

## ABSTRACT

Often people having specific, ongoing medical conditions do not eat the best diet that they could. Extensive research has been conducted using as a subject a thirty-seven year old woman with type I diabetes, iron deficiency anemia, and hypothyroidism, in order to provide a sample case for how one could improve their diet.

Information has been obtained through direct consultation with the subject, internet research, and a healthcare professional's advice. A list of nutritional ideas to consider was devised in order to aid the process of refining her diet. As a result of this exploration, it can be concluded that with proper research and professional consultation, one may be able to improve their daily diet.

## INTRODUCTION

When faced with specific chronic medical conditions, it is important that one find ways to adapt the diet to those conditions. This diet must be researched responsibly through credible sources. In this study, a diet has been developed for a middle-aged woman with specific medical conditions, including diabetes, anemia, and hypothyroidism. As background, the conditions are briefly described. Type I diabetes describes a condition in which no insulin is produced in the body. Insulin is the molecule that takes sugar from the blood to the cells. Therefore, it is important to monitor the intake of concentrated sugars. Iron deficiency anemia occurs when there is a lack of iron in one's blood. Iron is a key component of hemoglobin, which carries oxygen in the blood. With a decrease of iron intake, there is also a decrease in the number of red cells in the blood and oxygen cannot be transported efficiently. Weakness and fatigue are common. Hypothyroidism is a condition in which one's thyroid is under-active and does not produce the thyroid hormones (T3 and T4), which regulate metabolism. The following research demonstrates how an appropriate diet can be developed for anyone with specific chronic medical conditions. (5)

## METHOD

Several meetings were made with the subject in order to record any chronic medical conditions that she has and to get a good idea of what her current diet consists. During the next few weeks extensive research was performed via credible internet sources and a healthcare professional. Following the research, the subject's current diet was critiqued and a list of specific nutritional ideas produced to discuss with a medical professional so that an improved meal plan may be devised.

# A Nutritional Plan for Specific Chronic Medical Conditions

## A Woman With Diabetes, Hypothyroidism, and Anemia

Erica Brinkmeier

Beloit College

### SUBJECT'S CURRENT DIET

Breakfast: none

Lunch: Salad with fat-free ranch dressing and vegetables

Plain bagel with butter

Diet Coke

Dinner: Seafood or sometimes white meat (never red meat)

Vegetables

White rice or tortillas

Diet Coke

Snacks: Popcorn or chips

Nuts or fruit

At least (2) Diet Cokes

### Flaws:

•Lack of iron

•No whole grains

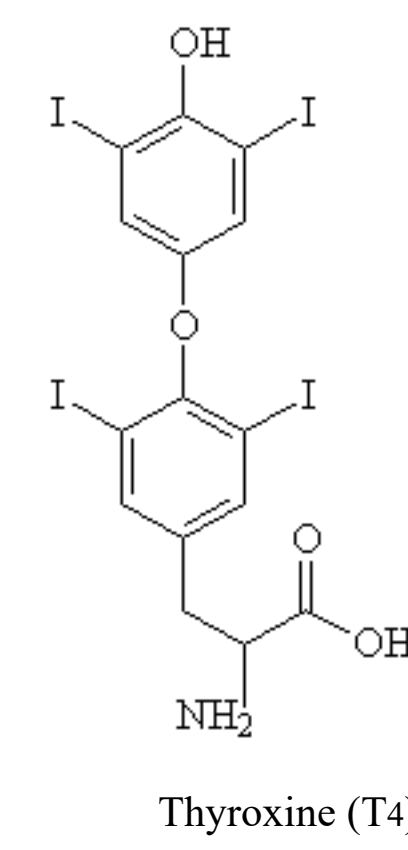
•Too much soda

•No breakfast

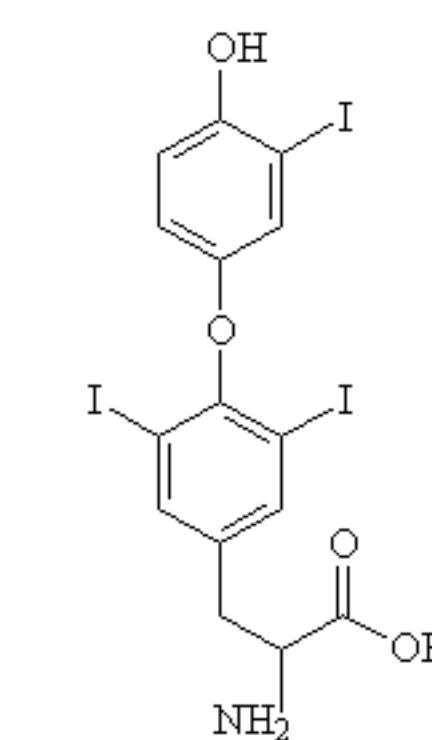
## DISCUSSION

In order to provide a list of nutritional ideas for the improvement of the subject's diet, it was necessary to look at each medical condition separately. Information was found on the Internet, which indicated that whole grain foods, fruits, vegetables, and foods low in fat and calories are items recommended for people with type I diabetes. Pertaining to iron deficiency anemia, I found not only a list of foods rich in iron, but also that ascorbic acid will enhance the absorption of iron when consumed with a meal.

