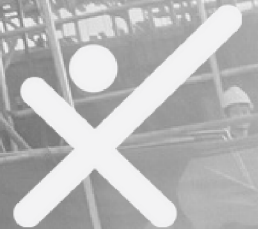


A black and white photograph of a construction site. A large crane is visible in the upper left, with its jib extending across the top. The building under construction is heavily encased in scaffolding. A worker is visible on the scaffolding in the lower right. The sky is overcast with clouds. A semi-transparent green rounded rectangle is overlaid on the center of the image, containing the title text.

# ErgoScience Case Studies



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# Over-the-Road Trucking Case Studies

## How? Why?

Just because many OTR drivers don't touch freight or lift heavy tarps, doesn't mean they don't get injured. As part of their job, they have to:

- Climb in and out of the cab of the truck and occasionally into the back of the trailer
- Open and close heavy trailer doors and the hood of the truck.
- Squat and sometimes crawl or duck walk for their pre-trip inspections.
- Crank dollies that can require up to 70-80 lbs. of force.

The following two case studies were compiled from loss runs data sent to ErgoScience by two of our clients with OTR drivers before and after implementing pre-hire/post-offer Physical Abilities Testing.

## CASE ONE

### PROBLEM

Our client, a premier heavy haul trucking provider, moving heavy cargo, freight, and machinery across the U.S. and Canada, was having an increasing number of strains and sprains, and slips, trips, and falls among their OTR drivers.

### SOLUTION

ErgoScience performed job analysis on their OTR trucking job, observing and videotaping pre-trip inspections, ingress and egress of the truck and trailer, and measuring forces, heights, and distances. A job-specific Pre-hire/Post-Offer Physical Abilities Test (PAT) was developed for the OTR driver position.

### OUTCOME

ErgoScience tested 674 drivers over a two-year period. By year two:

TOTAL INCURRED COSTS FOR  
SLIPS, TRIPS, AND FALLS



DECREASED BY 54%

TOTAL INCURRED COSTS FOR  
STRAINS AND SPRAINS



DECREASED BY 54%

THE COMPANY REALIZED AN

**18:1**

RETURN ON THEIR INVESTMENT



# Over-the-Road Trucking Case Studies

## CASE TWO



### PROBLEM

Our client, a national multi-faceted trucking company with over six thousand professional drivers, had a smaller contingent of OTR drivers who were experiencing a significant increase in strains and sprains and slips, trips, and falls. They were testing with a regional provider of PAT, but they felt like the tests were not job-specific and that the wrong candidates were failing the test.

### SOLUTION

ErgoScience performed job analysis on their OTR trucking job, and then then revised the PAT to be more job-specific for their OTR driver position. We used our research-based testing algorithms for scoring the test more consistently and accurately.

### OUTCOME

DURING A ONE-YEAR PERIOD,  
ERGO SCIENCE TESTED

**471**  
OTR DRIVERS

THE TOTAL INCURRED INJURY  
COSTS



**DECREASED BY 49%**  
(Even though they were previously  
testing with another vendor)

OUR CLIENT REALIZED A

**14:1**

RETURN ON THEIR INVESTMENT

### Summary

These two case studies clearly demonstrate that pre-hire/post-offer Physical Abilities Testing not only works to reduce injuries and costs, but also quickly creates a significant return on investment for companies with OTR drivers.

The second case study where we **created significant savings over a previous vendor**, shows that careful job analysis and accurate, research-based, job-specific testing makes a dramatic difference in savings and ROI.



# Construction Case Study

## Our Client

A commercial construction company with divisions throughout the southeast and southwest, with expertise in construction for healthcare, government, entertainment, education, hospitality, and retail industry verticals.

## THE PROBLEM



Escalating workplace injuries and associated costs among new-hire General Laborers, particularly strains and sprains of the back and shoulders.

## SOLUTION



Pre-hire/post-offer physical abilities testing for General Laborers was initiated at 6 construction sites. Tested 217 job applicants over a 3-year period.

## RESULTS



The company realized over \$800K in cumulative savings with a 20:1 return on investment.

When compared to pre-implementation costs, the company experienced the following percent decreases in new-hire injury costs:



61%  
decrease



74%  
decrease



97%  
decrease



# Tire Manufacturer: Pilot Study

## PROBLEM

For two consecutive years, the Director of HR at one location of a large tire manufacturing conglomerate noted a high number of injuries and excessive injury costs among new hires. The physical requirements of their jobs were both repetitive and required significant strength. At least one of their jobs required lifting far above shoulder height.

