

# **Safety and Health Considerations of the Older Worker**

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## **Introduction**

“Safety and Health Considerations of the Older Worker (with Tips / Techniques to Promote Safety and Health)” is designed to inform the audience of safety and health issues surrounding the older worker, especially those that perform physical work. This course also is intended to familiarize the attendees with the traditional workplace safety and health challenges of the older worker while also addressing their value to an organization.

### Intended Audience

This presentation is primarily intended to provide supervisors, managers and safety coordinators, in nearly every organization in the country, with information concerning safety and health and the older worker. This presentation has value for those organizations whose older workers routinely perform physically challenging work and a high degree of safety and health awareness.

This training is applicable to employers and employees in nearly all places of employment including but not limited to general industry, construction, manufacturing, service, transportation services, etc.

### Presentation Topics

1. Understand that the workforce is changing in many ways to include increasing diversity in terms of age.
2. The aging of the workforce brings benefits and challenges
3. What are the real positives the older worker brings to the workplace?
4. What are the challenges in terms of safety and health for the employer and employee?
5. What we can do as safety professionals to promote a safe work environment and mitigate the challenges?
6. Tips and Techniques to effectively support an aging workforce.

### Industry Terms

- **Older Worker:** Generally those workers more than 55 years of age, however, varies by study.

- **Baby Boomers:** Starting in the years following World War II from 1946 to 1964, about 78 million people were born in the United States, creating a large birth cohort known as the Baby Boomers.

### Background

In America, all of us face, head on, a population that is growing older every day. America's employers face an aging workforce, and if what employers say about older workers are correct, this means an increase in workers whom those employers apparently value highly.

### Key Points:

- There will be more older workers on the job in the coming decades than at any point in history
- Many members of the baby boomer generation will be eligible to retire soon, but they won't
- Having more older workers will affect your organization in some way
- Preparing for an *older* workforce now will prepare you for an *aging* workforce for a long time to come

## **History of the Aging Workforce Today**

Baby Boomers are people born during the Post-World War II baby boom between the years 1946 and 1964. The Baby Boom began in 1946, when GIs came home from the war, and it ended in 1964. The procreation during those years dwarfed the generations that preceded it ("Depression-World War II") and followed it ("Generation X"). An estimated 78 million Boomers are living in the United States today. Many of these boomers work and they will continue to do so for quite some time.

### TIP:

Sometimes workers are described according to which of the following four generations they belong to:

Pre-boomers or mature/silent generation, born before 1946

- Baby boomers, born during the years of 1946 to 1964
- Generation "X-ers", born after the Western Post-World War II baby boom during the years of 1964 to early 1980s
- Generation "Y-ers" also known as Millennial's follow Generation X, born since 1981 to the early 2000s.
- **Generation "Z-ers"** is one name used for the [people](#) born after the [Millennial Generation](#). Often defined as those born from the mid [2000s](#) to the present day. This is the generation that is currently being born.

### Older workers vs. Younger Workers

Older workers differ from their younger counterparts in a variety of physical/biological, psychological/mental, and social dimensions. In some cases these

reflect normative changes of aging.

In some cases these age-related differences are disadvantageous to the older workers because their work performance is diminished relative to that of younger workers. For example, older workers are likely to have decreased capacity to sustain heavy physical labor for extended periods. In other cases these age-related differences are disadvantageous to older workers because their susceptibility to environmental hazards is increased. For example, poor eyesight and hearing are associated with occupational injuries among older workers. Also, older workers generally do not tolerate working in hot conditions the same as younger workers.

In still other cases, however, changes associated with age may actually enhance capabilities and performance at work. For example, crystallized knowledge (that which has accumulated and is stored) and its positive impact on work is likely to be greater in 50-year-old than 20-year-old workers. Invaluable lessons learned and experience is a benefit of age in the workplace.

### Who Is Considered to Be an Older Worker?

There is no exact, commonly recognized age at which someone is considered an older worker. Some studies have focused on people older than 55, while other studies examined those at 65 and others at 45 years or older. In this presentation, the age of 55 is generally taken to warrant the term “older worker”.

