

ACBA: Health

BUMBLEFOOT OR PODODERMATITIS

by Valerie Blaes, DVM

Questions about the cause and treatment of bumblefoot arise often, probably due to the fact that this condition is extremely common in cavies.

Pododermatitis, by definition, is the inflammation and/or infection of the skin and connective tissues of the foot. The front feet are most commonly affected and are found to be painful and very swollen, sometimes three times the normal size of the foot. The cavy is usually reluctant to move and may vocalize frequently while doing so. One or both feet may be affected, and rarely a rear foot or hock may develop this problem. These swollen feet usually fill with blood or pus, rupture and drain, only to close and fill up again.

The firm swelling of the foot is due to the development of scar tissue within the pads and along the tendons and internal structures of the foot. This scar tissue develops in response to long term injury such as continual bruising or pressure damage. The feet are easily infected with bacteria, causing the build up of blood and pus, enlarging the foot even more. It will often rupture on its own, leaving an open, draining hole in the foot or foot pad. This hole will eventually close, either by healing or filling with more scar tissue. The entire process then repeats.

Although there are several factors which predispose a cavy to bumblefoot, the primary contributor is rough flooring or coarse bedding. Wire bottomed cages are a harsh surface to the soft foot pads of the cavy. Similarly, very coarse wood shavings can be just as irritating to the foot and foot pad's inner structures.

With continuous exposure to these surfaces or materials, especially in older or heavier animals, these feet may develop calluses to compensate for the pressure and chronic bruising. Because these surfaces are abrasive, breaks in the skin occur frequently and provide an opening for bacteria to invade and colonize the internal tissue structures of the foot. Obviously, unsanitary cage conditions will increase the chance of infection.

The infections that occur in Pododermatitis are very extensive, and therefore difficult to treat successfully. The bacteria or fungal agents can penetrate deep into the tissues, travel along the tendons, reside in "pockets" in the scar tissue, and even invade the bones of the foot. Bone infections, or osteomyelitis, of the toes and foot are a common result and are nearly impossible to cure. The most common bacteria involved in these infections is Staphylococcus aureus, although other bacteria and fungi may be primary or secondary invaders.

The treatment of bumblefoot is varied. The initial use of antibiotics is recommended, but because these drugs do not penetrate scar tissue or bones very well, the chances of a complete cure are slim. Injection of antibiotics directly into the foot maybe of some benefit. Antifungal drugs have also been advocated but have had limited success.

Wound cleansing and daily soaks with antiseptic solutions such as betadine or chlorhexidine are helpful in treatment. The foot should also be bandaged to keep it free of debris as it heals and to provide a cushioned surface to promote this healing. In some cases, infusion of antibiotic or antifungal ointments into the open foot may be beneficial.

Radiographs of the foot and surgical removal of infected bones and excessive scar tissue is an alternative choice of therapy.

Good, sound husbandry practices will reduce the incidence of bumblefoot. Proper hutch sanitation, solid flooring, and soft, absorbent bedding are recommended to reduce foot pad trauma and infection. Prevent obesity by feeding restricted amounts to older, less active animals. Routine foot examination may allow early detection of minor swelling, abscesses, or callus development. Early treatment, bandaging, and a bedding change may increase the chances of a successful outcome to therapy.

Except as specified below, no part of this publication may be reproduced in any form or by any means, including electronically, or transmitted by any means without permission in writing from the American Cavy Breeders Association (ACBA). Copying: Single copies of individual articles may be made for private use or research providing copies bear the ACBA copyright notice. Authorization does not extend to copies made or distributed for profit, commercial advantage, promotional purposes, to electronic storage or distribution, or to republication in any form. In all such cases, specific written permission from ACBA must be obtained. Permission for Other Use: Permission is granted for brief quotes with the customary acknowledgment of the source. To reprint a figure, table or other excerpt requires the consent of the ACBA. For permission contact: Lenore Gergen (ACBA Secretary), 16540 Hogan Avenue, Hastings, MN 55033. Opinions of individual authors are their own and do not necessarily reflect those of the ACBA, its board or officers.