

NEPHROS INC  
Form 424B3  
August 31, 2009

Prospectus Supplement filed pursuant to Rule 424(b)(3)  
in connection with Registration Statement No. 333-148200

Nephros, Inc.  
Prospectus Supplement No. 1 dated August 31, 2009  
(to Prospectus dated August 25, 2009)

28,972,659 shares of common stock

This prospectus supplement supplements information contained in that certain prospectus, dated August 25, 2009, relating to the offer and sale by the selling stockholders listed in the prospectus of up to 28,972,659 shares of common stock of Nephros, Inc. This prospectus supplement is not complete without, and may not be delivered or used except in connection with, the original prospectus. We will not receive any proceeds from the sale of the shares of common stock by selling stockholders.

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#### Other Events Reported in Current Report on Form 8-K

On August 31, 2009, we issued a press release and filed a Current Report on Form 8-K announcing that we received approval from the Office of Naval Research to expand our development of new potable water filtration systems for military field use. The relevant sections of the press release are set forth below:

Nephros has been awarded a new research contract from the Office of Naval Research (ONR) for development of a potable dual-stage military water purifying filter. The research contract is an expansion of the Company's current ONR contract which is being performed as part of the Marine Corps Advanced Technology Demonstration (ATD) project. The primary objective of this expanded research program is to select concepts and functional prototype filter/pump units which were developed during the first phase of the project, and further develop them into smaller field-testable devices that can be used for military evaluation purposes. An advantage of the Nephros ultrafilter is the removal of viruses which are not removed with commercially available off-the-shelf microfilter devices. Such devices generally rely on a secondary chemical disinfection step to make the water safe to drink. The expanded contract also includes research geared toward improving membrane performance, improving device durability, developing larger squad-level water purifier devices, and investigating desalination filter/pump devices for emergency-use purposes.

“Nephros is pleased to continue its collaboration with the U.S. Military,” said Ernest Elgin, President & CEO of Nephros. “We look forward to providing portable DSU systems to create potable water for our troops in the field. The Company believes that the military product development efforts will have broad consumer applications as well.”

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Investing in our common stock involves a high degree of risk. See “Risk Factors” beginning on page 5 of the original prospectus.

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Neither the SEC nor any state securities commission has approved or disapproved our securities or determined that this prospectus is truthful or complete. It is illegal for anyone to tell you otherwise.

The date of this Prospectus Supplement No. 1 is August 31, 2009.

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