The majority of their injuries were musculoskeletal strains and sprains (especially for the shoulder and low back) or slips, trips, and falls. These injuries and the related lost and restricted duty days were affecting productivity, employee morale, and profitability – not to mention employee turnover churn.

## SOLUTION

The HR Director convinced the company's corporate executive team to allow his location to pilot a pre-hire/post-offer Physical Abilities Test. The test was developed to select and place job applicants into the most appropriate jobs for their physical capabilities, by allowing applicants to pass the test at several different tiers. The test included above and below-waist lifting, pushing, pulling, gripping, and a balance component for jobs that required climbing.

The company chose ErgoScience to provide their pre-hire/post-offer tests based on the existing published research that supported the reliability and validity of the test, along with ErgoScience's reputation for creating excellent results in injury and cost reduction.

The fail rate for the test as a whole (i.e., those who did not have adequate physical abilities to do even the easiest of the company's jobs) averaged 20% over the first two years of testing. Based upon ErgoScience's 20+ years of experience, this is a high fail rate – double our average fail rate of 7-10%. However, this organization's jobs were exceptionally difficult from a physical perspective – having both a high number of repetitions and requiring high forces to be exerted, sometimes at excessive heights.


## RESULTS

TESTED OVER  
**500**  
APPLICANTS

SAW A  
  
78% DECREASE IN  
SLIPS, TRIPS & FALLS.

OUR CLIENT REALIZED A  
**4:1**  
RETURN ON THEIR  
INVESTMENT

HAD A NET SAVINGS OF  
OVER  
**\$500k**  
IN WORK-RELATED INJURY  
EXPENSES

EXPERIENCED A  
  
71% DECREASE IN  
STRAINS AND SPRAINS.

The local branch of the company that initiated this pilot program considered it to be a significant success and recommended expansion of the program to other locations experiencing strains and sprains and slips, trips, and falls. As of this writing, the company has begun rolling out the program at other appropriate locations experiencing similar preliminary results as the pilot program.

# Automotive Parts Warehouse: Case Study

## PROBLEM

Over a period of five years prior to initiating pre-hire/post-offer Physical Abilities Testing, the Director of Occupational Health for a large organization that warehouses and distributes automobile parts noticed a dramatic increase in strains and sprains and slips, trips, and falls. She also noticed that most of these injuries occurred in employees within the first six months of employment.

As with many other warehouse positions, the job requires a great deal of repetitive lifting. The company had a lifting limit of 50 lbs. and was convinced that none of their employees were lifting more than the official limit. So, they were confused as to why injuries seemed to be mounting – they'd had the same lifting limit for 10 years.

The majority of their injuries were musculoskeletal strains and sprains (especially for the shoulder, elbows, and low back) or slips, trips, and falls. These injuries and the related lost and restricted duty days were affecting productivity, employee morale, and profitability – not to mention employee turnover.

## SOLUTION

The Director of Occupational Health Partnered with a local physical therapy clinic to conduct job analysis and develop and implement pre-hire/post-offer Physical Abilities Testing for one of their many locations – as a pilot project. The pilot was successful in decreasing injuries at that single location while the injuries at the other locations soared. The Director of Occupational Health obtained corporate approval to expand the program nationally and approached the local PT clinic to assist with the national expansion. However, the local clinic didn't have the geographical coverage to go beyond a single location.

The local clinic performed ErgoScience testing and suggested that the company reach out to ErgoScience for national program expansion. ErgoScience, specializing in large national testing projects, expanded the testing program to the remaining warehouse locations in collaboration with its large clinic network.



# Automotive Parts Warehouse: Case Study

## RESULTS

ErgoScience conducted job analysis in the remaining locations and identified that employees were lifting significantly more than the employer realized. What changed? The size of automobiles had changed, and thus the size and weight of the auto parts. The employer made significant ergonomic modifications and set new lifting restrictions. ErgoScience developed screens that were consistent with the true requirements of the jobs.

Over a period of eight years, ErgoScience tested roughly 90 job applicants per year company-wide. The fail rate averaged 7%. The turn-around time (from request to results) averaged 2.1 days.

The company also initiated return-to-work/fitness-for-duty testing for anyone absent from work for any reason greater than 30 days and for anyone with a musculoskeletal injury or surgery. This testing prevented reinjury after returning to work.

**THE AVERAGE NUMBER OF INJURIES PER YEAR**



**DECREASED BY 89%!**

**FOR EVERY 1% FAIL RATE, DIRECT INJURY COSTS**



**DECREASED BY 14%**

**OUR CLIENT REALIZED A NET SAVINGS AT MORE THAN**

**\$2M**

**THE AVERAGE INCURRED DIRECT COSTS PER YEAR**



**DECREASED BY 90%!**

## CONCLUSION

Overall, this warehousing organization was extremely pleased with the results of its pre-hire and fit-for-duty testing program. They also felt these program results supported their corporate values of caring for their associates and continuous improvement.

