EEHV FAQs

1. **What is EEHV?**

EEHV is viral infection that can be fatal to affected elephants living in both the wild and in zoos. It is the most devastating viral disease in elephants worldwide, and zoos are collaborating to support scientific research to help advance EEHV detection, treatment and prevention.

2. **What are symptoms of EEHV?**

When an elephant is infected by EEHV, its symptoms may include lethargy and unwillingness to eat, a rapid heartbeat, and decreased blood-cell count, and a bluish discoloration of the tongue, mouth ulcer and a build-up of fluid of the head and trunk. It is a fast-growing virus and can quickly cause life-threatening bleeding in the animal.

3. **Is the disease only found in zoo elephants and can it spread? (from Chester zoo)**

EEHV does not discriminate between elephants living in zoos and elephants living in the wild. Whether it's a calf at a zoo, or the young of a herd in the wilds of Asia, EEHV can strike without any known causes or reason.
Research is ongoing but there is still much to do before we fully understand this disease and how it manifests itself in some elephants and not in others.

4. **Are the other elephants at the Columbus Zoo at risk to get EEHV?**

Like most mammals, nearly all elephants carry one or more strains of herpesviruses that usually remain dormant. In some elephants, including younger animals that have less immunities to disease, the virus grows and can create life-threatening health risks.

Our team is monitoring the health of each elephant in the zoo's herd daily. The elephants most susceptible to EEHV are those ages 1-8, but elephants in their teens have also died of the disease. We still do not know why the virus affects some elephants and not others, but scientists, researchers and elephant care experts are working to learn more about treatments and eventual prevention with a vaccine to help protect the world's elephant populations.

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5. If elephant calves are more at risk, is Frankie in danger of being affected by EEHV?
We know through blood tests that Frankie has developed antibodies to the type of herpesvirus that is affecting Beco, and we are hopeful these antibodies will be protective, but this virus is unpredictable. He, along with all of the elephants in our herd, are under 24 hour observation by our veterinary and elephant care teams.

6. Since elephants are born with or exposed shortly after birth to a dormant form of EEHV, how do you monitor the elephants?
Our team is trained to watch for signs of EEHV and regular blood samples are taken from the elephants and tested for the virus. Part of EEHV detection is training the elephants to voluntarily participate in mouth inspections by their keepers and to cooperate in blood draws so samples can be tested. An elevated viral count in an elephants blood will prompt proactive treatment to help the elephant fight the disease.

7. How is EEHV treated?
When EEHV is confirmed by a blood test, the elephant is treated with large doses of antiviral medications, blood and plasma transfusions, and other supportive therapies. The treatment goal is to help the elephant fight the virus that can case life-threatening bleeding internally.
Zoos with elephants readily share their experiences in EEHV treatment and provide support to any zoo that is treating an affected elephant.

8. Is there a vaccine for EEHV?
Not yet but a lot of talented and committed people are working on the challenge. Zoos are helping fund and participate in scientific research focused on finding a vaccine to protect elephants against EEHV.

While many advancements are being made in understanding EEHV, there is still not a vaccine available to prevent the disease. Collaborations, including the EEVH Advisory Group and funding from the International Elephant Foundation, which is also supported by many zoos caring for elephants, are helping advance EEHV research and support elephant conservation programs globally.

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9. How has EEHV research helped address the dangerous effects of the virus?
Scientific research and shared knowledge during the last 20 years has advanced progress in learning more about earlier detection of the disease and new treatment protocols that have helped several many infected elephants.

10. What is Columbus Zoo and Aquarium doing about EEHV?

With a deep commitment to global elephant conservation and animal wellbeing, the Zoo has long contributed to EEHV research and science to address this global threat to elephants.

For example:

- The Zoo has plans in place to establish its own EEHV lab at the zoo to further help expedite testing and to help other institutions with their elephant care programs. The lab could be open as early as late summer or early fall.

- In August 2021, a wonderful donor family chose the name “Frankie” to honor their mother, Frances, who passed away in November 2020. The funds provided by Frankie’s donor are being used to help set up the EEHV lab at the Columbus Zoo.

-The Zoo is a long-time supporter of several direct elephant conservation initiatives benefitting both African and Asian elephants, including annual donations to the International Elephant Foundation and several research projects and grants over the last 25 years. Many of these projects have focused on reducing human-elephant conflict and monitoring elephant populations in their native ranges. Additionally, Columbus Zoo staff leads AZA’s SAFE (Saving Animals From Extinction) Asian Elephant Program, an AZA initiative to leverage their large audiences and collective expertise to save animals from extinction. Zoo guests can also learn about elephant conservation and how they can contribute to the sustainability of this endangered species at the Zoo’s Elephant Conservation Station inside the “Vanishing Giants” building located in the Asia Quest region.

- Zoo veterinary staff participate in the national Elephant Endotheliotropic Herpesvirus (EEHV) Advisory Group. The group works to prevent, diagnose and treat this potentially fatal disease that affects elephants in their native range, and in human care.

11. Are elephants born with EEHV?
Scientists believe most Asian elephants are born with or exposed shortly after birth to a dormant form of EEHV that may activate in the most vulnerable individuals – most often

young elephants between ages 3-8, who are between weaning from their mother and developing adult immunities.

12. Does EEHV only affect Asian elephants?
No, EEHV also affects African elephants. While Asian elephants appear more susceptible to the virus and more have been diagnosed with EEHV, individuals in both Asian and African species have died from the virus.

EEHV is a serious threat to the Asian elephant populations that continues to decline globally. Only 30,000 to 50,000 Asian elephants remain in the wild, scattered across fragmented habitats in 13 Asian countries.

13. Did the Zoo know its elephants could have or be threatened by EEHV when you decided to breed Phoebe, Frankie's mother? If so, isn't that a serious risk to take?
Zoos caring for elephants understand that EEHV is a risk to some elephants, particularly young Asian elephants. Providing the opportunities for elephants to live more naturally and have natural behaviors, like forming multi-generation family groups and raising babies. These are important to a herd's health and wellbeing, which are priorities for the zoo. Continued breeding also is import to the conservation plan for elephants globally, particularly the declining Asian elephant population. It has declined by an estimated 50 percent over the past 75 years.

14. Have elephants in other zoos diagnosed with EEHV?
Yes, many zoos around the world have unfortunately lost elephants to the deadly virus. Like Columbus Zoo and Aquarium, zoos are stepping forward to provide important resources to help fight this deadly virus. With shared expertise, resources, and education, zoos are collaborating with researchers and scientists committed to finding new ways to treat EEHV and to develop a vaccine to help prevent the virus in all elephants, including those in the wild.

15. When was EEHV discovered?
In 1995 a 16-month-old Asian elephant named Kumari died after a short illness at the Smithsonian National Zoo. Investigating the death, the zoo's pathology team discovered Kumari died of a previously unidentified herpesvirus that was later named Elephant Endotheliotropic Herpesvirus, EEHV. In response, National Zoo created the National Elephant Herpesvirus Laboratory that continues to support zoo around the world in providing research and support in detecting and treating EEHV infections.

According to the National Lab, research has confirmed that many animals and humans carry herpesviruses throughout their lives and never become ill. One research area is working to determine what triggers the EEHV virus to become active and life threatening. Others including continuing to learn how to better detect and manage the disease and eventually develop an effective vaccine to prevent EEHV.