The Anatomy of the Horse’s Foot

Color Atlas of THE HORSE'S FOOT Christopher C Pollitt Mosby Wolfe

EQUINE LAMINITIS - Dr Chris Pollit; for Rural Industries Research & Development Corporation Pub.No.01/129

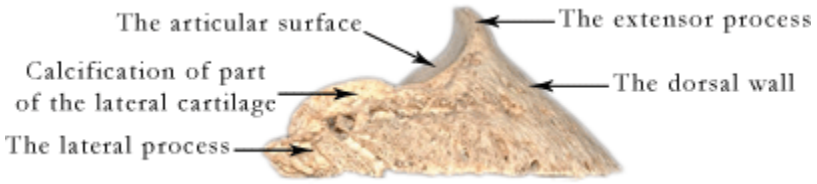
THE EQUINE DISTAL LIMB - Jean-Marie Denoix; An Atlas of Clinical Anatomy and Comparative Imaging, Manson Publishing

The equine foot is an amazing structure that has to take the weight of the horse on a "finger nail". The weight passes down the bone column to the pedal bone that is suspended inside the hoof by the laminae.

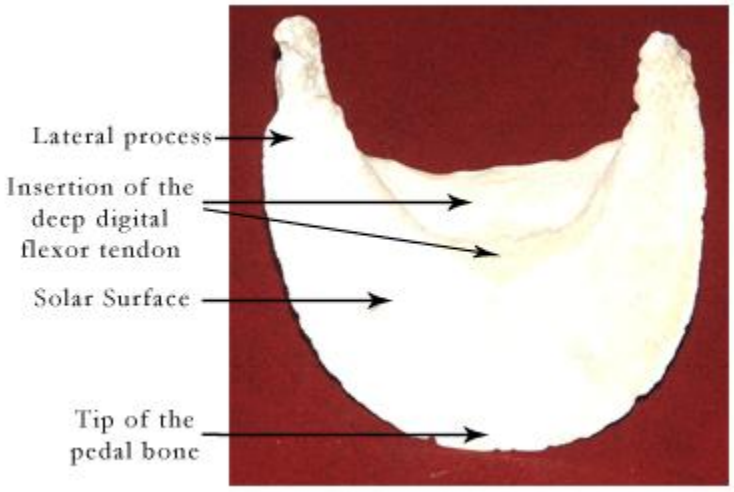
The inside of a hoof with the sensitive tissues and the bone removed.

Close-up of inside the hoof wall.

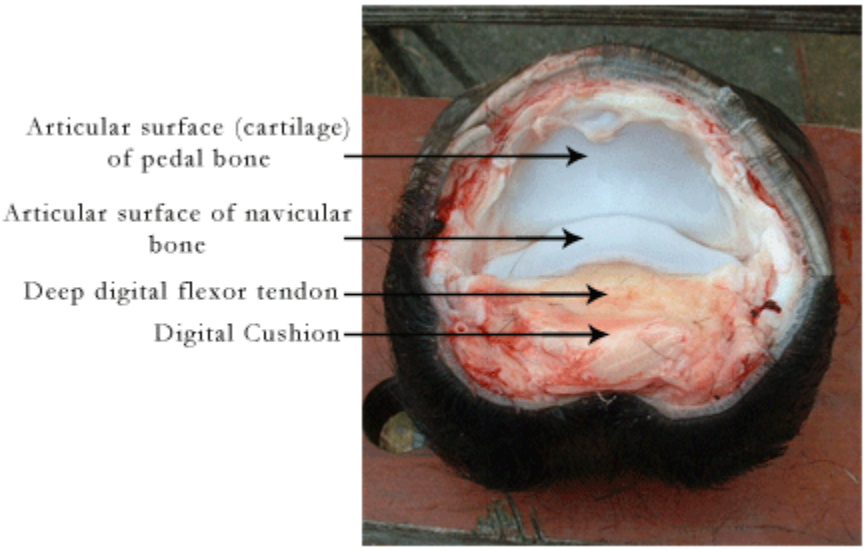
The pedal bone = the coffin bone = P3 = the distal phalanx



