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## **1. QUESTIONNAIRES**

Appendix 1.1

# FOOD DIARY



Name \_\_\_\_\_  
Gender \_\_\_\_\_  
Date of Birth \_\_\_\_\_  
Sport/Training Description \_\_\_\_\_  
Height \_\_\_\_\_ cm  
Weight at start of diary \_\_\_\_\_ kg & at end of diary \_\_\_\_\_ kg  
Contact telephone \_\_\_\_\_  
Email \_\_\_\_\_  
Started Diary on \_\_\_/\_\_\_/\_\_\_ and Finished on \_\_\_/\_\_\_/\_\_\_

# GUIDELINES FOR KEEPING YOUR FOOD DIARY

## HOW LONG DO I NEED TO RECORD?

- Record all the food and drinks that you consume for seven (7) days.

## HOW DO I RECORD MY FOOD IN THE DIARY?

1. Record all food and drink on the diary sheets provided. Try to carry the diary with you always and record food as you eat it, so that nothing is forgotten.
2. Record all food and drink no matter how small or large
3. Start a new page for each day.
4. Follow the example diary page so you can see how much detail is required.

## WHAT SHOULD I RECORD? (See sample sheet provided)

1. Record the meal and time of food consumption.
2. Give as much detail as possible, indicating the cut of meat, kind of bread e.g.
  - a. BBQ Lean beef sirloin, large serve (approximately the size of 1 hand) with fat removed before eating
  - b. White sliced bread (TipTop) - 3 slices
  - c. Custard cream biscuits (Arnotts) - 4 biscuits
3. Record brand names, and cooking method e.g. grilled, battered, fried (dry, or oil or lard)
4. Record the estimated amount of that food consumed.
5. Estimate the ingredients of a mixed dish separately (eg a salad with 1 lettuce leaf,  $\frac{1}{2}$  tomato and 3 slices of cucumber lightly dressed with French dressing)
6. Don't forget accompaniments such as; butter, gravies, salt, butter added to vegetables, milk and sugar in coffee.
7. Record the type of exercise, the time it took place, and the duration.
8. Record all fluids even water and estimate the volume consumed in cups\* or milliliters
9. Indicate the size of the cup (eg a medium glass, a paper cup, coffee mug)

**Note:** If you are in any doubt about how to record any item, describe it in a way that you will remember and we shall check it at the end of the week.

**Number to call for assistance: Ahmad Afaghi, 0404004050**

**Email: aafaghi@Yahoo.com**



Meal	Time	Food Eaten		Drinks	
		Description eg. Weetbix	Quantity eg. 3 biscuits	Description eg. Coke Cola	Quantity eg. 600mls
Snacks		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
Dinner		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
Supper/ dessert		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____

**Training:** Circle which sessions were completed and indicate duration

- Fitness: .....min                      Weights: .....min
- Other training (describe):..... duration.....min

**Other information**

- Did you drink any alcohol today?    Yes                      No
- If yes how much did you drink? (eg 3 schooners of beer)

- Please name any supplements taken and the amount (eg, 1 multivitamin)

.....  
.....

Is today different to your usual routine? If so please briefly describe

.....



Meal	Time	Food Eaten		Drinks	
		Description eg. Weetbix	Quantity eg. 3 biscuits	Description eg. Coke Cola	Quantity eg. 600mls
Snacks		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
Dinner		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
Supper/ dessert		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____

**Training:** Circle which sessions were completed and indicate duration

- Fitness: .....min                      Weights: .....min
- Other training (describe):..... duration.....min

**Other information**

- Did you drink any alcohol today?    Yes                      No
- If yes how much did you drink? (eg 3 schooners of beer)

- Please name any supplements taken and the amount (eg, 1 multivitamin)

.....  
 .....  
 Is today different to your usual routine? If so please briefly describe

.....



