

**Ansell**



## **THE IMPORTANCE OF HAND ERGONOMICS**

# BETTER BY DESIGN



**How ergonomically designed hand protection delivers a safer, more productive workforce.**

The true economic cost of workplace injury is more than lost wages or time. Ongoing medical expenses, lowered production and increased workers' compensation premiums are among the more obvious and measurable aspects, but there are often hidden costs as well.

Though harder to measure, increased rates of workplace injury can contribute to heightened stress or anxiety levels among workers and potentially lessen both morale and productivity. Identifying and managing hazard risks before issues arise will often mean recognising less obvious relationships and opting for personal protective equipment (PPE) ergonomically designed with specific conditions and tasks in mind.

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# COMMON CONDITIONS

**In most industrial environments, repetitive manual tasks are an unavoidable daily requirement, with workers performing labour-intensive activities such as lifting or lowering, pushing or pulling and holding or restraining tools and other items.**

**Tasks that require repetitive hand and arm movement can lead to hand fatigue, which subsequently puts more stress on other parts of the body and can contribute to injury.**

Simple actions become hazardous activities through repetition, the use of sustained pressure or force, maintaining prolonged or awkward postures and by ongoing exposure to vibration, stressing the body and potentially leading to a wide range of musculoskeletal disorders (MSDs). MSDs are generally either

the result of gradual wear and tear (triggered by repetition) or brought on by sudden strenuous activity or unexpected movement.

Performing manual tasks makes the hands and arms particularly susceptible to a range of conditions including; muscle, ligament or tendon sprains and strains; joint and bone injury or degeneration in the shoulder, elbow or wrist; nerve injuries and compression; muscular or vascular disorders. Most of these can additionally present as acute or enduring chronic conditions that continue to threaten productivity in the longer term.

# PREVALENT AND PREVENTABLE

**MSDs are categorised as ‘body stressing’ injuries and diseases. Workplace-related body stressing injury and disease is expensive and widespread. In Australia, over one third of the total<sup>1</sup> number of cases and total economic cost are associated with body stressing or manual handling injury. In the European Union, musculoskeletal disorders are the most frequently reported<sup>2</sup> work-related health problem.**

In many cases, operations and safety managers will incorporate the use of safety gloves as part of a program designed to mitigate risk of hand or arm injury. Issues arise when the chosen solution fails to address the immediate application

requirements — and a poorly selected glove can even introduce new risks.

For example, gloves that restrict movement of the hand or fingers require the wearer to exert more muscle effort to perform required tasks. This increases the risk of strain which can lead to hand fatigue or persistent and painful conditions, such as carpal tunnel syndrome.

<sup>1</sup>Safe Work Australia, The Cost of Work-related Injury and Illness for Australian Employers, Workers and the Community: 2012–13, p31

<sup>2</sup>European Agency for Safety and Health at Work, Estimating the cost of work-related accidents and ill-health: An analysis of European data sources, p12



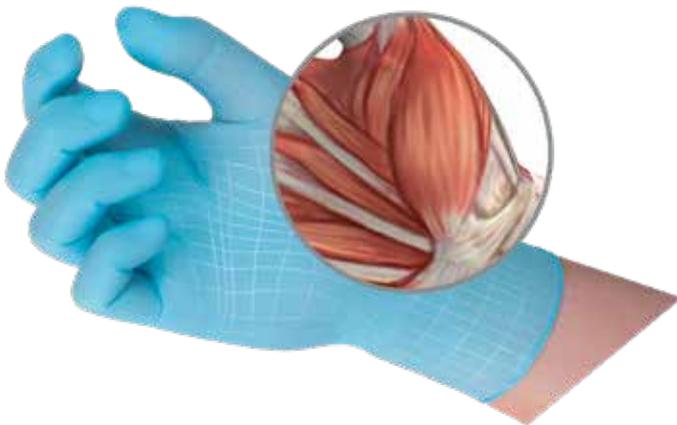
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# ESTABLISH ERGONOMICS

While most safety personnel are familiar with the concept of ergonomics, many will fail to consider the potential impact of utilising PPE choices that incorporate ergonomic best practice and design principles. Primarily referencing the interaction between the worker's musculoskeletal system and workspace, ergonomic design aims to minimise exposure to risk factors for MSD, while increasing efficiency and comfort.

In the context of gloves, this approach negates the often cited 'comfort versus protection' argument, in which anecdotal evidence suggests that workers will simply remove hand protection solutions that impede function or otherwise create discomfort.

While conducting recurring or repetitive tasks is known to place strain on the muscles, nerves and tendons in a worker's hands, performing those same activities while wearing gloves that are thick, rigid, ill-fitting, slippery or otherwise uncomfortable will significantly exacerbate the problem. To address these issues, safety and operations managers should opt for a protective glove style designed for the specific hazard types present and for the functions being performed. This means considering multiple factors;



**FIT** when gloves are too small, movement is compromised. When they are too large, dexterity is restricted.

**GRIP** the amount of grip a glove delivers plays a major role in the amount of muscle effort required to securely handle, hold or manipulate objects.

**CONSTRUCTION** material construction and comfort will dictate overall wearability

**APPLICATION-SPECIFIC ISSUES** wet conditions, contact with abrasive materials or the use of vibrating machinery, for example, all present differing needs. Each application is unique and should be assessed in its own context to determine the optimal glove choice.

Selection will vary based on these — and other — factors, but it is vital that the glove selection process includes an assessment of the effect on manual performance, ensuring that workers can operate both safely and efficiently.

Workers are no longer forced to choose between comfort or protection, as new advances in glove technology deliver superior hand protection while providing much-needed support for musculoskeletal health. For example, ERGOFORM is a new technology that enables Ansell to design hand protection that supports musculoskeletal health during repetitive tasks. Ansell does this by measuring the toll of occupational activities and applying cutting-edge technologies to produce gloves. A product with ERGOFORM certification has been scientifically proven to deliver measurable improvements in worker comfort, fit and productivity while reducing the risk factors associated with ergonomic injury. By electing to supply ergonomically designed protective gloves, employers, managers and operators can significantly minimise the risk of MSD injury, effectively support safety compliance and ensure productivity levels remain intact.

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