

What is the evolutionary purpose of the reflex arc? How might it aid in survival?

The reflex arc is a system that allows rapid responses to changes in your environment without engaging your brain. If your brain was involved, it would take much longer to respond to outside stimulus, and if it was a dangerous situation, you'd be dead. The evolutionary purpose for this is obvious, it is to shorten our response time in dangerous situations. This would help if something ran towards you, prompting you to jump out of the way before your brain even knew what was happening.

Describe the steps in the knee jerk (patellar tendon) reflex.

Tapping on the patellar tendon, which is just below the knee, is noticed by stretch receptors in the femoral muscles, which send it to the area of the spinal chord where these muscles are handled. The signal then comes back to the femoral muscles, causing a knee jerk reaction. But there is a second part of arc, which sends a signal to the hamstrings, telling them to relax so that the leg can move.