

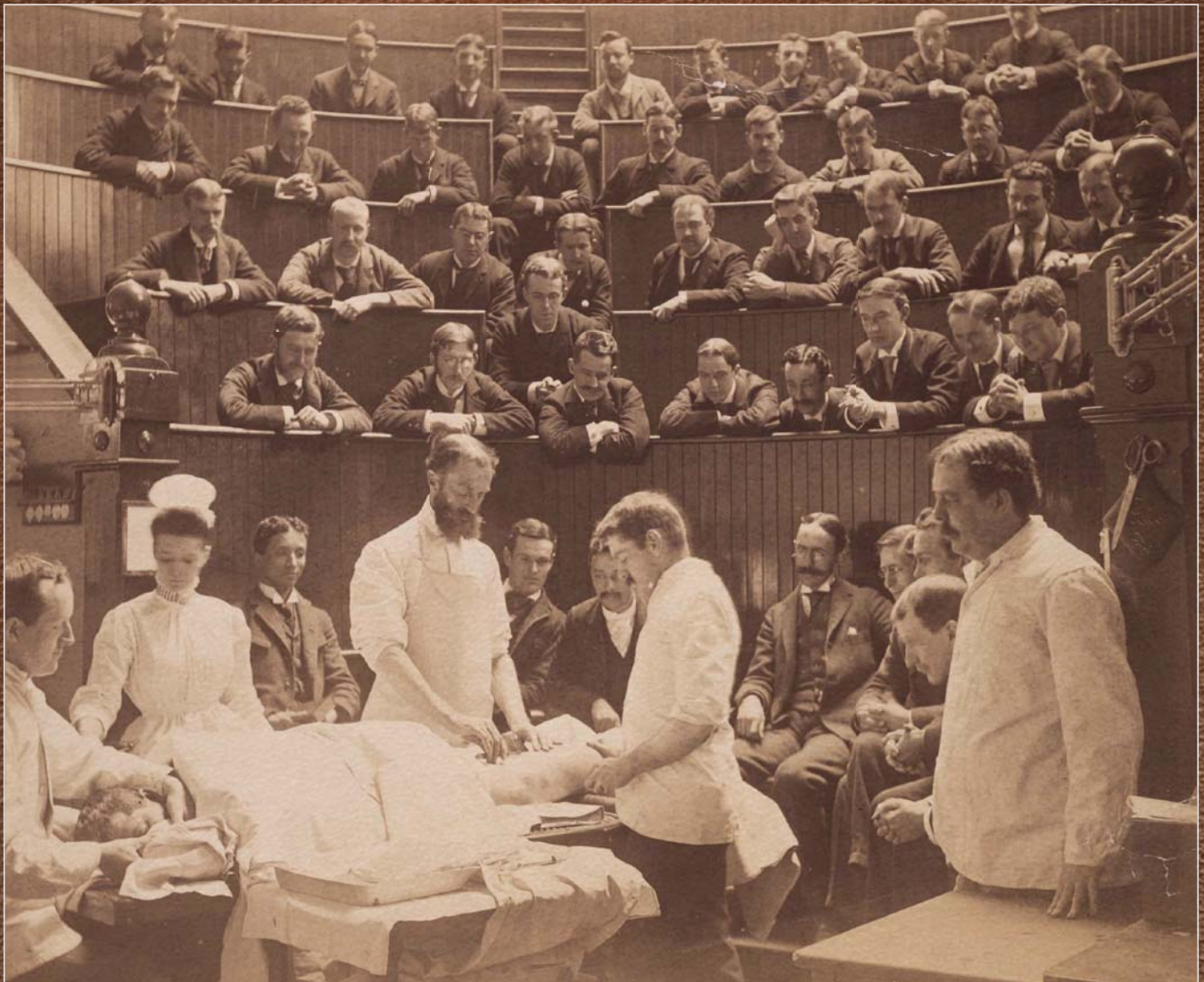


Beth Israel Deaconess
Medical Center



HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

BIDMC SURGERY AT 150





The operating theatre at Boston City Hospital, where early members of the Fifth (Harvard) Surgical Service performed surgery.



Members of the Fifth (Harvard) Surgical Service, including (standing, center) David W. Cheever, MD, who led the service from 1864 to 1885.



BIDMC SURGERY AT 150

What single contribution from the members of the Surgical Service at Beth Israel Deaconess Medical Center has had the greatest impact on the history of medicine?

Was it the application in the 19th century of fundamental anatomic principles that rendered accessible structures of the head and neck, chest, and abdomen for repair and reconstruction? The opening of the Sears Surgical Research Laboratories in the 1920s as one of the first sites for interdisciplinary surgical investigation in the United States?

Or was it elucidating the mechanisms of liver failure, or the introduction of vitamin K for the correction of coagulopathy? Or was it, perhaps, the development of peritoneal dialysis or the implantable pacemaker, prophylactic therapy for gastric stress ulcers, or foundational experiments that led to the discovery of Plavix and Persantine? Was it the introduction of intraoperative cholangiography?

Some might argue that it was the first demonstration of controlled drug delivery from biomaterials, or early studies in tumor angiogenesis, or the discovery of anti-lymphocyte globulin and deciphering the major histocompatibility complex to advance organ transplantation.

Conceivably, it was the public advocacy for the creation of the Agency for Healthcare Research and Quality to create a framework for evaluating the comparative effectiveness of both new and existing therapeutic interventions. Or perhaps it was inspiring generations of leaders across Harvard, our nation, and abroad who strived to advance surgery and not themselves.

Ultimately, the greatest impact may simply have been caring for our community — through periods of both struggle and triumph — one patient at a time.



Hyman Danzig (far left), founder and first president of Beth Israel Hospital, observes an operation at the hospital's first location in Roxbury (circa 1917).



A New England Deaconess Hospital operating room in 1983.



Performing nearly 30,000 operative procedures a year, today BIDMC is one of the busiest centers for surgical care in the United States.



Members of the Fifth (Harvard) Surgical Service and nursing staff.

THE ROOTS OF THE HARVARD SURGICAL SERVICE AT BETH ISRAEL DEACONESS MEDICAL CENTER reach back to the mid-19th century, establishing it as one of the oldest academic surgical programs in the nation. Then, as now, its explicit mission is to provide advanced surgical care of the very highest quality to those in need, improve health through innovation and discovery, and prepare future leaders in American surgery.



Boston City Hospital, where the Fifth (Harvard) Surgical Service originated.



A New England Deaconess Hospital operating room in 1953.



Beth Israel Deaconess Medical Center was formed by the merger of New England Deaconess Hospital and Beth Israel Hospital in 1996.



David Williams Cheever, MD

In 1864, DAVID WILLIAMS CHEEVER, MD (1831-1915), the son and grandson of physicians who trained under Dr. Oliver Wendell Holmes Sr., assumed the position of Chief of Surgery at the newly established Boston City Hospital, which was one of two hospitals associated with Harvard Medical School.

A series of numbered clinical services were established, with the surgical service referred to as the Fifth (Harvard) Surgical Service, which Dr. Cheever led from 1864-1885. In later years, Dr. Cheever reflected on the challenges faced by the surgeons and house officers of the Fifth Surgical Service in the care of patients during and after the Civil War:

We struggled bravely to fight sepsis amid the terrible discouragement of those surgical days so full of mortality. Amputation, when primary, often gave a mortality of 50 percent. In abdominal operations, more died than recovered. Much debility and poor blood were brought to our hospital by the returning Union Army; chronic diarrhea, malaria, old suppurating wounds. This influence lasted for years. But we never wavered in our daily visits and honest efforts.

—Adapted from: Professional Reminiscences on Sepsis and Gangrene. David W. Cheever, MD, 1906

Until his death in 1915, Dr. Cheever created and grew a vibrant, internationally recognized surgical program that rapidly established itself as a vital center for clinical care, training, and research of Harvard Medical School. A pioneering surgeon and man of immense dedication and integrity, Dr. Cheever served as the second Chair of Surgery at Harvard Medical School, succeeding Henry J. Bigelow, MD, of Massachusetts General Hospital.

Vol. CXIX., No. 13.] **BOSTON MEDICAL AND SURGICAL JOURNAL.** 293

Original Article.

SHOCK.¹

BY DAVID W. CHEEVER, M.D., OF BOSTON.

THE operative surgery of our time has annulled pain temporarily, arrested hæmorrhage permanently; averted septic absorption. It has not prevented shock. This is still a cause of much fatality. It is the object of this paper to inquire whether modern surgical procedure has *diminished* shock; wherein it fails to do so; and to suggest improvements of its defects.

What is shock?

When any one gropes his way in a dimly lighted passage, and meets unexpectedly a strange person at some turning, he experiences a start, a mental apprehension, his heart turns over, flutters, but at once recovers its balance. Pursuing his path, if he now, in descending, misses a step in the dark, he has a greater shock to his nerves, he braces himself, flutters, sweats, or is chilled. If he falls and bruises himself moder-

Primary shock, reaction; early and perfect; or slow and imperfect. Secondary shock: prostration, nausea, excitement, collapse. Loss of blood, from accident or operation, adds to the shock or complicates its symptoms.

Jar, crushing, mutilation, pain, cutting, bleeding, chilling, all act on the nervous centre; react on the ganglia, the heart, the power of breathing, the temperature, the consciousness, the life.

Given then the problem and the phenomena of shock, what particular influences have the operative procedures of *modern* surgery upon them?

They may be summed up in three points:

The effects of anæsthetics;
The effects of the operations;
The effects of the dressings.

These all belong together and affect each other. Anæsthetics annul pain, but end in nausea. Operations under anæsthetics are needlessly prolonged and exhausting. Modern dressings are tedious and chilling. Have we lessened, or added to, shock by modern

Arteries of the Scapula.

