



## A 16-Month Injury Analysis Comparing the New Hire IPCS Isokinetic Evaluation to a Control Group of New Hire Applicants For A National Network of Retail Distribution Centers

### Executive Summary

*The analysis of the injury data clearly demonstrates that the IPCS physical capability assessment program had a dramatic impact on reducing both the frequency and severity of injury as measured by incident rate, total cost of injuries and average cost per injury in comparison to the Not Tested Group for all injuries and exertion injuries. The combination of reducing the frequency of injury and reducing the average cost per injury resulted in greater savings and return-on-investment for the Company with the IPCS program.*

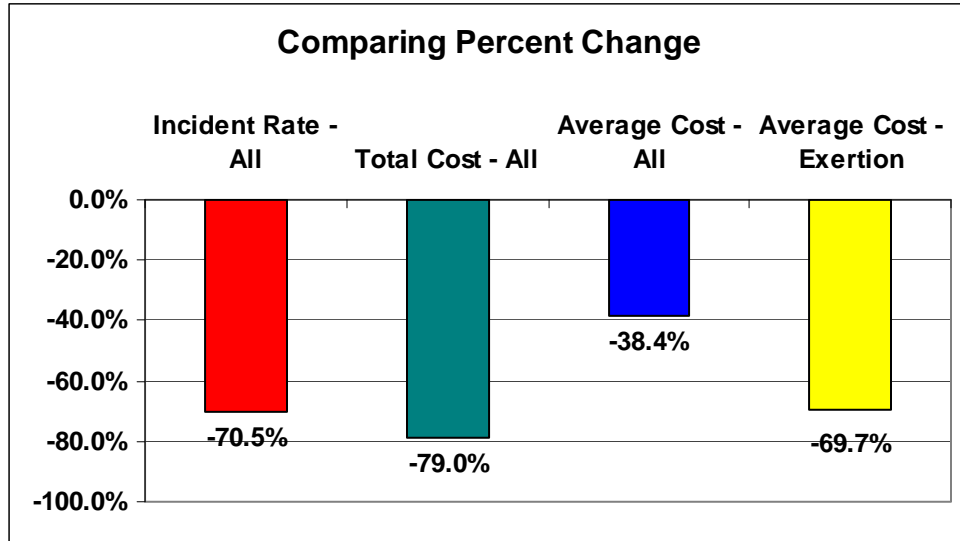
*If the IPCS program had been in place during the 16-month period for the Not Tested Group, the net savings minus the cost of the program would have been **\$512,973 or a 62% reduction in the actual Incurred Costs.***

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 IPCS isokinetic physical capability evaluation program was implemented at the seven Distribution Centers June 1, 2004.
- The comparison included two groups of new hire applicants. Those individuals hired from February 1, 2003 through May 31, 2004 (**Not Tested Group**) and those hired from June 1, 2004 through September 30, 2005 (**IPCS Tested Group**).
- No consistent physical capability evaluation program was in place for the **Not Tested Group**. The **IPCS Tested Group** underwent an isokinetic knee-shoulder evaluation as their physical capability evaluation.
- For the **IPCS Tested Group**, 1,258 new hire applicants were evaluated and recommended for hire. During the **Not Tested Group** time frame, approximately 1,300 new hires were hired.
- All individuals included in the analysis worked no more than 486 days. This number represents the 16-month period for each group and provides a means to equalize the two groups based on same length of employment.

- If the **Not Tested Group** had the IPCS program in place for its 16-month period, the net savings minus the cost of implementing the program would have been **\$512,973**.

The chart below summarizes the percent reductions in the Incident Rate of Injury (70.5%), in Total Costs for All injuries (79%) and the percent reduction for the average cost of All injuries (38.%) and Exertion injuries (69.7%) as a result of the IPCS program.



