

Coco

0.1 Southern Black Rhino
(*Diceros bicornis minor*)
Born 1 Dec 1990

Since 1995 Coco has had defect wounds appear along the hoof sole and pad junction of the medial toe on her front feet.



1995-1996 – Shortly after arriving Coco started propping her foot and had swelling along the coronary band. Soon the first defect was noted on her front right foot. An ultrasound was performed and revealed a 2 inch deep tract. It was treated with debriding, cleaning, and packing with antibiotics. Defect resolved in less than a year.

2006 – Puncture wound was found in the sole. The tracts were 1 ½ inches deep. Wound healed slowly over the course of the year with cleaning and packing with antibiotics.

2009 – When the defect wound resolved, a new defect would flare up. Treatment became more aggressive with immobilizations for radiographs, antibiotic perfusions, fistulagram, and heavy debriding, followed by packing the wound with antibiotics. Boots were created and applied with limited success. During one of the immobilizations a small wood like object was removed from inside the wound. After this the wound began to heal and resolved by June.

2013-2014 – Defects in the pad of the front right foot were noticed. They were treated with cleaning and topical medication but they continued to get worse and required immobilizations for aggressive treatment.

2015 – A new defect wound was found on her front left foot as a result of her having to redistribute her weight off of her front right leg. We began immobilizing her every two weeks to debride, clean, perfuse, and apply antibiotics. The feet would be wrapped and then have the black and white rubber boots applied. The boots must be taped on and would only stay on for 3 days. (photo bottom center)

June 2015 – Rhino Keeper Workshop in Chester, England I listened to Christine Bobko's presentation about her battle with defects in Mshindi's feet and their form fitting boots.

Oct 2015 – Diceros Boots, LLC. arrives to collect a 3D image and a silicon mold of her feet. We set a goal of creating boots that would last 2 weeks, our target of how frequent we were immobilizing her.

Nov 2015 – Christine returns with Coco's first pair of boots. The first set of boots only lasted 6 days before they began to deteriorate and eventually were removed.

2015-2016 – Over the next several months 6 sets of boots were made. Each set of boots lasted about 2 weeks. Only 2 boots were successfully removed before they were destroyed beyond repair.

If The Boot Fits!

By Justin Smith
Senior Animal Care Specialist
Fossil Rim Wildlife Center

Why is a boot necessary?

A boot is a valuable tool to help prevent dirt, debris, and moisture from getting to the foot wounds. It also functions as a bandage and helps keep topical antibiotics in position.

Fossil Rim Wildlife Center started developing and applying boots to rhinos in the late 1990's.

Black rubber tire tread boot – designed by staff and a local farrier. It was constructed at a local tire retreading company.

- Weight is extremely heavy (20 lbs.)
- Not a snug fit
- Must be taped on
- Can with stand a rhino's abuse but requires repairs
- Only stays on for a couple days



White rubber boot – created by our veterinarian staff

- Weight is reasonable (7lbs.)
- Does not surround the entire foot
- Must be taped on
- Can with stand a rhino's abuse
- Only stays on for a couple days



Duct tape boot – Improvisation by our veterinarian staff

- Light weight
- Thickness can be varied
- Temporary



Diceros Boots, LLC

Company was founded for the "love of a rhino". They have a patent pending for elastomer treatment boots using 3D imaging and printing technology, and currently moving forward with our product line which will focus on the equine, pachyderm and canine markets. Christine Bobko



Christine Bobko and Brian Teasdale taking a 3D image and mold of rhino foot using silicon and woven mesh.



Christine and Brian take the molds and create a cast of her feet. From the cast they build a custom formed fit boot.



Diceros Boots made six pairs of boots for Coco. After each pair was field tested, the boots would be evaluated. Then Fossil Rim Staff and Diceros Boots would brainstorm how to make improvements to the design. Each subsequent set of boots were made with improved modifications.

Pictured above is the 1st generation boots and Coco shown field testing the 1st generation. Below is a 5th generation boot

