

erally occur during March and November.<sup>10</sup> No specific antiviral treatment for TBE exists.<sup>8</sup> The main preventive measure is avoiding tick bites<sup>||</sup> by applying insect repellents to clothing and exposed skin; wearing long-sleeved shirts, long pants, socks, and boots; and tucking pant cuffs into socks.<sup>¶</sup> No TBE vaccines are licensed or available in the United States, but two inactivated TBEV vaccines are licensed and available in Europe and Canada.<sup>7</sup>

TBE should be suspected in a patient with evidence of meningitis or encephalitis who recently returned from a TBE-endemic country. Encephalitis or meningitis caused by TBE and other viruses cannot reliably be distinguished clinically. Health-care providers should contact their state or local health department for diagnostic assistance. TBEV testing can be performed at CDC's Special Pathogens Branch (telephone: 404-639-1115), and TBEV and other arboviral disease testing can be performed at CDC's Arboviral Diseases Branch (telephone: 970-221-6400).

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\*St. Louis encephalitis and West Nile viruses; *Borrelia burgdorferi*, *Leptospira*, and *Rickettsia*.

†Chikungunya, dengue, Japanese encephalitis, snowshoe hare, Sindbis, and West Nile viruses.

‡Chikungunya, dengue, Japanese encephalitis, snowshoe hare, St. Louis encephalitis, and West Nile viruses.

§California serogroup, eastern equine encephalitis, St. Louis encephalitis, and western equine encephalitis viruses; *Borrelia burgdorferi*, Epstein-Barr virus, *Ehrlichia*, *Francisella tularensis*, and *Rickettsia*.

¶Recommendations regarding prevention of TBE in travelers are available at <http://www.cdc.gov/travel/yellowbook/2010/chapter-5/tick-borne-encephalitis.aspx>.

¶¶Updated recommendations regarding protection against tick bites are available at <http://www.cdc.gov/travel/yellowbook/2010/chapter-2/protection-against-mosquitoes-ticks-insects-arthropods.aspx>.

## Investigational Heptavalent Botulinum Antitoxin (HBAT) to Replace Licensed Botulinum Antitoxin AB and Investigational Botulinum Antitoxin E

MMWR. 2010;59:299

CDC ANNOUNCES THE AVAILABILITY OF a new heptavalent botulinum antitoxin (HBAT, Cangene Corporation) through a CDC-sponsored Food and Drug Administration (FDA) Investigational New Drug (IND) protocol. HBAT replaces a licensed bivalent botulinum antitoxin AB and an investigational monovalent botulinum antitoxin E (BAT-AB and BAT-E, Sanofi Pasteur) with expiration of these products on March 12, 2010. As of March 13, 2010, HBAT became the only botulinum antitoxin available in the United States for naturally occurring noninfant botulism.

Botulinum antitoxin for treatment of naturally occurring noninfant botulism is available only from CDC. The transition to HBAT ensures uninterrupted availability of antitoxin. BabyBIG (botulinum immune globulin) remains available for infant botulism through the California Infant Botulism Treatment and Prevention Pro-

gram.<sup>1</sup> BabyBIG is an orphan drug that consists of human-derived botulism antitoxin antibodies and is approved by FDA for the treatment of infant botulism types A and B.

HBAT contains equine-derived antibody to the seven known botulinum toxin types (A-G) with the following nominal potency values: 7,500 U anti-A; 5,500 U anti-B; 5,000 U anti-C; 1,000 U anti-D; 8,500 U anti-E; 5,000 U anti-F; and 1,000 U anti-G. HBAT is composed of <2% intact immunoglobulin G (IgG) and ≥90% Fab and F(ab')<sub>2</sub> immunoglobulin fragments; these fragments are created by the enzymatic cleavage and removal of Fc immunoglobulin components in a process sometimes referred to as despeciation. Fab and F(ab')<sub>2</sub> fragments are cleared from circulation more rapidly than intact IgG,<sup>2</sup> and repeat HBAT dosing might be indicated for some wound or intestinal colonization patients if in situ botulinum toxin production continues after clearance of antitoxin.

The HBAT FDA IND treatment protocol includes specific, detailed instructions for intravenous administration of antitoxin and return of required paperwork to CDC. Health-care providers should report suspected botulism cases immediately to their state health department; all states maintain 24-hour telephone services for reporting of botulism and other public health emergencies. Additional emergency consultation is available from the CDC botulism duty officer via the CDC Emergency Operations Center, telephone, 770-488-7100.<sup>3</sup> Additional information regarding CDC's botulism treatment program is available at <http://www.bt.cdc.gov/agent/botulism>.

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