

Bungee jumping: Metabolism, cardiovascular changes, and electrolytes in severe mental excitement?	
Verlag:	Dustri-Verlag
Erscheinungsort:	München
Datum:	01.01.2020
Abstract:	<p>Of 78 officer trainees, blood samples were taken from the fingertip before and after bungee jumping. Using a Phox M device, pCO₂, pO₂, and ionized Mg were determined. Systolic blood pressure (RRsys) was measured by a Beurer device. Also, subjective excitement score before the jump (only 40 participants) was determined. It turned out that before the jump, only the excitement score correlated with blood pressure (RRsys); but after the jump, Mg values became proportional to RRsys. Excitement scores before the jump as well as RRsys correlated with Mg values after the jump. Mental load obviously could quickly induce considerable metabolic and electrolyte changes. Moreover, a smaller mental load during sympatho-adrenal anticipation correlated linearly with cardiovascular and metabolic data of the more severe load afterwards, which paves the way for prognostic use:</p>
Drift:	Academic

Zweiter Zukunftsdialog ? Offiziersausbildung	
Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2019
Abstract:	
Drift:	Academic

THERESAN MILITARY ACADEMIC FORUM 2018: Führen mit Weitblick	
Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2019
Abstract:	
Drift:	Academic

Ca and Mg changes can calibrate psychological self-assessment during anticipatory stress and subsequent relaxation by playing the ?Styrian Harmonica?

Verlag:	Dustri-Verlag
Erscheinungsort:	München
Datum:	01.10.2019
Abstract:	<p>Materials and methods: Capillary blood was drawn from 47 harmonica players before and after 30 minutes of practicing, and ionized Mg and ionized Ca were determined using a Phox-M device [1, 2]. Alertness or tiredness was determined by psychological inventory (?Mehrdimensionaler Befindlichkeitsfragebogen?, MDBF, [5]). Results: Group averages of ionized Ca were significantly increased after playing, as were scores on the alert scale. Before playing, a significant negative linear correlation between Ca and Mg on the one hand and alertness on the other existed, which, was however, no longer present after playing. Ca and Mg concentrations before playing showed a highly significant correlation to their levels after playing, whereas MDBF scores before and after playing did not correlate at all. The significant increase of alertness averages in the alert/tired (A/T) score after playing constitutes an assessment problem: Increase of alertness before playing goes along with lower Ca blood levels, meaning a higher rate of Ca transfer into tissues brought about by higher catecholamine secretion [13]. After playing, average Ca levels increased, but so did the A/T scores on the alert scale, which contradicts the Ca (Mg) and A/T score relations before playing. On that grounds, and also taking into account the lack of correlation between the A/T scores before and after playing, we suggest, that the interviewed people may have assigned a different meaning to the term ?alertness? after playing than before, which becomes apparent only by ?calibrating? the subjective scores with objective blood concentrations of Ca and Mg. Thus, a better understanding of the situation-dependent applicability of subjective scores may be gained.</p>
Drift:	Academic

Retention of blood oxygen and loss of tissue Mg is proportional to sympathetic activity ? practical consequences

Verlag:	Dustri-Verlag
Erscheinungsort:	München
Datum:	01.05.2019
Abstract:	<p>To investigate the impact of mental excitement on metabolism we collected pH, pCO₂, pO₂, and ionized Mg values out of capillary blood of 192 cadets, won during the expectation phase before a running trial, important for their military officer career. Mostly by linear correlation analyses, we could show that probable higher catecholamine levels, not uncommon in sympatho-adrenal anticipation, seem to ultimately provoke increased oxygen binding in blood as well as (temporary) Mg increase in blood as a consequence of Mg loss from tissues. Both processes, O₂ retention in blood and Mg loss from tissues contribute to impaired workload resistance of the metabolism.</p>
Drift:	Academic

Symposium: Sicherheit gestalten Frauen in Führungspositionen?

