Manual Material Handling Program

Purpose and Background
The IUPUI Department of Environmental Health and Safety (EHS) has developed this program to protect employees from the hazards of improper lifting techniques and overexertion during lifting.

Scope
This program applies to all departments and any employee that may conduct manual handling tasks as part of their job responsibility. This program is intended to minimize the potential for a back injury caused by lifting heavy objects. Employees should not lift any object 50 pounds or greater without assistance. All employees whose work requires heavy lifting shall be properly trained, physically qualified, and receive a medical evaluation as required by the job description.

Policy
This program has the following objectives:
1. Ensuring employees are not required to manually lift materials or objects greater than 50 pounds as part of their job functions;
2. Assist in identifying, assessing, and controlling risks associated with manual handling tasks;
3. Reducing the incidence of manual handling injuries; and
4. Establishing an effective system for manual handling.

Authority and Responsibility
The Department of Environmental Health and Safety has overall responsibility for the establishment and implementation of this program. Specific responsibility of all departments follows.

EHS shall be responsible for:
1. Evaluating material handling tasks as requested;
2. Providing force measurements for material handling tasks as requested;
3. Providing training as requested; and
4. Assisting in the selection of appropriate assist devices as requested.

Each Department shall be responsible for:
1. Identifying operations which involve lifting or material handling tasks that may place individuals at risk for back injuries;
2. Instituting engineering controls to reduce manual lifting injury potential;
3. Ensuring that all affected employees are trained in the appropriate requirements of this program;
4. Providing training in proper material handling as needed; and
5. Providing employees with personnel assistance or lift assisting devices as necessary.

The Supervisors shall be responsible for:

1. Ensuring affected employees are trained;
2. Ensuring that employees use proper lifting techniques;
3. Making assistance available to employees who manually handle or lift 50 pounds or greater;
4. Contact EHS for assistance in equipment selection, evaluations, and training; and
5. Insuring all employees who experience work-related injuries follow the appropriate procedures.

The Employee shall be responsible for:

1. Attending the required training;
2. Using proper lifting and material handling techniques;
3. Warming up the back muscles before lifting is conducted;
4. Limiting manual lifting or handling tasks to objects less than 50 pounds;
5. Getting assistance whenever manual handling or lifting materials or objects that are 50 pounds or greater; and
6. Reporting injuries within 24 hours of their occurrence.

General Lifting Techniques
Whether it is during leisure activities or as a part of paid work, everyone lifts, holds, carries, pushes and pulls on a daily basis. Manual material handling involves lifting light, heavy and awkward objects. Safe lifting is a critical aspect of daily activities and should be the focus of any manual material handling. Before you lift, remember the following:

- Wear supportive shoes;
- Use lift assist devices (hand dollies, carts, lift tables, forklifts);
- Carry all movements out horizontally (e.g., push and pull rather than lift and lower);
- Always use your body weight and not your feet when pushing;
- Try to have most workplace deliveries placed at hip height;
- Always keep objects in the comfort zone (between hip and shoulder height);
- Keep all loads close to and in front of the body;
- Keep the back aligned while lifting;
- Maintain the center of balance;
- Let the legs do the actual lifting; and
- Reduce the size of the material to keep it light, compact and safe to grasp.

PLAN THE LIFT prior to lifting as follows:
- Size up the load, its weight, shape and position;
- Determine if the load is too large, too heavy or too awkward to move alone;
- Get help from a coworker or use a mechanical aid device to help with the lift when necessary;
- Decide on the route to take;
- Check for any problems or obstacles such as slippery or cluttered floors;
- Investigate the location where the load is going to be placed in order to anticipate any difficulties; and
- Always exercise or warm-up the back prior to lifting.
SQUAT LIFTING should be done for a majority of all lifts. Squat lifting should be performed as follows:

- Stand as close to the load as possible;
- Move your feet shoulder width apart;
- Tighten your stomach muscles so you can tuck your pelvis;
- Bend at the knees, keeping your back straight and stomach tucked;
- Get a good firm grip on the load;
- Hug the load close to the center of your body;
- Lift smoothly with your legs gradually straightening the knees and hips into a standing position; and
- Avoid twisting your body as you lift.

CARRYING LOADS should be done as follows:

- Keep the load close to the center of your body to take full advantage of the mechanical leverage of your body;
- Do not change your grip on the load unless it is weight supported;
- Avoid twisting your body without pivoting your feet at the same time;
- If you must change direction, move your feet in that direction instead of twisting your trunk in that direction;
- Make sure you can see over the load;
- Move carefully toward your destination; and
- If a heavier load is carried for some distance, consider storing it closer.

