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## The Short-Term Effects of Cortisol

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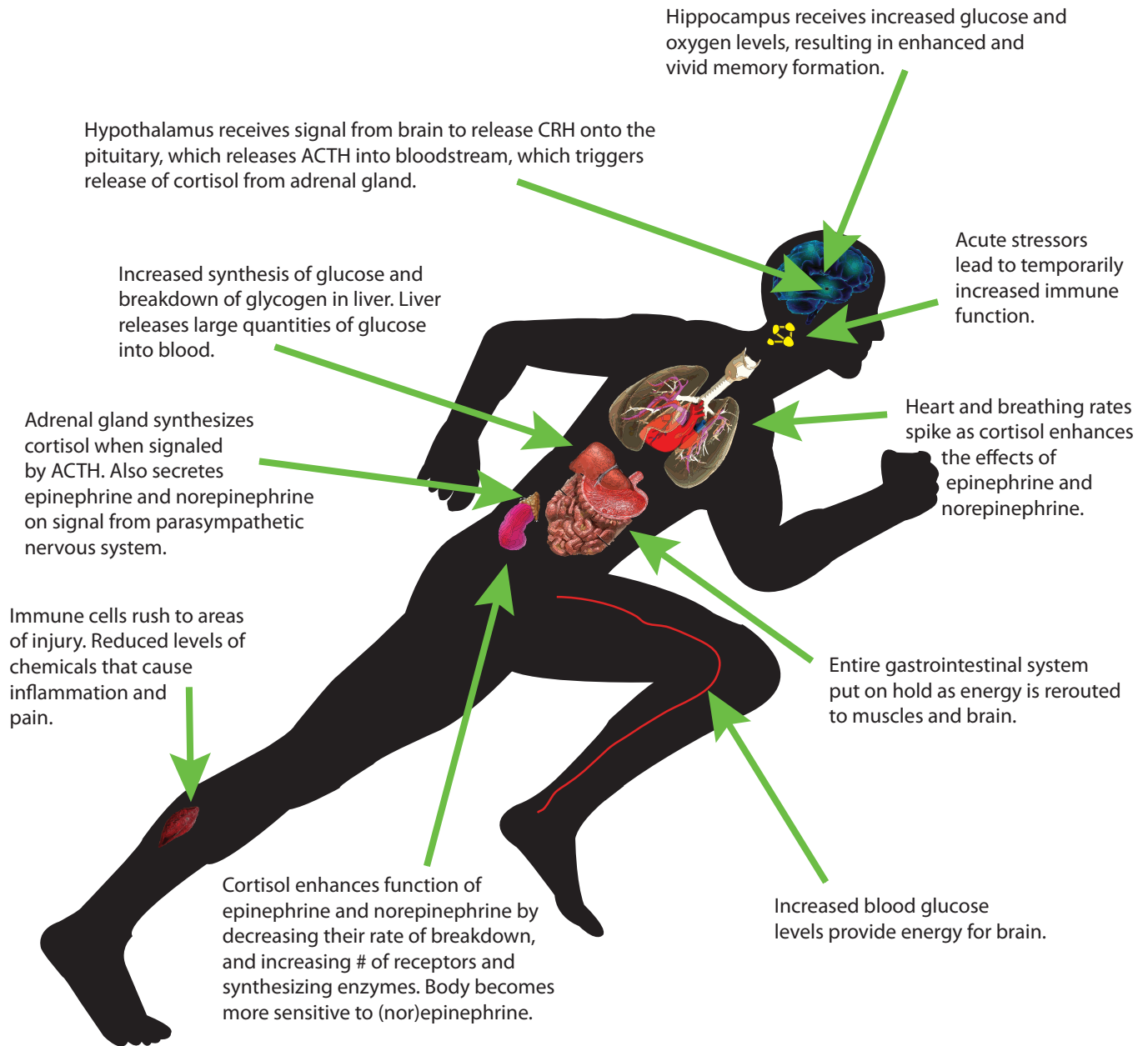
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# The short-term effects of cortisol

