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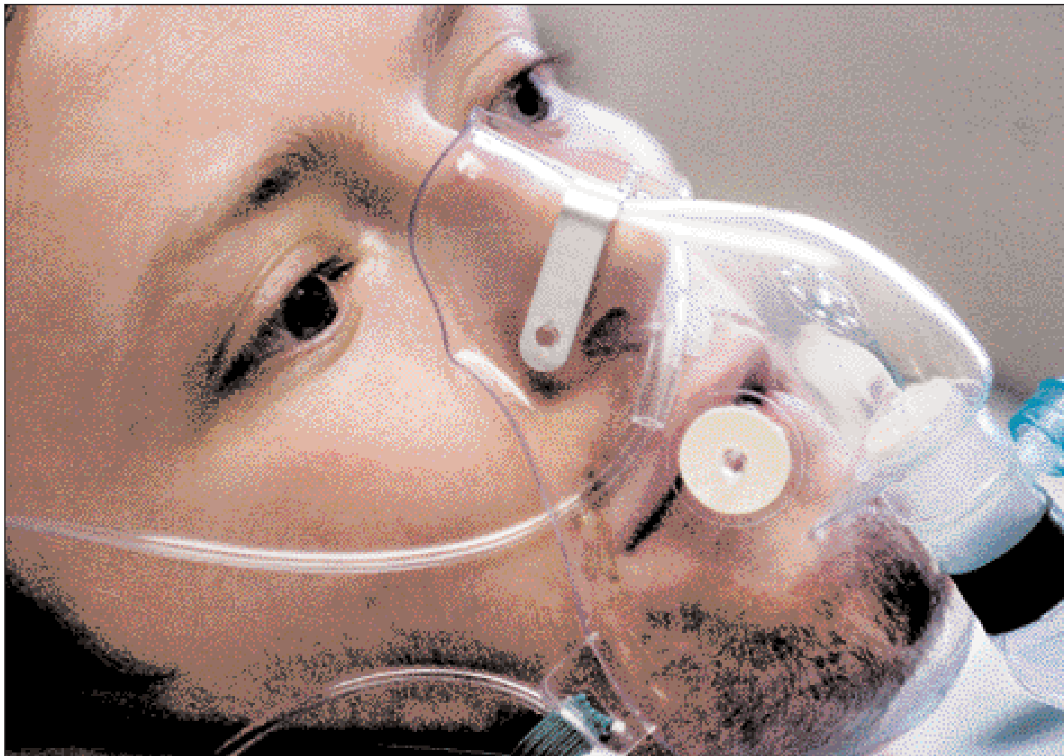
Medical ethics vs. medical economics



ANDREW RUSSELL/TRIBUNE-REVIEW

Hepatitis C patient Jeff Hagan, 37, of Bartlett, Ill., traveled to Indianapolis to receive a liver transplant at Clarian Health. "I didn't really feel I had a choice," Hagan said.

Doing fewer transplants cuts money, prestige

SPECIAL REPORT BY LUIS FABREGAS AND ANDREW CONTE
TRIBUNE-REVIEW

INDIANAPOLIS — Lying in an intensive care unit four days after surgery, Jeff Hagan praised surgeons here for giving him a liver when others wouldn't.

Doctors in Chicago, near Hagan's home in Bartlett, Ill., told him he would have to wait.

He was not sick enough, yet, for a liver. With hundreds of sicker Chicago-area people already in line, a decent organ might never come his way.

Even if one did, doctors said they wouldn't necessarily give it to him. He said they told him his chances of dying from a transplant would be greater than of dying from his liver disease, Hepatitis C.

Rather than wait, Hagan, 37, traveled to Clarian Health — where the liver transplant team has made a name for itself by doing surgeries when others won't, sometimes using organs rejected by doctors for thousands of sicker patients.

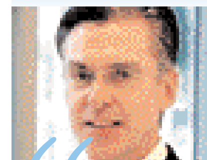
"I didn't really feel I had a choice," said Hagan, lifting an oxygen mask from the reddish-brown stubble on his cheeks. "They were confident in their ability to get done what we needed done."

In the business of transplants, aggressive centers have much to gain from doing surgeries on the least-ill patients, and by pushing the limits on what kind of liver will work.

Demand for livers outstrips supply. Centers that find ways to use more organs for a deeper pool of recipients can do more transplants. Those that do fewer transplants — even if that's the best medical decision — leave money on the table.

