



THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING

Preventing Strains and Sprains in Construction

Get Started with Best Built Plans

2018 National Trainers Exchange

May 11, 2018

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Phoenix, AZ

Presentation:

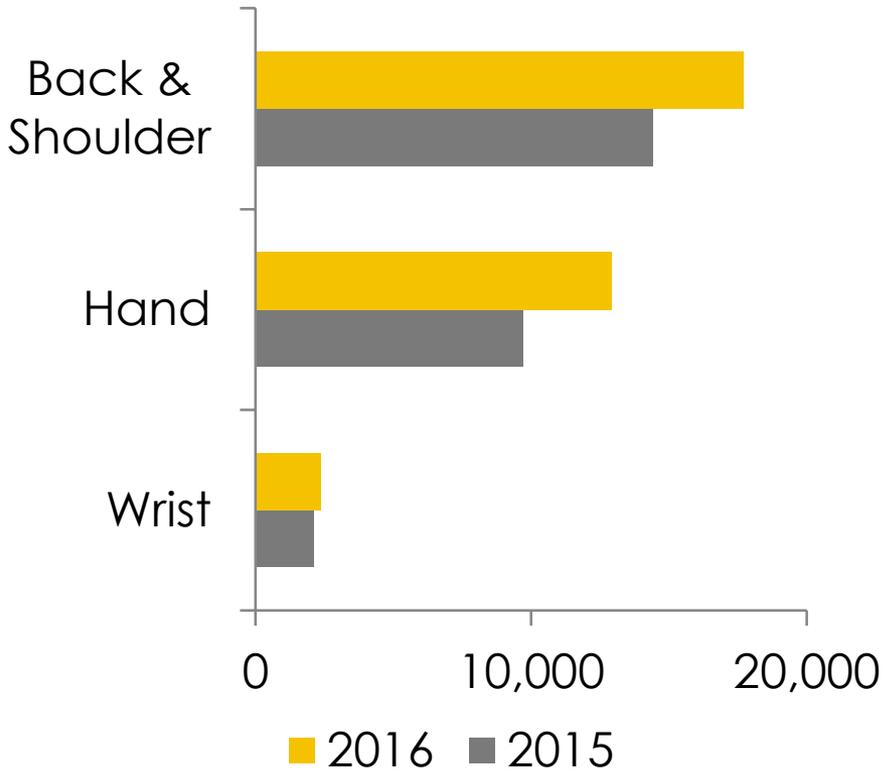
- ✓ Background
- ✓ Approach
- ✓ Program & Products
- ✓ Pilots

Ergonomics Community of Practice

- **WHO'S INVOLVED:** Researchers, trainers, insurers, contractors, trades.
- **Established:** Online resource - r2p Construction Ergonomic Research & Solutions

Agreement -- sprain & strain (overexertion) injuries are a serious and growing industry problem

Injury Trend



- ✓ A significant number result in days away from work
- ✓ Are a leading cause of disabling injuries
- ✓ Create a financial burden for contractors and injured workers

Agreement -- there are solutions

If we know there's a problem and have solutions, then why are workers still being injured?

We need to try something different

What is Social Marketing?

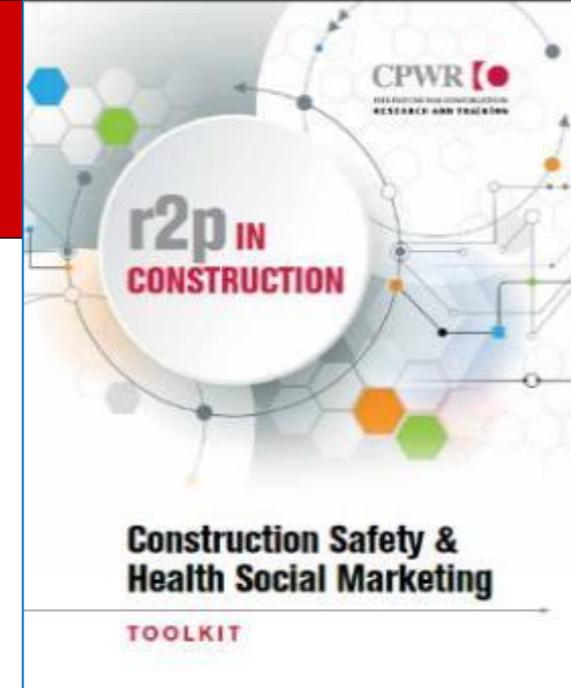
Social marketing is not social media

- Social media is a communication channel

Social marketing is not health communications

- Health communications is the study and use of communication strategies to inform and influence decisions

Social marketing is the use of marketing principles to influence behavior and practice



The 4P's of Health Communications vs Social Marketing

Health communications:

“Posters, pamphlets, PSA's & publicity”

- Understands audience
- Creates messages to raise awareness of problem and solution

➤ *But... if the audience*

- ✓ Doesn't know where to find the solution
- ✓ Knows where to find it, but none are available
- ✓ Can't afford the solution
- ✓ Or it doesn't fit their need

➤ **They won't use the solution**

Social marketing:

“Product, price, place, promotion”

- Understands audience
- Makes sure:
 - ✓ There are versions of the solution to meet different needs
 - ✓ Solutions are available
 - ✓ The solution offers something for everyone in the target audience

Only then are logos, messages, communications products, training programs, etc. developed

Social marketing

- ✓ Lowers barriers to safer practice
- ✓ Makes the experience more rewarding
- ✓ Offers support when needed – for contractors and workers
- ✓ Makes it readily available

Narrowed focus to manual materials handling

Understanding the Audience: Identified Common Barriers

Contractor survey (n=81) :

- Planning for MMH varied
 - ✓ 32% limited planning
 - ✓ 11% do not plan
- Least often cited strategies to manage MMH:
 - ✓ Setting weight limits for lifting
 - ✓ Storing materials above knee height
- Barriers to adopting safer MMH practices:
 - ✓ Gaps in awareness of the risks, solutions, and benefits of safer practices
 - ✓ Access to, or time to find, material weights, lifting and storage options
 - ✓ Lack of planning experience or resources

'Positive Deviant' Interviews

Interviews of safety minded contractors:

- What are MMH and ergonomics practices on their jobsites?
- How did they overcome barriers to safer MMH practices?
- What factors supported safer MMH practices

Contractor size:

3	<50
3	50-150
6	>150

Contractor Locations and Sectors



Identified Core MMH Practices of Interest...

