



Odontology Section – 2006

F17 ABFO No. 2 Photographic Scales – Quality Assurance is now Left to the User

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The goal of this presentation is to caution the forensic disciplines about the critical importance of assessing the validity of photographic scales at the time of purchase. This presentation will impact the forensic community by showing the significance for any forensic specialists that are concerned about the quality, accuracy and precision of their photographic evidence.

The American Board of Forensic Odontology (ABFO) developed the unpatented "ABFO No. 2" photomacrographic scale. The vast majority of forensic odontologists and crime scene investigators have used this scale since 1987 to aid in the proper collection of photographic evidence. Development of this scale by ABFO and allowing the ABFO acronym to be imprinted on it, in turn, implied an acceptable standard for photographing bite marks and other patterned injuries, such as evidence of trauma, disease, scars, tattoos and other marks.

Following development and validation of the scale, the ABFO allowed private suppliers to produce, market and sell the scales without benefit to the ABFO. With increases in recent years in the number of suppliers of evidence collection and preservation accessories, the ABFO No. 2 scales have been produced by more than the single manufacturer that once produced them.

This British Columbia Coroners Service is mandated with the responsibility to identify persons that die under suspicious circumstances in British Columbia, Canada. In the majority of cases, this responsibility involves accurately recording postmortem photographic evidence. In 2005, 120 photomacrographic scales, which were advertised as "ABFO No. 2 scales", were purchased from a supplier as part of the implementation of Standard Operating Procedures for Digital Imaging for the British Columbia Coroners Service. Inspection of the scales received from this purchase revealed an unacceptable level of quality. Deficiencies were found with respect to consistency and accuracy of a) the metric scale, b) the 18% grayscale area, and c) the scales' linearity.

Inaccurate and substandard photomacrographic scales can produce serious consequences for experts that depend on photographic evidence. Use of deficient scales fails the established standard for proper documentation of evidence. This can and will impact on the accuracy and precision of any subsequent examination or analysis. Moreover, comparison of images captured from different cases with different scales is precluded.

This paper illustrates the tests that can be completed by the forensic specialist to check the accuracy of scales manufactured by different suppliers. It also presents the results of these tests in the authors' experience, and attempts to caution forensic specialists that use photomacrographic scales to assure the accuracy of their supplies and materials.

ABFO No. 2 Photomacrographic Scales, Quality Assurance, Photography