

C-Reactive Protein, HPV Vaccination, Delirium, Measles

Alan S. Peterson, MD

*Emeritus Director, Environmental and Community Medicine
Walter L. Aument Family Health Center*



NEW CARDIOLOGY GUIDELINES PROMOTE C-REACTIVE PROTEIN TESTING

The leading cause of death in the United States is cardiovascular disease (CVD). Evidence from the past two decades demonstrates that the biomarker C-reactive protein, which signals the presence of low-grade inflammation, is a better predictor of risk for CVD than cholesterol.¹

As a result, late last year the American College of Cardiology (ACC) published a statement with new recommendations for universal screening of C-reactive protein levels in all patients, alongside measuring cholesterol levels. According to the ACC:

High-sensitivity C-reactive protein (hsCRP) is an inexpensive and widely available blood test. While there has been debate within the medical community regarding the utility of hsCRP, this statement details the data confirming its value in clinical decision making in primary and secondary prevention. In patients with known CVD, hsCRP level is at least as predictive of future events as LDL cholesterol levels, even in patients treated with statin therapy.²

C-reactive protein is created by the liver in response to infections, tissue damage, chronic inflammatory states from conditions like autoimmune diseases, and metabolic disturbances like obesity and diabetes. Inflammation plays a crucial role at every stage in the development and buildup of fatty plaque in the arteries, which causes atherosclerosis that can lead to heart attacks and strokes.¹

The ACC emphasizes the important role of lifestyle interventions to reduce systemic inflammation. These include at least 150 minutes per week of regular exercise, along with following a Mediterranean or DASH diet including mindful intake of omega-3 fatty acids.² Dietary fiber from foods like beans, vegetables, nuts and seeds, as well as berries, olive oil, green tea, chia seeds, and flaxseeds, have been shown to lower C-reactive protein levels as well.¹

Finally, the statement discusses current challenges and opportunities based on new evidence, exploring

topics like the advancing field of cardio-immunology and areas for further research, such as the interplay between inflammation and key physiological systems, the role of novel special pro-resolving bioactive lipid molecules in promoting the resolution of inflammation and CVD risk reduction, and more.²

Knowing a patient's LDL cholesterol level alongside their C-reactive protein, apolipoprotein B, and lipoprotein(a) levels, paints a comprehensive picture of risk that can hopefully help motivate long-term commitment to the fundamentals of heart disease prevention.

STUDIES SHOW HPV VACCINES HAVE "DRAMATIC" IMPACT ON CERVICAL CANCER

HPV-related cancers cause more than 350,000 deaths per year worldwide. A raft of studies involving millions of people over the 20 years since the approval of the first human papilloma virus (HPV) vaccine show that HPV vaccination is safe and dramatically lowers women's risk of cervical cancer. Findings of two updated Cochrane reviews on the impact of HPV vaccination — one looking at population levels of cervical and other HPV-related cancers, and the other a network meta-analysis of clinical trial data — bring together these conclusions.³

The population studies, involving over 132 million people in total, show that the benefits of the vaccination for cervical cancer prevention are unequivocal. Based on data covering 4.5 million person-years, vaccination by age 16 is associated with an 80% reduction in the risk for cervical cancer (relative risk [RR], 0.20; 95% CI, 0.09-0.44).³

In a separate study, published in *JAMA Oncology*, a Swedish cohort of 780,000 women showed that HPV vaccination resulted in a 37% lower incidence of high-grade vulvovaginal lesions, with the strongest protection seen in those vaccinated before age 17 years.⁴

Currently, groups such as the American Cancer Society and the American Academy of Pediatrics recommend routine HPV vaccination for all children starting between the ages of 9 and 12. Guidance from the Centers for Disease Control and Prevention is similar.

As for safety, the Cochrane team specifically looked for population data supporting any potential link between HPV vaccination and a list of adverse events – including postural orthostatic tachycardia syndrome, chronic fatigue syndrome, infertility, and paralysis; there is no such evidence. There is also no evidence that HPV vaccination encourages earlier sexual activity, a concern often raised on social media.

