



## Comparing the IPCS Isokinetic Evaluation to Individuals Not Tested With the IPCS Evaluation for a National Gas Cylinder Distribution Company – A Pilot Program

### Executive Summary

*The analysis of the injury data clearly demonstrates that the IPCS physical capability assessment program had a dramatic impact on reducing the severity of injury as measured by total cost of injuries and average cost per injury in comparison to those individuals not tested by IPCS. The frequency of injury was reduced too, but it was difficult to make a comparison since total headcount was not known. It would appear that the group that did not receive the IPCS test cost the company about **\$228,000** more in Total Incurred cost even after factoring in the cost of the IPCS program.*

*An additional benefit showed that those males recommended for hire weighed about 39 pounds less than those not recommended. This finding could have significant implications for future health insurance premiums. It is estimated that with the IPCS technology, an **additional annual savings of \$70,000** was realized by placing a more fit worker into a physically demanding job.*

The following comparative study was performed to evaluate the impact of the IPCS new hire physical capability evaluation program on reducing both the frequency and severity of injuries.

- The analysis was completed to answer several questions.
  - How does the group of new hire applicants who completed the IPCS (IPCS Group) evaluation compare to those new hires who had no IPCS (No IPCS Group) test?
  - How do the two groups compare in terms of frequency of injury?
  - How do the two groups compare in terms of total costs of injuries?
- There were five locations selected for this pilot study.
- Only those injuries that occurred for those hired according to the table below were used in the analysis. The start date is based on when the IPCS program was implemented for each location. This resulted in an equal time frame for each location for each group.

Location	No IPCS Test		IPCS Test	
	Start	End	Start	End
<b>Texas</b>	Sep 2001	Aug 2003	Sep 2003	Aug 2005
<b>California</b>	Mar 2002	Aug 2003	Mar 2004	Aug 2005
<b>Georgia</b>	Aug 2002	Aug 2003	Aug 2004	Aug 2005
<b>Wisconsin</b>	Aug 2002	Aug 2003	Aug 2004	Aug 2005
<b>Pennsylvania</b>	Aug 2002	Aug 2003	Aug 2004	Aug 2005

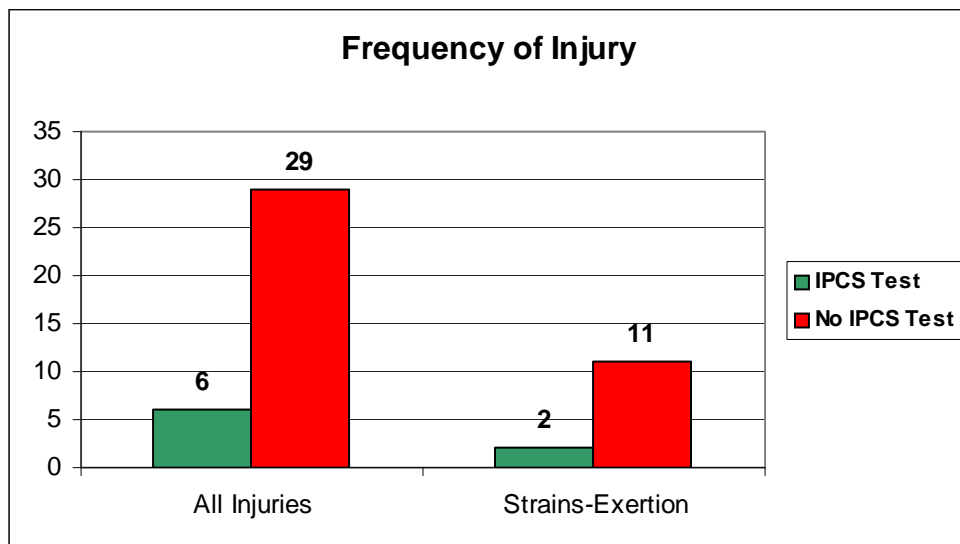
## Results

### Frequency of Injury

Chart 1 shows the total number of injuries for All Injuries and Strains caused by exertion for the IPCS tested group versus the No IPCS Tested group. Since the total of number of employees is not known for these locations it is difficult to calculate the incident rate of injury. However, for the IPCS tested group, one hundred and ninety new hire applicants were evaluated and 173 (91%) were recommended for hire. This means the six injuries that occurred for the All Injuries represents 3% of the 173 evaluated and the two Strains represents 1.1%.

Since the time periods were equivalent, one can report that nearly 5 times fewer injuries occurred for the IPCS Test group for All injuries and nearly 6 times for the Strains compared to the No IPCS Test group.

