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The results that matter

hile there are no guarantees in life, at Monmouth Medical Center we believe our culture of self-critical analysis is translating to healthier lives. As an academic medical center and a member in an elite group of the nation's leading teaching hospitals, we know that it's not enough to just say you're the best in medicine—it's important to know how good you really are by constantly measuring your care and comparing yourself to the best in the nation. We know because we do both every day.

Since it's our job to keep you healthy, we also know that it's the results that matter. In health care, we call them outcomes—the focus of this issue of *Monmouth Health & Life*. It's who gets better, who has fewer complications and a better result, and how safe you are when you're in our care.

Ten years ago we began tracking every surgical outcome and complication, an effort led by Chairman and Professor of Surgery Michael Goldfarb, M.D. Surgeons at the hospital examine every aspect of a procedure, asking tough questions. We leave no stone unturned and take nothing for granted.

The operating staff has been engrained in an outcomes-driven environment. And the proof is having the lowest surgical mortality rate of any hospital in New Jersey.

Since we began this effort, other hospitals have adopted our model, and the intense scrutiny in and around our operating room has increased innovation. In fact, Monmouth is one of only a few facilities in the country performing complex nerve transplants, restoring form and function to trauma and stroke patients. We were also the first hospital in the region to introduce the next generation of minimally invasive surgery: the da Vinci robotic surgical system.

The bottom line is we do it better at Monmouth—a national leader in delivering outstanding health care outcomes. And, as you'll read in the pages of Health Link, we can prove it.



Sincerely,

Frank J. Vozos, M.D., FACS

Fran 1 Voza

Executive Director Monmouth Medical Center

LAEL HENDERSON

HEALTH

WHAT'S NEW IN MEDICINE AND HOW YOU CAN STAY WELL



Beating the odds to save a life

HOW HOSPITAL PROFESSIONALS WORKED TOGETHER TO ACHIEVE A "MIRACLE"

Every so often a medical case tests even a top health care institution to the limit. That's what happened October 6, when several doctors at Monmouth Medical Center saved the life of a 65-year-old woman who had suffered a tracheo-innominate artery (T-I) fistula. The story isn't for the squeamish, but it's a dramatic example of how surgeons from different disciplines reacted quickly and in concert to achieve success—against long odds.

A fistula is an abnormal opening between two internal organs or between an internal organ and the body's surface. For some time, the woman, hospitalized at Monmouth for advanced lung disease, had a tracheostomy—a procedure in which a tube had been inserted through a hole in the neck into her trachea, or windpipe, to aid breathing. Her trachea was unusually curved, and as a result the tube had opened a fistula between the trachea and the innominate artery, a very large blood vessel under the sternum.

T-I fistulas are so rare that head and neck surgeon Vin Prabhat, M.D., who was on call that day, had seen only two in 20 years of practice. The condition carries a 95 percent chance of mortality. "Bleeding can come on so fast the patient bleeds to death, or the blood can fill the trachea and flow into the lungs, causing suffocation," the doctor explains.

It was a Saturday, and Dr. Prabhat was picking apples with his children when his cell phone rang at about 3 p.m. A nurse was on the line, and she told him she was removing blood from the woman's tracheostomy tube. It's common for small amounts of blood to appear in the tube, says Dr. Prabhat. "But this was different. She told me, 'I've never seen so much blood.' From the urgency of the nurse's voice, I knew this was probably a T-I."

Dr. Prabhat asked the nurse to "call a code"—that is, start the hospital's emergency response system for life-threatening situations. The code team mem-



bers—surgeons, residents, anesthesiologists and nursing staff—dropped what they were doing and rushed to the patient's aid. Dr. Prabhat then called Cherif N. Boutros, M.D, chief resident of surgery, and asked him to send the on-call surgery resident to the patient's room. "Have him call me on my cell phone as soon as he gets to the bedside," he said.

As Dr. Prabhat raced to the hospital, the resident called to confirm that they were looking at a probable T-I fistula and that the patient had already lost several units of blood. Knowing that a tracheal tube has an external cuff that can be filled with air or liquid to create pressure against the trachea, Dr. Prabhat asked the resident to overinflate the cuff to put pressure on the bleeding artery and hold it in place to staunch the flow of blood.