Verlag:	Heeresdruckzentrum
Persqualifikation	Seite 2/16

Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2018
Abstract:	
Drift:	Academic

Akademisches Jubiläumsjahr	
Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2018
Abstract:	
Drift:	Academic

1. Zukunftsdialog - Offiziersausbildung	
Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2018
Abstract:	
Drift:	Academic

Metabolic and electrolyte changes during recovery from exercise with and without a preparation for recovery	
Verlag:	Dustri-Verlag
Erscheinungsort:	München
Datum:	01.06.2018
Abstract:	<p>Seven young females and 1 male participant (between 24 and 29 years of age) were subjected to a 3,200-m run through uneven terrain. After the run, capillary blood samples were drawn for the determination of pH, pCO₂, pO₂, base excess (BE), HCO₃⁻, ionized magnesium (Mg), and lactate. 30, 60, and 90 minutes after the run, additional blood samples were taken to assess the metabolic situation during recovery. One week later, the candidates received two sachets of an effervescent preparation containing amino acids, vitamins, herbal antioxidants, trace elements, and electrolytes. Among them, a total of 300 mg Mg immediately after running and the same sampling times as in the control group were used. It turned out that the group averages of pH, BE, and HCO₃⁻ were already significantly higher at 30, 60, and 90 minutes after the run in the test group than in controls. Correlation analyses further show that recovery of test persons is significantly faster, especially in those participants most affected by the running. Additionally, there is no 'oxygen trapping' in the blood due to increased pH during the recovery period in test persons.</p>
Drift:	Academic

20 Jahre FH-Studiengänge "Militärische Führung"

Verlag:	AMEDIA-GmbH
Erscheinungsort:	Österreich
Datum:	31.01.2018
Abstract:	
Drift:	Academic

Mental strain: Mg increase along with stress markers is relative

Verlag:	Dustri-Verlag
Erscheinungsort:	München/Deutschland
Datum:	31.10.2017
Abstract:	<p>17 male officer trainees (between 20 and 24 years of age) of the Theresan Military Academy in Wiener Neustadt (Austria) have been subjected to an interactive computer operated wargame. Before and after the test, ionized Mg, ionized pCO₂, and RRsys were determined from capillary blood. Within 1 hour of mental strain, Mg and pCO₂ decreased significantly (Mg due to arbitrary choice), hence Mg decrease is obviously coupled to increased metabolic turnover. Linear correlations of Mg and its delta values show that due to mental strain, metabolism increases significantly along with Mg loss from tissues. The concomitant Mg increase along with changing stress markers like pCO₂ and RRsys seems to be not in accordance with the measured Mg loss. The discrepancy is cleared by showing that Mg increase is relative ? the highest Mg values due to highest strain are seen in those subjects with the relative smallest Mg loss. Thus, the velocity of Mg loss depends upon mental strain (and up to a degree upon Mg tissue reserves) in a similar way as it does during physical load.</p>
Drift:	Academic

Acute oral magnesium application: Significant effects on effort and performance in sport

Verlag:	Dustri-Verlag
Erscheinungsort:	München/Deutschland
Datum:	31.10.2017

Abstract:	<p>17 male officer trainees (between 20 and 24 years of age) of the Theresan Military Academy in Wiener Neustadt (Austria) have been subjected to a standardized 2,400-m run; before and after the run, capillary blood samples for determination of pCO₂, pO₂, BE, Mg, and lactate were drawn and their heart rate was determined. On the next day, the candidates received 150 mg of Mg as an effervescent tablet after blood sampling, and 1 hour later, after another sampling, the same 2,400-m run as before was performed again with a consecutive sampling. It turned out that all parameters measured out of the samples before the run did not differ significantly, just as the samples after the run did not differ between Mg-treated and untreated subjects. However, Mg changes due to the run were much less uniform in Mg-treated subjects. Linear correlations, which developed significantly between ionized Mg, pO₂, pCO₂, BE, and lactate, as well as significant linear correlations between heart rate and lactate, and also between Mg and running time (our performance marker), were in fact always seen in untreated subjects but never in Mg-treated participants. We deduce that acute Mg application before sport does not enhance the more easily fluctuating ionized fraction, but enriches the protein- and complex-bound Mg fraction within the blood so that ionized Mg can be replenished from there, and only to a lesser degree from tissues, and limiting steps ? characterized by linear relations between Mg and stress markers or between stress markers themselves ? are abolished. By such an acute Mg application before sport, limiting steps brought about by Mg shortage are set aside by easily available Mg reserves in blood enriched by the preserved tissue Mg pool, all that opening out into significant influences upon effort and performance.</p>
Drift:	Academic

