Henry Ford Health System

Trans notes

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Liver Transplant Clinic Opens *in Kalamazoo*

A partnership between the Henry Ford Transplant Institute and Borgess Medical Center in Kalamazoo, Mich. led to the opening of the Henry Ford – Borgess Liver Transplant Clinic in Kalamazoo.

A team of six hepatologists, eight transplant surgeons and three pre-transplant liver coordinators offer appointments on the third Thursday of the month. Patients in the Kalamazoo area can be referred to the Kalamazoo clinic for liver transplantation or second opinions for hepatobiliary cancer diagnoses. The clinic is located at 1535 Gull Road, Suite 005, in Kalamazoo.

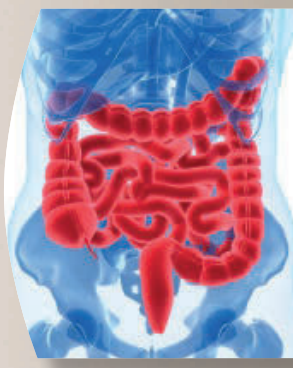
Ancillary testing is arranged through the referring physician and completed locally. Patients referred for liver transplantation undergo transplant surgery at Henry Ford Hospital in Detroit and receive their primary follow-up care in the Kalamazoo clinic.

Referring physicians remain active participants in their patient's care. The clinic team follows the Henry Ford Good Partner Promise and refers all patients back to their referring physicians for follow-up and continued care. A Henry Ford hepatologist or surgeon in the Kalamazoo clinic also provides concurrent follow-up care.

The Henry Ford – Borgess Liver Transplant Clinic operates as a partnership under the direction of Kimberly Brown, M.D., division chief, Gastroenterology, and Atsushi Yoshida, M.D., surgical director, Liver Transplantation, Henry Ford Transplant Institute.

To refer a patient, call 313-916-8899. A transplant coordinator will collect the patient's relevant medical history and schedule a medical evaluation.

Clostridium Difficile Associated Diarrhea *in Liver Transplant Recipients*



In two separate studies, Henry Ford Transplant Institute researchers are studying Clostridium Difficile Associated Diarrhea (CDAD) in liver transplant recipients. The intent is to better understand the infection, which causes significant morbidity and frequently prolongs length of stay (LOS) in the hospital.

"CDAD has been a significant complication among many types of hospital patients for many years," said Mayur Ramesh, M.D., senior staff physician and infectious disease specialist at the Henry Ford Transplant Institute. "But changing trends in the epidemiology of CDAD in liver transplant recipients are not well understood."

In the first of two studies, the researchers compared C. difficile infections in liver transplant recipients more than 10 years ago to infections in patients who received transplants in the last two years.

The retrospective study analyzed data on CDAD in all patients who received liver transplants at Henry Ford Hospital from January 1994 to December 1998 compared to patients who received liver transplants from January 2009 to December 2010. The groups were similar in terms of age, sex, race, reason for transplant, MELD score, type of immuno-suppression and antibiotic use.

"When you study the data, it's clear that the incidence and recurrence rates of CDAD have remained unchanged over the last 15 years despite better disinfection practices, hand hygiene, increased awareness and early diagnosis and treatment," said Dr. Ramesh. "This is intriguing because it's simply not what you might expect."

In a separate study, the researchers compared rates of CDAD in liver transplant recipients to general surgery patients at Henry Ford Hospital.

"We know antibiotic therapy is a major risk factor for development of CDAD as it alters the colonic flora and allows overgrowth of C. difficile," said Dr. Ramesh.

Liver transplant recipients are more likely to receive broad-spectrum antibiotics. Additional risk factors in the transplant population include pre-existing renal disease, corticosteroid use and prolonged length of stay (LOS) in the hospital.

To better understand the risk of CDAD, researchers retrospectively reviewed 80 patients who received liver transplants at Henry Ford Hospital and compared the data to a matched group of general surgical patients who were in the surgical intensive care unit at the hospital during the same time period.