➤ **Planning for safer MMH:**

- within routine job scoping, bidding, operations/execution and job hazard analyses

➤ **Setting/maintaining weight limits:**

- No defined weight limits
- most followed “use good judgment” approach -- support 2-person lifts

➤ **Delivery and storage of materials to reduce MMH risks:**

- considered within routine planning activity
- ongoing activity with suppliers and subs
- demand clear expectations
- clear and frequent communication
- respond to dynamic conditions

And Key Motivators

Discovered key motivators

- ✓ Prevent injuries
- ✓ Control insurance costs
- ✓ Improve productivity and meet schedules
- ✓ Win work and retain employees

Common theme:

***Planning to reduce manual materials handling
is a good business practice***

Pilot Ergonomics Social Marketing Program to Minimize Manual Materials Handling

- **Address barriers (make sure solutions meet different needs & are available):**
 - ✓ Knowledge of weights & limits
 - ✓ Awareness of storage options
 - ✓ Lack of planning experience
- **Integrate steps to reduce MMH risks at all levels (make sure there's something for everyone)**

BRAND TESTING METHODOLOGY

Survey and small group respondents were asked questions about the following logos:

LOGO A



LOGO



LOGO C



LOGO D



LOGO E



Logo D:



"I understand the need to link safety and profitability but we do safe practices in order to achieve the safety of our coworkers. Logo D focuses on safety, not money and it communicates that safety is the result of planning."

Logo D is straight to the point, infers what great design is all about, great people and companies working together for success!



I like the tagline set as a foundation under a line at the bottom. I like the "Build Safety Into Every Job" it speaks to the bottom line \$\$.

Clean Reflect Tag Line Sounds Joy Interest

Build Safety into every Job Disconnected Trust

shape Anticipation Trying Bottom Line Solid Strong
Confused



Positions safety – reducing the risk for manual materials handling injuries – as a core pillar of business success – linked to quality and productivity

Includes something for everyone...

- ✓ Site Planning Tool
- ✓ Interactive training and coaching resources
- ✓ Infographics that highlight the benefits of reduced MMH
- ✓ Posters that reinforce safer MMH practices

...Is free and easy to access



PREVENTING INJURY & IMPROVING PRODUCTIVITY BY REDUCING MANUAL MATERIALS HANDLING

Manually lifting and moving heavy materials on job sites can result in strain, sprain, and related soft tissue injuries. These types of injuries cost business billions of dollars and are the leading cause of disabling injuries in the construction industry.

Best Built Plans provides contractors and workers with practical tools and information to plan for safe manual materials handling while staying productive and profitable. To create the tools, successful contractors told us what they do well regarding storing and moving heavy materials on site. Regardless of size, they engaged in careful planning and frequent communication.

What's available?

Site Planning Tool

Tailored for use at each stage of a project, from preparing a bid to project completion, includes pre-set spreadsheets, material weights, storage and lifting options, daily checklists, training materials, hazard alert cards, toolbox talks, and related microgames.

Training Resources

Interactive exercises with narration to increase a worker's understanding of the need to plan lifts, and to introduce equipment, work practices and lifting techniques that can help reduce the risk for injury.

Coaching

Interactive exercises that introduce warm-up activities and the fundamentals of lifting practices and allows users to test their knowledge.

[Click here to access the Site Planning Tool online](#)

You can download Site Planning Tool and Interactive Training and Coaching Resources to your PC by clicking [HERE](#) and following the prompts. If you need help, click [HERE](#) for step-by-step instructions. *Please note, if you receive a message "BestBuiltPlans(1).zip is not commonly downloaded and may be dangerous." please click on the up arrow and click "Keep." This is a message some browsers are using for new applications.*

As a new program, we want to learn from users what's working, what needs to be improved, and what other resources are needed. Please take a few minutes to share your feedback by taking this brief survey. Click [HERE](#) to offer your advice. Your responses are completely anonymous.

If you have questions about the program and materials, please email cpwr-r2p@cpwr.com



BEST BUILT PLANS

BUILD SAFETY INTO EVERY JOB



SITE PLANNING

MATERIALS HANDLING CONTRACTOR PLANNING TOOL

Successful contractors plan for how materials will be stored, stored and moved at every project stage because reducing manual materials handling (MMH) helps them:

- Prevent injuries
- Control insurance costs
- Improve productivity & meet schedules
- Win work & retain employees

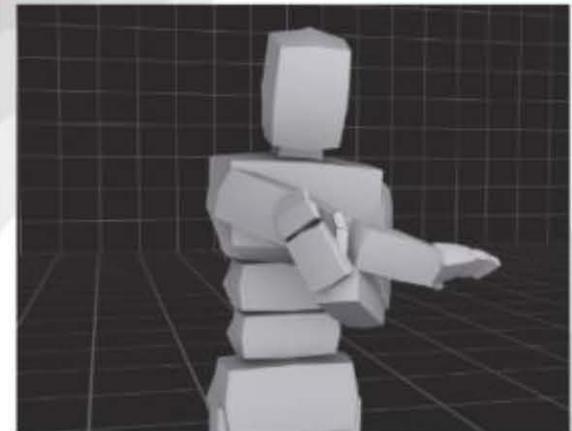
HOW TO USE THIS TOOL
Click on the buttons below to find information to help you plan how you will reduce manual materials handling on your projects.
Each project stage includes resources that you can use to develop and implement your plan.

- 1 Bidding
- 2 Pre-job
- 3 On-the-job
- 4 Look Back

TRAINING RESOURCES



COACHING





MATERIALS HANDLING CONTRACTOR PLANNING TOOL

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Control insurance costs



Improve productivity & meet schedules



Win work & retain employees



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3

On-the-Job

4

Look Back



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1

Bidding

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Prevent Injuries



Strain and sprain injuries (also referred to as overexertion, musculoskeletal disorders (MSDs), or soft tissue injuries):

- Are a leading cause of disabling injuries in the U.S. and in the construction industry. For example, in 2015 alone, construction workers reported 10,130 back injuries, 9,710 hand injuries, 4,280 shoulder injuries, and 2,120 wrist injuries. (1,2,3)
- Roughly 3 out of every 4 back injuries that required time off from work (days away from work) were the result of overexertion. (4)
- Are suffered by construction workers of all ages -- even the youngest workers. (5)

See Sources





MATERIALS HANDLING CONTRACTOR PLANNING TOOL

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Bidding



Pre-Job



On-the-Job



Look Back



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1

Bidding



1. Bidding

Get Ready.

Now is the time to PLAN for how materials will be delivered, stored and moved so that you can work productively and avoid costly injuries.

"Planning starts pretty much when we're bidding on a job, we look at all the materials that are required... We take a look at the ease of installation, packaging and storage. If at all possible, we'll have the suppliers store the materials so that we don't have to handle it..."

(CPWR Contractor Interview, January 2017)

Materials Handling Questions to Consider & Helpful Resources

1. What types of materials do you plan to use on the project?
2. What quantity of each material will you need?
3. When do you plan to use each material?
4. How heavy are the units of material that you will need to move? Are there lower weight options? Will the materials be marked with the unit weight? **Want more information?**
5. How will the materials be delivered and stored? Can they be stored off the ground to minimize bending and lifting? **Want more information?**
6. What lifting equipment or staff assistance will be used to lift and move heavy materials (for example, units that weigh 50 pounds or more)? **Want more information?**
7. Need help keeping track of the materials, weights, storage options, lifting equipment and assistance, and the cost of these items for your bid? **Download planning worksheet.**

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5. How stored
Want
6. What move
or mo
7. Need
option
items

Download the spreadsheet to find weights of common building materials and examples of lower weight options.

