

**Question:** According to the Lancet medical journal, which of these is not associated with dementia?  
A) living at high altitude B) traumatic brain injury C) excess alcohol use D) noisy environment

### Control of Blood Pressure Needs to Improve

High blood pressure continues to be a problem in the US, despite compelling evidence that it is associated with multiple conditions, including cardiovascular disease, stroke, and kidney failure. Three MDs [provided perspective](#) on new findings about patient awareness of their high blood pressure. Using a definition of high blood pressure as above 140/90, the investigators found that the percentage of those controlled to below these levels was 54% in 2013-4 but decreased to 44% in 2017-8. Likewise, awareness by patients of their high blood pressure decreased in the same interval.

One issue is that guidelines for control differ. The European guideline for Stage 1 hypertension is 140/90, whereas the US guideline is 130/80. There are several factors that bear mentioning when it comes to measurement and treatment of blood pressure. Does the patient already have vulnerabilities that would be magnified by high blood pressure? Have lifestyle changes been attempted, perhaps with the addition of drugs? Has treatment been guided by home measurements, avoiding any white-coat effect?

The authors suggest that blood pressure measurements are easy to get. That may be, but if you are like me, my home blood pressure varies from about 120-140/75-85. At the doctor it may be 155/95, which is driven by the ‘white coat’ effect. So, based on at-home measurements, I sit on the edge of having Stage 1 hypertension. Where do you sit with your blood pressure? You know what you need to do: exercise more, eat healthy, lose weight, and stop smoking. The authors rightly point out that patients have a critical role in improving blood pressure control. Here is a patient page for this: [blood pressure](#)

### Risks from Smoke Particle Inhalation

The widespread formation of wildfires along the US west coast, and the subsequent drift of the smoke across the northern part of the country, may cause one to wonder who may be at risk for adverse health effects. This is of particular interest to me since I have been an inhalation toxicologist.

A group of [investigators asked](#) whether the presence of particles less than 2.5 microns increase the risk of ischemic stroke in persons with atrial fibrillation. The risk of stroke in such people is already above normal. Investigators monitored particle exposures near about 31,000 residences for 3.5 years. They found that persons exposed to particle concentrations in the highest quartile were about 20% more likely to experience stroke than persons exposed in the lowest quartile.



Figure 1 Creative Commons – smoke

The size of smoke particles varies with the fuel burned and whether the fire is ‘roaring’ or smoldering. In most cases, a substantial portion of the particles are in the 2.5-micron range or less. Persons in smoky areas with atrial fibrillation should consider extra precautions to reduce their exposure to forest fire smoke.

## Diagnosis from Urine Sediment

Urine sediment is the matter present in the bottom of a test tube after it is centrifuged from a few milliliters of patient urine. When I was a graduate student working nights in an urban hospital in the late 1970s, we student employees liked the urinalysis part of the clinical laboratory because one could study for an hour, line up a dozen urine samples that had arrived, and quickly process these to the ‘sediment’ stage. The sediment was placed on a microscope slide and we recorded our observations. We may have seen white cells, red cells, worm-like casts, bacteria, epithelial cells, or crystals. No formal training!

A group of MDs asked whether [professional nephrologists](#) would consistently report the same findings for a given sediment sample. Digital images were captured of sediment from 10 patients undergoing kidney biopsy in 2018-9 at a major teaching hospital and sent to 21 nephrologists, asking that they complete a panel of 76 questions on their observations.

The overall agreement on casts was 60% and for other features the overall agreement was about 70%. The authors declare that ‘substantial variability occurred in the interpretation of urine sediment findings.’ They further opine that educational and technological improvements would enhance the diagnostic value of urine sediment evaluations.

In my opinion, there is an important message here far beyond the world of urine sediment analysis. That message is that physicians who interpret images of all sorts of things must formally standardize their abilities to report consistently similar findings. This extends to mammography, breast biopsies, cancer screening images, etc. **Patients should rest assured that images read as part of their care do not depend on which expert or machine reads the images. As a patient, if you are not confident of this, then ask for an independent, second-opinion reading of the images.**

## Treatment of Tobacco Dependence is Critical

The CDC has just released a [report on smoking cessation](#) in which it states that ‘Smoking cessation reduces the risk of premature death and can add as much as a decade to life expectancy.’ Three experts express their view that many lives

could be saved with an integrated approach to smoking cessation treatment that includes care during hospitalization and after discharge.

