



## **Aging Work Force Requires Specific & Tailored Hand Protection**

Older workers are essential to American industry, with about one-third of the labor force born between 1946 and 1964. Because employers appreciate older laborers' knowledge, experience and work ethic, this sector is likely to continue to play an important role in the years ahead.

In fact, the American Association for Retired Persons (AARP) estimates that workers in the 55 to 64 age group and those over 65 will increase nearly 40 percent between 2000 and 2020. AARP also reports that 69 percent of current employees over 45 plan to work past the age of 65.

### **Physical Challenges**

While the U.S. Bureau of Labor Statistics reports that aging workers have fewer workplace injuries overall than their younger counterparts, workers' physical capabilities typically decline with age. As workers grow older, they lose strength, dexterity, range of motion, flexibility and motor skills. They also become more easily fatigued.

Below are other challenges associated with aging.

*Decreased resilience* -- Age decreases the body's resilience to ongoing wear and tear, making older workers more susceptible to cumulative trauma disorders (CTDs), which affect the musculoskeletal and nervous systems. Repetitive motion injuries (RMI), including carpal tunnel syndrome, are often a problem because they develop over time.

When workers perform tasks repeatedly, the nerves and tendons in the hand may become irritated and swell, compressing the median nerve that extends from the forearm into the hand. This compression increases when workers apply force. Wet or slippery objects require individuals to grip even harder to maintain a secure grasp, which compresses the nerve even more.

*Joint movement and arthritis* – One of the most significant physical changes occurs in older workers' joints, which are responsible for small motor movements. As workers age, their dexterity diminishes and they are not able to grasp and manipulate objects as well as in their younger years.

The incidence of arthritis—or joint inflammation—increases dramatically after the age of 45. Arthritis, which is more prevalent in older women, reduces flexibility and dexterity and makes many manual tasks difficult.

*Poor circulation* – Decreased circulation contributes to cold sensitivity in older workers—especially in the hands and feet. These individuals adjust more slowly to changes in external temperatures and are more likely to become overheated when performing manual labor.

## **Hand Protection Solutions**

While effective workplace design will benefit workers of all ages, ergonomically designed hand protection products can help reduce RMIs and related musculoskeletal disorders. They can also provide support for arthritic hands and increase productivity.

As with all protective apparel, gloves should first and foremost be selected to protect workers from task-related hazards. If, for example, workers handle sharp parts or perform tasks that involve sharp blades, they should wear gloves that provide high levels of cut protection.

*Comfort and support* – Comfort is especially important as the work force ages and more workers suffer from arthritis and loss of muscle strength. Three Dimensional/Automatic Knit Liner (3D/AKL) technology facilitates production of form fitted gloves that conform to the hands' specific dimensions. This method eliminates seams and insures gloves adjust to fit the fingers and the width of the palm and hand.

Recent advancements in knitting technology allow manufacturers to vary the density and tension of stitching in areas where the wearer needs more room, such as the knuckles, back of the hand and the creases that are part of the palm. Variable stitching assures greater comfort and dexterity—and enhances worker productivity and performance.

Some glove manufacturers also employ additional stitching to reinforce areas such as the thumb and pointer finger, which are often injured during accidents involving the hand. This allows manufacturers to add cut resistance and extra reinforcement to the thumb and pointer finger for greater protection and support.

*Grip* – The American International Health Alliance (AIHA) recommends that workers wear gloves that improve grip to prevent CTS and other repetitive motion injuries. Natural & synthetic (e.g., nitrile) rubber gloves are ideal for applications that require extra grip because they increase friction between the hand and the object.

Gloves are available that incorporate new grip technology that allows workers to apply significantly less force while effectively grasping wet and oily objects. A roughened surface comprised of microscopic channels in a patented ultra-thin nitrile coating directs fluids away from the grip surface. The relatively dry contact area that remains helps workers maintain almost the same grip on wet or oily objects as in dry conditions.

*Synergistic benefits* – Some gloves combine materials to provide synergistic benefits, such as cut resistance and moisture management. “Plaiting” allows different materials to be used inside the glove than on the outside.

Plaiting is especially applicable with engineered fabrics such as Kevlar® because manufacturers can use Kevlar on the outside for cut protection and plait the inside with nylon or another fabric to keep the hands warm and comfortable or to improve moisture management.

## **A Word on Fit**

Irrespective of application or protective requirements, gloves should fit and function like a second skin, allowing maximum flexibility. This is especially critical for aging workers who may suffer the affects of arthritis or require improved dexterity or functional benefits such as grip.

Hand protection products that are too small may restrict movement and blood flow, resulting in cramping, hand fatigue and perspiration. Gloves that are too large may be bulky and decrease dexterity. When workers wear gloves that are bulky, they may have to exert undue strain to perform certain tasks.

### **Conclusion**

The best way to determine older workers' glove requirements is to go on the plant floor and watch individuals on the job. Ethnography, or understanding the work flow and how workers perform specific tasks, will make it easier to identify the risks involved and workers' glove requirements.

Training is also essential because, as workers age, the balance between their capabilities and the demands of the tasks they perform and the hand protection they use may change. Combining work station design improvements with training and the right hand protection can increase comfort and protect workers from age-related risks and diseases.

For more information about Ansell's ergonomically-friendly apparel, call 800.800.0444 or visit [www.ansellpro.com](http://www.ansellpro.com).

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