



Priority Action Report

Anthropology

Crime Scene/Death Investigation

Thomas D. Holland, Ph.D.

February 13, 2017



Subcommittee Leadership

Position	Name	Organization	Term	Email
Chair	Tom Holland, Ph.D.	Defense POW/MIA Accounting Agency	3 years (*1)	Thomas.d.holland.civ@mail.mil
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Executive Secretary	Todd Fenton, Ph.D.	Michigan State University	4 years (*2)	fentont@msu.edu

*years remaining on original term



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National Institute of Standards and Technology

U.S. Department of Commerce

2(R): Renewed *New member **Advisory



Discipline Description



The Subcommittee on Anthropology will focus on standards and guidelines related to application of anthropological methods and theory – particularly those relating to the recovery and analysis of human remains – to resolve legal matters.

Summary of Standards/Guidelines Priority Actions

Priority	Working Title of Document
Priority 1 (1 of 5)	Standard for Stature Estimation from Human Remains
Priority 1 (2 of 5)	Technical Report: Glossary for Forensic Anthropology
Priority 1 (3 of 5)	Training and Competency in Forensic Anthropology
Priority 1 (4 of 5)	Best Practice Recommendation for Facial Approximation in Forensic Anthropology
Priority 1 (5 of 5)	Standard for Sex Estimation in Forensic Anthropology



Summary of Standards/Guidelines Priority Actions

Priority	Working Title of Document
Priority 2 (New)	Standard for Methods Selection and Validation in Forensic Anthropology
Priority 2 (New)	Standard Guide for Archaeology/Anthropology Scene Detection and Processing
Priority 2 (New)	Standard for Age Estimation in Forensic Anthropology



Standards/Guidelines Development Priority 1 Document (1 of 8 documents)

Document Title: Standard for Stature Estimation from Human Remains

Scope: Stature estimation is based on a mathematical relationship between skeletal dimensions and stature. This standard describes recommended methods for estimating adult stature from skeletal elements when disarticulation has occurred rendering measured cadaver length unreliable.

Objective/rationale: To develop a standard for accurate estimation of stature in skeletal remains.

Next steps: Document complete and has been through Resource Committees, submitted to SAC. If positive response, will submit to ASB

Task Group Name: Anthropology

Task Group Chair Name: Jennifer Love

Task Group Chair Contact Information:

Jennifer.Love@dc.gov



Standards/Guidelines Development Priority 1 Document (2 of 8 documents)

Document Title: Technical Report: Glossary for Forensic Anthropology

Scope: This technical report describes recommended terminology for use in forensic anthropology. Practitioners of forensic anthropology should implement this terminology to the extent applicable, practical and appropriate.

Objective/rationale: To develop terminology that can dove-tail with other disciplines.

Currently: Document submitted to the SAC.

Task Group Name: Anthropology

Task Group Chair Name: Kristen Hartnett

Task Group Chair Contact Information:

dr.khartnett@gmail.com



Standards/Guidelines Development Priority 1 Document (3 of 8 documents)

Document Title: Training and Competency in Forensic Anthropology

Scope: This guide recommends levels of education, training, experience, and professional activities required to practice forensic anthropology at various qualification levels.

Objective/rationale: To develop a guideline for the level of training and competency to be a forensic anthropologist.

Currently: Document uploaded for SC comment.

Task Group Name: Anthropology

Task Group Chair Name: Angi Christensen

Task Group Chair Contact Information:

Angi.Christensen@ic.fbi.gov

Standards/Guidelines Development Priority 1 Document (4 of 8 documents)

Document Title: Best Practice Recommendation for Facial Approximation in Forensic Anthropology

Scope: Facial approximation from skeletal remains assists investigations of unidentified remains by estimating the antemortem facial appearance of an individual in an effort to capture public attention regarding the case.

Objective/rationale: A guideline for facial approximation does not yet exist.

Currently: Ready to submit to Resource Committees.

Task Group Name: Anthropology

Task Group Chair Name: Richard M. Thomas

Task Group Chair Contact Information:

richard.m.thomas@ic.fbi.gov



Standards/Guidelines Development Priority 1 Document (5 of 8 documents)

Document Title: Standard for Sex Estimation in Forensic Anthropology

Scope: Precise estimation of sex is critical to the accurate estimation of ancestry, age and stature, and is an essential element in the biological profile that can narrow a list of missing persons. Standards presented in this document are applied to the estimation of adult sex using skeletal remains.

Objective/rationale: A standard for sex estimation in forensic anthropology does not yet exist.