Mg-Anstrengungsmaßstab und Leistungsprädiktor ? Messungen an der Tschechischen Militäruniversität in Brunn

Verlag:	Dustri-Verlag
Erscheinungsort:	München/Deutschland
Datum:	28.02.2017
Abstract:	
Drift:	Academic

Ionisiertes Magnesium - seine Veränderbarkeit ist ein Maß für mentale Belastung

Verlag:	Dustri-Verlag
Erscheinungsort:	München/Deutschland
Datum:	28.02.2017
Abstract:	
Drift:	Academic

Magnesium and pCO2 explaining subjective feeling of success

Verlag:	Dustri-Verlag
Erscheinungsort:	München/Deutschland
Datum:	31.01.2017
Abstract:	<p>From a group of 23 officer trainees of the Theresan Military Academy in Wiener Neustadt (Austria), 100 µL of capillary blood was collected before their first parachute jump, and pCO₂ and ionized Mg were determined. Three days after the jump, their subjective feeling of success (on a scale from 0 to the highest score of 5) was checked by a sociological questionnaire. It turned out that the most expressed feeling of success went along with the lowest pCO₂ before the jump, depicting the highest breathing frequency. Ionized Mg levels followed a polynomial curve with the nadir at ~ 3 of the success ? scale, so that at both individually felt low and high success scores corresponded with Mg levels. We maintain that the reason for the Mg increase at the lower end of the success scale should be a sufficient substitution, while at the higher end Mg increase should rather be due to increased Mg output from tissue during mental excitement, borne out by concomitantly low pCO₂ levels.</p>
Drift:	Academic

Predictability of effort, performance, and recreation need by metabolic markers including electrolytes	
Verlag:	Dustri-Verlag
Erscheinungsort:	München
Datum:	01.01.2017
Abstract:	From a group of 12 officer trainees of the Czech Military University in Brno, 100 µL of capillary blood have been collected before and after a 2,400 m run, and after a subsequent recreation period of 30 minutes. The following parameters have been determined: pH, pCO ₂ , HCO ₃ , BE, blood glucose, ionized K, ionized Mg, and blood pressure. It turned out that those parameters change proportionally, beginning from the situation before the run, throughout the situation after the run and during recreation. Using those proportionalities, a system of predictions of effort and performance was established, whereby the changing of the parameters formed an individual and situation dependent pattern. Thus performance, effort and need for recreation could be estimated individually, before the probands had even moved a limb.
Drift:	Academic

Headhunting: Studien- und Berufsinformation im Institut für Offiziersausbildung	
Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2016
Abstract:	
Drift:	Academic

Theresianisches Militärakademisches Forum 2016	
Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2016
Abstract:	
Drift:	Academic

Festveranstaltung 300 Jahre Maria Theresia	
Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2016
Abstract:	
Drift:	Academic

Richtlinie für die Regelung des Subprozesses S 2.2. "Marketing betreiben" des Prozesses "Marketing und Wissensmanagement betreiben".	
Verlag:	
Erscheinungsort:	Wiener Neustadt
Datum:	24.06.2016
Abstract:	
Drift:	Vocational

Richtlinie für die Regelung des Subprozesses S 2.2. "Marketing betreiben" des Prozesses "Marketing und Wissensmanagement betreiben".	
Verlag:	
Erscheinungsort:	
Datum:	24.06.2016
Abstract:	
Drift:	Vocational