Excel

Remember, heavy materials, for example those that weigh 50 pounds or more, should ideally be lifted with the help of lifting equipment, but may be lifted by a team.

Examples of Weights of Common Building Materials

(Please note -- The list is in alphabetic order by material category. These examples were identified through a search of the Internet in October 2017 and information supplied by researchers. CPWR does not endorse any specific material, equipment or product. This list will be updated periodically. Go to <https://www.cpwr.com/manual-materials-handling-planning-tool-and-resources> to find the latest version.)

Category of Material	Construction Material	Size or Coverage	Units	Weight per unit (lbs)	Total Weight (lbs)	Source	Link	Other Resources/ Comments
Abrasive blasting	Abrasive blaster	90 lb capacity unit	1	53	53	Northern Tool + Equipment	http://www.northerntool.com/shop/tools/product_7960_7960	Will be heavier when filled with blast media

Examples of Materials Storage Equipment (to reduce manual materials handling on the jobsite, the warehouse or yard)
 (Please note -- these examples were identified through a search of the Internet in October 2017. CPWR does not endorse any specific equipment or product. Many factors influence the effectiveness of equipment/products including maintenance, user skill and training, the appropriateness of the equipment/product for the task, and manufacturer instructions/requirements. This list will be updated periodically. Go to <https://www.cpwr.com/manual-materials-handling-planning-tool-and-resources> to find the latest version.)

Category of Material	Construction Material	Material Stored	Type of Storage Equipment/ Option	Commercial Examples	Example Photo	Links	Comments	Rental Option
Abrasive blasting	Glass bead blast media					https://www.grainger.com/product/GRAINGER-APPROVED-Grainger-Approved-Dunnage-WP96884/_Nmk7?EndecaKeyword=shelving+and+storage+racks&NLSCM=5&nl_boost_words=noContent&searchRedirect=shelving+and+storage+racks&breadcrumbCatId=26865&_pp=false&picUrl=//static.grainger.com/rp/s/is/image/Grainger/2HFX2_AS01?\$sthumb\$webparentimage\$	Size: 12 x 24 x 36 in Max capacity: 500lb to	
Abrasive blasting	Glass bead blast media					https://www.uline.com/Product/Detail/H-3575/Dunnage-	Size: 12 x 36 x 96 Max capacity: 2700lb	

Examples of Lifting & Moving Equipment to Reduce Manual Materials Handling (MMH)

(Please note -- The list is in alphabetic order by type of material. These examples were identified through a search of the Internet in October 2017. CPWR does not endorse any specific equipment or product. Many factors influence the effectiveness of equipment/products including maintenance, user skill and training, the appropriateness of the equipment/product for the task, and manufacturer instructions/requirements. This list will be updated periodically. Go to <https://www.cpwr.com/manual-materials-handling-planning-tool-and-resources> to find the latest version.)

Material	Type of Equipment/ Option	Commercial Examples	Example Photo	Links	Comments	Construction Solutions Link	Rental Option
Carpet	Carpet Dolly	Vestil Carpet-45		http://www.vestil.com/products/mh/equip/carpet_dolly.htm	Transports carpet roll. Max weight 500 pounds.	http://www.cpwr.constructionsolutions.org/generallabor/solution/906/carpet-dolly.html	



2. Pre-Job

Congratulations! You won the bid! Now's the time to revisit how materials will be delivered, stored, and used on the jobsite to avoid downtime, damaged materials, and injuries from manual materials handling.

"We've made a capital investment in racks or in those carts or products that move materials to the job in large, gross fashion, to where they're offloading off a forklift avoiding strain and then moved into the jobsite on wheels and consumed almost immediately... [That way] you've minimized that field risk and all of that handling..."

(CPWR Contractor Interview, December 2016)

Key Steps, Questions to Consider & Helpful Resources

At the start of the job:

Review how materials will be delivered, stored, lifted, moved and used on the job with:

- The project owner and/or general contractor
- Material and equipment suppliers
- Your employees

Questions to consider:

1. Are there any changes to the materials to be used, or how they will be stored, lifted or moved? [Want more information?](#)
2. Which of your employees will be responsible for coordinating when and where materials will be delivered and stored?
3. Do your supervisory personnel (foremen, etc.) need training on use of lifting equipment or safe work practices?
[Download free training materials.](#)
4. Who will be responsible for ensuring workers are trained on the use of equipment and work practices to minimize manual materials handling? What training will be needed? What materials will be needed for the training? When and where will it take place?
5. Need help keeping track of the materials handling activities and assignments? [Download planning worksheet.](#)



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You may have already downloaded these resources when preparing your bid. If not:

- Find weights of common building materials **Excel**
- Find examples of site storage options **Excel**
- Find examples of lifting equipment **Excel**

Training Resources:

- Supervisor/Foreman Training**
Key scenarios to focus on: Introduction; "Gimme Space"; "Do We Have To?"; "Fritz's Shortcut".
- Toolbox Talk - English**
- Toolbox Talk - Español**
- Hazard Alert Card - English**
- Hazard Alert Card - Español**
- Lift Coach Games**

Also visit the Training Resource and Coaching Section of this application. Find more free toolbox and other training resources at <https://www.cpwr.com/research/construction-ergonomic-research-solutions>



3. On-the-Job

Daily planning and frequent communication keep everyone focused on quality, safety, and productivity.

Execution and troubleshooting becomes everyone's responsibility.

"We do a daily planning with the workers. Every morning we get the crew together and they plan what they're going to do for the day. It's in writing. They discuss the type of work that's going to be performed, what kind of materials handling, the whole nine yards for the day. [And they] sign off at the end of the day that they were successful."

(CPWR Contractor Interview, January 2017)

Key Steps & Helpful Resources

1. **At the beginning and end of each day** review materials handling tasks, responsibilities, schedules, and equipment for the current day and the next to ensure that all employees – supervisors, foremen, and workers – know:
 - ✓ Where the materials will be delivered and/or stored
 - ✓ How the materials will be moved to reduce manual handling
 - ✓ The location and availability of equipment that will be used to move and handle materials
 - ✓ How the team will respond to materials handling risks that are identified. **Download free training materials.**
2. Ask your employees for their ideas on how to improve manual materials handling to avoid injury and improve productivity.
3. Share your plan with the GC and other contractors in the area to avoid conflicting schedules that could slow down your work and theirs.
4. Monitor your plan to be sure it is being implemented correctly. **Download planning worksheet and checklist.**

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The **Manual Materials Handling Workbook** contains worksheets to help you plan for and keep track of manual materials handling for each stage of your project.

- ✓ The 3rd worksheet "**On-the-Job Materials Handling**" builds on the information contained in the earlier planning worksheets.

[Excel](#)

- ✓ Or use the stand-alone "**Daily Materials Handling Checklist**" to identify and prevent manual materials handling risks.

