

20 High-Yield Biochemistry Topics & Mnemonics for 1st Year MBBS

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Glycolysis

Enzyme Sequence:

1. Hexokinase/Glucokinase
2. Phosphoglucose Isomerase
3. Phosphofructokinase-1 (PFK-1)
4. Aldolase
5. Triose Phosphate Isomerase
6. Glyceraldehyde-3-Phosphate Dehydrogenase
7. Phosphoglycerate Kinase
8. Phosphoglycerate Mutase
9. Enolase
10. Pyruvate Kinase

Mnemonic: Hungry Pirates Pick All The Good Pizza Places Making Extra Profit

Rate Limiting Enzyme: PFK-1

TCA Cycle

Enzyme Sequence:

1. Citrate Synthase
2. Aconitase
3. Isocitrate Dehydrogenase
4. Alpha-Ketoglutarate Dehydrogenase
5. Succinyl-CoA Synthetase
6. Succinate Dehydrogenase
7. Fumarase
8. Malate Dehydrogenase

Mnemonic: Can A Intelligent Kid Study Science For Medicals

Rate Limiting Enzyme: Isocitrate Dehydrogenase

Urea Cycle

Enzyme Sequence:

1. Carbamoyl Phosphate Synthetase-I
2. Ornithine Transcarbamylase
3. Argininosuccinate Synthetase
4. Argininosuccinate Lyase
5. Arginase

Mnemonic: Cool Officers Always Arrest Arguments

Rate Limiting Enzyme: CPS-I

Activator: N-Acetyl Glutamate

Other High-Yield Topics

4. **Gluconeogenesis** – Go From Pyruvate To Glucose
5. **Glycogenesis** – Glucose Gets Stored
6. **Glycogenolysis** – Glycogen Gets Split
7. **HMP Shunt** – HMP Helps Make NADPH
8. **Beta Oxidation** – Fat Burns Two Carbons At A Time
9. **Ketogenesis** – Ketones Keep Brain Going During Fasting
10. **Fatty Acid Synthesis** – Fed State Favors Fat Synthesis
11. **Cholesterol Synthesis** – HMG-CoA Reductase Rules Cholesterol
12. **Lipoproteins** – Lazy VLDL Delivers Lipids
13. **Transamination** – Transfer Amino Groups
14. **DNA Replication** – DNA Duplicates Before Division
15. **Transcription** – DNA To RNA
16. **Translation** – RNA To Protein
17. **PCR** – Polymerase Copies Repeatedly
18. **Enzyme Inhibition** – Competitive Competes, Noncompetitive Never Cares
19. **Diabetes Mellitus** – Low Insulin, High Sugar
20. **Jaundice** – Yellow From Bilirubin

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