Overdose is a common problem in the Emergency Department. Concerning ingestions involve sustained release (SR) preparations, where toxicity may manifest in a delayed fashion. A screening tool to assist clinical decision making would be helpful. Abdominal x-ray is a rapid, non-invasive tool with minimal risk. Prior studies have shown mixed results. In the 15 years since last studied there have been changes in medication formulation and x-ray technology. We describe the radiolucency of current SR medications to determine whether this warrants a re-evaluation in suspected overdoses.

An inner-city teaching hospital formulary was reviewed for all SR medications. Due to hospital policy, controlled substances were excluded. 16 were identified. A Hologic model DP A/Q D R - 1 Anthropomorphic Spine Tissue Phantom, used to calibrate bone densitometers and approximated the average human abdomen in a supine position. Two of each medication were placed underneath in a transparent plastic bag, “2” being the smallest “multiple-ingestion” possible. A U.S. quarter was used to provide contrasting radiopacity.

Abdominal XRay may be a useful diagnostic adjunct for some radiopaque sustained release preparations in an acute overdose.

References