Incidence of CDAD was significantly higher in the liver transplant population than the general surgical population – 26 percent compared to 5 percent.

"This study clearly demonstrates that

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Liver Transplants Outcomes in Older Patients
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More Than Heart Transplants
page 5

Welcome to the Winter 2013 issue of *TransNotes,* a newsletter produced by the Henry Ford Transplant Institute. As always, our goal is to share our research and important advances in the field of transplantation with our colleagues.

In this issue, you'll find three studies about C-Difficile (CDAD) infections in liver transplant patients. The data in the retrospective study indicates the incidence and recurrence rates of CDAD. Despite better infection control practices the rates did not change in the last 15 years. The second study compared liver transplant patients with general surgical patients and concluded CDAD was significantly higher in the liver transplant population.

A third study on C.Diff in acutely ill patients with associated diarrhea indicates CDAD can effectively be treated with Intestinal Microbiota Transplantation (IMT). The data indicates that none of the patients receiving the transplantation experienced recurrence of CDAD, and now IMT can effectively be used in ill patients as a last resort before colectomy.

Another study used the UNOS database, patients through August 2010 were divided into age groups <70 and ≥70 years old and their survival rates following orthotopic liver transplant was studied. Earlier single center studies indicated survival rates to be comparable. Be sure to read the study's conclusions.

Due to the variability in BK Viral Load assays and extraction methods used, the American Society of Transplantation urged our researchers to develop standardized testing methods and universal cut-off points. The results point to an urgent need to standardize various BKVL assays to prevent graft loss.

As a new feature, each publication will focus on a specific program. the Heart Failure transplant program, lead by Dr. Celeste T. Williams (see page 5), shows the breadth of the services provided.

I hope you find the information in *TransNotes* thought-provoking and valuable in your own research and practice. As always, referring physicians should feel free to contact us at our toll-free number, 1-877-434-7470, or to contact me directly at 313-916-2941, for your patient or practice needs.

Marwan S. Abouljoud, M.D., FACS
Director, Henry Ford Transplant Institute
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Liver Transplants Outcomes
Compared in Older Patient

Many patients who, due to their age, were once not considered for orthotopic liver transplant (OLT) today are receiving surgery at a growing rate. "Although several single center series studies suggest that liver transplantation outcomes in elderly patients are comparable to younger patients, the outcome of this research indicates a lower survival rate in patients over 70 at one, three and five years," says Dilip Moonka, M.D., hepatologist and medical director of the Liver Transplant Program, Henry Ford Transplant Institute.

The study was conducted using the United Network for Organ Sharing (UNOS) database which included patients up to August 2010. Patients who were 18 or older receiving an initial, single organ transplant were included in the study. Survival between age groups was compared using the Kaplan-Meier log rank survival test and the impact of various pre-transplant variables on patient survival was tested using a multivariate model.

Of 79,008 patients,1,457 (1.8%) were ≥70 and 77,551 (98.2 percent) were <70. Six patients had OLT at age ≥80. When compared to patients <70, patients ≥70 were more likely to have diabetes (28.1 percent vs. 19.3 percent: p <0.001) and less likely to be infected with hepatitis C (33.4 percent vs. 45.1 percent: p <0.001). Older patients worse kidney function with a lower calculated glomerular filtration rate (65.8 ml/min vs. 81.0: p <0.001) and received older donor organs (45.6 years vs. 38.4: p <0.001). And, 70.4 percent older patients received OLT in since February of 2002 (the Meld era) vs 51.2 percent of younger patients. Patient and graft survival was lower in patients ≥70 than younger patients. The table that follows has a p<0.001 and depicts survival rates.