### Projections

- The U.S. population is projected to grow by 91 million over the next 40 years, from 309 million in 2010 to 400 million in 2050.
- Growth will occur in all age brackets, but most of the growth will be concentrated in the higher ages. The numbers of people age 65+ will more than double, increasing from 13% of total population in 2010 to 21% of total in 2050.
- By the year 2020, the subpopulation of older adults in the United States is expected to reach 97.8 million people, comprising 28.7% percent of the entire U.S. population.
- In general, U.S. employment is expected to grow by 12% over the next decade (BLS). Where are these workers going to come from?
- It is projected that by 2020, the proportion of the U.S. labor force that is composed of older adults will be 25.2%. This continues a trend in increasing rates of older adults remaining in the workforce, as the rates were 13.1% in 2000 and 19.5% in 2010. A complementary trend that follows this is the increasing median age of the U.S. workforce. By 2020, the workforce is expected to have a median age of 42.8, which will be an increase from 39.3 in 2000.
- Compared with the labor force of the past decades, today’s labor force is older, more racially and ethnically diverse, and composed of more women.

All of these older worker trends present and create significant economic,

health/safety, and social challenges principally here in the U.S. and also internationally. For example, Japan is ageing at such a fast rate that more diapers made for adults will be sold by 2020 than for babies.

*TIP: In less than one century, life expectancy has increased by an average of 30 years in developed regions of the world. Quite suddenly, there are more people living longer in the world than ever before in human history and they are accounting for an increasingly greater percentage of the world population. Improved longevity is, at once, among the most remarkable achievements in all of human history and one of our greatest challenges. These added years can be a gift or a burden to humanity (and employers) depending upon how they are used.*

By the time the last baby boomer turns 65 in 2029, one in five Americans will be age 65 or older. By 2032, there will be more people age 65 or older than children under 15.

All workers are aging, but those that are older continue to grow as a proportion of the working population.

### Why Are Workers Working Longer?

- Economic Needs (inadequate retirement resources)
- Desire to stay mentally active
- Job satisfaction and sense of productivity and creativity offered by work
- A need for social contact and stimulation
- Need for continued health benefits

### Is This a Good Thing or a Bad Thing for Employers?

A random survey of several hundred HR managers found that the advantages of hiring older workers compared to other workers were many:

- Older workers have invaluable experiences in their careers;
- Older workers have a strong work ethic;
- Older workers do not move from one job to another all that often;
- Older workers add diversity of thoughts / approach to team projects; and,

What is really important in this day in age after nearly six years of recession is that older workers serve as mentors for workers with less experience.

However, hiring and employing older workers also may mean an increase in workers with health problems and rising expenditures for various health-related benefits. Though there seems to be little indication that employers are worried about the impact that a rise in the number of workers with chronic conditions might have on performance, concerns about the health costs of an aging workforce have emerged in some employer surveys (AARP 1995; Barth, McNaught, and Rizzi 1993).

By 2020, 25 million Baby Boomers, who make up more than 40 percent of the U.S. labor force, will be exiting the workforce in large numbers and leaving many jobs to be filled. With their departure, the work characteristics that define the Baby Boomer generation — results-driven, ambitious, idealistic, competitive, optimistic, and people-oriented — may be lost unless companies creatively develop strategies to simultaneously retain older workers and transition their knowledge to younger workers (Morton, Foster, & Sedlar, 2005). These workers will also take decades of accumulated organizational knowledge with them, and this “brain drain” could result in the loss of key information about customers or practices that could be devastating to organizations (Pitt-Catsoupes & Matz-Costa, 2009).

Promising studies show that the longer workers remain mentally and physically engaged the better their wellbeing and the longer they are likely to live (GAO-07-433T).

Some of the social, economic, safety and medical myths about older workers are based on a perception that older workers are frail, unreliable and incapable of working effectively and safely. It is time to set aside these stereotypes and negative attitudes.

There are a lot of myths out there concerning older workers. Just two might be:

- Myth and Fact #1: “Older workers are more likely to have work-related injuries.” The fact is that older workers suffer fewer job related injuries than that of other work groups.
- Myth and Fact #2: “Older workers are more likely to suffer from illness and are more often absent or late for work than younger workers.” The fact is that most studies show older workers have lower absenteeism and tend to be more punctual than younger workers.

