Humans are exposed to a plethora of environmental, medico-chemical chemicals. These chemicals can be found in the form of plastics, which are ubiquitous and are used for many purposes including for the wrapping and packaging of foods. Bisphenol A (BPA) and phthalates are both endocrine disrupting chemicals commonly found in plastic products; BPA is produced in all animals and mammals; phthalates can cause alterations in thyroid hormone synthesis, release, transport, and metabolism. Scientists have limited understanding of the effects from singular chemical exposure; there is less understanding from the effects of chemical mixture exposures. The goal of this poster is to understand the possible effects on the human body from exposure to a chemical mixture of BPA and phthalates. The findings elucidated suggest both BPA and phthalates affect endocrine system.

Phthalates and the Thyroid Gland
• Studies indicate that phthalate exposure leads to endocrine system disruption and reproductive and sexual development divergence. There are singular chemical exposures and even less understanding from the effects of chemical mixture exposures.

Bisphenol A (BPA)
• BPA is a synthetic organic compound, which makes plastic clear and tough and is commonly used as a material in consumer products. BPA is found in food storage containers, water bottles, and medical devices. BPA is also found in polycarbonate plastic and epoxy resins, i.e., plastic bottles, baby bottles, printed circuit boards, and the lining of food cans [1, 2, 3]. Studies have indicated that BPA affects hormone-like properties, that could potentially be linked to disrupted endocrine system function, obesity, cancer, heart disease, neurological effects, reproductive and sexual development divergence [4, 5].

Bisphenol A (BPA) is a weak estrogen agonist (ER) [35]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA analyzed in urine samples of 335 women during the second half of pregnancy. Thyroid hormones levels analyzed in blood samples of 545 women during the first trimester of pregnancy [4]. MBP is metabolized by recombination of the radical fragment of BPA, which is the one-electron oxidation product of carbon-phenyl bond [35]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43]. BPA can impair thyroid hormone action by inhibiting T3 binding to the TR and by recruiting N-CoR on the promoter [34]. BPA is similar to another well known potent estrogen diethylstilbestrol (DES) [43].