Subgroup	1 year survival		3 year survival		5 year survival	
	Patient	Graft	Patient	Graft	Patient	Graft
< 50	0.89	0.83	0.82	0.75	0.77	0.69
50-59	0.87	0.83	0.79	0.74	0.72	0.67
60-69	0.83	0.80	0.74	0.70	0.67	0.63
All < 70	0.87	0.82	0.79	0.74	0.73	0.67
≥70	0.81	0.78	0.66	0.64	0.55	0.54
≥80	0.67	0.67	0.44	0.44	0.22	0.22

On multivariate analysis, patients ≥70 had lower patient and graft survival than patients <70 with hazard ratios (HR) of 1.63 (p <0.001) and 1.38 (p <0.001) respectively. Dr. Moonka explains factors that influenced patient survival in patients ≥70 were donor age (HR 1.06 per 10 year increment: p=0.049) and being hospitalized at time of transplant (1.58: p=0.001) or on life support (HR 1.80: p=0.040). Six patients with OLT at age ≥80 had one year survival of 67 percent.

Using the UNOS database, patients ≥70 who had OLT experienced 1 and 3 year patient survival of 81 percent and 66 percent, which is less than in younger patients. Older patients were more likely to have diabetes and a lower GFR and to receive older organs. Dr. Moonka concluded "factors associated with diminished survival in older patients were increasing donor age, life support or hospitalization at transplant." The study suggests that liver transplant can be a benefit for older patients however, they have to be selected with great care.

Standardization of Testing Needed to Reduce Renal Graft Loss

from BK Virus-Associated Nephropathys

Researchers at the Henry Ford Transplant Institute are urging the American Society of Transplantation (AST) to develop standardized testing methods and universal cut-off points for use in plasma BK Viral Load (BKVL) assays.

BK virus-associated nephropathy (BKVAN) is a major cause of renal dysfunctionand graft loss in renal transplant recipients. The AST recommends monitoring BKVL to predict BKVAN in kidney transplant patients. The current AST guidelines define a BKVL of ≥4 log 10/mL as "presumptive BKVAN" and recommend reducing immunosuppression as appropriate.

But according to Anita Patel, M.D., medical director Kidney and Pancreas Transplantation, and other researchers at the Henry Ford Transplant Institute, the AST recommendations fail to take one important fact into consideration. "There is great variability in the tests and viral DNA extraction methods used to determine the BK viral load from institution to institution and lab to lab," said Dr. Patel. "So a test used at one institution might not be predictive of BKVAN while the very same specimen tested at a different institution may be significant." Variability may even occur in tests conducted within the same institution or lab.

Based on a retrospective study of 460 renal transplant patients at Henry Ford Hospital from 2008 to 2011, Dr. Patel and her colleagues found that utilizing the current AST guideline cut-off point of ≥4 log 10/mL significantly underestimated the diagnosis of presumptive BKVAN. The study also revealed marked variability in BKVL assays available at various institutions and in the commercial marketplace. In the study, renal biopsy was performed in all patients if there was a rise in serum creatinine greater than 0.5 mg from baseline and BKVAN was confirmed by biopsy.

Results of the study showed:

- 222 out of 413 patients who met the study criteria (54 percent) had BK viremia. Of those 222 patients, 23 (10 percent) had a BKVL of ≥4 log 10/mL. Of these 23 patients, 20 (87 percent) had BKVAN confirmed on biopsy.

Results – raw data

Group A	Group B	Group C
12,300c/mL (4.09 log)	57.799 (4.76 log)	110,000c/ml 5.0 log
Detected<5,000c/mL (3.70log)	7,588 (3.88 log)	9,240 c/ml 4.0 log
25,500 c/mL (4.41 log)	178,693 (5.25 log)	181,000c/ml 5.3 log
Detected <5,000c/mL (<3.70 log)	4,537 (3.66 log)	6,370c/ml 3.8 log
Detected <5,000c/mL (<3.70 log)	24,376 (4.39 log)	17,200c/ml 4.2 log
13,300c/mL (4.12 log)	57,411 (4.76 log)	63,2000c/ml 4.8 log
Detected <5,000c/mL (<3.70 log)	183,342 (5.26 log)	171,000c/ml 5.2 log
11,400cmL (4.06 log)	69,414 (4.84 log)	63,200c/ml 4.8 log

