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**How dogs drink water**[1] SEAN GART, JAKE SOCHA, Virginia Tech, PAVLOS VLACHOS, Purdue, SUNGHWAN JUNG, Virginia Tech — Animals with incomplete cheeks (i.e. dogs and cats) need to move fluid against gravity into the body by means other than suction. They do this by lapping fluid with their tongue. When a dog drinks, it curls its tongue posteriorly while plunging it into the fluid and then quickly withdraws its tongue back into the mouth. During this fast retraction fluid sticks to the ventral part of the curled tongue and is drawn into the mouth due to inertia. We show several variations of this drinking behavior among many dog breeds, specifically, the relationship between tongue dynamics and geometry, lapping frequency, and dog weight. We also compare the results with the physical experiment of a rounded rod impact onto a fluid surface.

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