



# MANUAL HANDLING



LIFT WITH YOUR LEGS  
KEEP YOUR BACK STRAIGHT  
KNOW YOUR LIMITS



## ASSESS your task FIRST

ASK: Can you fit your arms over the load? Clear any obstacles from your path and know where obstacles will be in an unclear path.



## Position your feet apart

Ensure your legs are shoulder width apart for maximum support. Walk in small steps to maintain shoulder width placement.



## TIGHTEN your abs

Using your core abdominal muscles will hold you in the proper lifting position and reduce strain on your spine.

## LIFT with your LEGS

Bend at the knees & hips not your back - Your leg muscles are stronger than your back and can withstand greater force. This is known as the Sorel Squat Technique (Squat 101).

## Keep your back STRAIGHT

When you keep your back straight (neutral) your legs carry the majority of the weight making you less likely to injure your back.

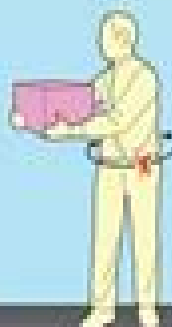


## HOLD the object at waist level and close to the body

Your arms and your back are better equipped to lift a heavy object at waist level and closer to your body than at any other height, similar to how your body.

## Avoid lifting overhead or from below knee height

The risk of injury increases when objects are lifted from overhead or below knee height. Avoid carrying objects at these heights when possible.

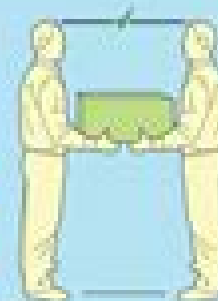


## Don't BEND or TWIST while you are lifting or carrying

Improper bending or twisting could throw you off balance or cause injury.

## Use lifting aids

When possible use mechanical aids or get help to lift or carry a heavy load whenever possible. Options include: strapping, conveyor belts, trolleys, cranes or forklifts.



## Two person lifts

When lifting with two or more people, ALWAYS ensure people of same size and strength for manual handling tasks.

## LIMIT

## KNOW your limits!

Ask for help. If you cannot lift an object, don't. Even if the object is not heavy, if it is extremely large or unstable, it can be difficult to lift. It is better to ask and ask for assistance than to try and lift something that could potentially cause injury.



## REDUCE the size of the load when possible

When possible reduce the size of the load or object or make smaller but more frequent trips, e.g. stretch a heavy load into smaller sections.



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# Ergonomic Guidelines For Manual Material Handling

**Gavriel Salvendy**

A decorative red circular graphic with a gradient, appearing as a partial circle or a stylized arrow pointing to the right, located to the right of the author's name.

## **Ergonomic Guidelines For Manual Material Handling:**

**Ergonomic Guidelines for Manual Material Handling** Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute Safety and Health, 2014-04-22 Manual material handling MMH work contributes to a large percentage of the over half a million cases of musculoskeletal disorders reported annually in the United States Musculoskeletal disorders often involve strains and sprains to the lower back shoulders and upper limbs They can result in protracted pain disability medical treatment and financial stress for those afflicted with them and employers often find themselves paying the bill either directly or through workers compensation insurance at the same time they must cope with the loss of the full capacity of their workers Scientific evidence shows that effective ergonomic interventions can lower the physical demands of MMH work tasks thereby lowering the incidence and severity of the musculoskeletal injuries they can cause Their potential for reducing injury related costs alone makes ergonomic interventions a useful tool for improving a company's productivity product quality and overall business competitiveness But very often productivity gets an additional and solid shot in the arm when managers and workers take a fresh look at how best to use energy equipment and exertion to get the job done in the most efficient effective and effortless way possible Planning that applies these principles can result in big wins for all concerned This booklet will help you to recognize high risk MMH work tasks and choose effective options for reducing their physical demands Illustrated inside you will find approaches like Eliminating lifting from the floor and using simple transport devices like carts or dollies Using lift assist devices like scissors lift tables or load levelers Using more sophisticated equipment like powered stackers hoists cranes or vacuum assist devices Guiding your choice of equipment by analyzing and redesigning work stations and workflow [Ergonomic Guidelines for Manual Material Handling](#) Centers for Disease Control and Prevention, 2013-10-18 This booklet is written for managers and supervisors in industries that involve the manual handling of containers It offers suggestions to improve the handling of rectangular square and cylindrical containers sacks and bags Improving Manual Material Handling in Your Workplace lists the benefits of improving your work tasks It also contains information on risk factors types of ergonomic improvements and effective training and sets out a four step proactive action plan The plan helps you identify problems set priorities make changes and follow up [Handbook of Standards and Guidelines in Human Factors and Ergonomics](#) Waldemar Karwowski, Anna Szopa, Marcelo M. Soares, 2021-06-28 With an updated edition including new material in additional chapters this one of a kind handbook covers not only current standardization efforts but also anthropometry and optimal working postures ergonomic human computer interactions legal protection occupational health and safety and military human factor principles While delineating the crucial role that standards and guidelines play in facilitating the design of advantageous working conditions to enhance individual performance the handbook suggests ways to expand opportunities for global economic and ergonomic development This book features Guidance on the design of work systems including tasks equipment and workspaces as well