About 15 minutes after leaving the apple orchard, Dr. Prabhat arrived at the hospital. At the

patient's bed, he deflated the trachea cuff and inserted a scope to see the source of the bleeding. The rapid gush made it clear that this was indeed a T-I fistula. He reinflated the cuff and took over from the resident in holding it in place.

Throughout this ordeal, the patient remained awake and alert. She knew she was in serious danger. "Usually when something like this happens, it's in an intensive care unit and the person is sedated or unresponsive," says Dr. Prabhat. "But this woman was feeling everything, responding to our gestures and expressions, and she could see the blood coming out of her tube."

Dr. Prabhat then phoned his partner, otolaryngologist Darsit K. Shah, M.D., and thoracic surgeon Lourens J. Willekes II, M.D.—though neither was on call that day. "I knew we'd need more hands to start the next step," he says.

They came to help as quickly as they could. And Dr. Shah in turn called Peter Park, M.D., interventional radiologist, and George Constantinopoulos, M.D., vascular surgeon. "Within about 40 minutes on

a Saturday, we had five surgeons come in on their day off," Dr. Prabhat recalls.

All this time, Dr. Prabhat was holding the trachea tube in place with his own hands. "I couldn't let go or the bleeding would start again, and we couldn't fix the tube in place without relieving some of the pressure," he explains. He had to climb onto the patient's bed in order to maintain the tube's position. And he stayed on the bed while the nursing staff helped move it into the operating room, unable to transfer the patient to a smaller surgical bed, which is the usual procedure.

In the OR, the surgical team agreed that their best course was to thread a special stent into the artery to close the wound and stop the bleeding. They discussed their plans—and the odds facing them—with the patient and her family members, who had by now arrived at the hospital. Meanwhile, the OR staff scrambled to get all the proper equipment in place.

The team went to work. Once the patient was under general anesthesia, Dr. Willekes placed an arterial line, a small catheter used in intensive care situations to monitor blood pressure and blood gases in real time. Dr. Constantinopoulos and Dr. Park opened the right carotid artery in the neck and sent in a scope and guide wire to find the point of bleeding. All the while, Dr. Prabhat continued to apply pressure to the bleeding site. "I held the trach tube in place for about three hours," he says.

Dr. Constantinopoulos then threaded the stent into the bleeding site—the pivotal moment of this lifesaving intervention. Using scopes and an angiogram, the team confirmed that the stent had been successful. They had stopped the bleeding.

The patient was taken to the ICU. Tests showed her blood was pulsing normally to her extremities. "We kept a very close eye on her," Dr. Prabhat says. "The next day she was awake, alert and grateful. She acted almost as if nothing had happened. It was really incredible."

The woman still has advanced lung disease, but is out of immediate danger. "The fact that she is alive today is due to the combined efforts of an entire hospital," says Dr. Prabhat.

"I couldn't be prouder of the team of physicians, specialists, nurses and technicians who gave freely of their time and expertise," he adds. "A case like this makes you realize how wonderful a facility Monmouth Medical Center is."



CONQUERING CANCER

Breakthrough in radiation treatment

A NEW DEVICE ATTACKS MALIGNANT TUMORS MORE ACCURATELY AND EFFECTIVELY

This month, cancer patients in Monmouth and Ocean counties can begin receiving radiation treatments from the newest and most effective technology available. It's called TomoTherapy, and the Leon Hess Cancer Center at Monmouth Medical Center is the only program in the area to offer this combination CT (computed tomography) scan and radiation delivery system.

"About half of all cancer patients usually get radiation at some

point to kill or shrink tumors," says Mitchell Weiss, M.D., Monmouth's chairman of radiation oncology. "TomoTherapy has two big benefits over other radiation technology."

This year, the TomoTherapy

unit will make its debut at

Monmouth Medical Center.

The first is what he calls IGRT—image-guided radiation therapy. The CT scan component of the device allows the technician to locate the tumor immediately before treatment. "Tumors are somewhat free-floating," Dr. Weiss explains. "They move slightly from day to day. They also change in size and shape. The scan allows us to target and size the tumor every day and deliver radiation more accurately over the course of treatment," which can be given daily for several weeks.