Arteries of The Thigh.

a. The
b. The
c. The
d. The
e. The
f. The
g. The

h. The Femoral Artery.
i. The great Arteria Profunda.
1. Its External Circumflex Artery.
2. Its Internal Circumflex Artery.
3. 4. 5. Three of its Perforating Arteries.
k. l. The Popliteal Artery.
m. m. m. Its Articular Arteries.

n. a. p. The three Arteries of the Leg.

LECTURES ON SURGERY

BY

DAVID W. CHEEVER, A. B., M. D. (HARV.),

PROFESSOR OF SURGERY, EMERITUS, IN THE MEDICAL SCHOOL OF HARVARD UNIVERSITY; SENIOR SURGEON OF THE BOSTON CITY HOSPITAL;
FELLOW OF THE MASSACHUSETTS MEDICAL SOCIETY;
FELLOW OF THE AMERICAN SURGICAL ASSOCIATION;
ASSOCIATE FELLOW OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA;
FELLOW OF THE AMERICAN ACADEMY OF ARTS AND SCIENCES;
MEMBRE ASSOCIÉ ÉTRANGER DE LA SOCIÉTÉ DE CHIRURGIE DE PARIS.

BOSTON:
DAMRELL & UPHAM, PUBLISHERS,
The Old Corner Bookstore.
1894

Dr. Cheever pioneered new surgical techniques in craniofacial surgery and in the surgical treatment of oropharyngeal tumors¹, as well as in abdominal, vascular, and pediatric surgery^{2,3}. He wrote extensively on the topic of shock⁴ and published one of the first major American textbooks of surgery, *Lectures on Surgery*, in 1894⁵. He described esophagotomy for the removal of a foreign body from the esophagus, which was a starting point for all further literature on esophagotomy, and performed endotracheal intubations during his operations⁶. Dr. Cheever served as editor of the *Boston Medical and Surgical Journal*, a predecessor of the *New England Journal of Medicine*, and in 1889 served as President of the American Surgical Association.

Recognized as a superb surgeon and a devoted educator, in 1864 Dr. Cheever established the very first competitive examination in Boston to select incoming interns or house surgeons from among the very best applicants for surgical training. In later years, Dr. Cheever wrote:

“Experience has taught that the extraordinary and unique cases, which are, of course, to the student’s mind extremely interesting, are not as desirable as clinical material as the common diseases and injuries. The former, as they present themselves in a great hospital, should be shown to students but never at the expense of omitting the latter.”

—Teaching and appointments. David W. Cheever, MD, 1906

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XC.]

THURSDAY, JUNE 4, 1874.

[No. 23.

Original Communications.

ON THE SURGICAL TREATMENT OF NASO-PHARYNGEAL POLYPI.

By DAVID W. CHEEVER, M.D.
Surgeon to the Boston City Hospital.

It has long been known that a class of fibrous growths, sometimes recurrent and sarcomatous, had for their *habitat* the top of the pharynx and the posterior nares. These are quite different from the ordinary mucous polypi of the nasal passages, and are much more formidable.

Medical Progress.**REPORT ON THE PROGRESS OF SURGERY.**

BY HERBERT L. BURRELL, M.D., BOSTON, AND H. W. CUSHING, M.D., BOSTON.

ETHYL CHLORIDE AS A GENERAL ANESTHETIC.

McCARDIE¹ believes that it is indicated for short operations needing longer and deeper anesthesia than nitrous oxide or nitrous oxide mixed with oxygen will give. He believes that it is particularly valuable as a preliminary to the

CARBOLIC ACID AND CAMPHOR IN THE TREATMENT OF INFECTED WOUNDS.

Chlumsky⁶ has used in wounds that are infected a solution of carbolic acid, 30 parts, camphor, 60 parts, and alcohol to make 100. This is used in all types of infected wounds. He evacuates the pus and pours the mixture into the wound. The mixture can be kept if the evaporation of the camphor is prevented.

THE PATHOLOGY AND PREVENTION OF SECONDARY PAROTITIS.

Herbert L. Burrell, MD

Dr. Cheever was succeeded by HERBERT L. BURRELL, MD (1856-1910), who wrote a series of reports in the *New England Journal of Medicine* over a 20-year period (1884-1906) entitled *Progress in Surgery*. Dr. Burrell described the management of the strangulated hernia⁷, detailed indications for tracheotomy and intubation⁸, and published one of the earliest reports of direct thoracic surgical exposure for treatment of an innominate artery aneurysm⁹. Dr. Burrell served as President of the American Medical Association, Surgeon General of the Commonwealth of Massachusetts, Secretary of the American Surgical Association (1895-1901), and established the Society of Military Surgeons. He organized and served as Commander of the hospital relief ship Bay State, sent by Massachusetts to Cuba during the Spanish American War.



Hospital relief ship Bay State

Original Articles.**LIGATURE OF THE INNOMINATE ARTERY, WITH THE REPORT OF A CASE.¹**

BY HERBERT L. BURRELL, M.D., BOSTON.



THE ligature of the innominate artery has been so fatal an operation that it had been questioned whether the operation is justifiable or not. This leads me to record this case. Some of the accounts of attempts to ligature the artery describe such difficulties of technique, as, for example, in the article by Mitchell Banks, that any surgeon hesitates before performing this hazardous operation. The literature of the subject is not large, but it is filled with an almost unbroken record of fatal results. The causes of death as the result of the operation have been three: first, shock; second, hemorrhage, usually from the distal end of the artery; and, third, sepsis.

"There is a great work for us still in the future and I believe it to be this: That we shall strive to make this the center of the best surgery that is done in the world. Not that we can do such surgery, but that by cooperation in the work, we may help the men who are striving to advance surgery, and not themselves, to accomplish their end."

— Herbert L. Burrell, MD

Boston Medical and Surgical Journal, January 26, 1911

CARCINOMA OF THE HEAD OF THE PANCREAS*

BY IRVING J. WALKER, M.D., F.A.C.S.†

THE following study is based upon a series of fifteen consecutive cases of carcinoma of the head of the pancreas. These cases were treated during the last twenty-two months, thirteen in the Boston City Hospital and two in

Considering the approximate duration of the disease as being from the onset of symptoms to the time of seeking medical advice, which was four and one-half months, together with the fact that metastases were found in only three

LEADERS IN SURGERY INVESTIGATIONS



Irving J. Walker, MD

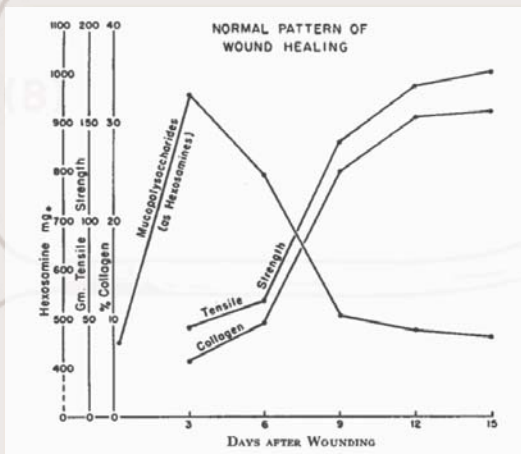
IRVING J. WALKER, MD (1880-1960), who served as Chief of the Fifth Surgical Service from the 1920s through the 1940s, established the Sears Surgical Research Laboratories in 1928, which was one of the earliest laboratories for surgical investigation in the United States. The Sears Laboratories would serve as a focal point for studies by residents and faculty of the Fifth Surgical Service, many of whom would shape their respective fields and emerge as leaders in American surgery. Dr. Walker¹⁰ wrote in 1931:

“The field of investigative surgery is a fertile one, and barely scratched, but for some time we have noted the fruits of surgical research. Witness the recent advance in surgery of the central and peripheral nervous system, the circulatory and respiratory systems, all primarily the products of the worker in the investigative laboratory. The path of progress of those devoting their lives to new lines of thought has never been rosy; their efforts have never been rewarded without some opposition... Let the surgeon always bear in mind that we should expect only a small but important percentage of the products of research to be positive findings applicable to the human.”

Investigations within the Sears Research Laboratories included deciphering the molecular basis for wound healing by J. ENGLEBERT DUNPHY, MD, future Chair of Surgery at the University of California – San Francisco^{11, 12}, as well as identifying the relationship between hepatic encephalopathy and ammonium metabolism by WILLIAM V. McDERMOTT, MD¹³⁻¹⁵. Along with JOHN (JACK) C. NORMAN, MD, Dr. McDermott would demonstrate that ex vivo perfusion of porcine livers could keep patients with end-stage liver disease alive for up to 18 days^{16, 17}.