Meal	Time	Food Eaten		Drinks	
		Description eg. Weetbix	Quantity eg. 3 biscuits	Description eg. Coke Cola	Quantity eg. 600mls
Snacks		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
Dinner		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
Supper/ dessert		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____
		_____	_____	_____	_____

**Training:** Circle which sessions were completed and indicate duration

- Fitness: .....min                      Weights: .....min
- Other training (describe):..... duration.....min

**Other information**

- Did you drink any alcohol today?    Yes                      No
- If yes how much did you drink? (eg 3 schooners of beer)

- Please name any supplements taken and the amount (eg, 1 multivitamin)

.....  
 .....  
 is today different to your usual routine? If so please briefly describe  
 .....



**THE UNIVERSITY OF SYDNEY**  
**Faculty of Health Sciences**

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**School of Exercise and Sport Science,**  
**East Street (P.O. Box 170), Lidcombe, NSW, Australia 2141**  
**Tel: 61-2-9351-9332 or 9351-9612 Fax: 61-2-9351-9204**

**Delta Sleep Research Unit**  
**Medical Evaluation Questionnaire**

I. Full name \_\_\_\_\_ Date \_\_\_\_\_ Code Number \_\_\_\_\_  
(Official use only)  
Date of birth \_\_\_\_\_ Weight (kg) \_\_\_\_\_ Height (cm).....

**PART 1: MEDICAL HISTORY**

- |   | <b>Yes</b>               | <b>NO</b>                |
|---|--------------------------|--------------------------|
| 1. Has your weight changed in the last 12 months?     | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. If yes, how many kg. have you gained or lost?..... |                          |                          |

3. Have you ever had any of the following medical conditions?  
(Please mark box)

- Diabetes
- Asthma
- Heart disease
- Gastric reflux
- Irritable bowel syndrome
- Chronic constipation or diarrhea
- Eating disordered (anorexia/bulimia)
- High blood pressure
- Depression
- Anemia
- Stomach ulcer
- Lactose intolerance
- Others (please specify).....

4. Are you currently on any medications?  
If yes please mark the following medications

- Antiacids
- Blood pressure drugs
- Heart disease drugs
- Sedatives
- Anti-depressant drugs
- Asthma drugs
- Hepatitis drugs
- HIV drugs
- Others (please specify)

**Yes**                      **NO**

5. Are you on recreation drugs or dietary supplement?  
(e.g. creatine supplements, growth hormone).                                           

6. Have you ever smoked cigarettes, cigars or a pipe regularly?                                           

If you have never been a regular smoker then go to question 13

7. At what age did you start smoking regularly?.....

8. Have you given up smoking?

9. If you have given up smoking please answer the following question

I used to smoke.....manufactured cigarettes a day  
.....grams "hand rolled" cigarette tobacco per week  
.....cigars per week  
.....grams pipe tobacco per week

10. If you currently smoke please answer the following two questions.

I currently smoke.....manufactured cigarettes a day  
.....grams "hand rolled" cigarette tobacco per week  
.....cigars per week  
.....grams pipe tobacco per week

11. Which brand of manufactured cigarette do you usually smoke?.....

**Yes** **NO**

12. Have you ever switched to lower tar-manufactured cigarettes?

13. How often do you drink alcohol? (please circle).

- a. I don't drink alcohol
- b. less than once a week
- c. on 1 or 2 days a week
- d. on 3 or 4 days a week
- e. on 5 or 6 days a week
- f. everyday

14. On the day you drink alcohol, how many standard drinks do you usually have (please circle)  
[(One standard drink = one nip of spirits, one glass of wine, one middy (can/stubbie) of beer, one schooner of low alcohol, one schooner of beer = 1.5 standard drink)].

