During ontogeny there are a lot of changes in the entire human skeleton. This thesis deals with shape changes in the mandible, which are caused by genetic, hormonal, as well as mechanical factors. The most important mechanical factors influencing the shape of mandible are development of deciduous and permanent dentition and also development of masticatory muscles. 34 children mandibles of known age and 14 adult mandibles were analysed and compared for this thesis. Data were obtained by scanning coordinates of 36 landmarks using Microscribe G2X, and then were processed by software PAST and Morphologika^2 using multivariate statistics (PCA, MANOVA). Geometric morphometrics is used for a detailed analysis of shape changes of the mandible.

There is no difference between dental and chronological age. In conclusion, lower jaw narrows during growth, the body extends more in the region of third molars and the ramus grows mainly in the region of condylar process. Chin prominence also occurs during ontogeny. In the group of adult mandibles the variability is caused by coronoid process height and the body width. The hypothesis, that age groups are significantly different from each other, and therefore due to tooth mineralization there are marked shape changes, is confirmed.