Interestingly, hospitals can choose which performance measures to report and tobacco cessation treatment is one of those measures. The authors report that in 2019, of the almost 5,000 acute-care hospitals in the US, only 95 have selected tobacco treatment measures. None of these are in the *US News and World Report* top 20 hospitals. Even in the hospitals that report this measure, there is only 40% compliance. For perspective, there are 34 million smokers in the US, 2/3rds of them want to quit, and there are effective cessation treatments. Among other barriers, the authors opine that lack of clinician time and knowledge seem to prevent implementation of the treatment.



Figure 2 Creative Commons

There is a role for patients and their advocates since hospitals do not seem to care about smoking cessation. If the patient is a smoker who has presumably not smoked in the hospital for several days, **ask for a cessation program as part of the discharge planning. No – demand it.** In my July newsletter, I summarized an article showing that even occasional smokers are at higher risk for serious diseases than non-smokers. A new smartphone [application](#) has proven more effective than even guideline-recommended methods for smoking cessation.

## False Claims against Overuse of Heart Stents

An [investigator examined](#) the situations in which individuals with knowledge of unnecessary percutaneous coronary intervention (PCI, stent placement) revealed that contractors had defrauded the government. The author of the article found that 16 hospitals had been scrutinized for performing unnecessary PCI under the False Claims Act. These are most obvious in patients that have not

experienced a heart attack. A few cardiologists were found to have overstated the degree of artery occlusion. Some ended up in prison. The mean procedure volume of stent placement in patients without a heart attack fell between 2006 and 2017 from about 1300 per hospital to 300 per hospital. The trend lines comparing investigated hospitals with those not investigated suggests that the investigations may have made an impact on overuse of stent placement in patients with no heart attack. **A good plan for patients not having had a heart attack for whom a stent is suggested: get a second opinion and ask for alternative treatments.**

### **Avoiding Dreaded Dementia**

As we age, many of us, me included, dread the possibility that we will experience dementia. Thanks to a host of experts, the *Lancet* journal has [just published](#) 3 additions to its list of 9 modifiable factors that contribute to the risk of dementia. The original list of factors included the following: less education, high blood pressure, hearing loss, obesity, smoking, depression, low physical activity, limited social contact, and diabetes. The three new additions were as follows: traumatic brain injury, excess alcohol consumption, and air pollution.

Acting on this information may not be easy. If your lifestyle fits one or more of the risk factors, you may want to discuss a plan for reducing risk with your primary care doctor. There may be support methods for your targeted modifications. Alternatively, you may wish to seek these directly from web-based sources. In my experience, lifestyle modifications usually require a structured, outside support platform.

### **COVID-19 ARTICLES AND LINKS**

#### **Effectiveness of N95 and Surgical Masks**

A recent article in *JAMA Internal Medicine* prompted a [commentary](#) by two MD experts. The question at hand was how effective N95 masks are in controlling the spread of the SAR-CoV-2 virus that causes COVID-19. N95 masks are the ‘gold standard’ for protection against airborne pathogens. The commentators rightly point out that N95 masks are not fun to wear for long periods. When properly worn, they are uncomfortable and suffocating. I have direct experience with this. I can only tolerate

2 hours of use of my N95 mask before it must come off. I do not use both securing bands because this makes the mask immediately intolerable.

The commentators provide evidence that much more comfortable surgical masks, while not filtering small particles as efficiently as N95 masks, remain fully capable of protecting individuals in most situations. Of course, these must be properly worn. Deciding which mask to wear depends on many factors, especially the risk associated with the environment in which it will be worn. In my opinion, to wear no mask in a crowded, indoor situation suggests the need for mental evaluation.

