

Nurse develops technology to detect bruises on dark skin

December 8 2022, by Nancy Clanton



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Detecting bruising on darker skin can sometimes be difficult, limiting a nurse's ability to document wounds and testify to them in court.

"Bruise detection and diagnosis are currently conducted by sight, under regular light, and [bruises](#) are often difficult to see on victims of violence depending on their [skin color](#) and the age of their injury," AZO Life Sciences wrote in 2020. "As a result, individuals with dark skin tones are at a significant disadvantage in having their injuries properly identified and documented. This can have a significant impact on both medical and legal outcomes for victims of violence."

Katherine Scafide, Ph.D., RN, a forensic [nurse](#), scientist and associate professor at George Mason University's College of Public Health and School of Nursing, has developed a way to change that.

"I often would have patients who had dark skin who would report injuries and I wouldn't be able to see anything," she recently told Nurse.org. That's a problem, because if you can't see an injury, you can't document it. If you can't document it, you can't testify about it.

"If you have dark skin pigmentation ... the melanin that contributes to that pigmentation is actually located primarily above where the bruises are located in the layers of the skin," Scafide said. "So if you have a lot of skin pigmentation, with [darker skin](#), then it's going to be difficult to see the bruise."

In 2020, Scafide compared a white light to an alternative light source to see which was more effective at detecting bruises. They discovered the ALS was five times better than the [white light](#) at finding bruises on victims with varying skin tones.

ALS technology uses a specific wavelength of light to make it easier to identify bruises. You've likely seen it used on crime shows like "CSI," she told Nurse.org. "You'll see them shining a light looking for blood spatter or other types of latent evidence that you can't see very well."

Her research is significant because the technology doesn't stand up in court without a study to demonstrate its effectiveness.

Now that she and her team have provided evidence of ALS' effectiveness, they are working on clinical guidelines and training for [health care professionals](#) to use it.

"We're hoping that in the future, alternate light sources will be more accessible ... and make it easier for forensic nurses to understand how to use it and how to interpret what they're seeing," she told Nurse.org.

"Interpreting and documenting what they see is really key," she added. "Because if you misinterpret or misdocument what you're seeing, then that can obviously have a significant effect on the legal outcomes and medical outcomes. So we want to make sure that nurses are properly trained and educated on how to use it."

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Citation: Nurse develops technology to detect bruises on dark skin (2022, December 8) retrieved 25 April 2024 from <https://medicalxpress.com/news/2022-12-nurse-technology-dark-skin.html>

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