- a. 1 or 2 drinks
- b. 3 or 4 drinks
- c. 5 to 8 drinks
- d. 9 to 12 drinks
- e. 13 to 20 drinks
- f. More than 20 drinks

15. On an average day how much of the following list would you drink?

	<b>Daily</b>	<b>After 6 pm</b>	<b>At Bedtime</b>	<b>Weekly</b>
Coffee (Cups) - instant	_____	_____	_____	_____
brewed	_____	_____	_____	_____
percolated	_____	_____	_____	_____
Decaffeinated coffee (cups)	_____	_____	_____	_____
Tea (glasses or cups) - strong	_____	_____	_____	_____
- weak	_____	_____	_____	_____
Chocolate	_____	_____	_____	_____
Coca Cola – Pepsi Cola				
Energy drink (lift plus, lipovitan, black stallion)				
Caffeinated sports gel				

**PART 2: DIET HISTORY**

1. Do you use any of the following diets? If yes please tick boxes.

- High protein
- High carbohydrate
- High fat
- Low cholesterol
- Allergy diet
- Vegetarian
- Low protein
- Low carbohydrate
- Low fat
- Diabetic
- Others, please specify

- |   | <b>Yes</b>               | <b>No</b>                |
|---|--------------------------|--------------------------|
| 2. Are you allergic to any foods?                     | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes which foods are you allergic to?<br>.....      |                          |                          |
| 3. Do you usually take supper before retiring to bed? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Do you snack during the night?                     | <input type="checkbox"/> | <input type="checkbox"/> |

**PART 3. PHYSICAL ACTIVITY**

1. How many per week do you engage in sustained exercise of at least 30 minutes duration?  
(Activity such as cycling, swimming, aerobics, jogging or aerobic sports)?

- a. Don't have a regular exercise program
- b. Once per week
- c. Twice per week
- d. 3-4 times per week
- e. 5 or more times per week

2. If activity is active sport (Rugby, Soccer, Cricket etc) how many hours per week do you play? (Include training time).....

- |   | <b>Yes</b>               | <b>No</b>                |
|---|--------------------------|--------------------------|
| 3. If you have a full time or part-time job, does your work require heavy, sustained, manual labor (shoveling, lifting and carrying)? | <input type="checkbox"/> | <input type="checkbox"/> |

If answer is yes please state.....

- |   |                          |                          |
|---|--------------------------|--------------------------|
| 5. Do you do night shifts or night study? | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|

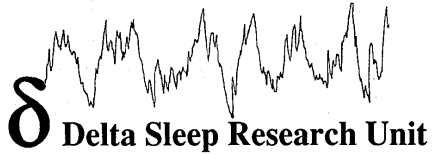
If answer is yes, how often? please specify

- .....nights/week
- .....nights/fortnight
- .....nights/month





Date	Day		Noon	1P	2P	3P	4P	5 P	6P	7P	8P	9P	10P	11P	Mid-Night	1A	2A	3A	4A	5A	6A
	Mon	E																			
		S																			
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]									
	Tues	E																			
		S																			
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]									
	Wed	E																			
		S																			
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]									
	Thur	E																			
		S																			
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]									
	Fri	E																			
		S																			
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]									
	Sat	E																			
		S																			
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]									
	Sun	E																			
		S																			
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]									



# Delta Sleep Research Unit



School of Exercise & Sport Science  
 Faculty of Health Sciences  
 The University of Sydney

Date	Day		Noon	1P	2P	3P	4P	5 P	6P	7P	8P	9P	10P	11P	Mid-Night	1A	2A	3A	4A	5A	6A	
	Mon	E																				
		S																				
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]										
	Tues	E																				
		S																				
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]										
	Wed	E																				
		S																				
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]										
	Thur	E																				
		S																				
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]										
	Fri	E																				
		S																				
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]										
	Sat	E																				
		S																				
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]										
	Sun	E																				
		S																				
			How do you feel after your sleep?			Alerted and rested[ ]			Somewhat tired[ ]			Very groggy[ ]										

## **2. FLYERS**

## Appendix 2.1



# Sleep Lab Sleepover

## Dinner, Bed & Breakfast

### Be our Guest at the Delta Sleep Lab Cumberland Campus

### Subject Selection. We are looking for....

- Males 18-35 years
- Regular sound sleepers
- Sedentary (<30 min of light activity a day)

### What is Involved?

- Sleep over in our Delta Sleep Lab for 5 nights over one month period.
- Keep a sleep diary for two weeks.
- Complete a questionnaire.
- Electrodes will be placed on the scalp, chest and legs to monitor sleep activity.
- A delicious dinner & breakfast will be provided.
- Those who are willing - to do GTT using glucometer.
- You will be reimbursed for 5 nights.
- You will find out how well you sleep at night!

