

Correction

BIOPHYSICS AND COMPUTATIONAL BIOLOGY, ENGINEERING

Correction for “Biomechanics of red blood cells in human spleen and consequences for physiology and disease,” by Igor V. Pivkin, Zhangli Peng, George E. Karniadakis, Pierre A. Buffet, Ming Dao, and Subra Suresh, which appeared in issue 28, July 12, 2016, of *Proc Natl Acad Sci USA* (113:7804–7809; first published June 27, 2016; 10.1073/pnas.1606751113).

The authors note that on page 7806, the expression for red blood cell (RBC) volume (Eq. 3) appeared incorrectly. The correct exact expression for RBC volume, to be taken within Eq. 8 corresponding to the dotted line in Fig. 3, should be given as

$$V = 2 \left[\frac{4}{3} \pi R^3 - \frac{1}{3} \pi h^2 (3R - h) \right] + \frac{\pi L_s}{2} \left(R + \frac{L_s}{2} \right) \cos \theta (R \sin 2\theta - L_s \theta) + \frac{\pi}{4} \left(L_s^3 \sin \theta - \frac{L_s^3 \sin^3 \theta}{3} \right) \quad [3]$$

In this case, there is no longer a need for Eqs. 5 and 6. The dotted curve in Fig. 3 was actually plotted with the exact analytical solution using the correct Eq. 3 above for the RBC volume. All results presented originally in Fig. 3 are correct with the above Eq. 3.

The authors further note that the originally printed expression for RBC volume (Eq. 3) on page 7806, in conjunction with the original Eqs. 5 and 6, should constitute an approximate solution for RBC volume. After correcting a typo, the correct approximate expression for RBC volume (Eq. 3) would appear as $V = 2 \left[\frac{4}{3} \pi R^3 - \frac{1}{3} \pi h^2 (3R - h) \right] + 2\pi A_{vc}$. When taking this corrected approximate solution for RBC volume in Eq. 8, the (approximate) analytical solution would not match exactly (i.e., being slightly lower than) the dotted curve shown in Fig. 3.

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