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**FOR IMMEDIATE RELEASE**

**NORTHFIELD LABORATORIES COMPLETES ENROLLMENT  
IN PIVOTAL PHASE III POLYHEME<sup>®</sup> TRIAL**

*Top-line Data from Study Expected in Fall*

**EVANSTON, IL—July 31, 2006**—Northfield Laboratories Inc. (NASDAQ: NFLD) announced today that patient enrollment is complete in its pivotal Phase III trauma study with PolyHeme<sup>®</sup>, the Company's human hemoglobin-based oxygen-carrying red blood cell substitute.

“We are pleased to have completed enrollment in this complex Phase III study-- another key milestone in our progress toward bringing PolyHeme<sup>®</sup> to market,” said Steven A. Gould, M.D., Chairman and Chief Executive Officer. “We are eager to begin the data analysis, and look forward to reporting top-line results from the study in the fall.”

The PolyHeme<sup>®</sup> trial is the first study in the U.S. designed to evaluate the safety and efficacy of an oxygen-carrying red blood cell substitute beginning at the scene of injury and continuing during transport and in the early hospital period. The study had a planned enrollment of 720 and was conducted at major Level I trauma centers throughout the United States. The primary endpoint is survival at 30 days.

**About Northfield Laboratories**

Northfield Laboratories Inc. is a leader in developing an oxygen-carrying red blood cell substitute for the treatment of life-threatening blood loss, when an oxygen-carrying fluid is required and red blood cells are not available. PolyHeme<sup>®</sup> is a solution of chemically modified human hemoglobin that requires no cross matching and is therefore compatible

with all blood types. It has a shelf life in excess of 12 months. For further information, visit [www.northfieldlabs.com](http://www.northfieldlabs.com).

*This press release may contain forward-looking statements concerning, among other things, Northfield's future business plans and strategies and clinical and regulatory developments affecting our PolyHeme® red blood cell substitute product. These forward-looking statements are identified by the use of such terms as "intends," "expects," "plans," "estimates," "anticipates," "should," "believes" and similar terms. These forward-looking statements involve inherent risks and uncertainties. Our actual results may therefore differ materially from those predicted by the forward-looking statements because of various factors and possible events, including our ability to obtain FDA approval to market PolyHeme commercially, the availability of capital to finance our clinical trials and ongoing business operations, our ability to obtain adequate supplies of raw materials and to manufacture PolyHeme in commercial quantities, our ability to market PolyHeme successfully, the possibility that competitors will develop products that will render PolyHeme obsolete or non-competitive, our ability to protect our intellectual property rights, the outcome of certain governmental inquiries and purported class action lawsuit as described in our most recently filed quarterly report on Form 10-Q, the possibility that we may be subject to product liability claims and other legal actions, our dependency on a limited number of key personnel, the uncertainty of third party reimbursement for our product and other risks and uncertainties described from time to time in our periodic reports filed with the Securities and Exchange Commission, including our most recently filed quarterly report on Form 10-Q and annual report on Form 10-K. These forward-looking statements speak only as of the date of this press release. We do not undertake any obligation to update or publicly release any revisions to forward-looking statements to reflect events, circumstances or changes in expectations after the time such statement is made. All subsequent written and oral forward-looking statements attributable to Northfield or any person acting on our behalf are qualified by this cautionary statement.*