Pavel Timonov et al., J Forensic Res 2016, 7:5(Suppl)
http://dx.doi.org/10.4172/2157-7145.C1.021

Non-metric sex determination from the distal humerus using hand-held laser scanner

Pavel Timonov and **A Fasova**
Plovdiv Medical University, Bulgaria

Background: The successful identification of human skeletal remains relies on new methods for sex determination.

Materials & methods: This research utilized 135 humeri from Bulgarian modern population (88 men, 47 women) to conduct a sex determination from the following features of distal humerus: olecranon fossa size and angle of the medial epicondyle.

Results: The quantitative assessment of humeral anthroposcopic landmarks using Hand-held laser scanner can be used as a good sex predictor. In the present study the variables are subjected to discriminant function analysis. Discriminant function score equations were derived for individual and combined variables from the lower end of the humerus of the Bulgarian forensic sample. The combination of olecranon fossa size and angle of the medial epicondyle provided the best result with 85.7% accuracy.

Discussion: The current forensic practice whereby criminals dismember the remains of their victims in an attempt to make their identification difficult requires that simple methods of sex determination from fragmented skeletal remains are available to forensic anthropologists and skeletal biologists. The distal humerus is an example of such bone fragments. The objectives of the present study were therefore to establish the standard numerical values for sex determination in Bulgaria.

Biography

Pavel Timonov has completed his PhD from Medical University-Plovdiv. He is a Chief Assistant Professor at the Department of General and Clinical Pathology and Forensic Medicine, Medical University-Plovdiv, Bulgaria. He has published more than 40 papers in reputed journals and 2 books concerning forensic anthropology, sex estimation and facial assessment. He is Editor-in-Chief of the *Journal of Forensic Medicine*. He is working on a research project "Cephalometric examination and 3D virtual modeling of the face aiming at construction and visualization of 3D facial statistics and creating cephalofacial database" funded by the Ministry of Education, Bulgaria.

pavelttimonov@yahoo.fr

Notes: