Ergogenic Aids in Cycling

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How do you know if an ergogenic is real or placebo?

PERFORMANCE ABILITIES

FUNCTIONAL ABILITIES

MORPHOLOGICAL COMPONENTS

When Training Hard Over Years
Lance Armstrong Showed Little to Moderate Variation In:

- $\text{VO}_2\text{max} = 5.8 - 6.0 \, \text{l/min}$
- $75-83 \, \text{ml/kg/min}$
- $\text{HRmax} = 200 - 206 \, \text{bts/min}$
- $\%\text{VO}_2\text{max} @ LT = 78 - 82\%$
- Lean Body Weight $= 68 - 70 \, \text{kg}$
Lance Armstrong's Primary Progression

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>Gross Mechanical Efficiency (%)</th>
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<tbody>
<tr>
<td>74</td>
<td>22</td>
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<td>71</td>
<td>23</td>
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<tr>
<td>70</td>
<td>26</td>
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Metabolic Ergogenics

Nutritional Supplements During the Event

- Water, sugar, salt or food and drink: the simple and effective stuff
- Caffeine: an effective stimulant