

Abstract Submitted  
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**Mechanosensation and the Primary Cilium**<sup>1</sup> JOSEPH GLASER,  
ANDREW RESNICK, Cleveland State University — The primary cilium has come  
under increased scrutiny as a site for mechano- and chemosensation by cells. We  
have undertaken a program of study using mouse renal cell lines from the corti-  
cal collecting duct to quantify how mechanical forces arising from fluid shear are  
transduced into cellular responses. Fluid flow through a model nephron has been  
analyzed to determine the in vivo forces. A novel tissue culture flow chamber permit-  
ting accurate reproduction of physiologically relevant conditions has been calibrated.  
We have determined that in vivo conditions can be accurately modeled in our flow  
chamber.

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