Not only are the negative myths and stereotypes about older workers generally untrue, the reality is that hiring and retaining older workers offers many advantages. Here are some of the positive qualities that human resource professionals say many older workers bring to the job:

- a strong work ethic
- reliability
- proven performance record
- knowledge and skills
- sense of responsibility and duty to the job
- loyalty and commitment to the organization
- less likelihood of switching jobs
- an ability to manage their time
- tactfulness
- conscientiousness
- a co-operative and team-oriented attitude
- self-confidence

- motivation
- productivity and efficiency
- an ability to work with different people
- access to many community contacts (especially important in sales and marketing)
- realistic understanding of their abilities and shortcomings
- a willingness to work flexible schedules (may be willing to take vacations during off-seasons, such as winter, and work during traditional vacation periods, such as summer)
- life and work experience
- lower absenteeism
- wisdom
- ability to be retrained
- cost-effectiveness
- the ability to serve as role models and mentors

## **Industries Represented by the Older Worker**

The top four largest industries employing older workers, those 55+ are health care, retail, manufacturing and education. These industries employ 44% of all workers and 46% of workers age 55+.

The industries with the highest shares of workers 55+ are agriculture, real estate, and education. Workers 55+ make up at least 25% of employment in these industries.

Construction: During the economic downturn, more than one million wage-and-salary construction workers lost their job. Hispanic workers and workers who were not unionized were more likely to be unemployed. The average retirement age in construction has increased to 61.4 years in 2006 from 59.3 years in 1994. It is expected that many older construction workers may delay retirement as long as the housing and stock market remain troubled and unstable. The growth of the older population combined with the increased participation rates of the elderly will cause the workforce to continually age until 2020. This challenge of an aging workforce will be considerable for the construction industry and other industries in terms of skills shortages, safety and health, and health care.

### Occupational Safety and Health Hazard Recognition, Evaluation and Control

Because of the many older adults opting to remain in the U.S. workforce, many studies have been done to investigate whether the older workers are at greater risk of occupational injury than their younger counterparts.

### Injury Rates

Data shows that older adults have low overall injury rates compared to all age groups, but are more likely to suffer from fatal and more severe occupational injuries.

Nonfatal injuries yielded a different pattern. For the leading cause of nonfatal injuries (i.e., contact with objects), workers in the 15-34 year age group had a rate of 89.1 per 10,000 full-time workers, as opposed to 53.2 per 10,000 full-time workers for those aged 55 and older.

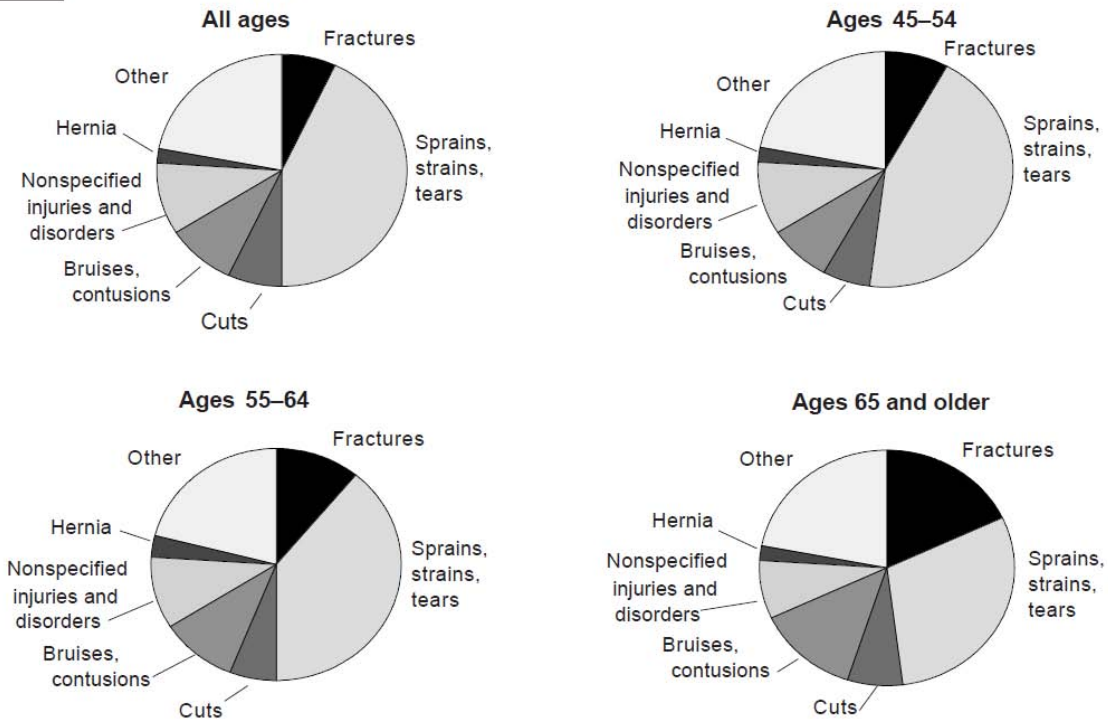
Of all “fatal” occupational injuries in 2005, older workers accounted for 26.4%, despite only comprising 16.4% of the workforce at the time. Age increases in fatality rates in occupational injury are more pronounced for workers over the age of 65.

