuries of all kinds.

Aging has several affects on focus:

• brain chemistry changes affect our ability to recall or quickly switch attention. As we age, we have less ability to quickly switch attention (but, as noted above, older workers are generally better able to sustain attention on one thing. This also affects our ability to multi-task, which requires able and often quick switching of attention.
• age-related sleep problems can adversely impact ability to focus attention, switch quickly – as well as memory, according to sleep expert Jill Glenn.
• near vision changes may reduce ability to see risks on which we should focus.\
• rods and cones in our eyes wear down with age, resulting in needing increased lighting to see with the same clarity
• stress buildup can negatively affect memory and ability to control attention

What can be done to enhance focus with an aging workforce?
• brain exercises have shown, in numerous studies from National Institute of Aging, Albert Einstein College, etc), to improve memory as well as ability to switch attention.
• task variation
• learning new games
• elevate lighting levels in areas of greatest exposure (e.g. top of staircases)
• consider dietary supplements, under qualified medical supervision, such as DHA, antioxidants, berries associated with improvements in age-related memory loss, etc.
• cardiovascular exercise, that has been associated with ability to switch faster, and to reduce memory loss
• attention control techniques for furthering skills at directing attention.
• skills for self-monitoring.

## 5. Strength

Reduced strength can specifically make strains and sprains, as well as slips, trips and falls more likely.

Sarcopenia, age-related muscle loss, can result in a loss of 3-5% of muscle mass for each decade a person lives, after the age of thirty. There are several reasons for age-related loss of strength in addition to sarcopenia:

• cumulative trauma or previous injuries can reduce usable strength
• as we age, the body drastically reduces production of HGH (Human Growth Hormone)
• fatigue increases
• sleep deprivation can impact fatigue and muscle soreness
• older workers can often exercise less, due to a variety of factors.

What can older workers do to counteract age-related loss of strength?
• learn and apply methods for boosting personal leverage. Experience shows these techniques can be easily and readily learned and applied.
• off-load, make better use of non-dominant hand to accomplish tasks.
• cardiovascular exercise to build endurance
• strength-building exercise to increase muscle mass

- under physician's care, consider supplements such as HGH and others
- apply techniques of positioning and distance control to maximize personal strength
- employ methods of weight shifting to enhance ability to lift and carry.

Aging workers have significant advantages and challenges. By recognizing their strengths and practicing best interventions and skills for overcoming their challenges, it is possible to significantly enhance the safety, health and productivity of older workers.

Aging can significantly affect workforce Safety. But by thinking strategically, you can plan to transfer skills and methods that will help yourself and others become safer, stronger and more in control, even as we age.

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