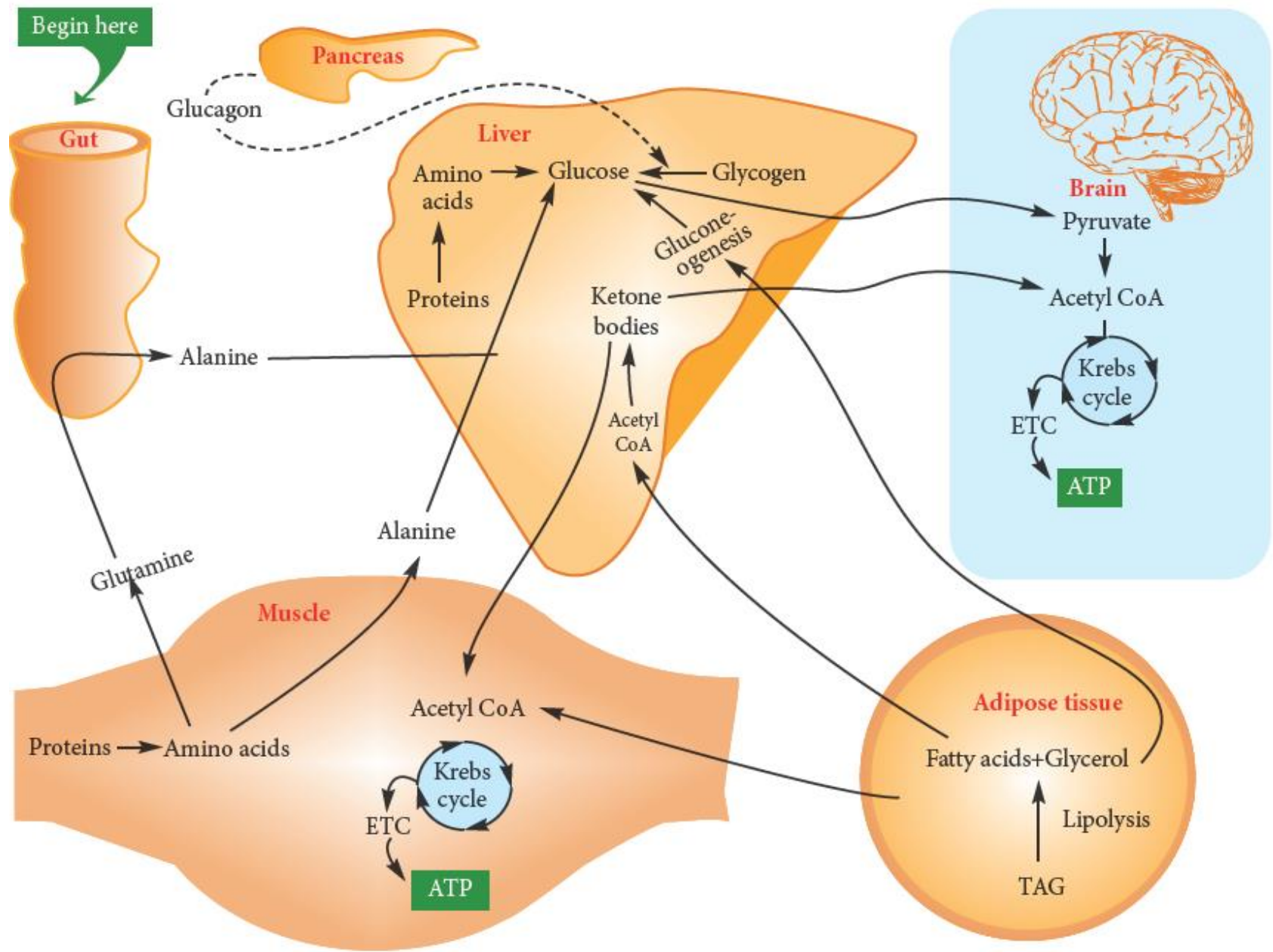


Starvation Metabolism

Dr. Santosh Gawali

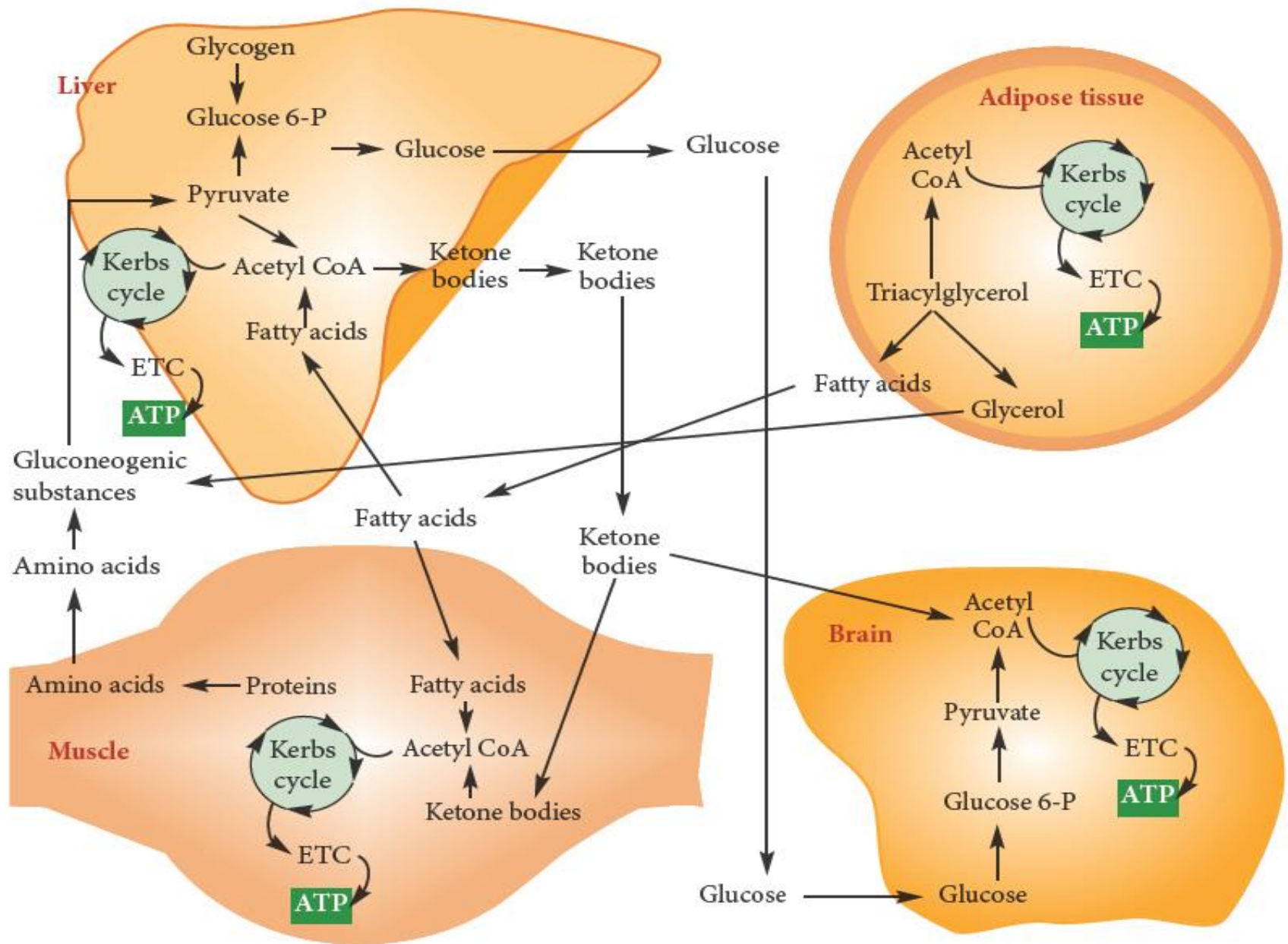
- When the fasting state is prolonged, it results in starvation.
- During starvation, the entire body metabolism is reorganised for the survival of the organism.
- Stages:
 - Early
 - late



- The glucose levels in the blood start dropping after a few hours.
- The fall in blood glucose decreases insulin secretion and stimulates glucagon secretion.
- *Glucagon stimulates glycogen breakdown and inhibits glycogen synthesis*

- As a result, glycogenolysis in the liver contributes to blood glucose in the *early stage*.
- In addition, *glucagon also inhibits glycolysis*
Glucagon also inhibits fatty acid synthesis
- The liver glycogen levels are depleted
- body switches over to *hepatic gluconeogenesis* to maintain the blood glucose levels.

- Since the fatty acids cannot be used for the synthesis of glucose, the net glucose synthesis by gluconeogenesis derives its carbon source from *glycerol* and *muscle proteins*.
- A substantial amount of acetyl CoA produced by fatty acid oxidation is used for the formation of *ketone bodies*



Thankyou