EXOTIC DVM

VOLUME 10
ISSUE 1

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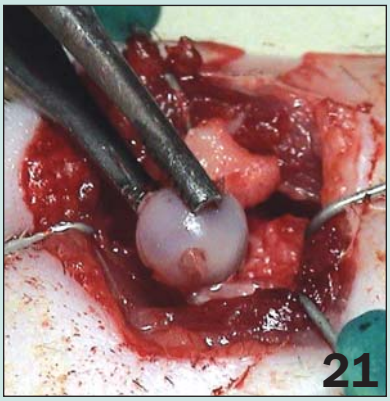

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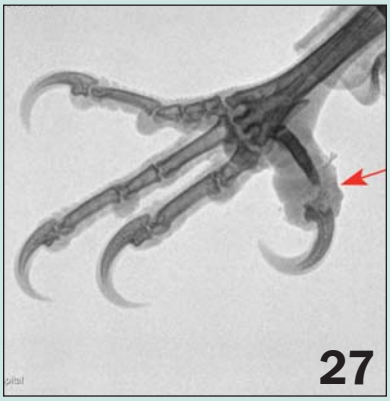

Diana Quiliquini

EXOTIC DVM

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A PRACTICAL RESOURCE FOR CLINICIANS

Observations from the Field

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Femoral Head and Neck Ostectomy in Selected Exotic Mammal Species

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Vittorio Capello graduated from the University of Milano, Italy, in 1989. Professionally, he focuses entirely on medicine and surgery of exotics (particularly exotic companion mammals), providing veterinary services for two clinics in Milano. He has lectured, published and taught courses and practical laboratories on these subjects. He has been a speaker at numerous international veterinary conferences. He is co-author of the Rabbit and Rodent Dentistry Handbook and the upcoming Clinical Radiology of Exotic Companion Mammals, both available through Wiley-Blackwell.

Fracture of the femoral head and neck is occasionally encountered in exotic companion mammal species and is usually a result of a fall from a height, or being dropped by the owners. This lesion is painful and elicits varying degrees of lameness. Internal fixation of the femoral neck is not feasible in small exotic mammal species and would likely result in degenerative joint disease.

The most favorable option is the same as in cats and toy/miniature breeds of dogs: femoral head and neck ostectomy (FHO). In actuality, the procedure is excision of the head and neck fragments due to the presence of fracture of the neck. The goal of FHO is to eliminate physical contact between the fractured head and the acetabulum and create a neoarthrosis, thus preventing development of degenerative joint disease. Although hip dysplasia in the rabbit has been anecdotally reported by the author, femoral head and neck ostectomy as a surgical treatment has not been reported in pet rabbits. The history of a referral case reported FHO as a treatment of "splay leg" in a young female rabbit, but this apparently did not prevent severe degenerative joint disease (see Fig 22).

Ferret

From Capello V, Lennox A: Clinical Radiology of Exotic Companion Mammals. Wiley-Blackwell Publishing, in press

Fig 1. Ventrodorsal projection of the pelvis and femurs of a 1-year-old ferret with a fracture of the right femoral neck as a result of a fall from a terrace.

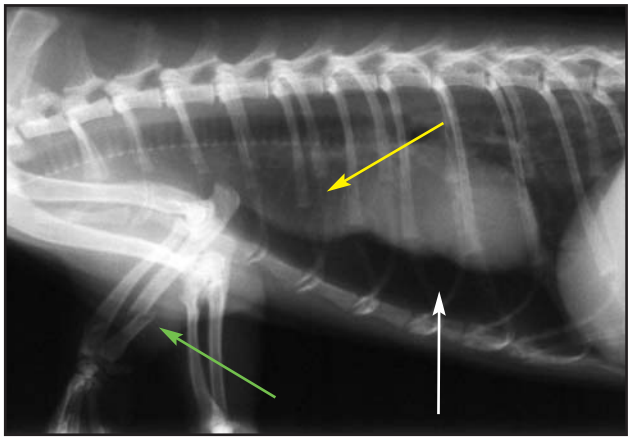

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Fig 2. Lateral radiograph of the thorax of the same patient demonstrating pneumothorax. Air within the pleural space (white arrow) has caused pulmonary collapse (yellow arrow). The heart is deviated dorsally as a result of pulmonary collapse. A distal metaphyseal fracture of the ulna is also visible (green arrow). Because the initial radiographs in this case were obtained with only manual restraint, the thoracic limbs do not appear hyperextended in the lateral projection of the thorax. The pneumothorax was reduced with suction via a local anesthetic block at the puncture site. The ferret was confined to cage rest for 2 days for resolution of the pneumothorax, and surgery was performed on day 3 following the fall.