**Chart 1**



## Claim Costs of the Injuries

Chart 2 compares average claim cost for the Total Paid Costs and Total Incurred Costs for All injuries for the IPCS Test group versus the No IPCS test group. Even though each group was matched on the same number of days worked, the average claim cost for the IPCS tested group was substantially less compared to the No IPCS test group. In fact, the average claim cost was seven times less for Total Paid and nearly nine times less for Total Incurred.

### Chart 2

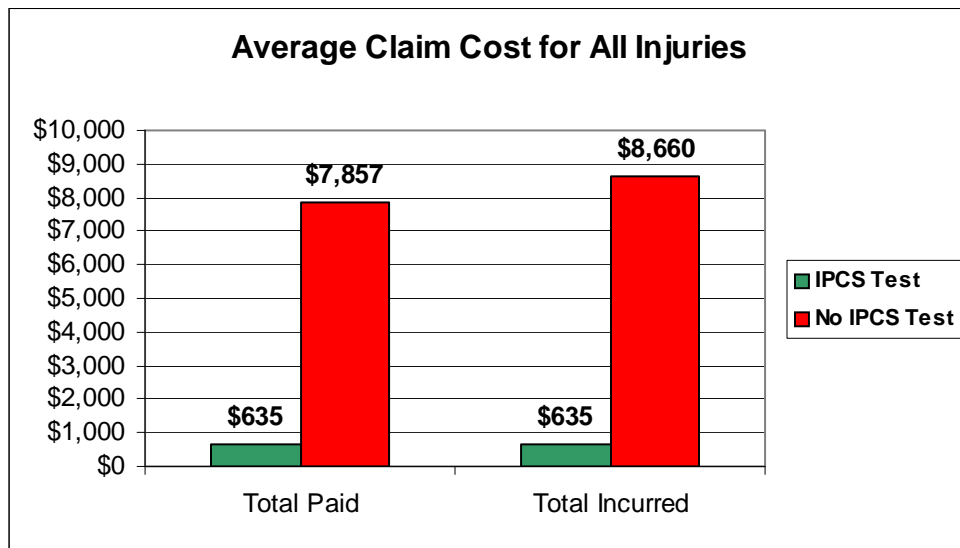


Chart 3 shows the total cost of the claims for Total Paid and Total Incurred. Comparing the IPCS tested group to the No IPCS tested group shows dramatic differences between the two groups. The No IPCS Test group's total cost was more than 59 times greater for Total Paid and more than 65 times greater for Total Incurred when compared to the IPCS Test group.

### Chart 3

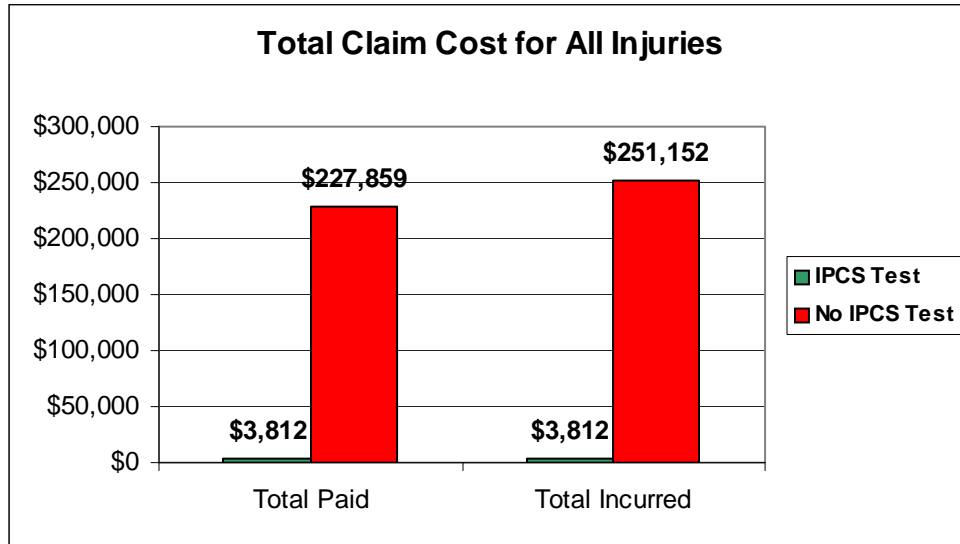
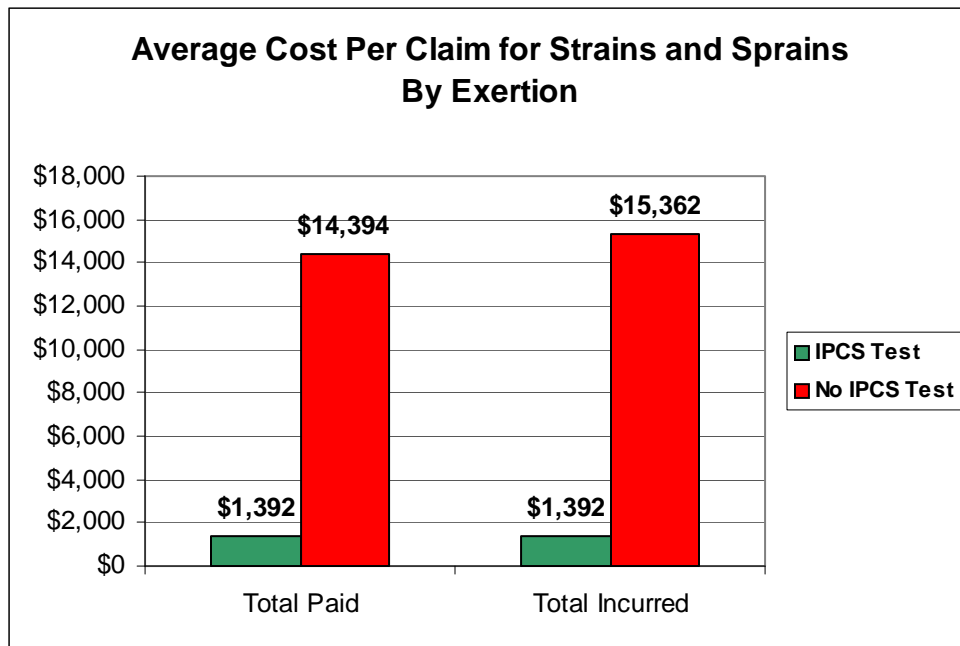


