

Age Estimation From Cranial Sutures A Postmortem Study

This volume presents the results of biological and medical research with the statistical methods used to obtain them. Nowadays the fields of biology and experimental medicine rely on techniques for processing of experimental data and for the evaluation of hypotheses. It is increasingly necessary to stimulate awareness of the importance of statistical techniques (and of the possible traps that they can hide) by using real data in concrete situations drawn from research activity.

This titles addresses the evolving science of orthodontics as it relates to optimal patient therapy and care. Topics covered include diagnosis and treatment planning, the management of sagittal and vertical discrepancies, the management of adult and complex cases, and the application of biomechanics in orthodontic treatment.

Recent political, religious, ethnic, and racial conflicts, as well as mass disasters, have significantly helped to bring to light the almost unknown discipline of forensic anthropology. This science has become particularly useful to forensic pathologists because it aids in solving various puzzles, such as identifying victims and documenting crimes. On topics such as mass disasters and crimes against humanity, teamwork between forensic pathologists and forensic anthropologists has significantly increased over the few last years. This relationship has also improved the study of routine cases in local medicolegal institutes. When human remains are badly decomposed, partially skeletonized, and/or burned, it is particularly useful for the forensic pathologist to be assisted by a forensic anthropologist. It is not a one-way situation: when the forensic anthropologist deals with skeletonized bodies that have some kind of soft tissue, the advice of a forensic pathologist would be welcome. Forensic anthropology is a subspecialty/field of physical anthropology. Most of the background on skeletal biology was gathered on the basis of skeletal remains from past populations. Physical anthropologists then developed an indisputable "know-how" nevertheless, one must keep in mind that looking for a missing person or checking an assumed identity is quite a different matter. Pieces of information needed by forensic anthropologists require a higher level of reliability and accuracy than those granted in a general archaeological context. To achieve a positive identification, findings have to match with evidence, if you have only a vague concept of what forensic science is, this book will provide the answer.

Atlas of Human Cranial Macromorphoscopic Traits

Recent Progress of Natural Sciences in Japan

Investigation of Sudden Infant Death Syndrome

A Roentgen Study

Brain Architecture and Anatomically Oriented Microneurosurgery

The identification of even the smallest human fetal bone can be vital to the success of a criminal investigation or to the identification of the deceased. This book examines every bone in the human body from its earliest embryological stage through to maturity and is profusely illustrated with superb bone drawings at every stage of development. The ability to identify every component of the developing skeleton is of core relevance not only to the forensic profession but also to clinicians, skeletal biologists and physical anthropologists. Identifies every component of the developing skeleton Provides detailed analysis of juvenile skeletal remains and the development of bone as a tissue Summarizes key morphological stages in the development of every bone

This robust, dynamic, and international field has grown to include interdisciplinary research, continually improving methodology, and globalization of training. Reflecting the diverse nature of the science from experts who have shaped it, *Forensic Anthropology: A Comprehensive Introduction Second Edition* builds off of the success of the first edition and incorporates standard practices in addition to cutting-edge approaches in a user-friendly format, making it an ideal introductory-level text.

An essential foundation for the practice of forensic anthropology This text is the first of its level written in more than twenty years. It serves as a summary and guide to the core material that needs to be mastered and evaluated for the practice of forensic anthropology. The text is divided into three parts that collectively provide a solid base in theory and methodology: Part One, "Background Setting for Forensic Anthropology," introduces the field and discusses the role of forensic anthropology in historic context. Part Two, "Towards Personal Identification," discusses initial assessments of skeletal remains; determining sex, age, ancestral background, and stature; and skeletal markers of activity and life history. Part Three, "Principal Anthropological Roles in Medical-Legal Investigation," examines trauma; the postmortem period; professionalism, ethics, and the expert witness; and genetics and DNA. The critical and evaluative approach to the primary literature stresses the inherent biological constraints on degrees of precision and certainty, and cautions about potential pitfalls. The practical focus, coupled with theoretical basics, make *Fundamentals of Forensic Anthropology* ideal for upper-level undergraduates and graduate students in biological anthropology as well as forensic scientists in allied fields of medical-legal investigation.