Results – validtion data

Variable	Assay A (n=20) (<3.7 - 6 log)	Assay B (n=20) (<2.7 - 6 log)	p value
Viremia Below Level of Dectection	11	0	<0.0009
Viremia≥ 4 log	8	14	<0.034
Viremia ≥ 5 log	1	5	<0.00006
Potential CDM Decrease in IS (≥ 4 log)	8	14	<0.034
Potential CDM - No change in IS (< 4 log)	12	6	<0.083

- 248 out of 413 patients had a renal biopsy done for rising serum creatinine. Of those patients, 31 (12.5 percent) were found to have BKVAN. However, 11 out of these 31 patients (35 percent) had BKVL consistently < 4 log10/mL and, therefore, would not have been diagnosed as presumptive BKVAN using the AST recommended BKVL cut off of ≥4 log10/mL.
- A total of eight patients lost their graft due to BKVAN, including three patients with BKVL < 4 log10/m.

Dr. Patel and her colleagues recently presented their findings at an AST conference. "The study was very well received and the results are very clear: Urgent standardization of the various BKVL assays and establishment of universal cut-off points is imperative to avoid BKVAN-related graft loss."

Unique Observations Opportunity Offered

Henry Ford transplant surgeons continue to extend the offer for our colleagues to experience a unique opportunity by becoming a part of our team through observation at Henry Ford Hospital. These observation opportunities are accompanied with further training that may support a physician's practice as well as enhance training in specific areas of interest. Contact one of our Outreach Coordinators: Michelle Crossley, R.N., at 248-219-2326 or Dana Reissner, R.N., at 313-218-9425 who can provide more information about this unique opportunity.

Have We Met?

Shatha Farhan, M.D.

Senior Staff Physician, Stem Cell Transplant Program

Areas of Clinical Expertise Include:
Dr. Farhan's areas of clinical expertise is blood and marrow stem cell transplantation. Dr. Farhan is also fluent in Arabic and French.

Medical School Education:
University of Jordan, Jordan

Post Graduate Training:
University of Jordan (Jordan) - Internal Medicine
Henry Ford Hospital (MI) - Internal Medicine
Henry Ford Hospital (MI) - Hematology/Oncology
MD Anderson Cancer Center (TX) – Blood and Marrow Stem Cell Transplantation

Research Interest:
The use of immuno-modulating agents and targeted therapy as maintenance post stem cell transplantation for high risk diseases to prevent relapse.

Board Certifications:
American Board of Internal Medicine
American Board of Internal Medicine: Oncology
American Board of Internal Medicine: Hematology

Edward M. Peres, M.D.

Senior Staff Physician, Stem Cell Transplant Program

Areas of Clinical Expertise Include:
Dr. Peres's areas of clinical expertise include blood and marrow stem cell transplantation. His research interests are in graft versus host disease, alternative donor transplants and reduced toxicity transplant conditioning regimens.

Medical School Education:
Ross University School of Medicine

Post Graduate Training:
Children's Hospital of Michigan (MI) - Hematology/Oncology
Barbara Ann Karmanos Cancer Institute (MI) - Stem Cell Transplant Fellowship

Recently completed trials:
National trial single versus double cord blood transplant.
An oral presentation of the findings at American Society Hematology in Dec. 2012.
Unrelated donor transplants for older patients with AML.
An oral presentation of the findings at American Society Hematology
Graft versus Host prevention trial targeting Histone Deacetylase.
An oral presentation of the findings at American Society Hematology.

Henry Ford Transplant Institute Outreach Clinics

In addition to the transplant clinics at Henry Ford Hospital in Detroit, 13 convenient outreach clinics are located throughout Michigan. Please contact our outreach coordinators for information: Michelle "Cookie" Crossley, R.N. at 248-219-2326 or Dana Reissner, R.N. at 313-218-9425.