J. Englebert Dunphy, MD



CHEMICAL AND HISTOCHEMICAL SEQUENCES IN THE NORMAL HEALING OF WOUNDS*

J. ENGLEBERT DUNPHY, M.D.,† AND K. N. UDUPA, M.S., F. R. C. S. (C)‡

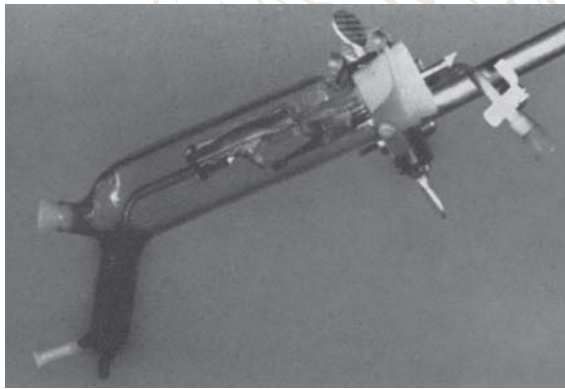
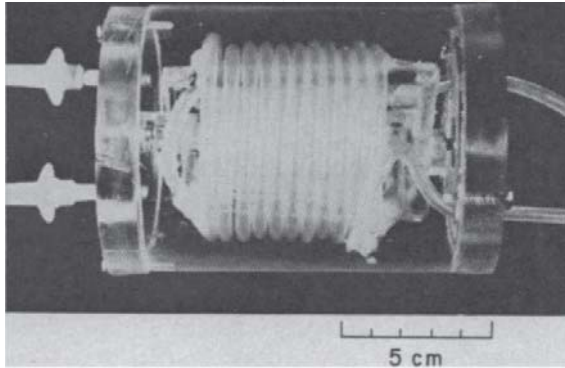
THE NEW ENGLAND JOURNAL OF MEDICINE

Nov. 17, 1955



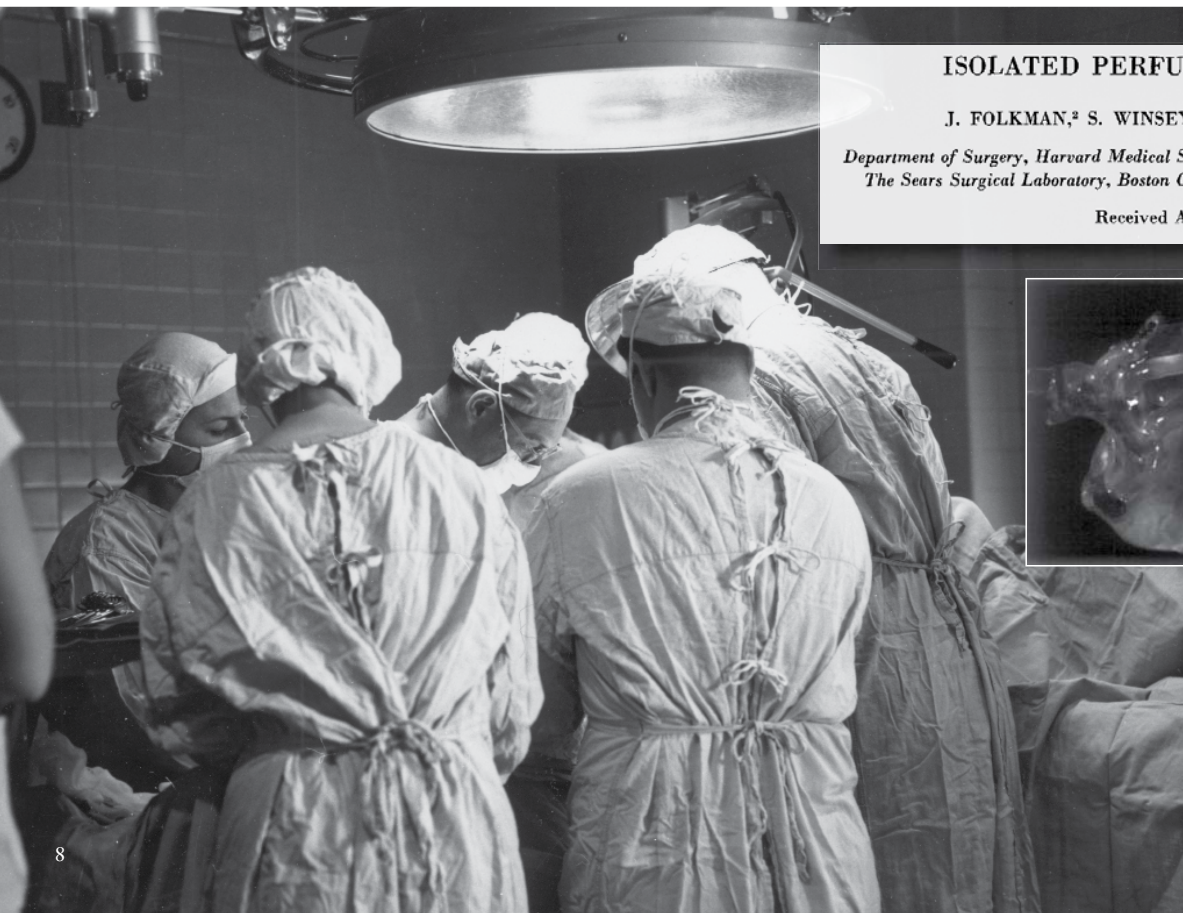
Segment of ileum with arcade

Silicone Rubber: A New Diffusion Property Useful for General Anesthesia



Prior to assuming the position of Chief of Surgery at Boston Children's Hospital, JUDAH FOLKMAN, MD (1933-2008), began his clinical and academic career as a member of the Fifth Surgical Service.

Working in the Sears Research Laboratories, Dr. Folkman was the first to demonstrate the principles of controlled drug delivery by the direct release of drugs from biomaterials¹⁸. He also developed the first generation of ex vivo organ bioreactors, proving that living organs could be maintained in a viable state outside the body for sustained periods¹⁹⁻²¹. These methodologies facilitated studies of tumor growth and metastasis, as well as fundamental investigations of the microcirculation, which laid the foundation for the discovery of tumor angiogenic factors, strategies to optimize organ preservation for transplantation, and other critical methodologies for the engineering of living tissues.

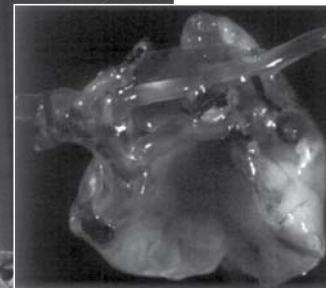


ISOLATED PERFUSION OF THYMUS¹

J. FOLKMAN,² S. WINSEY, P. COLE and R. HODES

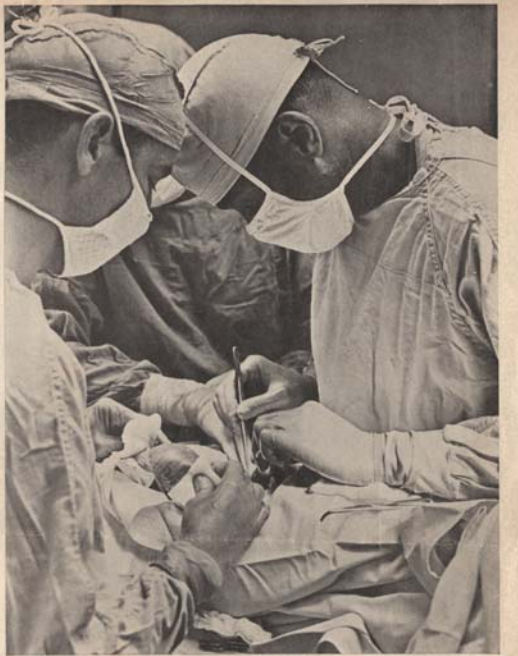
Department of Surgery, Harvard Medical School, Fifth (Harvard) Surgical Service and The Sears Surgical Laboratory, Boston City Hospital, Boston, Mass. 02118, USA

Received April 9, 1968



PIG LIVER: NEW 'SPARE' FOR HUMANS

At Boston City Hospital, Dr. John C. Norman, head of its Cardiovascular Clinic and a Harvard Medical School instructor, performs delicate hepatectomy on pig in which animal's liver is removed for "extracorporeal porcine liver perfusion" on liver diseased human. Major purpose of perfusion is to give human liver an opportunity to regenerate its powers while animal organ takes over temporarily. Dr. Norman's department functions under the supervision of Dr. William V. McDermott, professor of surgery and chief of the Harvard Surgical Services at Boston City Hospital.



Young Harvard medic heads crack surgical team in hooking up animal organ to woman

An excerpt from *Ebony Magazine*, 1965

JOHN (JACK) C. NORMAN, MD, led the Division of Cardiovascular Surgery on the Fifth Surgical Service. Working in the Sears Research Laboratories, Dr. Norman would design early ventricular assist devices and novel power sources^{22, 23}. He subsequently joined Denton Cooley, MD, at the Texas Heart Institute in 1972, where he developed and implanted the first abdominal left ventricular assist device and received the Congressional Technology Award in 1985. Dr. Norman was the first African-American to serve on the surgical faculty at Harvard Medical School, and as a member of the Fifth Surgical Service would reflect in the *New England Journal of Medicine* on challenges facing all Americans during the period of social upheaval following the murder of Martin Luther King²⁴.

Vol. 281 No. 25

MEDICINE IN THE GHETTO—NORMAN

1271

SPECIAL ARTICLE

MEDICINE IN THE GHETTO*

JOHN C. NORMAN, M.D.

Abstract The evolution of the problems of medicine in the ghetto is based on three and a half centuries of exploitation of society's major minority group. The problems are further compounded by the apparent benefit of society in continuing this exploitation, a relative lack of awareness and understanding of the ghetto resident and an appalling inadequacy of national priorities directed toward their benefit. These medical problems are inextricably intertwined with sociologic, economical, environmental and political factors that continue to dehumanize and demoralize. Taken together in their present form and magnitude, they represent one of society's major injustices and will continue to exist and increase until they receive the appropriate priorities and commitments based on the sincere and enlightened desires of all segments of society to make life livable for all its members.

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"The evolution of the problems of medicine in the ghetto is based on three and a half centuries of exploitation of society's major minority group... These medical problems are inextricably intertwined with the sociologic, economical, environmental and political factors that continue to dehumanize and demoralize. Taken together in their present form and magnitude, they represent one of society's major injustices and will continue to exist and increase until they receive the appropriate priorities and commitments based on the sincere and enlightened desires of all segments of society to make life livable for all its members."

— John (Jack) C. Norman, MD

New England Journal of Medicine 1969; 281:1271-1275.



The Fifth (Harvard) Surgical Service in 1968. Among those in the photo are: front row: Judah Folkman, MD (far left), William V. McDermott, MD (third from left), George H.A. Clowes Jr., MD (second from right), and Jacob Fine, MD (far right); second row: Anthony P. Monaco, MD (third from left), and John C. Norman, MD (fifth from right); third row: George L. Blackburn, MD, PhD (fifth from right).



