

STANFORD UNIVERSITY
DEPARTMENT OF STATISTICS
DEPARTMENTAL SEMINAR

4:15 p.m., Tuesday, March 6, 2001
Sequoia Hall Rm. 200
(Cookies at 3:45 in 1st Floor Lounge)

Bradley Efron
Department of Statistics
Stanford University
Stanford, CA 94305

The Two-Way Proportional Hazards Model

Survival analysis problems often involve dual time scales, calendar date and lifetime, the latter being the elapsed time since an initiating event such as HIV infection. The motivating example for this talk involved 620 organ transplant patients, 110 of whom suffered a serious bacterial infection at some time following the transplant. The main question of interest was whether the incidence rate of bacterial infection was declining over the 16 years of study. Different answers to this question are possible, depending on whether the proportional hazards analysis is carried out on the calendar date or lifetime scale. The "two-way" model tries to look at the problem symmetrically, combining the information from both time scales in an efficient manner.