# Manufactured Home Communities: Case Study

## PROBLEM

In the year before initiating pre-hire/post-offer Physical Abilities Testing, the Director of Human resources for a large organization that owns and operates manufactured home communities noticed more than a 10-fold increase in strains and sprains and slips, trips, and falls – especially among newly hired employees!

The injuries occurred primarily among groundskeepers, maintenance technicians, and housekeepers. Their groundskeepers have to lift heavy furniture that has been discarded outdoors and may be waterlogged from rain. Service techs are lifting, moving, and installing appliances, water heaters, and toilets. Housekeepers are doing deep cleaning of rental units between tenants. Many of the units are furnished, so a deep clean means moving furniture and getting into awkward positions to clean hard-to-reach spots.

The majority of their injuries were musculoskeletal strains and sprains (especially for the shoulder, elbows, ankles, and low back) or slips, trips, and falls. These injuries and the related lost and restricted duty days were affecting productivity, employee morale, and customer satisfaction. When maintenance personnel are absent from work due to injury, resulting maintenance delays increase, and customer satisfaction decreases.

## SOLUTION

In the year before initiating pre-hire/post-offer Physical Abilities Testing, the Director of Human resources for a large organization that owns and operates manufactured home communities noticed more than a 10-fold increase in strains and sprains and slips, trips, and falls – especially among newly hired employees!

The injuries occurred primarily among groundskeepers, maintenance technicians, and housekeepers. Their groundskeepers have to lift heavy furniture that has been discarded outdoors and may be waterlogged from rain. Service techs are lifting, moving, and installing appliances, water heaters, and toilets. Housekeepers are doing deep cleaning of rental units between tenants. Many of the units are furnished, so a deep clean means moving furniture and getting into awkward positions to clean hard-to-reach spots.

The majority of their injuries were musculoskeletal strains and sprains (especially for the shoulder, elbows, ankles, and low back) or slips, trips, and falls. These injuries and the related lost and restricted duty days were affecting productivity, employee morale, and customer satisfaction. When maintenance personnel are absent from work due to injury, resulting maintenance delays increase, and customer satisfaction decreases.

# Manufactured Home Communities: Case Study

## RESULTS

Over a period of seven years, ErgoScience tested over 3900 job applicants company-wide. The fail rate averaged 10%. The turn-around time (from request to results) averaged 2.4 days.

Initially, the company performed only pre-hire testing. But they quickly realized that serious injuries were occurring after an employee sustained a minor injury and attempted to return to work. So, a few years into the testing program, they added return-to-work/fitness-for-duty testing.

Being such a geographically dispersed organization, this company had difficulty ensuring that all of their recruiting staff implemented the testing consistently. So, some applicants were hired who “slipped through the crack” of that inconsistency and were not tested. When we compared the cost per injury of those who were not tested, it was over 250% higher than the cost per injury of those who were! This shows that not only the incidence of injury is reduced with testing, but the severity of injuries is also greatly reduced.

## OVER 7 YEARS OF TESTING:

THE AVERAGE ANNUAL  
INCURRED COST PER

**100**

EMPLOYEES DECREASED  
BY 69%!

THE AVERAGE NUMBER OF  
INJURIES OF 100 EMPLOYEES



DECREASED BY 50%

THE COMPANY REALIZED A

**7:1**

RETURN ON THEIR INVESTMENT

## CONCLUSION

Overall, this organization was extremely pleased with the results of its pre-hire and fit-for-duty testing program. Since this outcome analysis, they have implemented processes and procedures to make sure the testing is applied consistently throughout all their locations to all applicants. This company also embraces this testing program because the testing supports its corporate safety culture and the value they place on all employees.



# Real Estate & Infrastructure Management: Case Study

## PROBLEM

A large national organization, employing over 4000 people and specializing in real estate and infrastructure management and maintenance began to notice that their musculoskeletal injury rates and costs were significantly rising. Their VP of Risk Management began to seek solutions. Realizing that most of these injuries were occurring among newly hired employees, she began considering pre-hire physical abilities testing as a way to mitigate these injuries.

