The impact of macronutrient composition of an energy bar on postprandial blood glucose kinetics

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The aim of the study is to compare glycemic responses after consumption of a standard (carbohydrate dense) energy bar and an energy bar with modified macronutrient composition.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON31147

Source
ToetsingOnline

Brief title
Energybars and postprandial glucose kinetics

Condition

- Other condition

Synonym
sportsnutrition glycemic response

Health condition

sportvoeding

Research involving
Human

Sponsors and support

Primary sponsor: Universiteit Maastricht
Source(s) of monetary or material Support: Ministerie van OC&W,Mars Inc.

Intervention

Keyword: glucose, postprandial, sportsnutrition

Outcome measures

Primary outcome

* Bloodglucose

* Insulin concentrations

Secondary outcome

* Carbohydrate oxidation

* Fat oxidation

Study description

Background summary

The energy required for physical activity results from the oxidation of both carbohydrates (sugars) and fats. During moderate to high intensity exercise, carbohydrates are the primary source of fuel. When no exogenous glucose is consumed during exercise, endogenous glycogen stores decrease which result in diminish performance during prolonged high intensity exercise. Two to 4 hours before the start of an exercise bout a carbohydrate containing meal is advised for optimizing liver glycogen stores. However, some people (e.g. athletes) can produce excessive amounts of insulin after ingestion of such a carbohydrate meal. This hyperinsulinemic response decreases blood glucose concentrations resulting in a state of reactive hypoglycemia which is detrimental to physical health and performance capacity.

Study objective

The aim of the study is to compare glycemic responses after consumption of a standard (carbohydrate dense) energy bar and an energy bar with modified

macronutrient composition.

Study design

This study consists of a 2 hour screening, followed by 2 complete testdays, during which 2 energybars with different macronutrient composition will be consumed. This study is desigend as a cross-over study.

Intervention

The intervention consists of consuming 2 energybars with different macronutrient composition. Glycemic responses will be measured in venous blood. Ventilated hood measurements will be applied to determine energy-expenditure.

Study burden and risks

This study consists of a 2 hour screening and 2 complete testdays of 5 hours each. Possible local is a hematoma at the site of the venapunction.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

Age: 18-25 yr
Male
Healthy
BMI < 30

Exclusion criteria

Use of medication
BMI>30
Female

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)
Control:	Placebo
Primary purpose:	Other

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	31-01-2008
Enrollment:	16
Type:	Actual

Ethics review

Approved WMO Date:	05-12-2007
Application type:	First submission
Review commission:	METC academisch ziekenhuis Maastricht/Universiteit Maastricht, METC azM/UM (Maastricht)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL19372.068.07