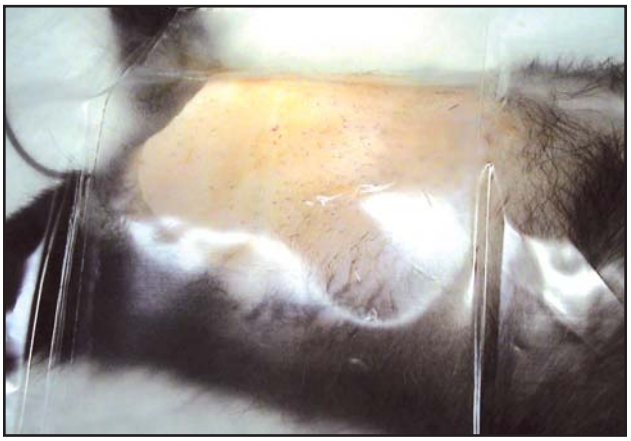


Fig 3. The ferret is placed in left lateral recumbency. The lateral surface of the thigh and the pelvis is shaved and aseptically prepared. A transparent adhesive drape aids orientation during surgery.

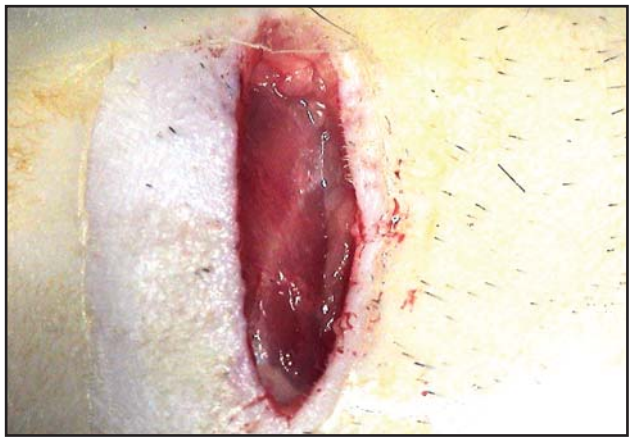


Fig 4. The greater trochanter is palpated with the tips of the fingers. The skin incision is performed slightly dorsal and cranial to the profile of the greater trochanter. The subcutaneous tissue is bluntly dissected to reveal the *tensor fasciae latae* and the superficial gluteal muscle.

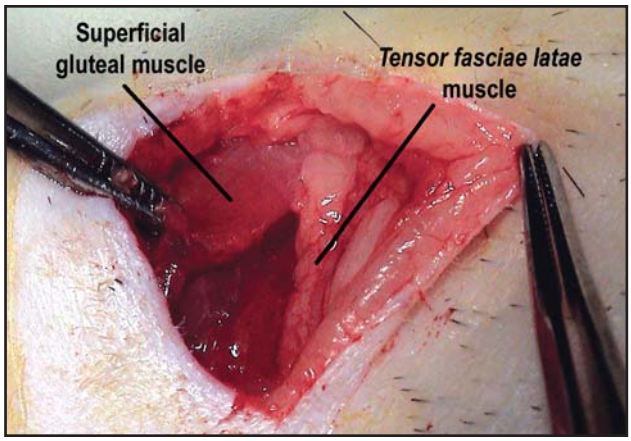


Fig 5. The superficial gluteal muscle is dissected from the *tensor fasciae latae* muscle and retracted dorsally and caudally, exposing the middle gluteal muscle.

