Thiamin

1. **What is the nutrient?**
   a. The nutrient is Thiamin.

2. **What is the RDA/DRI for the nutrient?**

<table>
<thead>
<tr>
<th>Life Stage</th>
<th>Age</th>
<th>Males (mg/day)</th>
<th>Females (mg/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants</td>
<td>0-6 months</td>
<td>0.2 (AI)</td>
<td>0.2 (AI)</td>
</tr>
<tr>
<td>Infants</td>
<td>7-12 months</td>
<td>0.3 (AI)</td>
<td>0.3 (AI)</td>
</tr>
<tr>
<td>Children</td>
<td>1-3 years</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Children</td>
<td>4-8 years</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Children</td>
<td>9-13 years</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Adolescents</td>
<td>14-18 years</td>
<td>1.2</td>
<td>1.0</td>
</tr>
<tr>
<td>Adults</td>
<td>19 years and older</td>
<td>1.2</td>
<td>1.1</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>all ages</td>
<td>-</td>
<td>1.4</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>all ages</td>
<td>-</td>
<td>1.4</td>
</tr>
</tbody>
</table>

3. **How is the nutrient metabolized?**
   a. Thiamin acts as a coenzyme in carbohydrate metabolism. It is released in the upper small intestine through passive diffusion.

4. **What are food sources of the nutrient?**
   a. Thiamin is a water soluble vitamin found in meat, yeast, bran coats of grains, lentils, peas, rice, wheat bread, milk, oranges, and cantaloupe.

5. **What disease states alter the nutrients metabolism?**
   a. Disease states that alter the metabolism of thiamin are alcoholism, Alzheimer's disease, congestive heart failure, and cancer

6. **What are the tests or procedures to assess the nutrient level in the body?**
   a. Thiamine levels can be assessed by three types of tests: determination of erythrocyte transketolase activity, the urinary excretion of thiamine before and after thiamine administration, and serum, erythrocyte, or whole blood thiamine levels.

7. **What is the drug–nutrient interactions?**
   a. Reduced blood thiamin levels have been found when individuals take phenytoin, an anti seizure medication, a cancer treatment drug called 5-Fluorouracil, inhibits phosphorylation of thiamin to thiamin pyrophosphate, diuretics increase the risk of thiamin deficiency, and alcohol use impairs absorption.

8. **How is the nutrient measured?**
   a. Thiamin is measured by urinary excretion of thiamin metabolites.

9. **What is the Upper Tolerable Limits?**
a. Upper tolerable limits for Thiamin have not currently been established.

10. **What are the physical signs of deficiency?**
   a. The physical signs of thiamin deficiency are drowsiness, irritability, sleep disturbance, beriberi which is a neurological and cardiovascular disease, and Wernicke-Korsakoff syndrome.

11. **What are physical signs of toxicity?**
   a. Some physical signs of toxicity of thiamin are tachycardia, hypertension, cardiac dysrhythmias, headache, anaphylaxis, weakness, and convulsions
Work Cited