Currently: Document uploaded for SC comment.

Task Group Name: Anthropology

Task Group Chair Name: Kristen Hartnett

Task Group Chair Contact

Information:dr.khartnett@gmail.com



Standards/Guidelines Development Priority 2 Document (new) (6 of 8 documents)

Document Title: Standards for Methods Selection and Validation in Forensic Anthropology

Scope: The selection, validation and proper use of methods are critical to producing accurate and reliable test results. This standard describes best practices for the selection and validation of methods for use in forensic anthropology analyses. Practitioners of forensic anthropology should implement this standard to the extent applicable, practical, and appropriate.

Objective/rationale: There is no existing standard for method and development and validation in forensic anthropology.

Currently: Document uploaded for SC comment.

Task Group Name: Anthropology

Task Group Chair Name: Vincent Sava

Task Group Chair Contact Information:

vincent.j.sava.civ@mail.mil



Standards/Guidelines Development Priority 2 Document (new) (7 of 8 documents)

Document Title: Standard Guide for Archaeology/Anthropology Scene Detection and Processing.

Scope: The detection, processing, documentation and collection of human remains and associated evidence at a crime scene must include the proper handling of evidence and maintaining the chain of custody. Practitioners shall implement the standard commensurate with jurisdictional requirements.

Objective/rationale: No such standard currently exists.

Currently: Document uploaded for SC comment.

Task Group Name: Anthropology

Task Group Chair Name: Hugh Berryman

Task Group Chair Contact Information:

berryman@mtsu.edu



Standards/Guidelines Development Priority 2 Document (new) (8 of 8 documents)

Document Title: Standard for Age Estimation in Forensic Anthropology

Scope: This standard outlines appropriate methods to determine age; one of several biological parameters that can be estimated from skeletal remains or radiographic images of skeletal remains.

Objective/rationale: To develop a standard for age estimation in forensic anthropology where none yet exists.

Currently: Document uploaded for SC comment.

Task Group Name: Anthropology

Task Group Chair Name: Nicholas Passalacqua

Task Group Chair Contact Information:

passala5@gmail.com



Task Group/Subcommittee Actions

Document/Action	Action	OSAC Process Stage	Date
Standard for Stature Estimation from Human Remains	Submitted to SAC	SDO-400	1/21/2017
Training and Competency in Forensic Anthropology	SC comment stage	SDO-200	11/2/2016
Standard for Methods Selection and Validation in Forensic Anthropology	SC comment stage	SDO-200	10/27/2016
Best Practice Recommendation for Facial Approximation in Forensic Anthropology	To be submitted to RC (SC ballot approved)	SDO-200	10/8/2016
Standard for Age Estimation in Forensic Anthropology	SC comment stage	SDO-200	10/5/2016
Technical Report: Glossary for Forensic Anthropology	Submitted to SAC	SDO 400	9/15/2016
Standard for Sex Estimation in Forensic Anthropology	To be submitted to RC (SC ballot approved)	SDO-200	9/8/2016
Angi Christensen assigned liaison to ASB	Anthropology	SDO-500	8/25/2016
First meeting of the ASB Anthropology Consensus Body	Anthropology	SDO-625	7/6/2016
Standard Guide for Archaeology/Anthropology Scene Detection and Processing	SC comment stage	SDO-200	6/1/2016



Research Gaps Identified (2016)

- Controlled experimental bone trauma studies in collaboration with biomechanical engineers to further the understanding of fracture patterns in bone.
- Determination of healing rates of fractures, especially to estimate time since injury in children and the elderly.
- Development of time since death methods that rely more upon the skeletal material itself, such as isotope signatures in various tissues, and therefore less on the taphonomic environment.
- Validation of stable isotope estimates of geographic origin using current and new isotopes.
- Collect additional population sample data (nonmetric, metric, skeletal, dental) for diverse areas of the world, particularly under-studied immigrant groups.

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Research Gaps Identified (Additional)

- Validation studies of technologies (e.g. ground penetrating radar, remote sensing), and recovery techniques from various contexts in forensic anthropology.
- Determination of the frequency of skeletal and dental anomalies in different populations, and development of methods to combine information from various sources (i.e. anthropological, dental, DNA) to provide a robust statistical basis for identification.
- Development of better statistical methods for combining age estimations from multiple indicators, particularly those that produce explicit confidence intervals, representing uncertainty in estimates due to sample size and to different relationships between indicators and age.
- Population frequency data for radiologic identification (new 2017)