Highlighting the success of their previous book, *White and Folkens' The Human Bone Manual* is intended for use outside the laboratory and classroom, by professional forensic scientists, anthropologists and researchers. The compact volume includes all the key information needed for identification purposes, including hundreds of photographs designed to show a maximum amount of anatomical information. Features more than 500 color photographs and illustrations in a portable format; most in 1:1 ratio Provides multiple views of every bone in the human body Includes tips on identifying any human bone or tooth Incorporates up-to-date references for further study

Cranial Suture Eccentricities

Biology and Management of Native and Introduced Populations

A Companion to Forensic Anthropology

Research Methods in Human Skeletal Biology

Age Estimation in the Living

Analysed from the Standpoint of Age Identification

In 1963, a human skull was discovered in a pub in Kent in south-east England. A brief handwritten note stuck inside the cavity revealed it to be that of Alum Bhag, an Indian soldier in British service who was executed during the aftermath of the 1857 Uprising, or The Indian Mutiny as historians of an earlier era described it. Alum Bhag was blown from a cannon for having allegedly murdered British civilians, and his head was brought back as a grisly war-trophy by an Irish officer present at his execution. The skull is a troublesome relic of both anti-colonial violence and the brutality and spectacle of British retribution. Kim Wagner presents an intimate and vivid account of life and death in British India in the throes of the largest rebellion of the nineteenth century. Fugitive rebels spent months, even years, hiding in the vastness of the Himalayas before they were eventually hunted down and punished by a vengeful colonial state. Examining the colonial practice of collecting and exhibiting human remains, this book offers a critical assessment of British imperialism that speaks to contemporary debates about the legacies of Empire and the myth of the 'Mutiny'.

With contributions from 70 experienced practitioners from around the world, this second edition of the authoritative *Handbook of Forensic Archaeology and Anthropology* provides a solid foundation in both the practical and ethical components of forensic work. The book weaves together the discipline's historical development; current field methods for analyzing crime, natural disasters, and human atrocities; an array of laboratory techniques; key case studies involving legal, professional, and ethical issues; and ideas about the future of forensic work—all from a global perspective. This fully revised second edition expands the geographic representation of the first edition by including chapters from practitioners in South Africa and Colombia, and adds exciting new chapters on the International Commission on Missing Persons and on forensic work being done to identify victims of the Battle of Fromelles during World War I. The *Handbook of Forensic Anthropology and Archaeology* provides an updated perspective of the disciplines of forensic archaeology and anthropology.

A scientifically rigorous, multidisciplinary approach to Sudden Infant Death Syndrome, for practitioners, researchers and families alike.

A Companion to Forensic Anthropology presents the most comprehensive assessment of the philosophy, goals, and practice of forensic anthropology currently available, with chapters by renowned international scholars and experts. Highlights the latest advances in forensic anthropology research, as well as the most effective practices and techniques used by professional forensic anthropologists in the field Illustrates the development of skeletal biological profiles and offers important new evidence on statistical validation of these analytical methods. Evaluates the goals and methods of forensic archaeology, including the preservation of context at surface-scattered remains, buried bodies and fatal fire scenes, and recovery and identification issues related to large-scale mass disaster scenes and mass grave excavation.

THE HUMAN SKELETON IN FORENSIC MEDICINE

Age Estimation of the Human Skeleton

The Evolution of Artiodactyls

Smith's Recognizable Patterns of Human Deformation

1974 Excavations at the Ewell III Site (40CF118), Jernigan II Site (40CF37) and the Parks Site (40CF5)

In Archaeology and Forensic Science

Critical Analysis of the Factors Affecting the "cranial Suture Aging Method" Using the Hamann Todd Collection

This advanced textbook provides the reader with an up-to-date account of recent developments and future potential in the study of human skeletons from both an archaeological and forensic context. It is well-illustrated, comprehensive in its coverage and is divided into six sections for ease of reference, encompassing such areas as palaeodemography, juvenile health and growth, disease and trauma, normal skeletal variation, biochemical and microscopic analyses and facial reconstruction. Each chapter is written by a recognised specialist in the field, and includes in-depth discussion of the reliability of methods, with appropriate references, and current and future research directions. It is essential reading for all students undertaking osteology as part of their studies and will also prove a valuable reference for forensic scientists, both in the field and the laboratory.

Sika deer, the graceful spotted deer of Japanese and Chinese art, originally were native to Asia from far-east Russia to Vietnam to the islands of Japan and Taiwan. They are widely raised in captivity to supply velvet antler for traditional medicine. They also were introduced to Europe, North America, and New Zealand, where they compete or interbreed with native deer. Sika deer typically occupy lowland hardwood forests with low winter snow depths, where they thrive in sites disturbed by fire, storm, or logging. In high numbers they can severely impact vegetation through overgrazing, stripping bark from trees and damaging crop fields and forest plantations. Their numbers are high in many parts of Japan, moderate in Russia, and reduced or extinct in the wild in China, Korea, Vietnam, and Taiwan. This book explores their basic biology, behavior, and ecology, including management for sport hunting, conservation or recovery of threatened populations, and resolution of conflict with humans in native and introduced lands.

