

**PROFESSION**

**CT scans rise fourfold in EDs, but hospitalizations fall by half**

A new look at a decade's worth of emergency visits suggests increased use of CTs may help physicians send patients home sooner.

By **KEVIN B. O'REILLY**, *amednews* staff. *Posted Aug. 19, 2011.*

Computed tomography use in U.S. emergency departments more than quadrupled between 1996 and 2007, but newly published data from more than 350,000 patient visits show that hospital admissions after a scan in the ED fell by more than half.

In light of concerns about potential cumulative radiation dose due to the skyrocketing use of medical imaging, the information sheds light on how CT scans may benefit patients, said Keith E. Kocher, MD, MPH, lead author of the study published online Aug. 12 in *Annals of Emergency Medicine* ([www.ncbi.nlm.nih.gov/pubmed/21835499](http://www.ncbi.nlm.nih.gov/pubmed/21835499)).

"There are a lot of questions to ask about the exploding use of CT scans in the ED, and one of the things you want to know is whether this is changing patient outcomes," said Dr. Kocher, clinical instructor of emergency medicine at the University of Michigan Medical School. "It appears there's an association between the rate of CT scans going up and physicians being more likely to discharge patients home than [there] used to be."

So, for example, a patient with abdominal pain might previously have been hospitalized for observation due to fears of appendicitis, Dr. Kocher said.

"Now, after a couple of hours of getting the CT scan done and read, you'd know whether or not the patient has appendicitis," he said. "Instead of having to admit the patient at the end of that visit you can say, 'Hey, you're OK. There are no signs of appendicitis. Maybe this is a stomach flu. Why don't you go home and get better?'"

Sandra Schneider, MD, president of the American College of Emergency Physicians, echoed the point.

"CT scanning is used by emergency physicians because it often makes the diagnosis," she said, adding that doctors' medical liability concerns play a role.

"A recent survey of emergency physicians showed that more than half stated that the fear of lawsuits was the main reason that emergency physicians order the number of tests that they do," said Dr. Schneider, an emergency physician at Strong Memorial Hospital in Rochester, N.Y. "If we provided reasonable protection for emergency physicians who follow endorsed guidelines -- perhaps with compensation for that one-in-a-thousand victim -- then we might see some real cost reduction in health care."

**Reassessing habits**

Congressional legislation to add medical liability protections for emergency physicians has been stymied repeatedly. The Physician Consortium for Performance Improvement, convened by the American Medical Association, is considering a set of 11 quality metrics aimed at discouraging inappropriate use of CTs to reduce unnecessary patient exposure to medical radiation.

In 1996, 3.2% of ED visits involved a CT scan, said the *Annals* study. By 2007, CT scans were ordered in 13.9% of trips to the emergency department.

But the rate of hospitalization after a CT fell from 26% in 1996 to 12.1% in 2007. The overall rate of hospitalization of ED patients rose during this period, suggesting that patients who were scanned saw a benefit in avoiding admission to a hospital.

The study does highlight questionable imaging practices, Dr. Kocher said. For example, 43% of ED patients with flank pain underwent CT scans by 2007. These scans probably were ordered to diagnose kidney stones, but there are other ways of diagnosing the condition without CTs, he said.

"Ultimately, the growth in CT scans is unsustainable," Dr. Kocher said. "Studies like the one we did call attention to the fact that you should reassess your habits as a physician when it comes to ordering CT scans."

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