

Abstract Submitted
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Aortic aneurysms : a mechanical instability? VIRGINIE
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CHRISTOPHE CLANET, IRPHE - France — We study experimentally a system
composed of an elastic membrane in which water is periodically flushed from a
heart-like pump. Our first interest is the occurrence of waves as opposed to an
homogeneous mode of deformation of our membrane. These modes may explain dif-
ferences in the localization of aneurysms in the body. Then we show the case of an
inhomogeneous membrane (in terms of Young's modulus) submitted to our flow. In
a certain range of parameters, our fake artery is able to gradually develop a swollen
region that we call aneurysm, and whose cause is mechanical.

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