The majority of their injuries were musculoskeletal strains and sprains of the shoulder and low back secondary to the heavy and repetitive materials handling performed by maintenance technicians, housekeepers, painters, warehouse associates, and HVAC technicians. In addition, they had a considerable number of slips, trips, and falls due to walking on uneven terrain and climbing external stairways and ladders in all types of weather conditions. These injuries and the related lost and restricted duty days affected productivity, employee morale, and customer satisfaction. When maintenance and repair associates are absent from work due to injury, repairs do not occur in a timely fashion, and customer satisfaction and employee morale decrease. Working overtime to compensate for employee absences, in turn, exacerbates fatigue and creates additional injuries in the remaining workforce.

## SOLUTION

This VP of Risk began online research and discovered ErgoScience through its robust online website content and resources. An RFP was issued. ErgoScience competed and was awarded the contract.

Initially, the plan was to perform job analysis in only a select number of locations. However, when ErgoScience began job analysis, the company realized how difficult these jobs were from a physical perspective. Thus began an ergonomics initiative whereby ErgoScience identified hazards and recommended solutions as well as documented the physical job requirements of their jobs. The company outsourced many of its heavier job tasks and mandated two-person lifting as well as purchased equipment to minimize the forces required for their jobs.

# Real Estate & Infrastructure Management: Case Study

## RESULTS

The company decided to pursue a gradual rollout over a period of 2 years to over 90 locations throughout the US, in order to implement the ergonomic improvements along with the pre-hire testing. ErgoScience tested approximately 255 job applicants, company-wide, over the first 1.5 years of the program.

Over one year of testing at all locations:

THE TURN-AROUND TIME (FROM TEST REQUEST TO RESULTS) AVERAGED LESS THAN

**<2 DAYS**

THE TOTAL INCURRED DIRECT COSTS PER HIRE



DECREASED BY 78%

THE FAIL RATE AVERAGED

**6%**

THE COST PER INJURY FOR THOSE NOT TESTED WAS

**↑ 162%**

HIGHER THAN FOR THOSE WHO WERE TESTED.

THE NUMBER OF STRAINS AND SPRAINS AND SLIPS, TRIPS, AND FALLS AMONG NEW HIRES



DECREASED BY 54%

THE NUMBER OF DUTY DAYS ON SHORT-TERM DISABILITY



DECREASED BY 72%

Given the gradual rollout, some applicants were not tested and subsequently experienced an injury.

## CONCLUSION

Overall, this organization was extremely pleased with the results of its pre-hire Physical Abilities Testing and Ergonomic Hazard Abatement Programs. This case study demonstrates the power of combining these two robust MSD prevention strategies.

## PROBLEM

A large international organization, specializing in cold food storage and distribution began to notice that their musculoskeletal injury rates and costs were significantly rising. Their VP of Risk Management began to seek solutions. Realizing that most of these injuries were occurring among newly hired employees, she began considering pre-hire physical abilities testing as a way to mitigate these injuries.

The majority of their injuries were musculoskeletal strains and sprains of the shoulder and low back secondary to the heavy and repetitive materials handling performed by case selectors and shipping associates. In addition, they had a considerable number of slips, trips, and falls due to climbing on and off of powered equipment. These injuries and the related lost and restricted duty days affected productivity, employee morale, and customer satisfaction.

When case selectors and shipping associates are absent from work due to injury, repairs do not occur in a timely fashion, and customer satisfaction and employee morale decrease. Working overtime to compensate for employee absences, in turn, exacerbates fatigue and creates additional injuries in the remaining workforce.

## SOLUTION

This VP of Risk had created a successful pre-hire/post-offer Physical Abilities Testing program with ErgoScience while she was employed at another organization. She wanted to replicate that success for her new employer.

ErgoScience conducted job analysis and developed and implemented job-specific tests at four of the company's cold storage warehouses where materials handling injuries were most problematic.



# Cold Storage: Case Study

## RESULTS

After approximately two years of testing at four locations:

**OVER  
1700**

JOB APPLICANTS  
WERE TESTED

THE TOTAL INCURRED DIRECT  
COSTS PER HIRE



DECREASED BY  
AN AVERAGE 77%

THE TURN-AROUND TIME (FROM  
TEST REQUEST TO RESULTS)  
AVERAGED

**< 1.5 DAYS**

THE FAIL RATE AVERAGED

**10.5%**

THEIR RETURN ON  
INVESTMENT WAS

**2:1**

THE NUMBER OF STRAINS AND  
SPRAINS AND SLIPS, TRIPS,  
AND FALLS AMONG NEW  
HIRES



DECREASED BY 64%

THE COST PER INJURY FOR  
THOSE NOT TESTED WAS



**3-5 TIMES HIGHER THAN FOR  
THOSE WHO WERE TESTED.**

Some applicants slipped through the cracks and were not tested and subsequently experienced an injury.

