Arm Brace for Sonographers to Reduce Wrist Injuries

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Technology description

As use of real-time diagnostic ultrasound scanning has increased, work-related injury has become epidemic among medical sonographers and echocardiographers. Approximately 80 percent of sonographers report some type of musculoskeletal ailment of the hand and wrist, and career-ending injuries due to the daily stresses of sonography affect roughly 20 percent of the workforce.

During an ultrasound imaging procedure, sonographers are required to grasp the ultrasonic transducer (probe) tightly with their fingers, and then exert considerable force from the wrist against the body wall of the patient. Most injuries result from this combined “pinch and push” effort. UW-Madison researchers have developed a spiral splint that acts as a kind of lever to transfer at least some of the force required for medical ultrasound imaging from the hand and wrist to the arm and forearm. The padded splint is fixed to the forearm with two Velcro straps. An ultrasound probe can be flexibly connected to the splint via a lockable, universal ball and socket joint mounted above the sonographer’s hand.
The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a spiral splint that transfers some of the force required for medical ultrasound imaging from the hand and wrist to the arm and forearm to minimize wrist injuries.

Institution

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