In terms of discussing the HPV vaccine with parents and young people, the advice to clinicians is to keep the focus on its ability to prevent cancer.

PSYCHIATRIC ASSOCIATION OVERHAULS DELIRIUM GUIDELINE

The American Psychiatric Association (APA) has released an updated practice guideline for preventing and treating delirium, providing clinicians with evidence-based strategies to improve detection, management, and patient outcomes for a condition that affects tens of thousands of hospitalized adults each year. It's the first time this information has been upgraded in 26 years.

Delirium – a sudden decline in attention, awareness, and mental function – develops rapidly, often over hours, and typically lasts two to three days. It can arise from numerous factors, including advanced age, prior episodes of delirium, medical conditions such as pneumonia, urinary tract infection, psychiatric conditions like cognitive impairment, medications with anticholinergic properties or opioids, metabolic disturbances, vitamin deficiencies, sensory impairments, and sleep disruption.

The updated APA guideline includes 12 evidence-based recommendations across clinical settings and three suggestions covering assessment, nonpharmacologic interventions, and transitions of care; it provides clinicians with a practical framework to improve patient outcomes. It goes beyond detection and treatment and includes steps aimed at prevention.

One key recommendation is that patients with, or at risk for, delirium undergo regular structured assessments using validated tools. These tools measure factors such as awareness, language comprehension, and confusion, and their use varies by clinical settings. The guideline recommendations include the following:

- **Patients should receive baseline neurocognitive testing and a detailed review of factors that can contribute to delirium.** While medication reviews are routinely performed, the guideline emphasizes that they should specifically focus on drugs that worsen cognitive status.

- **Antipsychotics should only be used to address severe agitation or psychosis in delirium.** They should not be considered first-line medicines but may be used after deescalation strategies have failed, contributing factors have been addressed, and when the behavior poses a risk for harm.
- **Benzodiazepines should *not be prescribed* for patients with, or at risk for, delirium unless there is a specific indication.** This also applies to individuals with preexisting cognitive impairment. Benzodiazepines may cause sleepiness and confusion and can make delirium worse. They can also affect balance, potentially increasing the risk for falls.
- **The intravenous sedative dexmedetomidine can be used when patients are at high risk for delirium and undergoing major surgery or receiving mechanical ventilation.** The guideline advises *against* using melatonin or ramelteon – a sedative commonly prescribed for insomnia – to prevent or treat delirium. Melatonin is not an FDA-approved supplement.
- **Physical restraints should *not be used* except when a patient poses an imminent risk for harm to themselves or others.** Patients being discharged or transferred to another health care setting should receive a detailed medication review, medication reconciliation, and reassessment of the indications for medications.

The executive summary was published online in the *American Journal of Psychiatry*. This version targets not only psychiatrists but also specialists in internal medicine, family medicine, and critical care nursing.

Scan the QR code at right to access the full guideline. The APA is also developing supporting resources to help clinicians understand and implement the recommendations, including training slides, a clinical guide, a patient and family guide, webinars, and case vignettes.



NEW MEASLES CASES THREATEN NATION'S ELIMINATION STATUS

In 2025, a total of 2,284 confirmed measles cases were reported in the United States, according to the Centers for Disease Control and Prevention (CDC).⁵ By January 2026, that number had only slightly dropped to 2,140.

The case totals – signaling the largest outbreak since 1991 – mean the nation faces the prospect that

it could lose its measles elimination status. Elimination status is dependent on at least 12 months without continuous local virus transmission and a functional and healthy public health system.

In a recent Medscape commentary, Demetre C. Daskalakis, MD, MPH, an infectious disease specialist and former program director at the CDC, explained the problem:

Before the introduction of the first measles vaccine in 1963, measles was widespread in the United States, with more than 90% of children infected by age 15 and roughly 4 million cases annually.... The elimination of measles deaths in America was not achieved by nonspecific interventions — it was measles vaccines that drove measles cases down to where deaths became unheard of from measles.⁶

The two-dose vaccine schedule has increased vaccine effectiveness to 97%, reducing infections in vaccinated children, as has the creation of Vaccines for Children, a program that effectively closed the equity gap in vaccine access in the United States, creating access for uninsured and underinsured children as well as Native American and Alaskan Native children.

