Hox genes are key regulators in patterning vertebral elements along the anterior-posterior axis of vertebrates. Here we examine how the early role of Hoxa-5 and how a combination of Hox genes pattern the cervical-thoracic transition (C14-T1) in chick embryos. Little is known about the evolution of ribless cervical elements—as compared to ribbed thoracic elements—in the avian lineage, yet the Hox code is a candidate for explaining this change in development. Early knockdown of Hoxa-5, as well as, simultaneous knockdown of Hoxa-4, Hoxa-5, and Hoxa-6 via RNA interference was performed to study how each influences vertebral morphology at the cervical-thoracic transition of chicks. Skeletal staining will be used to compare vertebral morphologies of wildtype and knockdown embryos. Examining how the Hox code may have played a role in the development of ribless cervical vertebrae in birds may provide us with a deeper understanding of skeletal development and evolution in the avian lineage.