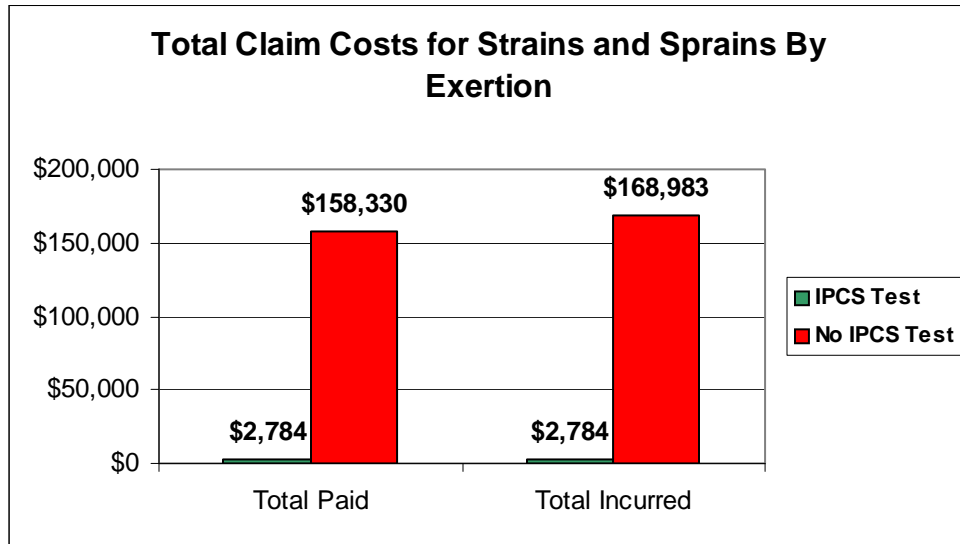
Chart 4 shows the average cost per claim for strains caused by exertion. The IPCS Test group's average claim cost for the Total Paid and Total Incurred was more than 7 times less when compared to the No IPCS Test group.

### Chart 4



When looking at the total claims paid for strains caused by exertion, Chart 5 shows that the No IPCS group paid significantly more money compared to the IPCS test group. In fact, the No IPCS group paid about 57 times more in total costs for Total Paid and Total Incurred.