[Word](#)

REMINDER: If you already downloaded the Workbook and used it for Pre-Job planning, you do not need to download a new copy of the Workbook. Simply retrieve your saved copy of the Workbook and click on the **On-the-Job** worksheet.

Key information from your Stage 2-Pre-Job worksheet will automatically appear in the **Stage 3- On-the-Job worksheet**. Remember, you can use one or all of the worksheets. If you have not yet downloaded the workbook, you can do so now.



Daily Materials Handling Checklist

To be filled out daily at the beginning of the shift and reviewed at the end of shift.

Date: ___/___/___ Project/Site: _____ Stage of work: _____

General contractor: _____ Sub-contractor: _____

Individual completing the checklist: _____

Individual who is responsible for manual materials handling: _____
 (material delivery, storage and movement, worker training provided and oversight)

BEGINNING OF SHIFT

Material	Location delivered/stored	Location to be used	Quantity	Equipment for moving

Please use the space on the back of this form for additional material:

Are the materials located (delivered/stored) as planned? Yes No

If not, is there corrective action being taken? Yes No

Have steps been taken to ensure:

- The required equipment is available to move the materials (e.g., forklift, cart, dolly, 2-person lifting team)? Yes No
- Materials will be moved over the shortest distance possible? Yes No
- The pathway is clear to move the materials? Yes No
- All workers involved in lifting or moving materials have been trained on safe materials handling (when to use lifting equipment or get assistance and safe lifting practices)? Yes No

Will materials handling training take place today? Yes No

If yes, how? Toolbox talks Other _____

END OF SHIFT

Were materials moved as planned? Yes No

If not, why? _____

Space for Additional Materials on Back

ADDITIONAL MATERIALS				
Material	Location delivered/stored	Location to be used	Quantity	Equipment for moving



4. Look Back

You're Almost Done!

Consider this last step the first step in planning for and winning your next project.

Why Now?

Right after you finish a project is the best time to capture your experience of what worked well or not quite as planned to minimize manual materials handling. You may not get it 100% right the first time, but the more you learn, the better positioned you will be to successfully bid on future projects.

Key Steps & Questions to Consider

1. Using your planning documents, compare your plan for manual materials handling with what actually took place on the jobsite.
REMINDER: *If you used the Materials Handling Workbook and worksheets, you will have the documentation you need to conduct this review.*
 - ✓ Identify what changed on the jobsite from what was planned and why.
 - ✓ Did the changes have a positive or negative outcome?
2. If you did not already capture it during your daily meetings, meet with your employees to get their input on what helped or did not help to minimize manual materials handling, and what equipment, work practices, or actions they'd recommend for future projects.
3. Use what you learn to minimize manual materials handling on future projects.



BEST BUILT PLANS

BUILD SAFETY INTO EVERY JOB



SITE PLANNING

TRAINING RESOURCES

COACHING

MATERIALS HANDLING CONTRACTOR PLANNING TOOL

NEVER TOSS THE TOOL

Using An Unbalanced or Bad technique to lift, push, pull, or roll can cause musculoskeletal injuries or worse.

Checklist:

- 1. Plan
- 2. The job
- 3. The lift
- 4. The tool
- 5. Load the



Manual Materials Handling Contractor Planning Tool

Introduction

Site Planning

Equipment

Lifting

Work Practices

Conclusion



Introduction

Welcome to the Manual Materials Handling Training Resources!

In construction, strain and sprain injuries (also referred to as overexertion, musculoskeletal disorders (MSDs), or soft tissue injuries) are often caused or made worse by:

- lifting heavy materials (50 pounds or more),
- lifting materials from the ground or above waist height,
- or from lifting and carrying materials while in awkward postures (forward bending, twisting upper body, etc.).

This training resource will increase your understanding of the need to plan your lifts, and introduce equipment, work practices and lifting techniques that can help reduce your risk for injury.

This presentation contains narration. Please adjust your speakers or headphones accordingly now in order to listen and follow along.





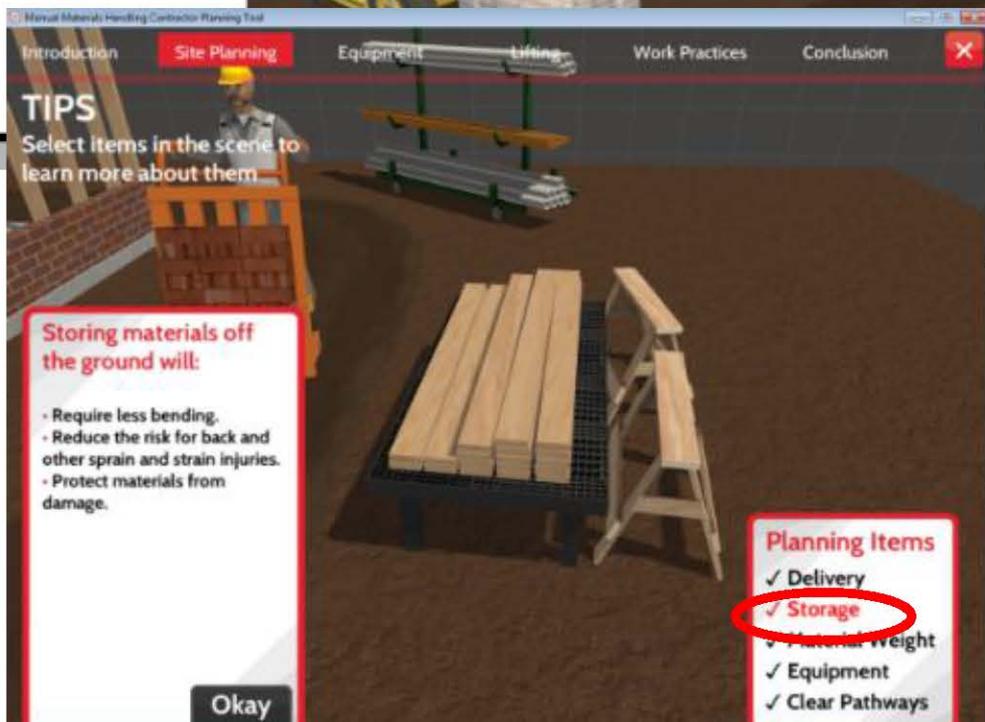
Site Planning

Plans for how materials will be safely stored, lifted and moved sta employer is preparing their bid and should continue on a daily bas project. Your employer should have planned the site to reduce yo lifting and moving materials by:

- delivering materials close to where they will be used
- storing materials off the ground
- identifying the weights of materials and setting weight limits fo without help
- providing equipment or help for lifting and moving materials o
- making sure there are clear pathways for moving materials

When planned properly, these site features and processes can rec injury and the time and energy needed to complete your work. In section, click on features of the site that can help to reduce the ris and other types of injuries that can result from manual materials

Press the "Arrow" button to begin.