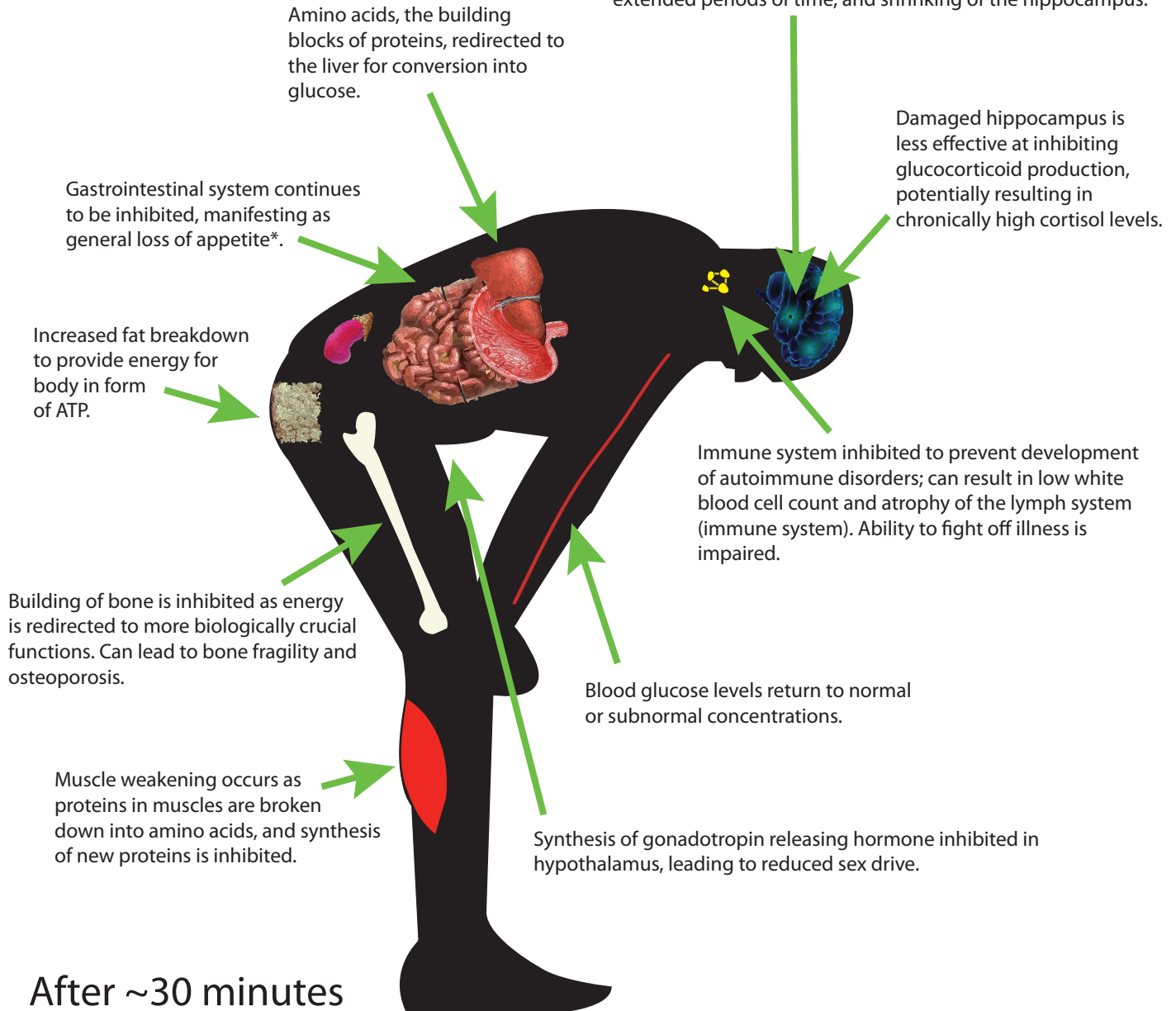


~0-30 minutes

In response to acute physical stressor, e.g. bungee jumping, car accident.

# The long-term effects of cortisol

Cortisol inhibits glucose uptake into hippocampal neurons, increases intracellular calcium concentration, reduces levels of neurotrophins that keep cells healthy. These conditions can result in cell death. Can potentially lead to trouble creating new and accessing old memories, difficulty paying attention for extended periods of time, and shrinking of the hippocampus.



After ~30 minutes

In response to chronic psychological/physical stressor (weeks to years).

Keep in mind that the studies supporting some of these conclusions are not definitive, particularly those concerning effects on the hippocampus. None of these effects have been shown to be irreversible, and many are still being subjected to heavy scrutiny and require further experimentation.

\*One theory about so-called "stress eating" is that the brain is trying to activate the 'reward pathway' associated with pleasurable stimuli, i.e. CHOCOLATE.