The number of work-related musculoskeletal disorders (WMSDs, see MSDs in Glossary) in construction dropped sharply, by 35%, between 2007 and 2010, following the overall trend in the number of injuries (see page 38). The rate of WMSDs also decreased by 8%, from 41.4 to 38.1 per 10,000 full-time equivalent workers (FTEs, see Glossary) during this period (chart 47a). Despite the drop, in 2010, the rate of WMSDs in construction was still 16% higher than the rate of 32.8 per 10,000 FTEs for all industries combined. Furthermore, these numbers may be underestimated due to the difficulty in establishing the work-relatedness of MSDs as well as injury underreporting (see pages 40 and 41).

The back is the primary body part affected by WMSDs in construction, although the proportion of WMSDs caused by back injuries decreased modestly from 58% in 2003 to 45% in 2010 (chart 47b). Other parts of the body, such as shoulders and extremities, each account for about 10% or less of WMSD cases, and exhibited a slight increase in trend over the same period.

One of the major causes of WMSDs is overexertion (see Glossary), also the leading cause of nonfatal injuries in construction (see page 43). In 2010, overexertion in lifting caused 38% of the WMSDs among construction workers (chart 47c). Other types of overexertion, such as pushing, pulling, and carrying, caused an additional 35% of WMSDs. The rate of injuries from overexertion in lifting was 14.9 per 10,000 FTEs in construction (chart 47d). The overexertion rates in construction were higher than most industries and the average of all industries.

Within construction, the rate of overexertion injuries resulting in days away from work (DAFW) in the masonry sector was more than double the rate for overall construction (66.5 vs. 28.7 per 10,000 FTEs; chart 47e). Concrete contractors also had a high rate of overexertion injuries at 49.2 per 10,000 FTEs.

Sprains, strains, and tears are common types of overexertion WMSDs and may develop into chronic conditions. In 2010, more than 34% of DAFW injuries in construction were related to sprains, strains, and tears (chart 47f).

Many industries have reduced the weight of manually lifted materials to fewer than 50 pounds. In contrast, loads weighing 80 pounds or more are still commonly handled by workers at construction sites. While a well-conditioned male may be able to safely lift a 80-pound load on occasion, repeated actions can increase the risk of WMSDs among workers, particularly among women workers. Ergonomic solutions may help to reduce the risk of WMSDs. Existing ergonomic solutions and ideas are available at the Construction Solutions database: http://www.cpwrconstructionsolutions.org/.

47c. Distribution of risk factors for work-related musculoskeletal disorders resulting in days away from work in construction, 2010

- Overexertion in lifting (37.9%)
- Overexertion, except lifting (34.5%)
- Bending, twisting (20.0%)
- Repetitive motion (7.6%)

Total = 19,120 WMSDs

47d. Rate of overexertion injuries resulting in days away from work, selected industries, 2010

- Transportation: Rate per 10,000 FTEs
- Retail: Rate per 10,000 FTEs
- Wholesale: Rate per 10,000 FTEs
- Construction: Rate per 10,000 FTEs
- Agriculture: Rate per 10,000 FTEs
- Manufacturing: Rate per 10,000 FTEs
- Mining: Rate per 10,000 FTEs
- Utilities: Rate per 10,000 FTEs
- Finance: Rate per 10,000 FTEs

47e. Rate of overexertion injuries resulting in days away from work, selected construction subsectors, 2010

- Masonry: Rate per 10,000 FTEs 66.5
- Concrete: Rate per 10,000 FTEs 49.2
- Drywall & insulation: Rate per 10,000 FTEs 45.3
- Plumbing & heat A/C: Rate per 10,000 FTEs 42.3
- Flooring: Rate per 10,000 FTEs 41.7
- Framing: Rate per 10,000 FTEs 35.3
- Structural steel: Rate per 10,000 FTEs 32.6
- Roofing: Rate per 10,000 FTEs 30.3
- Painting: Rate per 10,000 FTEs 27.0
- Highway, street, & bridge: Rate per 10,000 FTEs 24.3
- Electrical: Rate per 10,000 FTEs 23.6
- Residential building*: Rate per 10,000 FTEs 20.8
- Utility system*: Rate per 10,000 FTEs 18.4
- Nonresidential building*: Rate per 10,000 FTEs 17.2
- Land subdivision*: Rate per 10,000 FTEs 16.1
- Other heavy construction*: Rate per 10,000 FTEs 10.9
- All construction: Rate per 10,000 FTEs 28.7

47f. Distribution of types of nonfatal injuries resulting in days away from work in construction, by nature of injury, 2010

- Total = 74,950 injuries
- Sprains, strains, & tears (34.2%)
- Other (24.1%)
- Cuts & lacerations (9.3%)
- Fractures (11.8%)
- Multiple injuries (4.3%)
- Bruises & contusions (5.5%)
- Soreness & pain, except back (6.2%)
- Heat & chemical burns (1.6%)
- Punctures (2.8%)
- Punctures (2.8%)

Note: All charts - Data cover private wage-and-salary workers only.
Charts 47c and 47f - Total may not add to 100% due to rounding.
Chart 47e - Asterisk (*) represents four-digit NAICS; the remaining are five-digit NAICS.

Source: Charts 47a-47c - U.S. Bureau of Labor Statistics. 2010 and previous years Survey of Occupational Injuries and Illnesses. Data were from the BLS as special requests. (E-mail: IIFSTAFF@BLS.GOV). Calculations by CPWR Data Center.