

University of Michigan

# TRANSPLANT CENTER

Newsletter

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2006

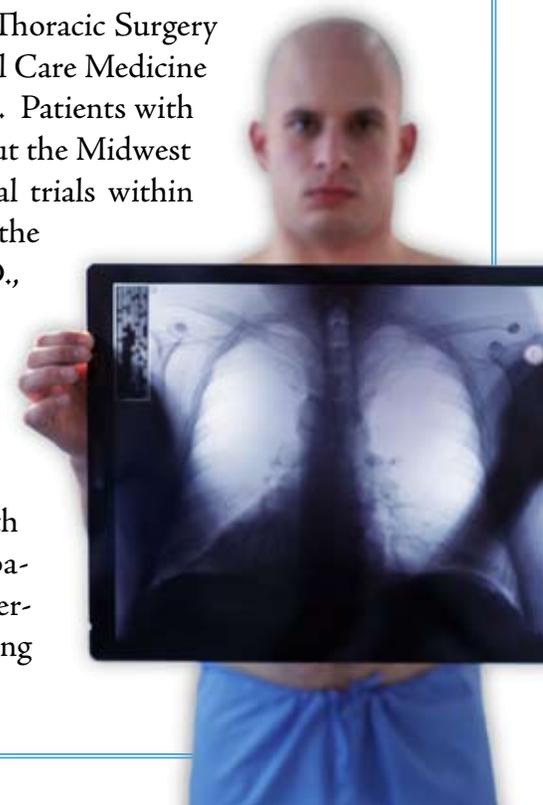
## IN THIS ISSUE

- 15 Year Celebration.....1
- Donor Awareness Week.....3
- Kudos .....4
- Breakthrough Collaborative ....6
- What Do You Think? .....7

## University of Michigan Lung Transplant Program Celebrates 15 years of Success!

The University of Michigan Lung Transplant Program, under the leadership of G Michael Deeb, M.D. and Joseph Lynch, M.D., was started in 1990. Three surgical “eras” have followed and include the contributions of Drs. Richard Whyte, Mark Iannettoni and currently, Andrew Chang. The program is the premier lung transplant program in Michigan providing service to the citizens of Michigan, Northern Ohio, Indiana and Kentucky. Over the past 15 years, 344 lung transplant procedures have been performed in 339 patients. Primary indications for transplantation included emphysema and pulmonary fibrosis, followed by pulmonary hypertension and cystic fibrosis. Patient survival rates, a benchmark of program quality, remain consistently higher than reported national figures. Confirmation of this excellent performance was noted by Medicare insurance review and rewarded by approval as a Medicare center for pulmonary transplantation in 1997.

Collaboration between the Section of Thoracic Surgery and Division of Pulmonary and Critical Care Medicine has been a key to the program’s success. Patients with end stage pulmonary disease throughout the Midwest are evaluated for treatment and clinical trials within the Pulmonary Dyspnea Clinic. Under the direction of Fernando Martinez, M.D., this collaboration has led to National Institutes of Health (NIH) funding in the areas of idiopathic pulmonary fibrosis and chronic obstructive pulmonary disease. As a NIH directed Clinical Research Network site for both IPF and COPD, a great number of patients have been referred to the University of Michigan by an ever-expanding



*15 Year Celebration continued on page 2*



University of Michigan  
Transplant Center

community of pulmonologists and primary care physicians. Furthermore, the University of Michigan has been a leader in end-stage lung disease, having participated in the groundbreaking National Emphysema Treatment Trial for lung volume reduction surgery. This collaborative effort continues to thrive, as indicated by the University of Michigan's participation as one of only a few centers approved to participate in the Lung Tissue Research Consortium, a NIH-funded initiative to learn more about the mechanisms of end-stage lung disease. The transplant program also benefits from its interactions with the University of Michigan's nationally designated Cystic Fibrosis Center and the internationally renowned Pulmonary Hypertension Center.

