

## Umbilical hernia (Hernia umbilicalis)

### Case 1

An umbilical hernia was diagnosed in a 2-wk-old Asian elephant (*Elephas maximus*) by physical and ultrasonographic examinations. Umbilical herniorrhaphy was elected because the defect was large (approximately 7 cm long and 10 cm deep) and could potentially lead to incarceration of an intestinal loop. General anesthesia was induced with a combination of ketamine, xylazine, and diazepam and maintained with isoflurane in oxygen. The hernial sac was explored and contained fibrous tissue, fat, and an intestinal loop but no adhesions. The hernial sac was resected and the body wall closed using the technique of simple apposition. Following a superficial wound infection, the surgical site healed with no further complications.

Abou-Madi, N., Kollias G.V., Hackett R.P., Ducharme N.G., Glead R.D., and Moakler J.P. 2004. Umbilical herniorrhaphy in a juvenile Asian elephant (*Elephas maximus*). *J. Zoo & Wildl. Med* 35(2): 221–225, 2004.

### Case 2

Umbilical hernias were diagnosed in two captive-born, female Asian elephant (*Elephas maximus*) calves several weeks after birth. Daily manual reduction of the hernias for 5 weeks in the first case and for 5 months in the second resulted in complete closure of the defects. Nonsurgical repair of uncomplicated, fully reducible umbilical hernias in Asian elephants can be an alternative to surgery.

Ellen B. Wiedner, E.B., Gray C., Rich P., Jacobson G.L., Isaza R., Schmitt D., and Lindsay W.A. 2008. Nonsurgical repair of an umbilical hernia in two Asian elephant calves (*Elephas maximus*) *Journal of Zoo and Wildlife Medicine* 39(2): 248-251, 2008



### Case 3

This report describes the attempt to surgically repair a large umbilical hernia in a free ranging African elephant. Unfortunately this elephant was found dead 3 weeks after the intervention, due to multiple post-operative complications. You can access the full manuscript by clicking on the link below.

Domnic Mijele D., Njoroge M., and Kaitho T. 2015. Surgical treatment of an umbilical hernia in a free-ranging sub-adult African elephant in Samburu National Reserve, Kenya. *Veterinary Medicine: Research and Reports*.

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