

Title

`gestim3` - Estimating causal effects in trials with 3 treatment arms

Syntax

```
gestim3 [, options]
```

<i>options</i>	Description
Main	
<u>detail</u>	display additional statistics
<u>boot</u>	calculate bootstrapped estimates of acceleration parameters and associated confidence intervals; the default is to calculate approximate intervals
<u>wrap</u>	convert a longitudinal survival-type data format to a condensed format
<u>graph</u>	display figure of test-statistic for grid-based values of the acceleration parameters and illustrate approximate confidence intervals (not to be used in combination with <code>boot</code>)

Description

`gestim3` extends the methodology of Robins and Tsiatis (1991) for estimation of treatment effects in a 3-arm clinical trial scenario. Two 'active' treatments are compared against 'no treatment' or a placebo for a specified survival-type outcome. Some subjects may 'crossover' to receive the treatment of one of the other arms and treatment combinations are also facilitated. The model is a rank preserving structural failure time model (a class of semi-parametric failure time models) and can be regarded as a structural/strong version of an accelerated failure time model with time-dependent covariates (Cox and Oakes, 1984). The observed event time T is related to an underlying event time U that would have been observed in the absence of treatment. The estimated parameters (values which balance U across arms) represent the effect of treatment; i.e. acceleration or deceleration of the time-to-event.

Options

Main

`detail` specifies that estimates of the acceleration parameters are presented alongside the converted hazard ratios and additional test statistics (at optimal values of the acceleration parameters) are provided.

`boot` calculates bootstrapped estimates of acceleration parameters and associated confidence intervals; the default is to calculate approximate intervals (see documentation on the [Statistical Methodology](#) for details)

`wrap` convert longitudinal survival-type data to a condensed format; the default settings assume that the data is already supplied in the condensed format (see the attached documentation on [Data Format Requirements](#))

graph displays figures of the test-statistic for grid-based values of the acceleration parameters and illustrate approximate confidence intervals. This option may not be used in combination with the option **boot**.

Remarks

The routine is still under construction with two variants for the standard and 'bootstrapped' version of the algorithm. These variants will be compiled in the next version of the routine, and '**boot**' will be one of the specified options incorporated in the model syntax. For detailed information on the routine, see the associated documentation on the [Statistical Methodology](#).

Example

```
. use... [Supply an example data set]
. gestim3

. gestim3, detail boot
```