Man-made vein

WU researchers making headway in heart surgeons’ stumbling blocks

A man-made vein on the drawing board at WU could reduce the risk, time and cost of coronary bypass surgery, according to researchers. The small-diameter synthetic vein is intended to replace “nature’s spare part,” as surgeons call a tiny vein that runs the length of the thigh and is now used in the life-saving operations.

In an estimated 15 percent of coronary artery disease victims, an adequate length of leg vein is unavailable due either to disease or previous operations. A synthetic vein developed for these patients could supplement the thigh vein as the surgeon’s first choice, thereby eliminating the trauma and expense of leg surgery.

Prosthetic vascular grafts (PVGs) have been used successfully in lower limb reconstruction, kidney surgery and other operations. But the diameters of those grafts are relatively large. Heart surgery requires grafts of spaghetti-thin dimensions — less than three millimeters. The challenge for researchers is getting these tiny PVGs to remain unclugged as long as or longer than native vein grafts.

The need for a reliable synthetic graft is so pressing that the National Institutes of Health has requested research proposals on small diameter PVGs from the scientific community at large.

For the surgeon, a good PVG would mean a more tailored operation. “When you’re harvesting veins from the leg, you have no choice as to diameter,” says Jon Moran, M.D., assistant professor of cardiothoracic surgery at the School of Medicine.

“You have to take what you can get, then nip and tuck it into place. With an adequate PVG, you could have a variety of sizes and ensure a perfect fit,”

To date, researchers have had problems in three major areas: clotting at the junction of the graft and the native vein, clumping of blood cells and proteins on the graft’s inner wall, and administering the anti-clotting drugs precisely at the site of the graft.

John Kardos, Ph.D., director of the Materials Research Laboratory, displays a model of a small diameter synthetic vein graft. Kardos was part of a WU research team that worked on ways to overcome the problem of blood clots in synthetic veins with diameters of three millimeters or less. This research could lead to faster, cheaper and easier coronary bypass surgery.

The need for a reliable synthetic graft is so pressing that the National Institutes of Health has requested research proposals on small diameter PVGs from the scientific community at large.

For the surgeon, a good PVG would mean a more tailored operation. "When you’re harvesting veins from the leg, you have no choice as to diameter," says Jon Moran, M.D., assistant professor of cardiothoracic surgery at the School of Medicine.

"You have to take what you can get, then nip and tuck it into place. With an adequate PVG, you could have a variety of sizes and ensure a perfect fit,"

To date, researchers have had problems in three major areas: clotting at the junction of the graft and the native vein, clumping of blood cells and proteins on the graft’s inner wall, and administering the anti-clotting drugs precisely at the site of the graft.

John Kardos, Ph.D., director of the Materials Research Lab, determined that the clotting was partly due to a mismatch of properties. "No wonder they were clotting," he says. "It was like trying to patch a garden hose with a steel pipe." Kardos uses polyetherurethane, a material with mechanical properties similar to those of the native vein.

Richard Clark, M.D., formerly of WU and currently chief of surgery at the Heart, Lung and Blood Institute of the National Institutes of Health, suggested a type of microscopic etching called ion-thrusting to address the problem of blood particles attaching to the graft’s inner wall. Clark proposed using high velocity ions to etch geometric patterns into Kardos’ material. "That wouldn’t stop the blood particles from attaching to the wall," he says. "but it should make them cling in a rather ordered and monolayered pattern rather than in random clumps. So the chance of clotting would be reduced."

Still, even the best PVG lacks a lining of endothelium, the body’s own defense against blood clots. That’s why anti-clotting drugs are almost always administered after bypass surgery to help the grafted vein stay open.

Enter Robert Sparks, Ph.D., professor of chemical engineering, and Norbert Mason, Ph.D., senior research associate. On the PVG’s inner wall, they trapped anti-clotting drugs.

Holtzman reviews future of women in politics

Former U.S. Congresswoman Elizabeth Holtzman will speak on “The Future of American Women in Politics” at 11 a.m. Wednesday, Sept. 19, in Graham Chapel. The lecture, which is free and open to the public, is sponsored by the Assembly Series, the Women’s Programming Board and Student Union.

Holtzman made history in 1981 when she was elected the first woman district attorney in New York City. She has served as district attorney of Kings County since she took office January 1, 1982. It was, however, not the first time she had broken new ground. When she was elected to the U.S. House of Representatives in 1972, she was the youngest woman ever chosen for that office.

During her four terms of office in Congress, Holtzman was a member of the Judiciary Committee and served as the chair of the Subcommittee on Immigration, Refugees and International Law. She participated in the Judiciary Committee’s deliberations on the impeachment of former President Richard Nixon, and took part in the questioning of then President Gerald Ford about the Nixon pardon.

