

# proto

## EDITORIAL ADVISORY BOARD

David Blumenthal, M.D., M.P.P.  
Daniel A. Haber, M.D., Ph.D.  
John A. Parrish, M.D.  
Daniel K. Podolsky, M.D.  
David W. Rattner, M.D.  
Laura E. Riley, M.D.  
Celeste Robb-Nicholson, M.D.  
Jerrold F. Rosenbaum, M.D.  
James H. Thrall, M.D.  
Joseph P. Vacanti, M.D.  
Anne B. Young, M.D., Ph.D.



Peter L. Slavin, M.D. // President,  
Massachusetts General Hospital

David F. Torchiana, M.D. // CEO and  
Chairman, Massachusetts General  
Physicians Organization

Anne J. Dubitzky // Publisher  
Peggy Slasman // Editor-in-Chief  
Meg Vitter // Editorial Manager



Paul T. Libassi // Deputy Managing Editor  
David Bumke // Project Editor  
Sarah Alger // Senior Editor  
Alex Knowlton // Design Director  
Lee Williams // Associate Art Director  
Ann de Saussure // Deputy Photo Director  
Valérie Vaz // Copy Chief  
Ray DiCecco // Research Editor  
Allison Caggia // Account Manager  
Patrice Peelen-Wenz // Operations Manager  
Jane Mayers // Prepress Manager

## ADVERTISING

George J. Baer III // Director of  
Advertising Sales 248-988-1896  
EAST COAST Wynne Media Company  
212-869-1410  
MIDWEST Rickert Media CHICAGO  
312-464-9125 MINNEAPOLIS 952-830-1252  
NORTHWEST Patrick Doyle 415-777-4383  
SOUTHEAST Richards/McLaughlin Media  
770-888-2212  
SOUTH CENTRAL The Kostial Company  
214-443-9500  
DETROIT Kennedy + Company 313-866-4399



The Massachusetts General Hospital, a  
900-bed academic medical center located in  
Boston, is a founding member of Partners  
HealthCare System and is the largest  
and oldest teaching affiliate of Harvard  
Medical School.

This magazine is intended to present advances in  
medicine and biotechnology for general informational  
purposes. The opinions, beliefs and viewpoints  
expressed in this publication are not necessarily  
those of the MGH. For personal health issues, the  
MGH encourages readers to consult with a qualified  
health-care professional.



**For every paradigm-shifting medical advance** there may be hundreds or even thousands of ideas that never make it out of the lab. Still, medicine's innovative thinkers forge ahead—undeterred by traditionalists who balk at revolutionary, untested ideas, especially when a perfectly adequate alternative exists. In fact, some of the medical world's most promising technologies have emerged only after risk-takers persevered amid persistent criticism and condemnation.

In this issue of *Proto*, we consider a nascent technology known as natural orifice transluminal endoscopic surgery (NOTES). Unlike today's minimally invasive standard, laparoscopy, in which surgeons use tiny incisions to reach the abdominal cavity, natural orifice surgeons would follow a different route: threading a flexible scope into the mouth, down the throat and through a hole cut into the stomach wall to gain access to the appendix, gallbladder and other organs.

As more physicians learn about this idea, some are excited by its promise—of quick recovery, minimal pain and no external scarring. Others remain wary, concerned that the procedure is fraught with unnecessary risk and likely complications. Could natural orifice surgery be one of the paradigm-shifting ideas that eventually enters the medical mainstream? The answer may be years away, as we await results of additional preclinical studies and the possible progress to human trials.

Thirty-five years ago, the idea of treating cancer by shutting off tumors' blood supply—the subject of another story in this issue—was at a similar crossroads. In the early 1970s, the notion that the growth of new blood vessels, known as angiogenesis, might play a role in cancer was widely ridiculed. Yet Judah Folkman and a few other believers doggedly pursued this hypothesis; their persistence gave rise to a field of research that has begun spawning many promising therapies.

Two other stories in this issue also tell of the dogged pursuit of big ideas. When AIDS emerged 25 years ago, a handful of scientists became, almost by chance, crusaders out to conquer a deadly new disease. Meanwhile, the fight to eradicate a much older disease, polio, may finally be won, though the virus is proving an elusive foe. Central players in both battles describe lessons that have applications beyond those diseases. Their stories, like those of the proponents of natural orifice surgery and antiangiogenic cancer therapies, are ongoing. We'll keep you posted.

Peter L. Slavin, M.D.  
President  
Massachusetts General Hospital

David F. Torchiana, M.D.  
CEO and Chairman  
Massachusetts General Physicians  
Organization