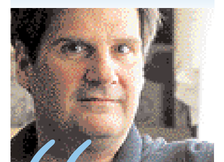
People waiting for livers are ranked by

Dr. Claude Earl Fox
Former Chief of U.S. Health Resources and Services Administration from 1997 to 2001



"You have medical ethics competing with medical economics. A lot of transplant surgeons and centers out there are ethical, but you've got economics on the other side that really weighs heavily on them."

Jeffrey Blattner
Received a transplant after being given two weeks to live



"I'm just very happy I got a second chance at life."

a numeric score called MELD — Model for End-stage Liver Disease — ranging from 6 for the least ill to 40 for the sickest.

Patients with a MELD score lower than 15 have a greater chance of dying within a year of transplant than those who wait, researchers say.

Nationwide, more than half the people waiting for livers have a MELD score lower than 15. Those 8,900 cases represent about $4 billion in potential medical charges.

"This is big money," said Dr. Claude Earl Fox, former head of the federal Health Resources and Services Administration from 1997 to 2001.

"You have medical ethics competing with medical economics," said Fox, who is now director of the Florida Public Health Institute. "A lot of transplant surgeons and centers out there are ethical, but you've got economics on the other side that really weighs heavily on them. It's a real struggle over what they're going to do."

Going against convention, Clarian's Dr. A. Joseph Tector has built his program into one of the nation's busiest. It did 144 liver transplants in 2006, and recently celebrated its 1,000th overall. Transplants on patients with low-MELD scores have made up about a third of its business since 2005.

Tector learned to do liver transplants from a pioneer, Dr. Andreas Tzakis, who helped advance the field at the University of Pittsburgh Medical Center. Tector said he couldn't wait to get out on his own and make changes in the ways transplants are performed.

Others typically spend six hours or more doing a liver transplant. Tector has trimmed his operating time to as little as two hours — with techno dance music pouring from an iPod hooked up to speakers.

Tector said he talks about patient volume and profits only when he asks administrators to invest more resources into his program. The sounds of construction work rattle through his office as Clarian's liver transplant program expands to 47 beds, adding 20 more.

"I want to help people, period," Tector said. "I mean they are listed for a liver transplant. That didn't happen by accident. You know, my stockbroker didn't list them. You know? It's not an investment."

Finances

Liver transplant centers have financial incentives to give organs to less-critcally ill patients because the surgeries typically cost less and the patients have the best survival odds.

A center that treats only the sickest, meanwhile, stands to lose money and see patients die more often. Sicker patients might require more time in the hospital to recover, need additional tests or require more medical attention.

"No question, if you're relatively healthy coming in, you're going to cost less and they're going to make more money at a center," said Dr. David Axelrod, transplant surgery chief at Dartmouth-Hitchcock Medical Center in New Hampshire, who co-authored a Northwestern University study on costs.

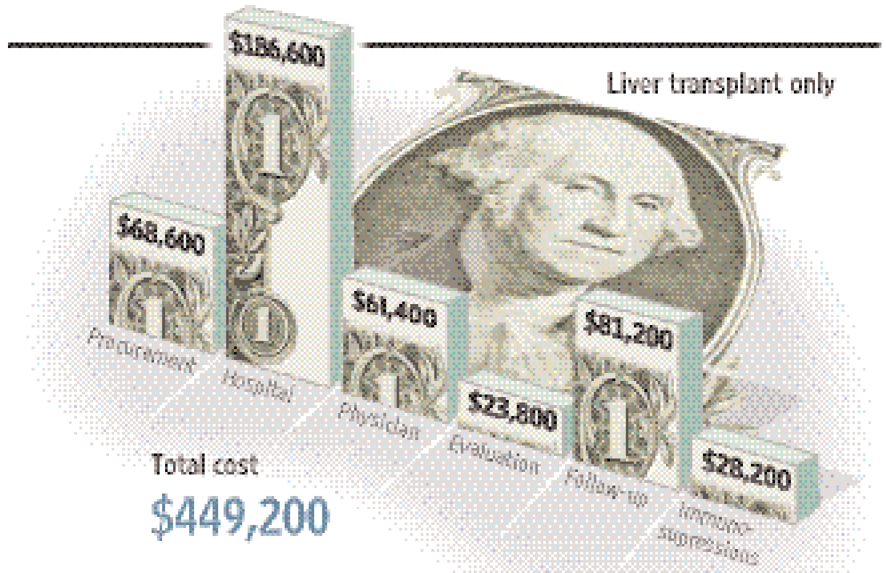
"They're not doing this just to make money, but the economics are clearly driving a portion of this issue. There are clearly economic benefits."

