

Giant Eagle Supermarkets Reduces Risk of Injury

31%

by Using Smart Wearables



Most injuries in retail, warehousing and distribution result from manual handling activities. The nature of the work being fast-paced, repetitive and generally manually task related, frequently leads to musculoskeletal problems or accidents.

According to the US Bureau of Labor Statistics 2018 Survey of Occupational Injuries and Illnesses, injuries in the retail and warehousing/distribution sector are in the top 10 most dangerous occupations for workers, with sprains, strains, and tears being some of the most common afflictions.



Using smart wearables as a tool to reduce workplace injuries is fast becoming a regular pursuit and companies are adopting more than ever now due to the proven accumulative benefits and data driven positive results. In recent years, Soter Analytics, a company producing wearable solutions and AI-driven coaching programs to prevent back and shoulder injuries has been used by multiple organizations across different industries around the world and has proven on average, to reduce up to 55% of manual handling injuries.

One small device, supporting big injury prevention, the Soter wearable solution prevents both shoulder & back injuries by:

1. Monitoring the worker's individual movements and posture and providing real-time biofeedback to the user by means of vibro-tactile, auditory or visual data on an accompanying mobile app
2. Providing 3 different micro-learning Manual Handling Training programs that can be completed in-situ
3. Exhibiting objective data on an available online management dashboard to empower organizations by providing them with valuable insight on injury risks to improve the safety of the entire workforce

Soter Analytics has over 5 years of user experience that has continually assisted them to build a product that is up to professional standards. The wearable solution has been proven by multiple case studies, white papers and a team of doctors, engineers, ergonomists, movement specialists and data scientists with all parameters and thresholds backed by international safety standards for musculoskeletal safety in the workplace.



Giant Eagle is one of nation's leading multi-format food, fuel and pharmacy retailers with 474 retail locations and approximately 34,000 Team Members, and is ranked among the top 40 largest privately held company in the U.S. At Giant Eagle, the health and well-being of its Team Members and guests is a top priority and the company implements numerous safety measures across its varied work settings. In its retail support centers, Giant Eagle identified an opportunity to improve consistent manual handling training for musculoskeletal safety to all staff.

Turning to wearable solutions, believing that technology can, and should deliver a high quality, consistent experience to all workers, Giant Eagle researched and trialed different products for several years but encountered problems. The accuracy of detecting movements, while the battery of certain devices having to be recharged daily, added complexity in busy warehouses. Soter Analytics however stood by their product and understood it from both the employee and employer side. Encroachment was low and positive results were high.

After a successful initial 3-month trial in 2018 that showcased immediate results in reduction of the hazardous movements that lead to injury, Giant Eagle continued to collaborate with Soter to roll out their Clip&Go solution. A fully autonomous product specifically designed for large facilities.

The Soter Clip&Go Solution

Giant Eagle chose to use Clip&Go in its retail support centres, a simultaneous charging hub of up to 40 devices. The worker simply takes a device, scans it out and clips it on their shirt. At the end of the shift, the user returns the device, rescanning and placing it back onto the charging hub.

Throughout the day the device provided real-time audible and vibration biofeedback alerting workers of any hazardous movements they made. This innovative idea of focusing on early intervention and prevention by minimising the hazardous movements that lead to injury, instead of injury recovery, has produced a very proactive and comprehensive approach to Team Member musculoskeletal safety at Giant Eagle.

Mr. Shawn Rush, Sr. Director, Environmental, Health & Safety Giant Eagle says, "The solution accurately detects and provides warnings for hazardous movements that have high potential to cause injury. As a result, we've seen the number of at-risk postures and movements cut roughly in half for the Team Members involved in the process".



