

## Overdose Control

**Eliminate dose if**  $Pr(p_j > \phi \mid data) > P_E$ , where  $p_j$  is the true toxicity rate of dose level  $j$ ,  $\phi$  the target toxicity rate, and  $P_E$  the cutoff probability to eliminate an overly toxic dose for safety. We recommend the default value of  $P_E = 0.95$  for general use. If the lowest dose is eliminated, the trial should be stopped for safety.

**Check the box** to impose a more stringent stopping rule:

$$Pr(p_1 > \phi) > P_E - \delta,$$

where  $p_1$  is the true toxicity rate of the lowest dose (i.e., dose level 1), and  $\delta$  is a small positive offset (between 0 and 0.1) subtracted from the cutoff probability. This rule says that if the lowest dose exceeds a certain safety threshold, we stop the trial for safety. A larger value of  $\delta$  leads to a more stringent stopping rule. The default value of  $\delta = 0.05$  generally works well.