HEART

Advanced Heart Failure Clinic
Henry Ford Macomb Hospital
15855 19 Mile Road
Clinton Township, MI 48038

Providence Heart Clinic
22250 Providence Dr., Suite 705
Southfield, MI 48075

Advanced Heart Failure Clinic
St. John Hospital and Medical Center
22201 Moross Rd., Suite 356
Detroit, MI 48236

Advanced Heart Failure Clinic
Henry Ford Wyandotte Hospital
2333 Biddle Ave.
Wyandotte, MI 48192

KIDNEY

Lansing Kidney Clinic
1703 E. Michigan
Lansing, MI 48912

Pontiac Kidney Clinic
44200 Woodward Ave., Suite 109
Pontiac, MI 48341

Macomb Kidney Clinic
16151 19 Mile Road, Suite 200
Clinton Township, MI 48038

Novi Kidney Clinic
Henry Ford Medical Center - Columbus
39450 W. 12 Mile Road
Novi, MI 48377

Hurley Kidney Clinic
One Hurley Plaza, 5 West
Flint, MI 48503

Ypsilanti Kidney Clinic
5333 McAuly Drive, Reichert Building, Suite 403
Ypsilanti, MI 48197

LIVER

Borgess Liver Clinic
1535 Gull Road, Suite 005
Kalamazoo, MI 49048

Liver Transplant Clinic
Spectrum Health
41000 Lake Drive
Grand Rapids, MI 43522

LUNG

Grand Blanc Lung Clinic
8220 S. Saginaw Street, Suite 800
Grand Blanc, MI 48439

Novi Lung Clinic
Henry Ford Medical Center - Columbus
39450 W. 12 Mile Road
Novi, MI 48377

Heart Transplant Program
Known for More than Transplants

In 1985, the first heart transplant in Detroit was performed at Henry Ford Hospital. Since then, the Henry Ford Heart Transplant Program has developed into one of the country's most successful integrated services with the ability to care for patients along the full continuum of heart failure. Today, the program is only one of three heart transplant programs in Michigan.

"It's true that we are a heart transplant program, but we provide comprehensive, state-of-the-art medical therapies as well as surgical interventions for patients with advanced heart failure," said Celeste T. Williams, M.D., medical director of the Heart Transplant Program at the Henry Ford Transplant Institute. "We look at each patient as an individual in order to determine the best therapeutic option."

For patients with end-stage heart failure, Henry Ford's heart failure specialists and cardiothoracic surgeons provide advanced heart failure therapies. These include evidence-based medical management as well as surgical interventions such as high-risk coronary artery bypass grafting, high-risk valvular surgeries and investigational devices. When a heart transplant is required, the Heart Transplant team works together to provide the best care for every patient.

Pioneering treatments are available for a number of Henry Ford patients with end-stage heart disease to help bridge the gap while waiting for a heart transplant. Henry Ford cardiothoracic surgeons were among the first in the United States to successfully implant the left ventricular assist device (LVAD), known as the HeartMate®, to improve survival of patients waiting for a heart transplant. Implantation of a LVAD restores blood flow to the patient's organs and safely allows the patient to leave the hospital while awaiting transplantation.

"But not every patient who receives a LVAD is using it as a bridge to transplantation," said Dr. Williams. "We've found that the LVAD can be an excellent destination therapy in itself."

In fact, the use of LVAD as a destination therapy is becoming increasingly common. Currently, Dr. Williams and her colleagues in the heart transplant program are providing follow-up care for 70 patients with LVAD devices, 20 of which are on the heart transplant list.

"Patients with LVADs are able to go home and actively participate in our cardiac rehabilitation program," said Dr. Williams. "They are totally independent as far as being able to grocery shop, cook and do light housekeeping. Most don't go back to work, unless they have an office job that is not very strenuous."

The program implants about 35 LVADs a year and performs about 10 heart transplants a year. With both procedures, the program meets or exceeds national survival benchmarks despite serving a high-risk population.

Dr. Williams attributes the program's excellent survival rates to the collaborative work of its multidisciplinary team, which includes cardiologists, cardiothoracic surgeons, transplant nurses, LVAD nurses, psychologists, social workers, a quality specialist, pharmacists, nutritionists, visiting nurses, and cardiac rehabilitation specialists. "We even have a clinical engineering specialist who takes care of the LVAD devices to ensure they are working properly," said Dr. Williams.