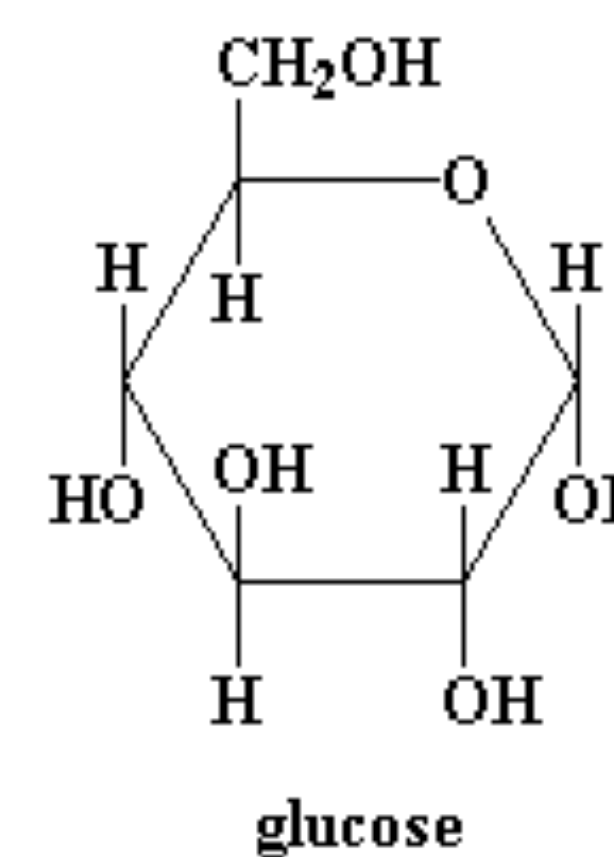
Therefore, in addition to proposing numerous iron-rich foods, it would be important to include orange juice in the ideas to consider for an improved diet. Foods rich in iodine would be good for consideration because of the hypothyroidism medical factor. Again, valid information dealing with hypothyroidism was found on the internet. Lastly, the idea of consuming less caffeine was proposed because of the fact that it may inhibit the absorption of iron. Consuming too much soda caused concern. But finding a documented reason provided evidence to motivate dietary modification.



Thyroxine (T4)



Triiodothyronine (T3)



glucose

### NUTRITIONAL IDEAS TO CONSIDER

Eat breakfast. (7) Dr. R. Ortega from the Rockford Health Clinic suggests that everyone eat a little something in the morning to get them going. Perhaps cereal such as Cheerios or Total would be good because they are a source of iron. Also, a glass of orange juice would be optimal since it enhances the absorption of iron. (3,4)

•Consume more meat in order to get a greater amount of organic iron. (3)

•Consider choosing a whole-grain bagel over a plain one. Complex carbohydrates contain more iron and are recommended for persons with type I diabetes. (1,2)

•Other foods rich in iron include beans, dried fruit, and iron fortified foods, such as spinach. (1)

•A diet low in fat and added sugar is suggested for a person with diabetes. (2)

•Since hypothyroidism can be affected by too little iodine in the diet, it would be best to consume food rich in iodine, such as seafood, nuts, seeds, and spinach, and to avoid iodine-suppressing foods, like cabbage, broccoli, and cauliflower. (8)

•In people with hypothyroidism, calories are burned at a slower rate, therefore, an improved diet would be low in calories. (6)

•Because caffeine in soda, coffee, or tea may inhibit the absorption of iron, it is recommended that the subject not consume soda with meals and consider switching to caffeine free drinks. (9)

•Both calcium and iron supplements are suggested for further research if needed.

### DISCLAIMER

The information provided on this poster is intended neither for the replacement of a health professional's advice nor as a suggestion to one's personal health conditions. Specific medical advice has not been provided and it is recommended that one seeking answers to personal medical questions speak with a qualified physician as soon as possible.

## CONCLUSION

Several suggestions have been made in an attempt to improve the subject's current diet with regard to diabetes, anemia, and hypothyroidism. With the same method, along with determination and responsibility, it is possible for anyone with specific chronic medical conditions to improve their diet as well. A good part of one's research may be done online, as long as a few things are kept in mind in order to ensure the credibility of certain internet sources:

1. A .org or .edu source is recommended.
2. Make sure that the web site is updated regularly.
3. It is best if the articles are peer reviewed
4. Easy accessibility is a plus.
5. Contact information is given.

A trusted physician may also be contacted in order to get further information and suggestions on creating an improved diet.

## REFERENCES

1. American Academy of Family Physicians. 1996. Anemia: When Low Iron Is the Cause. <<http://familydoctor.org/x2682.xml>>. 15 October 2004.
2. American Academy of Family Physicians. September 2000. Diabetes: Type I. <<http://familydoctor.org/480.xml>>. 16 October 2004.
3. Australian Iron Status Advisory Panel. Iron Deficiency in Adults. <<http://www.ironpanel.org.au/AIS/AISdocs/adultdocs/Ainadequate.html>>. 15 October 2004.
4. Dreyfuss, Michele L., Stoltzfus, Rebecca D. International Nutritional Anemia Consultative Group. Guidelines for the Use of Iron Supplements to Prevent and Treat Iron Deficiency Anemia. <<http://inacg.ilse.org/file/guidelinesforuseofiron.pdf>>. 21 October 2004.
5. Grund, Stephen, M.D., Ph.D. Medline Plus. 26 August 2004. Iron deficiency anemia. <<http://www.nlm.nih.gov/medlineplus/ency/article/000584.htm>>. 11 November 2004.
6. KT Digital Media Division. 2001. Thyroid and Diet. <<http://www.womenone.org/health12.htm>>. 30 October 2004.
7. Dr. R. Ortega. Personal Communication. 7 November 2004.
8. Thyroid Foundation of America. 2004. Iodine Deficiency and Excess. <<http://www.tsh.org/disorders/iodine/iodine.html>>. 3 November 2004.
9. USDA/ARS Children's Nutrition Research Center. 1999. Should I give my 3-year-old son iron supplements to prevent anemia? <<http://www.bcm.edu/cnrc/consumer/archives/iron%20anemia.htm>>. 23 October 2004.