

# Investigation of the effects of slow release carbohydrate digestion on satiety and related blood biomarkers of satiety and energy release

<b>Submission date</b> 28/09/2010	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
<b>Registration date</b> 25/11/2010	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
<b>Last Edited</b> 12/12/2013	<b>Condition category</b> Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

Not provided at time of registration

## Contact information

### Type(s)

Scientific

### Contact name

Dr Julie Wallace

### Contact details

Northern Ireland Centre for Food and Health  
University of Ulster  
Coleraine  
United Kingdom  
BT52 1SA

## Additional identifiers

### Protocol serial number

REC/10/0013

## Study information

### Scientific Title

Investigation of the effects of slow release carbohydrate digestion on satiety and related blood biomarkers of satiety and energy release: A randomised, double blinded, crossover trial

**Study objectives**

Consumption of slow carbohydrate digestion will influence satiety, related blood biomarkers of satiety and energy release, and subsequent food intake

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

The University of Ulster Research Ethics Committee approved on the 23rd of May 2010 (REC/10/0013)

**Study design**

Randomised double blind crossover group trial

**Primary study design**

Interventional

**Study type(s)**

Other

**Health condition(s) or problem(s) studied**

Food metabolism

**Interventions**

Each patient will undergo each of the following conditions on the same day of each week and with a minimum one week interval between study conditions:

1. Control (rapidly digestible starches)
2. 10g slow digestible starch
3. 25g slow digestible starch

The order in which the patient undergoes these conditions will be randomised.

**Intervention Type**

Other

**Phase**

Not Applicable

**Primary outcome(s)**

Food and nutrient intake:

1. Energy intake (kJ)
2. Macronutrient intakes (g and % energy)
3. Weight of food and beverages (g) consumed

Assessed following a test meal served 4 hours after consuming each of the test products.

**Key secondary outcome(s)**

1. Subjective satiety ratings:

Visual analogue scales (VAS) to assess feelings of hunger, fullness, thirst, preoccupation with thoughts of food and desire to eat will be made on each study condition

2. Hormonal and metabolic responses:

Blood samples will be taken at each study condition by venous cannula and analysed for the following metabolites:

- 2.1. Glucose
  - 2.2. Insulin
  - 2.3. Glucagon-Like Peptide (GLP-1)
  - 2.4. Ghrelin
  - 2.5. Peptide YY (PYY)
- (GLP-1, Ghrelin, and PYY only being analysed if there is a positive outcome for the outer measures)

**Completion date**

31/01/2011

## **Eligibility**

**Key inclusion criteria**

- 1. Aged between 19-55 years
- 2. Body Mass Index (BMI) > 20 and < 25
- 3. In good health condition (no cardiovascular, respiratory, neurological or metabolic disease such as diabetes)
- 4. Willing to consume the test products

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**Key exclusion criteria**

- 1. Regular use of medication (apart from OTC medication)
- 2. Smoking

**Date of first enrolment**

01/06/2010

**Date of final enrolment**

31/01/2011

## **Locations**

**Countries of recruitment**

United Kingdom

Northern Ireland

**Study participating centre**  
Northern Ireland Centre for Food and Health  
Coleraine  
United Kingdom  
BT52 1SA

## Sponsor information

**Organisation**  
University of Ulster (UK)

**ROR**  
<https://ror.org/01yp9g959>

## Funder(s)

**Funder type**  
Industry

**Funder Name**  
Nestle (UK)

## Results and Publications

**Individual participant data (IPD) sharing plan**

**IPD sharing plan summary**  
Not provided at time of registration

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes