

INFORMATION PAPER

Military Vaccine Agency

8 August 2006

SUBJECT: Herpes Zoster (Shingles) Disease and Vaccine

1. Purpose. To describe Shingles disease and the vaccines to prevent it.

2. Facts

a. Microbiology. Shingles, or herpes zoster, is caused by the varicella zoster virus (VZV), which, during first infection, produces chickenpox (varicella). After initial infection, the virus remains hidden (latent) in the nerve endings of the body until it reactivates, producing zoster or "shingles." Shingles causes numbness, itching or severe pain followed by clusters of blister-like skin sores along the distribution of nerve roots of one side of the body. The pain can persist for weeks, months or years after the rash heals and is then known as post-herpetic neuralgia.

b. Epidemiology. Age is one of the strongest epidemiological predictors for the occurrence of shingles due to declining VZV immunity. The disease is rare in young healthy adults. Shingles is more common after the age of 50 and the risk increases with advancing age. Health care providers can expect the incidence of shingles to rise significantly as baby boomers age. Primary varicella (chickenpox) can be seen throughout the year but, is seen more commonly in the winter and early spring. Herpes zoster, in contrast, occurs throughout the year.

c. Vaccine. ZOSTAVAX is a freeze-dried preparation of the Oka/Merck strain of live, attenuated (weakened) varicella-zoster virus (VZV). ZOSTAVAX, when reconstituted as directed, is a sterile preparation for subcutaneous administration. In clinical trials, ZOSTAVAX significantly reduced the risk of developing herpes zoster when compared with placebo. Vaccine effectiveness in the prevention of shingles was highest for those 60-69 years of age and declined with increasing age. People who develop shingles after vaccination usually have a much milder form than unvaccinated people.

d. Storage. The viruses within varicella virus-containing vaccines are fragile and must be stored according to the manufacturer's instructions to maintain the cold chain. To maintain potency, the freeze-dried vaccine must be frozen at an average temperature of +5°F (-15°C) or colder until it is reconstituted for injection. Store the diluent separately at room temperature or in the refrigerator. Discard the vaccine if it is not used within 30 minutes after reconstitution. Protect the vaccine from light at all times because such exposure may inactivate the vaccine viruses.

e. Cautions. ZOSTAVAX is contraindicated in persons with a history of anaphylactic reaction to gelatin, neomycin, or any other component of the vaccine; are immune

compromised, on immune suppressive therapy, have active untreated tuberculosis or who are pregnant.

f. Immunization. ZOSTAVAX is administered as a single 0.65-mL subcutaneous dose, for prevention of herpes zoster (shingles) in individuals 60 years of age and older.

g. Adverse Events. The most common side effects reported include redness, pain, swelling, itching, warmth and bruising at the injection site, and headache. Serious adverse events in subjects vaccinated with ZOSTAVAX occurred at rates similar to placebo (1.4%).

h. DoD Policy. TBD.

i. Special Considerations. ZOSTAVAX is not a treatment for shingles or postherpetic neuralgia. The duration of protection after vaccination with ZOSTAVAX is unknown; therefore, the need for revaccination has not been defined. Vaccination with a live attenuated vaccine, such as ZOSTAVAX, to individuals who are immune suppressed may result in a more severe vaccine-associated rash. Transmission of vaccine virus may occur rarely between vaccinees that develop a varicella-like rash and susceptible contacts. The risk of transmitting the attenuated vaccine virus to a susceptible individual should be weighed against the risk of developing natural shingles that could be spread to a susceptible individual.

3. References.

a. Advisory Committee on Immunization Practices.

b. CDC Vaccine Information Statements:

c. Multiple resources (e.g., product insert, Vaccine Information Statements) assembled by Military Vaccine Agency: <http://www.vaccines.mil/shingles>

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Approved by: LTC Ford