

Esther Navarro  
10/06/23  
Bio 125  
Physiology  
Lab #8

### **Glucose Tolerance Test**

#### **Purpose:**

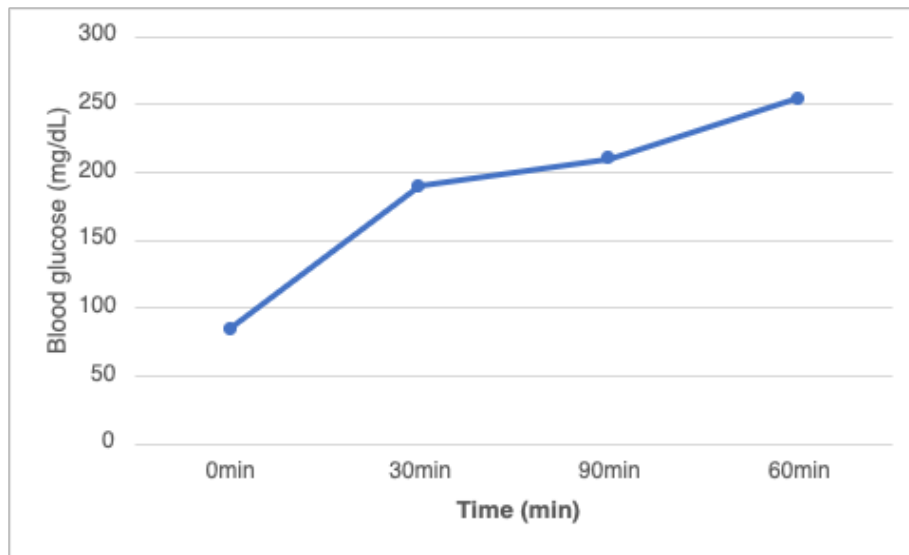
In today's lab we will be observing the changes of glucose level in the blood while fasting or non-fasting. Those classmates that accept the challenge will be given a solution of 25% glucose and we will be observing either the glucose rise or drop over a period time of 90 minutes. This lab will show how the pancreas responds to the glucose solution.

#### **Procedure:**

There are a total of 7 students who volunteered to this challenge. They needed to be fasting for a period of 10-12 hours. For each student they will have a glucose meter and test strips, lancets and alcohol pads at a station. Gloves are provided if help is necessary. The instructor will obtain each student weights to determine the amount of glucose solution they will drink. Quantity of solution will be based on 1 g of glucose per kilograms of body weight. The weight will be divided by 22. After, calculation they will drink the solution and the blood testing procedure will repeat every 30 mins for a total of an hour a 30 mins.

#### **Results:**

<b>Fasting Groups:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Fasting Average</b>	<b>Fasting SEM</b>
<b>0min</b>	<b>75</b>	<b>77</b>	<b>85</b>	<b>86</b>	<b>103</b>	<b>81</b>	<b>83</b>	<b>80.75</b>	<b>2.101587</b>
<b>30min</b>	<b>140</b>	<b>159</b>	<b>190</b>	<b>190</b>	<b>141</b>	<b>131</b>	<b>161</b>	<b>161.75</b>	<b>7.845988</b>
<b>60min</b>	<b>154</b>	<b>135</b>	<b>254</b>	<b>254</b>	<b>171</b>	<b>152</b>	<b>180</b>	<b>179.25</b>	<b>19.773419</b>
<b>90min</b>	<b>151</b>	<b>141</b>	<b>210</b>	<b>210</b>	<b>170</b>	<b>185</b>	<b>191</b>	<b>158.75</b>	<b>13.210295</b>

**Discussion:**

Results show a trend from rising either at a slow fast or fast rate. You see the rise happening in the first 30 minutes when the glucose solution was ingested. After 60 minutes passed, we continue to see a slight rise again. After we reach the 60-minute mark we can see where the glucose levels are close to each other in results. I believe this happened because the body reacted and has no released insulin from the pancreas to lower the blood glucose, we call this crashing point. Beta cells make and release insulin after the 60-minute mark and alpha cells release glucagon to maintain a normal blood glucose.

**Conclusion:**

We noticed that the body took a total if 60-mintues to reach its spike of glucose. The body responded to it and released insulin in the pancreas using beta cells. After this occurs the body's glucose levels will begin to drop and normalize.