Anthony P. Monaco, MD

ADVANCING TRANSPLANT SURGERY

On the Fifth Surgical Service, ANTHONY P. MONACO, MD, would advance the field of transplant surgery. Dr. Monaco identified and developed heterologous anti-lymphocyte antibodies as biological immunosuppression to prevent transplant rejection in animals^{25, 26}. This was the first demonstration that lymphocyte depletion with anti-lymphocyte antibodies could facilitate allograft tolerance in an otherwise immunologically competent adult animal. These studies were followed by the first demonstration of immunosuppressive effectiveness using anti-lymphocyte antibodies in humans²⁷. Anti-lymphocyte antibody remains the most widely used clinical biological immunosuppressant agent. Approximately 25% to 50% of all solid organ transplant recipients receive anti-lymphocyte antibodies at some time during their treatment.

Dr. Monaco was also responsible for investigations that led to the development of a bioartificial pancreas and the first report of the synergistic effects of donor bone marrow transplantation with anti-lymphocyte antibodies to

induce donor organ-specific suppression of the allograft response^{28, 29}. It is noteworthy that all current experimental protocols to induce clinical tolerance to solid organs continue to employ donor-specific bone marrow to facilitate tolerance induction. Dr. Monaco served as the Peter Medawar Professor of Surgery at Harvard Medical School, first at New England Deaconess Hospital, where he was Chief of Transplant Surgery, and subsequently at Beth Israel Deaconess Medical Center.

Antiserum to Lymphocytes: Prolonged Survival of Canine Renal Allografts

Abstract. A horse immunized with dog lymphocytes produced an antiserum which agglutinated canine lymphocytes in vitro and caused prolonged lymphopenia in dogs in vivo. Renal transplants in dogs treated with this antiserum survived for long periods, two of the grafts surviving beyond 350 days with normal function and histologic appearance.

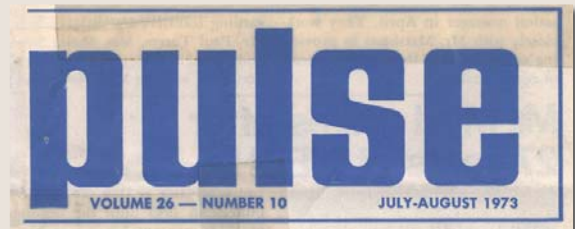
FIFTH SURGICAL SERVICE RELOCATES



William V. McDermott, MD

In 1973, WILLIAM V. McDERMOTT, MD (1917-2001), who had been Director of the Fifth Surgical Service and CHEEVER PROFESSOR OF SURGERY at Harvard Medical School since 1966, moved the entire Surgical Service — staff, residents, and students as well as the research activities of the Sears Research Laboratories and the Cheever Professorship of Surgery at Harvard Medical School — to New England Deaconess Hospital, where he assumed the position of Chief of Surgery until 1986.

Dr. McDermott and colleagues would later demonstrate that liver resection for colorectal metastases could improve disease-free survival³⁰. Also, he was among the first to perform a Roux-en-Y gastric bypass for the treatment of obesity³¹.



A clipping from the New England Deaconess Hospital in-house newsletter.

Harvard surgical service transfers base to NEDH

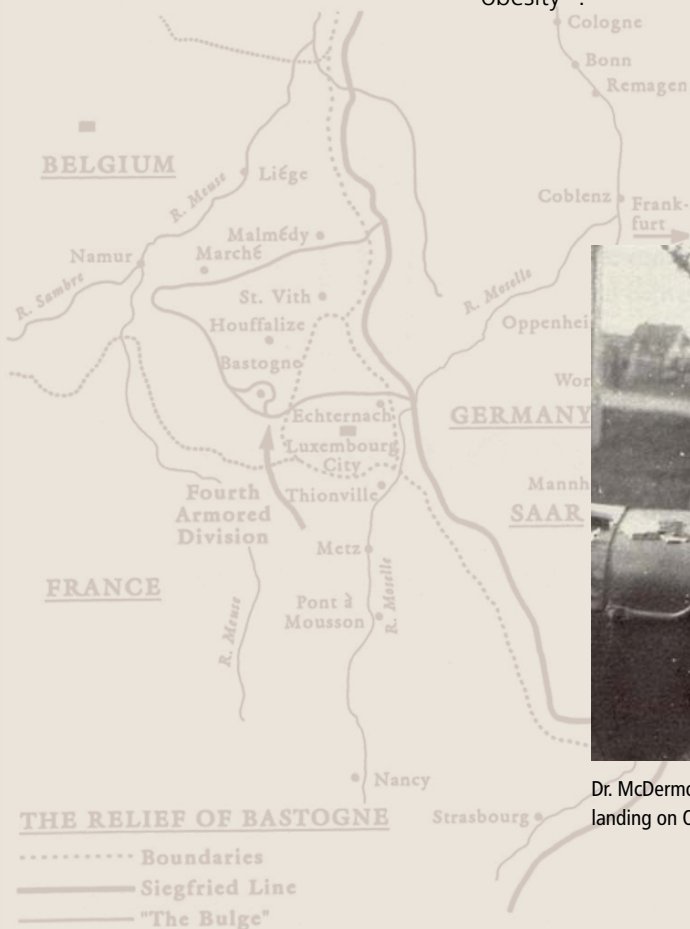
Effective July 1, 1973, the (Fifth) Harvard Surgical Service moved its base from Boston City Hospital to the New England Deaconess Hospital. Now called the New England Deaconess Hospital — Harvard Surgical Service, the program trains physicians interested in pursuing a surgical career.

Dr. William V. McDermott, the David W. and David Cheever Professor of Surgery at Harvard Medical School, is responsible for the overall educational program of residents in the NEDH — Harvard Surgical Service. When the residents are on rotation at NEDH, Dr. Cornelius Sedgwick, chairman of the department of surgery, is in charge of their training.

Forty surgery residents are enrolled in this year's program and, of these, approximately six are at the Deaconess during any given rotation. In addition to the Deaconess Hospital, they rotate through: Boston City Hospital, Cambridge City Hospital, Faulkner Hospital, Mt. Auburn Hospital and the Veterans Administration Hospital, Manchester, N. H.



Dr. McDermott served on the front lines during World War II, landing on Omaha Beach soon after D-Day.





New England Deaconess Hospital operating room scenes from 1951 (left) and 1983 (right).

Writing in *Science* in 1978, Dr. McDermott reflected on his experience and related challenges in the development and assessment of new surgical therapies. He was among the first to publicly advocate for the creation of a National Agency for Healthcare Research and Quality to assess the effectiveness of new surgical operations. In direct response to Dr. McDermott's advocacy, the Agency for Healthcare Research and Quality was created as a Public Health Service Agency in the U.S. Department of Health and Human Services in 1989.

"...It is apparent that reliable information documenting the benefits of a surgical procedure is often not obtained, and that a contributing cause is the uncontrolled variation in its application. What is required is a well-supervised collaborative observational study of a new procedure, a study in which documented protocols are followed and in which all relevant quantitative evidence is collected and analyzed according to predetermined statistical criteria..."

"...In focusing attention on procedures for evaluating the efficacy of a feasible new operation or the comparative efficacies of competing operations, we must not overlook the central role of innovation... One might properly regard the initial innovation as the beginning of a feasibility study, during which the physician-investigator develops and refines the new procedure and defines diagnostic criteria for its application. Independent review of the results would, when favorable, lead to collaborative trials..."

"...We recommend that an 'Institute of Health Care Assessment' be charged and adequately funded to provide independent evaluation of surgical procedures... and that old or established procedures be included as well as new..."

— William V. McDermott, MD³², 1978

TWO HOSPITALS, EACH A LEADER

Beth Israel and New England Deaconess hospitals became Beth Israel Deaconess Medical Center in 1996. But for nearly a century, each was a leader in health care with a long history of excellence in patient care, innovative research, and outstanding medical education.

New England Deaconess Hospital was originally founded in 1896 to care for the city's underserved residents as part of the charter of the Methodist deaconess movement. In 1916, Beth Israel Hospital was established by Boston's Jewish community to meet the needs of the growing immigrant population.



Beth Israel Hospital in 1949



New England Deaconess Hospital

Surgical leaders during the first half of the 20th century at New England Deaconess Hospital included FRANK H. LAHEY, MD, RICHARD H. OVERHOLT, MD, LELAND S. MCKITTRICK, MD, and F. HENRY ELLIS JR., MD. Dr. Lahey, who was also a member of the Fifth Surgical Service, was a pioneer in abdominal and thyroid surgery. He founded Lahey Clinic, which along with Mayo Clinic and Cleveland Clinic, was one of the first multispecialty clinics in the United States – all founded and led by surgeons.

DANIEL FISKE JONES, MD (1868-1937), was a member of the staff of New England Deaconess Hospital from 1898 until his death in 1937, serving as Chief of Surgery of Palmer Memorial Hospital, a member of the New England Deaconess Hospital system. Dr. Jones was a pioneer in colon and rectal surgery³³⁻³⁵, emphasized the early diagnosis of rectal cancer³⁶, and identified the relationship between biliary disease and pancreatitis³⁷. With the onset of World War I, Dr. Jones went to France as Surgeon-in-Chief of the Harvard Surgical Unit, initially on behalf of the British in 1916 and subsequently in the medical corps of the United States Army. Dr. Jones served as President of the American Surgical Association in 1933.

