Possible endocrine disrupting effects of parabens and their metabolites (24/08/2019)

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Parabens are preservatives used in a wide range of cosmetic products, including products for children, and some are permitted in foods. However, there is concern for endocrine disrupting effects. This paper critically discusses the conclusions of recent reviews and original research papers and provides an overview of studies on toxicokinetics. After dermal uptake, parabens are hydrolyzed and conjugated and excreted in urine. Despite high total dermal uptake of paraben and metabolites, little intact paraben can be recovered in blood and urine. Paraben metabolites may play a role in the endocrine disruption seen in experimental animals and studies are needed to determine human levels of parabens and metabolites. Overall, the estrogenic burden of parabens and their metabolites in blood may exceed the action of endogenous estradiol in childhood and the safety margin for propylparaben is very low when comparing worst-case exposure to NOAELs from experimental studies in rats and mice.

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