



Priority Action Report

Odontology

Crime Scene / Death Investigation

Robert E Barsley

February 13, 2017





Subcommittee Leadership

Position	Name	Organization	Term	Email
Chair	Robert Barsley	LSUHSC-SOD	1 st 2018	rbarsl@lsuhsc.edu
Vice Chair	David Senn	UTHSC-SA SOD	2 nd 2019	senn@uthscsa.edu
Executive Secretary	Roger Metcalf	Tarrant Cty ME	1st 2017	Metcalfdds@gmail.com



Subcommittee Members



#	Name	Organization	Term	Email
1	David Banks	Duke Univ	2019-1	banks@stat.duke.edu
2	Bob Barsley	LSUHSC-SOD /ABFO	2018-1	rbarsl@lsuhsc.edu
3	Paula Brumit	Self-employed / ABFO	2019-1	lovtx@aol.com
4	Mary Bush	SUNY at Buffalo	2017-1	bushma@buffalo.edu
5	Mary Cimrmancic	Marquette U SOD	2018-1	mary.cimrmancic@marquette.edu
6	Larry Dobrin	NYC-OCME / ABFO	2017-1	the.dobie@comcast.net
7	Carla Evans	U Illinois at Chicago	2019-2	caevans@uic.edu
8	Adam Freeman	Self employed / ABFO	2018-1	drafreeman@westportdental.com
9	Jim Lewis	AL Dept Forensic Sciences / ABFO	2017-1	jmlewisdmd@knology.net
10	Peter Loomis	NMOMI / ABFO	2018-1	peterdds@msn.com
11	Jim McGivney	Self-employed / ABFO	2019-2	mcgivney.jim@gmail.com
12	Roger Metcalf	Tarrant County ME / ABFO	2017-1	metcaldds@gmail.com
13	Haskell Pitluck	Retired	2018-1	pitluck@mc.net
14	David Senn	UTHSC-SA SOD / ABFO	2019-2	senn@uthscsa.edu
15	Calvin Shiroma	USN	2019-2	calvin.y.shiroma.civ@mail.mil
16	Sharon Stanford	ADA	2018-1	stanfords@ada.org
17	Warren Tewes	OCME – MD / ABFO	2018-1	tewesdds@ocmemd.org

Affiliates - in 4 Task Groups



#	Name	Organization	Term	Email
1	Alissa Bjerkhoel	CA Innocence Project	N/A	abjerkhoel@cwsf.edu
2	Frank Damann	Nat'l Museum Health & Medicine	N/A	fedamann@gmail.com
3	John Filippi	Self employed / ABFO	N/A	forendds@aol.com
4	Ken Hermsen	Creighton Univ - SOD	N/A	kenhermson@creighton.edu
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7	Holland Maness	Self employed / ABFO	N/A	manessholland@gmail.com
8	John Melville	Akron Children's Hospital	N/A	jmelville@chmca.org
9	Melissa Mourges	NYC – Office of District Attorney	N/A	mourgesm@dany.nyc.gov
10	Cristiana Pereira	Univ of Lisbon	N/A	cristiana.pereira@fmd.ul.pt
11	Iain Pretty	Univ Manchester	N/A	iain.a.pretty@manchester.ac.uk
12	Graham Roberts	King's College – Dental Institute	N/A	graham.j.roberts@kcl.ac.uk
13	Duane Spencer	Self employed / ABFO	N/A	snoopydds@aol.com
14	Bob Wood	Univ Toronto	N/A	bob.wood@uhn.on.ca
15	Frank Wright	Self employed / ABFO	N/A	frankwright@gmail.com
16	New members pending			
17		4		

Discipline Description



Forensic Odontology:

The application of dentistry to legal issues including, but not limited to, human identification, bitemark analysis, age estimation, litigation, oral and facial injuries, and human abuse and neglect.