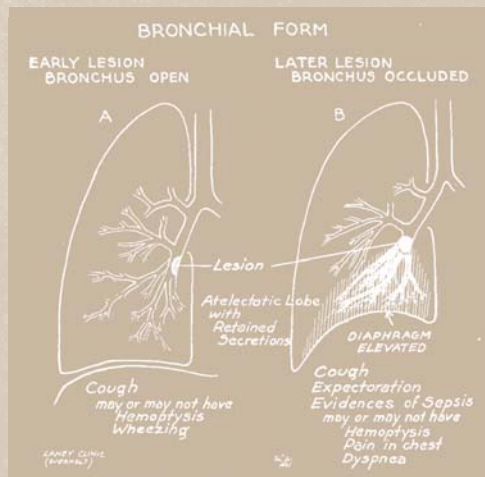


Daniel Fiske Jones, MD



Richard H. Overholt, MD

RICHARD H. OVERHOLT, MD (1901-1990), was an early leader in the anti-smoking movement and a pioneer in thoracic surgery. Dr. Overholt³⁸ performed the first successful right pneumonectomy for bronchogenic carcinoma on November 2, 1933 at New England Deaconess Hospital, approximately seven months after Evarts A. Graham, MD, conducted the first successful pneumonectomy for bronchogenic carcinoma of the left lung at Barnes Hospital in St. Louis.



FORM 50-22 H

PALMER MEMORIAL HOSPITAL
195 PILGRIM ROAD
AN INSTITUTION OF THE NEW ENGLAND DEACONESS HOSPITAL

NO 7802

BOSTON, MASS. AUG. 5 1935

CHARGE TO

Mrs. Florence Battey,
Room 416
Leaving today

FOR ACCOUNT OF BOARD, ROOM, CARE, ETC., FROM AUG. 1, TO AUG. 5,

		BILLS PAYABLE WEEKLY ROOM	
		4 DAYS	ROOM
		AT \$5.00	\$20.00
Laboratory examinations			6.00
Operating Room			7.50
			<u>\$33.50</u>
Paid in advance	\$35.00		
Refunded to Mrs. Battey	1.50		

arr. study. Cashier

The care of the diabetic patient, formerly a uniformly fatal disease, was pioneered in the United States with the administration of insulin by ELLIOTT P. JOSLIN, MD, and HOWARD F. ROOT, MD (1890-1967), at New England Deaconess Hospital in 1922.

ABDOMINAL SURGERY IN DIABETES *

DANIEL FISKE JONES, M.D.
LELAND S. MCKITTRICK, M.D.
AND
HOWARD F. ROOT, M.D.
BOSTON

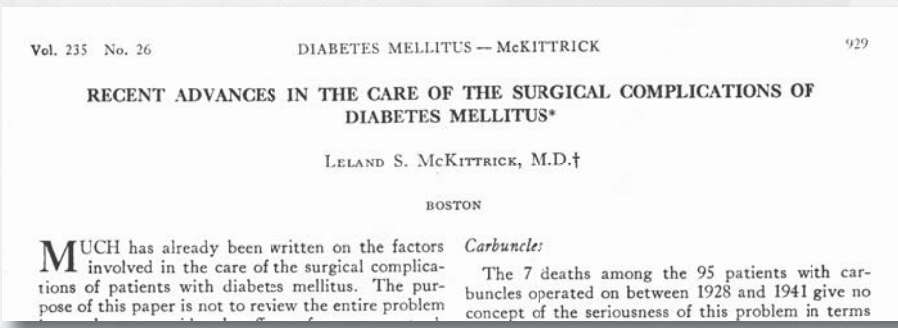


Leland S. McKittrick, MD

LELAND S. MCKITTRICK, MD (1893-1978), who served as Chief of Surgery at New England Deaconess Hospital between 1931 and 1966, wrote and lectured extensively on unique considerations in the surgical management of the diabetic patient³⁹. In particular, Dr. McKittrick developed new surgical approaches for limb preservation in diabetic patients with severe vascular disease⁴⁰. Through the introduction of the transmetatarsal amputation in 1944 and the judicious use of penicillin, he was able to reduce the overall mortality for amputations from 14% to 2.6%. For his contributions, Dr. McKittrick was the first surgeon to receive the Banting Medal for Scientific Achievement from the American Diabetes Association.



In 1963, Dr. McKittrick would serve as President of the New England Surgical Society and in 1966 as President of the American Surgical Association. He was deeply devoted to training future leaders in American medicine. During a period of great change in graduate medical education in the United States, Dr. McKittrick was a member of the Council of Medical Education of the American Medical Association for 11 years, five of those as Chair. He often reflected on how best to educate the next generation of surgeons^{41, 42}. Nearly a century after the founding of the Fifth Surgical Service, in 1960, he wrote:



“Human life is a frail and precious possession. Learning at the bedside or operating table should not come from trial and error but from maximum utilization of the experience of others toward the development of a pattern best suited to the individual student.”

Two years later, in 1962, Dr. McKittrick wrote:

“Knowingly or unknowingly the young physician accepts responsibilities and obligations not equaled by those entering any other profession; responsibilities for the maintenance of high moral and ethical standards in his relation to his associates, to the public he serves, and to the community in which he lives.”

Beth Israel Hospital

No less substantial accomplishments were being achieved during this same period on the Surgical Service at Beth Israel Hospital.

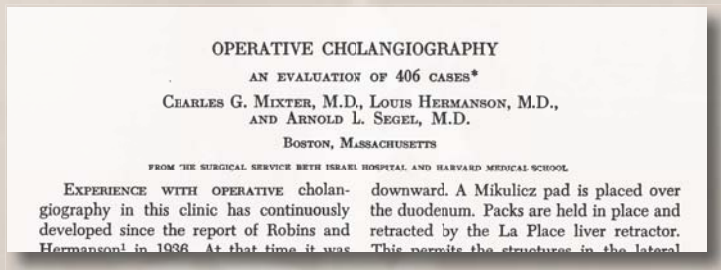


Louis Hermanson, MD

LOUIS HERMANSON, MD (1904-1989), was among the first to emphasize the prevalence of retained common bile duct stones after gallbladder surgery with the attendant risk of cholangitis⁴³. To address this challenge, Dr. Hermanson, along with CHARLES G. MIXTER, MD (1882-1965), who served as Chief of Surgery from 1931 to 1948, were the first to develop and popularize the technique of intraoperative cholangiography as a non-invasive intraoperative tool to assess for the presence of common duct stones to avoid unnecessary duct exploration or missed stones⁴⁴.

In a landmark 1939 report, HOWARD A. FRANK, MD (1914-2004), pioneered the use of synthetic vitamin K for the treatment of hypoprothrombinemia secondary to end-stage liver disease⁴⁵. During the early 1940s, Dr. Frank and JACOB FINE, MD (1900-1980), were among the first to highlight the value of venography for the diagnosis of deep venous thrombosis⁴⁶.

Perhaps of greatest significance, in the 1940s Dr. Frank, working with ARNOLD M. SELIGMAN, MD (1912-1976), was the first to demonstrate the feasibility of peritoneal dialysis for the treatment of renal failure in animal studies and subsequently in patients⁴⁷.



Charles G. Mixter, MD



THE VENOGRAPHIC DIAGNOSIS OF
THROMBOPHLEBITIS OF THE
LOWER EXTREMITIES

ARNOLD STARR, M.D.
HOWARD A. FRANK, M.D.
AND
JACOB FINE, M.D.
BOSTON



Howard A. Frank, MD

Beginning in the 1930s, Dr. Fine, who later served as Chief of Surgery from 1948 to 1966, performed a series of innovative studies that would define fluid requirements for resuscitation in the presence of traumatic shock or intestinal obstruction⁴⁸⁻⁵¹. These studies led to the introduction of the concept of "third space" fluids, which emphasized the need to account for substantial losses of fluid into the interstitial tissue spaces, despite the absence of overt blood loss.

Concentrations of Urea and Calculated Urea Clearances

Day *	Peritoneal Fluid			Urine			Blood, Urea N Conc., Mg. per 100 Cc.
	Flow Rate, Cc./Min.	Urea N Conc., Mg. per 100 Cc.	Blood Urea Clearance, Cc./Min.	Flow Rate, Cc./Min.	Urea N Conc., Mg. per 100 Cc.	Blood Urea Clearance, Cc./Min.	
1	25	24.4	8.4	....	....	....	72.7
2	33	27.4	14.5	0.021	85.0	0.029	62.2
3	25	28.1	13.8	0.041	66.0	0.053	50.6
4	25	26.0	17.2	0.280	75.0	0.55	37.8
5	13	31.2	9.5	0.550	50.0	0.65	42.8
6	35	21.0	19.4	1.10	62.5	1.82	37.8
7	29	26.5	21.0	1.87	32.5	1.65	36.7
8	..	....	....	1.74	145.0	7.60	33.3
9	..	....	....	1.40	255.0	9.70	35.8
10	..	....	....	2.30	193.0	14.80	30.0
11	..	....	....	3.30	225.0	24.70	..
12	..	....	....	1.74	370.0	26.00	..
13	..	....	....	1.00	392.0	28.50	22.0