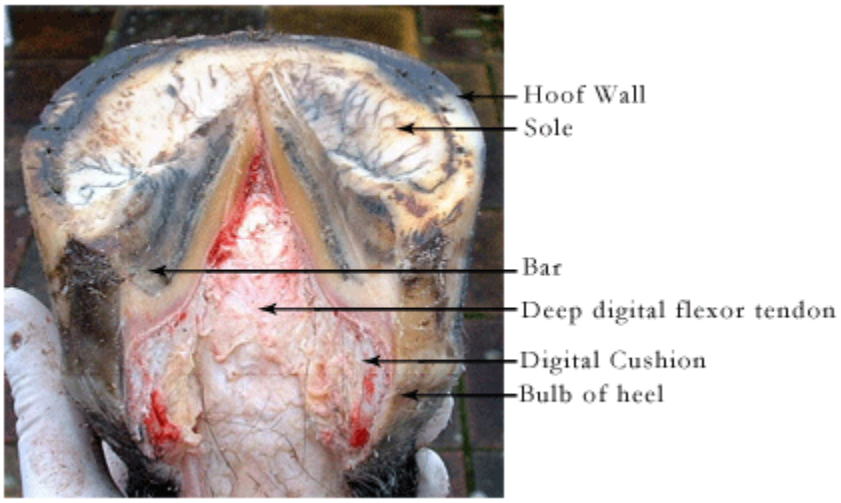
The ventral = palmar = solar surface of the pedal bone



Disarticulation exposing the coffin joint.

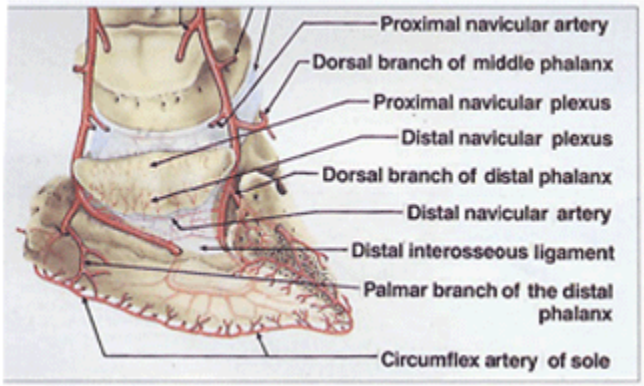


Solar surface of the hoof with the frog removed



The arterial supply of the navicular bone and the pedal bone (distal phalanx)

From "Color Atlas of The Horse's Foot" Christopher C.Pollitt Mosby-Wolfe 1996 (Art J.McDougall) Page 22



32. The arteries of the navicular bone and the distal phalanx. The paired medial and lateral palmar digital arteries give off branches above and below the distal sesamoid (navicular) bone—the proximal and distal navicular arteries, respectively—before entering the distal phalanx, via the solar foraminae, to form the terminal arch. Branches of the terminal arch perforate the dorsal surface of the distal phalanx to supply the lamellar corium and to anastomose and form the circumflex artery of the sole. The solar corium of the toe is dependent on axially directed branches of the circumflex artery for its blood supply. Art: J. McDougall.