Participation is voluntary & you may withdraw at any time.

Please contact either:

Ahmad Afaghi (02) 9351 9276 , Email: aafahgi@yahoo.com

Or

Dr. Chin Moi Chow: Delta Sleep Lab, Building K, Cumberland Campus (02) 9351 9332

## Appendix 2.2

**Sleep Lab Sleepover  
Dinner, Bed & Breakfast  
Be our Guest at the Delta  
Sleep Lab Cumberland Campus**

**WE INVITE YOU TO TRY THE ATKINS DIET  
Subject Selection. We are looking for....**

- . Males 18-35 years
- . Sedentary (<30 min of light activity a day)

**What is Involved?**

- . Sleep over in our Delta Sleep Lab for 3 nights over one week period.
- . Keep a sleep diary for two weeks.
- . Complete a questionnaire.
- . Electrodes will be placed on the scalp, chest and legs to monitor sleep activity.
- . A delicious dinner & breakfast will be provided.
- . Those who are willing - to provide finger blood (using lancet).
- . You will be reimbursed \$100 for 3 nights for miscellaneous expenditure (eg. Travel).
- . You will find out how well you sleep at night!

Participation is voluntary & you may withdraw at any time.

Please contact either: Ahmad Afaghi (02) 9351 9276 , Email: aafahgi@yahoo.com  
Or Dr. Chin Moi Chow: Delta Sleep Lab, Building K, Cumberland Campus (02) 9351 9332

### **3. CONSCENT FORMS**

## Appendix 3.1



### THE UNIVERSITY OF SYDNEY Faculty of Health Sciences

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School of Exercise and Sport Science,  
East Street (P.O. Box 170), Lidcombe, NSW, Australia 2141  
Tel: 61-2-9351-9332 or 9351-9612 Fax: 61-2-9351-9204

#### INFORMED CONSENT

I, \_\_\_\_\_ hereby voluntarily

consent to participate in the study entitled *The effect of high and low glycemic index meal 'hGI and lGI' and its timing on sleep* conducted by Dr. Chin Moi Chow, Dr. Helen O'Connor and Ahmad Afaghi, School of Exercise & Sport Science.

I understand that the information obtained from this research may be used in future research, and may be published. However, my right to privacy will be retained, i.e. personal details will not be revealed.

The procedure as set out in the attached information sheet has been explained to me and I understand what is expected of me. My participation in the study is voluntary.

I acknowledge I have the right to question any part of the procedure and can withdraw at any time without this being held against me.

I have been familiarized with the procedure.

Signed by Subject: \_\_\_\_\_

Date: \_\_\_\_\_

Witness (Name) \_\_\_\_\_

(Signature) \_\_\_\_\_

(Date) \_\_\_\_\_

## Appendix 3.2



**THE UNIVERSITY OF SYDNEY**  
**Faculty of Health Sciences**

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**Tel: 61-2-9351-9332 or 9351-9612 Fax: 61-2-9351-9204**

**INFORMED CONSENT**

I, \_\_\_\_\_ hereby voluntarily

consent to participate in the study entitled *The effect of the Atkins diet (a high protein, high fat and low carbohydrate meal on sleep architecture in healthy subjects)* conducted by Dr. Chin Moi Chow, Dr. Helen O'Connor and Ahmad Afaghi, School of Exercise & Sport Science.

I understand that the information obtained from this research may be used in future research, and may be published. However, my right to privacy will be retained, i.e. personal details will not be revealed.

