**Lesson 17 – Toxicity of ammonia. Urea cycle**

**1. Toxicity of ammonia**

What reactions produce ammonia?

What is ammonium toxicity?

How ammonia is toxic to brain?

What causes ammonia toxicity?

What are the symptoms of ammonia toxicity?

Why ammonia is more toxic than urea?

**2. Urea cycle**

Where does the urea cycle take place?

What are the ways to neutralize ammonia?

What are the ways of transporting ammonia to the liver?

Fill in the table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Enzyme | Enzyme class | Substrates | Products | What happens in the reaction? | How many ATP molecules are produced/used in the reaction? | Regulation |
| Carbamoyl phosphate synthetase |  |  |  |  |  |  |
| Ornithine carbamoyltransferase |  |  |  |  |  |  |
| Argininosuccinate synthetase |  |  |  |  |  |  |
| Argininosuccinate lyase |  |  |  |  |  |  |
| Arginase |  |  |  |  |  |  |