10-Day Nutritional Assessment For 20 Year old, Active Female

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This project is for educational purposes only

Introduction

Food tracking has become an increasingly more popular method for individuals seeking to make changes in their dietary habits. According to Skinner et al., food tracking has proven its credibility, as individuals seem much more likely to initiate positive dietary changes when they are recording their daily food intake. Having said this, further knowledge is needed to allow individuals to make significant positive dietary changes. Specifically among at risk populations such as female college athletes. According to Skinner et al. increases in nutrition knowledge may result in significantly more desirable attitudes toward nutrition among female athletes (Skinner et al., 2001).

Definitions

Estimated Energy Requirement (EER): The estimated amount of calories an individual is required to consume daily based on their age, sex, height, weight and average energy expenditure.

Average Macronutrient Distribution Range (AMDR): A percentage of how many daily kcals come from each of the three macronutrient sources.

Recommended Values according to McGuire & Beerman
- Carbohydrates: 35-65%
- Lipids: 20-35%
- Protein: 10-35%

McGuire & Beerman 2018.

Subject Information and Intake Recommendations

20 year old female
Very Active- D1 Colligate Athlete
Estimated Energy Requirement: 2757 kcal/day

Macronutrient Recommendations:

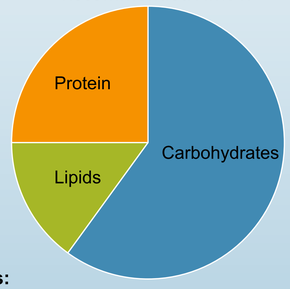
Protein
RDA: 46g/day
AMDR: 25% total daily kcal- approx. 690kcal/day

Lipid
AI: N/A
AMDR: 15% total daily kcal- approx. 414kcal/day

Carbohydrate
RDA: 130g/day
AMDR: 60% total daily kcal- approx. 1654 kcal/day

Water
AI: 2.7L/day

Recommended AMDR



Micronutrient Recommendations:

Sodium
AI: 1500mg/day

Iron
UL: 45mg/day

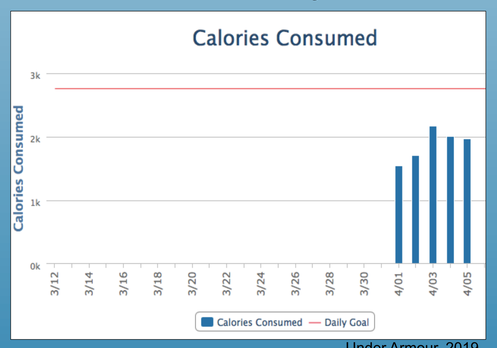
McGuire & Beerman 2018.

Additional Recommendations

According to Chapman & Toma, adolescent females tend to have nutritionally inadequate diets and thus they may be at at great risk when taxing their bodies in training schedules (Chapman & Toma, 1997). Additionally, Hinton et al. states that the overall energy or kcal consumption is the most important variable when assessing athlete dietary needs, before other factors such as AMDR (Hinton et al., 2004). Having said this, the main focus for this subject will be the ingestion of adequate calories per day. Also, it is critical the subject consumes enough water daily, as this is another extremely important component to the dietary intakes of an active individual.

Week One

Average Total Kcal Consumed 1900 kcal/day
857kcal below daily Estimated Energy Requirement



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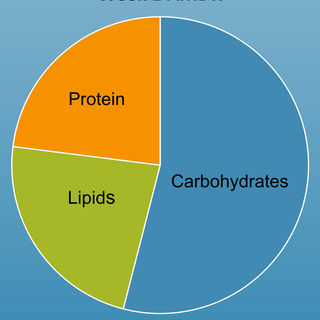
Week 1 AMDR



Macronutrient Averages and Distributions

Protein:
538g/week (107.6g/day)
Average 430.4 kcal per day
23% AMDR
→ Over distributed according to AMDR, yields too few kcal per day

Lipids:
248g/week (49.6g/day)
Average 446.4 kcal per day
23% AMDR
→ Over distributed according to AMDR, yielding too many kcal per day

Carbohydrates:
1280g/week (256g/day)
Average 1024 kcal/day
54% AMDR
→ Significantly over distributed according to AMDR, yields too few kcal per day

Water:
Approx. 5.9L per week (1.18 L/day)
→ Insufficient according to DRI Standards

Micronutrient Averages

Sodium:
14862mg/week (2972 mg/day)
→ 1472mg above AI, significantly high

Iron:
190mg/week (38mg/day)
→ Appropriately consumed

Average of 410kcal was consumed from added sugars daily

Good Day Description

The subjects good day of eating consisted of relatively high quality carbohydrate sources such as vegetables and a sweet potato. This was most likely a day that the subject had more time to prepare and eat more nutrient dense foods, rather than gabbing something quick on the go. A modifiable behavior to promote more of these "good days" would be to prepare high quality foods in advance to ensure even on days where time is limited healthier foods are still an option.

