

The session will begin with a short Nobel Laureate (1932: Adrian & Sherrington) presentation by DrD. The remainder of the class will be devoted to student (chosen randomly) presentations summarizing the below topics in the KSJ materials assigned.

Chapters 33, 34, 36, 37 in KSJ..... Review of basic motor control material.

Discussion topics (5 min. or less each):

Chap. 33

1. What feed-forward and feed-back controls are and how each are each employed.
2. How reaction times vary with amounts of information processed (give example).
3. What the relationship of movement speed is to movement accuracy.
4. How higher centers are organized to control brainstem and spinal motor circuits.

Chap. 34

1. What the characteristics of the three types of motor units are.
2. How motor units recruited and why.
3. What neural factors determine the force of a muscle contraction.
4. How antagonistic muscles are controlled in production of rapid movements.

Chap. 36

1. The actions of the extensor of elbow in the two cases of similar contralateral limb perturbation and what they indicate (Fig. 36A).
2. The spinal circuitries of the flexion and stretch reflexes (diagrams).
3. Spinal and supraspinal mediation of reflexes.
4. The Hoffman reflex.

Chap. 37

1. The central pattern generator for locomotion.
2. Proprioceptive control of timing and amplitude of stepping patterns.
3. Phase-dependent reflex reversal.