The program's success has led to several unique partnerships between the Henry Ford Transplant Institute and other hospitals in southeast Michigan. Dr. Williams and her team operate heart failure clinics at St. John Providence Hospital in Southfield and St. John Hospital & Medical Center in Detroit. They also work closely with a heart failure specialist at St. Joseph Mercy Hospital in Ann Arbor.

"These collaborative efforts are beneficial to Henry Ford and our partnering hospitals," said Dr. Williams. "We are able to provide expertise while the patient receives his or her follow-up care at the hospital that is most convenient for them."

Clostridium Difficile

continued from cover

CDAD occurs more commonly in liver transplant recipients compared to a matched population who underwent general surgery," explained Dr. Ramesh. "We know major risk factors like immunosuppression and increased use of antibiotics contribute to the higher incidence rate in liver transplant recipients, but further analysis of other risk factors is required."

Both studies suggest a need for additional research. A prospective study of CDAD risk factors in liver transplant patients – including induction and maintenance of immunosuppression, LOS, renal impairment, MELD scores, enteric feeding and use of proton pump inhibitors – is currently underway at Henry Ford Hospital.

Lecture Series
Groundbreaking Topics

The Henry Ford Transplant Institute hosts a series of livestream monthly educational lectures throughout the year. These one-credit CME lectures are led by Henry Ford Transplant Institute physicians and surgeons as well as visiting professors who present a collection of transplant related groundbreaking topics you won't find anywhere else. Medical students and residents may also find these lectures valuable. Learn lecture topics coming up or view past presentations when it's most convenient for you or as a teaching aide.

For details about upcoming livestream or recorded lectures visit henryford.com/transplanttalk.

INFLAMMATORY BOWEL DISEASE AND INTESTINAL FAILURE CONFERENCE, IN AUBURN HILLS

Saturday, March 9, 2013, 7:30 a.m. to noon. Henry Ford Health System designates this live course for 4.0 AMA PRA Category 1 Credit™. Visit henryford.com/intestineconference to register online today.

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Henry Ford Transplant Institute Pledge

To improve and extend life by meeting the needs of transplant patients and their families with compassionate, innovative and personalized quality care.

Intestinal Microbiota Transplantation (IMT)

Effective in Treatment of Acute C. Diff Associated Diarrhea (CDAD)

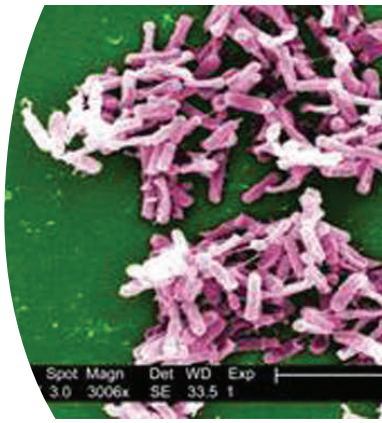
Even among physicians, it's a distasteful-sounding procedure. But infectious disease specialists at the Henry Ford Transplant Institute have found that Intestinal Microbiota Transplantation (IMT) – also known as human fecal transplantation – is highly effective in treating C. diff Associated Diarrhea (CDAD) in acutely ill patients.

"There's no question that the 'yuck-factor' is very high with this procedure," said Mayur Ramesh, M.D., senior staff physician and infectious disease specialist at the Henry Ford Transplant Institute. "But these patients are so sick, when you explain the procedure to them, they don't even hesitate. They want it done. They are willing to try just about anything to get better."

Conventional treatment of C. diff includes the use of antibiotics such as metronidazole or vancomycin. IMT has also been shown to effectively treat C. diff infection in stable patients with recurrent disease, but very little has been reported in the medical literature about its use as a treatment of acutely ill patients with C. diff as a last resort before colectomy.

In IMT, donor stool is collected from a family member and screened for C. diff. The donors are also screened for negative serology for HIV, Hepatitis A, B and C as well as syphilis.

