$$[1 - C/A]\cos^2 = [1 - C/B]\cos^2$$
 (1)

The increase in from to as the twist angle increases from 0 to 90° will be greatest when the arms are abducted (wide arms). Let the values A_0 , B_0 , C_0 , 0 and 0 correspond to this body configuration. The decrease in from to as increases from 90° to 180° will be smallest when the arms are adducted (touching the body). Let the values A_1 , B_1 , C_1 , 0 and 0 correspond to this configuration. Suppose that during a half twist the arms are rapidly adducted at the quarter twist position so that 00 and then rapidly abducted again at the half twist position. Two applications of equation (1) show that the tilt angle increases from 00 to 01 such that:

$$cos_1 = k.cos_0$$

where:

$$k^2 = \frac{[1 - C_1/A_1][1 - C_0/B_0]}{[1 - C_1/B_1][1 - C_0/A_0]}$$





Figure 5: Simulation of a double-full-out straight.

to the full-out straight and double-full-out straight. These movements are used in dismounts from the gymnastics apparatus and in trampoline routines.

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