someone who coughs/sneezes or is speaking loudly to prevent contracting the SARS-CoV-2 and possibly COVID-19?

At about the same time as the CDC issued its respiratory hygiene and cough etiquette recommendations for decreasing the transmission of influenza in 2008, I thought that rapidly performing three respiratory and physical maneuvers could decrease the chances of inhaling viral respiratory droplets and aerosols from a person who sneezed, coughed, or spoke loudly in close proximity. With the COVID-19 pandemic, I revisited these three maneuvers as follows:

1. Immediately exhale against pursed lips regardless of where one is in the respiratory cycle, thus minimizing or preventing altogether the inhalation of droplets and aerosols that can carry SARS-CoV-2. Exhaling against pursed lips increases the time it takes to fully exhale, allowing more time to physically increase the distance between you and the source of the cough/sneeze and the droplets and aerosol plume; and

2. While continuing to exhale, rotate your face away from the cough/sneeze and flex your neck, thus presenting the back of one’s head rather than one’s nose, mouth, and eyes to the droplets and aerosol plume and immediately visualizing the sidewalk or floor toward which you will be moving; and

3. While continuing to exhale with head turned and neck flexed, walk or move away if in a wheelchair, for example, from the person who has coughed/sneezed or is speaking loudly. If you cannot walk or move away because of space constraints, at least you have looked away.

Training oneself to safely do these three maneuvers in rapid sequence and under various conditions (e.g., indoors and outdoors) requires intact auditory and visual senses (e.g., hearing and/or seeing the person who coughed/sneezed and synchronization of respiratory, neck, leg, and arm movements, if in a wheelchair). It takes practice to not reflexively inhale initially, negating the efficacy of exhaling by allowing droplets and aerosol to be inhaled. I taught myself to do all three maneuvers quickly and safely, using them over the past decade and employing them during the COVID-19 pandemic.

Whether these three maneuvers decrease the risk of acquiring SARS-CoV-2 indoors or outdoors remains to be proven, as do many other mechanisms of the SARS-CoV-2. Laboratory experiments to determine optically and by viral testing whether there is any benefit from exhalation with and without head turning, neck flexion, and moving or walking away would initially involve both a hollow manikin head padded on the inside to approximate the internal shape and volume of the nasal and buccal cavities in an adult, which expels the equivalent of a sneeze or cough with and without various types of masks, and a similar mobile manikin head with and without a mask that could expel various tidal volumes at different rates, rotate horizontally and flex, and move away at different speeds.

Variables that need to be studied in older adults during these combined maneuvers include tidal volume, velocity of exhaled air, gait speed, use of assistive devices, limitation of head rotation and neck flexion, and fall risk. I believe these three maneuvers are worthy of study, initially using manikins and subsequently humans, to determine if they decrease or prevent the inhalation of SARS-CoV-2 via droplets and aerosols and ultimately the acquisition of COVID-19 by older adults and people with underlying medical conditions.

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Balancing Protection from COVID-19 and the Need for Human Touch in Nursing Homes

To the Editor: It was February in New York. He was pale, cachexic, and, although he had been bald for years, chemo made him look older. He shivered against the cold, walking out of the nursing home where my grandmother, his wife of 54 years, who suffered from late-stage Alzheimer’s disease, had resided for 3 years (Figure 1). “She looked cold,” my grandfather said. “If I leave my jacket, she’ll get more use out of it anyway.” That was the last time he saw her. When he died of pancreatic cancer 3 weeks later, his only concern was leaving her behind; he worried because she could not advocate for herself. Before medical school, while working as a nurse’s aide, I experienced the triumphs and pitfalls of our nursing home system. Even with safeguards to protect the rights of nursing home residents, are we failing them in the face of the COVID-19 pandemic? How can
we balance the need to protect them and the need for human touch?

In addition to advanced age, disabilities, and multiple comorbidities, living arrangements make it difficult to adhere to the social distancing recommendations of the Centers for Disease Control and Prevention. Despite the cancellation of communal dining, group activities, and visits from family and friends, nursing home residents have contact with other residents and with staff who are in close contact with each other and their own families. Some nursing home employees work at multiple locations, increasing exposure. Unsurprisingly, COVID-19, by July 23, 2020, had infected more than 335,000 people in 15,000 nursing homes, killing more than 59,000 residents and employees: 42% of all U.S. COVID-19 deaths. Perhaps my grandfather was right, not so much about the jacket, but about my grandmother’s vulnerability. She had just 1 year, 1 month, and 1 day to use that jacket.

Her death and those of the more than 58,999 others represent a complex societal and political challenge of the American healthcare system: protecting our vulnerable. My grandmother, Vera, did not take any actions that risked infection. She had not left the facility for 3 years and, for a month, had “visited” loved ones only via Facetime, which she could not comprehend. Yet on April 9, we received the call we had dreaded; she had contracted the virus and the prognosis wasn’t good.

It has long been established that older adults are more vulnerable to the effects of social isolation than younger people. As former surgeon general Vivek Murthy stated, “The most common pathology I saw was not heart disease or diabetes; it was loneliness.” Furthermore, Murthy concluded, loneliness is associated with a reduction in life span greater than obesity and equal to smoking 15 cigarettes per day.

In older adults, social isolation and loneliness increase depression, anxiety, cognitive dysfunction, heart disease, and mortality. When recommending a total moratorium on visiting nursing home residents, policymakers clearly considered the effects, including leaving residents to die with an unfamiliar person holding their hands, rather than with their families. Are we benefiting these nursing home residents by putting strict no-contact measures in place and thereby depriving them of human touch?

It is important to prevent the spread of COVID-19 in nursing homes, but we must also mitigate the effects of isolation. Given the high mortality of COVID-19 within nursing homes, suspension of nonessential services and visitation was the right decision. Although we need even more robust efforts to isolate older adults, total isolation has severe long-term repercussions. We need immediate policy changes to address the issue of isolation. Staff members should be available to connect residents to their families or other residents via video calls. Volunteers can sponsor virtual “game nights” or “concerts.” Such events would be inaccessible for residents with severe cognitive disabilities unless staff members were trained to engage residents in the events. In a study in the United Kingdom, patients and primary care physicians were asked what constitutes patient-centered communication. All patients and most doctors felt human therapeutic, rather than procedural, touch was critical. Physicians specifically mentioned older adults, stating, “Older people respond to, or seem to benefit from, skin to skin . . . just holding hands while you talk about how they are feeling.” Therefore, training on human touch will be beneficial during the pandemic when there is a pervasive fear of human touch and could permanently reform nursing home operations in the future, especially for residents who do not have visitors. We must use these 59,000 stories to effect rapid, thoughtful, and meaningful change in the nursing home system. We must prevent death, disability, and depression by balancing isolation during the pandemic with adequate social connectedness.

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