As a Congresswoman, she won international attention for forcing the Justice Department to create a special unit to locate, investigate and deport alleged Nazi war criminals. More than 20 deportations were ordered and 200 cases were investigated as a result of the creation of this unit.

In 1977, she helped found the first Congresswoman’s Caucus, which is a bipartisan group dedicated to improving the legal and social status of women. She also authored the legislation extending the deadline for ratification of the Equal Rights Amendment.

In 1980, Holtzman was New York’s first woman nominated to the Senate, losing the election by less than one percent of the six million votes cast.

She received a bachelor’s degree, magna cum laude, from Radcliffe and a law degree from Harvard Law School.
Volunteers needed for study on coping with chronic pain

New techniques on how to cope with chronic pain are being offered at no cost to volunteers willing to participate in a program sponsored by WU's Department of Psychology.

The program is limited to individuals with many types of chronic pain problems of four months' duration or longer, and who can make a 10-week commitment. According to Robin Puder, a clinical psychologist in advanced stages of training, the learning strategies which will be taught here have proven to be successful, and there are no known risks or adverse effects. Each participant's physician will be contacted.

The cognitive behavioral treatments include training in relaxation, deep breathing, coping strategies for pain control, sharing experiences, and learning new attitudes toward coping with the pain experience.

This program has been fully approved by the WU Standard Committee on the Use of Human Subjects. For more information about the Chronic Pain Treatment Program, contact the project director, Robin Puder, at 889-6386.

Man-made vein—continued from p. 3

which could be dispensed for weeks or even months after the operation. "It works something like a paintbrush," says Sparks.

Though this technique has never been used on human subjects, this "controlled drug release" technology may be the key to keeping synthetic grafts open and functioning. "The material and the etching are both ad-

Preserving history of black women is W.E.B. DuBois lecture series topic

Bette Collier-Thomas, executive director of the Bethune Museum-Ar- chives Inc. in Washington, D.C., will open the W.E.B. DuBois lecture series at 3:30 p.m. Wednesday, Sept. 19, in 100 Busch Hall on campus.

Collier-Thomas will speak on "Writing and Preserving the History of Afro-American Women: Problems and Prospects." The lecture, spon- sored by the University's Black Studies Program, is free and open to the public.

Collier-Thomas has published in the Journal of Negro History and other periodicals. She is a former Ford Foundation Fellow, Atlanta Uni- versity Presidential Scholar, and a member of the Alpha Kappa Mu na- tional honor society.

The Bethune Museum-Archives, a non-profit cultural institution, is the only repository in the country solely devoted to the collection and preser-

Betty Collier-Thomas
Donald R. Calvert, Ph.D., director of Central Institute for the Deaf (CID), and professor of audiology, just published a Parents' Guide to Speech and Deafness. Written for parents of hearing-impaired children, the book also is useful to professionals in related fields who must deal with problems of deaf children. The book is available through CID.

Joe F. Evans, associate vice chancellor for business affairs, was elected vice president/president-elect of the National Association of College and University Business Officers (NACUBO) for 1984-85 at the association's annual meeting in Chicago July 8-11. Evans served as president of the Central Association of College and University Business Officers (CACUBO) in 1982-83 before joining the NACUBO Board of Directors.

James W. Fitzgibbons, professor of architecture, gave the gallery talk which opened a memorial exhibition of the Buckminster Fuller's work on June 4 at the Universally Ground Gallery, Southern Illinois University at Edwardsville. Fuller, a long-time associate of Fuller, Fitzgibbons would like to see Fuller on the "Old Man River" project, an architectural design for a dome which would have covered the entire city of East St. Louis. Fitzgibbons' drawings of the proposed project were included in the exhibition.

Sol L. Garfield, professor of psychology, has been appointed chair of the National Institute of Mental Health's Psychosocial and Behavioral Treatments Subcommittee of the Treatment Development and Assessment Research Review Committee. It is a two-year appointment, effective July 1, 1984. Garfield also participated in a workshop on "Value Decisions in Appraising Change" at the annual meeting of the Society for Psychotherapy Research held in June at Lake Louise, Alberta, Canada.

William C. Kirby, assistant professor of history, has written a book, Germany and Republican China, which is published by Stanford University Press in May. In July, Kirby presented a paper on "Fascismus in China Chiang Kai-sheks" to the Orientalisches Seminar and the Historical Seminars of the Albert-Ludwig-Universität, Freiburg, West Germany.