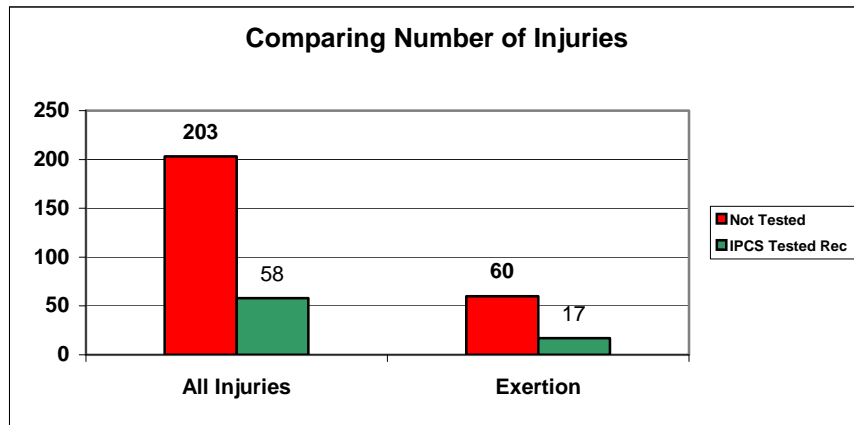
# Results

## Incident Rate of Injury

The number of new hires for the **Not Tested Group** was estimated to be 1,300 individuals. The number of new hires for the **IPCS Tested Group** and recommended for hire was 1,258.

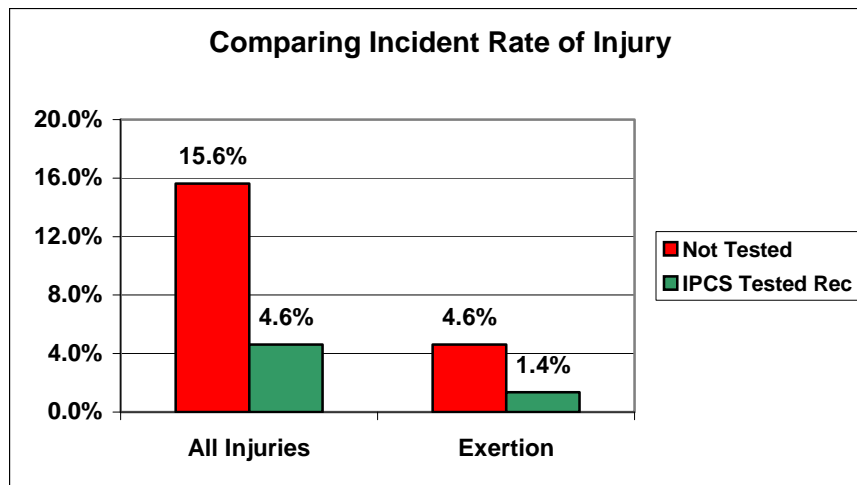
Chart 1 shows the total number of injuries that occurred for the **IPCS Tested Group** versus the **Not Tested Group** for the same time period – less than 16-months of employment. The number of injuries is also shown for exertion only. The absolute numbers show that the number of injuries for **IPCS Tested Group** was dramatically less in comparison to the **Not Tested Group** for all injuries and exertion injuries.

Chart 1



Expressing the frequency of injury relative to the number of individuals hired (incident rate) for each group shows the incident rate of injury for the **IPCS Tested Group** was about 3-times less than the **Not Tested Group** (Chart 2) for all injuries and exertion injuries.