The second advantage, Dr. Weiss says, is the machine's ability to deliver radiation from almost every angle. The device rotates nearly 360 degrees around the patient, sending a thin stream of radiation to the tumor from all sides. Once its internal computer has the pinpoint positioning locked in from the CT scan, the machine can literally configure the size and shape of the radiation bombardment to attack just the tumor, with less collateral damage to the rest of the body.

"We believe this enhanced accuracy will allow us to increase dosages, which theoretically will improve outcomes," says Dr. Weiss. "At the same time, decreasing or eliminating doses of radiation to surrounding healthy tissue will decrease side effects and toxicity to the patient." This is especially vital when treating tumors that are close to critical structures, such as with cancers of the brain, head, neck, prostate and lung.

TomoTherapy may also permit oncolo-

gists to offer retreatment to people who have already had radiation. "Generally,

once an area is radiated, it

cannot be radiated again," says Dr.
Weiss. "But this device could allow us to offer a second course of treatment."
According to Dr.

Weiss, each TomoTherapy treat-

ment will take about 25 to 30 minutes, depending on the procedure. Despite the advanced technology it offers, he says, "this machine only adds about three to five minutes' time per treatment."

To house the \$2.5 million device, the medical center added a new "bunker," as Dr. Weiss calls it, to the radiation department. "Because these machines deliver radiation, the rooms are built to protect the outside environment," he says. The walls, ceiling and floor are made of concrete several feet thick. "It's like building a bank vault," the doctor reports.

Installation began in late December. At that time, a Ph.D.-level physicist came in to ensure the machine was functioning properly and safely. Treatments are set to begin in March, and a grand opening will be held. "We'll have a big ceremony, and the community is invited to take a tour of the department and look at the machine," Dr. Weiss says.

"TomoTherapy allows us to really advance our ability to deliver treatment," he adds. "It will keep Monmouth Medical Center's department of radiation oncology among the best in the state."

For more information about the Leon Hess Cancer
Center at Monmouth Medical Center or for a
referral to a cancer specialist, please call 1-888724-7123 or visit www.mmccancer.com.



TECH WATCH

Oxygen's surprising healing power

AT EXTRA-HIGH PRESSURE,
IT'S AN EFFECTIVE TREATMENT
FOR STUBBORN WOUNDS

After a woman in her 40s underwent radiation therapy that purged her body of head and neck cancer, the scarred site refused to heal. Her risk of infection was great, and the physically disfiguring facial wound made it difficult for her to speak or eat. Luckily, a team of physicians was able to treat this complication using an element from the air we breathe: oxygen.

"Hyperbaric" refers to higher-than-normal pressure—of oxygen, in this case. "The therapy takes place in a special chamber that introduces extremely high levels of oxygen into the blood," says Catherine Hanlon, M.D., an emergency room physician and medical director of the new hyperbaric treatment center at Monmouth Medical Center. The air pressure in the chamber is increased to between 2 and 2.5 times that of the atmosphere. In addition, patients breathe 100 percent pure oxygen, while normally the air we breathe is 21 percent oxygen. These two changes combine to increase the oxygen content of the blood to as much as 12 or 13 times normal.

When extra oxygen is carried by the blood to various organs, infected wounds that previously resisted treatment begin to mend. That's what happened

with the cancer patient. "After several weeks of hyperbaric treatment, the area was restored and her quality of life improved dramatically," says Dr. Hanlon, who observed this patient's treatment at a different hyperbaric facility.

Variations of this therapy have been used for centuries. (In the early 1900s, some doctors believed compressed air could cure everything from epilepsy to aging.) But tweaks are constantly being performed on the chambers' designs to promote optimal oxygenation. The two Monmouth chambers were scheduled to begin operation in February, and doctors hope to introduce a third chamber within the next few months.