Merle Kling, former WU executive vice chancellor and provost, is serving as interim president of Mercy College, Dobbs Ferry, N.Y., for the 1984-85 academic year. He assumed the post July 17, Kling, who retired from WU in May 1985, agreed to serve in the interim position while a search takes place for a permanent president of the 8,300-student four-year college.

Lucian Krukowski, professor of art and adjunct professor of philosophy, presented a paper, titled "Aufbau and Bauhaus: Ideology and Art," at the X International Congress of Aesthetics held in August in Montreal, Canada.


Patricia K. Shehan, assistant professor of music, received a joint U. S. Department of Education/Fulbright-Hays grant to study Indian History and Culture in Delhi, Calcutta, Madras, and Bombay this past summer. Her primary interests were a review of an arts curriculum in a junior and secondary levels, and observation of the instructional styles in music. A paper, "Toward Toleration and Tact. Preference for World Music," was presented in absentia at the International Society of Music Education in Eugene, Ore., July 8-14.

Arthur Wirth, professor of education, chaired a symposium on "The Rehumanization of Work," and read a paper on "Logotherapy and the Humanization of Work and Learning" at the Fourth World Congress Logotherapy held in San Francisco in June. Wirth's book, Productive Work in Industry and Schools, has been selected by the American Education Studies Association Critics Panel as an outstanding recent book in educational studies.

Clifford Will, associate professor of physics, has been appointed chairman of a National Academy Sciences/National Research Council committee on "Accuracy of Time Transfer in Satellite Systems." Sponsored by the Air Force Studies Board, the nine-member panel will spend the coming year assessing the accuracy with which Air Force scientists account for differences in the flow of time at different locations on and around the Earth predicted by Einstein's special and general theories of relativity. These differences are observable in the global network of satellites and atomic clocks maintained by the Air Force and other agencies for navigational and timekeeping purposes, and must be accommodated. The committee also will recommend programs to improve the accuracy of the network.

Gibbons appointed head track coach; Gilbert named new tennis coach

Theodore M. Gibbons has been appointed WU's head track coach and assistant football coach, and Steven L. Gilbert has been named men's tennis head coach and assistant football coach, announced John Schael, athletic director.

Gibbons joins WU after a six-year tenure at Brown University. He had served as assistant track coach for four years, and was named head field events coach in 1985. Gibbons also was an assistant coach for the freshmen football program while at Brown.

A native of Newport, R.I., Gibbons is credited for the vast improvement of the Bruin track program, evidenced by the field team scoring more points in their indoor championships than any other team in Brown's history.

Gibbons was the developer of the Brown interscholastic relays, co-developer of the university's field event clinic and Hammer chairman of Rhode Island for the U.S. Olympic Development Committee. He is a 1970 graduate of the University of New York at Buffalo.

Gilbert has spent his previous four years in the collegiate ranks assigning various football programs. In 1980, he served as a quarterback and receiver coach at Upsala College, N.J. From 1981 to 1982 he was offensive line coach at the University of Pennsylvania, and in 1983 he served as defensive line coach at the University of San Diego.

During his tenure at both the University of Pennsylvania and the University of San Diego, Gilbert also was the strength and conditioning coach.

The Freehold, N.J., native also has instructed tennis programs at both Indiana University and Freehold Township High School, N.J.

Gilbert earned his bachelor's degree in health, physical education and recreation at West Chester State College in 1979 and obtained a master's degree in physical education from Indiana University in 1980.

McDowell House and the Fischbach House. Cost of the tour is $6.

Women’s Club holds meeting, house tour

The Woman's Club of WU, a social organization that sponsors cultural and educational activities, is celebrating its 75th year of service to women faculty and staff and wives of faculty and staff.

The first meeting will be held at 7:30 p.m. Thursday, Sept. 20, at the University House, 6420 Forsyth Blvd. Elizabeth Danforth, wife of Chancellor William H. Danforth, will serve as hostess, and Eugene C. Monnig, a 1939 graduate of the School of Engineering, will present a slide show on "The First 100 Years of Washington University.

The meeting is open to all members of the WU community. Interested persons should call Dina Feldman, president, at 727-2494, or Jan Kyriakos at 822-4619. Proceedings from the house tour will be held in held in Graham Chapel.

Scholarships available for study in Japan

Applications are being accepted for the 1985 Mondusho scholarships, offered to graduate students interested in conducting research in the Japanese language or Japanese studies in the humanities, social sciences and natural sciences areas. Scholarships are available for a two-year research tenure from April 1985 to March 1987 or a one and one-half year research tenure from October 1985 to March 1987. Application deadline is Sept. 29. For more information, contact the Interdisciplinary Studies, 889-5958.
Saturday, Sept. 15
8:30 a.m.–5 p.m. Personal Computing Education Center Micro Computer Fair, Library Gallery. For more info., call 889-5815.