## CONCLUSION

Overall, this organization was very pleased with the results of its pre-hire Physical Abilities Testing Program. The program also helps the organization meet its core value of creating an environment where “every team member can thrive.”

# Meat Processing: Case Study

## PROBLEM

A large midwestern meat processing organization began to notice that their musculoskeletal injury rates and costs were significantly rising. Their Director of Safety and Health began to seek solutions. Realizing that most of these injuries were occurring among newly hired employees, she began considering pre-hire physical abilities testing as a way to mitigate these injuries.

The majority of their injuries were musculoskeletal strains and sprains of the upper extremity – especially wrists and hands due to the heavy repetitive gripping performed by meat processing associates. Their associates also sustained a good number of back injuries as they lifted heavy bins of processed materials and waste. In addition, they had a considerable number of slips, trips, and falls due to the constantly wet and slippery surfaces upon which they worked. These injuries and the related lost and restricted duty days affected productivity, employee morale, and customer satisfaction.

When meat processing associates are absent from work due to injury, orders are not filled on time, and customer satisfaction and employee morale decrease. Working overtime to compensate for employee absences, in turn, exacerbated fatigue and created additional injuries in the remaining workforce.

## SOLUTION

This Director of Safety had started a successful pilot pre-hire/post-offer Physical Abilities Testing program with a local hospital and wanted to expand the program outside their pilot locale to other midwestern states. The local hospital did not have the geographical footprint to assist the company in other locations. However, the hospital had long utilized ErgoScience testing protocols for their pre-hire and post-injury physical abilities testing. So, they suggested that the organization approach ErgoScience for expansion of the program to other locations.

ErgoScience conducted job analysis and developed and implemented job-specific tests at three of the company's meat processing warehouses where musculoskeletal disorders were most problematic. ErgoScience has a patented tiered testing process, ErgoPlace™, with multiple pass points to allow its clients to use testing for placement as well as selection. This organization took advantage of ErgoPlace™ to hire more employees and yet match their abilities more closely to the job demands.

## RESULTS

After approximately three years of testing at three locations:

THE TOTAL INCURRED  
DIRECT COSTS



DECREASED BY AN  
AVERAGE OF 86%.

THEIR RETURN ON  
INVESTMENT WAS

5:1

THE NUMBER OF STRAINS AND  
SPRAINS AND SLIPS, TRIPS, AND  
FALLS AMONG NEW HIRES



DECREASED BY 63%

Overall, this organization was very pleased with the results of its pre-hire Physical Abilities Testing Program. The use of the test for placement as well as selection allowed them to hire and place a broader range of individuals as well as reduce injuries and costs. The program was a win for Safety, Human Resources, and Operations.

# OSHA-Compliant Early Intervention: Case Study

## PROBLEM

The employees of a large manufacturer of steel and ductile iron pipe were experiencing increasing numbers of musculoskeletal disorders. Their jobs were extremely heavy, repetitive, and required employees to assume awkward positions, sometimes for prolonged periods of time.

The majority of their injuries were musculoskeletal strains and sprains of the shoulder and low back secondary to the heavy and repetitive materials handling performed by pipe rollers, maintenance, and electrical associates. In addition, they had a considerable number of slips, trips, and falls due to climbing on and off of powered equipment and walking on uneven surfaces. These injuries and the related lost and restricted duty days affected productivity, employee morale, and customer satisfaction.

When their associates were absent from work due to injury, production slows, and customer satisfaction and employee morale decreased. Working overtime to compensate for employee absences exacerbated fatigue and created additional injuries in the remaining workforce.

## SOLUTION

They had implemented worksite physical therapy a number of years before in order to provide convenient, timely, work-related physical therapy for their employees. Their Director of Worksite Physical Therapy noticed that most of their injuries had a gradual, insidious onset - minor discomforts became serious injuries over time. She began discussions with the Directors of Wellness, Safety and the VP of Operations regarding the implementation of an OSHA-Compliant Early Intervention Program. She felt that the implementation of this program would address the minor discomforts before they became OSHA recordables.

At first, the organization was reluctant, fearing that Early Intervention would increase the number of OSHA recordables, lower productivity, and drive injury costs. But as injuries continued to climb, they eventually agreed to try a pilot program. They began the pilot for Maintenance and Electrical Associates. Physical Therapists promoted the program through presentations to departmental safety meetings. They explained that:

- The only requirement to participate was that the employee had minor discomfort and notified the supervisor so the work schedule could be adjusted while they attended the program. They were also allowed to participate in the program before and after their work shift.
- The interventions sanctioned by OSHA as musculoskeletal first aid were heat and cold, massage, non-rigid supports (think kinesiotaping), and employee training in ergonomic best practices.
- Sessions lasted 30 minutes, and in 3-6 sessions, their condition would be improved, or they would be referred to a physician or other health care practitioner for further assessment and possible medical treatment.