The number of lung transplants annually performed in the United States, as with other organs, has been limited by organ availability and reached a plateau of 1000 in 2001. The number of patients waiting for a lung allograft nationally has now increased to 3200 patients with a median waiting time of more than 2 years. Prior to May 2005, lung allocation was based on waiting time, blood type and donor size. Subsequently, a new lung allocation score was implemented which allocates organs based on severity of recipient illness. The score is determined not only by the likelihood of death while on the waiting list, but also by

the likelihood of survival after transplantation. While emphysema has been the predominant diagnosis for transplantation historically, patients with idiopathic pulmonary fibrosis, cystic fibrosis and pulmonary hypertension frequently have a greater acuity of illness at the time of evaluation. This has resulted in a proportional increase in transplantation among these diagnostic groups.

*The modern era of lung transplantation began in 1981 with the report of the first successful heart lung transplant for primary pulmonary hypertension. Long term success is attributed to the development of the calcineurin inhibitor, cyclosporine, which revolutionized solid organ transplantation. Between 1988 and 2005, the number of patients receiving lung transplants in the United States increased from 33 to 1,173.*

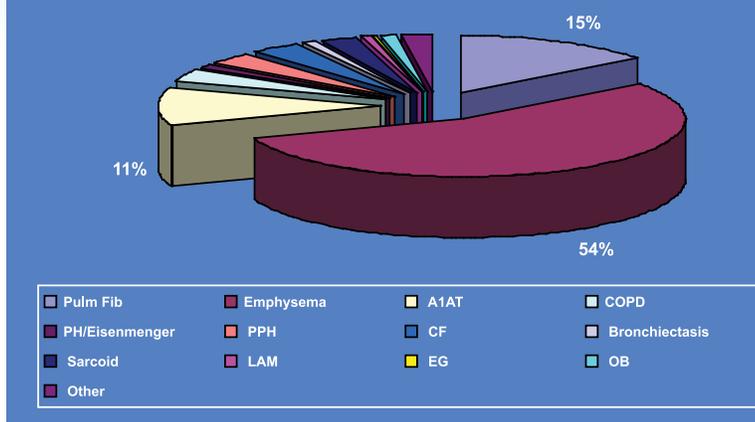
*The lung's role as a filter and "air" conduit has led to outcomes limitations in this patient population. The lung is the only solid organ that is exposed to the external environment. This, together with its large size and highly immunologic state, contributes to a high infection and "rejection" rate. In fact, recipients of lung allografts suffer a pneumonia rate 1.5 to 10 times the incidence of other solid organ transplant recipients. Chronic allograft rejection in the form of "obliterative bronchiolitis" (OB), which is the development of irreversible airflow obstruction due to concentric obliteration of the terminal airways, limits prognosis in long term survivors of lung transplantation. Survival rates of 75-80% at one year and 45-50% at five years have been an international standard for over a decade despite attempts at improving long term outcomes.*

The University of Michigan Transplant Center, Section of Thoracic Surgery and the Division of Pulmonary and Critical Care Medicine remain committed to the continued growth of this program. Steps toward prominence at a national and international level are ongoing. Christine Lau, M.D., was actively recruited from Washington University

(St. Louis, MO), to join the thoracic surgical group of Mark Orringer, M.D., Allan Pickens, M.D. and Andrew Chang, M.D. She enhances our expertise in lung transplantation. Kevin Chan, M.D. joined the lung transplant team as Medical Director in September, 2005. His clinical concentration has been lung transplantation and pulmonary hypertension for over 10 years. He brings clinical, administrative and research experience to a team of six pulmonary transplant physicians including Fernando Martinez, M.D., Kevin Flaherty, M.D., Vibha Lama, M.D. and Tammy Ojo, M.D.

Our immediate focus will be to increase patient volume to 30-40 procedures annually, while maintaining excellent outcomes, as well as to concentrate research in the areas of timing of transplantation and obliterative bronchiolitis (OB). Dr. Lau has recently received the highly prestigious career development award, The John W. Kirklin Research Scholarship from the American Association for Thoracic Surgery, to foster collaboration with David Pinsky, M.D., Chief, Division of Cardiology, whose laboratory has developed a well-validated animal model of concentric OB. Analyses of the chemokine and cytokine milieu of patients, who develop OB, and protein C levels as a predictor of sepsis post-transplantation, are ongoing. Prognostic indicators of poor outcome in patients with pulmonary fibrosis and the clinical utility of the new BOS grading system, as defined by the International Society of Heart and Lung Transplantation, have been published by the group. Many current investigations in pulmonary fibrosis and emphysema overlap with lung transplant pathology which allows our program to be well positioned to expand lung transplant investigations.