The Anatomy of the Hoof Wall

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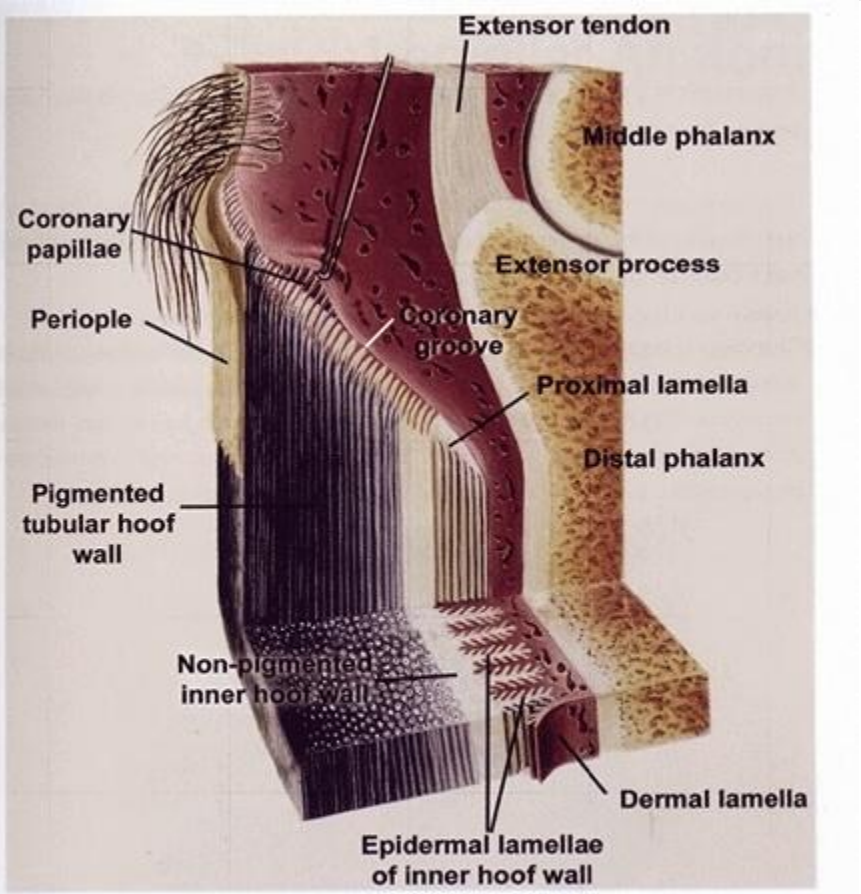
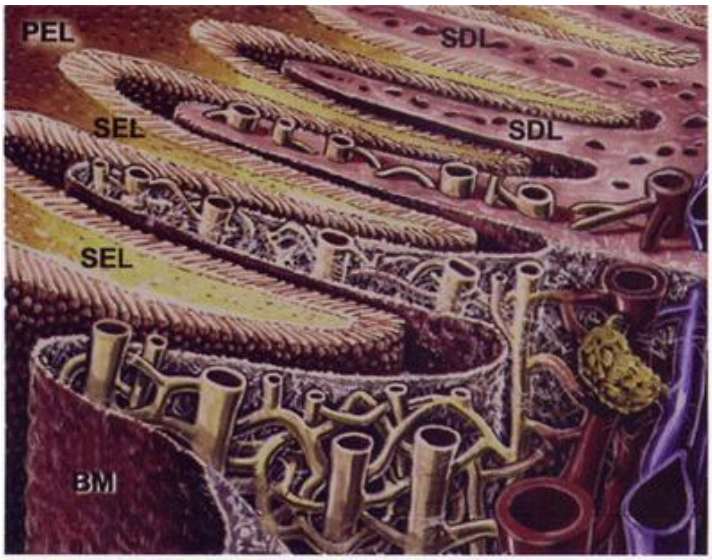


AFIGURE 2.9 Diagram of the anatomy of the hoof wall. Tubular and intertubular hoof wall is formed at the top of the hoof by the constant proliferation of epidermal basal cells. The surface area of the inner hoof wall is expanded by the provision of 550-600 epidermal lamellae. The dermal lamellae interdigitate with the epidermal lamellae and are firmly attached to each other. The tough connective tissue of the dermal lamellae attaches to the periostium of the distal phalanx and thus suspends the distal phalanx to the inside of the hoof wall. Design: Chris Pollitt. Art: John McDougall.



AFIGURE 3.3 The basement membrane at the dermo-epidermal junction. At the interface of the lamellar epidermis and dermis is the basement membrane (BM), a tough, unbroken sheet of connective tissue that bridges the basal cells of the seconadry lamellae (SELs) on one side and the tough connective tissue of the secondary dermal lamellae (SDLs) on the other. The dermal connective tissue of the SDLs is ultimately embedded on the surface of the distal phalanx. Diagram design: Chris Pollitt. Art: John McDougall.

Each primary lamella (lamina). has many secondary lamellae. The basement membrane lies between the secondary epidermal lamellae (of the hoof) and the secondary dermal lamellae. Breakdown at this site occurs in laminitis.

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