Summary of Priority Projects

Priority	OSAC Process	Working Title of Document
High	SDO	Forensic Dental Data Set
High	SDO	Dental Identification
High	Final Draft	Aging
High	TG	Bitemark
High	SAC	Odontology Glossary

Standards/Guidelines Development Priority 1 Document

- Document Title: **ANSI/ADA Standard No. 1058, Forensic Dental Data Set**

Scope: Defines significant Forensic Odontology Terms

Objective/rationale: Utilized by ANSI/NIST ITL as the current standard for the transmission of forensic dental data

Issues/Concerns: May be superseded by a ISO standard in the process of development

Task Group Name: Dental Identification Task Group

Task Group Chair Name: Peter Loomis

Task Group Chair Contact Information: peterdds@msn.com

Date of Last Task Group Meeting: August 2016



Standards/Guidelines Development Priority 1 Document

Key Components of Standard:

Uniform nomenclature for forensic dental data with standardized terms to convey information for human identification.



Priority 2: Human Identification by Comparative Dental Analysis



Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Move to Registry	RA-200 Review Registry Request submission	CS/DI Committee	2017



Standards/Guidelines Development Priority 2 Document

Document Title:

ADA Technical Report No. 1088, Human Identification by Comparative Dental Analysis

Scope:

To develop a recommend set of guidelines for the process of identifying humans by comparative dental analysis.

Objective/rationale:

To create awareness and provide education for the dental practitioner on the forensic odontology identification process as well as understand what information may be required should the need for them to participate occurs. This report will establish current best practices for this process based on consensus collaboration and current technology.

Issues/Concerns: None at this time

Task Group Name: Dental Identification Task Group

Task Group Chair Name: Peter Loomis

Task Group Chair Contact Information: peterdds@msn.com

Date of Last Task Group Meeting: August 2016



Standards/Guidelines Development Priority 2 Document

Key Components of Guideline: Comprehensive overview of the forensic odontology process of human identification by comparative dental analysis including scientific background of process, technology utilized and interpretation of ante and post mortem dental evidence and data.

- Scientific Methods of Human Identification
- Collection and Preservation of Antemortem Dental Evidence
- Collection and Preservation of Postmortem Dental Evidence
- Dental Comparison
- Terminology
- Dental Identification Software
- Missing and Unidentified Person Databases

Priority 2: Human Identification by Comparative Dental Analysis



Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Move to SDO	SDO-900 SDO public comment opens	ADA	2017



Standards/Guidelines Development Priority 3 Document

Document Title: (proposed) ADA Technical Report No. 1077, Human Chronological Age Range Estimation by Comparative Tooth Development Analysis

Scope: (PROPOSED) To develop a recommend set of guidelines for assessment of an individual's chronologic age through scientific evaluation of the dentition and surrounding structures.

Objective/rationale: (PROPOSED) The goal of this technical report is to establish current best practices for this the process of human dental age assessment based on the most up to date technology.

Dental age assessment in the deceased includes estimation of the age at death to narrow search parameters and thereby assist in the identification of missing and unidentified individuals. In the living, it is utilized to assisted in answering questions regarding immigration, legal age of majority and legal age of license.

Issues/Concerns: Discussion between SME and technical writer

Task Group Name: Dental Aging Task Group

Task Group Chair Name: Kathy Kasper

Task Group Chair Contact Information: xfiles11@aol.com

Date of Last Task Group Meeting: August 2016



Standards/Guidelines Development

Priority 3 Document



- **Standards – The odontologist:**
- 1. shall provide appropriate and accurate assessments of chronologic age utilizing scientific methodology.
- 2. shall be familiar with currently recommended age assessment methods and shall utilize the appropriate age assessment method(s) for the case at hand.
- 3. shall consider all available information, including sex, ancestry, population specificity, biological information and environmental factors.
- 4. shall utilize the most appropriate statistical data to apply in the assessment of an individual's chronologic age.
- 5. shall, when practical, use multiple independent statistical methodologies and shall report the results of each independent statistical method utilized.
- 6. shall precisely follow the specific methodology outlined, including morphologic staging and criteria measurements, within the study being utilized for the selected age assessment technique when estimating chronologic age.
- 7. shall, when the technique utilized allows, include a probability statement that the individual has attained the age in question for immigration and legal age of majority cases.



