



Kansas LTAP Fact Sheet

A Service of The University of Kansas Transportation Center for Road & Bridge Agencies

Job-Simulation Tests in Pre-Employment Physicals Help Cut Workers Comp Claims

By Lisa Harris

In the past few years, KDOT has been trying a new approach to reducing workers comp claims. The agency is requiring a different kind of physical exam for prospective employees who will operate heavy equipment—one that, along with checking the necessary vitals, assesses if the applicant has the physical ability to do the job. As a result, workers comp claims have significantly declined for the agency. This article will describe the program and its striking results.

KDOT's program started in 2009, when KDOT's rate of workers comp claims was particularly high. KDOT Safety Coordinator Kelly Gaer talked with peers in other states to learn if they had any successful programs for decreasing claims at their own agencies. Close to home, Missouri DOT started a program with pre-employment physicals that reduced their workers comp claims tremendously. KDOT decided to try something similar.

Gaer did some preliminary research about which KDOT employees were the most highly represented in workers comp claims. He learned that 77 percent of the claimants were equipment operators in the field, and a large percentage of those had been on the job for only three or years or fewer.

This begged the question: "Why?", said Gaer. "Was it our hiring techniques? Were the required physical exams missing things? We checked to see how many of our applicants had been turned away because they did not pass a physical. The answer was: None."



Newer workers were disproportionately represented in the number of KDOT worker's comp claims. Now, pre-employment tests help find candidates best fit for the job.



normally handled by equipment operators, like shovels loaded with aggregate, and guardrail, and determined how much weight an operator would lift on the job. The weight and size of the object were considered, as well as the height to be lifted. They measured the height of the dump trucks beds and truck steps and averaged those to create a test to measure strength of knees and hips.

So KDOT set out to develop a similar to MoDOT's to re-vamp their physicals for physically demanding positions. Up until then, the physicals KDOT required looked just at vitals—blood pressure, heart rate, etc. The physicals did not consider important physical requirements for the job. "It was an exercise in spending money on a pre-employment test that was not helping us at all," Alice Burney said. Burney is employee relations manager for KDOT and worked with Gaer on developing the new job simulations tests.

Gaer and Burney created a contract to address three needs: 1) a validated job analysis of the work, 2) a pre-employment/post-offer physical and 3) a work simulation test for applicants. The contract was then put out for bid per the requirements of the State Procurement Office. The contractor who won the bid is the Athletic Rehabilitation Center (ARC).

Gaer said the people at ARC did their homework. Several representatives of the company went out on the job to see firsthand what KDOT employees do. They weighed the tools and materials



Job-Specific Tests Conducted During Physical Required for Equipment Operator

Test I. The candidate lifts a 15 lb weighted shovel from the floor to a 50" height, simulating shoveling from the back of the dump truck. Repeat 20 times. (Simulates shoveling dirt out of a dump truck with the back tilted down to 50")

Test II. The candidate lifts a 90 lb snow plow blade (48" x 8") from the floor, carries it 50 ft, and places it on a 56" high shelf. Repeat 2 times. (Simulates loading/unloading a snow plow blade from the back of a dump truck.)

Test III. The candidate lifts (with one hand) a small NIOSH box or tool box weighted to 20 lb from the floor, carries it 500 ft, and returns it to the start position. The candidate may alternate hands during the task if desired. (Simulates carrying the 3 gallon container of Gennzoil seal. The other hand must be free to hold the nozzle.)

Test IV. The candidate lifts two 45 lb dumbbells from the floor and holds them at a 30" height for 1 minute, and returns them to the start position. (Simulates replacing a guard rail.)

Test V. The candidate pulls 70 lbs at a 36" height (using an SM22 machine with the long straight bar attachment) a 10 ft distance. Repeat 10 times. (Simulates pulling a cement router uphill or off the trailer.)

Test VI. The candidate ascends and descends a 24" step. Repeat 5 times. (Simulates climbing on/ off heavy equipment.)

KDOT's workers comp payments to relatively new employees decreased significantly in 2010 after establishing the new requirement for physicals with job-specific tests. Here are some numbers:

Year	Percentage of injuries of newer employees	Claims total
2008.....	32% of injuries were employees with fewer than 3 years on the job	\$302,981.47
2009.....	33% of injuries were employees with fewer than 3 years on the job	\$360,572.44
2010.....	8% of injuries were employees with fewer than 3 years on the job\$75,141.02

Since September 2009, 259 work simulation physicals have been conducted on potential candidates for employment. Work classifications within KDOT that have been tested are: Equipment Operator, Equipment Mechanic and Engineering Technician. Out of the 259 physicals conducted, 16 candidates were found to be not capable. When a candidate is found to be not capable it is because he or she did not complete the test or failed parts of the test. The calculated potential savings to KDOT as a result of conducting these tests (rather than paying workers comp claims for employees injured because they are not capable of the work) is over \$1.5 million since the program's inception.

Using the information collected, ARC staff developed six different tests for applicants to perform under the supervision of a physical therapist. See the sidebar on page 7 for more details on the tests. The tests cost \$125 per person, paid by KDOT. Physicals are done in clinics within 30-40 miles of most KDOT locations—typically the same location as drug and alcohol testing. Sometimes ARC and KDOT will set up the physicals at the local shop and use KDOT equipment for the tests.

The physical therapist who administers the tests also looks at the applicant's use of his or her body. Certain characteristics make applicants a higher risk for injury, such as prior back surgery or poor body mechanics in lifting.

The job simulation tests are required only for new-hires for physically demanding positions, and for existing employees who wish to switch to such a position. Employees already in those positions will receive safety training from ARC covering different lifting techniques, body mechanics, stretching exercises, and how the body's physical abilities change over time.*

The training classes started in March 2012 and will be repeated annually. [When we asked if classes would be open to local agencies, Gaer said no, not initially, because he expects

*Gaer said it's common for an older employee to be in denial about his or her changing ability to do physically demanding tasks. "It's not the one-time lift that's the problem," Gaer said. "It's the repetitive motion that will get you." The training classes will help drive that point home.



Sources:

- January 12, 2012 interview with Alice Burney, KDOT employee relations manager, Bureau of Personnel Services, and Kelly Gaer, safety coordinator, Bureau of Construction and Maintenance.



the classes will be full, but KDOT would consider that for the future.]

Burney said developing the tests with the contractor gave KDOT an opportunity to update their job descriptions to more fully describe the physical abilities needed.

Another benefit of working with ARC on the simulation tests is that ARC is the same contractor that works with injured KDOT employees to help them recover and return to work. Burney said that ARC's therapists understand the physical requirements of KDOT clients' jobs, and they make sure that the employees are ready for the rigors of their jobs before they are released for duty. This reduces the likelihood of re-injury.

For more information on ARC, visit their website at <http://www.arckc.com>.

How's the program working? Impressively well! See the above sidebar. KDOT has calculated its cost-savings to date at over \$1.5 million as a result of starting the new requirement for job-specific tasks.

For more information on KDOT's requirement for physicals, contact Kelly Gaer at (785) 296-4256 or at KellyG@ksdot.org. or Alice Burney at 785-296-0429 or aliceb@ksdot.org ■

Reprinted from the Winter 2012 issue of the *Kansas LTAP Newsletter*, a publication of the Kansas Local Technical Assistance Program (LTAP) at the Kansas University Transportation Center.