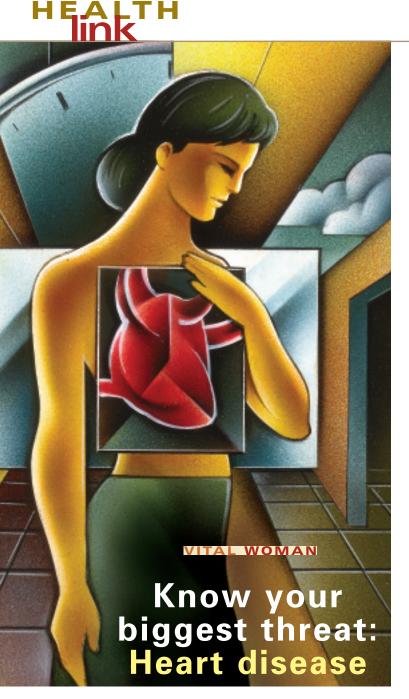
Here's how the process works: Dressed in a cotton gown and free of all personal items, deodorants or lotions that could spark fires (the risk of which is greater in an oxygen-enriched environment), the reclining patient is guided into a plastic tube that's approximately 36 inches wide and 7 feet long. Although this tube is very thick, it's also clear, allowing the patient to watch TV and converse at any time with Dr. Hanlon or one of the technicians. Sessions last from 60 to 90 minutes, and most people require from 20 to 60 separate treatments, depending on the severity of their wound.

"The most common application of hyperbaric care is in the treatment of chronic wounds caused by diabetes," says Dr. Hanlon. She adds that people with chemotherapy or radiation tissue damage, osteomyelitis (bone infection), necrotizing fasciitis ("flesheating bacteria") lesions, compromised skin grafts or surgical wounds are also good candidates.

As with any treatment, there are hazards. People with a history of cardiovascular disease must be completely stable prior to treatment, lest the intense pressure exacerbate symptoms of heart failure. Those with severe tooth decay or sinus congestion should also have these conditions cared for first, or the normally pain-free procedure could become agonizing. Patients must be able to pressurize their ears (as one "pops" them on an airplane) to avoid tympanic membrane rupture, and those suffering from claustrophobia may get agitated inside the tube— "though because it's clear and they can converse with doctors, this usually isn't a concern," says Dr. Hanlon.

For most individuals, the benefits of hyperbaric therapy far outweigh any potential side effects. Says Dr. Hanlon, "This is a great option to consider for treating problem wounds."





FOR FEMALES, BOTH DIAGNOSIS

AND TREATMENT POSE SPECIAL CHALLENGES

Fortunately, women are getting the message that heart disease isn't just for men. Though many still fear breast cancer more, growing numbers of women—55 percent in 2005, up from 34 percent in 2000, one study shows—now understand that heart disease claims the most American female lives.

"Research shows that this heightened awareness is leading them to take action to reduce their risk," says Elizabeth G. Nabel, M.D., director of the National Heart, Lung and Blood Institute.

Statistics show that women's deaths from heart

disease are decreasing. The total dropped by nearly 17,000 from 2003 to 2004—the fifth yearly decline in a row. But health authorities still have an urgent message to spread. Many women don't realize that the illness can show itself differently in their sex.

"A sizeable number of women have classic angina—chest pain—just as men do," says Rita M. Watson, M.D., medical director of interventional cardiology at Monmouth Medical Center. "But there are many who have nausea or flu-like symptoms instead. That makes it difficult, because you can't take everyone with the flu to the catheterization lab to check them out."

There's also a difference in the way men and women's bodies handle plaque, which accumulates in arteries. Doctors say that instead of a major blockage in one spot, women sometimes develop more diffuse buildups all along the artery wall. These more elongated deposits can sometimes make angioplasty or coronary artery bypass graft surgery less effective.

"Women seem to get some protection from natural hormones during the childbearing years, so they're a little older, on average, when heart disease is diagnosed," says Dr. Watson. "But they're also more likely to have other conditions such as diabetes and hypertension. And they may not be as responsive to surgery; anecdotal reports suggest women have arteries that are smaller and more vulnerable to the touch."

Finally, studies also show that women are more likely than men to develop dangerous conditions in the smaller byways of the arterial system, rather than the major arteries leading directly to the heart.

Women—especially those with known risk factors such as excess weight, high cholesterol, high blood pressure or a history of smoking—should consult their doctors to make sure they're doing all they can to protect themselves against heart disease. And they should be ready to recognize a heart attack if it occurs.

