Failure to Look Beyond Blocks Is a Mistake

V. W. Berger
NIH, NCI, Rockville, Maryland, USA

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Summary
Tamm and Hilgers [1] are to be congratulated for bringing more attention to a rather important issue in trial design, namely chronological bias. Far too many researchers use permuted blocks without even recognizing that chronological bias is the reason they do it. Only armed with the rationale can we hope to enter an informed discussion regarding the merits, or lack thereof, for using permuted block randomization in actual trials. But chronological bias is only part of the story. If it were the entire story, then there would be a rather easy solution. We could just use blocks of size two, or even alternate treatment groups. But we can’t, and the reason we can’t is selection bias. The two are at odds, as the solution to chronological bias is a small block size, and the solution to selection bias is a large block size [2, 3]. At least this would be the case if we were limited to using permuted blocks. Fortunately, we are not.

References