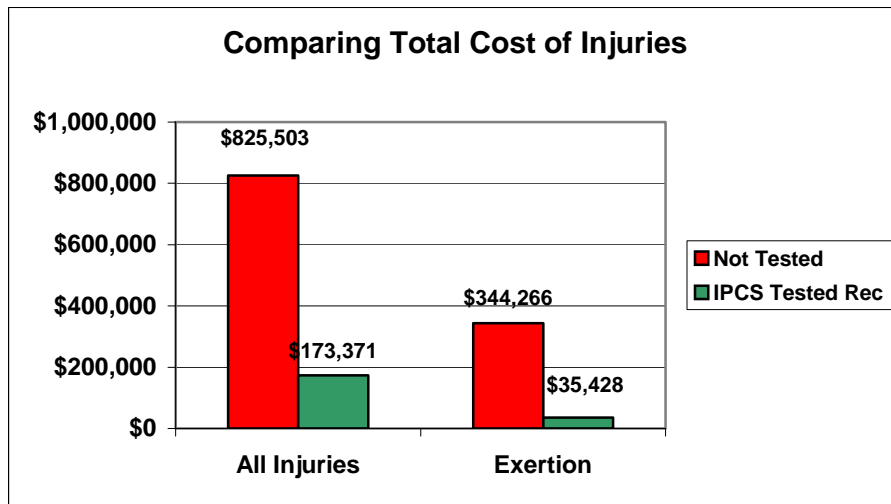
Chart 2



### Total Costs for All and Exertion Injuries

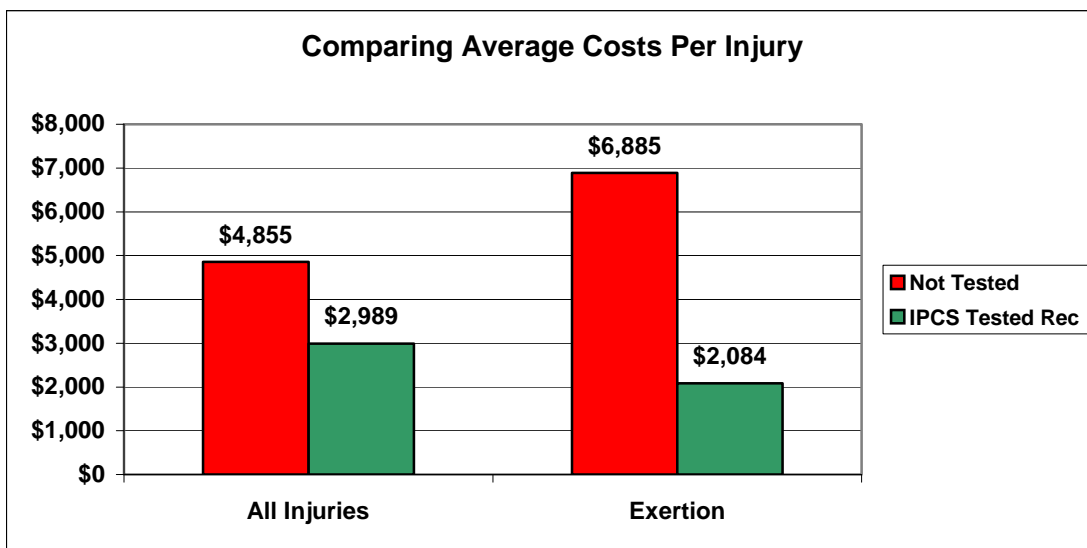
Chart 3 compares the Incurred Costs for all injuries and exertion injuries for the **IPCS Tested Group** to the **Not Tested Group**. The Incurred Costs for the **Not Tested Group** was nearly 5 times greater than the **IPCS Tested Group** for all injuries. The Incurred Cost for exertion injuries was nearly 10 times greater for the **Not Tested Group** compared to the **IPCS Tested Group**.

Chart 3



The average cost per injury was calculated as shown in Chart 4. When comparing the average cost per injury for all injuries, the **IPCS Tested Group** was about 1.6 times less than the **Not Tested Group**. For exertion injuries, the average cost for the **IPCS Tested Group** was 3.3 times less than the **Not Tested Group**.

