



DMS's James Sargent, M.D., noted for his studies of smoking in U.S. movies, advised researchers in India who documented the impact on Indian adolescents from smoking in Bollywood films.

Imaging test is new—but is it better?

Like other pulmonologists, Renda Wiener, M.D., often sees patients with a pulmonary embolism, a blood clot in the lungs, and she follows standard practice by prescribing blood thinners regardless of the size of the clot. But unlike most pulmonologists, Wiener began to question whether patients with the smallest clots really need treatment.

Look: Working with DMS researchers Lisa Schwartz, M.D., and Steven Woloshin, M.D., Wiener took a close look at how a pulmonary embolism (PE) is typically diagnosed and treated. What the trio discovered—as reported in the *Archives of Internal Medicine*—appears to be a classic case of overdiagnosis.

Using the Nationwide Inpatient Sample, a database on millions of hospital stays, Wiener and her collaborators found that from 1993 to 1998, the number of patients diagnosed with a PE was fairly stable—about 60 patients a year per 100,000 adults. Then, in 1998, doctors began scanning for clots using a new, highly sensitive test—computed tomographic pulmonary angiography. After this test was intro-

duced, the rate of PE diagnoses increased 7.1% a year, reaching about 112 patients per 100,000 adults by 2006.

But despite the rise in diagnoses, the PE death rate remained at about 12 per 100,000 adults. That indicated to Wiener that people with very small clots, which would previously have gone undetected, didn't benefit from treatment. In other words, they were being overdiagnosed.

This sharp rise in treatment-related harm surprised her. “You're just picking up more because you have a more sensitive test,” she says. Those patients “could have lived their whole life [having] never known about the abnormality and... not have died from it.” Instead, they were exposed to the potential harms of blood thinners, which include bleeding in the intestines and skull.

Wiener also analyzed trends in three side effects that can be caused by blood thinners. Before the new test, the rate of these side effects had been fairly stable for five years. But from 1998 to 2006, the rate increased from 3.1 to 5.3 cases per 100,000 adults. This sharp rise in treatment-related harm surprised Wiener.

CLOTS: But she says more research is needed before the standard regimen is changed. Though the national database gave her a broad look at the diagnosis and treatment of PE, it didn't provide the information doctors need to decide which blood clots shouldn't be treated. She and her collaborators are now calling for a clinical trial to see if patients with very small PEs benefit from treatment.

Wiener says the study is already attracting interest. One doctor wrote her an e-mail explaining his shock at the findings. “He'd never thought about the possibility of overdiagnosis” of PE, she says. “It's always nice to hear... how your work may be bringing a new perspective to people or practices.” CHRISTIANNA L. LEWIS



JON GILBERT FOX

Wiener conducted the study while at Dartmouth, but she has since moved to Boston University.

A hard-hitting study

Smack! Collisions are part of the game of hockey, but just how often, how hard, and where do players get hit? Investigators from Dartmouth, Harvard, and Brown examined that question among 88 male and female collegiate hockey players, using specialized helmets. They found that men and women had about the same number of collisions but that men were hit with much greater force. More research is needed to understand why female players have higher rates of concussions despite lesser impacts, the authors wrote in the journal *Medicine and Science in Sports and Exercise*.



Hand it to these surgeons

A common hand procedure called carpal tunnel surgery costs less and takes less time when it's done in a doctor's clinic rather than in an operating room, according to a study by DHMC surgeons. Previous research found the procedure to be just as safe in either location, but the Dartmouth study revealed that it cost two to four times as much when performed in an OR; the profit margin was smaller, too, despite the higher cost. The study relied on DHMC data from 2007, but “it is highly likely that similar findings would hold true in other institutions,” wrote Abhishek Chatterjee, M.D., and his coauthors in the *Annals of Plastic Surgery*.