Bad Day Description

The subjects worst day of eating consisted of extremely low quality food sources, which provided a very low energy content. It is often common for athletes to have poor dietary consumption on days they are significantly busy. It is assumed the subject did not have adequate time on this day, and therefore was not able to consume higher quality meals.

Week One Recommendations:

The removal of fast food from the diet completely is recommended, as the subject made poor choices when eating out. This would involve effort on behalf of the subject to ensure they do not give into the temptation of easy, fast food options.

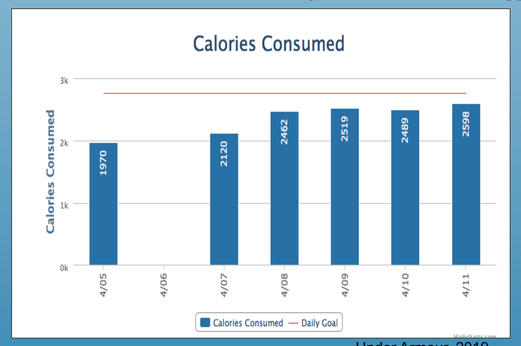
Increasing the ingestion of higher quality carbohydrate sources such as starchy vegetables would significantly increase both the nutritional value, and energy yielding capacity of the foods. The subject will potentially need to prepare food in advance, as these options are not easy to grab on the go. This is a modifiable behaviour which could make a large impact in the diet overall.

Week One Specific Goals:

1. *The subject should intake approximately 850 more calories to ensure the EER is being met.*
2. *It is recommended the subject decreases sodium consumption by at least 1000mg per day to reduce the risk of high blood pressure and dehydration.*

Week Two

Average Total Kcal Consumed 2438kcal/day
319 kcal below daily Estimated Energy Requirement



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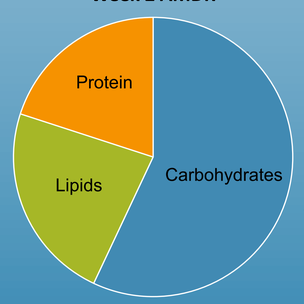
Week 2 AMDR



Macronutrient Averages and Distributions

Protein:
755g/week (151g/day)
Average 604 kcal per day
25% AMDR
→ Extremely over distributed according to AMDR, still yields too few kcal per day

Lipids:
269g/week (53.8g/day)
Average 484.2 kcal per day
20% AMDR
→ Over distributed according to AMDR, yielding too many kcal per day

Carbohydrates:
1551g/week (350g/day)
Average 1401 kcal/day
57% AMDR
→ Extremely over distributed according to AMDR, still yields too few kcal per day

Water:
Approx. 8.4L per week (1.68 L/day)
→ Insufficient according to DRI Standards

Micronutrient Averages

Sodium
14214mg/week (2843 mg/day)
→ 1343 mg above AI, still too high

Iron
200mg/week (40mg/day)
→ Appropriately consumed

Average of 345kcal was consumed from added sugars daily

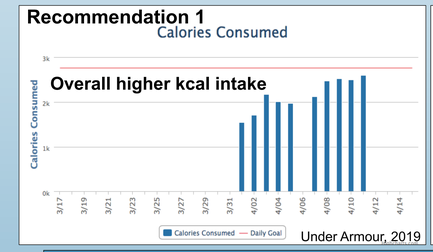
Good Day Description

The subjects good day of eating consisted of relatively high quality carbohydrate and was the closest day to reaching the caloric recommendation. The subject most likely planned ahead to prepare higher quality choices as per the recommendation. Despite this, the subject still did not reach the caloric goal at any time during the tracking period.

Bad Day Description

The subjects worst day of eating consisted of extremely low quality food sources which provided a very low energy content. It is often common for athletes to have poor diets on days they feel extremely busy. It is assumed the subject did not have adequate time on this day and therefore was not able to make more nutrient dense foods. The recommendation to plan ahead was ignored.

Recommendation 1



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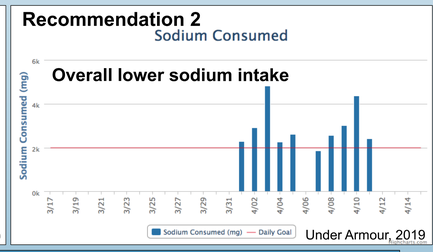
Recommendation 2



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Conclusion

Overall, it was noted the subject took the recommendations into consideration during the second week, as the overall caloric intake was higher and the overall sodium intake was lower. According to Hinton et al., the daily schedule and living environment of collegiate athletes are unique compared to non-athletes (Hinton et al., 2004). This is important to remember when analyzing this data, as this subject was not always in complete control of their food ingestion during this tracking period. The next steps for this subject would be to continue to ensure the overall caloric intake is sufficient, as this is the most important variable in the equation, as noted by Hinton et al. Additionally, I think it would be valuable for the subject to track their food intake at a time when they have more control over the foods they ingest to get a better reflection of their dietary habits.

References

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