

# Physical Capability and Body Mass Index

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In 2006, I wrote a paper called “Solving a Weighty Problem: Companies can combat the rising costs of obesity in the workplace.” The good news is that many companies are now acknowledging that obesity in the workplace not only exists—it must be addressed. Companies are designing innovative incentive programs to reward those who choose to lead a healthy lifestyle.

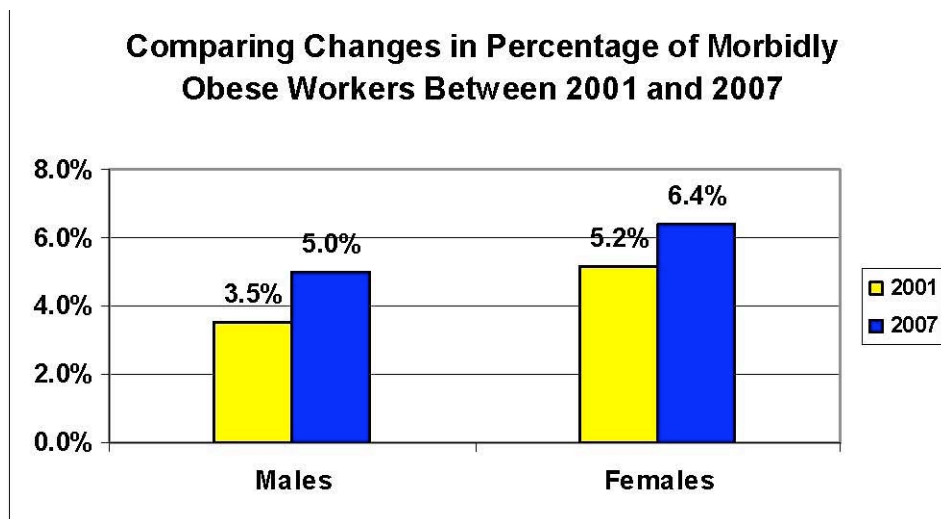
One of the biggest concerns currently facing industry is what impact obesity is having on the performance of its obese workers.

- Is the obese worker more susceptible to workers’ compensation injuries?
- Is the obese worker injured more frequently, with greater claim costs?
- Is the physical capability of the obese worker impacted by his/her obesity?

An analysis of the Industrial Physical Capability Services, Inc., (IPCS) database clearly shows a disturbing trend, with younger industrial workers gaining weight faster—and becoming obese faster—than older workers. This trend is exactly opposite from what most benefit specialists and actuaries use when planning long-term healthcare costs.

More importantly, the trend shows a rapid rise in *morbidly obese* workers (individuals with body mass index scores of 40 or more). An analysis of the IPCS database as of July 2007 shows a significant increase in the proportion of morbidly obese new hire applicants. Chart 1 shows that the percentage of both male and female morbidly obese new hire applicants increased by about 43 percent and 24 percent, respectively, from 2001 to 2007.

Chart 1



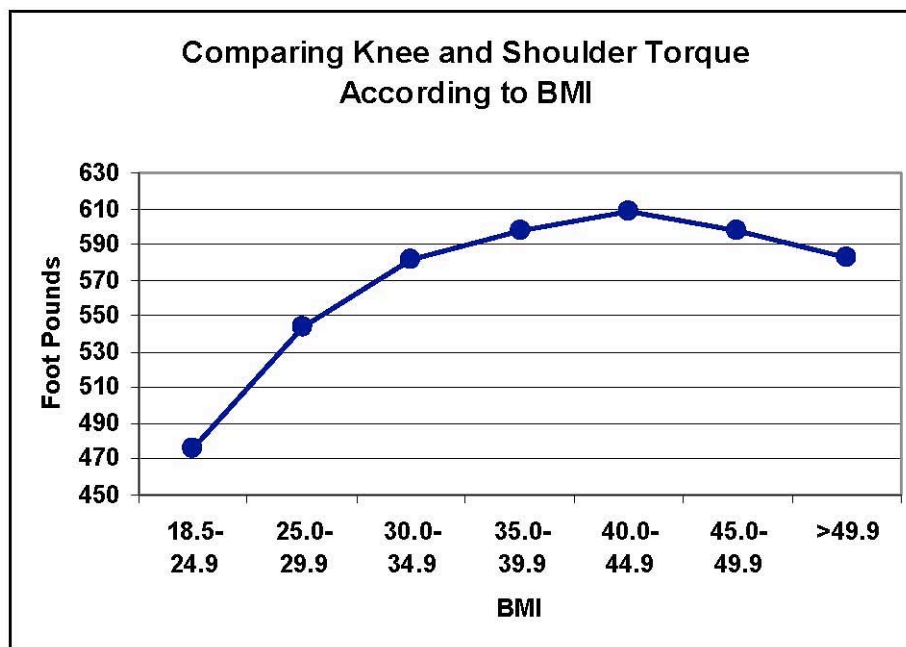
A recent article by T. Ostbye, et al, in the April 2007 issue of *Archives of Internal Medicine* addresses workplace issues involving morbidly obese employees. The article, “Obesity and Workers’ Compensation: Results from the Duke Health and Safety Surveillance System,” reports a significant increase in lost work days, medical claims, and indemnity claims for morbidly obese injured workers (measured by a BMI of 40 or more) compared to normal weight injured individuals.

- The average medical claim cost of the morbidly obese worker was \$51,091, compared to \$7,503 for the normal weight individual.
- The morbidly obese group also had twice as many claims and nearly 13 times more lost workdays as compared to the normal weight group.
- The combination of obesity and high-risk occupation was particularly detrimental to the morbidly obese worker.

When applying the cost of medical claims to morbidly obese workers as reported by Ostbye, one can speculate that, as the percentage of morbidly obese workers increases, so will their injury rates and medical claims. This represents a serious economic burden on industry.

To assess the impact obesity is having on the physical capability of the obese worker, a further analysis was performed on the IPCS database to determine whether or not there was a relationship between physical capability and body mass index. Chart 2 shows the relationship between strength (foot-pounds of torque measured for the shoulder and knee using isokinetic equipment) and body mass index. The data clearly demonstrates that once BMI is 40 or greater (morbidly obese) the upper and lower body strength scores decrease as BMI increases.

Chart 2



This could help explain why Ostbye reports such significant differences in workers' compensation claims and cost for those workers with BMIs of 40 or more.

- As obese workers continue to gain weight and their BMI approaches 40, their gain in strength does not keep up with their weight gain, which makes them more susceptible to injury.
- It can be inferred that when this occurs, the physical capability of the morbidly obese worker is diminished, which impacts his/her ability to safely perform the essential functions of the job.

With the increase in the prevalence of morbidly obese workers each year, industry faces a serious rise in workers' compensation medical claims, lost workdays, and loss claims and diminished physical performance of its workforce.

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