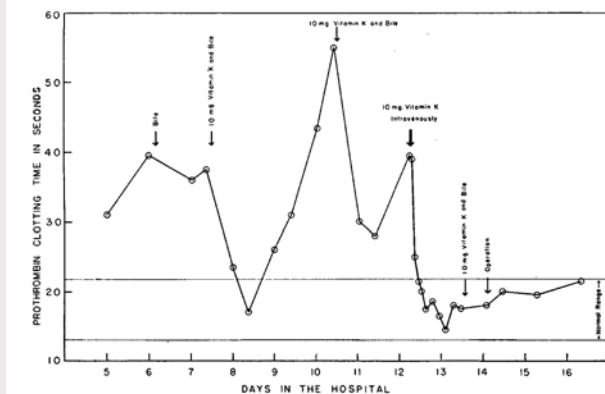
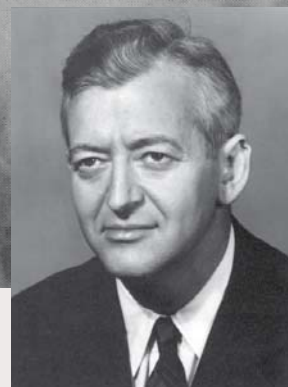
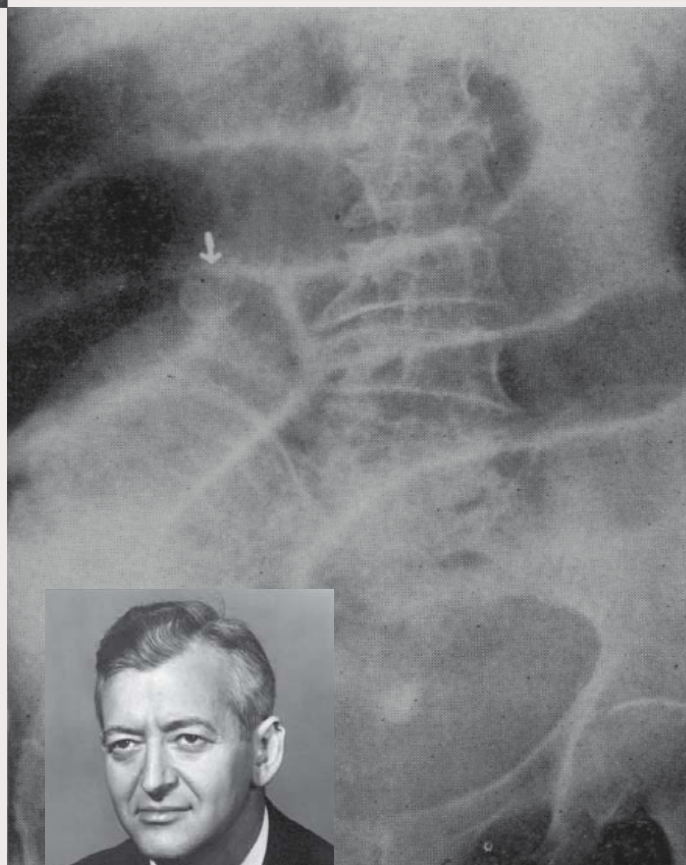


FIGURE 1. Responses in Terms of Drops in Prothrombin Clotting Time Following Oral and Intravenous Administration of Synthetic Vitamin K₁.

TRAUMATIC SHOCK. VII. A STUDY OF THE PROBLEM OF THE
"LOST PLASMA" IN HEMORRHAGIC, TOURNIQUET, AND
BURN SHOCK BY THE USE OF RADIOACTIVE
IODO-PLASMA PROTEIN¹

By JACOB FINE AND ARNOLD M. SELIGMAN
(From the Surgical Research Department, Beth Israel Hospital, Boston, and
the Department of Surgery, Harvard Medical School, Boston)



Jacob Fine, MD

IMPORTANT ADVANCES

In the latter half of the 20th century, important advances would continue to arise from members of the Surgical Services at both Beth Israel and New England Deaconess hospitals.

Working at Beth Israel, Dr. Frank, in collaboration with cardiologist, **PAUL ZOLL, MD**, designed and surgically inserted the first fully implantable cardiac pacemaker in 1960 in a patient with Stokes-Adams disease⁵².

ROBERT M. GOLDWYN, MD (1930-2010), who served on the faculty of Beth Israel beginning in the 1960s and as Chief of Plastic Surgery from 1972 to 1996, described the feasibility of creating and using a “free vascularized tissue flap” in reconstructive surgery⁵³. He also pioneered the inferior pedicle technique for reduction mammoplasty, which remains the most common surgical approach for breast reduction. Dr. Goldwyn, a man of great social conscience, wrote about the moral hazards of chemical and biological weapons. He was also a founding member of Physicians for Social Responsibility, which shared the 1985 Nobel Peace Prize awarded to the International Physicians for the Prevention of Nuclear War for building public pressure to reverse the nuclear arms race.



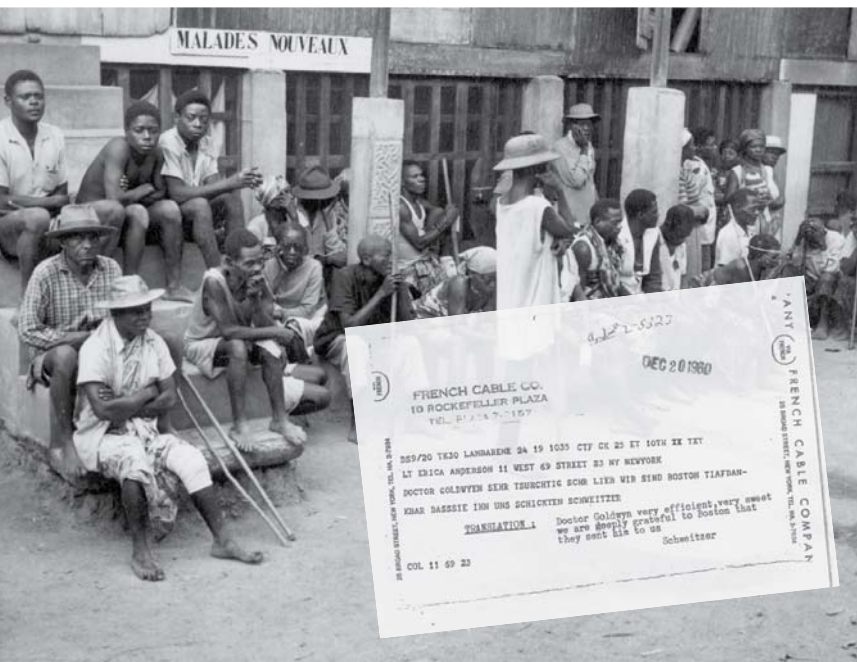
Paul Zoll, MD (left), with Howard A. Frank, MD, and their implantable cardiac pacemaker. (Image courtesy of Stafford Cohen, MD)



Robert M. Goldwyn, MD, with Albert Schweitzer at the Albert Schweitzer Hospital in Lambaréné, Gabon. Above, the Nobel Peace medal

“Through the centuries physicians have labored to eradicate the afflictions now being considered for possible release on alien populations. To condone such a prospect seems a tragic reversal of Hippocrates’ admonition: ‘...I will use treatment to help the sick according to my ability and judgment, but never with a view to injury and wrong-doing. Neither will I administer a poison to anybody when asked to do so nor will I suggest such a course...’”

— Robert M. Goldwyn, MD (1966)⁵⁴



*La salle d'attente. Hospital Schweitzer
du Dr Goldwyn avec mes bons
pensées Albert Schweitzer 30.12.60*



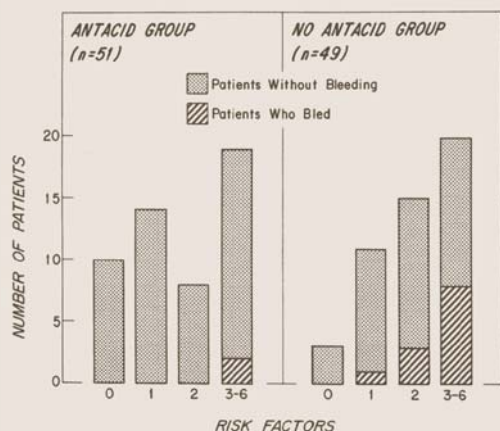
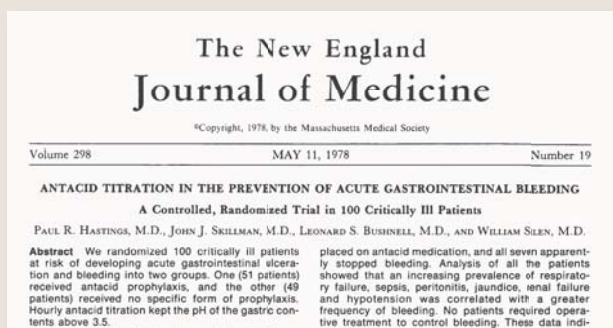
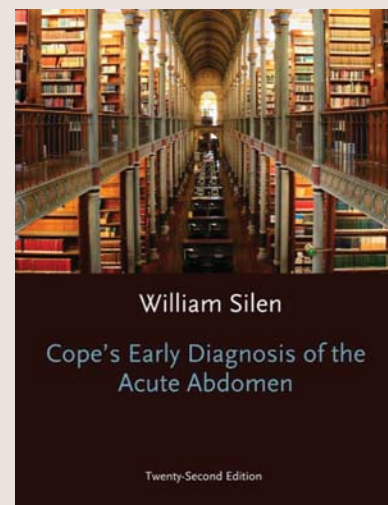
William Silen, MD

WILLIAM SILEN, MD, who served as Chief of Surgery at Beth Israel from 1966 to 1996, performed fundamental physiological studies on the role of gastric acid secretion in stress ulcer formation, while elucidating strategies for its pharmacologic prevention in a series of clinical trials⁵⁵⁻⁵⁷. Dr. Silen was the first surgeon to be President of both the Society of Surgery of the Alimentary Tract and the American Gastroenterological Association, and only one of two surgeons to receive the Julius M. Friedenwald Medal.

