



Ergonomic Concerns for Baby Boomers

The American work force is aging. The average age of employees continues to rise with the aging of the generation known as the "Baby Boomers" – those born between the years 1945 and 1964.

Consider these statistics:

- The average age of workers has increased from 34 years in 1984 to 39 years in 2000. According to recent figures, the U.S. Dept. of Labor estimates that 36 percent of today's work force is between the ages of 35 and 55. Of this group, 16 percent are 55-59 years old.
- By the year 2005, there will be an estimated 70 million Americans between the ages of 45 and 64 years old. According to the U.S. Census Bureau, this is a substantial increase from the 57 million Americans currently in this age category.

Workplace Changes

Protected by age-discrimination and mandatory-retirement laws, many Americans are choosing to continue to work well into their '60s and '70s. Increase longevity and vitality allow the older worker to delay retirement. Recognizing the valuable resource of the older worker in today's tight job market, many employers support and encourage the decision to delay retirement.

Normal Physiological Changes with Aging

As the overall picture of the work force changes, special considerations for physical and functional abilities will come to light. The health and safety professional will be challenged to identify needs to develop programs to keep the aging worker safe, healthy and productive. Changes may occur in the aging worker's vision, hearing, heart, lungs, skin, muscles, urinary tract, intestinal tract, endocrine system and immune system.

Ergonomic Programs

Although aging workers will benefit from ergonomic changes that address their needs, it is important to remember that ergonomic changes should be designed to benefit all workers.

Some examples of the physical changes the older worker may experience and the ergonomic solutions that may assist in keeping these workers safe, healthy and productive are shown in Exhibit I.

Special Considerations for the Health and Safety Professional

As the risk of legal action based on age discrimination increases in the United States, it is important for health and safety professionals to have a good understanding of these laws. Ergonomic job evaluation makes good business sense. Recognizing the value of aging workers as a resource for America's business, proactive programs should be developed to address their special needs.

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Exhibit I
Ergonomic Solutions to the Changes That Come with Aging

Normal Changes With Aging	Ergonomic Recommendations
Visual	Visual
Decreased ability to read fine print	Brighter lighting
Decreased adaptation to the dark	Reduce/eliminate glare with indirect lighting
Increased sensitivity to glare	Use special-purpose lighting
Altered depth perception	Use special-purpose lighting
Reduction in ability of eyes to tear	Uniform/appropriate contrast materials Visual cues with training
Hearing	Hearing
Decreased high-frequency hearing	Avoid high-frequency noise
Decreased ability to discriminate some sounds	Reduce background noise Provide equipment with adjustable noise levels
Heart	Heart
Numerous changes including decreased muscle tone and elasticity	Avoid work in extreme temperatures
Decreased tolerance to cardiac stress	Provide frequent rest breaks
Respiratory	Respiratory
Decreased cough mechanism effectiveness	Avoid work with potential for respiratory irritation/sensitization
Decreased functional reserve capacity (normal for regular activities, but may have difficulty on exertion)	Evaluate ability to wear respirator in stressful conditions - i.e., confined space
Decreased lung expansion	Avoid work with excessive exertion - i.e., frequent stair or ladder climbing
Skin	Skin
Decreased fat and water in subcutaneous tissue	Avoid work in extreme hot or cold temperatures
Decreased skin elasticity	Monitor ability to wear skin barriers
Decreased size and number of sweat glands, more difficulty in regulating body temperatures	Avoid work with chemicals with defatting properties
Muscles	Muscles
Decreased muscle mass and strength	Avoid or reduce work with static muscle effort
Increased muscle response time and fatigue	Increase use of mechanical lifts Keep work in "lifting zone" Reduce/eliminate twists Encourage stretching and exercise programs



Exhibit I cont.

Ergonomic Solutions to the Changes That Come with Aging

Normal Changes With Aging	Ergonomic Recommendations
Urinary	Urinary
Decreased bladder capacity	Provide frequent bathroom breaks
Increased urinary frequency Decreased ability to concentrate urine Increased prostate size	Provide work with accessible bathroom facilities
Intestinal	Intestinal
Slower digestion of food	Allow "snack breaks"
Decrease in liver enzyme concentration	Avoid work with chemicals with potential toxic effects on liver
Decrease insulin release	Alter work schedule to increase time for meals
Endocrine	Endocrine
Decreased insulin production	Allow rest breaks
Decreased thyroid function Decreased tolerance to heat or cold	Avoid work in hot or cold environment
Immune	Immune
Decreased inflammatory response	Special precautions to avoid infection
Increased risk of infections	Avoid repetitive-motion work Job design to prevent cumulative trauma injuries
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