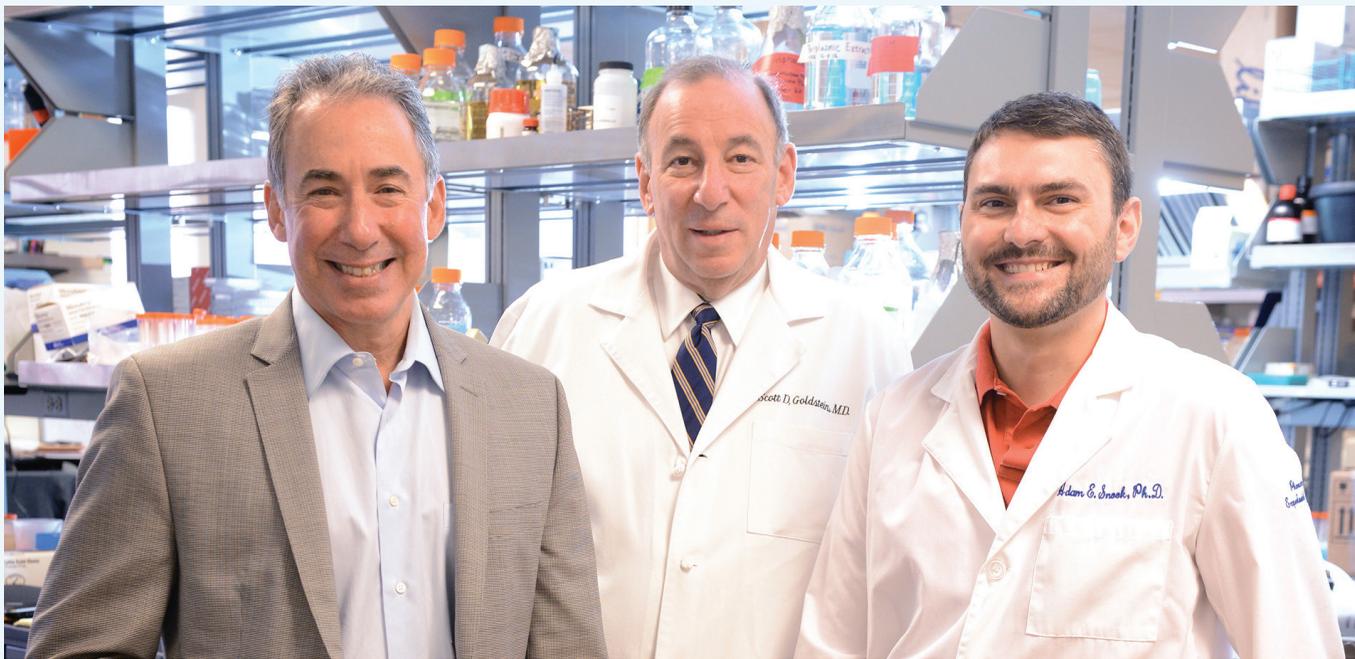


# Surgical Solutions

## Colon Cancer Vaccine: Clinical Trial Enrollment Continues



Colorectal surgeon Scott Goldstein, MD (center) in the laboratory with long-time collaborator Scott Waldman, MD, PhD (left), and immunologist Adam Snook, PhD (right). The team is conducting a promising Phase I vaccine trial for colon cancer at Jefferson.

Clinician-researchers at Jefferson are testing a vaccine that may support better outcomes for patients with colon cancer.

For people with Stage 1, 2 or 3 colon cancer, surgery is the standard of care. For most, it turns out to be a cure. But for a minority of patients who undergo surgery for colon cancer, disease later emerges in the liver, lung or another part of the body. When that occurs, the prognosis is poor.

"Once you have metastatic disease in colon cancer, a clock is ticking," explains Scott Waldman, MD, PhD, Associate Dean, Clinical and Translational Research and Samuel M.V. Hamilton Professor and Chair, Department of Pharmacology and Experimental Therapeutics. "With this vaccine, which is administered after surgery, we're trying to get ahead of that. The idea is to boost the patient's own immune system to attack microscopic nests of cells before they become a real threat."

Dr. Waldman notes that this Phase I vaccine trial represents the culmination

of 18 years of work at Jefferson – and is a powerful example of the institution's capabilities in discovery as well as translating research into clinical practice through close collaboration with Jefferson surgeons.

*"...a single shot could protect patients against the cancer cells that remain in their system after surgery"*

It was in 1996 that Jefferson researchers first identified a protein expressed by colon cancer that acts as an identification tag, also known as a marker. Much like flu vaccines train the immune system to fight cells infected with flu virus, this experimental cancer vaccine is intended to teach the immune system to recognize and destroy cancer cells expressing this marker when

they begin to grow in new locations throughout the body.

The final test – whether or not the cancer returns – won't be known for a number of years and will require additional clinical trials.

"If the vaccine works as we expect, a single shot could protect patients against the cancer cells that remain in their system after surgery while also offering lifelong protection from a recurrence," Dr. Waldman says. He adds that the same approach could also apply to patients with some forms of esophageal, gastric and pancreatic cancers. (A similar Phase II immunotherapy trial for pancreatic cancer is currently accruing patients at Jefferson.)

To be eligible for the current clinical trial, patients must have Stage 1 or 2 colon cancer. They must have undergone surgery (at any hospital) to remove the primary tumor but must not have had chemotherapy or radiotherapy. They must receive the vaccine at least two months but not more than three years after surgery.

### Surgeon Speaks

"Patients truly benefit from the close collaboration between surgeons and clinician-researchers at Jefferson. Dr. Waldman and I have been working together for nearly 20 years – and we're collaborating even more closely as we continue identifying potential patients for the vaccine study.

"Patients with Stage 1 or 2 colon cancer have a high survivability rate – usually from 75 to 95 percent. However, between 5 and 25 percent will succumb to their disease.

"In patients with early-stage colon cancer, the risks of adjuvant chemotherapy – that is, additional treatment given after surgery to lower the risk of the cancer returning – outweigh the benefits. We closely follow these patients following surgery. If we see evidence of metastatic disease, we proceed with surgery or chemotherapy.

"Our goal is to avoid that waiting game – and protect these patients with a safe, non-toxic therapy. So far, the vaccine has been shown to be extremely safe, which is very encouraging."

**Scott D. Goldstein, MD, FACS**  
Director, Division of Colon & Rectal Surgery  
Professor of Surgery

For more information and to learn if you may be eligible to enroll in the trial, call **877-503-9352**.

Since the trial's initiation in November 2013, five patients have received the vaccine, and Dr. Waldman reports that no one has had any adverse effects. Additional patients are in various stages of enrollment, but more patients are still needed for this ongoing trial.

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