The United Network for Organ Sharing changed its rules in 2005 so that more patients with scores of 15 and higher have access to livers before they go to candidates with lower scores.

Centers have been forced to balance business

How the bills add up

Liver transplants mean big money for medical centers. Programs that stop giving livers to patients at the bottom of the waiting list leave money on the table.



and medicine: Eliminate transplants for low-MELD patients in all but the rarest cases, and the number of surgeries goes down.

Dr. Steven Rudich, head of liver transplants at Cincinnati's University Hospital, has seen his number of surgeries fall by more than half to 41 in 2006, from a high of 84 in 2003. University Hospital has one of five adult liver transplant centers in Ohio, meaning it has to compete for organs and patients.

Rudich almost never transplants livers into anyone with a MELD score lower than 17, cutting out a third of his former pool of patients. Most people with a lower score, he said, have a better shot of living to see their next birthday by waiting, rather than by getting a new liver.

Cincinnati did 56 low-MELD transplants in the three years before the UNOS policy change and just three since then. Pittsburgh's UPMC, Mayo Clinic in Jacksonville, Strong Memorial in Rochester and Clarian Health in Indianapolis continue to do low-MELD transplants.

University Hospital's policy squares with UNOS and research by surgeons at the Scientific Registry for Transplant Recipients, which analyzes and tracks transplant data.

But the transplant center pays a price. University Hospital did 38 low-MELD transplants in 2003, and just one in 2006. Based on national average billing of $450,000 per liver transplant, Cincinnati's fewer cases mean more than $16 million in lost charges a year. The amounts are based on UNOS estimates drawn from a study by the private medical consulting firm Milliman USA.

"If anything, you see we're hurting ourselves," Rudich said, sitting in his office crowded with medical books, a plastic model of a liver and paintings of surgeons operating on patients.

"This is also a business, and you need to have the volume," he added. "Your power is based upon your volume ... Would I love to be doing 80 livers a year? Of course I would."

Sicker costs more

Impossible a half-century ago, liver transplantation can seem like a miracle for someone at the brink of death. But it comes at a cost, which increases with each patient's degree of illness.

Murrysville accountant Jeffrey Blattner, 44, thought he had a sinus infection three years ago when he rushed to the emergency room, complaining of feeling tired, weak and short of breath.

Nearly a year later, after a liver transplant and more than two months in intensive care, Blattner had run up an estimated $1.5 million in medical bills, fully covered by Medicaid.

Blood tests showed Blattner had a rare form of liver disease, called primary sclerosing cholangitis. His liver had started shutting down. The weight he had been concerned about gaining in previous weeks was actually fluid building up in his abdomen.

Doctors started trying to manage Blattner's symptoms, but they could not keep pace with the disease. By early November, he had checked into UPMC Montefiore hospital with pneumonia as the fluid spilled into his lungs. Well enough to come home on Thanksgiving, he rode back to the hospital in an ambulance a week later as his blood pressure plummeted.

In mid-December, Blattner slipped into a coma. Still unconscious at Christmas, he had about two weeks left to live, doctors told his mother.

Three days later, they transplanted into him the liver from a 55-year-old Charleston, W.Va., man who had died of a stroke. The organ saved Blattner's life.

Like waking from a dream, he opened his eyes five days later. For a long while, he stared at a corner of the ceiling, too weak to move his head or to tell anyone he had returned.

"I'm just very happy I got a second chance at life," Blattner said recently.

The federal government and private insurers typically pay a flat rate, up to certain limits, for a liver transplant, including a set amount of recovery. Centers make money on patients whose care costs less than the rate, and they lose money on those whose care costs more.

For the surgical procedure alone, the federal Centers for Medicare/ Medicaid Services pays UPMC either $47,012 or $68,564 per transplant, depending on difficulty. Those payments are about $10,000 higher than national averages.

Likewise, Pittsburgh-based Highmark pays hospitals a flat rate for liver transplants between $140,734 and $374,262. Company spokesman Michael Weinstein declined to say exactly how much Highmark pays specific hospitals.

