

Dose Creep

Dose Creep. What sounds to the layperson like a straight-to-video horror movie villain is actually a serious radiation safety hazard that occurs in radiology practices around the country every single day. [Dose creep](#) is the unintentional overexposure of a patient to radiation. There are several reasons why too much radiation might be used for an X-ray or other diagnostic image, but there is no excuse for putting the patient at risk. Not only does dose creep expose patients to more radiation than they signed up for, it also increases the amount of scatter radiation potentially experienced by the radiographic technologists in the exam room. It's in the interest of both patient & technologist to use only as much radiation as is clinically recommended. To understand why radiology professionals regularly deviate from this standard, we've got to understand aspects of diagnostic imaging workplace culture and technology.

The Technological Causes of Dose Creep

The first cause of dose creep is the most difficult to understand. Different manufacturers of x-ray equipment use different styles of Exposure Indicator. Some EIs represent changes in dose level in real time; others display the programmed change even if the machine hasn't "caught up" yet. Because there is still no industry standard EI, it's understandable that there may be some confusion among technologists.

The Workplace Culture Problem of Dose Creep

The most significant cause of dose creep has more to do with individual human error and general workplace culture. In most practices, image clarity is a very high priority - so much so that it's not uncommon for technologists to get in trouble if the final image isn't up to snuff. If too little radiation is used, an image is underexposed. Underexposure results in more image "noise" - low level radiation failing to penetrate through materials that are not meant to appear in the final image, causing them to appear in the image. To avoid negative workplace repercussions and reprimands, some technologists have been known to use double or triple the maximum recommended radiation dose, in order to get a [crystal clear image](#) every time. Not only is this unnecessary, especially with the improvements that have been made in new digital imaging technologies, this exposes patients to far more radiation than they agreed to be subjected to. Many technologists who are guilty of perpetuating dose creep do not do so intentionally. Sometimes they are just making changes to a machine's settings "by eye", and observing differences in image quality in real time without thinking of the consequences of changes in dosage level.

The Techno-Aide Difference

[Techno-Aide's](#) study of the subject has led us to believe that dose creep is a ubiquitous problem in diagnostic imaging. We care about this issue because we do everything we can to produce radiology accessories that don't contribute to image noise. We work for image clarity so that patients *don't get exposed to more radiation than is necessary, so we take it personally when we hear that dose creep is commonplace. We want to bring attention to this issue, so we'll cover more on the subject next time. Until then, fight dose creep by using only as much radiation as clinically necessary!*