The procedure as set out in the attached information sheet has been explained to me and I understand what is expected of me. My participation in the study is voluntary. I may withdraw at any time without prejudice.

I acknowledge I have the right to question any part of the procedure and can withdraw at any time without this being held against me.  
I have been familiarized with the procedure.

Signed by Subject: \_\_\_\_\_

Date: \_\_\_\_\_

Witness (Name) \_\_\_\_\_

(Signature) \_\_\_\_\_

(Date) \_\_\_\_\_

## **4. PARTICIPANTS INFORMATION STATEMENT**



THE UNIVERSITY OF SYDNEY  
**Faculty of Health Sciences**

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**PARTICIPANT INFORMATION STATEMENT**

**The effect of high & low glycaemic index meals &  
meal timing on sleep**

**Research Investigators:**

Dr. Chin Moi Chow, Dr. Helen O'Connor and Ahmad Afaghi

**Background to the study**

This study aims to investigate:

- The effect of timing of the evening meal on sleep
- The effect of carbohydrates of a different glycaemic index on sleep

**What is the glycaemic Index (GI)?**

The glycaemic index ranks carbohydrate meals according to their effect on blood glucose levels. Carbohydrates with a high GI enter the blood stream more rapidly than those with a low GI. The carbohydrate content of a meal has previously been reported to alter sleep. We are interested to determine if the GI of the carbohydrate influences sleep patterns.

**What is involved in the study?**

**Recruitment**

For you to be included in this study, you must satisfy certain inclusion and exclusion criteria through an interview. The interview will assess your current health and medication status. A two-week sleep diary will be used to evaluate your sleeping

Page 2 of 3

habits. You will be asked to fill in a sleep diary to record your sleep routine during two weeks before the study and before each sleep over. The sleep diary should only take

a couple of minutes to complete just before lights-out and on waking. Rice is served in each meal with vegetable.

On completion of the five study nights (or six in a few individuals), you will be reimbursed with \$50 for miscellaneous expenses including travel.

### **Sleepovers in the Delta sleep Lab**

This is an 8-week study. Subjects will be required to sleep over on five separate nights (or six separate nights if they participate in the blood collection aspect of the study, see below) over a two-month period in the Delta Sleep Lab located in the Department of Exercise and Sport Science, University of Sydney, Cumberland Campus (Building K). To monitor your sleep, skin sensors are attached to your scalp, forehead, chest and leg. Two comfortable effort bands will also be wrapped around your torso (one under your arm, the other below your navel) to detect your breathing movements.

Prior to sleep you will be given a standardized test meal with known GI (hot meal of cereal grains and vegetables). You will not know which meal was high or low in GI until the study has been completed. The meals will either be given 1 hour or 4 hours prior to bedtime. In addition, one of the five nights will be a familiarization night to help you adjust to sleeping in a different location. You will have a comfortable warm bed to sleep in. On arising a light breakfast will also be provided. One of the researchers (Ahmad Afaghi) will remain in the lab overnight to collect the measurements required.

### **Will I need to change my usual meal or diet pattern in any way?**

You will be required to follow a standard meal plan for 24 hrs prior to each sleep over. This will be a typical eating pattern consisting of cereal or toast for breakfast, sandwiches and fruit for lunch and snacks of fruit, yoghurt or cereal bars. You will also be asked to abstain from alcohol for 24 hours prior to each sleep over and refrain from consumption of tea, coffee or other caffeine containing beverages six hours before bedtime.

### **What other tests or measures will be taken?**

To measure melatonin levels we will collect any urine passed during the night and obtain a sample on waking in the morning. We are also interested in taking blood from

some subjects to measure glucose, insulin, tryptophan, neutral amino acids and melatonin. The samples will be drawn from an indwelling cannula (small sterile needle and tubing) which will be inserted using sterile procedures by Dr Chin-Moi Chow who is qualified to perform venepuncture. Approximately 18 mls of blood will be taken over the entire study and will be drawn on one sleep over occasion only.

