

CLINICAL CAPSULES

FluMist Found Safe and Effective

The live, attenuated, cold-adapted influenza vaccine, also known as CAIV-T (FluMist), was safe and effective in children aged 60 months to 17 years in the second year of its use for prevention of flu. The CAIV-T vaccine was first available for use during the 2003-2004 season and was designed to contain three flu strains that matched those recommended by the FDA for the annual trivalent inactivated vaccine. Robert B. Belshe, M.D., of St. Louis University and colleagues reviewed a safety trial that included 6,657

children aged 5-17 years and an efficacy trial including 312 children aged 60-71 months. (Clin. Infect. Dis. 2004;39:920-7). The safety trial evaluated medically attended events within 42 days of vaccine administration. Overall, the frequency of events in four categories—acute respiratory events, acute gastrointestinal events, systemic bacterial infections, and rare events possibly associated with wild-type influenza—was not significantly different between the 4,452 children in the vaccine group and the 2,205 children in a placebo group. Results from the efficacy

study showed an efficacy rate of 87% for children aged 60 months and older and no significant increase in the frequency of fevers greater than 37.8°C. In addition, no significant increase in frequencies of runny nose, nasal congestion, vomiting, or muscle aches was noted among the vaccine recipients compared with the placebo group. The data confirm that the efficacy of CAIV-T extends to the youngest children in the age range for which it is currently recommended, Peter F. Wright, M.D., of Vanderbilt University, Nashville, Tenn., said in an accompanying editorial (Clin. Infect. Dis. 2004;39:928-9).

Teen With Rabies Recovering

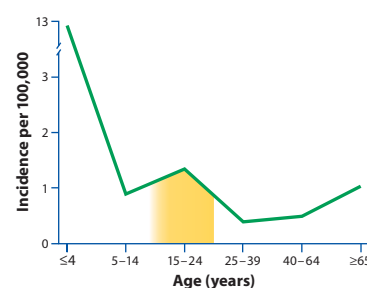
A teenaged girl who contracted rabies from a bat and received an experimental treatment has been upgraded to fair condition at the Children's Hospital of Wisconsin (Wauwatosa), a hospital spokesperson said in an interview at press time. The girl is the first known person to survive rabies without receiving a vaccine. The bat bit the girl on Sept. 12, 2004. She reportedly thought that the bite was just a scratch, and she and those with her assumed, incorrectly, that only healthy bats could fly, so she did not see a doctor for a vaccine. She presented to Children's Hospital on Oct. 18 with symptoms of rabies, including slurred speech and fluctuating consciousness. The doctors induced a temporary coma and treated her with antiviral drugs to boost her immune system and allow her natural immunity to fight the virus. The details of the treatment and the specifics of the drugs used are under wraps until the doctors publish their findings in a medical journal. A rabies vaccine will prevent the disease only if given within days of exposure; it is useless in saving the patient's life in advanced cases.

Meningococcal Disease:
It's Not Just a College Problem

Adolescents are also at increased risk

With the spectacular success of *H influenzae* type b (Hib) and pneumococcal conjugate vaccines, *N meningitidis* is now the leading cause of bacterial meningitis in children and young adults.^{1,3} Although meningococcal disease is often thought to be associated with college students, ongoing surveillance shows that adolescents and young adults are also at increased risk for contracting this devastating and potentially life-threatening disease.⁴⁻⁶

Data from the Centers for Disease Control and Prevention (CDC) show that following infancy, meningococcal disease rates begin to rise again in early adolescence and peak between the ages of 15 to 24 years.⁵ Young people in this age group share certain risk factors that may account for the increased risk of infection.^{4,7,8}

Mean rates of meningococcal disease by age group in the United States, 1996-2002.⁹

Adapted from Centers for Disease Control and Prevention (CDC). *MMWR Morb Mortal Wkly Rep.* 1996-2002.⁹

Case in Point



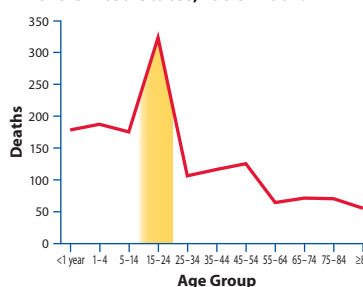
Susan represents a hypothetical patient, but her story is based on cases that have been reported.¹⁰

Susan T, a 15-year-old high school student, was taken to the emergency room by her parents because of fever, vomiting, and an abrupt onset of unresponsiveness.

Physical findings included a temperature of 104°F and purpuric lesions on her arms and legs. Blood and CSF specimens were taken and appropriate antibiotics were started. A few hours later she became lethargic and comatose. She developed meningococcal septicemia, which subsequently caused gangrene in her arms and legs. To save her life, she needed bilateral below-the-knee amputation. Because laboratory diagnosis confirmed *N meningitidis* serogroup C infection, her case was potentially vaccine preventable.

The consequences of infection can often be devastating

Meningococcal disease in adolescents and young adults can be rapidly progressive and often fatal—even with the best of care. According to recent data, case fatality rates are 5 times higher among 15- to 24-year-olds compared with younger populations.^{6,11} Of the survivors, up to 1 in 5 will suffer from permanent sequelae including amputation, severe scarring, hearing loss, and neurological damage.^{7,10}

Number of deaths from meningococcal disease by age group in the United States, 1996-2001.¹¹

An opportunity for improved control of meningococcal disease

Up to 83% of the cases in adolescents and young adults are caused by potentially vaccine-preventable serogroups of *N meningitidis* (C, Y, and W-135).^{4,6,12} Therefore, routine vaccination of these higher-risk populations might be a reasonable strategy for controlling this devastating disease. However, the shorter duration of protection and lack of booster response after multiple immunizations limits the use of the currently licensed polysaccharide meningococcal vaccine to "peak risk" populations (eg, college students and military recruits).¹³

Building on the success of other conjugate vaccines, the introduction of conjugate meningococcal vaccines may give health-care providers the opportunity to protect adolescents and young adults through their entire period of increased risk, which in turn, could dramatically reduce the incidence of meningococcal disease in the United States.¹⁴

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