The program was slow to take off. The corporate culture was one of hyper-masculinity. There was significant peer pressure to just "suck it up" if anything bothered you. Initially, the program was housed in the worksite physical therapy clinic (inside a centralized wellness facility). However, over time it became apparent that participation was significantly better if satellite clinics were set up in various departments for easier access and less time to "travel" between the worksite and the program.

The program was finally ramping up when the COVID-19 pandemic struck. And like many other programs, Early Intervention was discontinued for approximately 18 months. After returning from COVID, the program again took time to return to full capacity.



# OSHA-Compliant Early Intervention: Case Study

1

## RESULTS

After approximately 3.5 active years of the OSHA-Compliant Early Intervention Program, we have seen the following results:

<b>207</b> EMPLOYEES HAVE PARTICIPATED IN THE PROGRAM	<b>87%</b> IMPROVED THEIR PAIN AND DYSFUNCTION	THEY AVERAGED <b>4.5</b> VISITS PER PARTICIPANT
<b>6%</b> WERE REFERRED BACK TO THEIR PERSONAL PHYSICIANS FOR FURTHER EVALUATION.	<b>16%</b> WERE REFERRED FOR MORE EXTENSIVE PHYSICAL THERAPY.	THE TOTAL PROGRAM COST OVER 3.5 YEARS WAS <b>&lt;1</b> LOST TIME MSD

- None were considered a work comp injury.

Overall, this organization was very pleased with the results of its OSHA-Compliant Early Intervention Program. They appreciate the savings in injury costs and productivity but more importantly they value what their employees have to say:



<sup>1</sup>The total is more than 100% because although some improved, it was felt that they needed more extensive physical therapy. One of the benefits of the EIP program is that experienced physical therapists are making decisions about who is appropriate for the program and who would benefit from triage to other care.

# Worksite Physical Therapy: Case Study

## PROBLEM

A large international manufacturer of ductile iron and steel pipe provided a variety of medical services for their employees onsite, including worksite physical therapy. However, the company was frustrated with the quality of the onsite service being provided by a local hospital. The hospital had a revolving of physical therapists who were assigned to work onsite, but no one therapist was responsible for directing the program or ensuring quality of care.

## SOLUTION

So, the company issued an RFP in an effort to improve the quality of their worksite physical therapy. ErgoScience participated in the RFP process and was awarded the contract. We brought to the table a true partnership with the company aimed at reducing and managing workplace injuries. We integrated state-of-the-art, work-focused physical therapy combined with close attention to key performance metrics – such as lost and restricted duty days, the number of visits per patient, patient satisfaction, and return to work full duty.

## RESULTS

While the benefits of improved reporting and quantifiable metrics are crucial to measuring the program's return on investment, those benefits only accrue when injured employees recover. This made ErgoScience's focus on manual therapy, work-related exercise, and return-to-work screens one of the deciding factors in being chosen as the new partner for the organization.

In addition, ErgoScience helped AMERICAN identify and address another trend – employees with non-work-related personal injuries who returned to work only to sustain a work-related injury a few weeks later. To minimize this trend, ErgoScience helped AMERICAN establish a return-to-work/fitness-for-duty screening process for those with physically demanding jobs who have been out of work for any reason for 30 days or more. Those who fail the return-to-work screen participate in a “ramp-in” work conditioning program and modified duty, typically lasting around 1-2 weeks. At the conclusion of the ramp-in program, nearly every candidate returns to full duty and avoids injury.

Prior to the opening of the on-site clinic, employees often delayed treatment, choosing to “play through” the pain, delaying healing and slowing return to full function –and productivity. As their worksite partner, ErgoScience provides treatment to these industrial athletes' injuries within one or two days after injury. In addition, due to the unique mix of services that ErgoScience provides, including Ergonomic Assessments and Job Analysis, therapists have knowledge of the worker's specific job and its physical demands. This knowledge is essential, as it provides the basis for precise job-specific treatment plans and work conditioning exercises.

REDUCE THE NUMBER OF  
RESTRICTED DUTY AND LOST  
TIME CASES BY AN AVERAGE OF

↓ **46%**

OVER SIX YEARS

EMPLOYEES WERE OFF THE  
JOB APPROXIMATELY

↓ **50%**

LESS THAN THEY WOULD  
HAVE BEEN IF THEY RECEIVED  
CARE OFF CAMPUS.

