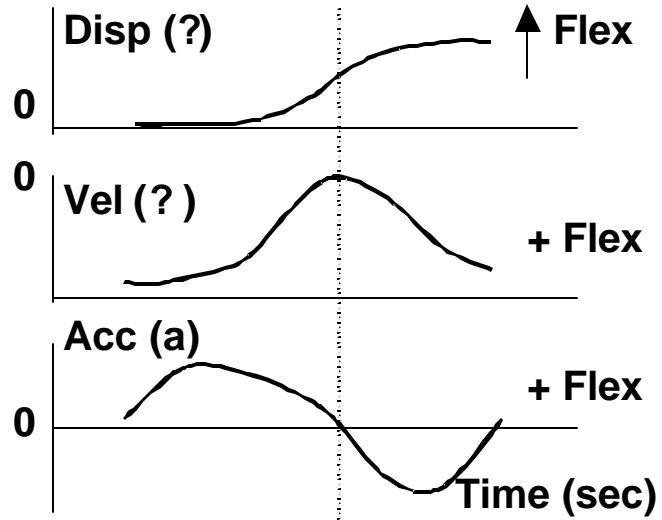
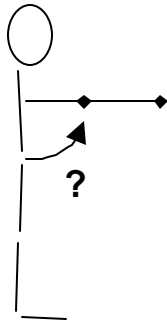


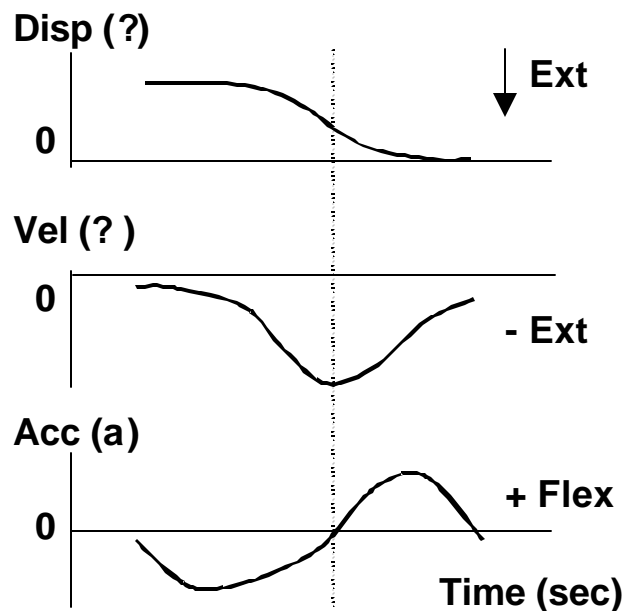
PT 617, KINESIOLOGY

Homework Assignment  
Observing Human Movement

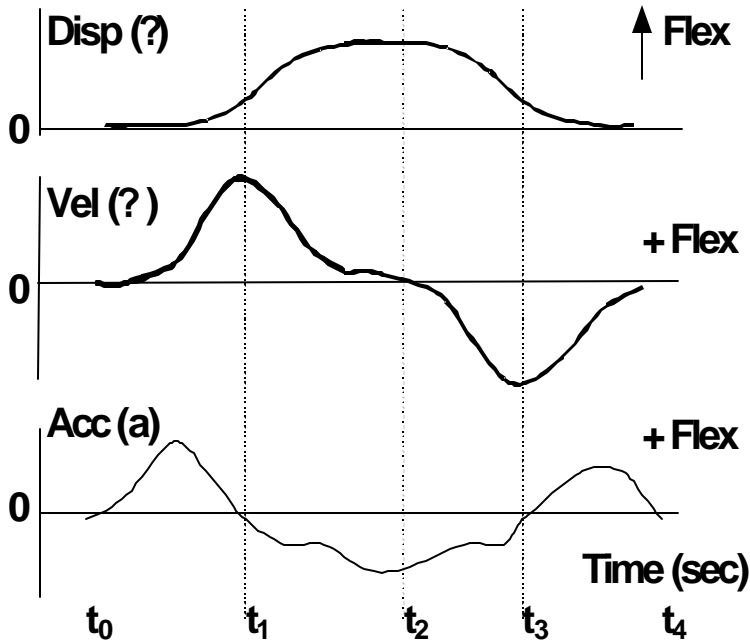
1. Your patient flexes her shoulder from 0 to 90 deg. Draw displacement, velocity and acceleration-time history on the right side.



2. She then extends her shoulder from 90 to 0 deg. Draw displacement, velocity and acceleration-time history.



3. This patient moves her shoulder from 0 to 90 deg, and without stopping back to 0 deg. Draw displacement, velocity and acceleration-time history on the right side. T0 marks the beginning of the movement, t1-t3 mark the peaks and valleys, t4 is the end of movement.



Comment: the displacement and velocity trajectories of problem 3 are equal to that of 1 plus 2, but notice the acceleration of 3 is not equal to that of the 1 plus 2. This is because of the difference at the turning point  $t_2$ , i.e., flexion stops at the end of 1 before starting extension in 2, whereas there is no stopping between flexion and extension in 3.

4. Identify the propulsive and braking phases in problem 3.

Phase of movement	$t_0 \rightarrow t_1$	$t_1 \rightarrow t_2$	$t_2 \rightarrow t_3$	$t_3 \rightarrow t_4$
Propulsion/braking (P/B)	P	B	P	B