

## CASE STUDY

### CT SCANNING OF AN ENGLISH SPRINGER SPANIEL WITH INCOMPLETE OSSIFICATION OF THE HUMERAL CONDYLE (IOHC) AT ØSTERGAARDS VETERINARY HOSPITAL, TRANBJERG, DK

#### INTRODUCTION

The humeral condyle has two centers of ossification (medial and lateral), reported to unite at 70 +/- 14 days of age, and be completely ossified at 32 weeks of age (1). Incomplete ossification of the humeral condyle (IOHC) may be a subclinical condition, it may cause pain and lameness (2) and it may also predispose to secondary fractures and osteoarthritis of the elbow joint (3). The Spaniel(s) tend to be overrepresented (3).

#### CASE

This is a case of a 16 months old English Springer Spaniel with chronic recurrent low-grade lameness on the left front leg. Clinical examination revealed slight muscle atrophy, moderate swelling of the elbow joint (joint effusion) and pain on palpation and manipulation of the elbow joint.

Survey radiographs revealed a mild periarticular reaction in the medial joint compartment.

A CT scan of both elbows revealed bilateral IOHC as well as a fragmented coronoid process in the left elbow joint; see figs. 1 and 2.

Intraarticular contrast enhancement revealed communication between the joint and the fissure line, indicating a need for surgical intervention. See fig. 3.

#### CONCLUSION

This case shows that CT scanning of the elbow joint is superior to conventional radiography in terms of making a definitive diagnosis and thereby formulating a better treatment plan for the patient.

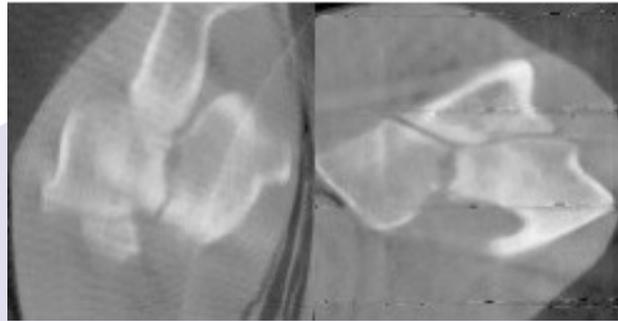


Fig 1. CT scan of the left elbow joint. Note the hypoattenuating line between the medial and lateral humeral condyle, indicating IOHC.

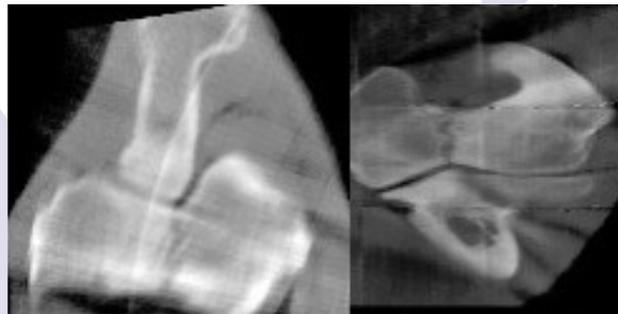


Fig 2. CT scan of the right elbow joint. Note the hypoattenuating line between the humeral condyles.

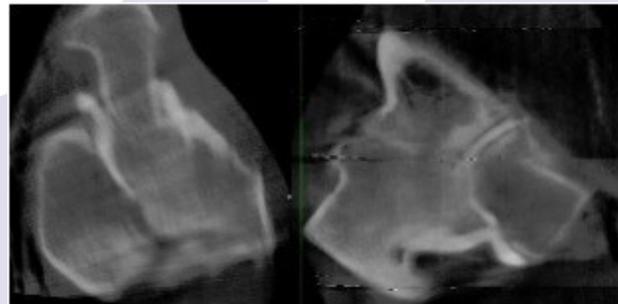


Fig 3. Intraarticular contrast CT. Notice the presence of contrast medium in the intercondylar area.

#### Refs.

1. HareWC: The ages at which the centers of ossification appear roentgenographically in the limb bones of the dog. *Am J Vet Res* 90:825-835, 1961
2. Meyer-Lindenberg A, Heinen V, Fehr M, et al: Incomplete ossification of the humeral condyle as a cause of lameness in dogs. *Vet Comp Orthop Traumatol* 3:187-194, 2002
3. Marcellin-Little, D. J., DeYoung, D. J., Ferris, K. K. and Berry, C. M. (1994), Incomplete Ossification of the Humeral Condyle in Spaniels. *Veterinary Surgery*, 23: 475-487.

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