

American Board of Forensic Odontology
Bitemark, Pattern and Patterned Injury Committee

Feedback Received on Proposed Standards and Guidelines

1 – Transparency of Overall Process

Drs. Dailey, Cardoza, Brzozowski, Freeman

Dr. Sweet stated in letter to BoD: *Input was sought and received from the judiciary and the criminal bar (i.e. prosecution and defense), including the Innocence Project, as well as other forensic other forensic physical comparison disciplines” and “Advice and guidance has been taken from other forensic experts concerned about pattern matching.”*

1. Who specifically did they contact?
2. Who responded and what were their suggestions, both incorporated into this document and not?
3. What is the expertise of these individuals, i.e. have they worked on bitemark cases or not? Do they represent in any official capacity an organization such as the Innocence Project? Dr. Sweet states in his letter he contacted “The Innocence Project.”. It is my understanding that they are loosely weaved organization with chapters in many states but that they do not represent THE INNOCENCE PROJECT, which is based in New York City. In the absence of knowing this information it difficult to decide what veracity we place on their suggestions both adopted and not.
4. Did those who were contacted get the entire document or only portions?
5. I have been told that some of those contacted were asked to sign a non-disclosure agreement, if so who developed and approved the agreement. In my opinion, any agreement developed should be authorized by the BoD or the EC.

2 – Special Email Address: feedback4bitemarksg@abfo.org

Drs. Brzozowski, Freeman, Dailey, Cardoza

Feedback was expressed about apparent resistance to enter into discussion about points in the proposed S&Gs using replies to emails, including all Diplomates with email addresses on file.

This feedback method was initially suggested President Brumit and Secretary Lewis to the BMC Chair. Chair agreed, EC was informed and then approved establishing this email address. But email discussion does not constitute an ABFO meeting. Email communication is highly insecure. No one attempted to discourage discussion; actually, the opposite is true. The intent of providing feedback directly to the BMC was to allow the BMC to catalog comments and suggestions and, subsequently, to permit discussion of all comments in an orderly and organized manner at the Seattle meeting.

3 – List Feedback on Members Only at abfo.org

Dr. Berman, Freeman, Brzozowski

The BMC should list the feedback that it receives for all Diplomates to see and consider prior to the Special Meeting.

4 – S&Gs Title (Page 1)

Dr. Brzozowski

The title should read S&Gs for BM Evidence only. We are evaluating pattern injuries for potential BMs. Pattern Evidence and Patterned Injury Evidence infers other types of forensic pattern evidence to which our S&Gs do not apply.

5 – Guidelines – a. Guiding Principles – Objectivity (Page 1)

Dr. Brzozowski

We should include the reason for remaining objective, which is to minimize “cognitive bias” in the investigation, analysis, comparison and reporting. I do not believe that the word “bias” is ever used in the draft.

6 – Guidelines – b. Guiding Principles: Nature, Value and Limitations of BM Evidence (Page 1-2)

Dr. Brzozowski

It is all well and good to “touch upon” having this conversation with investigative authority. However, since this is a GUIDELINE shouldn’t we explain the principals listed – “nature, value and limitations of BMs”! None of these 3 issues are discussed anywhere in the draft but yet it is “recommended” this discussion take place.

7 – Guidelines – b. Guiding Principles – iii Blinding (Page 2)

Dr. Brzozowski

2) Dental lineup – *The word “should” is used when discussing collection of evidence. “Should” indicates “obligation or duty”. However, when discussing “dental line-up”, the word “can” is used in the context, meaning the odont has a “choice” in producing one or more dentition(s) in the line-up if only one person of interest is proffered. If we wish to minimize “cognitive bias” then we “should” have the second odont include more than one exemplar to the investigative odont in cases where only ONE person of interest is proffered.*

4) States – *“When comparing dentition evidence and bitemark evidence, the odontologist making the comparison should not have access to dentition information disclosing the identity of a person of interest. All comparison dentition evidence within the dental line-ups should be anonymized.” If only one exemplar is supplied, I have to imagine that the investigative odont will assume this is the person of interest.*

2) c and d are repetitive

8 – MAJOR FLAW Guidelines c. Terms indicating pattern or pattern injury is or is not a BM (Page 3)

