

## Three lessons from two mice



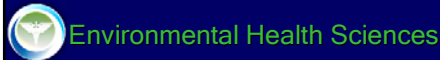
Newbold *et al.* 2005, 2007

1 part per billion DES

100 ppb causes weight loss

Exposure in the womb leads to obesity in adults

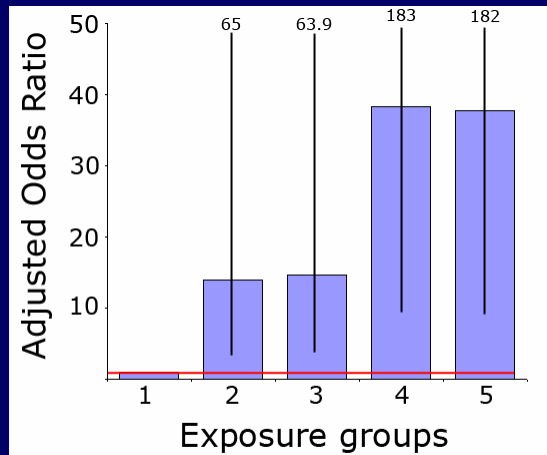
Same strain of mice  
Same caloric intake  
Same activity levels



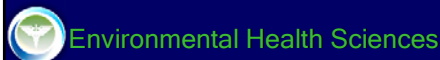
## Type II Diabetes

**Diabetes risk:**  
NHANES data  
2,016 subjects

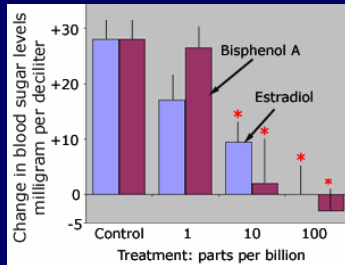
**6 POPs:**  
PCB153 0.001  
Heptadioxin 0.007  
OCDDioxin 0.094  
Oxychlorane 0.001  
DDE 0.001  
trans-Nonachlor 0.001



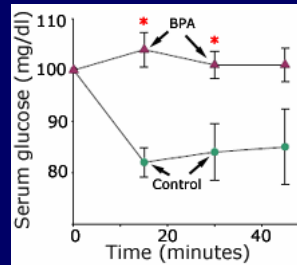
Lee *et al.* 2006



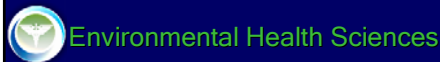
# Bisphenol A causes insulin resistance in mice



**Rapid response:**  
30 min after addition of BPA or estradiol:  
Blood sugar drops because insulin increased

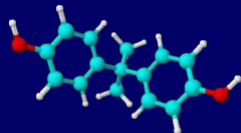


**Slower response:**  
After 4 days BPA-treated animals no longer respond to insulin

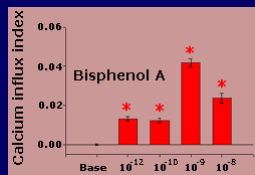


Alonso-Magdalena *et al.* 2006

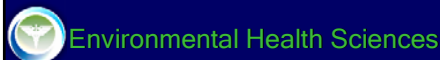
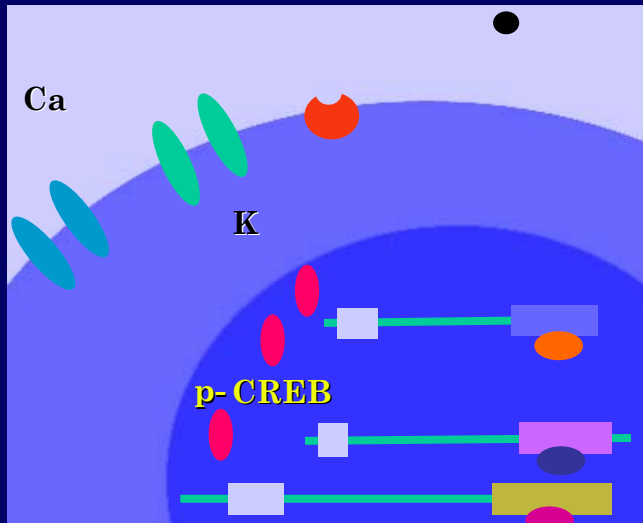
# Non-genomic action of BPA



Wozniak *et al.* 2005



95% of Americans



Quesada *et al.* 2003