Recurrence data are collected to study the recurrent events on biological, physical, and other systems. Quantities of interest include the mean cumulative number of events and the mean cumulative cost of events. The mean cumulative function (MCF) can be estimated with nonparametric methods or by fitting parametric models, and many procedures have been suggested to construct the confidence interval (CI) for the MCF. This paper summarizes the results of a large simulation study that was designed to compare five CI procedures for both the nonparametric and parametric estimation. When doing parametric estimation, we assume the power law non-homogeneous Poisson process (NHPP) model. Our results include evaluation of these procedures when they are used for window-observation recurrence data where recurrence histories of some systems are available only in observation windows with gaps in between.