

HEALTH AND SAFETY ISSUES OF AN AGING WORKFORCE

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What do we mean by an “aging workforce”? As we live longer and healthier, older people continue to grow as a proportion of the working population. The number of workers of age 45 and older has doubled since 1950. Workers >55 years of age are the workforce’s fastest growing group. While many enjoy their jobs, satisfied to be useful and productive, for others, there is no choice -- expenses, especially health care costs, necessitate postponing retirement. As baby boomers retire, they are followed by a substantially-smaller younger generation. Many employers want to attract and retain more experienced workers.

Older workers are safer workers, but aging can sometimes make an injury more severe. An example would be a fall for a young person producing bruises, whereas a fall from the same height for an older person produces broken bones. Or an older person might see more strains and sprains from a job than a younger person. Certainly, as we age, our rate of healing is slower and we might need more time for recuperation than a younger person.

While growing old is inevitable, our productivity and performance can stay high. After all, most jobs don’t require us to perform at our full capacity, even if we work closer to our limits than younger workers might do. Individuals vary – people age at different rates. In some ways, older workers are the most skilled and productive employees, but in other ways, we can be the most vulnerable. Some of these vulnerabilities are the normal changes of aging, while others are conditions that become more likely as we get older, such as coronary artery disease.

Our **basic strength** peaks at age 30, then declines, especially after age 60. We tire faster and rest/sleep may be insufficient for recovery. Our strength and endurance can be improved with strength training, aerobics, stretching, and other forms of exercise. But, we won’t build muscle as quickly as when we were younger. **How could we address these issues in the workplace?** Reducing musculoskeletal risks is valuable for the entire workforce, not just for older workers. For example,

...stop lifting, lowering, and carrying → replace with push, pull, and slide

...substitute mechanical for manual strength

...reduce highly-repetitive tasks

...allow adequate recovery/rest time

...reduce static and stressful postures

...use job rotation to reduce the potential for overexertion in any one person

Of course, if a person’s physical capacity makes modest strength or endurance impossible, an alternative job assignment and retraining may be necessary.

Many workers over 50 years of age begin to have problems with **balance** -- risking injuries from trips and falls. Without regular exercise, weaker abdominal muscles can lead to spinal instability and back pain. There are easy walking/weight bearing exercises, and other physical therapy, that can strengthen and support the back. ***How could we address these issues in the workplace?*** It could be helpful to add handrails along travel routes, use slip-resistant walking surfaces, repair uneven floors, and keep floors dry. Improving housekeeping can reduce clutter and potential tripping hazards.

Aging can bring **vision** changes as we lose depth perception and our abilities to focus on near objects or discriminate colors. Transitions from light-to-dark or dark-to-light are harder and it can become more difficult to distinguish items with low contrast. These can make night driving more difficult. Also, aging can bring macular degeneration, glaucoma, or cataracts. ***How could we address these issues in the workplace?*** General workplace lighting could be increased; perhaps using task lights to improve contrast and details. To reduce shadows, position a task light to the side and front of the body. Adding color-contrast between stairway risers and treads could improve their visibility. When moving from one area to another, making light changes gradual, rather than abrupt, could compensate for the slower adaptation of our eyes as we age. Using large video displays could help with computer screens.

Aging can bring changes to **hearing** – especially for detecting low intensity sound or locating the source of sounds. Background noises can make it difficult to hear sounds or understand what someone is saying. Noise can be even more damaging to our hearing when we are older than when we were younger. ***How could we address this issue in the workplace?*** Certainly we can reduce workplace noise generally, and use sound damping to reduce background noise. If workplace warnings or process annunciators use only sound, we could add a redundant warning such as flashing warning lights. If cell phones are used in the workplace, it may be preferable to use the “vibrate” mode instead of a ring tone that might be hard to hear against background noise. Other helpful solutions could be having volume-adjustable communications equipment and amplifying devices. OSHA’s noise regulations require an employer to provide a hearing conservation program, including testing your hearing annually, if noise equals or exceeds an 8-hr. time-weighted-average of 85 decibels. If your workplace’s noise level exceeds 90 decibels as an 8-hr. time-weighted-average and it can’t be reduced with engineering or administrative controls, hearing protection is needed to reduce exposure below 90 decibels. OSHA recommends using 85 decibels, rather than 90 decibels, because current research supports this conservative approach even though OSHA regulations on noise haven’t been changed to reflect this. But, if your tests show hearing damage, then your hearing protection must reduce noise below 85 decibels.

Aging can affect how our bodies deal with extremes of temperature: **heat stress** and **cold stress**. As we age, we tend to have less tolerance of heat stress, especially if we already have heart or kidney problems or other risk factors. We also can experience

changes to our skin's sensation of hot and cold. ***How could we address these issues in the workplace?*** OSHA has no regulations on heat stress and cold stress, but NIOSH's advisories are particularly helpful. For heat stress, whether due to hot weather or hot processes (such as molten metal, ovens for baking or curing), a workplace needs a heat alert program. A physical exam can pinpoint health concerns that could put someone at greater risk in hot environments. Keep in mind that personal protective equipment and clothing can add to the heat stress burden. For cold stress, it is helpful to review a workplace's hazard assessments for proper selection and sufficient supply of personal protective equipment, to make sure the body is kept warm enough. We should pay particular attention to hand protection for contacting cold surfaces, such as equipment controls. Having sufficient noncaffeinated liquids for hydration is important for both heat and cold stress. Work breaks and rest areas are necessary for people to cool off or warm up as needed.

Fortunately, our intelligence does not decrease with age. Certainly, laboratory studies have indicated that normal aging processes affect both short-term and long-term **memory**, but age does not adversely affect the quality of our decisions. While older adults make decisions more slowly than younger ones, this appears to be because our brain's database has acquired more memories from experience – so more experiences can be consulted before we make a decision. ***How could we address these issues in the workplace?*** Well, that depends upon how important these issues truly are in **real-life work settings**. After all, at work, we are influenced by our habits and surroundings. Habits are our memories for procedural skills – these are relatively well-maintained with age. Moreover, when we are at work, there are “cues-to-action” everywhere – our surroundings remind us of what we need to do and how to do it. We can help this along by using signage, “cheat sheets,” and “to-do” lists. (These can be very handy as “external memory.”) If we need to develop new skills, we can play to our strengths by using hands-on practice and refreshers. We especially need to get enough sleep to allow the brain to form new memories from what we learn.

As workers retire, they can take valuable, often critical, **information and experience** with them. ***How could we address this issue in the workplace?*** One technique to capture such knowledge is to run group exercises with hazard analysis tools such as process hazard/failure analysis and vulnerability analysis. As people solve potential workplace problems and evaluate risks and solutions together, information and experience can emerge and be captured.

Older workers can be **more productive** than younger workers – apparently, the changes associated with age may actually enhance our capabilities and performance at work. We may even compensate for age-related losses by using the strategies and skills related to our experience and expertise. And, sometimes, we can move into work that matches our competence. It appears that our experience, work ethic, or the accommodations we do to compensate for aging all work together to make us valuable employees.

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