The fee, he said, varies based on factors such as the specific procedures involved, the location of the donor organ or length of stay in the hospital — but Highmark does not pay a higher rate based on a patient's degree of illness.

"We're not in a position to judge the condition of patients," he said.

The 2005 cost study at Northwestern Memorial Hospital's Kovler Transplant Center in Chicago showed the hospital lost money when it treated patients with MELD scores higher than 15.

Each one-point increase in MELD score added $4,309 to the cost of caring for a patient. At that rate, a center doing 25 transplants on patients with MELD scores of 25 — 10 points higher — would spend $1 million more than a center with the same number of patients at a MELD score of 15.

UPMC, which in 2007 posted total revenues of $6.8 billion, including $600 million in profits, never has refused care for a sick patient who cost more to treat, said Dr. Amadeo Marcos, former head of transplant surgery. But society, he said, must decide whether it makes sense to treat one sick person who might drain the resources it takes to care for five healthier ones.

Hagan goes home

By continuing to do transplants on patients with low-MELD scores, Clarian keeps up its volume, in part, by attracting patients such as Hagan who cannot get the surgery at other places.

It also uses organs that other centers have rejected.

Despite the data on increased risks for less-ill liver transplant patients, Tector said he sees the problem of transplant mortality differently than the agencies overseeing organ allocation.

If people with liver disease are going to get sicker anyway, Tector said, they should get an organ when their bodies are best able to handle it.

Tector applied to a regional review board for Hagan to get additional MELD points above those generated by blood tests because he had a rare complication that caused breathing problems.

Hagan had contracted Hepatitis C during open-heart surgery as a baby, and he had unknowingly lived with it until the breathing problems appeared in his 30s. The nine extra points brought Hagan's score up to 22.

Four days after surgery, Hagan remained attached to breathing monitors, wearing a green-striped hospital gown as his mother and sister hovered nearby. The recovery, he said, had gone easier than expected. He walked that day for the first time since surgery.

He went home a month later.

"Our only regret," said Hagan's sister Kristie McDonald, "is that he didn't go to Indianapolis sooner because maybe his body wouldn't have gotten this sick."

Glossary

Model for End-Stage Liver Disease (MELD)
Based on three blood tests — for bilirubin, creatinine and INR — the scoring system is a predictor of patient mortality and determines the allocation of livers among adults. It ranges from 6 for the least ill patients to 40 for those who are critically ill.

United Network for Organ Sharing (UNOS)
A private nonprofit based in Richmond, Va., that coordinates the national transplant system through a contract with the U.S. Health Resources & Services Administration.

Scientific Registry of Transplant Recipients
A research agency, based at the University of Michigan, in Ann Arbor, that tracks and analyzes clinical data about organ donors, transplant candidates and recipients, as well as patient and graft survival rates. Operates under contract with HRSA.

Extended-criteria donor livers
These organs do not meet all generally accepted quality standards. Doctors disagree about what makes a liver unusable. The ideal organ is a whole liver from a donor who is 18 to 40 years old who suffered brain death from trauma. Here are some deceased-donor characteristics that have been linked to an increased chance of the organ not working right: medical history of systemic illness or cancer, exposure to transmissible infectious disease, post-recovery biopsy results, age.

A full glossary is available at: www.unos.org

Improving transplant system mechanics

Surgeons, others see a need for changes

Trying to save lives is not enough.

Liver transplant surgeons said they must balance each patient's survival odds against the vitality of their overall transplant program.

Medicare and Medicaid, the federal reimbursement programs, can prevent patients from going to centers with a low survival rate. Private insurers do the same.

"The problem is, the system gives incentives for getting post-transplant results," said Dr. Richard B. Freeman Jr., transplant surgeon at Tufts-New England Medical Center in Boston. "Systems compete for payers and contracts with insurance companies. Performance is judged by what the post-transplant outcome is."

Changes are needed in the ways transplant programs are evaluated and patients selected for surgery, surgeons and medical plan administrators said.

Among their suggestions:

Credit for the sickest

Centers all are assigned "expected" survival rates by the Scientific Registry of Transplant Recipients, an agency under federal contract to track and analyze transplant data. The rate is based on the mix of patients at each center.

If a center's rates fall below that "expected" survival level, the federal government would do a review of the program and ultimately could stop allowing Medicaid/Medicare patients to go there.

