



Image Diagnostics and ECLS partner on 'groundbreaking' radiation shield

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FITCHBURG, MASS. September 27, 2018 – Image Diagnostics has entered into a product development agreement with ECLS, Inc. a company founded by James Goldstein, MD to design a groundbreaking radiation shield expected to debut at RSNA 2018. Dr. Goldstein, a Cardiologist at Royal Oak Michigan's Beaumont Hospital is an innovator in his field for over 35 years. Along with providing exceptional patient care and clinical research on myocardial infarction, he has been dedicated to create a safer work environment for interventional physicians. The radiation shield, conceptualized by Dr. Goldstein, is expected to mark a new era for the safety of the interventional suite, addressing the adverse health effects of radiation exposure and the strain of long term wear of protective lead during interventional surgery.

"Our system currently in development is designed with a radiation shielding apparatus to facilitate performance of fluoroscopic catheterization procedures with unprecedented radiation reduction," said Dr. James Goldstein. "Decreasing the risk of cancer and cataracts and eliminating the need of wearing protective lead that often causes orthopedic burdens, it will cause a paradigm shift in the occupational health of interventionalists."

Small measures have been taken in recent years to safeguard interventional staff from radiation exposure, including enhanced training, frame rate reduction, techniques for positioning and various shielding systems. Despite these efforts, interventionalists are still exposed to radiation daily while wearing personal protective lead, which only partially protects them. This, according to many epidemiologic studies, leads to orthopedic injuries (especially the spine) the induction of cataracts and may be associated with greater risk for cancers. In aggregate, these ailments contribute to missed days of work and, or unwanted early retirement from the field [1].

Major health repercussions posed to interventionalists today due to cumulative adverse effects of bearing weight of personal protective lead and radiation exposure:

- Orthopedic Illness

The orthopedic consequences of wearing protective lead in the current interventional suite are staggering – 60% of cardiologists have reported spinal issues after just 21 years in practice, 28% report knee, hip or ankle problems and 33% miss work due to orthopedic issues caused by cumbersome protective apparel and poor ergonomic design of interventional suites [1]. In a SCAI survey, nearly half of the 424 respondents reported spine problems [2]. The daily bearing of weight over time largely places interventionalists at risk for spinal, knee, hip and ankle pain and illness with a strong correlation being found between the number of years in practice and the incidence of these impairing orthopedic problems [2].

- Cataracts

Those in the interventional field face a high risk of cataractogenesis. In an observational study, posterior subcapsular lens opacities are shown to be three times more prevalent in interventional cardiologists than the general population [4]. While measures such as the use of protective eyewear aid in the safeguarding of those exposed to radiation, they have a variable effectiveness depending on the shape and thickness of the glasses as well as the radiation angle and anatomical facial structure of the physician [8,9].

- Cancers

Observational evidence in several studies suggests a possible correlation between radiation exposure during fluoroscopically guided procedures and the induction of hematologic malignancies and cancers in the brain and neck [5,6]. Reports of brain cancers in interventionalists have shown that these tumors predominantly occur on the left side of the brain, that side which is directly more exposed to radiation from the X-Ray C arm compared to the right, suggesting a possible causal relationship between radiation and such frequently fatal cancers [5,6,7]. One study [7] found that the death rate from brain cancer in radiologists was almost three times that of other medical specialists who did not use radiation.

The revolutionary radiation shield to markedly reduce these associated health issues within the interventional field will debut at RSNA 2018 at the Image Diagnostics booth from November 25 - 30, booth 8123 in the North Hall of McCormick Place, Chicago, IL.

For more information about Image Diagnostics, please visit www.imagediagnostics.com. For more information about Dr. James Goldstein, please visit www.doctors.beaumont.org/provider/James+A+Goldstein.

About Image Diagnostics

Image Diagnostics Inc. is a leading manufacturer of specialized equipment and accessories for surgical and diagnostic imaging applications. Their mobile equipment solutions for these applications, including C-arm compatible tables and mobile video display systems are sold to hospitals and surgery centers globally. IDI products are CE marked and ETL listed to applicable UL, CSA and IEC standards. Certified veteran owned and founded in 1986, IDI is headquartered in a modern 38,000 sq. ft. facility in Fitchburg, Massachusetts, USA, where IDI products are both designed and manufactured. For more information, please visit www.imagediagnostics.com or call 877-304-5434.