Chart 4



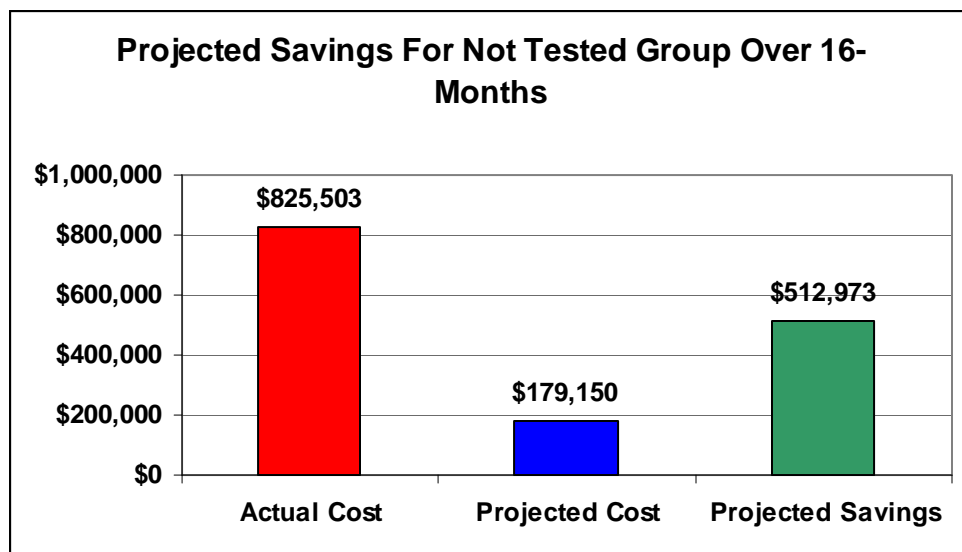
## Projected Savings

To calculate the projected savings for the 16-month time frame identified, the average cost per injury for all injuries for the IPCS group (\$2,989) was multiplied times the incident rate of injury for the IPCS group (4.6%), which equaled the Projected Costs on Chart 5. Thus, the Projected Costs on Chart 5 shows what the cost should have been if the IPCS program was in place during the 16-month period prior to implementing the IPCS program.

The Estimated Cost of the IPCS program for the Not Tested Group was calculated by multiplying the estimated new hires for the Not Tested Group (1,300) plus 20% to account for the rejection rate times the cost of the IPCS test.

The Projected Savings is calculated by adding the Projected Cost and Estimated Cost of the IPCS Test and then subtracting this sum from the Actual Cost for the Not Tested Group from Chart 3. The Projected Savings is **\$512,973** had the IPCS program been in place for the Not Tested Group. This represents a **62% reduction** in the Actual Incurred Costs.

**Chart 5**

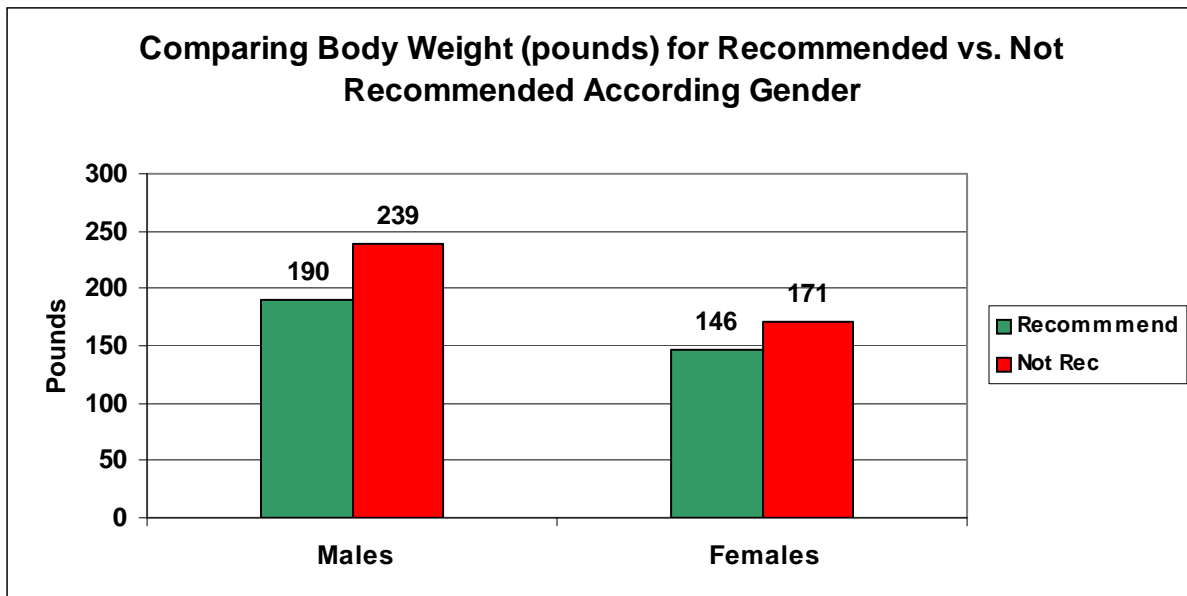


## Added Health Benefit

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 6 shows the body weight of males who were not recommended weighed 49 pounds more than the males recommended and the females not recommended weighed 25 pounds more than those females not recommended.