Atlas of Human Cranial Macromorphoscopic Traits synthesizes macromorphoscopic traits and their analysis in an accessible manner, providing detailed descriptions and examples of the various character state manifestations intended for use in classrooms, laboratories, and in the field. The volume begins with an outline of the macromorphoscopic dataset, its history, recent modifications to the original approach, and recent technological and analytical advances. Additional sections cover Nomenclature, Gross Anatomy, Function, Methodology, Line Drawings, Detailed Definitions, Multiple High-resolution Photographs, and Population Variation Data from the Macromorphoscopic Databank (MaMD). The volume concludes with a chapter outlining the statistical analysis of macromorphoscopic data and a summary of the computer programs and reference databases available to forensic anthropologists for the analysis of these data. Provides detailed descriptions, illustrations and high-resolution images of various character state manifestations of seventeen macromorphoscopic traits Applies to both forensic and bioarcheological research Written by the foremost expert on macromorphoscopic trait analysis and estimation of ancestry in forensic anthropology

A Cross Sectional Postmortem Study Done in 3rd, 4th & 5th Decades of Life

Iron Age Cremations in North Spånga

Critical Analysis of the Factors Affecting the "cranial Suture Aging Method" Using the Hamann Todd Collection

Applied Cranial-Cerebral Anatomy

An Introduction

(3rd Ed.)

The need for a laboratory and field manual to assist with the evaluation of juvenile skeletal material is long overdue. This resource is essential for the practising osteoarchaeologist and forensic anthropologist who requires a quick, reliable and easy-to-use reference to aid in the identification, siding and aging of juvenile osseous material. While excellent reference books on juvenile osteology are currently available, no pre-existing source adequately fills this particular niche in the market. This field manual is designed with practicality as its primary directive. Descriptions of each bone contain 1) morphological characteristics useful for identification, 2) other elements with which the bone may be confused, 3) tips for siding, 3) illustrations of varying developmental phases, 4) data useful for ageing, and 5) a summary of developmental timings. Concise, bullet-style descriptions assist with quick retrieval of information. Unique to this manual is the presentation of data collected from a variety of populations, utilizing a range of observational methods, as an alternative to providing one overall aging summary that is derived from a compilation of many individual sources. This manual provides a host of data on a variety of populations to enable the user to select the reference most applicable to their needs. The final chapter combines information from each bone to provide a summary of developmental changes occurring at different life stages to act as an immediate 'ready reckoner' for the knowledgeable practitioner. It also provides forms useful for documenting juvenile material and diagrams to help with the recognition of commingled juvenile remains. The manual is a must for anyone responsible for the evaluation of juvenile osseous material through dry bone assessment, radiographs, sonograms, and/or CT scans. *Identifies every component of the developing skeleton *Provides detailed analysis of juvenile skeletal remains and the development of bone as a tissue *Summarizes key morphological stages in the development of every bone *Provides data on a variety of populations to enable the user to select the reference most applicable to their needs *Focuses on practicality, with direct, bullet style descriptions *Provides forms useful for documenting juvenile material *Provides diagrams to help with the recognition of commingled juvenile remains *Final chapter provides summary of developmental changes occurring at different life stages to act as an immediate 'ready reckoner' for the practitioner

This book summarizes and explains the main approaches to age estimation in the living, defining when a parameter may be of use and raising awareness of its limitations. This text ensures that practitioners recognize when an assessment is beyond their area of expertise or beyond verification depending upon the clinical data available. Each key approach to age evaluation has been allotted a single chapter, written by an international leader in the particular field. The book also includes summary chapters that relay readily accessible data for use by the practitioner, and includes important "ageing milestones." This book is indispensable where problems of immigration and legal standing, juvenile vs. adult criminal status, and responsibilities of law enforcement to protect vulnerable persons are key issues on a daily basis. Medical practitioners, forensic practitioners such as pathology, odontology, anthropology and nursing, lawyers, and police would find this book incredibly useful.

