

Abstract Submitted
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Flagellar generated flow mediates attachment of *Giardia Lamblia* THEODORE PICOU, JAMIE POLACKWICH, BEATRIZ BURROLA GABILONDO, RYAN MCALLISTER, Georgetown University, TOM POWERS, Brown University, HEIDI ELMENDORF, JEFF URBACH, Georgetown University — *Giardia lamblia* is a protozoan parasite responsible for widespread diarrheal disease in humans and animals worldwide. Attachment to the host intestinal mucosa and resistance to peristalsis is necessary for establishing infection, but the physical basis for this attachment is poorly understood. We report results from confocal fluorescence microscopy that demonstrate that the regular beating of the posterior flagella generate a flow through the ventral disk, a suction-cup shaped structure that is against the substrate during attachment. Finite element simulations show that the negative pressure generated by the flow is consistent with the measured force of attachment between the parasite and its substrate.

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