- Planning Items**
- ✓ Delivery
 - ✓ Storage
 - ✓ Material Weight
 - ✓ Equipment
 - ✓ Clear Pathways

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 - ✓ Storage
 - ✓ Material Weight
 - ✓ Equipment
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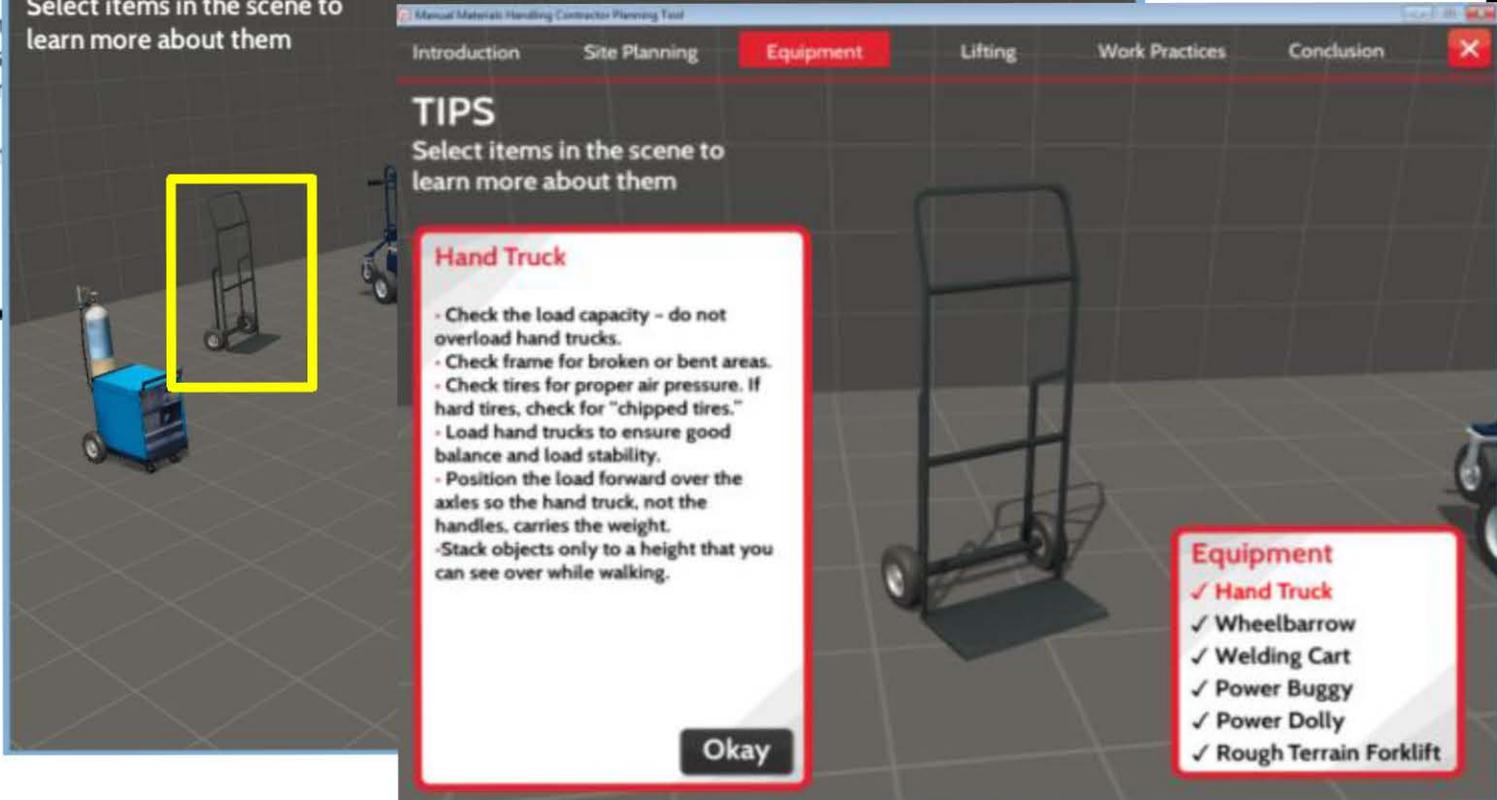
Equipment Identification

Safe manual materials handling starts before you begin lifting. Identify the equipment you have on-hand to help with lifts. For example:

- Hand Truck
- Wheelbarrow
- Welding Cart
- Power Buggy
- Power Dolly
- Rough Terrain Forklift

Used properly, this an while doing your job s equipment in the scen

Press the "Arrow" but



TIPS

Select items in the scene to learn more about them

TIPS

Select items in the scene to learn more about them

Hand Truck

- Check the load capacity - do not overload hand trucks.
- Check frame for broken or bent areas.
- Check tires for proper air pressure. If hard tires, check for "chipped tires."
- Load hand trucks to ensure good balance and load stability.
- Position the load forward over the axles so the hand truck, not the handles, carries the weight.
- Stack objects only to a height that you can see over while walking.

Okay

Equipment

- ✓ Hand Truck
- ✓ Wheelbarrow
- ✓ Welding Cart
- ✓ Power Buggy
- ✓ Power Dolly
- ✓ Rough Terrain Forklift



Lifting

Most lifting injuries aren't caused by a single incident. They are usually caused by years of manually lifting and moving heavy loads and working in awkward postures that weaken the body. A sudden movement can lead to injury.

To reduce stress and strain on your body and to stay healthy, it is important to avoid lifting materials that weigh 50 pounds or more without lifting equipment or help, and to use safe lifting practices.



Lifting

Stance

The position of your feet while lifting is very important. With your feet together, you can easily become unbalanced.



With your feet shoulder-width apart and a bit staggered, you create a wide base of support so you can shift your weight with your legs, not your back.



Lifting

Bend At The Knees

Bending at the waist forces you to lift the weight of your upper body plus the weight of the item. This puts extra strain on your lower back.



Move your feet and bend your knees to get close to the item you're going to lift. Lift with your legs to reduce the strain on your back.



Lifting

Move Your Feet First

Twisting while lifting puts stress on your back.



Moving your feet first gets you closer to the load and reduces the risk of straining your back.



