

## The Effects of Shift in Salt Palatability on the Masticatory Muscles and Mandibular Morphologies

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### Summary

We previously found that the rats fed with low-salt chow since their prenatal period showed abnormal unidirectional growth of mandibula than the rats fed with normal chow. The mandibula plays an important role in masticatory movements. It is thought that sufficient and adequate mastication is required for normal development of jaw bones. And then taste palatability has effects on masticatory movements. Thus, it is seemed that the abnormal mandibular condyle in our previous study was produced by the alterations in the number and intensity of mastication, which are induced by the differences in the palatability between the low-salt and normal chows. Therefore, we aimed to explore the role of salt intake on the growth of jaw bones involving in mastication. The rats fed with low-salt chow just after the weaning period demonstrated smaller size of mandibular bone than control, while their width of mandibular condyle was larger. We also found bigger mandibular condyle width in the rats fed with bitter taste (denatonium benzoate) chow than the rats fed with control chaw or sweet taste (sucralose) chow. These results suggest that lower palatability of low-salt chow induced abnormal development of mandibular condyle.