The return to work after an injury, for older workers is also extended; older workers experience a greater median number of lost work days and longer recovery times than younger workers.

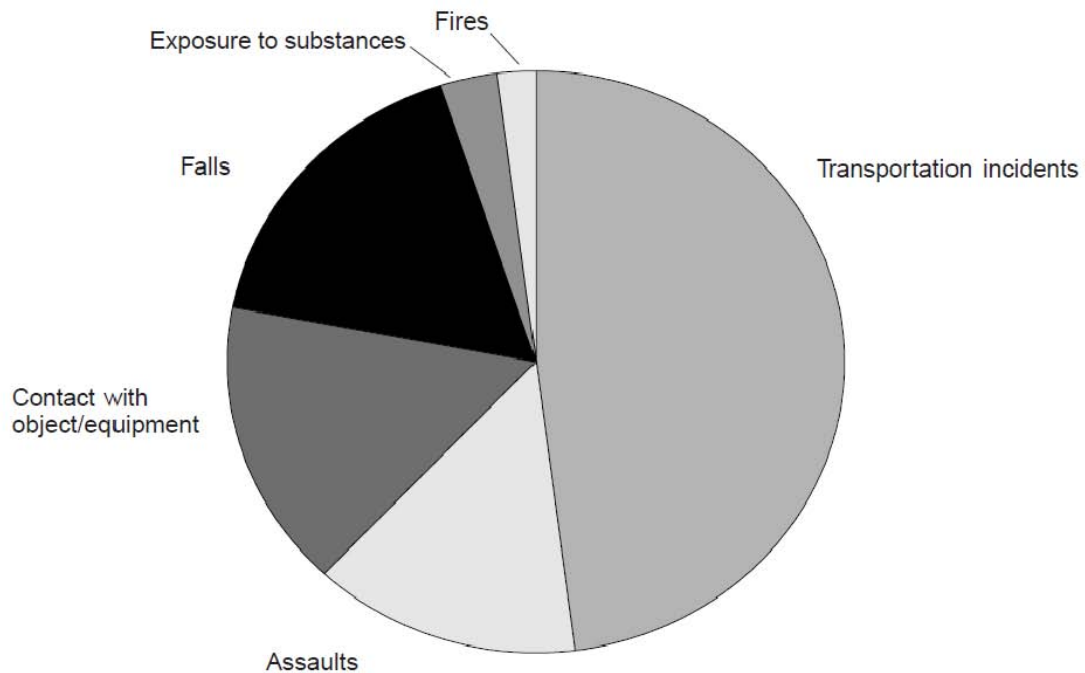
Types of Injury for Older Workers

Although older workers do not have an increased risk of injury overall compared to younger workers, they are at higher risk of falls from stairs, ladders or heights and for specific types of injuries, including fractures and hip injury, according to the US CDC.

**Chart 2. Nature of injury by age, 2003**



**Chart 4. Fatal events among workers ages 65 and older, 2003**



The rate of work-related deaths steadily increased with age, resulting in the greatest risk for older workers 55 years and older. This trend was also observed when assessing the leading cause of death: falls. There were 5.2 fall fatalities per 100,000 full-time workers aged 55 and older, compared with 3.1 and 3.9 fall fatalities per 100,000 full-time workers for those aged 15-34 years and 35-54 years, respectively.<sup>1</sup>

With respect to falls for older adults the CDC has stated: “Older workers had higher rates of falls on the same level, fractures, and hip injuries compared with younger workers and workers of all ages.