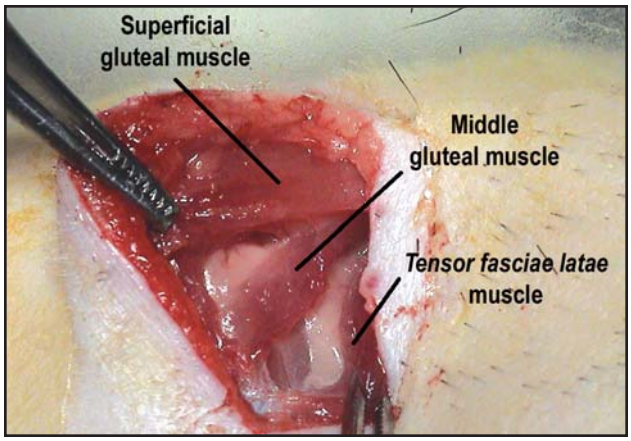


Fig 5. The superficial gluteal, the middle gluteal and the *tensor fasciae latae* are shown.

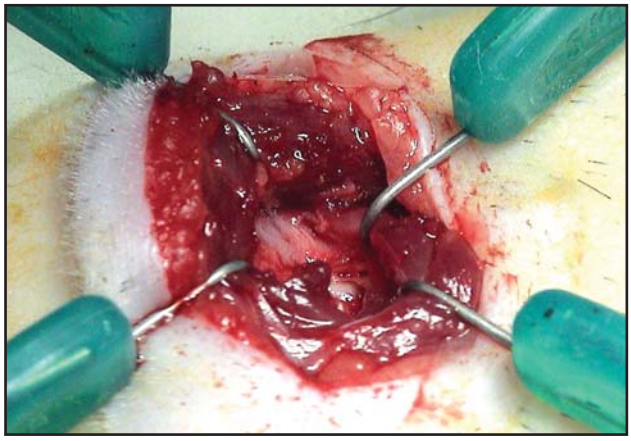


Fig 7. The Lone Star Retractor is placed to retract the gluteal muscles caudally and the *tensor fasciae latae* cranially. The tendon of the deep gluteal muscle is exposed and separated from the underlying joint capsule with careful blunt dissection. Hemorrhage is controlled with cotton-tipped applicators.

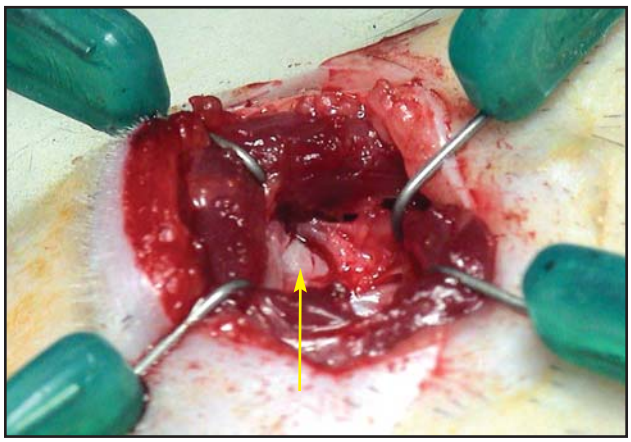


Fig 8. Incision of the joint capsule is performed, exposing the femoral head (arrow).

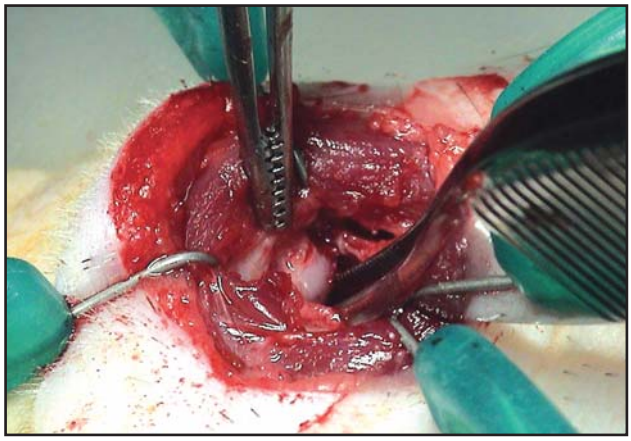


Fig 9. In cases where the femur is intact, luxation of the hip is performed prior to ostectomy of the femoral neck and head. When the femoral neck is already fractured (as in this case), the joint capsule incision is widened to allow removal of the femoral head.