31%

Overall Reduction of Hazardous Movements

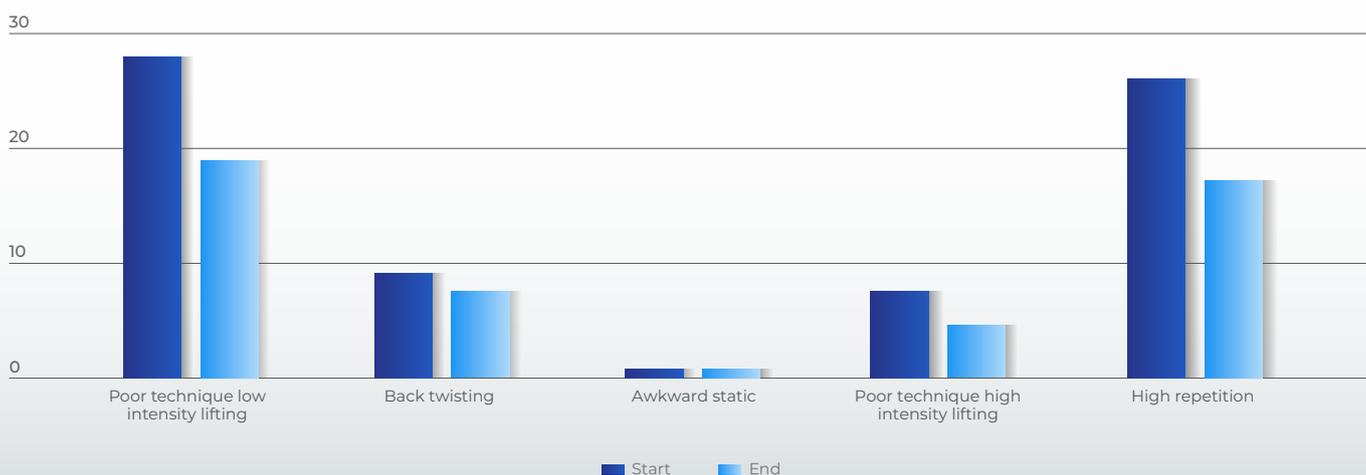
The Soter device measures and captures up to 8 different hazardous movements that lead to injury and Giant Eagle had an overall reduction of 31% after using the Clip&Go solution

Poor Technique:

Low Intensity Lifting — **33%**

High Intensity Lifting — **28%**

HM Frequency change from start to end of program by risk type



Lifting with poor technique can be described as making end range bending movements while performing working tasks. End range bending places muscles at full stretch, which leads to temporary muscle weakness or 'deactivation'. As a result, the spine is not adequately protected by its muscles, potentially making it unstable.

When describing intensity, the technology does not measure weight of objects but rather the intensity of a movement – the movement is defined as highly intensive when for different reasons, the person finds it physically difficult to perform. In

many cases it contributes to working with the high load. If a large load is carried, even a small amount of bending can lead to injury, since fibres of the discs are much less tolerant to load at this position.

Jerky and fast movements are also defined as high intensity. Fast extension movements create a larger window during which the spine is exposed to instability and injury because of lack of muscle forces. Also, physical conditions such as fatigue or disease can dramatically lessen the weight that can be lifted safely at any one time, and this may also be measured as high intensity.

Back Twisting — 17%

Sustained trunk twisting elicits significant trunk rotational creep and may cause change in erector spinae muscles to become active longer during spine flexion as well as extension, which may be linked to the decrease of the tension ability of passive tissues in low back area, indicating a higher risk in developing lower back pain.

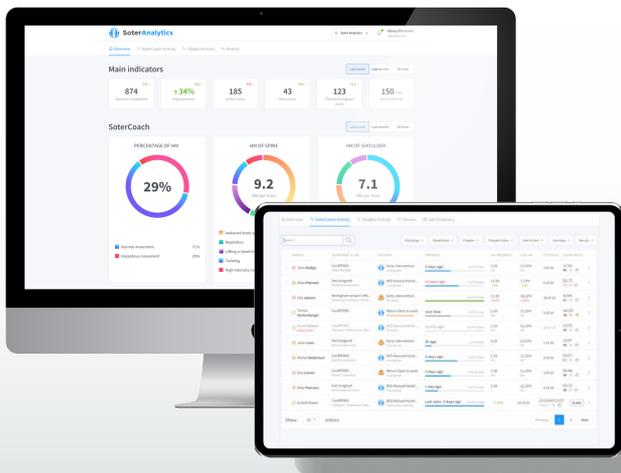
Awkward Static — 9%

When the body holds a single position for an extended period or shifts position but fails to allow the muscles to return to a neutral position, comfort and performance are impaired. Static

postures increase the load on muscles and tendons compared to dynamic postures. These static positions may reduce blood flow to the muscles, thus preventing the body from engaging in the natural process of restoration and repair.

High Repetition — 36%

Continuous and repeated force exertions over a significant period of time may have impact and cause tissue changes which decrease stability.



Online Management Dashboard

The management analytics dashboard is the link between the workers and the organization allowing both parties to actively be involved in finding injury prevention solutions. The objective data provides valuable insight for simple re-design of workplaces or training to prevent employees experiencing high-risk movements.

Data can be aggregated or individualized ensuring the privacy needs or requirements of any company

At Giant Eagle, the management dashboard provided objective data and gave insight to all areas of the business allowing the company to spotlight areas within its retail support centers that were at most risk and provide any necessary controls to limit exposure.

Using technology to assist injury prevention with the ability to deploy and scale with minimal invasion provided Giant Eagle

with a solution that not only allowed in-situ autonomous learning for its Team Members, but objective insight for management. After producing very positive results, the Soter Clip&Go solution is now being rolled out across multiple Giant Eagle facilities with the focus on new Team Members using it to learn best-practice manual handling techniques when commencing their employment with Giant Eagle.

HMs per hour change from start to end of program by department

