



Osteoarthritis

The following information is provided by Dr. Ali Mobasheri, a member of the [Elephant Refuge North America](#) (ERNA) Integrative Health Team.

Osteoarthritis (OA) is the most common form of arthritis in humans, companion animals and captive zoo animals. OA is major cause of joint pain, inflammation and loss of mobility. It is characterized by the progressive deterioration and loss of articular cartilage and loss of joint lubrication. In humans, OA primarily affects load-bearing synovial joints such as the knees and hips but other joints may be affected including hands, elbows and ankles. In humans, the main risk factors for the development of OA include age, obesity, joint trauma/instability, gender, genetics, metabolic/endocrine disease (i.e. diabetes). There is increasing evidence to suggest that OA is an inflammatory disease. Joint injury is associated with an increased risk of developing post-traumatic knee OA in humans and it is generally accepted that any form of joint trauma may lead to the development of OA many years after the initial injury.

Obesity, walking and running on hard surfaces and lack of physical activity are major contributors to the development of OA in humans. Therefore, it is hardly surprising that captive elephants suffer from OA as they are unable to exercise enough and walk the normal 30-50 miles that they should every day. They cannot be active in very cold climates and in small zoo enclosures where their freedom and mobility is restricted.

There are currently no effective drugs and treatments for OA. Recent research suggests that weight loss, physical activity and increasing muscle mass and strength are the only effective strategies for reducing pain and enhancing mobility in subjects with OA. The only way to slow down the pain and progression of OA appears to be physical exercise, avoiding obesity and maintaining a healthy weight. Non-steroidal anti-inflammatory drugs can only treat the symptoms of OA and they can be very toxic to the gastrointestinal tract in elephants. Therefore, the only strategy currently available to slow OA progression in elephants is to allow them to exercise and walk and look after their feet by limiting walking on unnaturally hard surfaces.

OA researchers are looking for new therapies for this disease in humans and animal models. However, it may take some time for these treatments to reach elephants, who need it as much as we do.

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