Lifting

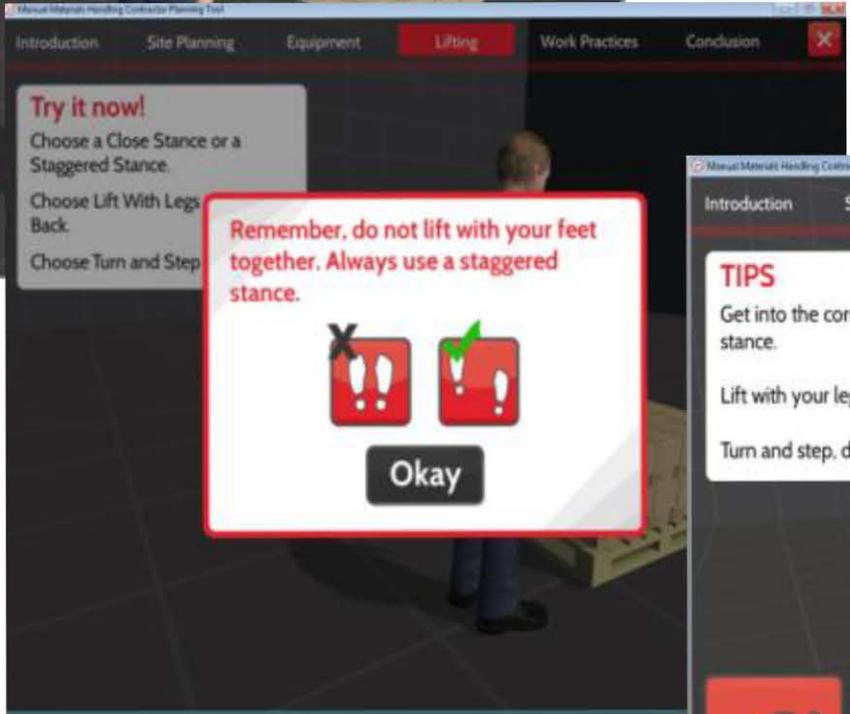
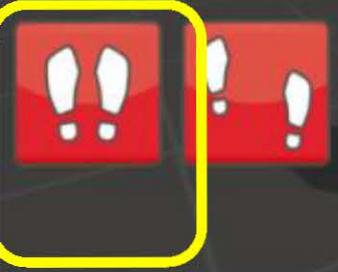
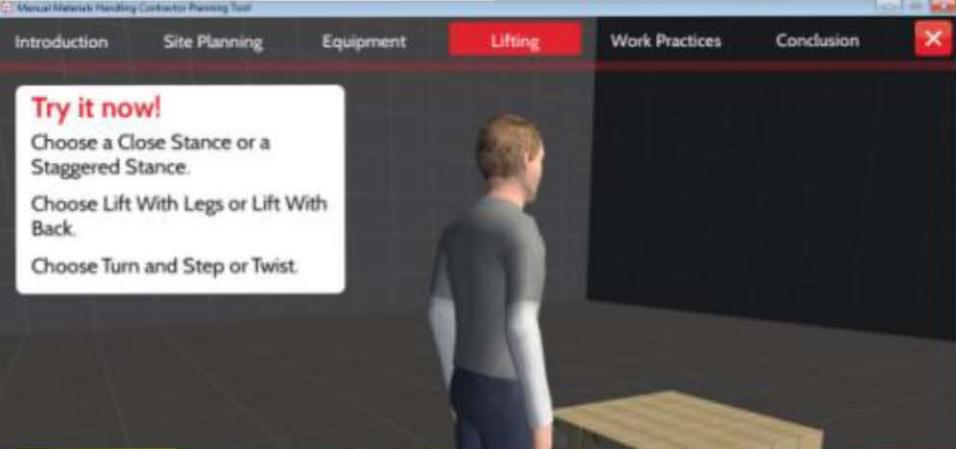
Get It Close

Don't overreach or climb to get an item.



Get the item as close to your body as possible and keep it close as you lift it.







Work Practices

When lifting items, be aware of the weight, size and shape. This will help you decide if you need lifting equipment or help from a co-worker on the best way to lift. Be aware of your surroundings and any hazards that may be in the area.



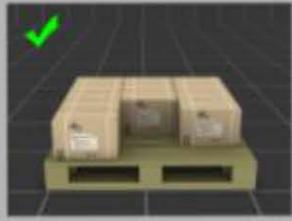
Work Practices

Don't Create Chimneys

Avoid leaving a tower of materials (chimney stacking). These items will be difficult to reach and may also fall causing injury to you or a coworker.



Always take items from top to bottom.



Work Practices

Position

Look at how materials are positioned. Reaching too far to get an item puts extra stress on your body.



If possible, move your body closer to an item that is out of reach. Get your body as close to the item as possible before lifting it.



Work Practices

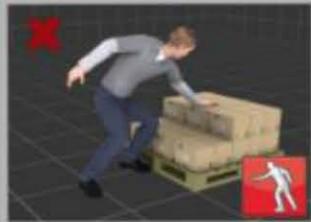
Use a Team Lift

- Do not lift materials over 50 lbs. by yourself.
- Use lifting equipment, or get a co-worker to do a team lift.

Work Practices

Build a Bridge

Bending to reach items puts a lot of strain on your lower back.



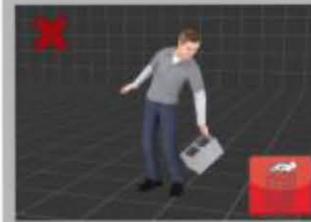
If you must reach, "build a bridge." Place one arm on a stationary object such as your leg to support your body.



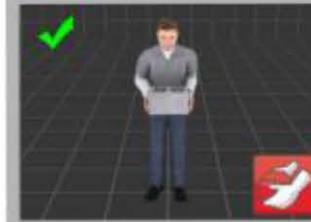
Work Practices

Use Two Hands

It's important to lift items properly. Even if the item has handles.



Always lift an item with two hands to reduce the risk for injury.





BEST BUILT PLANS
BUILD SAFETY INTO EVERY JOB



SITE PLANNING

TRAINING RESOURCES

COACHING

MATERIALS HANDLING CONTRACTOR PLANNING TOOL

HOW TO USE THIS TOOL

1. Identify the materials to be moved and the location of the materials on the job site.

2. Determine the most efficient way to move the materials.

3. Calculate the weight and volume of the materials.

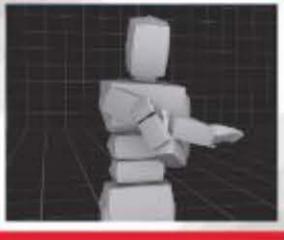
4. Select the appropriate equipment and personnel.

5. Develop a safety plan and communicate it to all workers.

6. Monitor the work and adjust as needed.

7. Document the work and share the information with others.

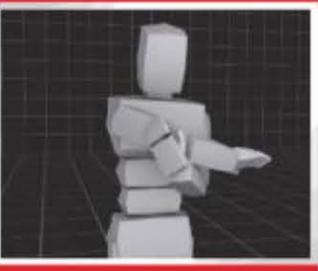
8. Review the work and learn from any mistakes.



Coaching



WARM UP



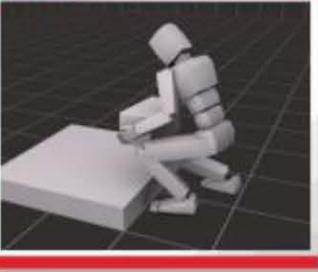
FUNDAMENTALS

Foot Position



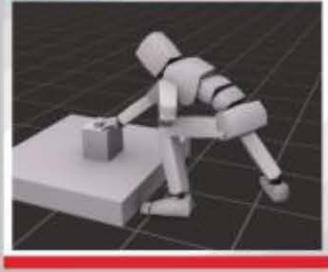
FUNDAMENTALS

Lifting



FUNDAMENTALS

Get It Close

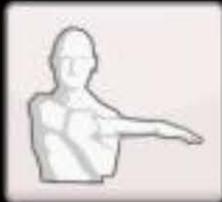


Coaching



HOW TO WARM UP

CHOOSE A WARM UP:



Shoulder



Hamstring



Calf



Side



Upper Arm



Lower Back

Periodically performing simple warm ups can help to reduce physical discomfort from stress and fatigue and increase

Video Demonstration

Interactive Demo



Place your opposite hand, palm up, on your triceps.