#### **Vitamin D and COVID-19 Risk**

A team of [medical investigators](#) from Chicago asked whether vitamin D status was associated with changes in COVID-19 risk. They took a retrospective look at almost 500 patients in an urban teaching hospital that were tested for COVID-19 in March and April of this year. The patients were selected based on having had a vitamin D test in the previous year. They were separated into three vitamin D-status groups – sufficient, insufficient, and uncertain. They found that those with sufficient vitamin D levels had a 12% chance of testing positive for COVID-19, whereas those with insufficient levels had a 22% chance of testing positive. This was a relatively small study in a discrete population, so one must be cautious in generalizing this finding.

#### **Lingering Effects of COVID-19 on the Heart**

A large team of [investigators from Germany](#) asked about adverse effects on the heart in patients apparently recovered from the disease. Their study involved 100 patients of which 2/3<sup>rd</sup> had recovered at home and 1/3<sup>rd</sup> recovered with a stay in a hospital.

The investigators looked at several measures including cardiac magnetic resonance imaging. Of the 100 patients studied, 78 had some cardiac ‘involvement’ and 60 showed inflammation of the cardiac muscle (myocardium). The investigators call for additional investigation of this concern.

COVID cases per 1 million people by US states: <https://covidtracking.com/data/charts/us-daily-positive-cases>  
Be careful what you believe on social media (Kevin Kavanagh, MD):

<https://www.infectioncontroltoday.com/view/viewpoint-infection-preventionist-guide-to-dealing-with-covid-misinformation>

What to know about COVID-19 diagnosis:

<https://www.improvediagnosis.org/dxiq-column/covid-19-testing-is-confusing-what-you-need-to-know-now/>

Medical errors slipping through cracks (USA Today):

<https://www.usatoday.com/story/news/health/2020/09/08/medical-malpractice-discipline-suffers-during-covid-19/5626449002/>

Trump officials interfered with CDC's COVID-19 reporting:

<https://www.politico.com/news/2020/09/11/exclusive-trump-officials-interfered-with-cdc-reports-on-covid-19-412809>

Steve Burrows, producer of 'Bleed Out' makes appeal for better hospital infection reporting:

<https://morningconsult.com/opinions/we-deserve-to-know-infection-rates/>

Black patients twice as likely to die of treatable conditions as white patients in Pennsylvania:

<https://www.inquirer.com/health/consumer/health-race-disparities-opioid-overdose-deaths-coronavirus-covid-19-20200911.html>

Medicaid enrollment up 4.3 million since February:

<https://www.healthcarediver.com/news/medicaid-enrollment-has-jumped-43m-since-february-could-grow-much-more/584786/>

Texas Medical Association and doctors ask for Medicaid expansion, again:

<https://www.houstonchronicle.com/business/article/Texas-Medical-Association-physicians-ask-again-15537344.php>

PBS. American healthcare care is the best in the world??? <https://www.pbs.org/newshour/show/is-u-s-health-care-the-best-or-least-effective-system-in-the-modern-world>

Wedding reception gathering in Maine against guidelines has resulted in 7 COVID-19 deaths:

<https://apnews.com/263d072466b2152f175c24f7775b00df>

An MD reflects on indirect COVID-19 caused deaths, our poor response, and unprepared health care system:

<https://www.scientificamerican.com/article/covid-19s-other-unnecessary-death-toll/>

Case study of COVID-19 spread after an unmasked family gathering:

<http://www.catawbacountync.gov/news/covid-19-in-catawba-county-a-case-study/>

Interview with MD on Canadian response to COVID:

<https://www.commonwealthfund.org/publications/podcast/2020/sep/we-all-had-same-warning-canadas-covid-19-response-was-different>

Promising news about a new treatment for early stage COVID:

<https://www.infectioncontroltoday.com/view/eli-lilly-neutralizing-antibodies-breakthrough-for-covid-19-treatment>

Corona virus in waste water:

<https://www.mathematica.org/news/traces-of-novel-coronavirus-in-wastewater-provide-early-signs-of-changes-in-local-infection-rate>

Find past newsletters:

<http://patientsafetyamerica.com/e-newsletter/>



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Answer to question: High altitude living, and noisy environment are not associated with dementia.