

Improving Adherence to Lung Cancer Screening Guidelines



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The health benefits of screening eligible patients for lung cancer with low dose computed tomography (LDCT) have been well established. The National Lung Cancer Screening Trial — led by Denise Aberle, MD, professor of radiology at UCLA — demonstrated a 20 percent relative risk reduction compared to chest radiography. In a subsequent European trial (NELSON), lung cancer screening with LDCT reduced mortality in women by 33 percent and in men by 24 percent compared to no screening.



“By a large margin, however, not enough of those who would benefit from getting regular, low dose CT screening for lung cancer are doing so,” says Hannah Milch, MD, assistant professor of radiology at UCLA. “Five to 10 percent, essentially, of eligible current and former smokers are being screened.”

Adherence to breast cancer screening recommendations, by contrast, is between 76 and 81 percent. Dr. Milch, in collaboration with Ashley Prosper, MD, assistant professor of radiology at UCLA, is exploring the possibility of leveraging the high adherence to screening guidelines for breast cancer to improve the poor adherence to lung cancer screening guidelines. “We have, on the one hand, an image-based screening practice

that has been around for a while that has very high adherence and on the other hand a newer type of screening modality — LDCT for lung cancer screening — also shown to save lives, but with a much lower percentage of eligible patients adhering to those guidelines,” says Dr. Milch.

Dr. Milch recently conducted a pilot study at UCLA in which over 800 women being seen for breast cancer screening were surveyed to determine their eligibility for lung cancer screening, their awareness of lung cancer screening and their adherence to lung cancer screening guidelines. She found that about a quarter of the women presenting for screening mammography had a history of smoking, and about one in seven of these women

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were potentially eligible for lung cancer screening. Yet the majority (63 percent) of these eligible women had never heard of lung cancer screening with LDCT.

“If we could use screening mammography as a way to identify women who could really benefit from lung cancer screening, that could potentially have a significant impact on adherence to lung cancer screening guidelines,” explains Dr. Milch. Drs. Milch and Prosper speculate about the possibility of combining even more image-based screening exams to improve adherence and offer better convenience to patients. They point out that additional image-based screening services that might be considered for inclusion in a radiology-based wellness package could include CT coronary calcification scoring, DEXA scans for bone density and CT colonography. “It may be easier for patients to take these preventive measures if they were coordinated into a single visit. That could be very helpful for patients’ overall health,” adds Dr. Milch.

Dr. Prosper is also pursuing another research project based on her analysis of the National Lung Screening Trial data. “African American men have the highest rate of morbidity and mortality from lung cancer of any group. In the NLST, when African Americans were screened with low dose CT, they had the greatest reduction in lung cancer mortality as well as all-cause mortality.”

Dr. Prosper was recently awarded an Innovation Fund grant from the American College of Radiology to devise educational and outreach tools to improve lung cancer screening adherence among African Americans to help address the disparity in their health care outcomes. In collaboration with a group of community stakeholders, she is working to develop education and outreach tools specifically for the African American community that are culturally relevant and culturally competent.

The end products of Dr. Prosper’s one-year project, which begins in September of this year, will include videos, a website, outreach tools and a guide on forming community partnerships that will be made available to other radiology centers. “We have a lot of lung cancer screening programs that are accredited through the American College of Radiology across the country who I hope will be similarly interested in engaging their communities and working with their surrounding populations to make sure that patients are aware of their screening programs and feel that they can access them and will be welcome,” explains Dr. Prosper.

Improving adherence to lung screening guidelines requires addressing psychological barriers unique to lung cancer screening. “Lung cancer screening is different from just about any other cancer screening exam in that patients face stigma as current or former smokers,” explains Dr. Prosper. “That can be a real barrier to patients coming in to get screened for lung cancer.” Smoking stigma and fatalistic views about their lung health can keep this group from getting screened. “Any way that we can facilitate or normalize the process of getting screened for lung cancer will be beneficial to these patients,” says Dr. Prosper.

Updated Guidelines Could Benefit African American Men

Current guidelines from the United States Preventive Service Task Force (USPSTF) recommend annual lung cancer screening with low dose computed tomography for adults 55 to 80 years of age who have a 30 pack-year smoking history and who currently smoke or have quit within the past 15 years. The USPSTF has recently proposed changes to lower the age range to 50 years and the smoking history to 20 pack-years.

	Current Guidelines	Proposed 2020 Revision
Age	55-80	50-80
Pack-years	30	20
Years since quitting	15	15
Grade	B	B

This could prove particularly helpful in the early detection of lung cancer among African American men, as they tend to develop lung cancer at a younger age and with a lower pack-year smoking history. “A lot of us have felt that the existing guidelines are not inclusive enough — that we’re not catching African American smokers in time,” says Dr. Prosper. “Seeing the USPSTF acknowledge this and widen the age range and widen the smoking history should really help us in terms of improving that inequity.” 