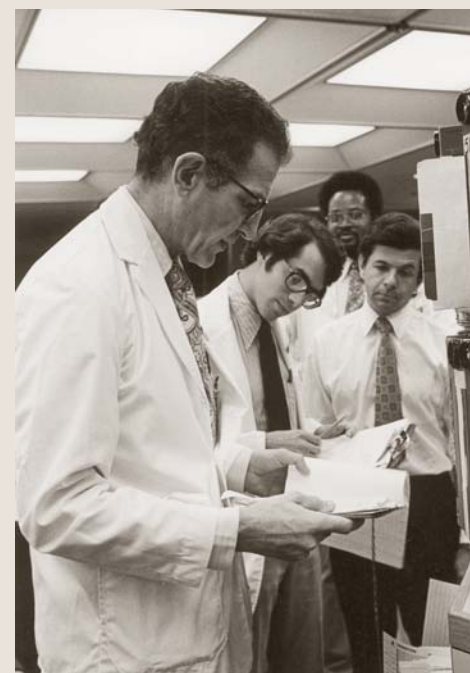
Dr. Silen believed in the importance of mentorship of medical students and surgical residents and in the commitment of the clinician-teacher to producing a “true surgeon,” which he defined as:

“...an excellent internist who happens to have in addition a therapeutic modality that internists don't have...”

For over three decades, Dr. Silen edited *Cope's Early Diagnosis of the Acute Abdomen*, a text beloved by generations of medical students and residents for its clinical pearls of wisdom. A review in the *New England Journal of Medicine* noted that “...if only one book about surgery could be made available to physicians from all specialties, it should probably be Silen's recent revision of *Cope's Early Diagnosis of the Acute Abdomen*. Since the book first appeared, it has remained the classic treatise on the initial approach to abdominal pain.”



Dr. Silen recognized the importance of mentorship in maximizing the potential of faculty, students, and residents. At times, Dr. Silen viewed his role as a didactic instructor — at other times, a seeker of talent, upholder of the very highest standards, tough taskmaster, compassionate listener, and dedicated and patient teacher. Fittingly, Dr. Silen served as the first Dean for Faculty Development and Diversity at Harvard Medical School. In 2001, to honor Dr. Silen's lifetime commitment and devotion to mentoring, Harvard Medical School established the William Silen Lifetime Achievement in Mentoring Award.



William Silen, MD



William Silen, MD

Above all, Dr. Silen believed in the importance of teaching by example in the operating room and at the bedside. Late in his career, he reflected⁵⁸:

“It is my contention that clinical skills and professionalism can only be acquired by the student or resident if the experienced and committed excellent clinician-teacher integrates teaching into the daily and ongoing care of patients.”

Control



Edward W. Salzman, MD

As Chief of Vascular Surgery at Beth Israel, EDWARD W. SALZMAN, MD (1929-2011), demonstrated that platelet aggregation is favored by increased adenosine diphosphate (ADP) and inhibited by an increase in cyclic AMP⁵⁹⁻⁶¹. These studies motivated the design of a wide range of pharmacological inhibitors of platelet activation, including phosphodiesterase inhibitors such as dipyridamole (Persantine, Aggrenox) and cilostazol (Pletal); the clinical introduction of the prostaglandin, PGE1; and the development of ADP receptor antagonists such as clopidogrel (Plavix).



Heparin

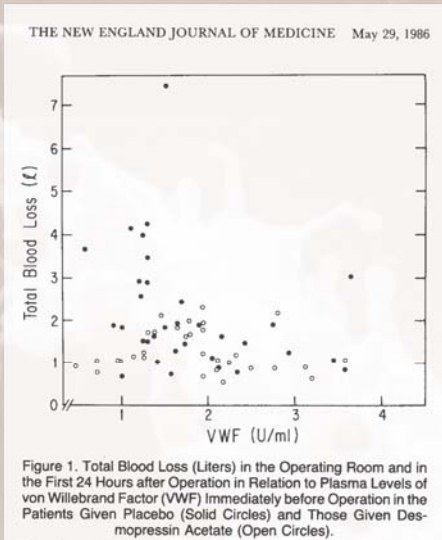


Figure 1. Total Blood Loss (Liters) in the Operating Room and in the First 24 Hours after Operation in Relation to Plasma Levels of von Willebrand Factor (VWF) Immediately before Operation in the Patients Given Placebo (Solid Circles) and Those Given Desmopressin Acetate (Open Circles).

Together with JOHN SKILLMAN, MD, Dr. Salzman demonstrated the effectiveness of external pneumatic compression boots to prevent deep venous thrombosis in the neurosurgical patient⁶². Dr. Salzman also recognized that a protein cofactor was required as a mediator of heparin-induced thrombocytopenia (HIT) and predicted the likelihood that low molecular weight fractions of heparin could reduce the risk of HIT⁶³. In addition, he established that von Willebrand's disease is caused by malfunctioning platelets and, in the process, discovered that desmopressin acetate (DDAVP), which increases the plasma level of von Willebrand factor, can improve hemostasis in conditions associated with defective platelet function, such as cardiac surgery⁶⁴.

Dr. Salzman, working with EDWARD W. MERRILL, ScD, in the Department of Chemical Engineering at Massachusetts Institute of Technology, also defined a variety of new strategies to produce non-

thrombogenic surfaces, including the first description of poly(ethylene oxide) as a biocompatible, non-adsorptive polymer to create more clinically effective blood contacting devices⁶⁵. Dr. Salzman served as co-editor of the first edition of the classic textbook *Thrombosis and Hemostasis*, and was the recipient of the Distinguished Career Award from the International Committee on Thrombosis and Hemostasis.

ADP, 2^o

Prior to his appointment as Chief of Neurosurgery at Massachusetts General Hospital, **NICHOLAS T. ZERVAS, MD**, served as the first Chief of Neurosurgery at Beth Israel Hospital. While at Beth Israel in 1970s, Dr. Zervas was the first to demonstrate the value of hyperventilation in the acute treatment of transtentorial cerebral herniation⁶⁶. During this period, he was also the first to describe stereotactic guidance of an endoscope to treat pituitary hemorrhage to avoid craniotomy. Stereotactic guidance of endoscopes remains a widespread minimally invasive technique in neurosurgery⁶⁷.



F. Henry Ellis Jr., MD

F. HENRY ELLIS JR., MD (1920-2011), initially at Mayo Clinic and subsequently as Chief of Cardiothoracic Surgery at New England Deaconess Hospital, pioneered the surgical treatment of cancer of the esophagus and stomach, and esophagomyotomy for the treatment of achalasia⁶⁸⁻⁷¹.

During the last decades of the 20th century, the field of surgical oncology developed as a distinct specialty bridging multiple clinical and investigative disciplines. **GLENN STEELE JR., MD, PhD**, working with **BLAKE CADY, MD**, **ROGER JENKINS, MD**, and others at New England Deaconess contributed to the development of a new treatment paradigm for patients presenting with colorectal cancer metastatic to the liver. Through both surgical innovation and a consideration of biological factors, their work demonstrated that cure could be achieved in appropriately selected patients, in contrast to then-currently held dogma⁷²⁻⁷⁴. Dr. Cady served as President of the Society of Surgical Oncology and the American Association of Endocrine Surgeons, among other organizations. Dr. Steele was Chair of the Department of Surgery at New England Deaconess between 1985 and 1995, as well as Chairman of the American Board of Surgery. He subsequently served as Dean of the Pritzker School of Medicine at the University of Chicago, and as CEO of Geisinger Health System, where his efforts focused on population-based health care delivery, which has served as a national model for re-engineering the U.S. health care system.



Glenn Steele Jr., MD, PhD

SUCCESSFUL TREATMENT OF CEREBRAL HERNIATION IN FIVE PATIENTS

NICHOLAS T. ZERVAS, M.D., AND JOHN HEDLEY-WHYTE, M.D.

Abstract Five patients had decerebration secondary to intracranial hemorrhage. In two intracerebral bleeding was caused by ruptured cerebral aneurysms, in three by trauma. Preoperative treatment consisted of endotracheal intubation followed by hyperventilation; mannitol was also given. Four patients received dexamethasone. Reduction in the size of the dilated pupils and cessation of decerebrate posturing were noted in the two patients with aneurysms before operative evacuation of the hematoma.

Blood gas analysis before operation, but after medical decompression with mannitol and dexamethasone, demonstrated arterial carbon dioxide tensions ranging from 26 to 46 mm of mercury (average, 36 mm), and arterial pH from 7.30 to 7.51 (average, 7.42). After operation, when hematoma had been evacuated, decerebrate rigidity was absent, and anisocoria was improved. All patients were fully conscious within two to 26 hours and ultimately regained normal intellectual and psychologic function.



Sidney Levitsky, MD, in Vietnam (left, and far left in photo below).



PIONEERS IN REVIVING THE ISCHEMIC HEART

SIDNEY LEVITSKY, MD, would follow Dr. Ellis as Chief of Cardiothoracic Surgery. As a consummate surgeon-investigator, Dr. Levitsky directed a National Institutes of Health-funded laboratory for more than three decades, receiving the Society of Thoracic Surgeons-Earl Bakkan Scientific Achievement Award and the A.V. Vishevsky Surgical Medal for his studies related to myocardial ischemia-reperfusion injury⁷⁵. Dr. Levitsky performed New England's first minimally invasive coronary artery bypass surgery in 1995 and in 2006 served as President of the Society of Thoracic Surgeons.

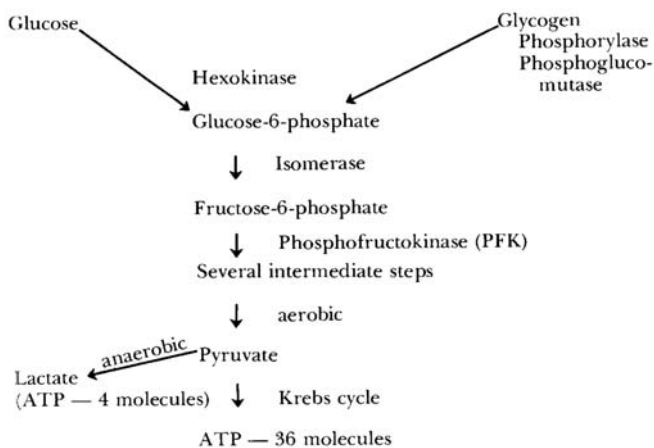
Additional contributions to the field of minimally invasive cardiac surgery by faculty at Beth Israel Deaconess Medical Center included the development of the Cohn cardiac stabilizer to facilitate surgery on the beating heart⁷⁶. Cardiac surgeons and cardiologists at BIDMC have also provided national leadership in clinical trials of transcatheter aortic valve implantation (TAVI) and have introduced innovative new approaches for the application of intraoperative echocardiography to improve surgical outcomes of mitral valve repair.

