The four pillars of radiation safety

Even among medical professionals at the same institution, radiation dose management involves different approaches to implementation and safety. Much of the disparity stems from years of varying beliefs and practices, and even misconceptions about the application of X-rays. This variation can have a significant impact on the safety of radiation imaging.

A uniform program of radiation safety — assessment, tools and solutions, education and professional service — is the solution. Placing the focus on continuous quality improvement will not only assure that patients receive efficient, quality care, but alleviate concerns regarding radiation exposure.

Here are what we believe the four pillars of creating a culture of radiation safety.

Pillar one Understanding

Increase understanding through personalized program assessment.

Components:

- **Dose monitoring evaluation,** which includes equipment review, policy and procedure reviews, and image archiving systems.
- **Dose planning,** including the establishment of dose process best practices for staff and patients.
- **Implementation of education and training,** KPI checks, and creation of an end-to-end process.

Pillar two Integration

Promote integration through customized tools and solutions.

Components:

- **Tool implementation,** including dose-tracking software, lead vests/shielding and image quality (IQ) tools.
- **Solution implementation,** including strategic administration of policy and procedures, governance models, KPI metrics, and ACR Dose Index Registry comparisons.

Pillar three Education

Enhance education through creation of collaborative learning environment.

Components:

- **A Learning Center,** featuring specialized DoseWise education topics
- **Webinars,** both live and recorded.
- **Peer-reviewed journal articles** and Philips whitepapers
- **Public and patient education** on the real risks and benefits of imaging using radiation.

Pillar Four Improvement

Enable improvement through professional consulting that assists with technical and administrative issues.

Components:

- **Professional services that address protocol optimization,** benchmark and metric comparisons and reviews, shielding designs, and image quality and associated quality assurance reviews.
- **Consultation on workflow and equipment utilization, ACR accreditation,** evaluation of low-dose technology and program auditing (JC, XR-29, Agreement State, Notified Body).

Management

The support of senior management is crucial for bringing all departments together under the objective of creating a culture of radiation safety. They are responsible for emphasizing the hospital's vision and goals.

Key Committees

Committees are necessary to assess the specific needs of patients and hospital staff with regards to radiation safety.

Metrics

Metrics are the key to measuring progress and making improvements and changes when necessary.

Establishing a culture of radiation safety demonstrates an institution's commitment to the safety and well-being of its staff.

Providing them with the tools and support needed to perform their duties in a safe environment elevates morale and the commitment to improving patient care.