Shoulder Warm Up
Areas affected: shoulder, upper arm, and back.

Video Demonstration

Interactive Demo



Interactive Demo

Click and follow the on-screen gestures to practice warming up. You will earn stars based on how well you:

- Move in a slow, controlled motion.
- Complete the full range of the warm up.
- Hold the warm up position for the correct amount of time.

Press the "Arrow" button to begin.



Shoulder Warm Up
Areas affected: shoulder, upper arm, and back.



Lifting and Carrying Materials

Construction has the second highest rate of back injuries of any industry.

Here is an Example

Bags of concrete had been delivered to a construction site, but the forklift normally used to move the pallets was in the shop for repair. Rick and other members of the masonry crew were told to lift and carry the 60 pound bags to a safe area so that no one would stumble over them. They were not provided with lifting equipment or told to lift as teams. The next morning, Rick had serious back pains and went to the doctor. The doctor told him that he had damaged a disc in his lower back and could not return to work.

1. Have you ever had a back injury from lifting and carrying or do you know anyone who has?
2. If so, what happened?

Preventing Back Injuries from Lifting and Carrying

- Never try to lift an item weighing over 50 pounds by yourself.
- Use lifting equipment like a dolly to lift heavy objects, or ask for help with heavy or awkward objects.
- Coordinate and practice team lifting prior to the lift.
- Tuck in your chin to keep your back as straight as possible while lifting.
- Lift with strong leg muscles, not your back.
- Avoid twisting your body while carrying an object.
- Plan your lifts; make sure the path is clear prior to lifting.

What Are We Going to Do Today?

What will we do here at the worksite today to prevent injuries from lifting and carrying items?

1. _____
2. _____
3. _____

OSHA STANDARD* Section 5(a)(1) of the OSHA Act

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www.cprw.com



Lifting and Carrying Materials



- Use mechanical equipment like a dolly to lift heavy objects, if at all possible.
- Never try to lift an item weighing over 50 pounds by yourself.
- Plan your lifts; make sure the path is clear prior to lifting.

GG



LIFT COACH

PLAN YOUR ROUTE

Play

How to Play

Language

OBJECTIVE:
Complete as many levels as you can in 2-minutes. Levels will get harder as you go.

To complete a level:

Pick this up.



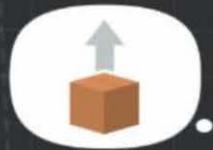
Take it here.



Tap the ground to move.
Tap the box to inspect and slide up to lift.
Then tap the goal X to deliver your box.



0.0



LIFT COACH
PLAN YOUR LIFT

- Start
- Language
- Credits

Strain [] []

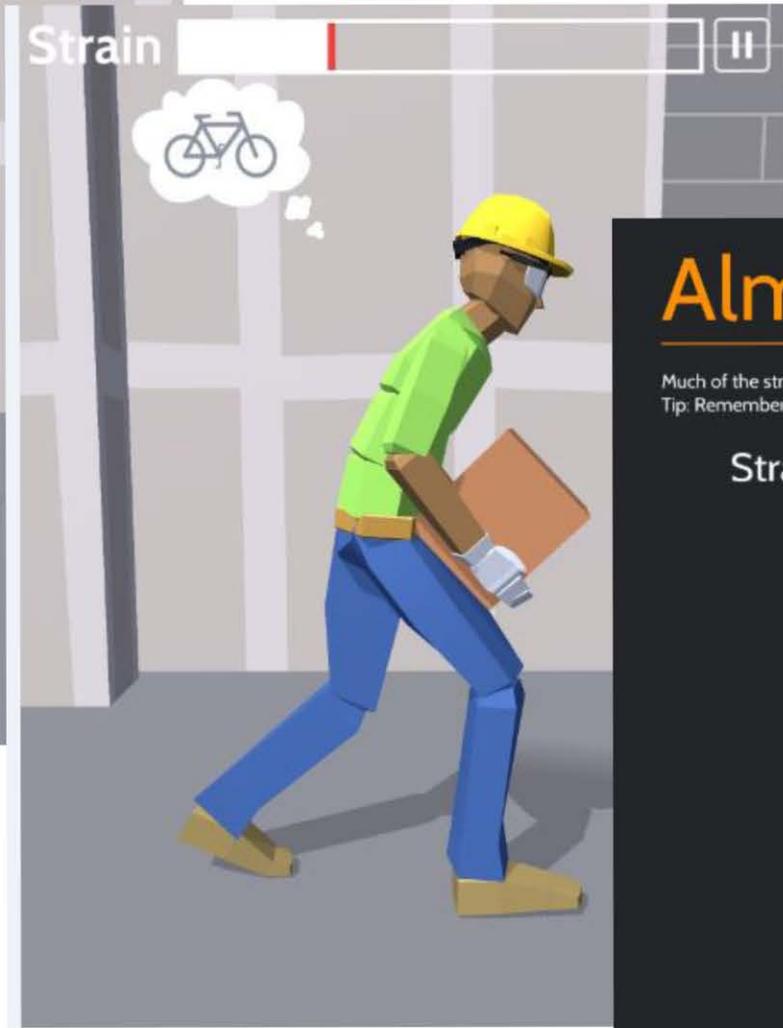
Straighten Up.
Swipe up to align your neck and back.

Strain [] []

Set Your Feet.
Draw a circle to position feet shoulder-width slightly staggered.

Strain [] []

Focus.
Tap thought bubbles to pop them and stay focused.



Almost.

Much of the strain came from letting your mind drift.
Tip: Remember to focus on the task at hand.

Strain

Acceptable

Quit Try Again

Microgames

***Lift Coach: Plan Your Route* / Entrenador de Levantamiento: Planifique Su Ruta**

Google Play: <https://play.google.com/store/apps/details?id=com.simcoachgames.liftplanning>

Amazon: <https://www.amazon.com/dp/B0769Z71JD/>

iTunes: <https://itunes.apple.com/us/app/lift-coach-plan-your-route/id1249442413?mt=8>

***Lift Coach: Plan Your Lift* / Entrenador de Levantamiento: Planifique Su Levantamiento**

Google Play: <https://play.google.com/store/apps/details?id=com.simcoachgames.liftcoach>

Amazon: <https://www.amazon.com/dp/B076FFL8CJ/>

iTunes: <https://itunes.apple.com/us/app/lift-coach-plan-your-lift/id1293760724?mt=8>

Resources for partners

Program Implementation Guide

- *Guide for partners (insurance companies, unions, contractor associations) on how to talk about the program with contractors*

Presentation

- *Introduces the program to contractors*

Resources for Contractors

- *A quick overview of the materials available through the Best Built Plans program*



The screenshot shows the 'BEST BUILT PLANS' logo at the top left, with the tagline 'IT IS SAFETY INTO EVERY JOB'. Below the logo is the heading 'RESOURCES FOR CONTRACTORS'. The text explains that Best Built Plans helps contractors leverage safety to expand business success by providing tools to plan for reduced manual materials handling (MMH) and other resources to prevent sprain and strain injuries. The program was developed by CTRW - The Center for Contractor Research and Training, based on contractor advice and expertise. They rely on contractors to use the program tools and resources, and to provide feedback on what helps their business and what needs improvement.

