

# Adding insight to injury



**Sometimes the people with the worst injuries are not hospital patients ... they are employees. But the 2/5 rule can change that.**

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If changing the placement of electrical outlets, refrigerators, and storage could help you direct more resources into patient care, wouldn't you do it? The reality is that poor workplace ergonomics can lead to injuries that not only divert funds from efforts and programs designed to improve patient care but

**“Substantive organizational transformation requires a fully committed leadership team that is passionate about embracing the LEAN journey of process improvement.”**

James FitzPatrick, former President/CEO  
Mercy Medical Center – North Iowa

MMC-NI's lean implementation began over 3 1/2 years ago (branded internally as Performance Excellence, or PEx) and has now been rolled out to all departments in the hospital by a PEx team of improvement specialists. As CEO, FitzPatrick was directly involved in huddles, rapid improvement events, rapid improvement report-outs, and 5S audits. He required all senior leaders to do the same.

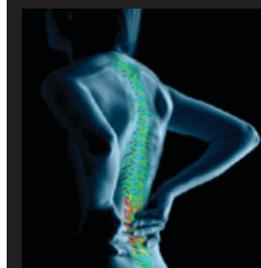
also erode your workplace quality and the overall satisfaction of your employees.

That is why the process improvement team at Mercy Medical Center – North Iowa, a member of the Mercy Health Network, under the direction of former President and CEO Jim FitzPatrick and in conjunction with Flad Architects, developed the new **2/5 ergonomic guideline** in a series of LEAN kaizen events.

A kaizen event is a focused effort by a cross-functional team “to make a leap” or profound change. This team used cardboard mockups of the space and worker simulations – conducted by actual employees – to develop a new ergonomic rule. Their findings were surprisingly simple.

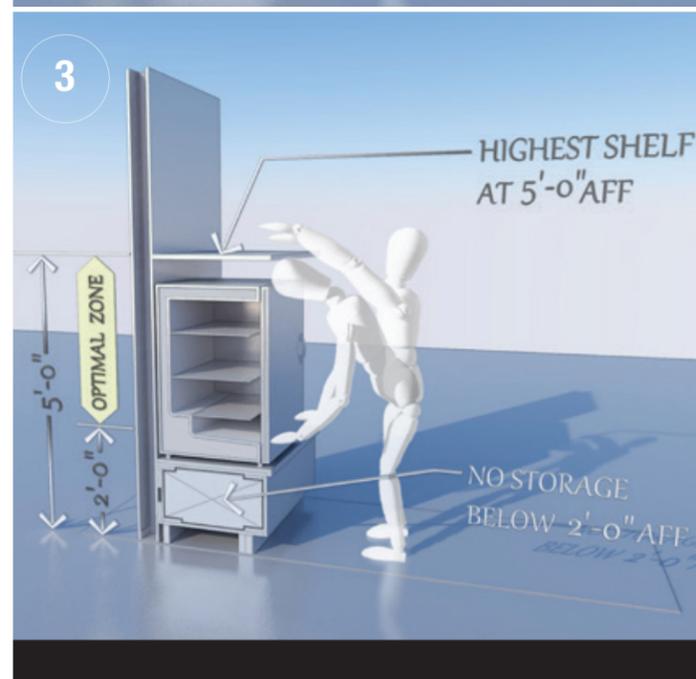
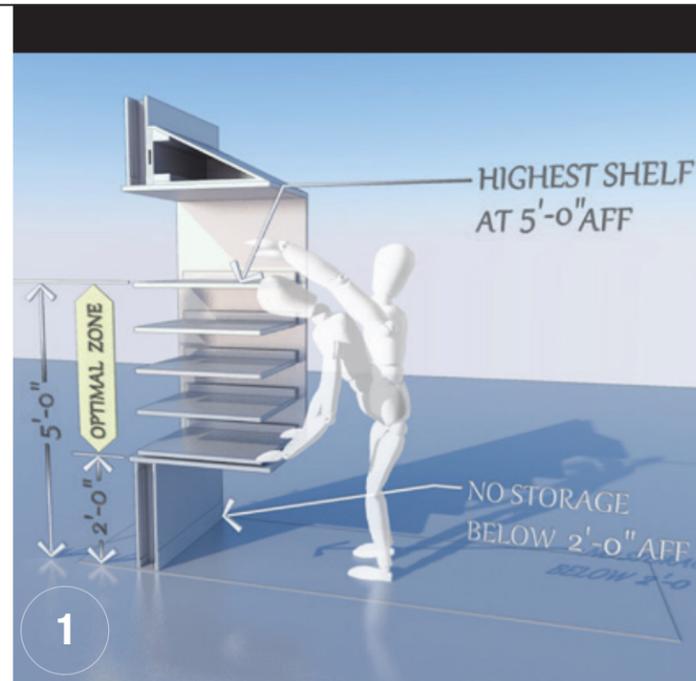
The 2/5 rule states that workplace design should, to the greatest extent possible, eliminate reach below two feet or above five feet off the finish floor. Designing with this principle in mind can help promote patient health and employee satisfaction by minimizing costly work-related injuries that lead to lawsuits, absenteeism, higher insurance premiums, and other direct and indirect costs.