Age Estimation of the Human Skeleton is a needed up-to-date book providing anthropologists and anatomists with a broad spectrum of techniques focused on aging human skeletal remains. It represents the most current reference book devoted entirely to estimating age at death for skeletonized and decomposed human remains and is a complete starting point for practical and research applications. This book is a valuable reference for all individuals interested in the identification or analysis of human remains including forensic anthropologists, bioarchaeologists, forensic odontologists, pathologists and anatomists at student and professional levels. Age Estimation of the Human Skeleton would serve as an ideal supplemental textbook for introductory and advanced osteology and forensic anthropology courses. Age Estimation of the Human Skeleton is a collection of some of the latest research in age estimation techniques of human skeletal remains. It compiles recent scientific research on age at death estimation using dental and gross skeletal morphological indicators of age, as well as histological and multifactorial age estimation techniques. Age estimation methods from all life-stage categories, including: fetal, sub-adult, and adult are included in the book. Age Estimation of the Human Skeleton also includes chapters that evaluate and review the older, more traditional aging techniques as well as information that explores future directions and considerations for research in this area. Overall, Age Estimation of the Human Skeleton bolsters the references available to researchers in academic, laboratory, and medicolegal facilities and is an attractive text to a sizable spectrum of analysts.

Von den Driesch's handbook is the standard tool used by faunal analysts working on animal and bird assemblages from around the world. Developed for the instruction of students working on osteoarchaeological theses at the University of Munich, the guide has standardized how animal bones recovered from prehistoric and early historic sites are measured.

Funeral Pyres

Validating the Accuracy and Repeatability of Transition Analysis for Age Estimation in South Africa

The Human Bone Manual

Fundamentals of Forensic Anthropology

Morphological Variation of Grizzly Bear Skulls from Yellowstone National Park

Human Osteology

Presents a topographical view of neuroanatomy, gain a key understanding of brain architecture, for neurosurgeons and neurologists.

Age Estimation: A Multidisciplinary Approach is the only reference in the field covering all techniques and methods involving age estimation from different perspectives. This book provides comprehensive coverage of all aspects of age estimation, including aging the living and the dead, human rights, scientific rationale of the estimates, and skeletal, dental age and biochemical techniques and methods. Each chapter is written by internationally known expert contributors, making this book a one-of-a-kind resource for those involved in estimating the age of the living and the dead. Presents a concentration of all techniques and methods involving age estimation in a single volume Provides a multidisciplinary approach that lends itself to researchers, practitioners and students from a variety of different fields Includes contributions by world renowned forensic specialists

The field of forensic anthropology has evolved dramatically in the past 40 years, as technological advances have led to new research initiatives and extended applications. This robust, dynamic, and international field has grown to include interdisciplinary research, continually improving methodology, and globalization of training. Reflecting the discipline's evolution, *Fundamentals of Forensic Anthropology* presents the most comprehensive assessment of the philosophy, goals, and practice of forensic anthropology currently available, with chapters by renowned international scholars and experts. Highlights the latest advances in forensic anthropology research, as well as the most effective practices and techniques used by professional forensic anthropologists in the field Illustrates the development of skeletal biological profiles and offers important new evidence on statistical validation of these analytical methods. Evaluates the goals and methods of forensic archaeology, including the preservation of context at surface-scattered remains, buried bodies and fatal fire scenes, and recovery and identification issues related to large-scale mass disaster scenes and mass grave excavation.

Textbook Of Forensic Medicine And Toxicology: Principles And Practice

Forensic Medicine and Toxicology

A Multidisciplinary Approach

Current Therapy in Orthodontics

The Skull of Alum Bhag

The union of the cranial sutures can follow a somewhat erratic course. While it is recognized that this can cause inaccuracies in estimating age at death, deviant closure patterns can influence assessments other than age. Premature or eccentrically fusing sutures can alter cranial growth and, therefore, shape. Such modified growth vectors can significantly influence metric analysis.

Analysis of diverse and successful hoofed mammals, represented by nearly two hundred living species of pigs, peccaries, hippos, camels, deer, sheep, cattle, giraffes, and other even-toed ungulates. In the recent years, a tremendous amount of research has been conducted on this important order. The Evolution of Artiodactyls synthesizes this research into a single volume. The authors explore a variety of topics, including molecular phylogeny of terrestrial artiodactyls phylogenetic relationships of cetaceans to terrestrial artiodactyls, and the earliest artiodactyls-Diacodexites, Dichobunidae, Homacodontidae, Leptochoeridae, and Raoellidae.