Resources include:

- Site Planning, Eval & Interactive Training Resources to help contractors plan for materials delivery and train workers on safer practices. All materials are free and available at bestbuiltplans.org.
- The Site Planning Tool helps contractors plan for how materials will be moved and moved at every project stage (bidding, project, on-the-job, and look-back project completed). The tool includes planning spreadsheets, information on material weights, and storing and lifting options, supervisory training, and materials to use with workers on the job. The tool box talk and hazard alert card, available in English and Spanish, are linked to microgames to play on smartphones. The games are intended to reinforce safe work practices related during the toolbox talk and learned in training programs.
- *Lift Coach: Plan Your Route* player plan how they will lift and move a material on a job site. A player's risk of injury (sprain and strain injuries) increases or decreases depending on the decisions they make. As a player advances through the game, the job site becomes larger and more complex.
- *Lift Coach: Plan Your Lift* players commit to on-screen character's actions as he or she lifts and moves materials. The goal is to avoid actions that can increase the risk of injury. Players will need to pay attention to avoid bending up too much, soiling and getting hard, back level increases in difficulty.
- The PC-based Interactive Training Resources can be used by safety staff and trainers to reinforce the importance of planning and using safer lifting practices.
- The Infographic, developed for use in printed manuals, presentations, on your website, or for social media, highlights the positive impact of planning for reduced MMH and the serious costs of soft tissue injuries. They can also be printed and posted in central locations on jobsites as reminders of the benefits of safe manual materials handling.
- The Job site posters can be used as handouts or posted in central locations on jobsites to reinforce safer materials handling practices with workers. To use as posters, consider printing out in 18 in. x 24 in. poster size.

Get those Best Built Plans resources at bestbuiltplans.org

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Infographics

**HAVING A SAFETY PROGRAM MAKES A DIFFERENCE.
CONTRACTORS SAY SO THEMSELVES.**



Source: Building A Safety Culture: Improving Safety and Health Management in the Construction Industry," Dodge Data Analytics, SmartMarket Report, 2016

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**GET TOOLS AND SEE SIMPLE STEPS
YOU CAN TAKE AT BESTBUILTPLANS.ORG.**



**PLANNING TO REDUCE MANUAL MATERIALS HANDLING
IS AN IMPORTANT PART OF A STRONG SAFETY PROGRAM.**

**Best Built Plans has resources to help contractors
reduce manual materials handling in every stage
of their projects, and see better returns as a result.**

**GET TOOLS AND SEE SIMPLE STEPS
YOU CAN TAKE AT BESTBUILTPLANS.ORG.**



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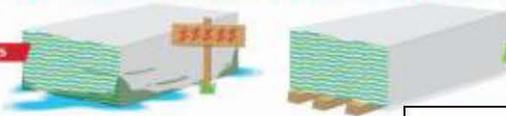
PLANNING TO REDUCE MANUAL HANDLING OF HEAVY MATERIALS CAN SAVE CONTRACTORS TIME AND MONEY.

CONTRACTOR TIPS FOR REDUCING MANUAL MATERIALS HANDLING

TIP 1

Have materials delivered close to where they will be used and stored off the ground.

INSTEAD OF THIS



TRY THIS

SEE MORE SIMPLE STEPS YOU CAN TAKE AT BESTBUILTPLANS.ORG.

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PLANNING TO REDUCE MANUAL HANDLING OF HEAVY MATERIALS CAN SAVE CONTRACTORS TIME AND MONEY.

CONTRACTOR TIPS FOR REDUCING MANUAL MATERIALS HANDLING

TIP 2

Identify heavy materials that will be used, the equipment needed to lift and move them, and make sure that equipment is on site before it's needed.

INSTEAD OF THIS



TRY THIS

SEE MORE SIMPLE STEPS YOU CAN TAKE AT BESTBUILTPLANS.ORG.



PLANNING TO REDUCE MANUAL HANDLING OF HEAVY MATERIALS CAN SAVE CONTRACTORS TIME AND MONEY.

CONTRACTOR TIPS FOR REDUCING MANUAL MATERIALS HANDLING

TIP 3

If you know something will be a heavy lift, talk to your employees in advance to find a safe solution.

INSTEAD OF THIS



TRY THIS

SEE MORE SIMPLE STEPS YOU CAN TAKE AT BESTBUILTPLANS.ORG.



PLANNING TO REDUCE MANUAL HANDLING OF HEAVY MATERIALS CAN SAVE CONTRACTORS TIME AND MONEY.

CONTRACTOR TIPS FOR REDUCING MANUAL MATERIALS HANDLING

TIP 4

Encourage lift teams

INSTEAD OF THIS



TRY THIS

SEE MORE SIMPLE STEPS YOU CAN TAKE AT BESTBUILTPLANS.ORG.



PLANNING TO REDUCE MANUAL HANDLING OF HEAVY MATERIALS CAN SAVE CONTRACTORS TIME AND MONEY.

CONTRACTOR TIPS FOR REDUCING MANUAL MATERIALS HANDLING

TIP 5

Use lower-weight materials

INSTEAD OF THIS



TRY THIS

SEE MORE SIMPLE STEPS YOU CAN TAKE AT BESTBUILTPLANS.ORG.



Posters/Handouts

If it's over _____ lbs, find a safer workaround.

Any materials that weigh more should be moved with equipment or a team lift.
Yep, it's that simple.



See tips for safe materials handling at BestBuiltPlans.org

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Talk through your work plan every morning. Leave safe every night.

Your job site check-ins are the best times to flag heavy material lifts or moves that could lead to injury. Make a plan now so everybody gets home safe later.



Get simple steps you can take at BestBuiltPlans.org

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Next steps

1 year Pilot with Partners & Contractors

- Contractors
- Provide feedback on what materials were used, what worked, did not work, and what else is needed or should be done differently

Organic Use by Industry

- Capture feedback through online survey
- Track metrics

Trainers

- Capture feedback through surveys
- Track metrics



CPWR will provide ongoing support

1. Respond to questions and concerns
2. Develop and provide access to additional online MMH resources
3. Provide evaluation instruments and data analysis customized for partners' needs
4. Promote the program

Questions?

CONTRACTORS:

Questions?



**BEST
BUILT
PLANS**

BUILD SAFETY INTO EVERY JOB