How heart-attack symptoms can differ in females

Women having heart attacks sometimes experience the classic crushing pain in the chest. But they're also more likely than men to have these symptoms instead—or in addition:

- nausea and vomiting
- sweating
- · lightheadedness
- breathlessness
- pain in the neck, shoulders or abdomen



Banking on future cures

A NEW PROGRAM ALLOWS PARENTS TO SAVE A BABY'S STEM CELLS

TO TREAT ILLNESS LATER IN LIFE

We've all read about stem cells—those that have the ability to turn into several kinds of tissue, and promise to help treat a number of different diseases. Today, when a baby is born, parents have the option of "banking" stem cells from the infant's placenta and umbilical cord blood to treat future illness in the child or another family member. This capability is offered at Monmouth Medical Center through its Placenta • Cord program.

The idea of preserving these cells for the future isn't new. But traditional cord blood banking includes only stem cells from the blood drained from the umbilical cord and placenta. Placenta • Cord banking also recovers stem cells directly from the placenta itself.

The placenta is particularly rich in the hematopoietic (blood-forming) cells that scientists call CD34+; these

can transform into other cell types, including blood, nerve, heart, cartilage, bone and other highly specialized cells.

"Adding a placenta-derived stem cell collection to a cord blood collection can as much as double the total number of CD34+ cells stored," says Robert A. Graebe, M.D., chairman of obstetrics and gynecology at Monmouth. "And increasing the total number of CD34+ cells may improve the potential for successful treatments later in life."

The Saint Barnabas Health Care System, which includes Monmouth and other hospitals, has aligned with LifebankUSA, a New Jersey-based company that developed the Placenta • Cord process. "The company has a good reputation in the field and is certified by the FDA and by national blood banking organizations," says Dr. Graebe.

Here's how the program works: Once a baby is born and the umbilical cord is cut, the blood from the cord is drained and collected (a simple and painless process that takes about five minutes). Then, when the placenta is delivered, the intact organ is taken



whole and placed into a collection bag. Both the placenta and cord blood are then sent to LifebankUSA's storage facility.

These cells will be an exact match for the baby's tissue and will also provide a strong possibility of a match for other close blood relatives, says Dr. Graebe. "As technology advances, cord blood use is expected to become greater and greater," he explains. "Having these cells available in the future may help cure heart disease, stroke, diabetes, Alzheimer's disease, Parkinson's disease, bone disorders, sickle cell anemia and some cancers."

Unfortunately, the program is not currently covered by insurance. The cost for collecting and processing cord blood and placenta-derived stem cells is \$2,750. And there is also an annual storage fee of \$225.

"It's like an insurance policy for parents who believe that research today will result in new treatment options tomorrow," Dr. Graebe says.

But it's a policy that can be purchased only once: after the birth of your child. ■

HEALTH

HOSPITAL HELPERS

A little group that makes a big difference

FOR FIVE DECADES, MONMOUTH'S AUXILIARY HAS PURCHASED

EQUIPMENT AND SUPPLIES FOR THE CARE OF KIDS

Do you have a little time to spare? Ingenuity? A desire to help out where it counts? If so, you might think about joining Monmouth Medical Center's Dr. Stanley Nichols Pediatric Auxiliary.

This small organization has been a beacon of light for children at Monmouth for more than half a century. The volunteer group raises money to purchase supplies, medical equipment and other items for pediatric care to help the hospital's budget go further.

The auxiliary was

founded in 1953 by Virginia Schutz, the daughter of Stanley Nichols, M.D., a prominent pediatrician at Monmouth Medical Center. "Dr. Nichols was very well-liked and devoted his whole life to children," says West Long Branch resident Sue Gizzi, the auxiliary's president. "The organization was created in his honor." Beginning as a small group of women who conducted meetings in their homes, the auxiliary has been a major source of financial support for pediatrics and The Children's Hospital at Monmouth.

Gizzi says she joined the auxiliary 15 years ago after a friend asked her to attend a fashion show and luncheon the group hosted. "Once I found out that the money raised was for children in the hospital, I knew I wanted to get involved," she says.

To find out which items the hospital needs most, Gizzi says the auxiliary communicates with doctors regularly to compile "wish lists." The group then meets at the hospital about once a month to plan fundraisers to purchase the items. "From the



pediatric emergency room to the psychiatric department, we raise money for anything the children need," says Gizzi. The group has donated a \$17,000 machine for testing newborns' hearing, along with beds, Band-Aids and a Slurpee machine for kids with sore throats. And it has redecorated waiting rooms and playrooms in The Children's Hospital.

