

# Workplace Health and Safety Bulletin



## You Want Me To Lift How Much?

As with the other provinces and territories in Canada, Alberta has no specific law regarding the maximum weight a worker can lift. Despite what some people may think, restricting loads to a particular weight does not guarantee safety. A person might injure themselves simply by reaching awkwardly to pick up a very light load, or by slipping and losing their balance while lifting or carrying a modest load.

It's difficult to come up with a single "safe" weight limit for lifting. It's pretty obvious that people differ greatly in terms of their age, health, skill and strength. It's also clear that objects being lifted (and lowered) can vary greatly in terms of their size, shape and texture. Lifting and handling a 25 kilogram dog or a sloshing tank of water is much different than lifting the same weight in a relatively small box with well-placed handholds.

A number of workplace factors can contribute to the possibility of injury:

- the distance between the object being lifted and the front of the body
- the number of lifts performed repeatedly
- the duration of the lifting activity
- the starting height from which the object is lifted
- the finishing height to which the object is lifted
- the extent to which the body twists during the activity

Many years ago, the U.S. National Institute for Occupational Safety and Health developed a lifting equation to set a recommended weight limit for one person under different conditions. The resulting NIOSH lifting equation established a maximum load of 51 pounds (23 kilograms) under ideal conditions, which was then adjusted to account for most of the workplace factors listed above. Several organizations have developed online lifting calculators based on the work originally done by NIOSH. A listing of these calculators and where to find them on the Internet is shown at the end of this Bulletin.





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As with all these calculators, the resulting answer should be used cautiously to guide decision-making. Avoid using the resulting number as *the* answer. For certain jobs and industries, it may be very difficult to design tasks that the majority of workers can do. The calculators can be used to “try out” different lifting scenarios to get an idea of how safe the lifts will be to perform. The results may also suggest that no worker should be performing the lift – the work should be redesigned or done with appropriate equipment.

Here are a few points to think about before using the calculators:

- Any job that is already creating worker injuries should be thoroughly reviewed and may need to be redesigned.
- Any lifting or lowering task that requires bending, particularly deep bending with the knees and back, places additional stress on the body. The starting height and finishing height of the lift (or lower) should be re-evaluated.
- Twisting places uneven stresses on the back and can cause injury.
- The calculators do not normally deal with single-handed lifts. Such lifts place uneven forces on the back and can cause injury.
- To understand the calculators and their limitations, users should have some ergonomics training.

## References


-  <http://www2.worksafebc.com/ppcc/default.htm>  
WorkSafe BC: Push/Pull/Carry Calculator
-  [www.libertymmhtables.libertymutual.com/CM\\_LMTablesWeb/taskSelection.do?action=initTaskSelection](http://www.libertymmhtables.libertymutual.com/CM_LMTablesWeb/taskSelection.do?action=initTaskSelection)  
Liberty Mutual Manual Materials Handling Tables
-  [www.ini.wa.gov/Safety/Topics/Ergonomics/ServicesResources/Tools/LiftingCalculator3/ergo\\_worksheetIE.htm](http://www.ini.wa.gov/Safety/Topics/Ergonomics/ServicesResources/Tools/LiftingCalculator3/ergo_worksheetIE.htm)  
State of Washington, Department of Labor and Industries: Lifting Calculator
-  [www.ohiobwc.com/employer/programs/safety/liftguide/liftguide.asp?txtCID=51122426](http://www.ohiobwc.com/employer/programs/safety/liftguide/liftguide.asp?txtCID=51122426)  
Ohio Bureau of Workers' Compensation


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 Edmonton & surrounding area:  
780-415-8690

 Throughout Alberta:  
1-866-415-8690

 Deaf or hearing impaired

- In Edmonton: **780-427-9999**

or

- **1-800-232-7215** throughout Alberta

### Web Site


 [www.worksafely.org](http://www.worksafely.org)

## Getting copies of OHS Act, Regulation & Code:

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### Queen's Printer

 [www.qp.alberta.ca](http://www.qp.alberta.ca)

 Edmonton 780-427-4952

### Workplace Health and Safety

 <http://employment.alberta.ca/whs-ohs>

Call any Government of Alberta office toll-free  
Dial 310-0000, then the area code and telephone number you want to reach

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