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Residue can travel from smoking to non-smoking rooms in hotels, according to a new study.

by Kim Painter, Special for USA TODAY

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Anyone who has ever walked into a "non-smoking" hotel room and caught the distinct odor of cigarette smoke will not be surprised by the findings of a new study: When a hotel allows smoking in any of its rooms, the smoke gets into all of its rooms, the study suggests.

Nicotine residues and other chemical traces "don't stay in the smoking rooms," says Georg Matt, a psychologist from San Diego State University who led the study, published Monday in the journal [Tobacco Control](#). "They end up in the hallways and in other rooms, including non-smoking rooms."

The study found smoke residue on surfaces and in the air of both smoking and non-smoking rooms in 30 California hotels where smoking was allowed. Levels were highest in the smoking rooms, but levels in non-smoking rooms were much higher than those found at 10 smoke-free hotels.

Volunteers who stayed overnight in the smoking hotels also ended up with sticky nicotine residues on their fingers, whether they stayed in smoking rooms or not. Urine tests found additional evidence of nicotine exposure in those who stayed in smoking rooms, but not those who stayed in the non-smoking rooms.

The research comes as smoke-free hotels are becoming more common, though not as common as smoke-free bars and restaurants. Many large chains, including Marriott, Westin and Comfort Inn, have gone smoke-free and hotels must be smoke-free by law in four states and 71 cities and counties, according to the [Americans for Nonsmokers' Rights Foundation](#). Nearly two-thirds of hotels responding to a recent survey by the American Hotel & Lodging Association said they were smoke-free, though just 39% of

economy hotels said so.

The reason many hotels still offer smoking rooms is that some domestic and international travelers still want them, says Kathryn Potter, senior vice president of marketing and communications for the hotel association, based in Washington, D.C. "I have family members (and) friends who book hotels based on where they can smoke," Potter says.

About one in five U.S. adults still smoke, according to the federal Centers for Disease Control and Prevention (CDC).

Matt says his study suggests non-smokers should choose only hotels with no smoking. He says it's likely that non-smoking guests are routinely exposed to second-hand smoke seeping under doorways and moving through ventilation systems as people smoke elsewhere in hotels. Yet the study also shows widespread contamination with what researchers call "third-hand smoke," the pollutants left behind on furniture, drapes, carpets and in the air, long after cigarettes are extinguished.

Matt says it is possible people are sneaking cigarettes in some of the smoke-free rooms, but other research shows second- and third-hand smoke can travel through homes and apartment buildings.

Second-hand smoke is linked with health effects, including asthma attacks, heart disease and lung cancer, according to the CDC. The effects of third-hand smoke are not as clear.

"We do know third-hand smoke contains many of the same toxins we find in second-hand smoke," Matt says. "When the smoke disappears, the danger does not end."

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