## AN IPCW ESTIMATOR FOR ORDERED FAILURE TIMES SUBJECT TO A COMMON CENSORING PROCESS

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We propose an inverse-probability-of-censoring weighted (IPCW) estimator for a conditional survival function when data are ordered failure times subject to a common censoring mechanism. The motivating dataset comes from an ongoing clinical trial, called TIBET, in which an intermittent therapeutic strategy has been assigned to each patient. This strategy defines a sequence of successive stages on which the patients are alternatively with or without treatment. Of special clinical interest are the lifetime variables  $T_1$ ;  $T_2$ ;  $T_3$ ;  $:::; T_k$  defined as the length that a patient stays on each stage. We are concerned with the distribution of the second time without treatment,  $T_3$ , for different periods without treatment,  $T_1$ , taking into account the first period with treatment,  $T_2$ , and correcting the bias introduced by the dependent censoring within each strata, that is, the fact that  $T_3$  can only be observed if  $T_1$  $+ T_2$  is lower than the total time of followup. We derive the asymptotic behavior of the estimator and we propose to estimate the variance of the limiting distribution via a bootstrap methodology. Good properties of the proposed estimator for small size samples, as well as a comparison with the naive stratified estimator, are illustrated through a simulation study. We conclude with some results of the application of this methodology to the TIBET clinical trial.