“Vaccines have become topics of political debate rather than the routine life-saving interventions of primary care or the tools to prevent illness and death in our vulnerable populations,” says Dr. Daskalakis. “Health agencies have been decimated and communications from them have been compromised by ideology.”

In a recent analysis of data from 44 states and the District of Columbia, the share of U.S. counties where 95% or more of kindergarteners were vaccinated

dropped from 50% before the COVID-19 pandemic to 28%.⁷

Dr. Daskalakis concludes, “Public health as an institution and the peoples’ health as a mission are in trouble.”

REFERENCES

1. Scourboutakos MJ. One protein is a better predictor of heart disease than cholesterol. *Science Alert*. December 22, 2025. Accessed March 16, 2026. <https://www.sciencealert.com/one-protein-is-a-better-predictor-of-heart-disease-than-cholesterol>
2. Mensah GA, Arnold N, Prabhush SD, Ridker PM, Welty FK. Inflammation and cardiovascular disease: 2025 ACC scientific statement: a report of the American College of Cardiology. *J Am Coll Cardiol*. Published online September 29, 2025. Accessed March 16, 2026. <https://www.jacc.org/doi/10.1016/j.jacc.2025.08.047>
3. Parkinson M. New research confirms HPV vaccination prevents cervical cancer. November 24, 2025. Accessed March 16, 2026. <https://www.cochrane.org/about-us/news/new-research-confirms-hpv-vaccination-prevents-cervical-cancer>
4. Deng Y, Wu S, Ask LS, et al. Quadrivalent human papillomavirus vaccine and high-grade vulvovaginal lesions. *JAMA Oncol*. 2026;12(2):177-184.
5. Measles Cases and Outbreaks. Centers for Disease Control and Prevention. Updated March 13, 2026. Accessed March 16, 2026. <https://www.cdc.gov/measles/data-research/index.html>
6. Daskalakis D. Measles elimination is a public health vital sign: we are about to code. January 21, 2026. Accessed March 16, 2026. <https://www.medscape.com/viewarticle/measles-elimination-public-health-vital-sign-we-are-about-2026a10001w1>
7. Weber L, Gilbert C, Moriarty D, Lott J. U.S. vaccination rates are plunging. Look up where your school stands. *The Washington Post*. December 31, 2025. Accessed March 19, 2026. <https://www.washingtonpost.com/health/interactive/2025/measles-vaccine-schools-outbreaks-public-health/>

Alan S. Peterson, MD

Walter L. Aument Family Health Center

317 Chestnut St., Quarryville, PA 17566

Alan.Peterson@pennmedicine.upenn.edu

Museum Exhibit Highlights Nurses of 1940s-Era LGH

Among the many treasures housed at the Lancaster Medical Heritage Museum are photographs by industrial photographer William Rittase that document daily life and nursing practices at Lancaster General Hospital during the 1940s. These historical images provide significant insight into the role of nurses in mid-20th-century health care.

Lancaster native Jocelyn Wagner, who graduated from Millersville University in May 2026, worked at the museum as an intern. She spent part of her time investigating the collection of Rittase prints. She was particularly interested in how the images feature women playing key roles at the hospital at a time when professional opportunities were limited.

“I was tasked to look into and analyze the individuals in the pictures and figure out their stories and their impact in the medical field in Lancaster County,” explains Wagner. “But it was tough to find the nurses featured in the pictures. Many of the captions in the archived newspaper clippings do not include the names of the women, only referring to them as ‘a nurse.’ Though the work proved challenging, I enjoyed the opportunity to learn about the medical history in Lancaster.”

The museum — including its collection of Rittase prints and Wagner’s findings — is located at 410 N. Lime St., Lancaster. Admission is free to LG Health employees with a badge and children under 3; \$8.00 for all others. Visit the museum website at lancastermedicalheritagemuseum.org for additional information and hours of operation.