By expecting doctors to save at least eight in 10 patients, the government does not use a realistic measuring stick, said Dr. Amadeo Marcos, who until he resigned March 3 was transplant director at the University of Pittsburgh Medical Center. UPMC, at 85 percent, came in just over its one-year "expected" adult patient survival rate of 84 percent in the latest reporting period.

"If we're pushing the envelope and so forth, then (the government) has to say, 'Well, in that case, your expected survival should be 50 percent at one year,' " Marcos said. "And that's not happened."

Centers that fall below what's expected are reviewed for special circumstances and are not automatically penalized, said Dr. Jim Burdick, director of the division of transplantation at the U.S. Health Resources and Services Administration.

Thus, he said, the weighting is correct because it reflects the national experience for all transplants, but the government would be open to changes if an individual transplant center makes a good case.

Add 'distance points'

Because of the liver-allocation system, someone in Cleveland could die waiting for a liver, while a compatible organ available in Pittsburgh goes to someone at the very bottom of the transplant list in New Jersey.

The nation's liver allocation system has fault lines among the 11 UNOS regions. Ohio is in Region 10 with Indiana and Michigan, while Pennsylvania is in Region 2 with West Virginia, Delaware, Maryland, New Jersey and Washington, D.C.

Livers are offered to all the patients within a region before they go to sicker patients in other regions.

Rather than allocating livers by region, the Health Resources and Services Administration is looking at adding distance points to MELD scores, Burdick said. Patients closer to the donor liver would have a higher score than those farther away.

Critical patients near the donor organ still would have primary access but the system could reduce situations in which sicker patients in nearby regions are passed over for less-critically ill recipients, he said. Thus, the Cleveland patient, and not the one in New Jersey, could get the Pittsburgh liver.

ANDREW RUSSELL/TRIBUNE-REVIEW

Drs. Steven Rudich and E. Steve Woodle say the number of transplant surgeries has fallen since Cincinnati's University Hospital stopped doing transplants on less-ill patients. Cincinnati's fewer cases mean more than $16 million in potential lost charges annually.

Expand MELD scores

MELD score could be expanded to include indicators such as sodium level in a patient's blood. A low level indicates fluid retention.

Another indicator could be a patient's liver size, said Dr. Andreas Tzakis, chief transplant surgeon at Jackson Memorial Hospital in Miami. As a patient's condition worsens, the liver scars and can shrink to half its size.

Create a central review board

Liver disease causes problems that are not always reflected in a patient's MELD score, such as cancer, brain dysfunction, itching and lethargy. Patients can apply to a regional review board for a higher score that would move them up the waiting list.

Results vary by region. Doctors on the review boards can be reluctant to move someone else's patient ahead of their own.

A central national board could be staffed with retired surgeons or people other than active doctors to handle all the applications, Marcos said.

"That is the way to fix this," he said. "Wherever you are in America, you can get a fair and uniform increase in your MELD that will reflect your patient."

With the current system, Marcos said he believes in transplanting livers into patients even if they have been turned down for a higher score.

"If somebody doesn't get the exception points, I don't agree with not transplanting the patient," Marcos said. "Patients should not be hurt by a technicality and a local decision

IMPROVING TRANSPLANT SYSTEM MECHANICS

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of a review board."

Regional review boards can consider special local circumstances and have an administrative simplicity that allows them to move quickly, Burdick said. Going to a national review system could increase the time to a decision for individual patients.

Most regional decisions are "pretty similar" and the federal government does not see the need for a change, Burdick said.

A minimum score

UNOS came close to saying patients with MELD scores lower than 10 could not appear on the transplant waiting list, but surgeons could not reach a consensus.

Some argued MELD does not reflect a patient's quality of life. Others said patients sometimes need to be on the waiting list before private insurers will pay for related treatments.

"You shouldn't have a patient on the list if a liver came up and you wouldn't transplant them," said Dr. Jeffrey Punch, transplant director at the University of Michigan Medical Center and a regional UNOS director.

A maximum threshold

Some people are so ill they have only a slim chance of surviving transplant surgery, Marcos said. With a limited number of organs, that liver could go to someone with a better chance of living.

"That's something that the transplant community is struggling with, when not to transplant because the patient is too sick," Marcos said. "There's no system in place that says 'Well, this is a futile transplant.' "

Define marginal livers

Surgeons disagree about what makes a donor liver bad.