Dr. Brzozowski

i. Human Bitemark – *The VAGUE criteria for a human BM has not changed in years. We continually state that the pattern has “class characteristics” of human teeth. At this point, the ABFO should be describing the class and individual characteristics or features of a human bitemark in the criteria. The only change that the BMC made was to insert in parenthesis (See Human Bitemark description).*

- ii. **Possible Human Bitemark** – *The criteria for “possible” is the SAME criteria used for years in our manual for the term “suggestive” back in 2013. After the results of the Freeman, Pretty, Senn/\, Wright study in 2013-2014, the term “suggestive” was changed to “inconclusive” using the exact same criteria. The vague criteria of class and individual characteristics failed to “guide” our Diplomates then, so how will this be an improvement to our guidelines now????*
- iii. **Inconclusive** – *The criteria for inconclusive is: “Features demonstrating the class characteristics of human teeth are missing, etc.” If class characteristics of human teeth are “missing”, then we should be stating that pattern injury is “NOT A BM”. Class characteristics are a feature that distinguishes a BM from other pattern injuries, so if it is “missing” then how can we be stating “suggestive”? **** Will there be new ABFO studies to determine the threshold levels for determining what is a human BM, possible or suggestive?*

9 – Guidelines – c. Terms relating/linking a dentition to a BM (Page 4)

Dr. Brzozowski

ii. Not Excluded as having made the BM

Criteria: The bitemark demonstrates class characteristics or class and individual characteristics that could have been caused by the dentition. **There are no unexplainable discrepancies between the features of the BM and dentition. The dentition is included in the population of dentitions that could have caused the BM.**

There are “NO UNEXPLAINABLE discrepancies??? So now our guidelines state we can reasonably explain a discrepancy between a dentition and a BM in living or decomposing skin to include a dentition? Based on what? Our ability to interpret distortion? Experience with BMs? To what limits may we explain a discrepancy?

It should read in the very least, there are “NO DISCREPANCIES”, but personally I feel the last 2 statements in the criteria be eliminated. We have NO IDEA what the population of similar dentitions is. The “inclusion” population could be in the 100 of thousands. It is misleading and inflammatory to a Jury that would hear this.

10 – Guidelines d. Bitemark: Human BM Description and Characteristics of Human BMs (Page 4-5)

Dr. Brzozowski

Human BM description = class and individual characteristics!!!! So why are these described separately in 2 subsections on pages 4-5???? We should be listing specific class and individual characteristics in the description of a human BM that all members can agree, when present, reflect a human BM pattern.

Class characteristic is “A feature, trait, shape, or array that distinguishes a bitemark from other patterns or patterned injuries.” We have referred to this generalized definition for years along with “individual characteristics”!! “Individual and class characteristics” definitions should be listed in the “Appendix 1 – Glossary of Terms” only.

11 – Guidelines – iv. Evidentiary Value of Human BMs (Page 5)

Dr. Brzozowski

General considerations

a) “The **quantity** and quality of the information (e.g. evidentiary value) should be determined to be sufficient before initiating comparisons to dentitions (see iv.2)”. *There is nothing in the context of the draft defining the “QUANTITIY” OF INFORMATION NEEDED before initiating comparisons to dentitions.*

b) “Induced distortion of the skin from biting action and other factors related to the nature of human skin can affect the recording of the dental features, arch size, and arch shape in the bitemark.” *This statement skirts around the very core problem with BMs in skin!!! Since we cannot possibly know when or how a BM is distorted due to movement, type of skin, anatomic location, et., **we have to ASSUME that distortion is always present in each and every case unless there are studies to show otherwise.** THIS SHOULD ALSO BE UNDER “LIMITATIONS” OF BM’S to be discussed with legal and investigative authorities on page 1-2 Guiding Principles*

12 – Guidelines – 3) Factors influencing the evidentiary value of BMs on human skin: Human Skin Factors (Page 6)

Dr. Brzozowski

There is no mention of what effect these factors have on the ability of skin to record the dentition and the evidentiary value of that BM and the impact on our conclusions that we draw. Again, this should be listed in the conversation with law enforcement on the limitations of BMs under “Guiding Principles”.

