

Three Types of Motor Behaviour

Type 1: Reflexes or Reflexive Movements

Reflexes are involuntary. They happen unconsciously and consist of organised patterns of muscle contractions and relaxations that are usually elicited by a peripheral stimulus.





Reflexes

Different reflexes involve various spatial and temporal patterns of muscle contractions. These depend on both the type of sensory receptors stimulated and the strength of that stimulation. (warm versus hot plate!)

Receptors in muscles produce stretch reflexes while cutaneous receptors produce withdrawal reflexes.

Spinal reflexes are often used clinically to help check the functioning of the afferent and efferent pathways.

We will cover reflexes more in Spark Pages 1-4.

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Type 2: Rhythmic Movements

Rhythmic motor patterns include breathing, swallowing, swimming and at least for some people dancing! Rhythmic movements often involve alternating contractions and relaxations of muscles on either side of the body.



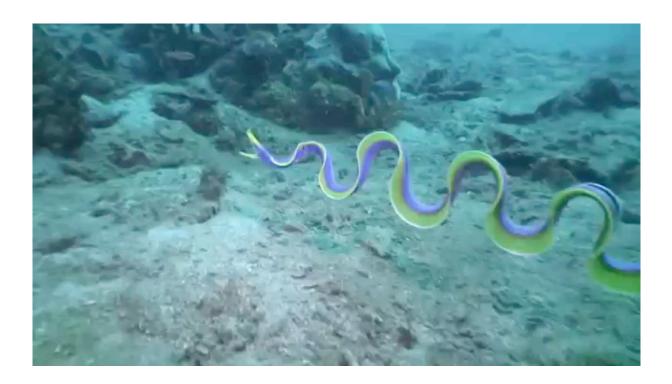




Rhythmic

Rhythmic motor patterns are controlled by circuits that primarily reside in the **spinal cord**.

They can occur spontaneously for example via voluntary control. The underlying spinal cord circuits are, however, often entrained by a peripheral stimulus.



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Type 3: Voluntary Movements

Voluntary movements are self-initiated. They are under our conscious control.



Voluntary movements

Voluntary movements are generally used to accomplish a particular task for example typing out a text message to a friend.

Voluntary movements may also be triggered by an external event – for example breaking when approaching a red light or moving to position yourself to catch a ball.

The main distinction between voluntary and other forms of movement is that voluntary movements **get more accurate with practice** as one learns to predict how the world interacts with your body (for example a toddler learning to walk).