Transition analysis transforms skeletal traits with an invariant, unidirectional series of stages into a likelihood function with a maximum likelihood value and a 95% confidence interval. Boldsen et al. used transition analysis to develop an adult age estimation method employing components of the cranial sutures, public symphysis and ilial portion of the sacroiliac joint, used either in combination or individually. This validation study aimed to use the 36 transition analysis numerical, categorical scores for the anatomical features in conjunction with the ADBOU computer program to assess the accuracy and precision of the age estimates for 149 black individuals from the Pretoria Bone Collection. In addition, the effect of observer variability in scoring of these traits was assessed. Six age estimations were generated by the ADBOU computer program using 1) the cranial sutures only, 2) the public symphysis only, 3) the auricular surface of the ilium only, 4) all three features combined, 5) all three features combined and modified by a forensic prior distribution and 6) all three features combined and modified by an archaeological prior distribution. The six point estimate categories, calculated from the maximum likelihood values, were evaluated for accuracy using mean absolute values. The 95% confidence intervals were evaluated for range width and accuracy. Cohen's Kappa statistics were used to analyse repeatability of the scoring procedure through inter- and intra-observer agreement and Kruskal-Wallis ANOVA statistics to determine the effect of observer differences on the final age estimates. The usefulness of the age ranges were diminished by large widths encompassing up to 95 years. The accuracy for the point estimates fared better for the combined skeletal indicators and overall accuracy was improved by using the archaeological prior distribution. The archaeological prior distribution was also responsible for narrowing the age ranges, especially in the older ages (over 70 years). Age estimates did not differ significantly when using inter- and intra-observer scores, but experience with the method did seem to improve results. Overall, age ranges were too wide, but accuracy could potentially be improved by adding more skeletal components to the method and using a population-specific prior distribution. The method would need considerable adjustments to make it usable in a South African setting.

The book is a comprehensive and authoritative exposition of Forensic Medicine and Toxicology. It provides precise and useful information on relevant legal provisions and forensic anatomy, and promotes interdisciplinary understanding of issues where law and medicine converge. The text is oriented towards the practical problems encountered during day-to-day medicolegal work. About the Author :- Krishnan Vij, MD, LL.B. is Professor and Head, Department of Forensic Medicine and Toxicology, Government Medical College & Hospital, Chandigarh, India.

Juvenile Osteology

A Comprehensive Introduction, Second Edition

Age Distributions from Skeletal Samples

A Guide to the Measurement of Animal Bones from Archaeological Sites

The Practitioner's Guide

A Case in Which Precocious Closure Complicated Determination of Sex and Commingling

Perfect for residents, pediatricians, practitioners, or parents seeking further information, *Smith's Recognizable Patterns of Human Deformation* provides evidence-based management for a range of common pediatric problems affecting the limbs and craniofacial region. The only source devoted to the diagnosis and management of birth defects resulting from mechanical forces, this reference supplies the essential guidance needed for timely intervention and effective treatment. Examines the initial clinical approach to suspected deformation problems, and then walks you through pathogenesis, diagnostic features, management, prognosis, and counseling for each condition. Addresses a full range of lower extremity deformations; joint dislocations; nerve palsies; chest and spinal deformations; head and neck deformations; craniosynostosis and cranial bone variations; problems associated with abnormal birth presentation, birth palsies, and procedure-related defects; infant head shape variations; and torticollis. Distinguish deformations from malformations for appropriate management. Each chapter utilizes four consistent sections - Genesis, Features, Management and Prognosis, and Differential Diagnosis - to provide concise yet comprehensive information on 50 common pediatric conditions. These chapters are available for individual purchase or download to serve as educational guides for parents regarding evidence-based management of these conditions. Diagnosis and management of common pediatric orthopedic conditions is covered in detail. Updated discussion of Sudden Infant Death Syndrome brings a new focus to the important topic of infant sleeping environments. New before-and-after illustrations and detailed discussions focus on cranial-orthotic molding helmets and the surgical correction of craniosynostosis. Provides evidence-based management recommendations on common fetal complications such as oligohydramnios, pulmonary hypoplasia, and uterine structural abnormalities, and discusses current management techniques for each. Selected references at the end of each chapter provide further recent information regarding each of these topics. Offers essential information to a range of professionals, including neonatologists, pediatricians, family practitioners, nurses, physical and occupational therapists, rehabilitative specialists, pediatric nurse practitioners and residents in all fields. Expert Consult eBook version included with purchase. This enhanced eBook experience allows you to search all of the text, figures, and references in the book on a variety of devices. This classic in forensic anthropology has been thoroughly updated and greatly expanded for the new Third Edition. The result presents the state of the medicolegal art of investigating human skeletal remains. The third edition follows more than 25 years after the second edition. During this time, considerable changes occurred in the field and Forensic Anthropology became a distinct specialty in its own right. Included in the book are detailed discussions on crime scene investigation, including excavation techniques, time interval since death, human or animal remains, mass graves, and preparation of remains. Existing chapters, all dramatically revised, bring readers in line with the current concepts of skeletal age; determination of sex; assessment of ancestry; calculation of stature; factors of individualization; superimposition and restoration of physiognomy. There is also a section on dental analysis examining such topics as dental anatomy, nomenclature, estimation of age in subadults and adults, determination of sex and ancestry, and pathological conditions. New additions are chapters on skeletal pathology and trauma assessment. A new chapter has also been added on "Forensic Anthropology of the Living." Although all of the sections of the book have been updated significantly, the authors have retained some sense of history to recognize the many pioneers that have shaped the discipline. The text will assist forensic anthropologists and forensic pathologists who have to analyze skeletons found in forensic contexts. This book has a global perspective in order to make it usable to practitioners across the world. Where possible, short case studies have been added to illustrate the diverse aspects of the work.

