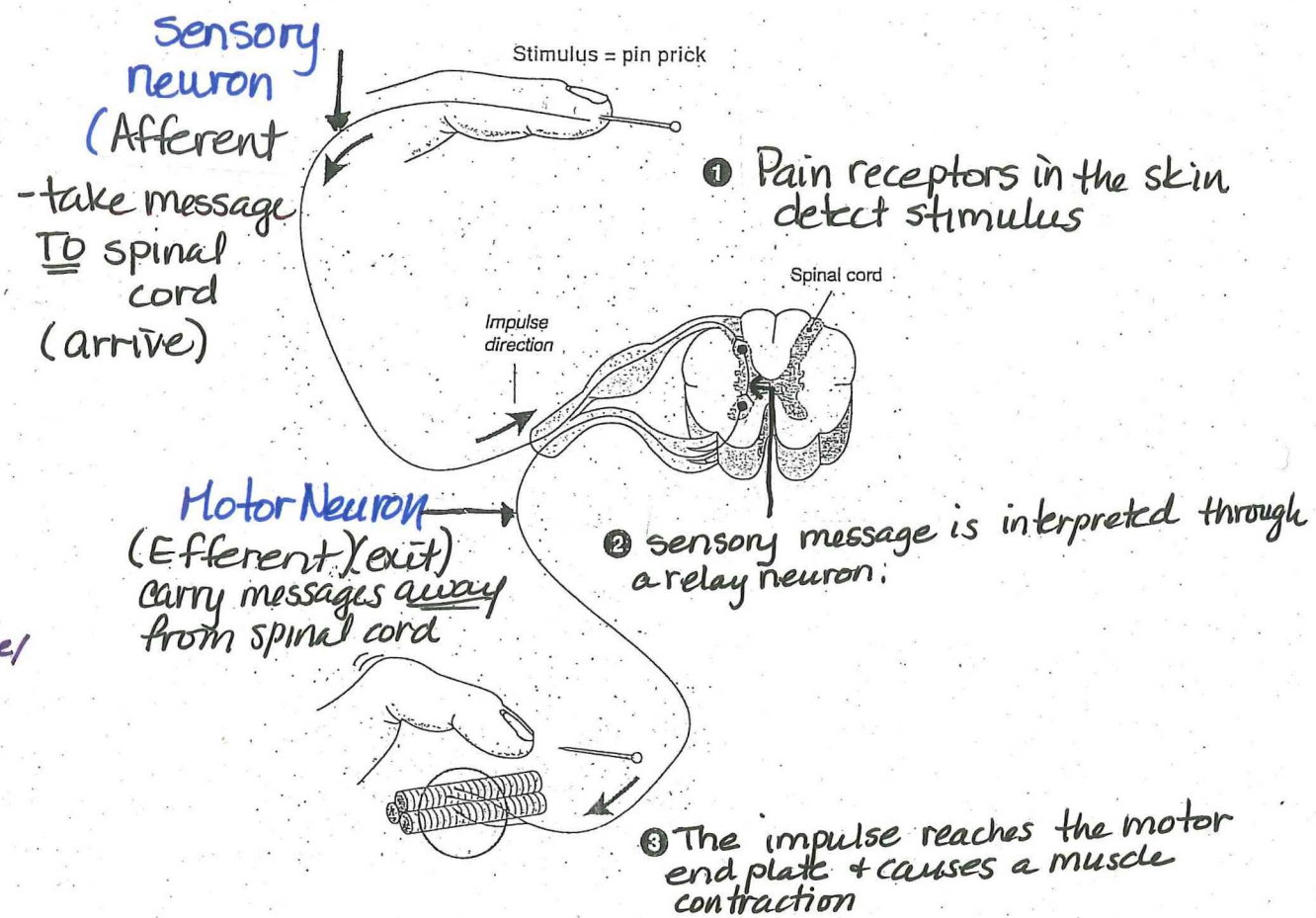


Reflexes

- STIMULUS
- ↓
- RECEPTOR
- ↓
- SENSORY NEURON
- ↓
- RELAY NEURON
- ↓
- MOTOR NEURON
- ↓
- EFFECTOR
- ↓
- RESPONSE



Reflexes -

- involuntary, almost instantaneous movements in response to a specific stimulus
 - occur without conscious thought
 - many reflexes are innate + inherited

- In higher animals - most sensory neurons do not pass directly to the brain but synapse at the spinal cord. This allows reflex actions to occur "quickly" by activating spinal motor neurons without the delay of routing signals through the brain. (The brain will still receive sensory input while the reflex occurs.)

- Reflexes minimize any damage to the body from potentially harmful conditions

- Two Types of Reflexes -

Autonomic Reflex - affects inner organs, heart beath, breathing, pupil dilation

Somatic Reflexes - affect muscles (raising your arm if a ball is thrown at you)

- you can modify a reflex response + overcome it - but the brain must be involved + it must be learned

Ex: Patellar Reflex - (knee jerk response - deep tendon reflex)

- when the patellar tendon is tapped it stretches the tendon + the muscle in the thigh that connects to it. Sensory neurons send the message to the spinal cord that the muscle has been stretched. The spinal cord quickly sends a message back to the muscle telling it to contract. The contraction of the muscle causes your lower leg to "kick out"

- Importance - this type reflex is important in keeping your balance -

- Dr - test used to determine the presence of spinal lesions