Most of the money raised each year comes from one large charity event. In 2007, the auxiliary raised nearly \$9,000 with a

"casino night" gala at the Sheridan Hotel in Eatontown. About 260 people attended the event, which cost \$70 per ticket and included cocktails, dinner, casino games, a gift auction and a ceremony honoring Margaret Fisher, M.D., The Children's Hospital's medical director. The auxiliary also raised money by selling raffle tickets.

"It's an incredible group of dedicated individuals who want to help children," says Dr. Fisher.

Gizzi says the group will meet in March to organize fundraisers for 2008 and plan ways to recruit new members. (The meeting will be in Room 206 on the hospital's pediatric floor; call 732-923-6886 to find out the exact date and time.) She's optimistic that the organization will grow in number and be able to continue its tradition of supporting pediatrics.

"We're doing what we can to get the word out," she says. "It's a great cause and I hope more people will join us."



PEDIATRIC ONCOLOGIST & HEMATOLOGIST

Three doctors from three continents

THESE NEWCOMERS TO MONMOUTH MEDICAL CENTER BRING A WORLD

OF KNOWLEDGE AND ENTHUSIASM

NATALY APOLLONSKY, M.D.

A firm believer in the power of personal treatment, pediatric oncologist and hematologist Nataly Apollonksy, M.D., says she joined Monmouth Medical Center last summer because she knew it would allow her "to provide the same care as the bigger centers, but give patients much more individual attention."

Dr. Apollonsky treats children with leukemia, sickle-cell anemia and other life-threatening cancers and blood disorders at the hospital's Valerie Fund Children's Center for Cancer and Blood Disorders. She says one of the most rewarding aspects of her job is getting to know her patients and their families. "We really become part of their lives, and they become part of ours," she says.

Born in Russia, Dr. Apollonsky attended medical



school at St.
Petersburg
Medical
University in her
native country,
completed her
internship and
residency training in pediatrics
at the Mount

Sinai School of Medicine in New York and received her fellowship training in pediatric hematology and oncology at Schneider Children's Hospital in New York.

She lives in East Brunswick with her husband and three children. "I think working with kids helps me to understand my kids as well," Dr. Apollonsky reports.

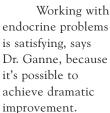
SUDHA GANNE, M.D.

ST

ENDOCRINOLOGI

Endocrinologist Sudha Ganne, M.D., who joined Monmouth Medical Center in November, says that witnessing the impact of diabetes on people's lives inspired her to pursue a medical career. Today she treats patients with hormonal diseases, including diabetes mellitus, osteoporo-

sis and thyroid and adrenal disorders.



"Once we

give endocrine patients the proper treatment, it makes a world of difference in how they feel," she explains.

Dr. Ganne attended medical school and completed her internship training at the University of Mysore's Adichunchanagiri Institute of Medical Sciences in India, her home country. She then completed her residency training in internal medicine at Monmouth Medical Center and her fellowship training at SUNY Downstate Medical Center in Brooklyn, where she also served as a research assistant in the Division of Endocrinology. She says she is happy to return to Monmouth Medical Center because of its strong reputation and the opportunity it provides her to help teach the doctors of tomorrow.

Dr. Ganne is married and has two young daughters.

CARL NATH, M.D.

Carl Nath, M.D., says he's had a "huge interest" in fetal development since he studied molecular biology as an undergraduate at Princeton University. Having started out as a practicing gynecologist and obstetrician, Dr. Nath currently specializes in maternal-fetal medicine.

Originally from New York City, Dr. Nath attended medical school there at Mount Sinai School of Medicine, completed his residency in obstetrics and gynecology at St. Luke's—Roosevelt Medical Center, also in New York, and did fellowship training in maternal-fetal medicine at Robert Wood Johnson Medical School in New Brunswick.

The doctor joined Monmouth Medical Center in July—drawn, he says, by its "excellent and growing obstetric center." It was a bonus that he has family in the area.

He treats patients with difficult pregnancies, including



multiple fetuses and complications that require a prenatal diagnosis. His work is rewarding, says Dr. Nath, because "every day you can make an impact with at

least one family."

Enjoying activities with his own family—a wife and three children—is a priority for the Freehold Township resident, who jokes, "There's never enough time for the gym."