This company found that providing an integrated worksite physical therapy and rehabilitation program through its strategic partnership with ErgoScience helps to set the company apart and fulfill its mission of “doing things the right way.”

# Flatbed Trucking: Case Study

## PROBLEM

Over the past five years, P&S Transportation, an Alabama based provider of flatbed truckload transportation and logistics, has seen its driver headcount grow from 300 to nearly 1000. Unfortunately, the rapid increase in drivers was accompanied by a worrying increase in on-the-job injuries. "We wanted to grow but we didn't want that growth to come at the expense of our people's safety," recalls Jonathan Marshall, Safety Director for P&S Transportation.

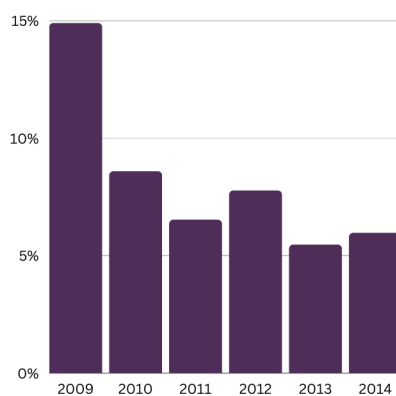
At the recommendation of their Workers' Compensation insurance carrier, P&S began searching for someone to help them reduce workers' compensation costs and injury rates. Marshall reached out to ErgoScience, an international leader in injury prevention and rehabilitation in February 2011 to begin implementing a Pre-Employment Physical Abilities Testing (PAT) program. The pass fail rate P & S has experienced has varied slightly over the years of testing, ranging from 8.4 to 10.6%.

Had P&S continued increasing their driver base without addressing the growing injury rate, they were on track to experience continually escalating musculoskeletal strains and spains and slip, trip, and fall injuries. By taking the suggestion of their Workers' Compensation carrier to begin screening all potential employees for physically demanding jobs, P&S's injury cost-per-employee dropped by half of the predicted costs.

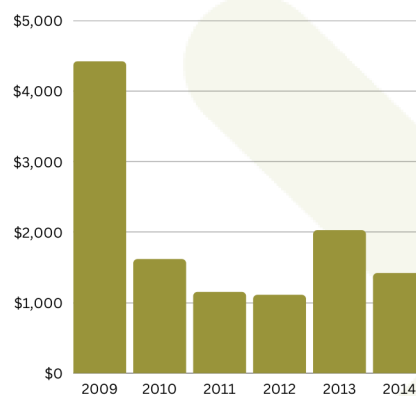
## SOLUTION

Conducting a thorough analysis of the flatbed drivers' job demands, ErgoScience developed a screen that would not only prevent future injuries but would also establish a baseline documenting any preexisting injuries and restrictions prior to an [www.ErgoScience.com](http://www.ErgoScience.com) applicant's employment, ensuring that P&S would not assume any costs associated with those previous impairments. "I felt like they understood... the demands of our drivers and were able to create a Post Offer Screen that would help prevent injuries in the future," Marshall said.

## RESULTS



In **2009**, P & S Transportation had a **15%** injury rate for just **over 300** drivers. By **2014**, this rate **dropped to less than 6%** as the company tripled in size.



In **2009**, their injury cost per employee was **\$4,420**. By **2014**, the cost per employee had **dropped to \$1,417** per employee. This demonstrated a **68% decrease** in Workers' Compensation direct injury costs.



# Industrial Services: Case Study

## PROBLEM

In late 2010 Voith Industrial Services, a global industrial services provider, was facing high workers' compensation costs and increasing injury rates. Serving primarily the automotive industry, Voith embeds management and employee teams in customer sites to manage non-core services, such as process and facilities maintenance, technical cleaning, logistics, warehousing, and vehicle loading and shipping.

Voith management realized that injuries occurring in facilities across the country were impacting productivity and profitability and needed to be addressed quickly and efficiently. To begin the process of cutting workers' compensation costs and companywide injury rates, Voith teamed up with ErgoScience, an international leader in industrial workplace injury prevention and rehabilitation, to implement a Pre-Employment Physical Abilities Testing (PAT) program.

## SOLUTION

Physical Abilities Testing enables employers to hire workers who are capable of performing the physical abilities of the job. A conditional offer of employment is tendered, contingent upon the applicant passing a test of their job-related physical abilities. If the applicant does not pass, the employer can rescind the offer. Employers using PAT programs experience fewer workplace injuries, lower workers' compensation costs, and higher levels of productivity.