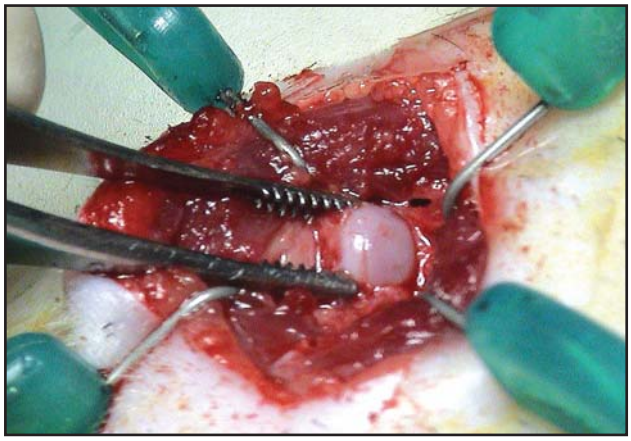


Fig 10. The fractured femoral head is grasped with surgical forceps and retracted out of the joint.

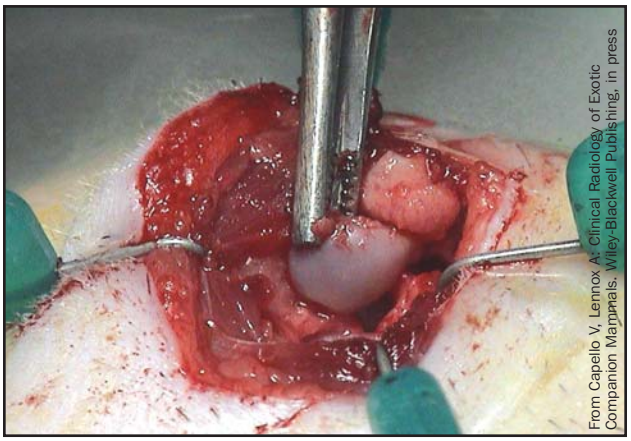


Fig 11. Note the fractured femoral head is still attached to the acetabulum by its ligament.

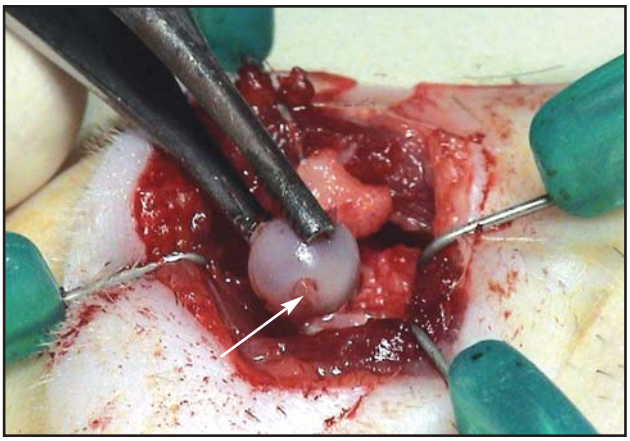


Fig 12. The ligament of the femoral head is severed with the tip of a #11 scalpel blade. The insertion of the ligament is visible (arrow).

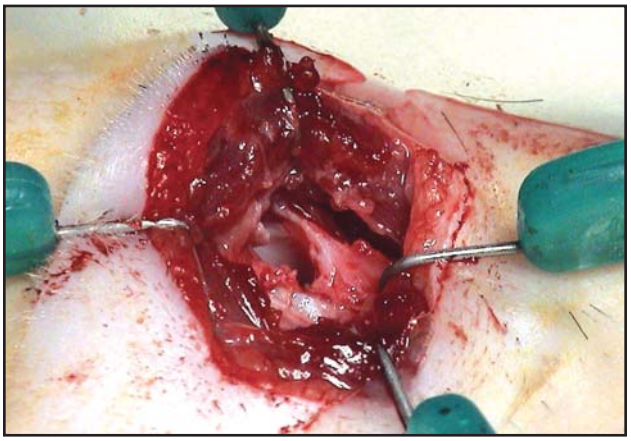


Fig 13. The acetabulum is inspected for the presence of bone fragments and then flushed.

