

Today you will:

- review three types of neurons
- finish structure of a neuron
- describe a reflex arc
 - > define reflex
 - > list five parts of a reflex arc

Reviewing three types of neurons:

Use the following information to answer the next question.

Yaws, bejel, and syphilis are three diseases known to be caused by strains of bacteria in the genus *Treponema*. Syphilis is a sexually transmitted disease, whereas yaws and bejel are not sexually transmitted. Studies of 800-year-old to 1600-year-old skeletons from Florida, Ecuador, and New Mexico show that these people suffered from syphilis. Studies on 6000-year-old skeletons from Illinois, Virginia, and Ohio show that these people suffered from yaws.

The symptoms of untreated syphilis usually disappear within 12 weeks of the initial infection. However, new symptoms may appear many years later. These include damage to neurons of the central nervous system.

- from *Zabludoff*, 1996

1. The neurons damaged by syphilis are
 - A. interneurons
 - B. sensory neurons
 - C. somatic motor neurons
 - D. autonomic motor neurons

Reflex

- **when** the effector responds to an impulse through a reflex arc

automatic (involuntary)

> **ex.**, bright light - close eye
hot stove - pull hand away

- occurs without thinking about appropriate activity
- message is sent to the brain to 'inform' of the happening after the response has occurred
- protects the body from harm

Reflex Arc

- **the** simplest nerve pathway is the reflex arc
- occurs without brain coordination, allows very quick reaction

Five components:

1) sensory neuron(Receptor)

- end of dendrite or special sense organ that detects a stimulus (ex., sense organ -> skin)

2) sensory neuron - neuron from skin to spinal cord

- transmits impulses toward CNS

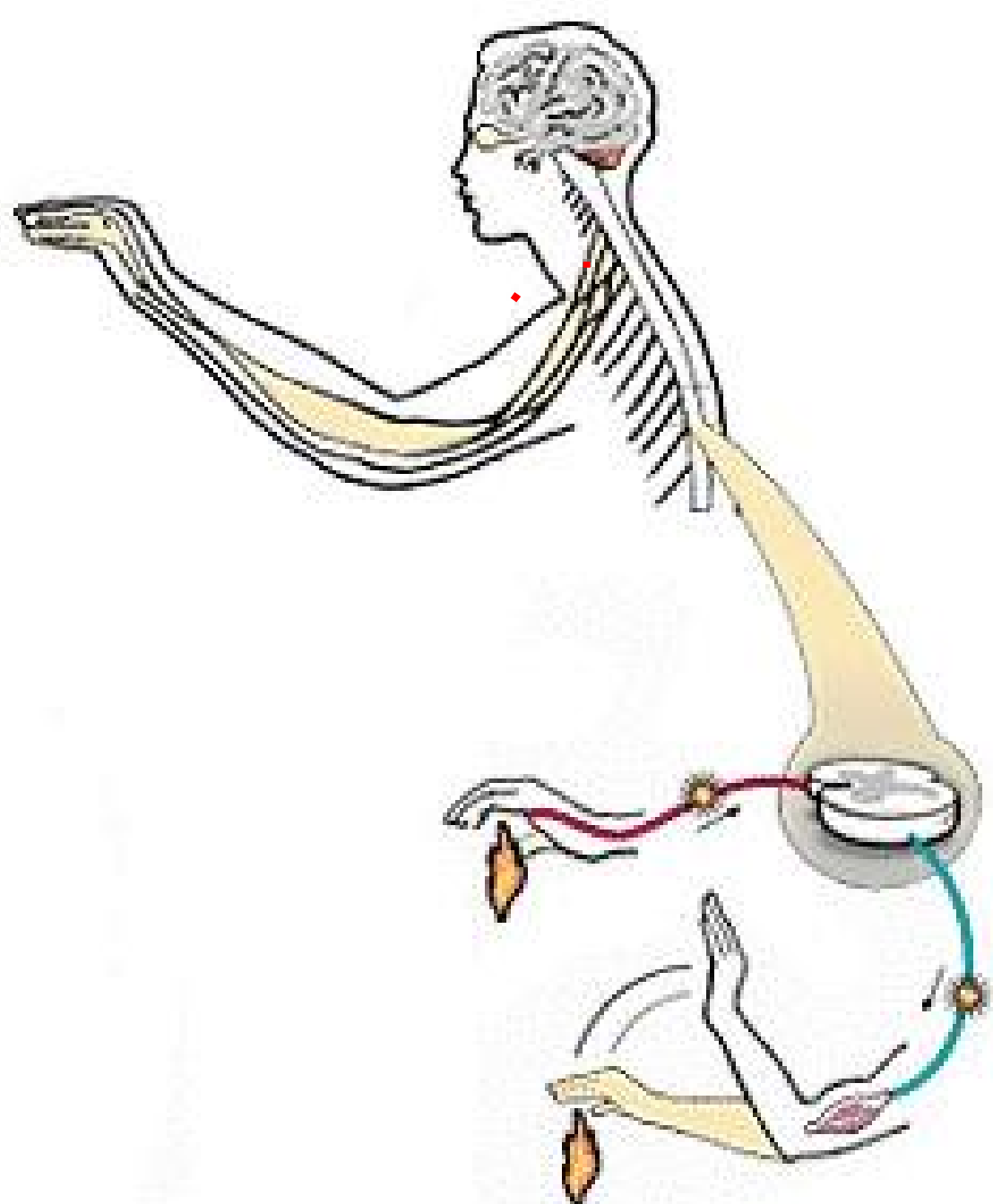
3) interneurons in spinal cord (grey matter) - carry impulse to and from the brain, may function within the brain **or** distribute impulses to different regions of the spinal cord