Verbesserung von Blutdruck und Blutgasparametern bei Kongressteilnehmern durch 10 Minuten kontrollierte, passive Fuß- und Unterschenkelbewegungen	
Verlag:	Dustri-Verlag
Erscheinungsort:	Deisenhofen/ München
Datum:	01.01.2016
Abstract:	<p>Einleitung: Sedentäre Beschäftigung, die mit mentalem Stress einhergeht, führt zu erhöhtem Blutdruck RRsys und erhöhter Herzfrequenz mit gleichzeitiger, meist unbeachteter Erhöhung der Atemfrequenz. Würden auch Kongressteilnehmer ähnlich reagieren und würden anschließend Fuß- und Beinbewegungen dabei vergleichbare Effekte zu Sport oder Pausen haben? Material und Methoden: Nach 90 Minuten Vortragsteilnahme wurden 24 Kongressteilnehmer freiwillig einem 10-minütigen Fuss- und Beinbewegungsregime durch eine ?wobbler? -Vorrichtung der Firma ?Wobbler? (Villach, Österreich) mit einer Frequenz von 6,7 Hz unterzogen. Vor und nach dieser Behandlung wurden RRsys, RRdia und HF mit einer Oberarmmanschette bestimmt. Zusätzlich wurden aus etwa 100 ?l Kapillarblut der pH, pO2 und pCO2 untersucht. Eine Untergruppe der Teilnehmer, in der RRsys mindestens 140 mmHg betragen musste, wurde post hoc zusammengestellt und mit der Totalgruppe verglichen. Resultate und Diskussion: In der Subgruppe über 140 mmHg war binnen 10 Minuten ein signifikanter Abfall des RRsys von durchschnittlich 155 mmHg auf 134 mmHg zu verzeichnen. In derselben Untergruppe fiel der niedrigste RRsys mit dem niedrigsten pH zusammen, während CO2-Verlust zu einem überkompensatorischen Anstieg des pH-Wertes führte. Die Behandlung mit dem ?Wobbler?, mit dem eine angeblich natürliche Fußbewegung mit 6,7 Hz induziert wird, führt in der hypertonen Untergruppe (n = 13) zu substanziellem und signifikantem Abfall des RRsys um 21 mmHg, mit gleichzeitig erniedrigtem pH nach nur 10 Minuten. Ein nichtalkalischer pH, zusammen mit erniedrigtem RRsys scheint den Übertritt von O2 aus dem Blut ins Gewebe vermutlich auch durch Vasodilatation zu fördern, weil auch keine signifikanten Korrelationen zwischen pO2 und pH oder pO2 und pCO2 zu sehen waren (beide p > 0,05). In der Gesamtgruppe war überdies ein regulatorischer Anstieg des RRsys von niedrigen Basalwerten bis zu einem Break-even-Punkt bei 131 mmHg zu bemerken, was einer erfolgreichen Blutdruckregulation entspricht.</p>
Drift:	Academic

Significant changes of electrolytes in metabolically fatigued farmers after 1 year of improving their work plan	
Verlag:	Dustri-Verlag
Erscheinungsort:	Deisenhofen/ München
Datum:	01.01.2016
Abstract:	<p>About 100 ?L of capillary blood of 15 female and male farmers from Upper Styria (Austria), have been analyzed for ionized magnesium, pH, pCO2, pO2, and base excess after mental provocation, superimposed upon self-inflicted multiple chronic workload. After 1 year of intensive advice and multiple therapies including organizational amelioration, the same proceedings have been performed. The outcome was a significant improvement of metabolic stress markers, a much more accurate individual positioning by linear and non-linear regressions revealing the altered relationship of those stress markers to each other, dependent upon a more fatigued or recovered organism. The prominent inclusion of ionized Mg values into the stress markers provides not only a sensitive diagnostic tool, but also an apt possibility to compare magnesium- and not magnesium induced improvement of a metabolism after heavy demands.</p>
Drift:	Academic

Metabolism of persons with low Mg levels shows inadequate management of both mental provocation and physical load

Verlag:	Dustri-Verlag
Erscheinungsort:	Deisenhofen/ München
Datum:	01.01.2016
Abstract:	<p>About 100 μL of capillary blood of 22 officer trainees of the Theresan Military Academy in Wiener Neustadt, Austria, have been analyzed before and after a 2,400 m run for ionized magnesium, pH, pCO₂, pO₂, and lactate. The investigated group was divided into two subgroups. One of them comprised 10 persons with ionized Mg values of 0.5 mM and below. The other with higher Mg levels. Although the mean values of pH, pCO₂, pO₂, and lactate of the two subgroups were not significantly different, correlative analyses between the parameters before and after the run showed significantly less CO₂ loss, less alkaline blood, and therefore less O₂ binding and lower lactate levels before the run. After the run ionized Mg values of the groups are no more different, however, correlative pCO₂ loss with changing pH stabilizes pH in the high Mg group significantly. We concluded that low Mg before the run is due to fatigue in the past, but that even acute Mg supplementation may be effective.</p> <p>An inability of Mg increase during mental anticipation reactions seems to strongly indicate Mg deficiency with significant metabolic shortcomings.</p>
Drift:	Academic