Chart 6



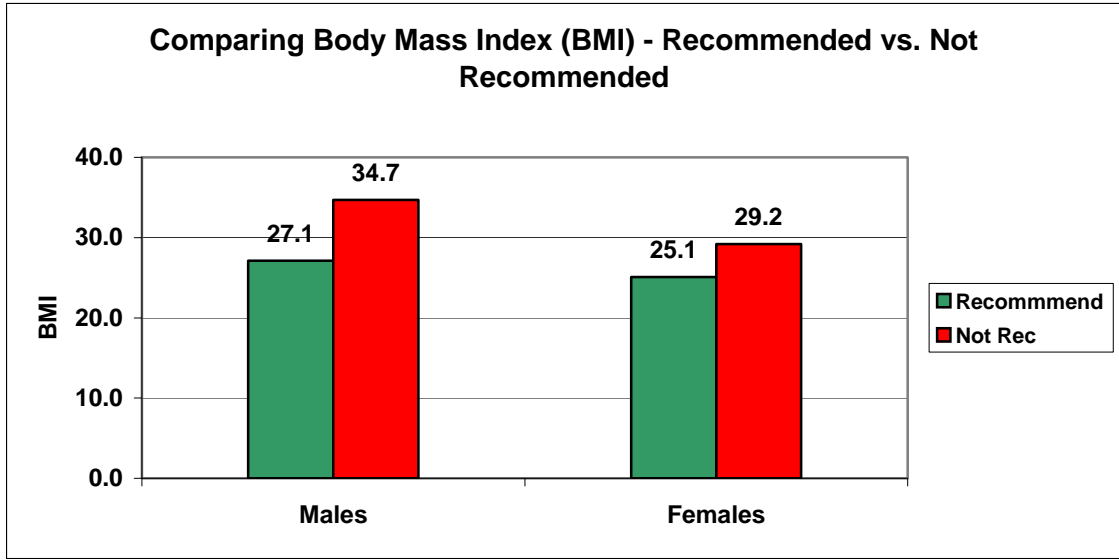
The height in inches for the new hire applicant tested by IPCS during the 16-month period was the nearly the same for both the recommended and not recommended groups.

### 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.

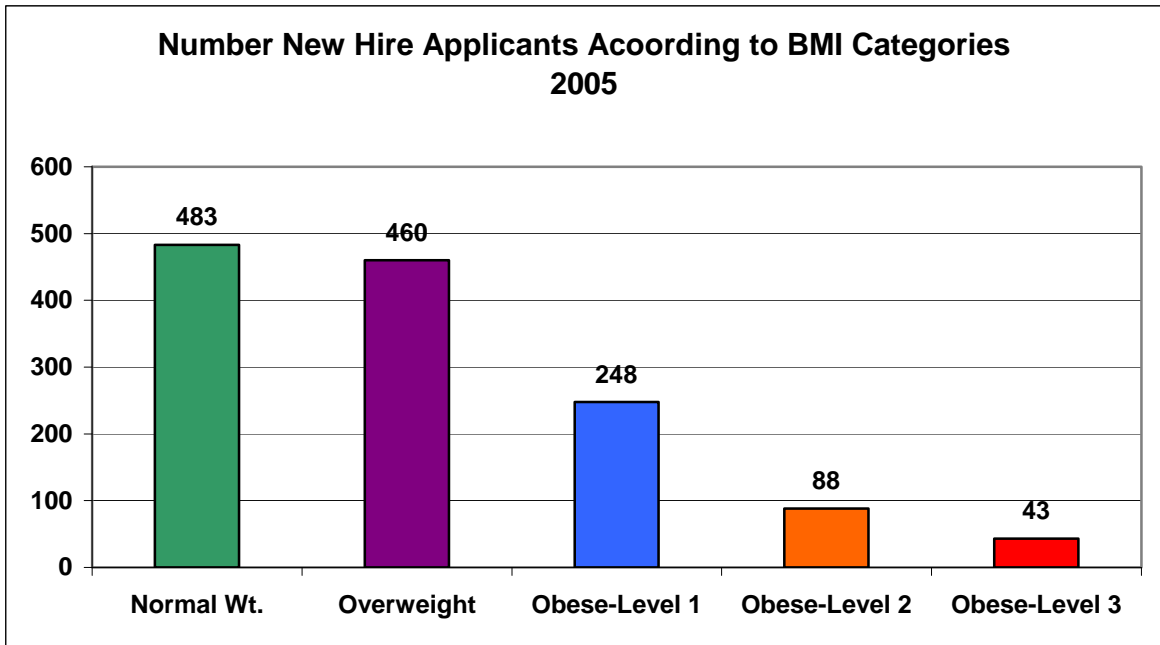
Chart 7 clearly shows that the males tested by IPCS and not recommended have a BMI of 34.7, which puts them in the obese category. The males recommended have a BMI of 27.1, which classifies them as overweight. The females not recommended are overweight with a BMI of 29.2; whereas the females recommended are considered healthy.