Research Methods in Human Skeletal Biology serves as the one location readers can go to not only learn how to conduct research in general, but how research is specifically conducted within human skeletal biology. It outlines the current types of research being conducted within each subspecialty of skeletal biology, and gives the reader the tools to set up a research project in skeletal biology. It also suggests several ideas for potential projects. Each chapter has an inclusive bibliography, which can serve as a good jumpstart for project references. Provides a step-by-step guide to conducting research in human skeletal biology Covers diverse topics (sexing, aging, stature and ancestry estimation) and new technologies (histology, medical imaging, and geometric morphometrics) Excellent accompaniment to existing forensic anthropology or osteology works Cranial suture closure has been regarded as an unreliable method for age estimation due to the large amount of variability in the commencement, progression and termination of fusion. A preliminary study done on the J.C.B. Grant Collection (University of Toronto; Toronto, Ontario) showed that actual ages often did not fall in the age range produced by cranial suture aging. Accuracy was lost with increasing age. The Hamann Todd Skeletal Collection (Cleveland, Ohio) was used to examine the sagittal, coronal and lambdoid sutures in an attempt to determine the source(s) of variation. Sutural development is a moderate (to poor) predictor of age. In both the coronal and lambdoid sutures, significant sex-based and population-specific differences were noted. Black individuals had a stronger age-score relationship. Adolescents and adults up to 39 years of age showed a stronger age-score correlation than older individuals. Beginning twenty or thirty years before the turn of the century, the age-score relationship becomes strong, hinting at a secular bias. Individuals born from the late 19th century to the 20th century showed an age-score correlation stronger than all else reported so far. Progression is delayed in the oldest individuals dating to the earliest times. Black individuals had a significant height-score relationship in the sagittal while white subjects had a nearly negligible correlation. Adolescents showed the greatest correlation between height and synostosis. The negative trend indicates that taller people are associated with less development. Stronger age-score relationships were generally seen in underweight individuals. Individuals who used alcohol and/or narcotics for prolonged periods may be more likely to exhibit an obliterated sagittal suture. The presence of cranial features like wormian bones may be associated with a more predictable pattern of sutural development. Very light weight skulls were more likely to exhibit greater fusion than extremely dense ones. The presence of the parietal foramina does not influence the rapid degree of closure seen in the obellicorn region of the sagittal suture. Of all the sutural segments examined, the inferior coronal has the strongest age-score correlation. Progression in the internasal facial suture was rapid for the Hamann Todd sample, with average scores surpassing all three cranial sutures.

As Developed by the Institut für Paläoanatomie, Domestikationsforschung und Geschichte Der Tiermedizin of the University of Munich

Handbook of Forensic Anthropology and Archaeology

Forensic Anthropology

The Essentials of Forensic Science

Age Estimation

Age Markers in the Human Skeleton

As humans age progresses, their cranial sutures undergo increasingly elaborate, changes becoming more complex and developing interdigitations through a process of growth and resorption of bone occurs. Although forensic science correlates obliteration of sutures with age, the morphologic characteristics of sutures are highly variable making age estimation difficult to determine. However, if suture obliteration is used in conjunction with other skeletal age indicators, the accuracy of age estimation increases.

Forensic Anthropology and Medicine

The Juvenile Skeleton

Crime Scene to Court

The Normal Skull

Applied Bayesian Statistical Studies in Biology and Medicine

Fusion of Skull Vault Sutures in Relation to Age