



## Using AI to Predict Soreness and Prevent Workplace Injuries

# How Fit For Work is Using AI to Predict Soreness and Prevent Workplace Injuries

Business is always evolving. From the way we communicate to the way we make decisions, each year it seems new technology and new industry standards help shift the way our businesses operate.

At the center of these advancements are the fields of predictive analytics and artificial intelligence. These resources have been around for several years, and while they're somewhat commonplace in certain industries, they are just starting to burst onto the scene in physical and repetitive work environments such as warehouses, factory floors, and manufacturing facilities.

Fit For Work is leading this effort to utilize predictive analytics and AI in the workplace to help predict soreness in employees and then use that data to prevent eventual injury. Here's how it can accomplish this for your business and reduce injuries and associated costs by 50%.

## What is Predictive Analytics?

Predictive analytics is a practice that interprets current conditions and historical data to deliver insights and to predict future events – like soreness in workers that puts them at risk for injury. It combines classical statistical analysis with artificial intelligence to deliver solutions on a personalized basis.

## Using Predictive Analytics to Predict Soreness

By leveraging an algorithm to make sense of data as it pertains to working conditions and employee

performance, we can pinpoint specific cases that require [intervention](#) and provide a solution before injury occurs.

In the workplace, roughly 25% of workers display and verbalize symptoms of an injury, while the other 75% have yet to complain about any such occurrence. The goal of analytics is to systematically get ahead of these impending complaints before they occur.

In doing so, the algorithm looks at and interprets five key areas.



# Using Predictive Analytics to Predict Soreness

## 1. Type of interaction

The type of work an employee is performing is a likely contributor to any complaints of soreness. A worker manually lifting heavy inventory all day is going to be at an increased risk of soreness when compared to someone who relies more regularly on machinery to do their lifting and isn't exerting excess amounts of physical energy.

## 2. Frequency

When those interactions likely to produce injury are performed on a weekly, daily, or hourly basis, the likelihood of soreness and injury differs. For instance, if a worker only has to operate a specific piece of equipment on the first business day of the month, they may not be as likely to display a symptom as would a worker who spends the majority of every eight-hour shift using the same piece of machinery.

## 3. Quality of movement

It's one thing if an employee is performing strenuous labor on a regular basis, but if they're also doing so while utilizing improper [ergonomic](#) movement, they're most certainly going to report soreness. Predictive analytics combined with an ergonomic assessment will highlight these cases and inspire a solution.

## 4. Psychology of the worker

In addition to the quality of movement, it is imperative to ask:

- ♦ How is the worker doing emotionally?
- ♦ Are they stressed from personal matters in addition to their job responsibilities?
- ♦ Are they happy-go-lucky or do they feel their job is slowly but surely breaking their body down?
- ♦ Do they equate "soreness" with tissue damage,

or do they understand that you can be "sore but safe"?

The psychological and emotional factors of a worker can often be the most important in predicting imminent pain and injury – yet they are almost always overlooked. Capturing feedback, comments, and thoughts directly from a worker, in their own words, can provide highly valuable information for a predictive algorithm.

## 5. What's already been reported?

An employee's history is as crucial as any of these factors in predicting soreness – and there are a lot of circumstances to consider.

- ♦ Is the worker [experienced](#) or new to their role?
- ♦ Have they displayed symptoms of soreness in the past?
- ♦ If so, did they report the symptoms or simply continue working?
- ♦ Have they previously sustained a serious injury on the job?

A predictive algorithm will factor these concerns as it pinpoints workers at most imminent risk of soreness or injury.

But AI alone can only be so effective. Here's why AI and human interaction need to work together to effectively interpret data and prevent injuries.



## Data Can't Stand Alone

The value and impact of data is undeniable in today's business world. It has become commonplace in seemingly every industry and has changed the way we operate and make decisions.

But compiling historical data and relying solely on statistics to guide decision-making is an incomplete practice – especially when it comes to injury prevention in physical and repetitive environments. There are so many special cases and circumstances that must be taken into account in order to arrive at the best possible solution, and delivering that solution often requires a human-to-human interaction.

Maybe a worker has an injury history not fully detailed in the system, or maybe they're not practicing proper [ergonomics](#) due to a special condition or specific advice from a specialist. Or maybe they are resentful of their manager because of recent overtime or hectic work pace. These factors are complex and while statistical identification of them can absolutely be done through algorithms, navigating the contextual solution requires components that statistics just can't deliver on their own.

## Combining the Numbers with a Human Touch

It's the human perspective that's missing from the equation. Analytics aren't meant to act as a standalone resource, but rather work best when paired with an expert's eye. When predictive analytics in the workplace are combined with one-on-one, personalized interaction, it creates the [ideal formula](#) for assessing the needs of your employees.

An experienced expert in workplace safety knows how to make proper sense of the data when

paired with the first-hand input of the workers themselves. In-person interaction provides necessary context to ensure the right decision is being made on a case-by-case basis.

*“This is the balance Fit For Work achieves with its clients across the country.”*

## Balancing analytics and human interaction with Fit For Work

We understand that AI can find patterns that humans can't, but we also know humans can provide personalized attention AI can't. There's simply no replacement for that level of connection and engagement. Our ultimate goal is to standardize the process of implementing this platform so it can be easily and readily integrated into environments across the country.

Over time and as more and more interactions occur and more data is gathered, the algorithm will become site-specific and will be able to be tailored and deployed to best suit your organization. This means that the program continually becomes more and more effective at reducing injuries in your workforce!

Predictive analytics is now a pillar of Fit For Work's process, and is included across our platform. In combining its data-driven method with our human interaction in the areas of Early Intervention, Ergonomics, Employee Testing, and Compliance, we are reshaping the way employers achieve a safe and productive environment for their workers.

Contact us today to take your first step into the future of injury prevention.