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Review Article

The Important Facial Components for Facial Approximation: A Review of the Literature

Sumon Thitiorul[1,2], Pagorn Navic[3], Srijit Das[4], Pasuk Mahakkanukrauh[3,5]

[1]PhD's Degree Program in Forensic Osteology, Faculty of Medicine, Chiang Mai University, Thailand.

[2]Department of Preclinical Sciences (Anatomy), Faculty of Medicine, Thammasat University, Thailand.

[3]Department of Anatomy, Faculty of Medicine, Chiang Mai University, Thailand.

[4]Department of Human and Clinical Anatomy, College of Medicine and Health Sciences, Sultan Qaboos University, Sultanate of Oman.

[5]Excellence in Osteology Research and Training Center (ORTC), Chiang Mai University, Thailand.

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Corresponding Author: *Pasuk Mahakkanukrauh* Professor, Research Cluster in Osteology Research and Training Center (ORTC), Chiang Mai University, Chiang Mai 50200, Thailand. (E-mail: pasuk034@gmail.com)

Abstract

One main tool that humans use to communicate with each other is the face. It is also used to verify personal identity. During social interaction, people learn the way to use their eye contact. The ways they use their eyes vary in each culture. The processes of facial encoding and recognition develop during they gaze their eyes on the colloquist's face. The whole face, outer face, inner face, eyes, nose, and mouth were used in these processes. This article informs the facial components that impacts for facial recognition, and thereafter are the components that are required to pay attention to facial approximation. Current studies on facial recognition using the whole face and separated facial components as well as accuracy tests on some approximated faces contributed using computer 3-D were reviewed. The data suggested that the facial components that used in recognition process develops from using the whole face, outer face, inner face, mouth, eyes, and nose, respectively. During communication, people fixed their eyes on the inner face more that the outer face, especially the nose. The facial component that still have error more than 5 mm in current 3-D facial approximations are the nose, eyes, chin, mouth corner and zygoma. However, some studies suggested that only 2-3 mm change in size of the nose, eye, and lips could impact the facial perception. Therefore, these components would require new prediction models to improve the accuracy of the facial approximation.

Keywords: facial approximation, facial component, facial recognition, face, forensic medicine