"With the process and project coordination... we were able to see success early on," says Eiman Badr, Environmental, Health, and Safety Director of Voith Industrial Services. ErgoScience and Voith began formal rollout of the PAT protocol at the beginning of 2011, and within the first three years of the program screened more than 1700 potential employees in 11 geographically diverse locations.

While Voith was confident the ErgoScience PWPE PAT protocol needed to become an integral part of their hiring process, they were concerned it would create bottlenecks, slowing down candidate flow. In fact, ErgoScience was able to provide an average turnaround time of just 3 days from initial request to test completion at any of 30 clinics nationwide. In most cases, ErgoScience provided test results the same day the screen was performed.

## RESULTS

Like most company wide initiatives, Voith's Pre-Employment Physical Abilities Testing started at the corporate level. "Communication on every level is important. We found that some of our biggest supporters were our HR business partners," says Vicki Yeazel, Workers' Compensation Manager for Voith Industrial Services. "They saw the value immediately in this process and began to not only work it into the onboarding process, but they also tracked compliance." They realized that injury rates and workers' compensation costs were trending downwards.

### THE NUMBER OF WORKERS' COMPENSATION COSTS AND INJURIES FROM MUSCULOSKELETAL STRAINS AND SPRAINS AND SLIPS, TRIPS, AND FALLS



DECREASED BY 90%

Physical Abilities Testing benefits not only the employer, but the employee as well. It fulfills a moral and ethical obligation to keep employees safe and can help identify the gap between perception and reality of job demands. "It's not only about reduction of frequency [of injuries], but also reduction of severity," Badr simply puts it.



# Beverage Distribution: Case Study

## PROBLEM

Safety and Risk Management Executives noticed a significant uptick in work-related injuries and costs. Not unlike many beverage manufacturing and distribution organizations, they had a large number of strains and sprains and slips, trips, and falls – the types of injuries that Physical Abilities Testing addresses. The average annual cost of these injuries was nearly \$1M/year – which translates to over \$3,500/business day!

The lost and restricted duty days were also having an effect on productivity and the company's ability to meet delivery schedules. Both customer satisfaction and employee morale had taken a hit.

During the post-injury investigation on several high-dollar cases, the executives began to notice that several of the injured employees had pre-existing conditions or significant deconditioning that was present prior to the injury. And they began to wonder if these employees had the physical ability to do the job in the first place – especially since some had only been on the job a few days when they were injured.

Compounding the matters, data revealed significant turn-over after a relatively short tenure. Newly hired workers – which cost \$1,500/employee to recruit, hire, and train – were leaving early because the job was too physically difficult for them.

The executive team developed first class safety training programs and made some ergonomic changes which initially helped to control injuries. The results of these strategies plateaued – still leaving higher than desired injury rates and costs.

Being a proactive organization, they weren't satisfied with the status quo. They felt they could do better and after learning about pre-hire Physical Abilities Testing/Assessment, they approached ErgoScience for help with developing and implementing a testing program.

## SOLUTION

After initial discussions and working with ErgoScience to establish a scope of work and a projected ROI; the client implemented pre-hire Physical Abilities Testing for both Warehouse Associates and Delivery Drivers. ErgoScience performed job analyses and developed job-specific assessments that were ADA and EEOC compliant. A near-by physical therapy clinic was trained in test administration and the client's talent acquisition team was trained to request testing using the ErgoScience web-based testing application.

Over a 4-year period ErgoScience tested over 3700 applicants. One of the initial concerns was that the testing would slow down the hiring process. The team quickly realized that from the time the test was requested to the time the test result was ready was just under 2 days. Background checks took longer than that. Another concern was about how high the fail rate would be but found that the 8% fail rate was tolerable – especially since they were experiencing less turn-over.

# Beverage Distribution: Case Study

## RESULTS

Additionally, the average number of restricted duty days decreased by 89% and lost duty days by 86%, which saved the client over \$2 million of indirect costs over the 4 years.

Because testing was rolled out to hiring locations incrementally, a number of applicants did not undergo testing during the first 2 years of the 4-year post implementation phase. The data revealed that untested applicants cost the company 6 times more per work-related injury (direct costs only) than the tested applicants!

**RESTRICTED DUTY DAYS  
DECREASED BY 89%**



**LOST DUTY DAYS  
DECREASED BY 86%**



**\$2M  
SAVED**

## CONCLUSION

Our client is extremely pleased with the results they have achieved with this program and consider it the foundation of their injury prevention program. The executive team has full confidence that they employ workers who are physically capable of doing the job and who can truly benefit from their excellent safety and ergonomic training programs. This program has not only produced tangible results through reduced costs, but it has created other collateral outcomes as well, with improved on-time delivery, customer satisfaction and improved employee morale.