

Pletenetskaya Alina, Adeosun Emmanuel, Umami Yadam
FEATURES OF THE HUMAN FACIAL MUSCLES
Kharkiv National Medical University

The human face is one of the most fascinating, and distinguishing features of our species. It can relay an unending amount of information about a person's innermost emotions. The human face is the most primitive and also one of the most powerful forms of communication, and the key to the communicative features of the face lies in the facial muscles.

Facial muscles are a group of striated muscles innervated by the facial nerves that control facial expressions and other functions. It is difficult to know the exact amount of muscles in the human face, because many of them are quite small with several of them overlapping each other. Most estimates however range from 40-90.

The facial muscles develop from the second (hyoid) pharyngeal arch of the embryo. Evolutionary hypothesis suggests that the facial muscles developed their forms more than half a billion years ago. It was then that early fishes developed muscles on their heads to suck in food and water. This theory is supported by the fact that all the muscles of our face develop from a strip of cells at the base of the embryonic head, just as the do in lampreys (one of the oldest lineages of vertebrates today).

The transition to land is believed to have brought major changes in the faces of our ancestors as they stopped breathing water and started breathing air. The muscles of the face evolved to support this transition. The masseter muscles became thicker, bigger and stronger as land vertebrates evolved a more powerful bite. Evolution into mammals brought about more facial muscle developments. Muscles now attached themselves to the skin itself bringing about a wider range of facial expression. Muscles that insert around the lips control its motions, muscles around the nose cause its dilation and contraction, muscles round the eye can also move the skin around it and muscles at the sides of the head control the movement of the ears. A combined use of all these muscles results expression, the non-verbal communicative genius of the face. These muscles are present today in the human face, although muscles for the movement of the ears are not as active in human beings as they are in other mammals (e.g. in cats, horses, dogs). When primates evolved, big blocks of muscles broke down into small bits of specialized tissues enhancing the facial communicative process. Today we these facial muscles are used to decode or in other words "betray" some of our innermost emotions as most of them contract or relax involuntarily to reflect our emotions. The Facial Muscles, and in particular those in the lips, help to shape the sound and air stream into recognizable speech, these muscles move the face in response to our thoughts, feelings, emotions and impulses. When we make facial expressions, we're essentially transmitting a packet of information that can be received, read and interpreted by others. By contracting or expanding our facial muscles in different degrees and combinations, we can produce thousands of different messages that provide clues to our overall emotional state, our short-term feelings about our immediate environment, our mental well-being, our personality and mood, our physical health, our creditability and whether or not we view others as being creditable. Facial muscles not only partake in the expression of emotions but also greatly influence the appearance of humans.

In conclusion, facial muscles of human beings have been through a distinctive evolutionary path. No other animals have evolved as complex a set of Facial muscles as have humans.