

(12)
(13)

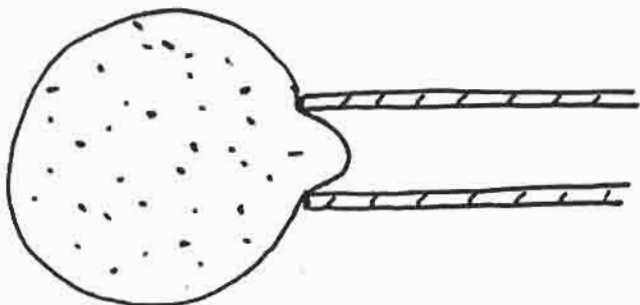
Image removed due to copyright considerations.

Figure 1 and 2 in Evans, E. and A. Yeung.

"Cortical shell-liquid core model for passive flow of liquid-like spherical cells into micropipets."

Biophysical Journal 56(1):139-49 (July 1989).

Expt. #3 - Aspiration of neutrophils (small deformations)

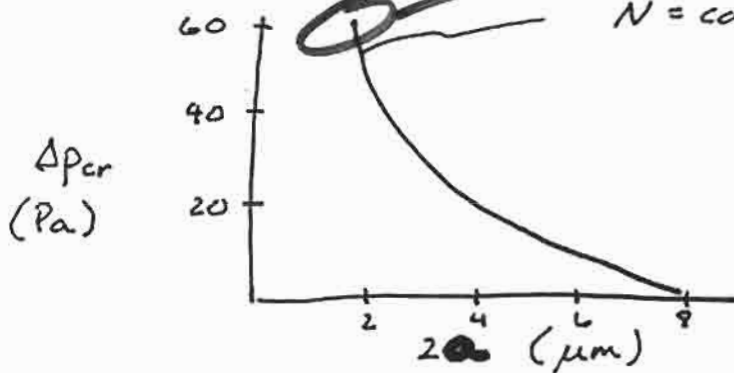


When region inside pipet 1st forms a hemisphere: (neglecting bending)

$$N = \frac{\Delta p a}{2(1 - \frac{a}{R_c})} \quad \text{or} \quad \Delta p = 2N \left(\frac{1}{a} - \frac{1}{R_c} \right)$$

Measurements:

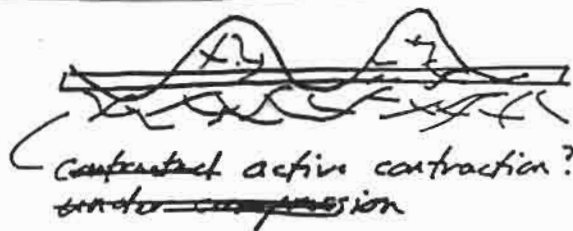
deviations due to bending stiffness
 $N = \text{const} = 3.5 \times 10^{-5} \text{ N/m}$



Same N for all pipet sizes.

Neutrophils behave as having constant N, ind. of area extension.

Biological basis: ??



↑ ~ 0.05-0.1 μm

contract active contraction? under compression