

Manual Materials Handling, Musculoskeletal Disorders (MSDs), and Back Care

If you've worked in construction project site, you've likely experienced back pain. Physical fitness is essential, but preventing back injuries requires more than strength—it requires proper technique. Nearly 75% of people will experience low back pain at some point in their lives, and in the construction sector, back injuries account for approximately 35% of all lost-time injuries.

For workers in substations, overhead transmission lines, and underground cable installations, back injuries are not just painful—they can be career-ending. These injuries often develop over time due to repeated improper lifting, carrying, pushing, or pulling. Every manual materials handling task, no matter how small, contributes to overall back health.

Preventing Back Injuries in NCC T&D Operations

The best way to prevent back injuries is to apply proper posture, ergonomics, and handling techniques in daily tasks.

The following key strategies can help reduce the risk:

- Proper Lifting Techniques: Bend at the knees, not the waist; keep the load close to the body; avoid twisting while lifting.
- Use of Mechanical Aids: Utilize hoists, dollies, forklifts, or cranes when handling heavy materials.
- Housekeeping and Worksite Organization: Clear work areas to minimize tripping hazards and unnecessary lifting.
- Team Lifting: When loads are too heavy for one person, use two-person lifts or seek assistance.
- Regular Stretching and Strengthening Exercises: Maintaining core strength and flexibility reduces strain on the back.

Regulatory and Safety Responsibilities

All NCC T&D leaders shall ensure compliance with general worker protection measures in all projects. Project leaders, supervisors, and workers must take all necessary precautions to prevent injuries and reduce ergonomic risks.

NCC T&D Management Responsibilities

Hazard Identification & Risk Assessment:

- Evaluate job tasks to identify ergonomic hazards that may lead to back injuries.
- Implement controls to minimize risks associated with manual material handling.

Safe Handling and Storage of Materials & Equipment:

- Ensure all materials and equipment are stored and moved safely to prevent injuries.
- Provide proper material handling equipment where necessary.

Training and Awareness:

- Educate workers on proper lifting techniques, MSD risks, and injury prevention strategies.
- Ensure all workers are aware of hazards related to manual material handling.

Ongoing Review and Improvement:

- Continuously monitor manual handling tasks and adjust procedures as needed.
- Provide workers with personal protective equipment (PPE) that supports back health, such as lifting belts (if required).

Workers' Responsibilities

- Follow proper lifting and material handling techniques at all times.
- Report unsafe conditions or ergonomic hazards to supervisors immediately.
- Use mechanical aids or request assistance when lifting heavy or awkward loads.
- Participate in safety training programs related to MSD prevention and back care.

Key Takeaways

- Back injuries develop over time—consistent safe practices are essential.
- Proper lifting techniques, mechanical aids, and teamwork reduce strain on the back.
- Employers must identify hazards, provide training, and enforce safety measures to prevent MSDs.
- Workers must actively participate in injury prevention by using proper techniques and reporting hazards.

By prioritizing safe manual materials handling, NCC T&D ensures a healthier, more productive workforce while minimizing lost-time incidents due to MSDs and back injuries.

For more information, refer to NCC T&D's relevant IMS procedures or consult our HSE Department for expert guidance and training resources aligned with Saudi Arabian regulatory requirements.

