

## EDITORIAL

*“For example, forensic odontology might not be sufficiently grounded in science to be admissible under Daubert, but this discipline might be able to reliably exclude a suspect thereby enabling law enforcement to focus its efforts on other suspects”*

*Strengthening Forensic Sciences in the United States: A Path Forward. National Academies of Science, 2009.*

With these words our profession is being sidelined.

The idea that forensic odontology is a useful and reliable forensic science has been around for a long time, and I suspect that most dental practitioners and academics would accept it as a fundamental method that truly defines how dental techniques and procedures may be employed to identify the dead, to analyse bite marks and to evaluate non-accidental injury to the craniofacial region. There are now a number of scientists working in this field and, together with numerous published case reports, the literature supporting forensic odontology is maturing. However, as the quote above signals, our profession has come under severe scrutiny by no less a body of scientific research than the National Academy of Sciences (NAS).

The NAS document stresses that while some forensic techniques, such as DNA analysis, rest on solid bodies of research, others have been developed heuristically; in other words, rest on observation and experience rather than experiments designed to test reliability of such methods. Forensic odontology, they assert, is one of the latter. However, the testimony of forensic dental experts continues to provide the basis for conviction of accused parties in criminal cases. What this means is that in order for us to keep on providing reliable expert evidence, and in order for us to ensure that innocent persons are not convicted of crimes they did not commit, we need to return to the forensic odontological laboratory.

Typically, our experiments should be conducted over a large range of conditions, to ensure that the roles of confounding factors can be understood. Our studies need to be methodologically sound, so as to provide the statistical power needed to draw inferences at a high level of confidence. This will in turn allow for the clear description of limitations of current methods as well as the validation of new methods to determine their accuracy and reliability under different conditions.

So the NAS has asked us to think about the relevance of forensic odontology in the context of developing an understanding of our own strengths and weaknesses and what we have to achieve to ensure our position as a modern scientific method that meets the standards of admissible evidence. We are particularly challenged to think about measurement error rates, peer review and sources of bias. Whether we are sidelined or not, clearly rests upon our researchers and the continued publication of our results in peer reviewed journals such as the Journal of Forensic Odontostomatology.

***Jules Kieser***