

Validity of Using Functional Threshold Power and Intermittent Power to Predict Mountain Bike Race Outcome.

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Purpose: This study tested the ability of Functional Threshold Power (FTP) and Intermittent Power (IP) tests to predict mountain bike race (MTB) finishing time. **Methods:** The work and rest durations for IP, derived from race data collected from two cyclists in domestic and international MTB competitions, were set at 45 s of maximal effort followed by 15 s of easy pedaling for 20 minutes. Eleven well-trained male cyclists (age: 35.8 ± 8.2 yr; mass: 80.8 ± 13.4 kg) served as subjects. FTP was calculated from 95% of mean maximal 20 minute power normalized to body mass. The mean power of all work intervals during IP testing was recorded as IP and was normalized to body mass. Following the collection of FTP and IP in a random order, the cyclists performed a mass-start 17.4 km simulated off-road race to provide MTB time. Regression models were used to assess the degree to which FTP and IP could predict MTB time. **Results:** Both FTP and IP were able to significantly predict MTB time ($R^2 = 0.74-0.79$; $p < 0.001$). However, the prediction errors were less when using IP than FTP (273.5 s versus 303.6 s). **Conclusion:** These results indicate that while FTP may be an important indicator of MTB time, IP was better able to predict MTB time and could do so with less error.