

Abstract Submitted  
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**Red blood cell damage by shear stress for different blood types<sup>1</sup>**  
GILAD ARWATZ, KATHERINE BEDKOWSKI, ALEXANDER SMITS — In surgical practice, blood damage caused by medical devices is often a limiting factor in the duration of an acute procedure or in chronic exposures such as hemodialysis. In order to establish guidelines for designing medical devices, a study was conducted to determine the relationship between shear stress and damage to red blood cells using a concentric Couette device. By measuring the hemolysis level for various shear stresses and exposure times, a non-dimensional relationship between shear stress and blood damage for different blood types was established.

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