34 molecules of adenosine triphosphate are produced for every molecule of glucose entering the Krebs cycle.

**Production of ATP is key to cellular metabolic function**

**In anaerobic conditions**, cells rely on glycolysis.

Increased glycolysis creates an increase in pyruvate. To support oxidation and reduction of NADH to NAD⁺ and back, in anaerobic respiration NAD⁺ regeneration is reliant on the reduction of pyruvate to lactate.

**Pyruvate + NADH + H⁺ → Lactate + NAD⁺**

**Why does lactate rise in sepsis?**

**Traditional thinking**
- Global hypoperfusion
- Hypoxic metabolism
- Increased pyruvate
- Increased lactate

**Mariak & Bellomo**
- Adrenaline
  - Hypermetabolic state
  - Increased pyruvate
  - Increased lactate

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