Diagnostic and prognostic possibilities of coparison of pre-challenge RR sys. with electrolytes and pO2 before and after a run

Verlag:	Dustri-Verlag
Erscheinungsort:	München/Deutschland
Datum:	31.10.2015
Abstract:	
Drift:	Academic

Fortbildung an der Helmut Schmidt Universität der Bundeswehr

Verlag:	Heeresdruckerei
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2014
Abstract:	
Drift:	Academic

Vereinigung Österreichischer Bibliothekarinnen und Bibliothekare

Verlag:	Heeresdruckerei
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2014
Abstract:	
Drift:	Academic

Die Bachelorprüfung des Jahrgangs Freiherr von Trauttenberg

Verlag:	Heeresdruckerei
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2014
Abstract:	
Drift:	Academic

Das Geheimnis des Kaugummiautomaten. Belastung und Stress beim Militär

Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2014
Abstract:	
Drift:	Academic

The secret of the chewing gum vending machine (military workload and military stress)

Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2014
Abstract:	
Drift:	Academic

Vereinigung Österreichischer Bibliothekarinnen und Bibliothekare

Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2014
Abstract:	
Drift:	Academic

Die Bachelorprüfung des Jahrgangs "Freiherr von Trautenberg"

Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2014
Abstract:	
Drift:	Academic

Stressforschung am Fachhochschul-Bachelorstudiengang Militärische Führung

Verlag:	AV+Astoria Druckzentrum GmbH
Erscheinungsort:	Wien
Datum:	01.10.2014
Abstract:	
Drift:	Academic

Provoked metabolic- and Mg changes in CFS patients and in a healthy Mg substituted group ? a quantitative survey

Verlag:	Dustri
Erscheinungsort:	Deisenhofen/München
Datum:	01.09.2014
Abstract:	
Drift:	Academic

Korrelative Stoffwechsel-, Elektrolytund Blutdruckmessungen erlauben frühe Diagnosen und schützen vor Beurteilungsartefakten

Verlag:	Dustri-Verlag
Erscheinungsort:	Deisenhofen/ München
Datum:	01.03.2014
Abstract:	<p>Aus 100 Mikrolitern Kapillarblut von 25 Offiziersanwärtern der Theresianischen Militärakademie wurden vor und nach einer mäßigen Laufbelastung pH, pCO₂, Laktat, Ca ionisiert, Mg ionisiert, BE und HCO₃ gemessen. Vor dem Lauf wurde zusätzlich der Blutdruck bestimmt. Durch korrelative Untersuchungen einiger der angeführten Stoffwechselfparameter nach dem Lauf waren vier Versuchsteilnehmer vorläufig als Ausreißer zu charakterisieren und in der Auswertung von der übrigen Gruppe zu trennen. Dadurch werden die Wertezusammenhänge innerhalb der Hauptgruppe teilweise signifikant verändert. Entfernt man diese Ausreißer auch aus Korrelationen, bei denen ihre Sonderrolle nicht auffällt, wie etwa beim Zusammenhang RR sys vor dem Lauf zu pCO₂ nach dem Lauf, so verliert der erst negative Zusammenhang seine Signifikanz, ein Untersuchungsartefakt wird vermieden. Ausreißer und Hauptgruppe können getrennt charakterisiert und interpretiert werden. Das führt zu einer korrekteren Interpretation der individuellen Stoffwechsel- und Blutdruckdynamik sowohl der Ausreißer wie auch der Hauptgruppenteilnehmer. Oft konträre individuelle Reaktionen, noch weit innerhalb der Normbereiche, können so erfasst und die wahrscheinliche Richtung einer eventuellen pathologischen Entwicklung früh prognostiziert werden.</p>
Drift:	Academic

Workloads of the previous week modulate blood pressure and metabolic reactions to an everyday?s mental load

Verlag:	
Erscheinungsort:	Athen/Griechenland
Datum:	01.03.2014
Abstract:	
Drift:	Academic

Buchpräsentation "Unter Rommels Kommando - Von den Wüsten Nordafrikas bis an die Strände der Normandie"

Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2013
Abstract:	
Drift:	Academic

Die Bibliothek der Theresianischen Militäarakademie is going International

Verlag:	Heeresdruckzentrum
Erscheinungsort:	Wiener Neustadt
Datum:	01.12.2013
Abstract:	
Drift:	Academic