### Chart 5

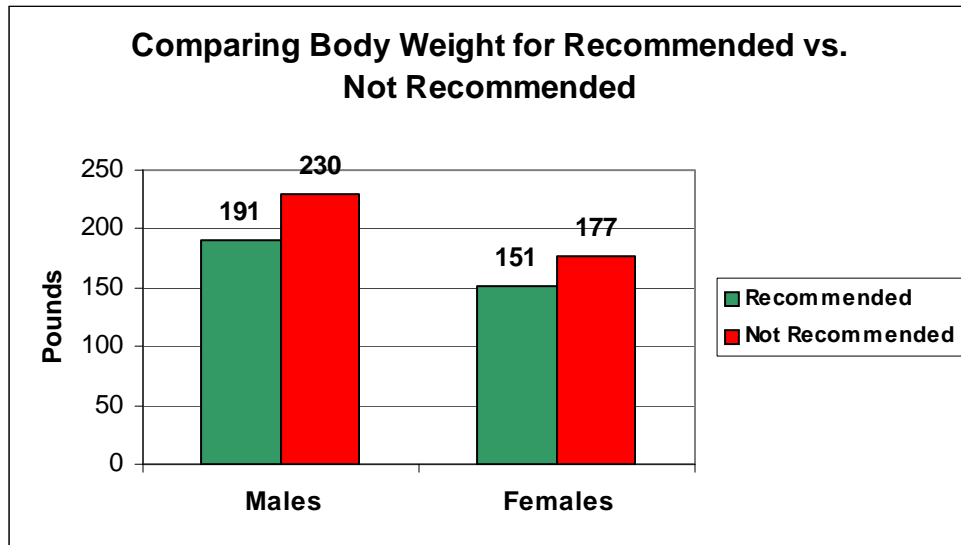


#### Added Health Benefit

The obese employee costs a company not only more money in direct costs but much more in terms of indirect costs – loss of productivity, added training and replacement costs and so on. Because of obesity, the available pool of healthy and fit workers to perform physically demanding jobs is rapidly shrinking. When IPCS performs a new hire evaluation, body weight is a factor when determining whether a new hire applicant is recommended or not recommended for hire.

Chart 7 shows the body weight of individuals who were not recommended compared to those who are recommended. The difference between the not recommended and recommended males is nearly 40 pounds - the not recommended group weighed 39 pounds more than the recommended group. The female data shows a similar results in that the females who were recommended weighed 26 pounds less than those not recommended. *This data supports the national trend that shows a higher percentage of new hire applicants applying for physically demanding jobs are obese. The implications for these findings in terms of future health insurance premiums and work related injuries and illnesses are profound.*

### Chart 6

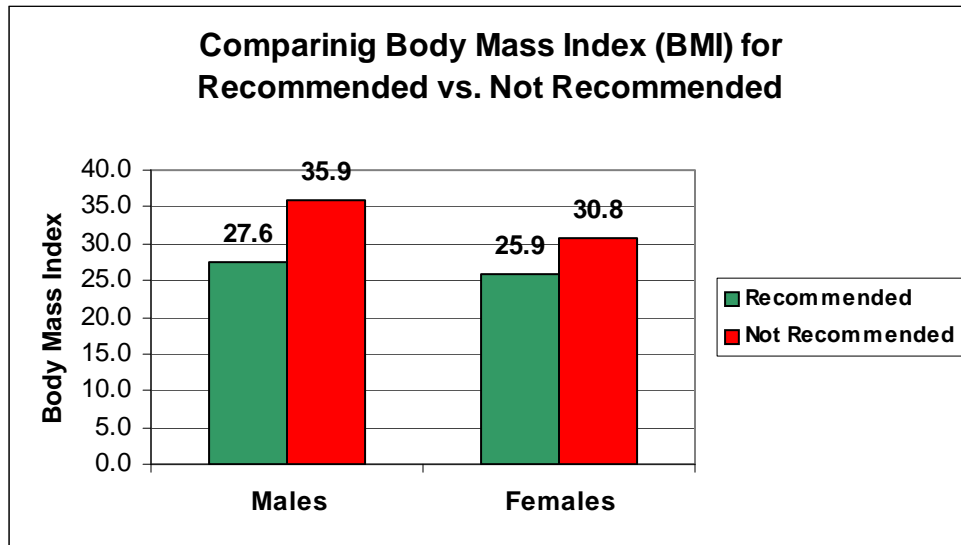


#### Body Mass Index

Body mass index (BMI) has been used for many years in research to determine obesity, but recently it has gained in popularity with the consumer because of so much emphasis on obesity. Many web sites have BMI calculators so individuals can determine their BMI scores. Usually scores of less than 25 are considered healthy. A BMI of 25 or greater but less than 30 is considered overweight. A BMI score of 30 or higher is considered obese and 40 and greater is morbidly obese. BMI uses both height and weight in its calculation.

Chart 7 clearly shows that those individuals tested by IPCS and not recommended for both genders have BMI's in the obese range. Whereas the recommended individuals for both genders have BMI's less than 30.

### Chart 7



Because the IPCS program selects a more fit and physically capable individual, other savings occur involving increased productivity, decrease absenteeism and other health related savings.

The most current research shows that the obese industrial worker costs a company about \$1,426 more in health related costs each year. By not hiring those who did not qualify under the IPCS evaluation and were obese, the company saved an additional \$14,260 annually in direct costs. Estimated indirect costs put the savings at about **\$70,000**. For more information on estimated cost caused by obesity in the workplace, visit [www.healthybodyweight.com](http://www.healthybodyweight.com) and click on Obesity Cost Calculator on the home page.

The results of this case study clearly demonstrates the impact of the IPCS technology on reducing the frequency of injury and severity of all injuries compared to individuals not IPCS tested.