Approximately 30 to 50 grams of fresh donor stool is then homogenized with warm tap water and filtered through gauze. About 120 to 180 ml of the filtered stool is then given to the patient via nasogastric tube with 20 ml of free water flush. The healthy stool mixed with warm tap water helps to re-establish the normal intestinal flora in the patient's gastrointestinal tract.



"Patients who receive this treatment through a nasogastric tube don't taste or smell the stool mixture as it's administered," said Dr. Ramesh.

In a retrospective study of 49 acutely ill patients treated with IMT at Henry Ford Hospital between May 2010 and December 2011, 100 percent of the patients tolerated the procedure well with no adverse events and recovered dramatically within one to four days. Only three of the patients experienced a recurrence of CDAD in the subsequent 100 days after the procedure.

"We've known for a while that IMT can be used effectively in stable patients with C. diff infection," said Dr. Ramesh. "This study shows us that it can also be used effectively in severely ill patients as a last resort before colectomy. It is a life-saving procedure and can be performed in any hospital setting."

The study was recently presented at the Infectious Diseases Society of America meeting in San Diego.

Intestinal Transplantation Approved at Henry Ford Hospital

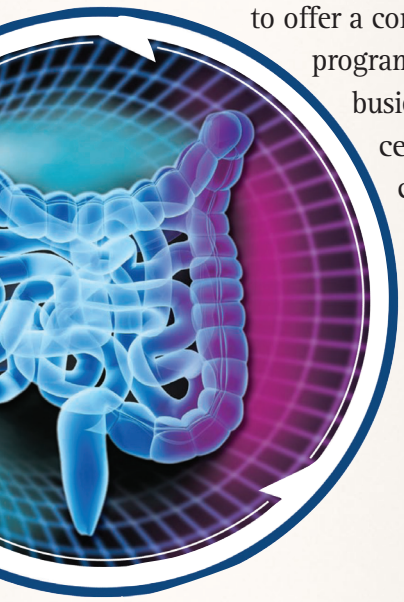
Medicare/Medicaid Patients Have New Transplant Options

The Henry Ford Transplant Institute has received approval from the Center for Medicare and Medicaid Services (CMS) to perform transplantation of the intestine – it is the only center in Michigan to receive this designation.

"This creates new options for our Medicare and Medicaid patients with short bowel syndrome and mesenteric thrombosis," says Marwan Kazimi, M.D. surgical director of the Henry Ford Transplant Institute's Small Bowel and Multivisceral Program.

"We cannot realistically ask Medicare and Medicaid patients in Michigan who are in need of intestine transplant to travel out-of-state," says Dr. Kazimi. "With CMS approval, we're able to immediately expand the scope of care for patients in Michigan and across the region." The Henry Ford program received approval after submitting a Mitigating Factors Application – which was filed by the transplant program based on the identification of a need for an intestine and multivisceral transplant program in Michigan. There are three types of intestine transplants including:

- **Isolated Intestine Transplant** for patients with short bowel syndrome and no liver disease.
- **Combined Liver-Intestine Transplant** for patients with short bowel syndrome and irreversible intravenous nutrition-induced liver disease.
- **Composite Multivisceral Transplant** for patients with short bowel syndrome requiring intestine, stomach, pancreas and/or liver transplantation; patients with portomesenteric thrombosis and liver disease; or patients with neuroendocrine tumors metastatic to the liver.



Henry Ford Hospital is among five programs in the country to offer a comprehensive small bowel and multivisceral transplant program. The Henry Ford Transplant Institute is one of the busiest and most well-respected multiorgan transplant centers in the United States. As Michigan's most comprehensive multiorgan transplant center, it performs transplantation of the liver, kidney, pancreas, small bowel and multivisceral organs, lung, heart and bone marrow stem cell.

To refer a patient to The Henry Ford Transplant Institute, contact Outreach Coordinators:
Michelle Crossley, R.N., 248-219-2326
Dana Reissner, R.N., 313-218-9425.