

# Tutankhamun Examined in a CT Scanner

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Siemens experts have been examining the mummified remains of the pharaoh Tutankhamun in a CT scanner - with unprecedented precision. Together with the Egyptian chief archaeologist, Dr. Zahi Hawass, they want to determine the cause of Tutankhamun's death more than 3,000 years ago. It was the first time since the mummy's discovery in 1922 that it had been removed from its resting place in the Valley of the Kings near Luxor. In 1968 the first X-ray analysis of the head revealed that the pharaoh might have died as a result of a severe blow.

The Siemens experts in Egypt report that the analysis of the mummy proved very difficult. A living patient can assume different bodily postures, but that's of course impossible for the fragile mummy. The condition of the mummy is very bad: It was supposedly damaged when its discoverers removed jewelry from the body. In its wooden box, the

body was taken to a specially outfitted truck equipped with a Somatom Emotion 6 CT scanner which is a donation from Siemens and the National Geographic Society.

The scanner, which is also used in clinical practice, contains special software that reduces the radiation dose as low as possible to avoid further damage to the mummy. In addition, the experts and technicians wore surgical masks and gloves to protect the mummy. Including preparations, the process lasted about two and one-half hours, though the scan itself took only five minutes. Overall, 1.700 images have been taken. The images of the skull have a resolution of 0.5 millimeters, while the resolution of the rest of the body is one millimeter. The experts are now evaluating the images, and the initial results are expected by the end of January.

In addition to Tutankhamun, the scientists examined many other mummies from the Valley of the Kings. Some of them had to be scanned with death masks or in wrappings, which might cover previously undiscovered jewelry. This and the resin used during mummification may lower the quality of the images. A mummy previously thought to be that of a female turned out to actually be the remains of a man. Another unexpected discovery: A mummy thought to be the body of a 70-year-old man turned out to be the mummy of a boy who was about seven years old at the time of his death. The Siemens experts expect surprises from Tutankhamun also.

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