

## 23 Sequences of Boxplots

A recent comparative clinical trial at GSK, (Amit. et al., 2004) and (Heiberger, 2005), examined the result of monitoring **ASAT** in two **trts** groups **A** and **B** after 0, 1, 2, 4, 8, 12, and 24 **weeks**. The sample size for treatment **A** is about 200 patients and for treatment **B** about 400. ASAT (aspartate aminotransferase), an enzyme associated with liver parenchymal cells, is raised in acute liver damage. ASAT and other clinical biochemistry laboratory blood assays are monitored to give an early signal of potential adverse events in liver function in response to the treatments. The data are in file (`h2/datasets/lft.asat.dat`). The display in Figure 39 was designed specifically to monitor this data situation. The horizontal axis is proportional to the time scale, the sample sizes are identified at each time point, a reference line locates the center of the normal range, outliers are noted and extreme outliers are identified.

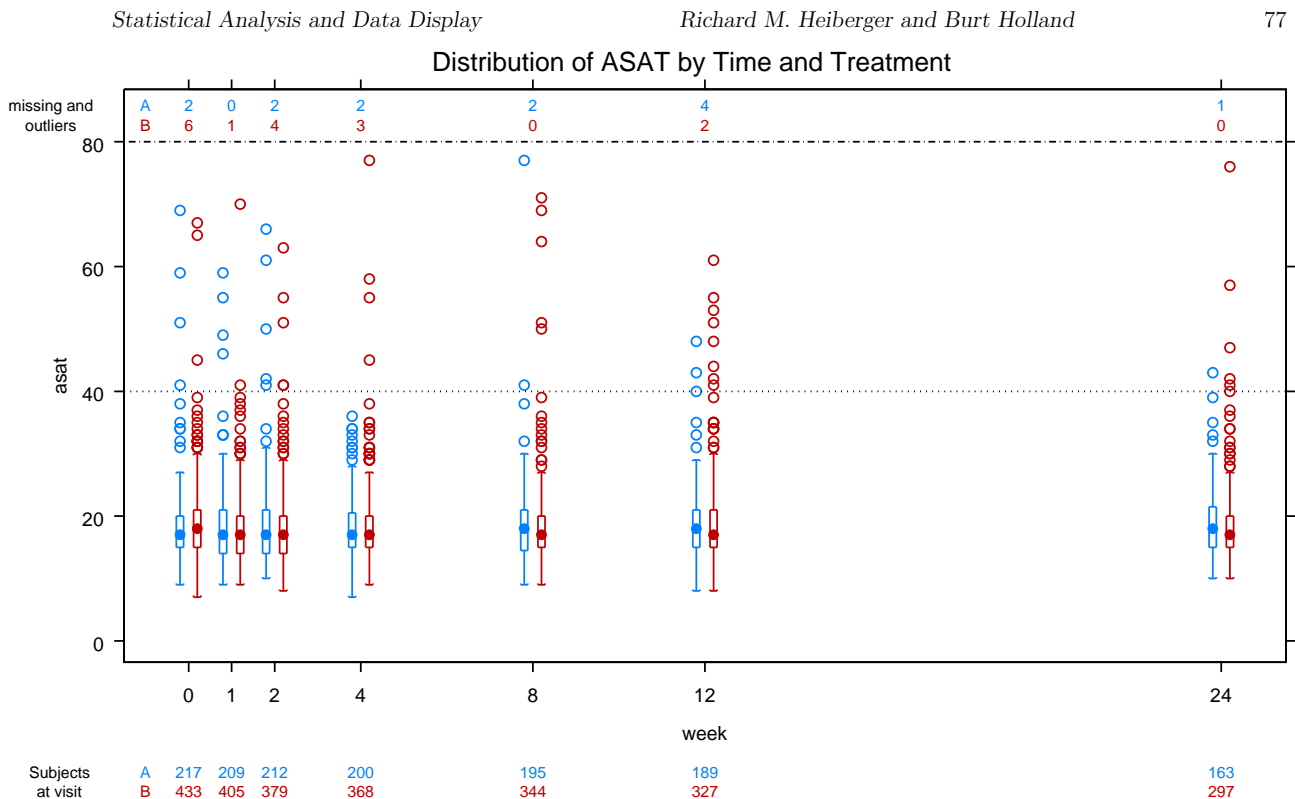


Figure 39: Comparative distributions of responses of two treatment groups at unequally spaced points in time. Boxplots are color-coded to distinguish between the two treatment groups. The covariate time is correctly scaled on the horizontal axis. Since the data are positively skewed with extreme outliers and with missing values, we choose to truncate observations at `asat=80` in order to display full detail on the bulk of the data. The sample sizes and numbers of missing and outlying observations are noted on the graph.

(`intx/code/lft.asat.s`), (`intx/code/lft.asat-2.s`),  
(`intx/figure/lft.asat.4a.eps.gz`),