Chart 7



The next chart shows the number of new hire applicants in 2005 according that fell into the various BMI categories. Of the 1,322 applicants, 379 of the applicants were obese or 28.1 percent.

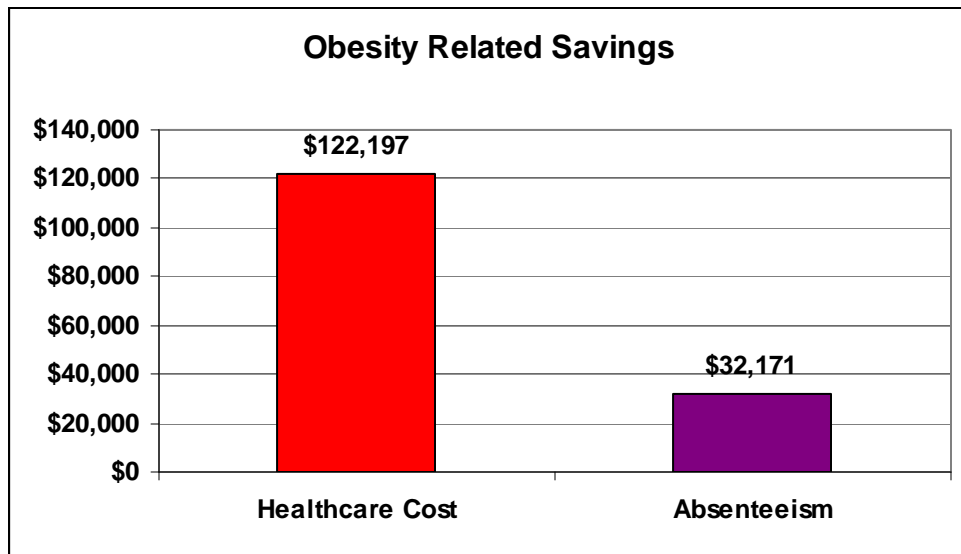
Chart 8



In addition to the savings due to the reduction in the frequency and severity of injury, the obesity related savings is \$154,368 as shown in Chart 9. This calculation is based on reviewing the BMI results of those not recommended and applying the following cost savings:

- Current research clearly shows the obese worker cost a company \$1,432 more per year in added healthcare costs.
- Current research clearly shows the obese worker cost a company \$377 more per year in absenteeism and presenteeism cost compared to that of the normal weight and overweight worker.

**Chart 9**



Therefore, the total savings that this company experienced in 16-months is **\$667,341**. **This represents a nearly \$4 return for every \$1 invested.**

## Conclusion

The analysis of the injury data clearly demonstrates that the IPCS physical capability assessment program had a dramatic impact on reducing both the frequency and severity of injury as measured by incident rate, total cost of injuries and average cost per injury in comparison to the **Not Tested Group**. The combination of reducing the frequency of injury and reducing the average cost per injury resulted in greater savings and return-on-investment for Company with the IPCS program.

Further, The IPCS program is contributing to the Company's effort to control healthcare costs by recommending healthier individuals, which in the long run will bring added cost benefits to the company.