**The effects**



**The effects of poor ergonomics can be profound. Healthcare and social assistance workers are more likely to be injured at work than those in other industries – including construction. Many of those injuries are directly related to back strain, and nearly a third are due to poor ergonomics.<sup>1</sup>**

<sup>1</sup> US Bureau of Labor Statistics Workplace Injuries and Illnesses -2010 & Guidelines for Nursing Homes – OSHA 3182-3R 2009



**Healthcare work is physical.** Many jobs involve long periods of standing as well as multifunctional reaching and repeated lifting, squatting, kneeling, bending, and plugging in devices all day. Without properly designed workplaces, these actions can produce ongoing physical stress that weaken the musculoskeletal support mechanism with repetitive micro-trauma. Over time this can lead to muscle, ligament, vertebrae, or disc injuries. While acute injury is often attributed to a single, well-defined incident, the truth is that some develop slowly due to continual, albeit slight, discomfort.

Proper healthcare ergonomics involves more than safe patient handling and computer workstation layout. It affects nearly every aspect of workplace design.

**The 2/5 rule simplifies what seems like a daunting task with a clear, straightforward strategy to create an environment that supports patient care.**

**Basic elements of the 2/5 rule:**

- Design and plan using the “Optimal Zone” to minimize bending and reaching and to eliminate full-height storage below two feet or above five feet off the finish floor. (See Illustration 1)
- Rethink “under cabinet” refrigerators by raising them to proper height for easy sight and access of product along with easy cleaning, loading, and maintenance. (See Illustration 2)

## Basic elements of the 2/5 rule:

(continued)

- Optimize and routinize placement of technology interfaces, medical gas, nurse call, and electrical outlets in all patient treatment areas, including dual MD/Nurse computer workstations.
- Incorporate Treatment Room pass-through supply cabinetry to remove supply staff from the work zone and to ensure consistency. Having a place for everything and putting everything in its place can help reduce medical errors and improve product retrieval times.  
(See Illustration 3)
- Incorporate adjustable or varied work surface heights.
- Incorporate patient lift devices in all key patient care areas.
- Incorporate non-glare lighting and adequate task lighting with patient and staff comfort and safety in mind.
- Adequately size medical areas to accommodate several focused staff working simultaneously.

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**Mercy Medical Center – North Iowa** is a licensed 346-bed hospital located in Mason City, Iowa. The hospital is the hub of Mercy Health Network-North Iowa, which also includes 8 critical access hospitals and 38 primary and specialty care clinics. The existing emergency department was undersized, outdated, and did not meet today's standard of patient centric care. The newly constructed 25,000-square-foot Level II Trauma Center Emergency Department opened in February 2012 and includes a center work core concept encircled by 21 private exam treatment rooms. The project was designed by Flad Architects in conjunction with the local firm of Bergland + Cram Architects.

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