UNLOADING OBJECTS should be done the same way as lifting objects, but in the reverse order as follows:

- Slowly bend your knees to lower the load;
- Keep your back straight and the weight close to the center of your body;
- Allow enough room for fingers and toes when the load is set down;
- Place the load on a bench or table by resting it on the edge and pushing it forward with your arms and body; and
- Secure the load to ensure that it will not fall, tip over, roll or block someone’s way.

ONE-ARM LOADS are used when carrying items such as pails or buckets. Lifting and carrying one-arm loads should be performed as follows:

- Bend the knees and at the waist keeping your back straight;
- Reach for the load;
- Grasp the handle of the load firmly;
- Lift with your legs not your shoulders and upper back; and
- Keep your shoulders level while switching hands regularly to reduce overexertion on one side of the body while carrying the load.

TEAM LIFTS are used when objects are too heavy, too large or too awkward for one person to lift. Team lifts should be performed as follows:

- Work with someone of similar build and height, if possible;
- Choose one person to direct the lift (e.g., “lift on the count of three”);
- Lift with your legs and raise the load to the desired level at the same time;
- Always keep the load at the same level while carrying;
- Move smoothly and in unison; and
- Set the load down together.
OVERHEAD LIFTS should be conducted as follows:

- When lifting or lowering objects from above the shoulders, lighten the load whenever possible;
- Stand on something sturdy such as a step stool or platform to decrease the vertical distance; and
- When you are lowering objects from above the shoulders, slide the load close to your body, grasp the object firmly, slide it down your body and proceed with your move.

Mechanical Aids
Alternative material-handling techniques for carrying or moving loads are to be used whenever possible to minimize lifting and bending requirements. These alternate techniques include the use of: hand trucks, carts, dollies, forklifts, hoists and wheelbarrows. Although mechanical aids are used, safe lifting procedures should still be followed by maintaining the natural curvature of the back, using the legs for any lifting that is encountered and avoid twisting the back.

Back Belts
After a review of the scientific literature, the National Institute for Occupational Safety and Health (NIOSH) has concluded that, because of limitations of the studies that have analyzed workplace use of back belts, the results cannot be used to either support or refute the effectiveness of back belts in injury reduction. Although back belts are being bought and sold under the premise that they reduce the risk of back injury, there is insufficient scientific evidence that they actually deliver what is promised. NIOSH does not recommend the use of back belts to prevent injuries among workers who have been injured because the Institute’s primary focus is on the prevention of injury.

Claims have been made that back belts reduce forces on the spine, increase intra-abdominal pressure (IAP), remind workers to lift properly, stiffen the spine, and reduce bending motions.

While all of these claims have been put forth as support for the use of back belts, they remain unproven. There is currently inadequate scientific evidence or theory to suggest that back belts can reduce the risk of injury. Due to information that is currently available, Indiana University-Purdue University Indianapolis (IUPUI) does not advocate the use of back belts. It is recommended that back belts be provided to IUPUI employees only by and under the direction of a physician. The procurement of back belts will not be the responsibility of IUPUI.

Proper conditioning and training for required work activities are the primary means for prevention of musculoskeletal illnesses and injuries in the workplace. Questions regarding back safety and proper lifting techniques should be directed to the Department of Environmental Health and Safety.

Lifting restrictions
When employees are not able to conduct their task fully due to an injury, they could be placed on work restrictions that may contain weight or lifting restrictions. If an employee is placed on any weight restrictions, they may not handle or lift any object heavier than what they have been restricted to until they are cleared to return to normal duties. If a re-evaluation has been conducted and the weight restriction has been modified or lifted the employee must follow the new restrictions.

**Work Restrictions – Return to work**

If employees have experienced a work-related injury, they will receive care at IUPUI Health Services (HS). One aspect of the medical management of an injury is determination of appropriate activity. When an employee is seen at IUPUI HS, they may be given certain restrictions regarding physical activity. Employees are to follow those restrictions. The restrictions will be readdressed each time they are seen at IUPUI HS. Please note that in most cases, continuing usual activity with some restrictions leads to a better outcome than severely limiting activity. When conditions have improved enough, the restrictions will be lifted.

If employees have experienced a non-work related injury, they will receive care from their primary care provider, or another health care professional. Employees should follow the treatment regimen of their providers. Supervisors should be promptly notified of any work restrictions given by the primary care physician.