

Briefing Type: Lessons Learned

Event: LBNL Event

Event Date: 2/21/08

Category: EH&S

Subcategories: Health and Wellness

Lesson Learned No.: LL08-0009

Title: Defective Furniture Design Becomes a Hazard

Incident

An employee struck his right knee against the cantilever bracket of his workstation while swiveling in his chair, resulting in a broken knee cap.

The employee's workstation includes a bi-level adjustable computer table in the middle, and two side tables, each with a 5.75-inch high cantilever bracket on the side "sandwiching" the computer table. It is the cantilever bracket of the right side table that the employee's right knee hit. The employee frequently uses a side table (typically the one on the right) to perform paperwork. Current ANSI standards specify a clearance of 26 inches for the knees for tall people (e.g., 95th percentile males). While the overall station complies, these cantilever brackets provide only a 24 inches clearance.

Causes

- (1) Presence of a 5.75-inch cantilever bracket on the side table relative to height of employee on chair.
- (2) Turning rapidly in chair while moving from working on computer table to the side table.
- (3) Using a chair mat underneath a chair that is equipped with special carpet casters (designed to roll easily on carpet) might have added speed to the rolling.

Lessons Learned / Recommendations

- (1) Ergonomic evaluations should include evaluation of knee space and free movement under the workstation.
- (2) Advocate vigilance about leg movement underneath different work surfaces. People with longer legs will have more problems with certain furniture.
- (3) Procure and install office furniture that has been designed and constructed with adequate clearances per ANSI standards.
- (4) Chair casters should be matched for the surface on which they will be used. Do not use a chair mat if the chair comes with special carpet casters.

Further Information

Any additional assistance or questions regarding this Lessons Learned may be directed to Mike White (510/486-5818).

Example of the problematic furniture design (2 photos attached)