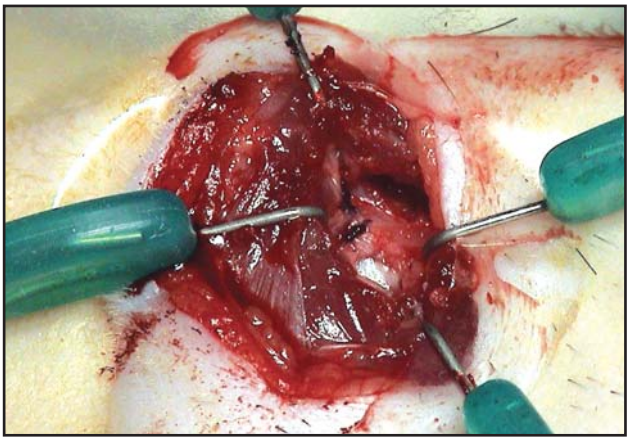


Fig 14. The joint capsule is sutured with 2-3 simple sutures using 4-0 monofilament absorbable material (Monocryl). The muscles, subcutaneous tissue and skin are sutured routinely.

Fig 15. Shown are the femoral head and neck after excision. It is important to remove as much of the femoral neck as possible in order to prevent contact with the acetabulum, which can result in arthrosis or degenerative joint disease.

Fig 16. Follow up after 1 week. An intradermal suture pattern was performed in this patient.

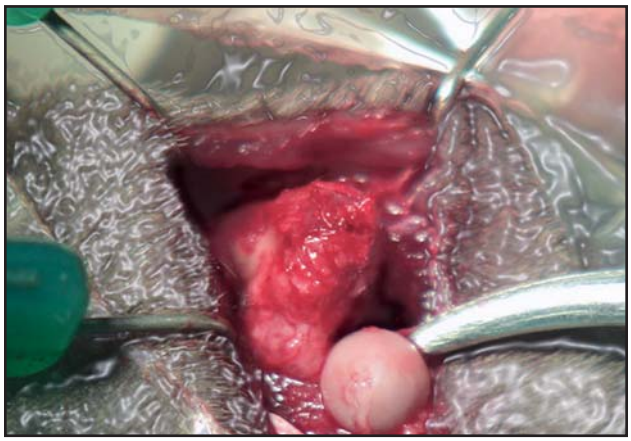
From Capello V, Lennox A: Clinical Radiology of Exotic Companion Mammals. Wiley-Blackwell Publishing, in press

Fig 17. Postoperative radiograph after surgical removal of the femoral neck and head. Note the smooth margin of the proximal aspect of the femur.

Guinea Pig

From Capello V, Lennox A: Clinical Radiology of Exotic Companion Mammals. Wiley-Blackwell Publishing, in press

Fig 18. Ventrodorsal radiograph of the pelvis of a young guinea pig with a fracture of the left femoral head and neck as a result of an unknown traumatic episode (arrow). The guinea pig could bear weight but was significantly lame on the affected limb.



From Capello V, Lennox A: Clinical Radiology of Exotic Companion Mammals. Wiley-Blackwell Publishing, in press

Fig 19. Exposure and excision of the fractured femoral head in the guinea pig.

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Fig 20. Same patient as in Figs 18-19 after femoral head ostectomy. The guinea pig was much improved at 1 week post-surgery and ambulating normally at 3 weeks.

From Capello V, Lennox A: Clinical Radiology of Exotic Companion Mammals. Wiley-Blackwell Publishing, in press

Fig 21. Ventrodorsal radiograph of the pelvis of a guinea pig demonstrating previous fracture of the right femoral head and neck as a result of trauma. FHO had not been performed in this patient. Note evidence of arthropathy and osteolysis.

Rabbit

Courtesy of Donna Habig, DVM

Fig 22. Severe bilateral degenerative disease of the hip joints in a 4-year-old female rabbit. Femoral head and neck ostectomy had been performed on the right hip joint approximately 3 years previously (arrow). Note bilateral dysplasia of the stifle joint, likely following hip joint incongruency or dysplasia.

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