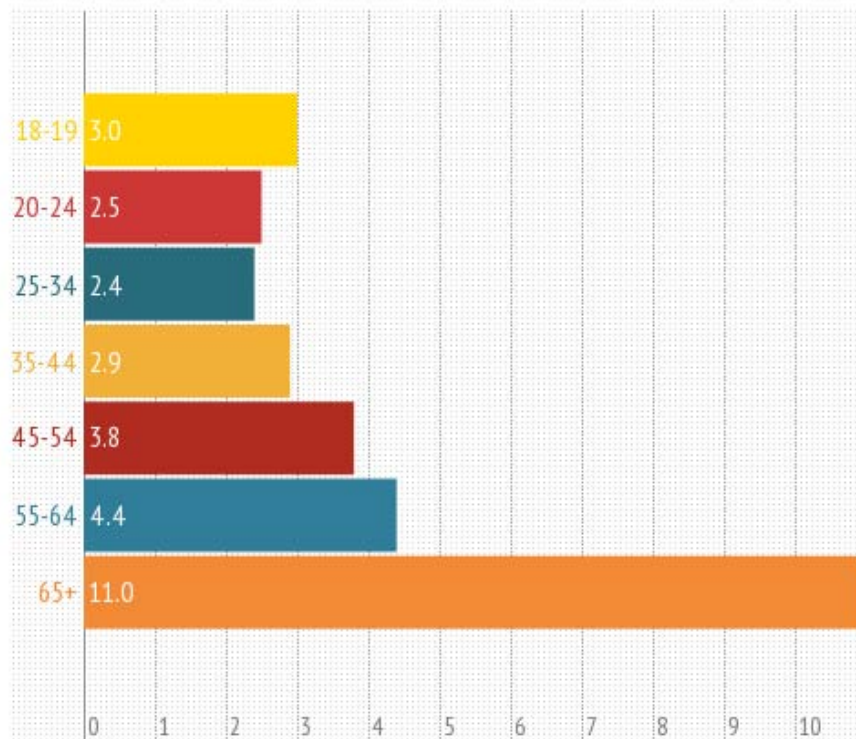
*A Special Note on Fatal Falls and Tips to "Fall Proof" the Typical Work Environment*  
The rate of fatal work injuries across the nation is dropping. But workers 65 and older are more than four times as likely to sustain fatal on-the-job injuries as workers in their 20s, according to a new report from the Bureau of Labor Statistics (statistics compiled for 2011).

<sup>1</sup> Highway deaths are the leading cause of occupational fatalities in the USA, and workers 65 and older have a highway fatality rate more than three times that of workers ages 18-54 — 3.1 deaths per 100,000 full-time workers vs. 0.9 deaths per 100,000, according to a new analysis from the Centers for Disease Control and Prevention. Workers 55-64 also had a higher fatality risk than their younger peers — 1.4 deaths per 100,000 full-time workers. These are occupational deaths, not people driving to or from work.



Overall, the BLS's Census of Fatal Occupational Injuries shows that once workers hit the age of 35, their risk of sustaining fatal on-the-job injuries — everything from roadway deaths involving motor vehicles to work-related homicides and suicides — climbs steadily.

## Fatal Work Injuries, by Age



Fatal occupational injuries per 100,000 full-time equivalent workers, 2011. Source: Bureau of Labor Statistics, 2011 Census of Fatal Occupational Injuries.

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The Centers for Disease Control and Prevention note the following action items to prevent fatal falls, principally to older workers and adults.

- An important step toward preventing falls is to remove anything that could cause you to trip or slip while walking. Tripping on clutter, small equipment, office furniture, computer electrical or phone cords, or other things can cause you to fall. Slipping on carpets or slick floors can also cause falls.
- Arrange furniture, equipment and materials to give you plenty of room to walk freely. Also remove items from stairs, hallways, platforms and pathways.
- Be sure that carpets are secured to the floor and stairs. Remove throw rugs, use non-slip rugs, or attach rugs to the floor with double-sided tape.

- Put non-slip strips on floors and steps. Put non-slip strips or a rubber mat on the floor of slippery surfaces, as well.
- Avoid wet floors and clean up spills right away. Use only non-skid wax on waxed floors.
- Be careful when walking outdoors, and avoid going out alone on ice or snow. A simple slip on a slick sidewalk, a curb, or icy stairs could result in a serious injury.
- During the winter, spread sand or salt on icy surfaces. Be sure to wear boots with good traction if you must go out when it snows. Better yet, don't take chances walking on icy or slippery surfaces.
- Poor lighting -- inside and outdoors -- can increase your risk of falls. Make sure you have enough lighting in work area, at entrances, and on outdoor walkways. Use light bulbs that have the highest wattage recommended for the fixture.
- Good lighting on stairways is especially important.
- Ensure that handrails installed on stairs and walkways. If you must carry something while walking up or down stairs, hold the item in one hand and use the handrail with the other. When you're carrying something, be sure you can see where your feet are stepping.
- Properly placed grab bars in areas needed to prevent slips and falls. Be sure the grab bars are securely attached to the wall.
- You might find it helpful to rearrange often-used items to make them more accessible. Store frequently used items within easy reach. This simple change could prevent a fall that might come from standing on a stool to get to an item.

