

# **Andrew Turner, Biology**

Year in School: Senior

Hometown: Kansas City, MO

Faculty Mentor: Dr. Anand Chandrasekhar, Biological Sciences

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## **Effects of endocrine disrupters on the zebrafish embryo**

Andrew Turner & Anand Chandrasekhar

Endocrine disrupters have been shown to cause irreversible changes in fetal development of mice. These man-made chemicals are found in plastics and pesticides and could be hazardous to humans. Interestingly, hormone replacement therapy is believed to have beneficial cardiovascular effects. To address these questions, we examined the effects of the endocrine disrupter, bisphenol A (BPA), on cardiovascular function in the zebrafish embryo. Incubation of the zebrafish embryo in a broad BPA concentration range causes a pronounced and significant decrease in heart rate that is reversible. The effects on heart rate are independent of the age of the embryo, and not due to effects on heart development. The effects of BPA are evident even upon transient exposure to BPA, suggesting that this compound is not causing any permanent damage or modifying cardiac or vascular physiology. The effects of BPA appear to be specific since most tissues, in particular, brainstem efferent neurons, that may regulate heart rate, developed normally in treated embryos. Interestingly, escape response of treated embryos was attenuated, suggesting that sensory circuits may not function properly. We are currently testing hypotheses regarding the cellular effects of BPA.