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## **The Role Of The Nurse In Hospital Design**

In a recently released white paper titled, "Health Care at the Crossroads: Guiding Principals for the Development of the Hospital of the Future", The Joint Commission (TJC) stated that hospital design is one of five major issues that must be addressed so that hospitals can enhance health care for all patients. Numerous studies are cited in the paper which describes hospital design characteristics that improve patient safety and health care outcomes, and provide a supportive environment for hospital staff. Yet, most new hospitals are not being built "safe by design" (TJC 2008). This is also the experience of many nurses (from direct observation of a number of acute care facilities in Oregon).

To achieve the goal of "safe by design", the TJC report calls for specific actions that include allowing clinicians and other staff, patients and families to be actively involved in the design process to improve staff work flow and patient safety. However, lack of nursing input in the design process and incorporation of design principles to prevent staff injuries such as musculoskeletal disorders does not appear to be or is not recognized as important as designing a safe environment for patients. Consequently, nurses have to find ways to "work around" or adapt to poorly designed work environments that are physically and cognitively demanding. The result is an increase risk of patient and staff injury (Gosbee, 2005).

Poor design practices still in use include:

- Long hallways creating the need for nurses to walk up to 12 miles per shift.
- Lack of equipment to safely move and lift patients.
- Small bathrooms with poor accessibility for patients and staff.
- Non-adjustable computer workstations that create musculoskeletal stress and risk of visual error.
- Carpeted floor surfaces which create high push forces when moving beds and stretchers, increasing the risk of staff injury.
- Lack of and poorly designed storage space that increases time to find and safely access equipment and supplies.

These features have been observed by ONA staff and reported by ONA members who have or are living through redesign of acute care facilities. To achieve the goal of “safe by design”, ergonomics and human factors design principles must be incorporated into the design of hospitals and the meaningful, direct involvement of nurses and other health care staff must occur throughout the design process. Ergonomically friendly, safe and effective workplaces not only assist to retain staff, but to increase employee motivation, job satisfaction, and performance. If nurses, as experts in patient care, are to be an effective participant in the design process, they must not only be able to communicate information about care tasks they perform and problems they face in their work, but also have knowledge of basic ergonomics and safety design principles that are applicable for their work environment. For example, nurses need to know how to choose appropriate safe patient handling equipment or how to determine safe work space dimensions or unit work flow.

Nurses must be able to assess proposed design plans through realistic task simulations so that unanticipated problems can be resolved before completion and use of a new patient care area or facility. Design of new facilities or renovations of existing facilities involves a collaborative effort between facility design professionals, management, health and safety personnel, nurses and other assistive personnel involved in the project. Nurses must be empowered to be the expert who can ensure patient and staff safety is incorporated into every design.

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