Muscle Spindles
- Detects muscle length and how stretched a muscle is
  - The Stretch Reflex
    - Muscles stretch to accommodate a sudden unexpected increase in load
    - Spindles fire to create a feedback loop

Tendon Organs
- Detects tension and stretch in tendons to prevent them separating from the bone.
- If too much tension is put on the tendon, the muscle will forcibly relax to prevent damage

Weightlifting
- Competitive weightlifters can activate the reflex to lift heavier
- But the risk of injury rises

Withdrawal Reflex
- Involuntary and automatic
- Occurs only at the spinal cord level; response does not involve the brain, which is why we generally only realize we have reached shortly afterwards

Damage to the Spinal Cord
- Damage can cause paraplegia (voluntary action is lost) but reflexes may remain.
- Area damage determines the extent of paralysis:
  - Damage to cervical region - full body paralysis
  - Damage to thoracic region - paralysis below occurs
  - Damage to lumbar region - lower body paraplegic
  - Damage to sacral region - lower body paraplegic

Primary Motor Cortex
- Area of cerebrum for outputs from many other areas
- Stimulation of certain bits cause bodily movement

Motor Homunculus
- Both areas are represented on primary motor cortex
- The more sensitive the area of the body, the larger the area of primary motor cortex dedicated to it e.g.
- Fingers and face are almost over-represented due to large size (indicates a highly sensitive area)