

Corkscrew Claw



Sarel R. van Amstel, BVSc, MMedVet

KEYWORDS

- Cattle • Abnormal horn growth • Abnormal claw conformation • Genetic
- Environmental pathogenesis • Corrective trimming

KEY POINTS

- Corkscrew claw (CSC) is a conformational defect mainly seen in the outer claw of rear legs, and it is common in both beef and dairy cattle of different breeds.
- Most of the typical phenotypic changes of CSC may have both genetic and environmental components to a greater or lesser extent.
- This condition results in either expression at an early age (genetic type) or later age (environmental/acquired type).
- Heritability scores can be greatly influenced by environmental factors, particularly nutrition and body weight. This effect occurs particularly in beef cattle, in which there seems to be a high correlation between lameness and phenotypic changes associated with CSC.
- Ideal claw conformation should include a short toe; have a good width, indicating a wide bearing surface; have a steep angle of 50° to 55° for front and 45° to 50° for rear feet; have high heels; and both claws on the same leg should be the same size.

DESCRIPTION AND CLINICAL PRESENTATION

Corkscrew claw (CSC) is a well-known and common condition first reported during the 1950s in Dutch black and white cattle.^{1,2} Early reports described CSC as a conformational abnormality of the digit and claws of the back leg, and it is still recognized as such.^{1,2} The condition occurs primarily in the outer claw of the back leg, involving both outer claws in most cases but other claws may also be involved.^{1,2} The affected outer claws are longer and narrower than the medial claw and have an inward and upward spiral rotation of the toe (**Fig. 1**). Similarly, the bearing surface of the wall, particularly at the heel and sole, is displaced inward. The animal starts to bear weight on the outer (abaxial) wall surface, particularly the caudal segment (**Fig. 2**), and the sole may become completely non-weight bearing. The inside (axial) wall is displaced dorsomedially and a fold develops in the wall.^{1,2}

Other conformational defects that resemble CSC that have been reported include hooked claws in Aberdeen Angus; rolled claws in Simmental; and slipper and scissor

Department of Large Animal Clinical Studies, College of Veterinary Medicine, The University of Tennessee, 2407 River Drive, Knoxville, TN 37996, USA

E-mail address: svanamst@utk.edu

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Fig. 1. CSC with spiral-shaped inward and upward rotation of the toe.

claw, which can be seen in any breed with chronic laminitis.³ Slipper claw is usually longer than normal, the dorsal surface concave, and the horn has a dull flaky appearance.⁴ Another conformational abnormality that can resemble CSC is abaxial rotation of the medial claw of the back leg, seen in heifers.⁵ True screw claw is reported to be distinguishable from these abnormalities by a bony swelling present above the abaxial coronary band (Fig. 3).³

Other reported changes and signs associated with CSC (Table 1) that have been reported include physical and anatomic changes.

Physical

- Accelerated growth/overgrowth resulting from hyperplasia of the abaxial wall following development of a palpable periarticular exostosis incorporating the abaxial collateral ligament of the distal interphalangeal joint³ (see Fig. 3).
- Sole hemorrhage.
- Separation at the non-weight-bearing part of the white line in zones 1 and 2 at the toe, which may predispose to toe abscess with pedal osteitis and pathologic fracture of the apex of the third phalanx.^{6,7}
- Separation of the white line in zone 3.
- Sole ulcer in the axial part of zone 4.⁷



Fig. 2. Weight bearing on the outer (abaxial) wall surface, particularly the caudal segment.

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