13 – Quote from Executive Committee (Page 7)

Dr. Brzozowski

“The ABFO wishes to emphasize that the research models utilized to date in most studies mimic human bitemarks only in cadaver skin or in skin of anesthetized animals, no research links these models (and their findings) to human bitemarks in living human skin. ABFO Executive Committee, October 1, 2011”. *Inserted comment is inappropriate.*

Let’s be completely truthful here and add we have NO scientific research at this time to support our BM methods, analysis or comparison’s to a dentition in living or decomposing human skin. The ABFO continues to perpetuate their BM beliefs without any scientific justification.

The 2011 BM literature “list was prepared in response to NIST-sponsored Research, Development, Testing & Evaluation Interagency Working Group questions” by ABFO members. *Many of the listed literature for each question asked are not peer reviewed published scientific/empirical studies, but rather anecdotal references to presentations made. That has been the MO of the ABFO for the last 40 years. For example: Question #3 on the list, as one can see in the screenshot, THERE ARE NO VALIDATION STUDIES OF BM ANALYSIS SUCH AS BLIND TRIALS, etc!!!! These are the only 3 references listed for this question:*

2011 - Dorion, RBJ, The gold standard. ABFO bitemark workshop #9. ABFO, Chicago, Feb 26, 2011

3. What is the literature on validation studies of bitemark analysis such as blind trials, concordance rate between and among examiners, correlation with DNA studies, witnesses and/or video recordings of incident?

Dorion, R. B. J., (2011) *Bitemark Evidence*. CRC Press: Boca Raton

Chpt 29, Case Law, Barsley, RE; *Testing the Expert*, 538-539.

1983 case, Louisiana v Stokes, trial judge requires prosecution odontologist to use teeth impressions of five different persons (one the defendant) for comparison with photographs taken of the bite-marks on the victim. This might be considered a "blind trial".

Chpt 10, *Bitemarks as Biological Evidence*, Sweet, D; *DNA Analysis*, 136-144. Discusses whether suspect might be implicated by DNA evidence or excluded by such evidence. Several case examples presented.

Chpt 18, *Human Bitemarks*; Dorion, RBJ; *DNA*, 272. Discussion of bitemark case where DNA was found at site that matched suspect but suspect was not the biter. Author states "DNA is but a fragment of the puzzle--not its sole solution."

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14 – References (Page 7)

Dr. Brzozowski

1. *Six textbooks are listed ranging from publication dates 2004-2013. These are hardly current in the field of BMs, including the latest edition of the 2013 ASFO manual, which includes on page 307 that in "rare circumstances" an odontologist may do a direct comparison of a dentition to an EXHUMED body? Really now? And how will you explain to the court today the changes undergone to the skin while it was laying buried? Let's face it – we have a paucity of research and published texts.*
2. *The majority of references are outdated at this time. So why not include Bowers Book – Forensic Dental Evidence; An Investigator's Handbook, 2004? There are other more updated reference books from the UK: Forensic Odontology: An Essential Guide, 1st Edition, 2014 by Catherine Adams, Romina Carabott, & Sam Evans, and Forensic Odontology: Principles and Practice, 1st Edition, 2016 by Jane Taylor & Jules Keizer. (This book contains a chapter on BMs by Sheasby.)*

15 – BM Swabbing (Page 11)

Dr. Brzozowski

I believe swabbing the BM needs to have a more prominent place in our collection of evidence or at least a stronger statement of its importance.

16 – Wording Edit (Page 1)

Dr. Peter Loomis

"An ABFO Diplomate shall document, review, and consider all evidence provided to the Diplomate and all evidence collected, produced, or requested and received by the Diplomate." This seems a bit too wordy and is a little confusing. Why not a more simple, understandable statement like: "An ABFO Diplomate shall document, review, and consider all evidence provided to and collected by the Diplomate."