Standards/Guidelines Development Priority 3 Document



Summary:

The final age assessment, results from the dental provider's expert judgment by considering all available information. Conclusion statements specific to each methodology employed should include an estimated mean age and age interval and an associated rate of uncertainty. When the information is available, the rate of uncertainty should statistically consider 95% of the specific population, or two standard deviations. If the peer reviewed published scientific study(s) utilized to assess chronologic age do not provide two standard deviation statistical rates of uncertainty, then, the rate of uncertainty defined by that study should be clearly stated in the forensic report.





Priority 3: Dental Aging

Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Adopt by subcommittee	SDO 300	Kasper	April 2017
Approval by SAC	SDO 450	Davis	Fall 2017
Submit to SDO	SDO 450	Barsley	Oct. 2017
Accepted BY SDO	SDO 700	ADA	Nov 2017



Standards/Guidelines Development Priority 4 Document

Document Title: BM guidelines and Standards

Scope:

Objective/rationale:

Issues/Concerns: scope of document, generate consensus

Task Group Name: Bitemark Task Group

Task Group Chair Name: Jim Lewis

Task Group Chair Contact Information: jmlewisdmd@knology.net

Date of Last Task Group Meeting: August 2016





Standards/Guidelines Development Priority 4 Document

Key Components of Standard:

Task Group is being reorganized





Priority 4: Bitemarks

Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Subcommittee / TG debate	SDO-0	BM TG	Continue in April
Write the document	SDO-0	BM TG	



Standards/Guidelines Development Priority 5 Document

Document Title: Human Abuse Oral/Peri-oral Injury

Scope: Recommended guidelines for forensic practitioners and dentists to recognize and evaluate signs of abuse orally and peri-orally.

Objective/rationale: Guidelines to differentiate non-accidental injuries versus accidental and/or medical/physical conditions that mimic abuse injuries

Issues/concerns: Awaiting further feedback from TG members and affiliates. Reviewing ADA Guidelines on Abuse and Neglect last revised in 2010

Task Group Name: Oral/Peri-oral Injury TG

Task Group Chair Name: Larry Dobrin

Task Group Chair Contact Information: the.dobie@comcast.net

Date of Last Task Group Meeting: August 2016

Standards/Guidelines Development Priority 5 Document

Key Components of Standard: work in progress

Oral/Peri-Oral Injury recognition:

- Child Abuse
- Elder Abuse
- Domestic Abuse
- Partner Abuse



Priority 5: Human Abuse

Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Subcommittee / TG discussions	TG	Dobrin	2018
Write the document	TG	Dobrin	2018



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High	RA-0	Bitemark
High	SAC	Odontology Glossary



Standards/Guidelines Reviewed For Technical Merit

Title	Developing Organization	Status*	OSAC Process Stage (e.g., RA 100)
Forensic Dental Data Set	ADA	approved	RA-200 Review Registry Request submission
Human Identification by Comparative Dental Analysis	ADA	Public Review	RA-0 Start
Human Chronological Age Range Estimation by Comparative Tooth Development Analysis	ADA	First Draft	RA-0 Start



Research & Development Needs Identified

- 3D Imaging of patterned injuries on human skin
- Development of 3D databases of human dentitions
- Reliability of Bitemark Analysis Methodology
- Quality & quantity of concordant features required for human identification
- Phenotyping Of Tooth Shape and Tooth Color
- Specific Population Studies in Dental Age Assessment
- Critical Comparison of Dental Age Assessment Methods
- Impact of Cognitive Bias



Additional Items of Interest

- Members are working with the ASB Patterned Injury Consensus Body
- Link to Baseline documents: <https://www.nist.gov/file/280726>
- Link to Research needs: <https://www.nist.gov/topics/forensic-science/osac-research-development-needs> (Odontology)



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