TOP TIPS FROM FAMILY PRACTICE

Meningitis, Vaccinations, Radon and Gestational Diabetes, Diphenhydramine Use

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WORLD HEALTH ORGANIZATION 2025 MENINGITIS GUIDELINES

The World Health Organization earlier this year released new guidelines on the diagnosis, treatment, and care of meningitis.[1] Of note:

- In individuals with expected acute meningitis, a lumbar puncture should be performed, ideally prior to initiating antimicrobial treatment, unless there are specific contraindications.
- For suspected acute meningitis, cerebrospinal fluid (CSF) investigation should include Gram stain, white blood cell count, protein concentration, glucose concentration, and the CSF-to-blood glucose ratio.
- Intravenous ceftriaxone or cefotaxime should be administered as empiric treatment in children and adults with suspected or probable acute bacterial meningitis. Ampicillin or amoxicillin should be added if there are risk factors for *Listeria monocytogenes* infection.
- For suspected or probable pneumococcal meningitis, intravenous corticosteroids (e.g., dexamethasone) should be initiated with the first dose of antibiotics.
- Osmotic agents other than glycerol, such as mannitol or hypertonic saline, can be used for managing increased intracranial pressure in bacterial meningitis.
- Close contacts of patients with laboratory-confirmed meningococcal disease should receive antibiotic prophylaxis with single-dose parenteral ceftriaxone or oral ciprofloxacin.
- Rehabilitation should be provided as soon as possible for children and adults with sequelae due to acute meningitis from any cause.
- Formal audiological screening should be conducted before discharge for children and adults with acute meningitis. If this is not possible, it should occur within four weeks of discharge.
- Children and adults with acute meningitis should be reviewed for sequelae by a clinician prior to discharge and at follow-up.
- Strengthening community awareness about the potential sequelae of meningitis is crucial for improving follow-up care and reducing stigma.

EMERGENCY ROOM PATIENTS WOULD ACCEPT IMMUNIZATIONS, IF OFFERED

Many individuals who are not up to date with recommended vaccinations would accept vaccines if offered during an emergency department visit, according to a new study from the University of California Riverside School of Medicine.[2]

Researchers surveyed non-critically ill adult patients evaluated in 10 emergency departments in eight U.S. cities across five states to ascertain patients' vaccination knowledge, self-reported vaccination coverage, and willingness to receive vaccines in an emergency department. A total of 3,285 patients agreed to participate.

The researchers found that 49.4% of participants had not heard of one or more vaccines recommended for their age group by the Centers for Disease Control and Prevention. Additionally, 85.9% had not received one or more recommended vaccines. Non-Hispanic, Black race and ethnicity, lack of primary health care, and lack of health insurance were factors associated with not being up to date with the recommended vaccinations (adjusted odds ratios, 1.93, 2.91, and 3.01, respectively).

Overall, 46.4% of 2,821 participants who were not up to date with recommended vaccinations said they would accept one or more missing vaccines if they could be provided during the emergency department visit; 86.7% of those would accept all missing vaccines. The participant being unaware of or not having been offered the vaccines was the primary reason for missed vaccine doses.

The researchers concluded: "Emergency departments could be explored as additional sites to offer vaccination screening, recommendations, counseling, and referrals to increase vaccine coverage among underserved populations."

HIGH RADON LEVELS LINKED TO GESTATIONAL DIABETES

New data linking higher county-level radon exposure to gestational diabetes in women who haven't previously given birth emphasize the need to consider environmental risks in maternal and fetal health care.[3]

New York researchers found in a study of 9,107 nulliparous pregnant women that those living in U.S. counties with higher (2 picocuries [pCi]/L) radon levels had higher odds of developing gestational diabetes than those in counties with lower (<1 pCi/L) radon levels (odds radio [OR], 1.37; 95% CI, 1.02-1.84). The researchers used three radon categories; the middle level was 1 to <2 pCi/L.

They also found higher odds of gestational diabetes in women who had ever smoked, women who lived in counties with a higher (2 pCi/L) radon level (OR, 2.09; 95% CI, 1.41-3.11) and women living in counties with both higher radon and fine particulate matter air pollutant (PM2.5) levels (OR, 1.93; 95% CI, 1.31-2.83), though no statistically significant interactions were observed.

Gestational diabetes affects about 10% of pregnancies every year in the United States, according to the Centers for Disease Control and Prevention, and can affect women and offspring long term as it raises mothers' risk of type 2 diabetes and cardiovascular disease, along with the risk for childhood obesity. Radon exposure's link with lung cancer risk has been well established, but its link to other health risks is uncertain. As readers are likely aware, many areas in Lancaster County have elevated levels of radon.

The researchers urged that individual-level studies be conducted to further investigate radon's link to health risks, noting that "radon is possibly the most prevalent indoor carcinogen to which human beings are exposed."

LONG OVERDUE FAIRWELL TO THIS "DIRTY DRUG"

Diphenhydramine (Benadryl®) crosses the blood-brain barrier and can cause sedation, weight gain, and cognitive impairment — especially in children.

The World Health Organization in early 2025 released a formal advisory against using first-generation antihistamines like diphenhydramine, citing their outdated pharmacology and unfavorable safety profile.[4] It is hoped that North America can follow in the footsteps of Sweden and Germany, where diphenhydramine is reportedly being pulled off the shelves.

For physicians in the United States, this raises several questions:

- Is it time to de-emphasize diphenhydramine in clinical recommendations?
- Are we doing enough to educate patients on their risks when using first-generation antihistamines?
- Should pediatric and allergy societies in the United States push for similar labeling or policy changes?

Diphenhydramine remains widely used — often over second-generation antihistamines like cetirizine, loratadine, or fexofenadine, which are non-sedating and have fewer effects on the central nervous system.

The organization's recommendation is clear: clinicians should no longer recommend first-generation antihistamines due to their high-risk profile, especially when safer and equally effective options exist.

Many allergists say that the health care community needs to wait for the Food and Drug Administration to act. Many already avoid recommending diphenhydramine when possible, but this new push offers opportunities to reinforce the message by:

- Updating patient handouts, especially for parents and caregivers.
- Discussing second-generation alternatives first, and emphasizing non-sedating benefits.
- Reinforcing these points in pharmacy and urgent care settings where diphenhydramine is often reflexively given.

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