Sunday, Sept. 16
4 p.m. The Bookmark Society (WU Librar- ies) will present "Gas on Elkan/Elkin on Gas" readings by Elkin, WU Merle Kling Professor of Modern Letters and also professor of English, and William H. Gass, WU. David May Distinguished University Professor in Modern Letters, and professor of philos- ophy, Olin Library. For more info, call 889-4670.

 Noon-2 p.m. Personal Computing Educa- tion Center Short Course: "Using Interactive Computing with MUSIC" and "Creating Your Music," free to WU community. To register and for location, call 889-5815.

8 p.m. B'nai B'rith Hillel Foundation Graduate Student Wine and Cheese Party. Hillel House, 6300 Forsyth. Free to WU community.

Monday, Sept. 17


Thursday, Sept. 20

2:30 p.m. Department of Mechanical Engi- neering Seminar, "Polymer Blends: From a Fluidic System," Larry Salkoff, WU. Associate Professor of Chemistry. 100 Cipolle II.

4 p.m. 100 Cupples Hall.

5 p.m. Department of Chemistry Seminar, "Molecular and Structural Biology of Proteins," Dabney Dixon, WU. Professor of Chemistry. 311 Hume.

Friday, Sept. 21

3 p.m. Women's Studies Program Collo- quium, "In Romance Dysfunctional?" Suzanna Rose, assistant professor of psychology and women's studies at UMSL. Brown Hall Lounge.

Saturday, Sept. 22
8 a.m. School of Fine Arts Lecture, "Re- voir Paris," William Quinn, WU. Professor of Art. Steinberg Hall.

Saturday, Sept. 22
5:30 a.m. Personal Computing Education Center Short Course: "Using Interactive Computing with MUSIC" and "Creating Your Music," free to WU community. To register and for location, call 889-5815.

8 p.m. B'nai B'rith Hillel Foundation Graduate Student Wine and Cheese Party. Hillel House, 6300 Forsyth. Free to WU community.

Monday, Sept. 17


Thursday, Sept. 20

2:30 p.m. Department of Mechanical Engi- neering Seminar, "Polymer Blends: From a Fluidic System," Larry Salkoff, WU. Associate Professor of Chemistry. 100 Cipolle II.

4 p.m. 100 Cupples Hall.

5 p.m. Department of Chemistry Seminar, "Molecular and Structural Biology of Proteins," Dabney Dixon, WU. Professor of Chemistry. 311 Hume.

Friday, Sept. 21

3 p.m. Women's Studies Program Collo- quium, "In Romance Dysfunctional?" Suzanna Rose, assistant professor of psychology and women's studies at UMSL. Brown Hall Lounge.

Saturday, Sept. 22
8 a.m. School of Fine Arts Lecture, "Re- voir Paris," William Quinn, WU. Professor of Art. Steinberg Hall.

Saturday, Sept. 22
5:30 a.m. Personal Computing Education Center Short Course: "Using Interactive Computing with MUSIC" and "Creating Your Music," free to WU community. To register and for location, call 889-5815.

8 p.m. B'nai B'rith Hillel Foundation Graduate Student Wine and Cheese Party. Hillel House, 6300 Forsyth. Free to WU community.

Monday, Sept. 17


Thursday, Sept. 20

2:30 p.m. Department of Mechanical Engi- neering Seminar, "Polymer Blends: From a Fluidic System," Larry Salkoff, WU. Associate Professor of Chemistry. 100 Cipolle II.

4 p.m. 100 Cupples Hall.

5 p.m. Department of Chemistry Seminar, "Molecular and Structural Biology of Proteins," Dabney Dixon, WU. Professor of Chemistry. 311 Hume.

Friday, Sept. 21

3 p.m. Women's Studies Program Collo- quium, "In Romance Dysfunctional?" Suzanna Rose, assistant professor of psychology and women's studies at UMSL. Brown Hall Lounge.

Saturday, Sept. 22
8 a.m. School of Fine Arts Lecture, "Re- voir Paris," William Quinn, WU. Professor of Art. Steinberg Hall.

Saturday, Sept. 22
5:30 a.m. Personal Computing Education Center Short Course: "Using Interactive Computing with MUSIC" and "Creating Your Music," free to WU community. To register and for location, call 889-5815.

8 p.m. B'nai B'rith Hillel Foundation Graduate Student Wine and Cheese Party. Hillel House, 6300 Forsyth. Free to WU community.

Monday, Sept. 17