THE ANNALS OF THORACIC SURGERY

VOL. 20, NO. 1, JULY, 1975

Biochemical Changes of Ischemia

Sidney Levitsky, M.D.,* and Harold Feinberg, Ph.D.



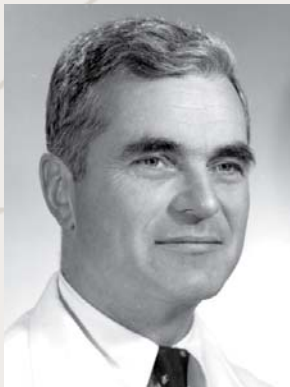
Steps occurring during glycolysis following aortic cross-clamping

ADVANCES IN SURGICAL NUTRITION



George L. Blackburn, MD, PhD

contributed to the catabolic state of the surgical patient⁷⁸. To address these challenges, Dr. Blackburn,



George H.A. Clowes Jr., MD

In contrast to the high proportion of hospitalized patients suffering from malnutrition, Dr. Blackburn and colleagues also recognized that poor nutrition among the general population was contributing to a growing epidemic of obesity in the United States. Dr. Blackburn, along with **WILLIAM V. McDERMOTT JR., MD** (1917-2001), and **ALBERT E. BOTHE JR., MD**, were the first to perform a Roux-en-Y gastric bypass in New England for treatment of the morbidly obese patient³¹.

Dr. Blackburn would later develop the first evidence-based guidelines for weight loss surgery, catalyzing the formation of accreditation bodies and standards for certification of weight loss surgery centers and providers across the United States⁸³. More recently, he has highlighted a novel link between diet and cancer, demonstrating that reducing dietary fat intake improves disease-free survival among breast cancer patients⁸⁴.

GEORGE L. BLACKBURN, MD, PhD, in the Department of Surgery, and Bruce Bistrian, MD, in the Department of Medicine, were the first to recognize in the 1970s that up to 50% of hospitalized surgical patients suffered from moderate to severe protein calorie malnutrition⁷⁷.

GEORGE H. A. CLOWES JR., MD, (1915-1988), would later discover that interleukin-1 α (IL-1 α) served as a central regulator of inflammatory responses in patients with sepsis and trauma, and

who currently holds the S. Daniel Abraham Professorship in Nutrition Medicine at Harvard Medical School, pioneered the development of intravenous hyperalimentation formulations; introduced, along with others, novel formulations containing branch chain amino acids; and established the first multidisciplinary Nutrition Support Service in the United States for the safe delivery of total parenteral nutrition⁷⁹⁻⁸².



New England Deaconess Hospital, 1983



TRANSPLANT IMMUNOLOGY TRAILBLAZERS



Fritz H. Bach, MD

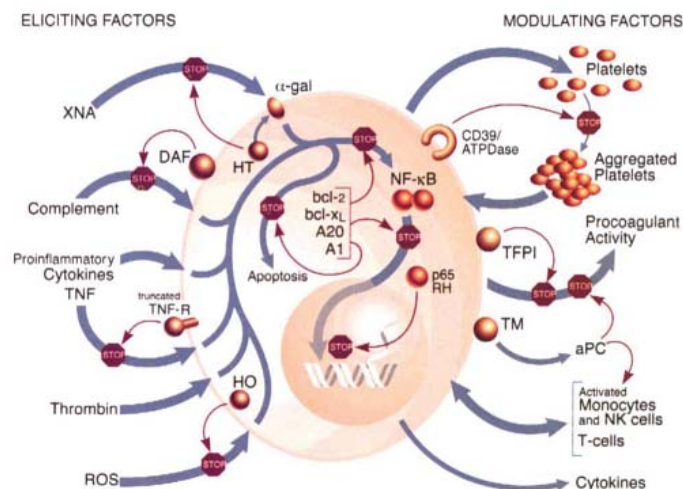
FRITZ H. BACH, MD (1934-2011), was a member of the Department of Surgery at New England Deaconess Hospital and subsequently at BIDMC, where he held the Lewis Thomas, MD, Professorship of Surgery at Harvard Medical School. Earlier in his career, Dr. Bach performed seminal work to identify the molecular features that dictated the compatibility of a donor organ with a potential transplant recipient⁸⁵. These studies led to the identification of the major histocompatibility complex and a rapid assay to determine the immunological suitability of a donor kidney for transplantation in a given recipient⁸⁶⁻⁹⁰.

Dr. Bach attracted and mentored a vibrant group of innovative colleagues at BIDMC to develop new strategies to block factors that lead to organ rejection while eliciting those factors that would promote graft survival. Their investigations have revealed that the protein A20 is a potent anti-inflammatory molecule with therapeutic implications in a variety of diseases⁹¹⁻⁹³, and that carbon monoxide (CO) is a critical intracellular signaling molecule with pronounced anti-inflammatory and anti-neoplastic properties⁹⁴⁻¹⁰⁰.

The growth of the transplant surgery program led the surgical team at New England Deaconess to perform New England's first liver transplant in 1983, and the first living-donor liver transplant at BIDMC in 1998. Continued advances by BIDMC surgical faculty with a focus on pancreatic and biliary disease led to the first application of CyberKnife radiosurgical treatment in 2005 and, in 2012, the first robotic pancreatectomy and Whipple operations, as well as the first single-port robotic cholecystectomy and gastric bypass in New England.



Liver transplant team, New England Deaconess Hospital, 1984



Nature Medicine 1997; 3(9):944-948.

SAVING LIMBS



Frank W. LoGerfo, MD

Leading the vascular surgery program at New England Deaconess Hospital and subsequently at BIDMC, FRANK W. LoGERFO, MD, dispelled the prevailing notion that diabetes was associated with a microvascular occlusive lesion that precluded successful distal arterial reconstruction. It

was this new concept that paved the way for reducing amputation rates by perfecting techniques for arterial revascularization through the use of distal vein bypass grafts for limb salvage^{101, 102}. This would establish a foundation for later work by members of the vascular surgery faculty in advancing minimally invasive techniques for the treatment of peripheral arterial disease.

In the 1980s, Dr. LoGerfo initiated the first NIH-funded surgeon-scientist training program of any specialty, which brought together surgeons, scientists, and engineers from across the Harvard and Massachusetts Institute of Technology communities to serve as mentors for surgical residents. This program provided an important touchstone for many of the current leaders in American vascular surgery. Dr. LoGerfo served as one of the initial Chairs of the Vascular Surgery Board of the American Board of Surgery, which contributed to the creation of a new system for the evolution of surgical specialties whose origins were in the field of general surgery. The Surgical Forum of the American College of Surgeons was dedicated in Dr. LoGerfo's honor in 2010. In 2013, Dr. LoGerfo received the Lifetime Achievement Award from the Society of Vascular Surgery.

MEDICAL INTELLIGENCE



CURRENT CONCEPTS

VASCULAR AND MICROVASCULAR DISEASE OF THE FOOT IN DIABETES

Implications for Foot Care

FRANK W. LoGERFO, M.D.,
AND JAY D. COFFMAN, M.D.



New England Journal of Medicine 1984;
311:1615-1619.

BIDMC SURGERY TODAY

It is difficult to measure the relative significance of what our current era is contributing to the history of medicine, so we will leave that to future generations to assess.

Today, the Department of Surgery at Beth Israel Deaconess Medical Center consists of over 100 faculty, approximately 400 support staff, and nearly 100 surgical residents and clinical fellows in eight training programs.

As a curious, inquisitive community, we are joined by more than 50 postdoctoral fellows and graduate students who work with our faculty — to each own a question. In a typical year, members of our department contribute to the arena of ideas through publishing, on average, some 600 scholarly articles, as well as many textbooks, in the fields of both surgery and the biomedical sciences.

As the central academic hub for a healthcare network of multiple hospitals and clinics that are spread throughout eastern Massachusetts, close to 30,000 operative procedures are performed each year, making Beth Israel Deaconess Medical Center one of the busiest centers for surgical care in the United States, drawing patients, trainees, and faculty from around the nation and the world.

As the Department of Surgery recognizes its 150th anniversary, we look back with gratitude and humility to those whose vision — in operating rooms, clinics, and at the bedsides of patients — set us upon this journey. Their dedication and perseverance created an environment that embraces the pursuit of new wisdom, not merely the production of new information; a community that joins as one to nurture the next generation of leaders capable of rising to future crises and challenges; and a system of shared values in which each individual can fulfill his or her unique potential in the service of others.

Over the final destiny of world affairs, we humans have perhaps less control than we sometimes lead ourselves to believe. After all, the greatest satisfaction in life is the satisfaction derived from the inherent knowledge that in our hearts we can truthfully say that from day to day and from year to year we have honestly and faithfully rendered humanity the best we knew how.



“WE LIVE IN DEEDS, NOT YEARS; IN THOUGHTS, NOT BREATHS:
IN FEELINGS, NOT IN FIGURES ON A DIAL.
WE SHOULD COUNT TIME BY HEART THROBS.
HE MOST LIVES
WHO THINKS MOST, FEELS THE NOBLEST, ACTS THE BEST.”

— Irving J. Walker, MD, 1931

Quoting English poet Philip James Bailey (1816-1902)
in the *New England Journal of Medicine*¹⁰



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Cover image: Dr. Herbert L. Burrell (standing, far right), observing
an operation.



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