"There is no accurate statistical way to characterize donors," Burdick said.

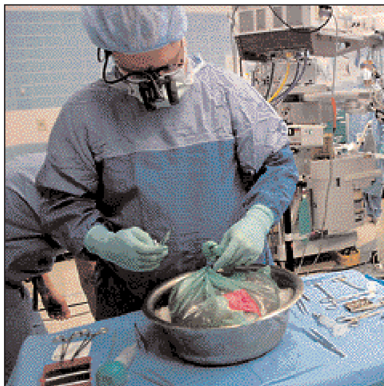
The Health Resources and Services Administration supports the use of a donor risk index to rate livers according to how well they are expected to work, he said.

As competition for organs increases, aggressive transplant centers try out livers that would have been thrown out before. If they work, that expands the donor pool.

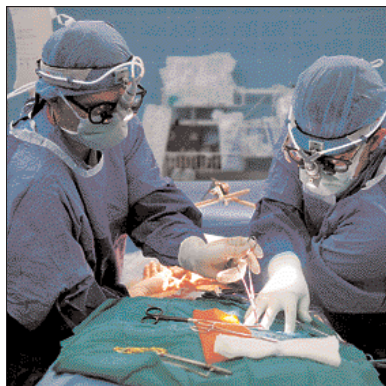
Timeline of a transplant

The time it takes to transplant a donor liver into a patient varies greatly by center and surgeon. Dr. A. Joseph Tector at Clarian Health in Indianapolis recently led a team that performed the following transplant in about two hours. The patient was a 51-year-old woman with Hepatitis C, who had a MELD score of 18. Other liver transplants can last six hours or longer. The patient went home five days after the transplant and is doing well.

9:55 a.m. Liver removed from a deceased 20-year-old woman in Evansville, Ind. A team from Clarian Health flew out to retrieve the organ. The removal time is marked on a cooler holding the organ.



1:40 p.m. The patient has been anesthetized and is in the operating room being prepped for surgery. The donor liver sits inside a green bag, under ice, inside a blue cooler. Diagrams of a liver and a kidney hang on the blue-and-white tiled walls. Medical instruments rest on a table next to the patient, who is lying with her arms stretched out, hooked to monitors and tubes. Seven people — doctors and nurses — work to get ready for the surgery.

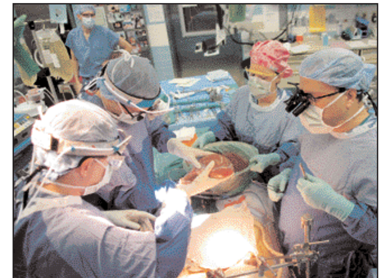


2:05 p.m. One team of doctors begins to open the patient's abdomen with a cauterizing knife. Tector and a nurse sit on stools at a nearby table, preparing the donor liver, which appears smooth and light pink.

2:25 p.m. Doctors work to remove the patient's diseased liver. Tector and the nurse examine the donor liver's portal vein and artery.

2:30 p.m. The donor liver is ready to be transplanted.

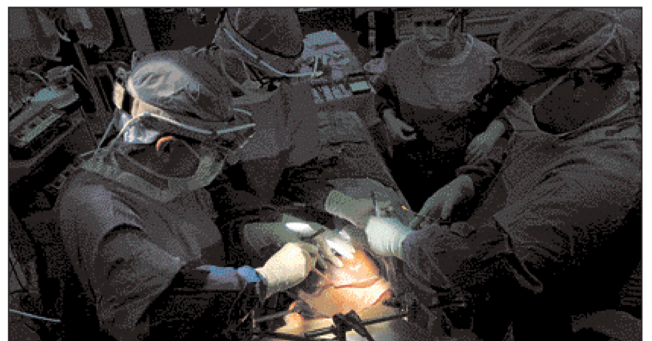
2:45 p.m. The patient's diseased liver, dark red and bumpy from cirrhosis, is removed.



2:55 p.m. Tector leads a team of people transplanting the donor liver into the patient.

3:13 p.m. Tector reopens the vessels that let blood flow into the donor liver, causing it to turn dark red.

3:36 p.m. Tector leaves the operating room, allowing other doctors to close the patient's abdomen.



PHOTOS: ANDREW RUSSELL/TRIBUNE-REVIEW

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