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focus is on how to design work tasks tools and environments to fit the capabilities and limitations of people Ergonomic Design for Material Handling Systems describes how ergonomics can be applied specifically to load handling both in the original design of systems and in their modification to make jobs easier and safer Proven techniques such as flow charting or job analysis are combined with new considerations such as biomechanics and repetitive trauma to optimize facility work station equipment and job procedures Ergonomic Design for Material Handling Systems shows how ergonomics overlaps and intertwines with traditional engineering and management uniting them to produce ease and efficiency in material handling This book demonstrates how to lay out facilities in order to achieve the most efficient and safe design It tells how to organize tasks machinery people and materials to improve work flow and humanize your workplaces Consideration of human needs and abilities contributes essentially to successful performance let this practical book be your guide **Ergonomic**

**Guidelines for Carts and Dollies** USCAR.,2015 This document describes the assessment methods and physical requirements associated with the manual handling of carts and dollies specific to material handling systems All possible designs and applications could not be anticipated in creating these guidelines Where there are questions of adherence to this document such as use of an off the shelf design always consult the responsible Ergonomics Department Force guidelines were primarily developed referencing the push pull psychophysical Snook data contained in A Guide to Manual Materials Handling second edition by Mital Nicholson and Ayoub NY Taylor Francis 1997 The force guidelines accommodate 75% of female capabilities and 99% of male capabilities Factors that were included in the established guideline include push pull distances vertical hand height horizontal hand height frequency and wheel castor alignment and load rating These factors were used to develop a conservative force guideline The guidelines assume frequent handling of carts dollies handling frequency greater than once per minute throughout a work shift For carts that exceed the force guidelines and do not align with the assumptions utilized to determine the guidelines within the document please contact the appropriate Ergonomic Subject Matter Expert for a deep dive ergonomic analysis The deep dive analysis will account for the differences in the assumptions i e frequency push pull distance hand height etc **Ergonomics Guidelines and Problem Solving** A. Mital,Å.

Kilbom,S. Kumar,2000-01-31 There is an urgent need to disseminate ergonomics know how to the work place This book meets that need by providing clear guidelines and problem solving recommendations to assist the practitioner in decisions that directly protect the health safety and well being of the worker The guidelines have evolved from a series of symposia on Ergonomic Guidelines and Problem Solving Initially experts in each area selected were asked to write draft guidelines These guidelines were circulated to participants at the symposia and to other experts for review before being comprehensively revised In some instances these guidelines cannot be considered complete but it is important now to put some recommendations forward as guidelines It is hoped that as new research emerges each guideline will be updated Each guideline has been divided into two parts Part I contains the guidelines for the practitioner and Part II provides the scientific

basis or the knowledge for the guide Such separation of the applied and theoretical content was designed to facilitate rapid incorporation of the guide into practice The target audience for this book is the practitioner The practitioner may be a manager production system designer shop supervisor occupational health and safety professional union representative labor inspector or production engineer For each of the guidelines relevant practitioners are described Topics covered include work space design tool design work rest schedules illumination and maintenance

The Handbook of Ergonomic Design Guidelines ,2012      **Guide to Manual Materials Handling** A. Mital,2017-10-19 Manual Materials Handling MMH creates special problems for many different workers worldwide Labourers engaged in jobs which require extensive lifting lowering carrying and pushing pulling of heavy materials have suffered increasing rates of musculo skeletal injury especially to the back This guide is intended to include all activities involved in MMH lifting pushing pulling carrying and holding Recommendations are provided in the form of design data that can be used to design different MMH work activities The guide is divided into two parts Part I outlines the scope of the problem discusses the factors that influence a person s capacity to perform MMH activities and or should be modified to reduce the risk of injuries and reviews the various design approaches to solving the MMH problem Part II provides specific design data in six distinct chapters The seventh chapter of Part II of the guide describes various mechanical devices that are available to aid MMH activities The guide is aimed at all concerned with the health impact of MMH activities occupational health and safety workers senior human resource managers ergonomists workers compensation lawyers union representatives

Manual Materials Handling M M Ayoub,2020-11-25 This book highlights the problems and hazards of manual materials handling and provides ergonomic and engineering solutions for alleviating them It is helpful for both researchers and practitioners who are committed to solving the multifaceted manual materials handling problem

Handbook of Standards and Guidelines in Ergonomics and Human Factors Waldemar Karwowski,2005-12-16 A comprehensive review of international and national standards and guidelines this handbook consists of 32 chapters divided into nine sections that cover standardization efforts anthropometry and working postures designing manual material human computer interaction occupational health and safety legal protection military human factor standar

Advances in Occupational Ergonomics and Safety ... ,1998      *The Practice and Management of Industrial Ergonomics* David C. Alexander,1986      The Ergonomics of Manual Work William Steven Marras,1993

**Safety & Health** ,2005      *Clinical practice guideline. no. 14, 1995* ,      **Guidelines for an Occupational Health & Safety Service** ,1995      Handbook of Human Factors and Ergonomics Gavriel Salvendy,1997-05-12 In orchestrating this book Dr Salvendy invited contributions from more than 100 of the foremost authorities around the world Each of its 60 chapters was reviewed by an international advisory panel comprised of some of today s leading figures in human factors and ergonomics While each chapter establishes the theoretical and empirical foundations of the subject under discussion the book s approach is primarily applications oriented Hence throughout readers will find case studies examples

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