Lecture 19

Cranial Nerves
Cranial Nerves

- Indicated by Roman numerals I-XII from anterior to posterior
- May have one or more of 3 functions
  - ____________(special or general)
  - ______________ (skeletal muscles)
  - ______________ (regulation of glands, smooth muscles, cardiac muscle)
- Proprioception
  - Positional information of body parts
Cranial Nerves

- Olfactory (I)
- Optic (II)
- Oculomotor (III)
- Trochlear (IV)
- Trigeminal (V)
- Abducens (VI)
- Facial (VII)
- Vestibulocochlear (VIII)
  - Also known as _____________
- Glossopharyngeal (IX)
- Vagus (X)
- Accessory (XI)
  - Also known as _____________
- Hypoglossal (XII)
Mnemonic Aids for Cranial Nerves

• On Old Olympus Towering Tops A Famous Vocal German Viewed Some Hops
  • Olfactory, Optic, Oculomotor, Trochlear, Trigeminal, Abducens, Facial, Vestibulocochlear, Glossopharyngeal, Vagus, Spinal Accessory (Accessory), Hypoglossal
• Oh. Oh. Ooh...To Touch And Feel Very Green Vegetables...A H !!!
• Oh, once one takes the anatomy final- very good vacations are heavenly!
Mnemonic Aids for Cranial Nerves

Harry Potter Mnemonic!
On,
On,
On
On
They
Traveled,
And
Found
Voldemort
Guarding
Very
Ancient
Horcruxes
Mnemonic Aids for Cranial Nerves

• To remember at least part of the sequence of the first set of cranial nerves that begin with the letter O, try this – You have I nose. You have II eyes.
I - Olfactory; II -- Optic
Mnemonic Aids for Cranial Nerves

OLd
OPie
OCcasionally
TRies
TRIGonometry
And
Feels
VEry
GLOomy
VAGUe
And
HYPOactive
Mnemonic Aids for Sensory and/or Motor Functions of Cranial Nerves

• Some Say Marry Money, But My Brother Says Big Business Matters More

• The first letter of each word signifies whether the particular cranial nerve is sensory only (S); motor (M); or both sensory and motor (B)
Cranial Nerves

- Olfactory (I)
  - __________________

- Optic (II)
  - __________________

- Oculomotor (III)
  - Motor
    - __________________
  - Parasympathetic
    (constriction of pupil, shape of lens)
Cranial Nerves

• Trochlear (IV)
  • Motor (______________)

• Trigeminal (V)
  – Sensory (face, nasal cavity, cheeks, lips, oral cavity, skin of mandible)
  – Motor (muscles of ___________________, anterior belly of digastric, mylohyoid)

• Abducens (VI)
  – Motor (______________)

Cranial Nerves

- Facial (VII)
  - ________________
  - Motor (facial muscles, posterior belly of digastric)
  - Parasympathetic (salivary glands, lacrimal glands)

- Vestibulocochlear (VIII)
  - Sensory (_______________________)

- Glossopharyngeal (IX)
  - Sensory (taste, back of mouth, tonsils, middle ear)
  - Motor (1 muscle of pharynx)
  - Parasympathetic (parotid salivary gland, glands of tongue)
Cranial Nerves

• Vagus (X)
  • Sensory (taste, back of mouth, pharynx, larynx, thoracic and abdominal organs)
  • Motor (muscles of ____________, most muscles of ____________)
  • Parasympathetic (thoracic and abdominal organs)

• Accessory (XI)
  – Motor (sternocleidomastoid, ________________________)

• Hypoglossal (XII)
  – Motor (_________________________ muscles)
Review Question

Paralysis of muscles with a resultant impairment of speech and deviation of tongue to one side of the mouth could indicate damage to the ___________ nerve.

(a) vagus
(b) glossopharyngeal
(c) hypoglossal
(d) trigeminal
(e) facial
Points to Remember

• Cranial nerves are part of the peripheral nervous system.

• Carry sensory or motor information or a combination and function in parasympathetic nervous system.

• Cranial nerves I, II and VIII are purely sensory.

• Cranial nerves III, IV, VI, XI and XII are motor (although also function for proprioception).
Questions?