



**Fig. S1. Relationship between limb phase (Hildebrand, 1976) and duty factor in three size classes of American alligators.** Comparisons include trials in which steady-speed fore- and hindlimb steps were filmed in a single video.

**Table S1. Sensitivity analysis of peak fore- and hindlimb joint moments in al09f21 (2.06 kg body mass) using either the dorsal, ventral, anterior, and posterior edge of each fore- and hindlimb joint landmark.**

[Click here to download Table S1](#)

**Table S2. Ordinary least squares regressions of the ankle dorsiflexion moment on the femur adduction angle in each individual**

Size class	Individual	<i>n</i>	<i>R</i> <sup>2</sup>	Elevation	Slope	<i>P</i> value
Small	al10	9	0.314	0.027	-0.001	0.117
	al11	9	0.438	0.028	-0.002	0.052
	al12	4	0.144	0.092	-0.001	0.621
Medium	al07	8	0.519	-0.044	-0.003	0.044
	al08	4	0.474	-0.026	-0.002	0.311
	al09	9	0.074	0.030	-0.001	0.480
Large	al05	20	0.108	0.039	-0.001	0.157

Normalized moments [ $N \cdot m / (kg^{4/3})$ ] and angles were taken from mid-stance. Negative slopes indicate that more adducted (upright) postures have larger dorsiflexion moments at the ankle.



**Movie 1.** Representative walk (al10f18) of a small size alligator (0.1× speed).



**Movie 2.** Representative walk (al09f21) of a medium size alligator (0.1× speed).



**Movie 3.** Representative walk (al05f77) of a large size alligator (0.1× speed).