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# Every mammal on Earth takes an average 21 seconds to pee

By Sarah Laskow

Let's talk about the standard deviation of mammal urination time.

Discover's *Seriously, Science?* picked up a paper from arXiv [PDF] that describes a new scientific law: the Law of Urination. Here it is, in all its glory:

[A]nimals empty their bladders over nearly constant duration of average 21 seconds (standard deviation 13 seconds), despite a difference in bladder volume from 100 mL to 100 L.

No one, it seems, has thought seriously about this phenomenon before, although, the researchers argue, “In studying animals, we may also gain insight into how to design our own water-storage systems.” But this team took on the challenge. Their results indicate that the size of bladders and the diameter of urethrae throughout the mammal kingdom are, consistently, of proportions that allow a 21-second pee-time, according to the laws of fluid dynamics. Here's a video that explains this, with bonus, amazing footage of animals peeing and one glorious, slow motion splat of elephant dung:

But a standard deviation of 13 seconds — that's pretty high, right? Consensus among internet commenters and within Grist List is that “animals don't have a specific target urine volume before urination” or, in other words, “everybody has times when they do a short pee and other times when they are Tom Hanks in *A League of Their Own*.”

## Source

- Regardless of bladder size, all mammals pee for approximately 21 seconds (with video goodness), Discover

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