

To: Members of the European elephant TAG
From: Veterinary advisors, elephant TAG
Date: March 2018
Subject: pox infection in elephants

On request of the TAG-chair we herewith present a short note about the need to vaccinate Asian and African elephants against cowpox virus infection.

Cowpox (=orthopox) virus infections have been reported in both Asian and African elephants. Most cases have occurred in Western Europe. Symptoms may vary from minor lesions to fatal infection. Severe cases have been reported more frequently in Asian elephants than in African elephants, but both species are susceptible.

The European Association of Zoo and Wildlife Veterinarians has produced a fact sheet about cowpox infections in zoo animals, including several references to cowpox infections in elephants (Transmissible Diseases Handbook 2010, see attachment 1).

Prevention: preventive vaccination of African and Asian elephants is strongly recommended by the EAZWV and encouraged in the coordinated EAZA breeding programs of both species. The only vaccine available is Modified Vaccinia Ankara (MVA), which is produced and distributed by the Institut für Infektionsmedizin und Zoonosen, Dr. Robert Fux (Robert.fux@lmu.de), Veterinärstrasse 13, 80539 München, Germany. An example of a batch protocol provided by the producer of the vaccine is given in attachment 2. MVA has been used for many years in elephants, rhino's and tapirs without any side effects. Primo-vaccination of keepers or other staff members in contact with vaccinated animals is not required.

The recommendation for vaccination is:

First injection injections (s.c. or i.m.) of 4 ml MVA at the age of 12-16 weeks.

Second injection injections (s.c. or i.m.) of 4 ml MVA 4 weeks after the first injection. The producer of the vaccine advises and offers titer measurement before the vaccination and 3-4 weeks after second vaccination). In young and untrained elephants this may be not possible, and vaccination should be practiced without titer control.

Booster vaccinations: generally once every 2-3 years, depending on the titer.

Vaccination during pregnancy: following this vaccination advice, elephants should be immune before they become pregnant. There are no sound studies about the possible side effects of vaccination on the fetus. New non-vaccinated imports or elephants with unknown vaccination status should not be bred before they are properly vaccinated.

References: see Infectious Diseases Fact sheet (attachment 1)

Remarks: for ordering and using this noncommercial vaccine you need a special permit from your official veterinarians. Please contact your official veterinarian for further instructions regarding the import of MVA from Germany.

Some countries may impose restrictions regarding the contact between humans (staff, visitors) and elephants for the first two weeks after vaccination. However, there is no recommendation for this measure and it is not supported by scientific evidence nor by the producer. As MVA only replicates once in mammalian tissues it is safe and developed for use in humans.

Kind regards,

Veterinary Advisors Elephant TAG:

Willem Schaftenaar, Thomas Hildebrandt, Michael Flügger, Endre Sos