Public health and research agencies should conduct research to better understand the overall burden of occupational injuries and illnesses on older workers, aging-associated risks, and effective prevention strategies. Employers and others should take steps to address specific risks for older workers such as falls (e.g., by ensuring floor surfaces are clean, dry, well-lit, and free from tripping hazards). (CDC, 2009)

Most studies say that older workers tend to have fewer accidents, but when an older worker does get injured, their injuries are often more severe. They also may take longer to get better. Plus, the types of injuries can be different.

Due to the physical declines associated with aging, older adults tend to exhibit both acute and chronic health concerns, principally:

- Losses in eyesight
- Loss of hearing
- Loss of physical strength
- Losses in mobility and balance
- Loss of thermoregulation
- Loss of cognitive function

As the workforce continues to age, employers can expect an increase in the number of workers with chronic conditions. This includes:

- arthritis,

- high blood pressure,
- low back pain,
- joint problems,
- hypertension
- diabetes

Also, the percentage of adults with healthy weight has been declining, and obesity has been increasing, most notably among older men. Obesity also shows a tendency to increase with age up to about 65.

All of these factors have negative impacts on worker safety and health and will make occupational safety and health more challenging going forward.

Tips for helping older adults stay hydrated: Encourage older adults to drink throughout the day even if they are not thirsty. Older adults could consume foods high in liquids (e.g. soups, popsicles, or other flavorful fluid-rich foods as often as possible).

#### Occupational Safety and Health and Hazard Controls

The Bureau of Labor Statistics (BLS) estimates that 25% of the workforce will be over 55 in 2020. That's one in four workers — up from one in every five workers just two years ago. Why? In addition to Boomers, the elimination of mandatory retirement and the enactment of age discrimination laws accounts for some of this trend. Better life expectancy and health is partly responsible. And for most, early retirement is largely a thing of the past. Many workers now choose to or must remain in the workforce longer than they had originally planned.

OSHA's approach to workplace accommodation and worker protection has been based on the hierarchy of controls concept. This concept in its simplest form holds that workers should be protected by controlling hazards as close to the source as possible. For example, designing a job so that a dangerous chemical is not necessary is preferable to providing a worker with a respirator, which in turn is preferable to training the worker to be as careful around the chemical as possible. Some version of a control hierarchy has been observed by virtually all safety and health professional associations and organizations for more than 50 years.

Many OSHA standards require efforts to utilize feasible engineering or administrative controls before personal protective equipment or worker training may be considered. A more fully elaborated version of the hierarchy of controls places protective measures in the following order of preference:

1. engineering controls (e.g., elimination, ventilation, mechanical guarding);
2. administrative controls (e.g., safe job procedures, job rotation);
3. personal protective equipment (e.g., respirators, ear plugs);
4. individual behavior (e.g., safe lifting techniques); and
5. warnings (e.g., labels, bells).

## Practical Controls

The good news is that a well-designed workplace with positive policies and programs to optimize the health of aging workers benefits everyone. When work stations and job tasks are matched to the capacity of each worker, younger or older, everyone benefits. When workplace flexibility is maximized, when work is organized with personal health and well-being principles in mind, and when workplace policies consistently are viewed through their health effects on workers, employers and workers both win.

By preventing stresses or injuries that, over time, can have cumulative negative effects on a worker's ability to work safely and productively, an employer can help assure that the U.S. continues to have a capable, experienced workforce.

