

THE FUTURE OF HEALTH & WELLNESS

WEARABLES IN THE WORKPLACE

Wearable technologies influenced by wide-spread consumer adoptions, are becoming more prevalent across a wide variety of industries.

As big tech and science swirl around the world of wearables, and consumers enjoy texting and Facetiming with friends, a brave new world is awakening around us. Google's parent company Alphabet acquired health tracking company Fitbit for \$2.1 billion in November 2019.

"Wearables" are typically thought of as fitness trackers and smart watches (like Apple Watches and Fitbits), however, they include any electronic device with smart sensors that are worn or carried on the body. Wearables seamlessly collect and transmit data through a network connection like cellular data, Wi-Fi, Bluetooth, or GPS. Smartphones are also considered wearables because they have built-in capabilities to measure movement and other information.

There are two types of wearables: passive and active.

Passive wearables include smartwatches, smart glasses, or any device that monitors other environmental factors. Passive wearables can also transmit real-time safety warnings to workers and deliver reports to managers. These reports can be used to improve safety procedures in the workplace.

Active wearables enhance a worker's ability to complete a particular task. For example, exoskeletons allow people to lift heavy objects without straining their backs. Delta Airlines is piloting the "Sarcos Guardian XO" exoskeleton that enables employees to lift up to 200 pounds repeatedly for up to eight hours at a time without strain or fatigue. GM and NASA spent nine years creating the "Robo-Glove", a device that increases grip strength and reduces strain.

What do wearables have to do with workers' comp? Employers are beginning to find ways to utilize technology to improve employee safety. Wearables can prevent injuries, keep aging workers on the job longer,



reduce the threat of automation, measure environmental hazards, and relay safety data to employers. According to the National Safety Council, the most common workplace injuries stem from overexertion: like lifting, lowering, repetitive motion (34%); being struck or caught in a piece of equipment (26%); or slips, trips, and falls (26%). Wearables can reduce this risk in many of those cases. For example, the "Hearable" is a health monitor worn in the ear to monitor body temperature, sweat rate, and sodium levels to prevent heat exhaustion and heat stroke. Wearables can also assist with return to work. An iPhone app, created in Louisiana, called "Kinesics" measures range of motion and can help determine an injured workers' ability to return to work. The app sets a baseline and measures improvement.

Also relevant to the workplace setting, wearables have been used to help slow the spread of COVID19. The U.S. Navy is using a proximity device to assist with social distancing and the NBA recently purchased thousands of devices called "Oura rings" to provide pulse oximeters, thermometers, respiratory functions, and more to track players.

Although some of these wearables are being tested by insurance companies and employers their wide-ranging impact on the workers' comp industry is still in its infancy. Most of these uses are primarily in the proof-of-concept phase. Companies are expressing interest in exploring uses for wearables as advances are made, yet only a handful of larger companies have piloted them. The only limit is our imagination, and when talented engineers and scientists work to solve problems, the next five years are likely to feel like something out of a sci-fi movie.

A complex network graph with numerous small, semi-transparent circular nodes of various sizes and colors (light blue, teal, purple, pink) connected by thin, light gray lines, forming a dense web of connections.

Kelli Bondy Troutman, Senior Vice President and Director of Communications at LUBA Workers' Comp, recently started wearing an "Oura ring" to explore firsthand the usage of wearables in the workplace.

"I've personally been able to measure my sleep, attentiveness, and activity which has made me more aware of my state of mind" said Troutman. "Anytime you begin to lose focus and readiness the likelihood of an accident increases. Right now, particularly with the added stress and disruption due to the pandemic, that's becoming more and more prevalent in the workplace."



- **Fitbit** donated 1,000 smartwatches in the spring of 2020 for a new study led by Stanford Medicine and Scripps Research to detect viral infections, like COVID-19, through data collected from other wearable devices.
- Chicago-based **Northwestern University and the Shirley Ryan Ability Lab** jointly developed a new wearable patch device that monitors COVID-19 patients' coughing and respiratory activity. The wireless device is made from a soft and flexible material like a Band-Aid, and it sticks to the patient's skin, just below the base of the throat.
- **Apple** recently held a virtual product launch for its new Watch Series 6, which uses infrared LEDs and photodiodes on the back of the watch to measure the light reflected from blood. The device has an advanced algorithm built into the Blood Oxygen app designed to measure blood oxygen between 70 percent and 100 percent.
- **Fitbit** recently received initial clearance for its electrocardiogram app to assess heart rhythm for atrial fibrillation. The Fitbit ECG app is now available on the Fitbit Sense device in the U.S. and several other countries.