With any blood collection procedure there is slight pain in needle insertion and a small risk of bruising. You can still enjoy a restful night sleep as blood can be collected even while you sleep, although on this evening you may not sleep as well as usual and there may be slight discomfort in sleeping as the cannula will remain in your arm until the last blood sample has been collected upon waking.

### **What happens if I wish to discontinue the study?**

Participation is completely voluntary and you may withdraw at any time without prejudice.

### **What benefits will there be for participation?**

Successful completion of this study will provide you with information on how well you sleep at night. Your blood test measures will also be available and explained by the researchers. We hope that the results of this study may in the long-term benefit persons with sleep disorders.

### **Will my results be confidential?**

Your results will be kept confidential. Your data will be identified by a numeric code. At the end of the study we will publish results in a scientific journal or present them at a scientific conference. Mean data will be used and individuals will not be identified.

If you have any concerns regarding the conduct of this research, you may contact the Manager for Ethics and Biosafety Administration, The University of Sydney, on (02) 9351 4811, or the Chief Investigator: Dr. Chin Moi Chow on (02) 9351 9332.

**Thank you.**



THE UNIVERSITY OF SYDNEY  
Faculty of Health Sciences

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## PARTICIPANT INFORMATION STATEMENT

# The effect of Atkins diet on sleep

### Research Investigators:

Dr. Chin Moi Chow, Dr. Helen O'Connor and Ahmad Afaghi

### Background to the study

This study aims to investigate:

- The effect of Atkins (ketogenic diet) and non-ketogenic (normal diet) on sleep

### What is Atkins diet (Ketosis diet)?

The Atkins diet is well known for its successful use in weight reduction through suppression of appetite and overall reduction in food intake. It is a low carbohydrate, high protein, and high fat diet, which has less effect on blood glucose level and consequently doesn't increase insulin or serotonin significantly.

The Atkins diet may lead to some cravings for food containing sugars, some constipation (although salad is included in the test diet and we suggest plenty of fluid intake), and leg cramps (we give a multivitamin tablet at each study night so this should get rid of any leg cramps).

### What is involved in the study?

#### Recruitment

For you to be included in this study, you must satisfy certain inclusion and exclusion criteria through an interview. The interview will assess your current health and

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medication status. A two-week sleep diary will be used to evaluate your sleeping habits. You will be asked to fill in a sleep diary to record your sleep routine during two

weeks before the study and before each sleep over. The sleep diary should only take a couple of minutes to complete just before lights-out and on waking. Meat, eggs, chicken, and salad are served in each meal.

On completion of the 3 study nights, you will be reimbursed with \$100 for miscellaneous expenses including travel.

### **Sleepovers in the Delta sleep Lab**

Subjects will be required to sleep over on three consecutive nights over a one week period in the Delta Sleep Lab located in the School of Exercise and Sport Science, University of Sydney, Cumberland Campus (Building K). To monitor your sleep, skin sensors are attached to your scalp, forehead, chest and leg. Two comfortable effort bands will also be wrapped around your torso (one under your arm, the other below your navel) to detect your breathing movements.

On the familiarization night, you will eat a normal meal. On study night 1, you will be given a standardized test meal with high protein, high fat, and restricted carbohydrate (Atkins diet). After the first night of study you will follow this diet for 2 days as instructed, followed by a study night 2. The meals will be given 4 hours prior to bedtime. You will have a comfortable warm bed to sleep in. On rising, a light breakfast will also be provided. One of the researchers (Ahmad Afaghi) will remain in the lab overnight to collect the measurements required.

### **Will I need to change my usual meal or diet pattern in any way?**

You will be required to follow a standard meal plan (Atkins diet) between the 2 studies for 48 hrs. The Atkins meals are only served in the sleep lab on study nights 1 and 2. You will abstain from alcohol for 24 hours prior to each sleepover, and during the entire study period. Also you will refrain from consumption of tea, coffee or other caffeine-containing beverages six hours before bedtime of the first study, and the whole period between the two studies.