Many effective workplace solutions are simple, don't have to cost very much, and can have large benefits if implemented properly with worker input and support throughout all levels of management. Below are strategies for preparing your workplace for an older and healthier, safer workforce. Consider putting these in place today (Chosewood, L. Casey (July 19, 2012), NIOSH):

- Prioritize workplace flexibility. Workers prefer jobs that offer more flexibility over those that offer more vacation days. To the extent possible, give workers a say in their schedule, work conditions, work organization, work location and work tasks.
- Match tasks to abilities. Use self-paced work, self-directed rest breaks and less repetitive tasks
- Avoid prolonged, sedentary work – it's bad for workers at every age. Consider sit/stand workstations and walking workstations for workers who traditionally sit all day. Provide onsite physical activity opportunities or connections to low-cost community options.
- Manage noise hazards (including excess background noise), slip/trip hazards, and physical hazards, conditions that can challenge an aging workforce more.
- Provide ergo-friendly work environments — workstations, tools, floor surfaces, adjustable seating, better illumination where needed, and screens and surfaces with less glare.
- Utilize teams and teamwork strategies for aging-associated problem solving. Workers closest to the problem are often best equipped to find the fix.
- Provide health promotion and lifestyle interventions including physical activity, healthy meal options, tobacco cessation assistance, risk factor reduction and screenings, coaching, and onsite medical care. Accommodate medical self-care in the workplace and time away for health visits.
- Invest in training and building worker skills and competencies at all age levels. Help older employees adapt to new technologies, often a concern for employers and older workers.
- Proactively manage reasonable accommodations and the return-to-work process after illness or injury absences.
- Require aging workforce management skills training for supervisors. Include a

focus on the most effective ways to manage a multi-generational workplace.

### Lifestyle and Other Factors for Older Workers

Several lifestyle factors have a positive influence on the aging process and can reduce the risk of disability and disease. Eating well-balanced meals, regular physical activity, maintaining a healthy body weight, getting adequate sleep, avoidance of smoking, and moderate alcohol intake are all choices that promote longevity and quality of life.

Aging is accompanied by a variety of changes that present many challenges to maintaining good nutrition status. The prevalence of chronic diseases requires the knowledge of general nutrition guidelines that can reduce the risk or severity of these diseases.

The AMA identifies seven health and behaviors to support heart health, reduce the risk of heart disease and stroke, and improve quality of life. They are referred to as Life's Simple 7.

1. Don't smoke
2. Maintain a healthy weight
3. Engage in regular physical activity
4. Eat a healthy diet
5. Manage blood pressure
6. Take charge of cholesterol
7. Keep blood sugar or glucose at healthy levels

### Physical Activity and Health

Want to reduce your risk from Alzheimer's? According to the Alzheimer's Research & Prevention Foundation, "physical exercise" reduces your risk of developing Alzheimer's disease by 50 percent.

Regular exercise can also slow further deterioration in those who have already started to develop cognitive problems.

"Want to feel better, have more energy and perhaps even live longer? Look no further than exercise. The health benefits of regular exercise and physical activity are hard to ignore. And the benefits of exercise are yours for the taking, regardless of your age, sex or physical ability. The Mayo Clinic"

### The Benefits of Physical Activity

Regular physical activity is one of the most important things you can do for your health. It can help:

- Control your weight
- Reduce your risk of cardiovascular disease
- Reduce your risk for type 2 diabetes and metabolic syndrome
- Reduce your risk of some cancers
- Strengthen your bones and muscles

- Improve your mental health and mood
- Improve your ability to do daily activities and prevent falls, if you're an older adult
- Increase your chances of living longer

If you're not sure about becoming active or boosting your level of physical activity because you're afraid of getting hurt, the good news is that moderate-intensity aerobic activity, like brisk walking, is generally safe for most people.

Start slowly. Cardiac events, such as a heart attack, are rare during physical activity. But the risk does go up when you suddenly become much more active than usual. For example, you can put yourself at risk if you don't usually get much physical activity and then all of a sudden do vigorous-intensity aerobic activity, like shoveling snow. That's why it's important to start slowly and gradually increase your level of activity.

If you have a chronic health condition such as arthritis, diabetes, or heart disease, talk with your doctor to find out if your condition limits, in any way, your ability to be active. Then, work with your doctor to come up with a physical activity plan that matches your abilities. If your condition stops you from meeting the minimum *Guidelines*, try to do as much as you can. What's important is that you avoid being inactive. Even 60 minutes a week of moderate-intensity aerobic activity is good for you.

The bottom line is - the health benefits of physical activity far outweigh the risks of getting hurt. If you want to know more about how physical activity improves your health, the section below gives more detail on what research studies have found.