17 – Wording Edit: Remove *Specific*, Change *Striation* (Page 4)

Dr. Peter Loomis

"Individual marks, impressions, abrasions, contusions, striations, or lacerations from specific teeth may be found within the pattern". *Omit the word specific. Also, the term striation usually is synonymous with abrasion in describing an injury so it should also be omitted.*

18 – Wording Edit: Remove *Incision* (Page 6)

Dr. Peter Loomis

"Incision" – *Non-fractured teeth cannot inflict incisional types of injury.*

Also, at Page 2, Item d.ii.2: The word incision was not included with the others: "Individual marks, impressions, abrasions, contusions, striations, or lacerations from specific teeth may be found within the pattern." I strongly oppose the inclusion of this term because it is not an injury that teeth can inflict. If the tissue is broken, it is the blunt force lesion of a "laceration". There is tissue bridging and usually crushing of vessels. An incision is sharp-force injury with no tissue bridging. I understand that there may be a very rare instance in which freshly fractured enamel may inflict a sharp-force injury, but to include it here would condone its use as the term to use when the skin is broken by teeth. Many newbie odonts and forensic pathologists presume that incisor teeth inflict incisional injuries and that of course is wrong. Please omit this term.

19 – Wording Edit: *Self-Inflicted BM* (Page 12)

Dr. Peter Loomis

"Impressions should be taken of the dentition of a person with a questioned bitemark to assess the possibility of a self-inflicted bitemark." *I suggest adding: "if it is on an anatomical location that is accessible to their dentition" or similar after the last word.*

20 – Independent Verification of Conclusions (Pages 2, 17, 19, 29)

Drs. Berman, Chrz, and Kenney

Dr. Chrz: *In extreme cases, in which the odontologist would not be allowed a second or co-expert, are the words Whenever possible and the odontologist can engage another dentist adequate to allow a solo opinion? Or should the odontologist decline to opine in this situation?*

If the intent of the guideline is to suggest that second opinions and second experts should be used, then perhaps the statements should be stronger and not have the ambiguity for solo work. If it is the desire of the writers to allow "wobble room" for solo work if necessary, have they given a strong enough statement to allow it or just enough to give the opposing attorney grounds to impugn the work of the lone expert?

Personally, I feel that guidelines are just that and are used for direction but not absolute by definition; therefore, the guideline with Whenever possible and the odontologist can engage another dentist would not be needed. To remedy this, we could delete "Whenever possible" and amend "the dentist can" to the dentist "should". If we desire to allow solo work, then we could still do the changes I suggested but place in the Preface the disclaimer that guidelines are suggestions but not absolute mandates.

I have been in the situation where we as a group have made a small change that caused a ripple to turn into a tidal wave, so I always try to approach these changes with that in mind.

Dr. Berman: *As an employee of the ME office, it does not cost them more when I work up a bitemark. However, it is unlikely that they will pay for a second opinion. Since I do not expect, nor*

should the ME office expect to have a ABFO Diplomate do this "Independent Verification" for free, it is most likely not going to happen. But since it is part of my job to workup this bitemark, I will still be doing so and issuing a report. I too feel it important that we get an "Independent Verification" before heading into court, but the large majority of cases never make it this far. So, here is my question and concern: I see three avenues out of this problem:

- 1. Only submit what I call a Preliminary report. Does the new guidelines document allow this??*
- 2. Tell the ME office we will no longer be doing bitemarks. (this is not likely going to happen)*
- 3. Issue a final report, but with a section explaining that at this time, the "independent verification" is a guideline that the ME office has chosen not to follow it due to financial considerations, but this should be done before the case goes to trial.*

Dr. Kenney: *There is an unfairness to this being in our Guidelines. Working up someone else's cases for them is hard to justify. Has the BMC considered things like:*

- 1. Get the prosecution to hire the second expert after a strong case is made by ABFO that this is required. If it is in our Guidelines as a must do and we can show this to the prosecutor on a case, prosecutors will know that they have to get this done and therefore dollars are provided to hire a second expert.*
- 2. Above is for when we know there is a second opinion because we take the Guideline to the prosecutor and request it. But are there cases where the prosecutor asks for their own second opinion? Perhaps there are, given the problem cases they have seen reported. Or perhaps this is a solution: always insist that each case has two FODs working in parallel but blinded from one another; the prosecutor receives their independent reports separately based on the, same materials, etc.*
- 3. Defendants are not always in a position to hire their own expert. Defense should have a right to ask the prosecution if independent verification of the prosecution's expert witness conclusions have been obtained or to insist that this be done.*