### **What other tests or measures will be taken?**

On both study test nights 1 & 2, urine will be collected before the evening meal, and at bedtime to confirm the presence of ketones using the lipolysis testing strips. A

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small sample of saliva will also be collect before and after each test meal (6 times every night). To increase salivation, we get you to chew on a parafilm square 5 x 5 cm

in size [parafilm is inert and does no harm to you]. We are also interested in taking blood (6 skin pricks from different fingers) from subjects using a lancet to measure glucose.

### **What happens if I wish to discontinue the study?**

Participation is completely voluntary and you may withdraw at any time without prejudice.

### **What benefits will there be for participation?**

Successful completion of this study will provide you with information on how well you sleep at night. Your blood test measures will also be available and explained by the researchers. We hope that the findings of this study may in the long-term benefit persons on Atkins diet.

### **Will my results be confidential?**

Your results will be kept confidential. Your data will be identified by a numeric code. At the end of the study we will publish results in a scientific journal or present them at a scientific conference. Mean data will be used and individuals will not be identified.

If you have any concerns regarding the conduct of this research, you may contact the Manager for Ethics and Biosafety Administration, The University of Sydney, on (02) 9351 4811, or the Chief Investigator: Dr. Chin Moi Chow on (02) 9351 9332.

**Thank you.**

## **5. MEAL PLANS**

### **Appendix 5.1**

### Meal composition: High and low GI meal\*

Food	Wt/g	E/kJ	E/kcal	Protein/g	Fat/g	CHO/g
Rice, raw	200.0	2954	705.6	13.2	1.0	158.6
Carrot, raw	50.0	64.5	15.4	0.4	0.05	5.2
Green bean, raw	70.0	76.3	18.2	1.5	0.1	2.52
Celery, raw	50.0	32.5	7.7	0.3	0.0	1.7
Tomato paste	30.0	84.3	20.1	0.9	0.0	6.1
Total	400.0	3211.6	767.2	16.3	1.3	174.1

\* Food works analysis software, version 3

## Appendix 5.2

**Meal composition: Atkins meal\***

Food	Wt/g	E/kJ	E/kcal	Protein/g	Fat/g	CHO/g
Chicken drumstick, roasted with skin (5 medium)	335.0	3102.0	741.0	76.0	48.9	0.0
Vegetable oil	10.0	376.2	90.0	0.0	10.0	0.0
Egg, whole, boiled (3 medium)	150.0	948.0	223.0	19.7	15.9	0.0
Total	445.0	4802.4	1054.0	95.7	74.8	0.0

\* Food works analysis software, version 3

**Appendix 5.3**

**Meal composition: Control mixed meal\***

Food	Wt/g	E/kJ	E/kcal	Protein/g	Fat/g	CHO/g
Tomato past	10.0	28.1	6.7	0.3	0.0	1.0
carrot, 1 (medium)	61.0	78.7	18.8	0.5	0.1	3.23
Apple red, large	212.0	483.4	115.5	0.6	0.2	26.5
Rice, white, raw Jasmine	170.0	2510.9	599.8	11.2	0.9	134.5
Chicken 2 medium drumstick (without skin)	118.0	836.6	199.9	30	8.9	0.0
Vegetable oil	5.0	188.1	45.0	0	5.0	0.0
Orange juice (contain 30% juice)	262.0	437.5	104.5	0.0	0.0	26.5
Total	838.0	4563.3	1090.2	42.6	15.0	191.7

\* Food works analysis software, version 3

## **6. LIKERT AND VISUAL ANALOGUE SCALES**

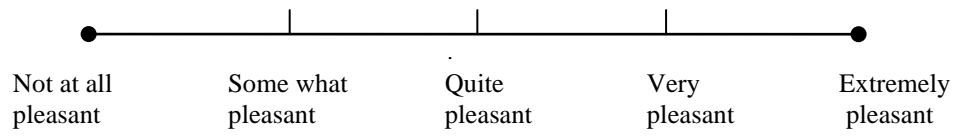
### **Appendix 6.1**

## Likert scale: Pleasantness of Meal

Name:

Date:

Time:



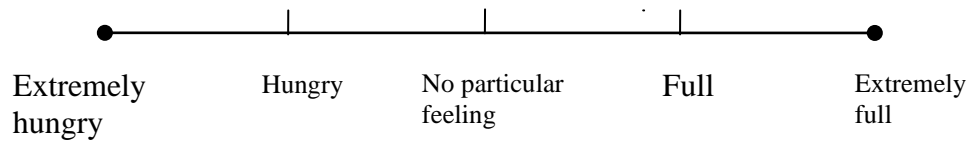
## Appendix 6.2

Likert scale: Hunger/Fullness

Name:

Date:

Time:



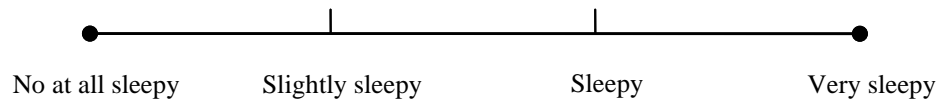
**Appendix 6.3**

## Likert scale: Postprandial sleepiness

Name:

Date:

Time:



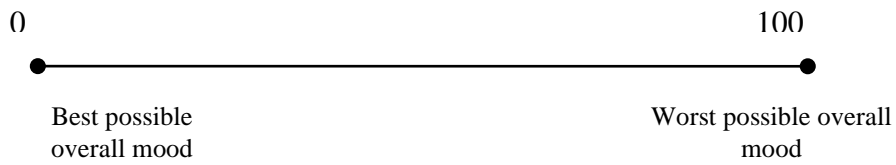
## Appendix 6.4

VAS: Overall mood intensity

Name:

Date:

Time:



**Appendix 6.5**

VAS: Overall fatigue intensity

Name:

Date:

Time:



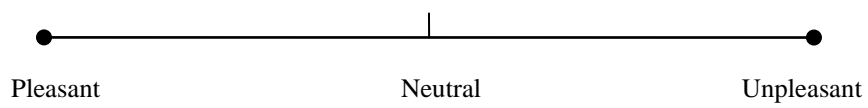
## Appendix 6.6

## VAS: Dream Feeling

Name:

Date:

Time:



## Appendix 7.

# Epworth Sleepiness Scale

Use the following scale to choose the most appropriate number for each situation:

- 0 = would *never* doze or sleep.
- 1 = *slight* chance of dozing or sleeping
- 2 = *moderate* chance of dozing or sleeping
- 3 = *high* chance of dozing or sleeping

**Print out this test, fill in your answers and see where you stand.**

<b><i>Situation</i></b>	<b><i>Chance of Dozing or Sleeping</i></b>
Sitting and reading	_____
Watching TV	_____
Sitting inactive in a public place	_____
Being a passenger in a motor vehicle for an hour or more	_____
Lying down in the afternoon	_____
Sitting and talking to someone	_____
Sitting quietly after lunch (no alcohol)	_____
Stopped for a few minutes in traffic while driving	_____
<b>Total score (add the scores up)</b> (This is your Epworth score)	

## Appendix 8.

# Diet Related Symptoms

Mark the symptoms you feel

Symptoms		
Bored		
Can't work under pressure		
Fatigue		
Craving for sweet		
Tired all the time		
Poor motivation		
Slow start in the morning		
Dizziness		
Difficulty making decision		
Sleepiness during day		
Moodiness		
Constipation		
Difficulty with concentration		
Leg cramp		
Anger		
Can't fall sleep easily		
Lack of coordination		
Poor memory		
Bloating		
Depressed		
Headache		
Waking during night		
Fatigue relived by food		
Fearful		
Feel insecure		
Bad dreams		
Worried a lot		

## **ETHICS APPROVALS**