### Flexibility and Health

We know that older adult experiences physiological changes (i.e. joint stiffness and a loss of connective and muscle tissue compliance, poor sensorimotor integration) .that can lead to decreased muscle extensibility and potential muscle imbalances. Stretch and flex exercises can improve poor posture, movement patterns and overall function. Stretching muscles that count in work that are not properly warmed up will put an older worker at higher risk of injury during workday.

Flexibility exercises can improve:

- 1.Poor posture
- 2.Movement patterns
- 3.Overall function

### Employer Physical Activity Programs

As Safety and Industrial Hygiene professionals we know it is difficult to get management and employee buy in to physical activity programs. Here are just a few ideas, suggestions and strategies:

- Employee education programs for physical activity (e.g. training with personal trainers in house, ergonomists, associations like the American Cancer Society or diabetes association)
- Individualized programs for behavior change and personalized counseling by nurses or health educators.
  - Setting personalized goals and monitoring progress toward achieving them
  - Building social support for new behaviors
  - Reinforcing behavior change with awards
  - Developing new problem-solving approaches to enable the individual to maintain behavior change
- Educational materials can be distributed in the workplace through classes, bulletin boards, newsletters, and high traffic locations such as the company cafeteria.
- Social support programs are also effective at improving participation in physical activity. Examples can include company sports teams or walking clubs.
- Flextime can provide more physical activity opportunities for employees.
- Flexible times for beginning and ending work each day, or “flextime.” Allowing employees to shift their work schedules, such as coming in earlier or later or taking a lunch break at alternate times. Flextime can be useful in creating opportunities for employees to engage in health promotion activities such as physical activity during the day and yet maintain their expected number of work hours. ,” policies can be useful in creating opportunities for employees to engage in physical activity during the day yet maintain their expected number of work hours.
- Partnering with local fitness facilities such as local gyms, YMCAs, and similar programs can increase employee physical activity
- Worksite campus design encourages incorporating physical activity into daily routines (e.g. building safe walking trails or paths on the company campus, installing showers for joggers and exercisers, and installing gyms with aerobic and weight training equipment (with instructions on proper equipment use)).
- Encouraging stairwell use is easy and effective.

## Summary and Conclusion

- As the available-worker population changes, many employers have jobs for which they want to attract and retain more experienced workers.
- The consequences of injury are, on average, more severe for older workers. Older workers more frequently sustain severe injuries than younger workers and require more days away from work to recover. Death resulting from work-related injuries occurs at higher rates among older workers than younger workers.
- Current knowledge about keeping older workers safe and healthy at work is insufficient. Yet enough is known to mount campaigns to improve

protections to support the health and well-being of the current and growing numbers of aging workers.

- There are existing engineering, administrative and personal protective equipment controls that can be employed to minimize the frequency of and mitigate the severity of those injury producing events experienced by the older worker.
- In 2009 Conference on “Healthy Aging for Workers” made the following recommendations:
  - More research is needed to understand how to prevent work-related injury, illness, and fatality among aging workers.
  - Knowledge gaps need to be filled to better understand the physiochemical, biological, biomechanical, and psychosocial factors that affect aging workers.

## References

Bureau of Labor Statistics (BLS). 2011. *Census of Fatal and Non-Fatal Occupational Injuries*.

Canadian Center for Occupational Health and Safety (CCOHS). 2012. *Aging Workers*.

Centers for Disease Control and Prevention (CDC). 2012. *Occupational Health Disparities*.

Chosewood, L. Casey. (July 19, 2012). "CDC - NIOSH Science Blog - Safer and Healthier at Any Age: Strategies for an Aging Workforce". National Institute for Occupational Safety and Health. Retrieved 2012-07-25

Government of Alberta. 2011. “Engaging the Mature Worker: An Action Plan for Alberta.”

Grosch, James W.; Pransky, Glenn S. 2010. "Safety and Health Issues for an Aging Workforce."

National Association for Sports Medicine. 2013. *Senior Fitness Specialist*. 2013

Silverstein, Michael. 2008. "Meeting the challenges of an aging workforce." *American Journal of Industrial Medicine* 51 (4): 269–280.

Stanford Center on Longevity. 2-13. *Adapting to an Aging Workforce*.

Toossi, Mitra. 2012. "Labor force projections to 2020: a more slowly growing workforce." *Monthly Labor Review* 135 (1): 43–64

University of Washington. 2009. *Designing the Age Friendly Workforce*.