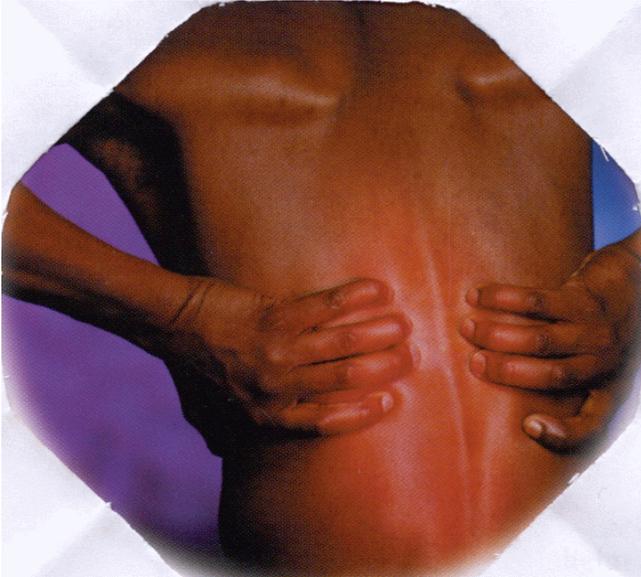


STOP THE STRAIN

Reprint from the Fall 2000 issue of Productivity magazine
by Mr. Clair Urbain interviewing Mr. Lin Brown of the FPS Group



Traumatic injuries in plants or warehouses that result in an ambulance ride or death garner lots of attention, but minor injuries can cost as much or more in lost time and productivity.

"Employee injuries are a clear sign that work is not engineered correctly," says Lin Brown III of Facilities Planning Services (FPS) headquartered in Wilmington, North Carolina. FPS consults with manufacturers and distributors here and abroad to help them make employee responsibilities safer and more efficient.

Statistics Don't Tell the Whole Story

"I think injuries resulting from improper employee material handling practices are under-reported," says Mr. Brown. "These injuries are from fatigue, not trauma. Workers overexert their bodies to get the job done. It's often caused by peer pressure or a push to meet a production quota. In the short-term, the financial goal is met, but long term, the costs outweigh the gain."

According to the State of Washington Department of Labor and Industries report, "Lessons for lifting and moving materials" published in 1996, most injuries result from overexertion while lifting, pushing, pulling, and carrying objects. However, the report states other factors can greatly contribute to back and other injuries. They include poor physical fitness, lack of flexibility, certain recreational activities, emotional stress, lack of rest, poor back support when sleeping and poor posture when sitting for long periods.

Employees have the most control over these factors, so training and setting a good work culture are key to minimizing back problems and other injuries.

Consider Engineering Controls

"Work tasks can be set up to help employees protect themselves," Mr. Brown says. He offers the following advice:

Separate foot traffic from lift traffic. "Don't put hand-picks on the first level with the pallet picks on racks above that level," says Mr. Brown. "Instead, put handpicks in aisles away from pallet picks and lift trucks."

Consider wider aisles. Where workers on foot must work alongside operating lift trucks, consider wider aisles that allow for a pedestrian zone. Lift trucks would enter this zone slowly, only when required to interface with the racks.

Improve lighting. If your warehouse configuration changes, make sure lighting needs haven't changed. New equipment layouts frequently will require new lighting layouts. In many instances, supplemental lighting on lift trucks can greatly improve operator visibility.

Set up signals. Plants can use sensors that alert workers to approaching equipment at aisle crossings and use bang bars to warn of overhead obstacles. Mr. Brown suggest that plants with high traffic install floor wires that signal powered material handling equipment to automatically reduce speed or sound a warning at intersections.

Select the right equipment. Mr. Brown says there is a big push by operations management to use powered pallet jacks instead of counter-balance lift trucks. Powered pallet jacks offer the capacity of a counter-balanced lift trucks at a fraction of the cost. "It's key that you work closely with your material handling equipment dealer or Facilities Planner to make sure these units can meet your needs," he says. Make sure pallets work with any new system. Mr. Brown has seen many examples where pallet flow systems didn't work because the wrong or damaged pallets were used or the wrong insertion / extraction equipment were used.

