Transferring one rather than two embryos during in vitro fertilization has been endorsed as a way to reduce multiple birth rates, but no large-scale randomized trial has evaluated the impact of the number of embryos transferred on birth outcomes. This presentation describes the design of a non-randomized study that parallels a hypothetical randomized experiment to examine the effect of single versus double embryo transfer. Using national surveillance data from the Centers for Disease Control and Prevention, single and double embryo cycles were paired on estimated propensity scores to create matched treated and control groups that are as similar on the observed background covariates as if the number of embryos transferred had been randomly assigned. This example illustrates a general framework for drawing causal rather than associative inferences from non-randomized studies, and the crucial role of checking balance between treatment and control groups on key background covariates is emphasized.