1145-62-2811   **Andre K Waschka*** (`akwaschka@berkeley.edu`), Department of Statistics, UC Berkeley, Berkeley, CA 94704. *A Longitudinal Targeted Likelihood Estimator for an Optimal Time-to-Switch Treatment Rule.* Preliminary report.

We discuss how to formulate an estimate of a dynamic treatment rule for the optimal time to switch between two medical treatments. Here an optimal rule is defined to maximize the mean outcome under the dynamic treatment, while our candidate rules only respond to a user-supplied subset of the baseline and time-varying covariates. Our estimation problem uses a nonparametric statistical model, which differs from the majority of the current literature that relies on parametric assumptions. To estimate this optimal rule, we use a Longitudinal Targeted Likelihood Estimator (LTMLE) that accounts for both treatment variables. The method is illustrated using MIMIC data to help provide a decision rule for hypotensive patients where we find the optimal amount of fluids (treatment 1) for a patient to receive before switching over to vasopressors (treatment 2) to maximize their survival rate at 48 hours. (Received September 25, 2018)