Keep equipment in shape. Whether your workers operate an old manual pallet jack or a new narrow-aisle order-picker, maintenance is key. "If workers must push, jerk or pull harder than they need to do get the pallet loaded, moved, or unloaded, you are setting them up for injuries. A good maintenance program can head off many problems," says Mr. Brown, "A turn-key maintenance program from your equipment supplier or in house can help cure this ongoing headache."

Set rules and make sure they are followed. Many injuries occur when workers bend the rules. "For example, in a narrow-aisle operation, mark a yellow line on the floor in front of the rack face and mandate that all pallets must be pushed in even or past that

line. It will reduce accidents from units hitting pallets," he says. In other instances, setting rules on how employees operate equipment – or even lifting items manually – and then enforcing them can help reduce accidents and injuries.

Get rid of problem children. "We often find that a surprisingly high percentage of warehoused items are slow-movers or no-movers. Some can be extremely heavy or bulky items that cause material handling challenges," says Mr. Brown. Identify these items and figure out another way to supply them. Often, the vendor can deliver it when you need it, or the vendor can ship it directly so you don't have to handle it at all.

Build a partnership. FPS has developed very close working relationships with many of their clients. "We've developed an understanding that we are on-call 24 hours a day for help as long as we continue to work together on projects. We have become a partner with our clients. Facilities that develop this kind of relationship with Facility Planners can benefit enormously," he says.

Upgrade employees when you upgrade equipment. "If you automate a task, make sure the appropriate employees fully understand the equipment and the process," says Mr. Brown. "If new equipment is installed and employees are not properly trained, management is setting the stage for an accident."

Administrative Controls

Even though a facility may have been engineered to minimize the chances of back and other injuries, plant management must also put some guidelines in place to assure workers don't overdo it or inadvertently put themselves in danger.

This can be completed by establishing parameters that limit the duration, frequency, or severity of the work at hand. According to the State of Washington's Department of Labor and injuries report, these controls include gradually introducing the workload onto new workers, requiring regular recovery pauses, rotating jobs, or organizing the job so strenuous tasks are broken up with easier tasks.

Employee Controls and Training

"Employees are in the greatest control of their own destinies when it comes to preventing injuries, providing they are aware of the dangers around them and know how to avoid them," says Mr. Brown.

"Lift truck manufacturers have developed some very good training materials to help employees operate equipment safely and

efficiently. Proper operation will help prevent many other injuries," he says. These programs and training materials are available through your material handling equipment dealer or Facilities Planner.

Ideas to Minimize Worker Fatigue / injury

The State of Washington Department of Labor and Injuries report, "Lessons for lifting and moving materials" suggests the following ways jobs can be changed to minimize injuries.

- Engineer the process or change the job so the worker does not have to bend to complete a task.
- Request suppliers to package materials in smaller, lighter packages. For example, a 10" x 12" box is much easier and lighter to carry than a 10" x 20" box.
- Make items too big to be carried by one person. If one person can't lift an object, he or she will get help.
- Consider bulk. If workers are dumping sacks of material into a hopper, consider a bulk system that eliminates the bags. Bulk materials often cost less, which can offset the cost of the bulk material handling equipment.
- Use lifting devices. Overhead hoists, tables, scissors-lifts or vacuum lifts can take the burden off workers.
- Break up the job. Mix less strenuous jobs with heavier jobs to allow workers to recover before tackling the more strenuous portion of the job.
- Reorganize work. Look for ways to eliminate lifting from the operation.
- Put pick items at waist to shoulder height, especially heavier (50 to 80 lb.) item. Put very heavy items from 2" to 15" off the floor and set them up so they can be accessed by material handling equipment. Stock only very light, handpicked items in racks 45" to 60" high.
- Change jobs so workers do not bend, lift and twist simultaneously.
- Improve handholds on the item to be lifted. If workers can get a secure grip, there is less chance of dropping materials and straining muscles to maintain control.