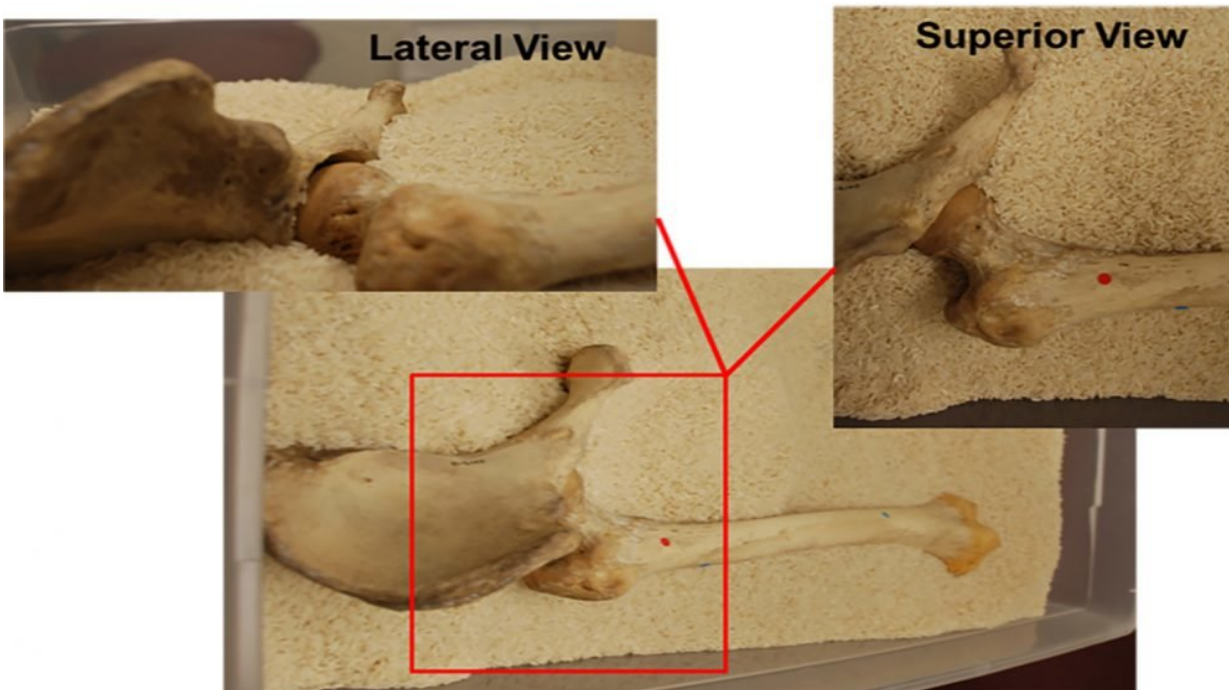


# Bone experts offer how-to video for forensic professionals

January 29 2018, by Matt Shipman

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Images from a user manual developed by NC State's forensic anthropology unit.  
Credit: North Carolina State University

Advances in recent years allow forensic practitioners to use bone mineral density to extract more information from human remains – but many forensic experts are unfamiliar with the techniques and technology. Now forensic researchers from North Carolina State University have published a step-by-step methodology in the video journal *JOVE*,

providing forensic professionals with a guide that can help them extract as much information as possible from this emerging tool.

The bone mineral density of a human skeleton can tell forensic practitioners everything from the age of the deceased to whether an individual was malnourished. This information can have multiple uses, such as helping to identify unclaimed remains or determining whether a deceased child was the victim of neglect.

"However, the use of bone mineral density in a forensic context is relatively new, and it is important for practitioners to understand how to use it properly," says Ann Ross, a professor of biological sciences at NC State and senior author of the journal article. "A video journal allows us to visually demonstrate the process."

For example, the article explains when collecting bone mineral density may be useful, how to properly scan remains and how to interpret the data.

This is particularly important for collecting and assessing bone mineral density data, both because there are so many variables that can affect that data – and because the data may be used in law enforcement contexts.

"For example, the angle of a bone is important when taking scans, which is much easier to demonstrate via video," says Amanda Hale, a Ph.D. student in Ross's lab and first author of the journal article. "And the [bone mineral density](#) of remains can be affected by variables such as whether the remains were buried.

"You really need to know when and how you can make measurements that are scientifically robust."

"The forensic application of [bone mineral density](#) is still an active area of research, so knowing how to collect this data properly is likely to become even more important as we learn more about how to properly apply these techniques," Ross says. "Hopefully our video article will help to ensure that the forensic community is using a consistent suite of methods."

The paper, "Scanning Skeletal Remains for Bone Mineral Density in Forensic Contexts," is in press – and available online – in *JOVE*.

**More information:** Scanning Skeletal Remains for Bone Mineral Density in Forensic Contexts, *JOVE*, [www.jove.com/video/56713/scanning... ensic?status=a58719k](http://www.jove.com/video/56713/scanning-skeletal-remains-for-bone-mineral-density-in-forensic-contexts)

Provided by North Carolina State University

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