The advent of the electronic age has really facilitated immediate, rapid exchange of information. This development revolutionised the exchange of information and networking amongst colleagues in all scientific disciplines including veterinary orthopaedics, as well as between readers, contributors and referees of VCOT. However, some barriers to this easy communication that still remain are foreign language, culture, economic hardship and lack of internet connectivity. Thus, due to these barriers, it is possible for one to remain blissfully ignorant of the existence of new information and developments being generated in remote scientific enclaves. Our Emeritus Editor-in-Chief, Geoffrey Sumner-Smith had the idea to reprint in VCOT certain selected, previously published papers that might have otherwise escaped our attention. Of course this was done with full consent of the authors and editors of the journal in which the publication appeared originally. The idea was to highlight orthopaedic publications considered to be of significant scientific and educational value that might be largely unknown to readers of VCOT. An important first was a paper by Weller, originally published in ‘Asia Traumatologica Orthopaedica’ in the Orient (1). In his review paper, Weller warned of the potential dangers of precise anatomical reconstruction of shaft fractures, while introducing for the first time the concept of ‘biological osteosynthesis’ (1). This was 1989, and the concept was somewhat new and inflammatory because it seemingly challenged one of the four principles of the Arbeitsgemeinschaft für Osteosynthesefragen (AO), namely ‘anatomical reduction of fracture fragments, particularly in joint fractures’. In retrospect, the introduction of this concept of biological osteosynthesis by Weller proved to be a critical stepping stone in the right direction for the improved management of diaphyseal fractures.

Following this concept, we are reprinting a peer-reviewed publication that was originally written in German (2). This study of outcome after femoral head osteotomy (also known as excision arthroplasty of the hip) was performed at the Ludwig-Maximilians University of Munich under the direction of Professor Ulrike Matis. The surgical procedure of femoral head osteotomy was first introduced to orthopaedics by Gathone Robert Girdlestone around 1945. Originally the Girdlestone procedure was performed to treat persons suffering from tuberculosis and other septic diseases of the hip joint. Following the Girdlestone procedure, patients had significantly impaired limb function and often could only walk with the assistance of a cane or walking stick. Not long after Girdlestone, Sir John Charnley in the United Kingdom pioneered total hip arthroplasty using polymethylmethacrylate cement as the preferred option for surgical management of hip osteoarthritis in humans. After successful total hip arthroplasty, almost normal function is restored to the joint. For this reason, Girdlestone’s femoral head osteotomy has never been a popular surgical procedure in human orthopaedics.

However femoral head osteotomy was quickly accepted in veterinary surgery as a surgical treatment for painful conditions of the hip joint in dogs and cats (3, 4). Paradoxically, sepsis was actually an uncommon indication for femoral head osteotomy in dogs and cats. The principle indications for this surgery were hip dysplasia, traumatic dislocation and irreparable fractures of the hip joint. Although femoral head osteotomy was promoted as being an easier and less expensive option than total hip arthroplasty for animals, the long-term function could be unpredictable. According to several retrospective studies, the functional results of femoral head osteotomy were better in cats and small dogs, than they were in large dogs.

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However in many cases, there was progressive muscle atrophy, fibrous contracture and proximal migration of the femur. Femoral head ostectomy is one of the more commonly performed orthopaedic procedures performed in the small animal practice. Despite the large number of procedures that have been performed, there has been a lack of objective evidence about the outcome of this surgery in dogs and cats. The publication from the University of Munich, reprinted in this issue of VCOT, suggests that an owner’s perception of outcome after this procedure in their animal was much different from the more objective evaluations (2). Functional results were rated as poor in 42% of animals. Furthermore, kinetic and kinematic evaluations in a subset of these animals showed functional deficits of gait in both large and small breeds of dogs. The authors concluded that femoral head ostectomy should be restricted to exceptional circumstances where joint preservation is not feasible, or when joint infection or other contraindications preclude total joint arthroplasty (2).

Generally, femoral head ostectomy is considered to be an end-stage salvage procedure. It is true that successful revision of failed femoral head ostectomy to cemented total hip arthroplasty has been performed in a few dogs and cats (5, 6). However, such a conversion can be problematic, especially if there is insufficient bone stock in the proximal femur. In humans, conversion of a Girdlestone hip to total hip arthroplasty carries a higher risk of postoperative luxation and persistently poor limb function. Fortunately the size range of implants designed for total hip arthroplasty in our patients has been progressively expanded, so the feasibility of being able to offer this procedure instead of femoral head ostectomy in small dogs and cats has increased (7).

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References