The Unreliability of Bitemark Comparisons

How Bitemark Comparisons Have Led to Wrongful Convictions

Forensic science errors, which include bitemark comparisons, are a leading cause of wrongful convictions nationwide. Yet, prosecutors are still bringing the practice into the courtroom, where it is often used as key evidence leading to a conviction.

Why Bitemark Comparison is Unreliable:
Among forensic disciplines, bitemark comparisons are especially problematic for a variety of reasons, including:

• The same set of teeth can produce completely different bitemarks on human skin;

• Different sets of teeth can produce bitemarks that look similar on human skin, especially when only parts of the dentition are recorded in the mark;

• Unrelated injuries not made by human teeth can be mistaken for bitemarks by even the most experienced "experts";

• Unlike a mold made in a dental office, skin's elasticity makes it a poor medium for accurately recording bitemarks. Bitemarks on skin will also change and can become distorted over time due to swelling and healing, thereby making it impossible to make reliable comparisons;

• "Experts" often use pictures to compare a person's dentition to the bitemark on the victim, increasing the unreliability of bitemark evidence. Also, distortions in photographs and the fact that a person's teeth shift and move over time, may limit the accuracy of the results;

• Even if a bitemark appears to match an individual set of teeth, it is impossible to know how many other people have teeth that could produce the same bitemark;

DNA Proves Bitemark Comparisons Have Led to Wrongful Convictions
Since the availability and use of DNA testing – which was born in the scientific community and can provide precise identifications – the wrongful convictions of innocent men and women due to faulty bitemark comparison evidence have been exposed years or even decades later.

Our Position on Bitemark Comparisons
The New England Innocence Project advocates for a moratorium on the use of bitemark comparison evidence in the courtroom to identify an individual as the perpetrator or participant in a crime unless and until there is sufficient scientific research to demonstrate its reliability. In addition, all stakeholders – especially prosecutor offices – should conduct a systemic review of any convictions in their jurisdiction that have relied on bitemark comparison evidence in order to determine whether such evidence may have led to a wrongful conviction. For more information, visit newenglandinnocence.org.