

# Mummy gets 21st Century exposure

New X-ray technology enhances research

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No celebrity in ancient Egypt, a mummy of the middle class received its 15 minutes of fame Friday when scientists at the Field Museum scanned it with new X-ray technology.

Still encased in its black coffin, the 2,200-year-old mummy had not been seen by modern eyes until curators and conservators at the museum used a computer-assisted technique to peer inside.

The X-ray revealed an adult who was about 18 to 20 years old at the time of death. Experts could not immediately discern the mummy's gender, as cloth wrappings had warped the pelvic bone.

The scan also showed extra space at the head and foot of the dry, cracked wooden coffin, surprising the an-



Tribune photo by Antonio Perez

**J.P. Brown, assistant conservator at the Field Museum, positions an Egyptian coffin for a new X-ray machine Friday. The mummy was estimated to be about 2,200 years old.**

thropologists.

"The mummy is actually quite short relative to the coffin," said assistant conservator J. P. Brown.

Often, the poor fit can imply a "discounted" or even re-used coffin. But an intact papier-mâché-like mask covers the head and shoulders like a tamping-evident safety-seal, suggesting the coffin was original equipment.

The scientists speculated that the mummy may have shrunk as its vertebrae collapsed over the millennia.

Akin to a hybrid of traditional and digital photography, the new X-ray technique involves exposing a special phosphor plate that is scanned into a computer. It

takes "20 seconds per plate for a scan as opposed to the 25 minutes it used to take, plus swearing," Brown said.

Field Museum staff can finish scanning a mummy in a morning instead of a week and instantly send digital images around the world.

Computer radiography also simplifies the process of taking an X-ray in profile. Instead of having to turn the coffin, a potentially damaging maneuver, the phosphor plate is all that moves.

A lateral view of the skull quickly confirmed early estimates of the mummy's age at death by looking at the position of the wisdom teeth.

Museum scientists next will sample the mummy's

hair, skin, muscle or teeth to examine its DNA. Like doctors performing minimally invasive surgery, they will thread an endoscope through a small hole in the unopened coffin to

pluck a tiny amount of tissue from beneath the linen wrappings. The DNA may contain signs of a congenital disease, helping the anthropologists corroborate or eliminate possible causes of death.

The coffin is a bit of a rarity, as aesthetic clues suggest it holds a wealthy commoner who aspired to a more regal lifestyle.

Given the high cost of mummification in ancient Egypt, mummies usually belonged to the royal or priestly classes.

"This black coffin is probably like a middle-class attempt at one of the posher black coffins," Brown said.

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