ERGONOMIC CASE STUDY:

South Miami Hospital

The causes for work-related musculoskeletal disorders among sonographers are multifactorial and, thus, require an integrated approach to reducing the risks for injury. Some of the elements that contribute to reducing risks are:

- Design of hospital equipment
- Scheduling of patients and sonographer rotations
- Education and training programs
- Injury-reporting systems
- Adopting best work practices

There is evidence that occupational injuries can be minimized through ergonomically designed work environments and changes in work behaviors. All too often, however, workers and administrators are not in agreement as to the best ways to address these injuries. Imaging managers and hospital administrators are faced with not only maintaining a safe work environment but also with providing quality patient care services and maintaining a healthy budget. Sonographers are tasked with providing quality ultrasound exams in a timely and productive manner. In addition, when exams have to be performed outside the ultrasound department, the needs of the personnel and patients in other departments must also be taken into account.

Often these seemingly conflicting needs can lead to frustration on the part of the sonographers and a sense that no one is listening to them. They continue to work in pain thinking that there are few or no solutions. However, continued exposure to work hazards, can eventually lead to disabling injuries. Then, the ultrasound department has lost an experienced sonographer which translates to decreased productive, potential impact on patient care, and increased costs to the hospital in the way of medical and Worker’s Compensation costs and hiring and training replacement staff.

It is to the benefit of the ultrasound department and the hospital that workers reduce their risks for injury and that management and sonographers work together to address
injury risks. Sadly, this does not occur often enough and each party remains confined in his or her ‘silo’ working in isolation. However, when multiple healthcare and management teams come together to brainstorm ways in which injury risks can be minimized while still maintaining the environment necessary for good patient care, innovative solutions arise and the sense of caring and cooperation is reinforced.

One such example of this synergy has occurred at South Miami Hospital, a part of Baptist Health, South Florida. Of concern was the risk for injury when sonographers were doing exams in the neonatal intensive care unit. The hospital’s ergonomic specialist researched some possible solutions, including work posture changes and environmental changes. These ideas were then shared with the NICU manager, NICU nurses, respiratory therapy, ultrasound department management and sonographers, and input from all parties was sought and respectfully considered.

This unique environment requires the sonographers to work in very confined spaces since the infants must remain in isolettes. Although these are height adjustable, tubing and ventilator hoses make repositioning the isolette precarious. Placement of the ultrasound system is challenging due to the location of other equipment needed to support these patients. Additionally, sonographers are limited in how they can support their scanning arms; the infants are too small and fragile for sonographers to rest their arms on them and the use of an arm support cushion next to the infants may cause a reduction in body temperature.
After reviewing the design of the isolettes, the available space for the ultrasound systems and the needs of these infants, the South Miami Hospital team arrived at viable solutions that they plan to implement. The NICU staff and the ultrasound staff are working together to determine if an isolette can be opened for the duration of the exam by using a portable radiant warmer to maintain the infant’s body temperature. A nurse and/or respiratory therapist will be present in the level 3 NICU to assist the sonographer in making height adjustments to the isolette while maintaining the integrity of tubing. Sonographers will use rolled-up towels or small blankets placed next to the infants as arm supports. The ultrasound managers will consider the purchase of a small ultrasound system that can more easily be positioned comfortably in the NICU. The NICU managers, through communications with ordering physicians, will determine if the scheduling of routine ultrasound exams can be spaced out over more than one day so that sonographers aren’t doing a large number of injury-producing exams back-to-back.

South Miami Hospital is an example of how simple, yet effective, solutions can be created that both address occupational injury risks and maintain the important patient care environment. Sonographers concerns have been heard and addressed while the NICU staff is ensured that the needs of their patients and the NICU environment are respected.