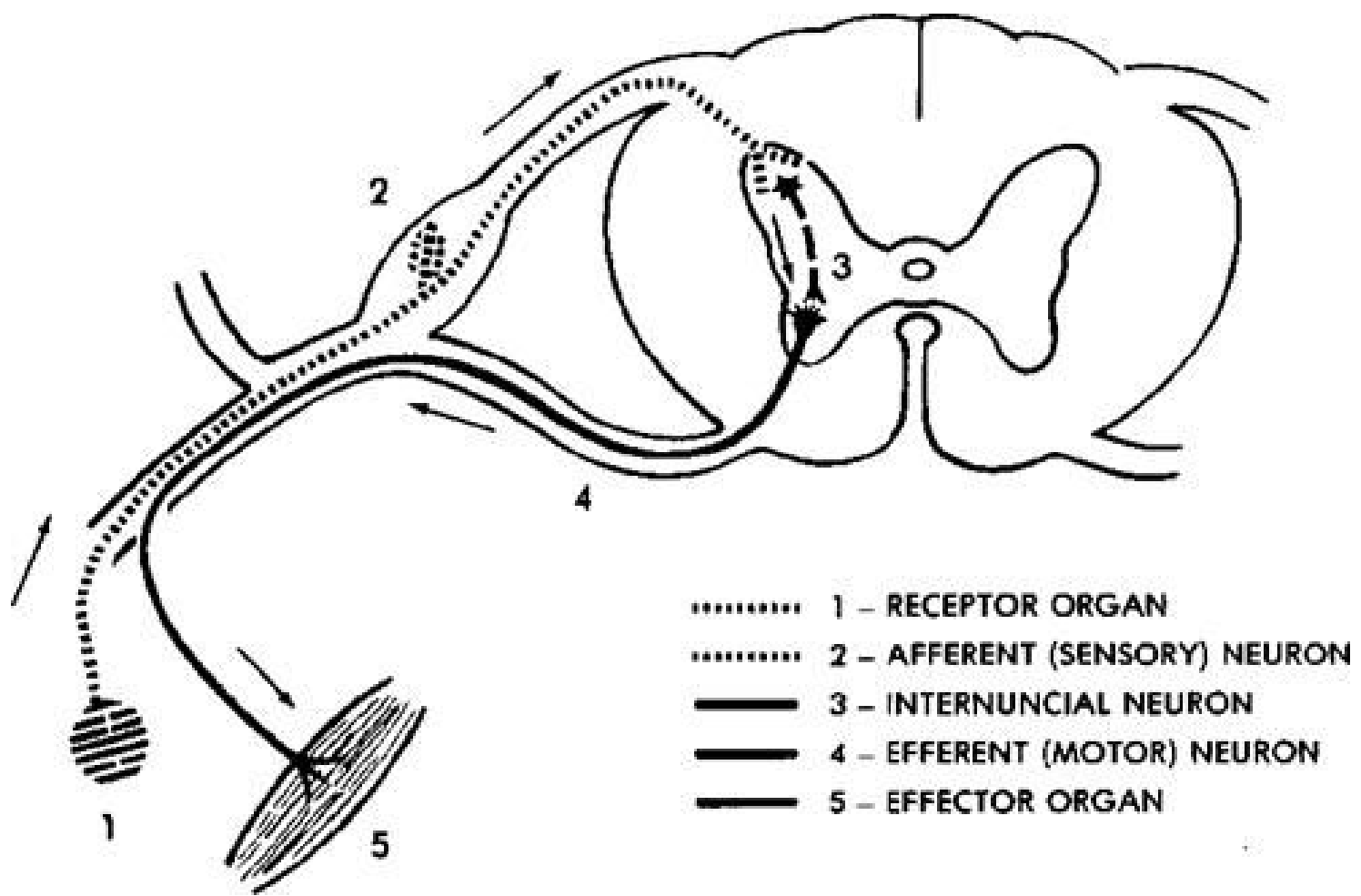
4) motor neuron - neuron from cord to effector

- carries impulses away from CNS

5) muscle fibre which reacts (effector) - muscle or gland that produces a response

p 414 - look at reflex arc





Evaluation questions.

p436 lab 2d)

p414 #1-6

Reflex	Test	Rxn
- knee jerk (patellar)	- tap tendon below knee	- leg moves up
- Achilles	- tap tendon just above foot	- foot moves downward (heel in, toes out)
- Babinski	- stroke bottom of foot	- toes move upward
- pupillary	- shine light on eyes	- pupils constrict
- Blink reflex	- object moves toward eyes	- eyes close
- rxn rate	- drop ruler btw fingers	- fingers shut to catch ruler

P414 #1-6

finish neuron diagram

X include direction of impulse