

#

EHT

Judging Dept.

**Stephen Dimond**

Student

EHT

&gt;6

Dr. David Carpenter

Dept or Program Years in program

Mentor

## An Examination Of Caging Protocols Used In Mouse Developmental Toxicity Research.

Author (s)

**Stephen Dimond**

Over the last decade numerous developmental toxicity studies have been conducted on chemicals suspected of being endocrine disruptors. In 2000, the National Toxicology Program (NTP) and National Institute of Environmental Health Sciences (NIEHS) convened a panel of experts to conduct a peer review of effects following exposure to endocrine disrupting chemicals in mammalian species. A key finding was that there was credible evidence to support findings for low dose effects and lack of low dose effects. Since some experiments were conducted using group-housed animals while others were conducted using individual housing, a recommended area of research by the panel included examination of caging condition differences. Two experiments to examine the role of housing conditions on the growth of male and female mouse offspring, onset of puberty, and male and female reproductive organ weight development were conducted. In each experiment, twenty pregnant CD-1 mice produced litters and on post natal day 22, pups were placed into individual housing or group housing (four/cage). In experiment 1, group housing consisted of four non-littermates. In experiment 2, group housing consisted of two siblings paired with an additional two siblings from a different litter. Experiment 1 showed that group housed mice had significantly smaller reproductive organs than individually housed mice. Experiment 2 showed no difference in reproductive organ weights between group housing and individual housing. These experiments shows that caging protocols may have an impact on commonly measured endpoints evaluated in developmental toxicity research.