

Dr. AskerJeukendrup en la revista Sports Medicine{ADDIN CSL\_CITATION { "citationItems": [ { "id": "ITEM-1", "itemData": { "DOI": "10.2165/00007256-200131070-00009", "ISBN": "01121642 (ISSN)", "ISSN": "0112-1642", "PMID": "11428691", "abstract": "Cycling performance is dependent on physiological factors which influence mechanical power production and mechanical and environmental factors that affect power demand. The purpose of this review was to summarize these factors and to rank them in order of importance. We used a model by Martin et al. to express all performance changes as changes in 40km time trial performance. We modelled the performance of riders with different ability ranging from novice to elite cyclists. Training is a first and most obvious way to improve power production and was predicted to have the potential to improve 40km time trial performance by 1 to 10% (1 to 7 minutes). The model also predicts that altitude training per se can cause a further improvement of 23 to 34 seconds. Carbohydrate-electrolyte drinks may decrease 40km time by 32 to 42 seconds. Relatively low doses of caffeine may improve 40km time trial performance by 55 to 84 seconds. Another way of improving time trial performance is by reducing the power demand of riding at a certain velocity. Riding with hands on the brake hoods would improve aerodynamics and increase performance time by 2 to 7 minutes and riding with hands on the handlebar drops would increase performance time by 2 to 3 minutes compared with a baseline position (elbows on time trail handle bars). Conversely, riding with a carefully optimised position could decrease performance time by 2 to 2.5 minutes. An aerodynamic frame saved the modelled riders 1:17 to 1:44 min:sec. Furthermore, compared with a conventional wheel set, an aerodynamic wheel set may improve time trial performance time by 60 to 82 seconds. From the analysis in this article it becomes clear that novice cyclists can benefit more from the suggested alterations in position, equipment, nutrition and training compared with elite cyclists. Training seems to be the most important factor, but sometimes large improvements can be made by relatively small changes in body position. More expensive options of performance improvement include altitude training and modifications of equipment (light and aerodynamic bicycle and wheels). Depending on the availability of time and financial resources cyclists have to make decisions about how to achieve their performance improvements. The data presented here may provide a guideline to help make such decisions.", "author": [ { "dropping-particle": "", "family": "Jeukendrup", "given": "Asker E.", "non-dropping-particle": "", "parse-names": false, "suffix": "" }, { "dropping-particle": "", "family": "Martin", "given": "James", "non-dropping-particle": "", "parse-names": false, "suffix": "" } ], "container-title": "Sports Medicine", "id": "ITEM-1", "issue": "7", "issued": { "date-parts": [ [ "2001" ] ] }, "page": "559-569", "title": "Improving cycling performance: How should we spend our time and money", "type": "article-journal", "volume": "31" }, "uris": [ { "http://www.mendeley.com/documents/?uuid=ce7a11a5-30fd-4dd6-8a0c-ef2bdf7041a3" } ] }, "mendeley": { "formattedCitation": "<sup>1</sup>", "plainTextFormattedCitation": "1", "previouslyFormattedCitation": "<sup>1</sup>" }, "properties": { "noteIndex": 1 }, "schema": "https://github.com/citation-style-language/schema/raw/master/csl-citation.json" } },