Alexandra Schek

ERNÄHRUNG IM KRAFTSPORT

Weiterführende Information und Literatur

	Kreatin	β-Alanin	Natrium-bicarbonat ($NaHCO_3$)	Nitrat aus Rote-Beete-Saft/ -Shot	Coffein
Einsatzbereich (Belastungsdauer)	Explosiv-/ Maximalkraft (< 30 s, intermittierend)	Maximalkraft/ Hypertrophie (1-2 min)	Kraftausdauer (1-8 min)	Kraftausdauer (8-12 min)	Ausdauer (> 30 min), isometrische Maximalkraft
Wirkmechanismus	Regeneration von ATP aus ADP ↑	Protonen-Pufferung im Muskel[2]	Protonen-Pufferung im Blut	Vorläufer von Stickstoffmonoxid (NO)	Adenosinrezeptor-Antagonist
Wirkung	anaerob-alaktazide Energiegewinnung ↑	Säurelast ↓ anaerob-laktazide Energiegewinnung ↑	Säurelast ↓ (an)aerobe Energiegewinnung ↑	Blutfluss ↑ (an)aerobe Energiegewinnung ↑	Stimulation von ZNS und Herz-Kreislauf-System
Auswirkung auf die Leistung	Trainingspensum ↑ fettfreie Masse/1-RM ↑	Anzahl Wiederholungen ↑ fettfreie Masse/1-RM ↑	muskuläre Ermüdung ↓ kontraktile Kapazität ↑	mechanische Effizienz ↑ Zeit bis zur Erschöpfung ↑	Ausdauer ↑ empfundene Anstrengung ↓ MVC ↑
Dosierung	4 x 5 g/d für 5-7 Tage[1]	65 mg/kg KG/d für 1-3 Monate	0,2-0,4 g/kg KG einmalig	300-550 mg/d für 3-15 Tage	3 mg/kg KG[3] einmalig
Timing	möglichst nach der Belastung	über den Tag verteilt (4-6 x)	1-2,5 h vor der Belastung	2-3 h vor Trainingsbeginn	1 h vor der Belastung
Unerwünschte Wirkungen	Fälle von Verunreinigung mit Ephedrin	> 10 mg/kg KG Parästhesien (Gesicht, Hals, Hände)	Magen-Darm-Probleme, v. a. Durchfall und Erbrechen	Jodabsorption ↓ evtl. Nitrosaminbildung (kanzerogen) ↑	> 200 mg evtl. Unruhe, Übelkeit, Herzrasen
Bemerkungen	Hypertrophieeffekt im Oberkörper stärker	High- und Low-Responder	Involvierung großer Muskelgruppen nötig	NO-Synthese auch aus L-Arginin möglich	Gewöhnung möglich (je nach Genen)
Reviews	Kreider et al. (2017)	Quesnele et al. (2014)	McNaughton et al. (2016)	Jones (2014); Schek (2013b)	Spriet (2014)
Meta-Analysen	Lanhers et al. (2015; 2017)	Saunders et al. (2017); Trexler et al. (2015)	Peart et al. (2012); Christensen et al. (2017)	Hoon et al. (2013)	Warren et al. (2010); Polito et al. (2016)

Im Kraftsport verwendete Wirkstoffe mit ergogener (leistungsfördernder) Wirkung
Legende: NO = Stickstoffmonoxid, 1-RM = Einer-Wiederholungsmaximum, MVC = maximale willkürliche Kontraktion, KG = Körpergewicht; [1] alternativ zwei Tage lang je 2 x 5 g Kreatin plus 2 x 37,5 g Glukose; [2] als Bestandteil des Dipeptids Carnosin; [3] 200 mg Coffein sind in ca. 2 Tassen Kaffee enthalten

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