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TeraRecon and WhiteClouds Provide 3D Print for Rhinoceros Surgery at Chicago Zoo



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In preparation for a recent surgery on rhinoceros, Layla, at Brookfield Zoo in Chicago, Illinois, medical imaging software provider, TeraRecon, and 3D Printing manufacturer, WhiteClouds utilized their technologies to help veterinary surgeons prepare. Layla is a 2,300lb., 7-year-old Eastern Black Rhinoceros with an impacted molar tooth and associated sinus infection that were causing life-threatening complications in her ability to breathe. A recent CT scan at the zoo was the first of its kind and revealed the need for surgical intervention. Using the imaging data from the CT Scan, a [3D computer reconstruction](#) was made and a printed model of Layla's anatomy was produced for surgical planning.



TeraRecon 3D Reconstruction of Rhinoceros CT Images

Advanced Visualization provider, TeraRecon, creates a 3D reconstruction of Eastern Black Rhinoceros' CT images from Brookfield Zoo, Brookfield, IL (USA) for a pre-surgical 3D print. Credit Gae I Kuhn/TeraRecon.

TeraRecon's advanced medical image processing solutions are utilized in human medical imaging in the global healthcare market. Their 3D reconstructions of medical imaging scans can be sent to 3D printers producing prints with incredible detail and realism.

The giant model was donated by TeraRecon and printing partner, WhiteClouds, which is the largest 3D printing manufacturer in the world. WhiteClouds' unique "hinge-and-slice" technique was applied to the Rhinoceros model to allow surgeons easy, fan-like visualization of the region of interest.

Jerry Ropelato, CEO of WhiteClouds, shared, "We continue to see growing interest in the impact of 3D printing in veterinary medicine. As we now provide prints to the veterinary community, we are excited to extend into the zoological space and participate in such a significant, first-of-kind effort for Layla."

The first of two planned surgeries successfully occurred on Monday, May 7th and Layla's impacted tooth was removed, along with part of the infected tissue obstructing her sinus. Dr. Michael Adkesson, Vice President of Clinical Medicine for the Chicago Zoological Society, which manages Brookfield Zoo said, "Layla is recovering well from the first surgery that was very successful due to the thorough preparation and surgical planning by our

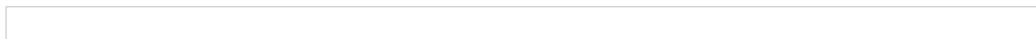
team that was enabled by the 3D printed model. We greatly appreciate the partnership of TeraRecon and WhiteClouds to help this surgery go as smoothly and quickly as possible, creating an optimal outcome for Layla.”

TeraRecon President and CEO, Jeff Sorenson, stated, “The TeraRecon family is thrilled to support the amazing work of the surgeons and clinical care team at Brookfield Zoo.”



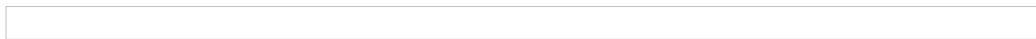
Eastern Black Rhinoceros, Layla, Undergoes CT Scan at Brookfield Zoo

Michelle Soszynski, a senior veterinary technician for the Chicago Zoological Society, monitors Layla a 7½-year-old eastern black rhinoceros, as she receives a CT scan inside Brookfield Zoo’s Pachyderm House. The images from the scan provided diagnostic results that helped determine the best course of action in treating an infection in Layla’s nasal passageway. NeuroLogica, a subsidiary of Samsung Electronics, generously donated the use of its BodyTom®, the world’s first battery-powered, portable, 32-slice CT scanner, for the procedure. In addition, technicians from NeuroLogica and a physicist from Sound Technologies donated their services to set up and operate the machine. Following the CT scan, veterinarians performed surgery to remove infected tissue. Photo credit - Jim Schulz/Chicago Zoological Society.



3D Print created by TeraRecon and Whiteclouds - Layla the Rhinoceros | Brookfield Zoo

A hinge-and-slice 3D print of rhinoceros anatomy used for pre-surgical planning at Brookfield Zoo. Photo credit - Kelly Tone/Chicago Zoological Society.



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A hinge-and-slice 3D print of rhinoceros anatomy used for pre-surgical planning at Brookfield Zoo. Photo credit - Kelly Tone/Chicago Zoological Society.



Rhinoceros CT Image Review

Dr. Michael Adkesson, vice president of clinical medicine for the Chicago Zoological Society (CZS) and Dr. Marina Ivančić, a board-certified veterinary radiologist for CZS, compare a CT scan image taken on April 19 (left) and another on May 15 of Layla, an eastern black rhinoceros. The 2,300-pound 7½-year-old pachyderm is being treated for an infection in her nasal passageway. Photo credit - Jim Schulz/Chicago Zoological Society.



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A hinge-and-slice 3D print of rhinoceros anatomy used for pre-surgical planning at Brookfield Zoo. Photo credit -

Jean-Manuel Nothias/Vizua.



Review of 3D Print Used for Rhinoceros Surgical Planning

Dr. Thomas Meehan of Chicago Zoological Society - Brookfield Zoo and Jeff Sorenson, CEO of TeraRecon, discuss a hinge-and-slice 3D print of rhinoceros anatomy used for pre-surgical planning at Brookfield Zoo. Photo credit - Jean-Manuel Nothias/Vizua.

Learn more about [TeraRecon](#)

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