## UM Lung Transplantation: Diagnosis 1990-2005



Lung transplantation is moving forward at the University of Michigan. After fifteen years of establishing a strong, regional, clinical program, we are ready to make a national impact through the ongoing development of clinical and basic science initiatives to enhance lung transplant outcomes. <M

– Kevin M. Chan, MD

## Organ Donor Awareness Week



*Transplant Center employees perform above and beyond their 'jobs' to assist in humanitarian efforts. Two recent examples of the charitable nature of Transplant Center employees involve the giving of their time, their effort and/or their monies for the Organ Donation Awareness fair and the Adopt-A-Family program.*

To promote Organ Donor Awareness the Transplant Center sponsored a booth for three days (held November 8, 9, and 10, 2005) in the Towsley Link at University Hospital. A donor awareness team comprised of Transplant Center staff, Gift of Life staff, donors and families volunteered to distribute information, sell promotional t-shirts, sweatshirts and popcorn. A kidney recipient donated many beautiful hand-made hats and scarves which were sold to help promote organ donor awareness. The sales generated over \$3,600 to sponsor future Organ Donor Awareness events. The November event was an overwhelming success --- with over 70 people registering to be organ donors and with popcorn sales generating \$500 which will be donated to Camp Michitanki, enough to send one child to camp!

Mark your calendars! Spring Organ Donor Awareness is scheduled during the week of April 17, 2006. We're planning to sponsor a booth for four days that week and will begin recruiting volunteers the end of March 2006. <M

– Crystal Sprang

## HHS Donation Collaborative a Success!

*Transplant Center Donation Initiatives program participates in first ever U.S. Health & Human Services Organ Donation Breakthrough Collaborative – Resulting in Significant Increases in Organ Donors*

In an effort to combat the ever growing disparity between the supply and demand of organs for transplantation, University of Michigan Health System (UMHS), led by the Transplant Center's Donation Initiatives program, joined with some of the country's largest hospitals, organ procurement organizations, professional association and national oversight groups to participate in the first ever U.S. Health and Human Services (HHS) Organ Donation Breakthrough Collaborative. The Collaborative ran from September of 2003 to September of 2005.

The Collaborative was meant to “generate significant, measurable increases in organ donation by helping the national community of organ procurement organizations and hospitals to quickly identify, learn, adapt, replicate, and celebrate breakthrough practices that are associated with higher donation rates.”

Although the primary goal of the Collaborative was to save lives by optimizing eligible organ donor opportunities, the Collaborative was focused on ways to increase the national “conversion rate” from 48% to 75%, or better. In general, conversion rate average is determined by dividing the number of actual organ donors by the number eligible donors (donors/eligible donors = %). The Collaborative was “designed to enhance the understanding of existing knowledge as well as contribute new and vital information about increasing organ donation rates.”

As a result of the Collaborative efforts, there was a:

- ♦ 26 straight months of record organ donors in the U.S. (October 2003 - November 2005)
- ♦ 10% increase in the number of U.S. organ donors in 2004
- ♦ projection of an additional 10% increase in U.S. organ donors for 2005

In May of 2005, U.S. Health Resources and Services Administration Administrator Elizabeth M. Duke conferred the HHS Medal of Honor awards to hospitals and organ procurement organizations for achieving life-saving organ donation rates of 75% or more for a sustained 12-month period (between September 2003 and March 2005). UMHS was one of a handful of hospitals in Michigan to receive such an award. UMHS achieved a state leading rate of over 93% during this time (the national average donation rate in all hospitals was 55% in 2004.) This was quite an honor and is a credit to all UMHS and Gift of Life staff who worked to make this possible. <M

– Mark Gravel, RN



*Lynda Harwood, Mark Gravel & Richard Chenault receive HHS Medal of Honor.*

## Secretary Land honors Mark Gravel with Shining Star Award

*UMTC Donation Initiatives team receive HHS Medal of Honor, Director receives Shining Star Award from Secretary of State.*

Secretary of State Terri Lynn Land honored Mark Gravel, Director of Donation Initiatives for the University of Michigan Transplant Center, with a Shining Star award for his outstanding work in promoting organ and tissue donation.

Secretary Land created the Shining Star award to recognize those whose exceptional efforts encourage greater organ donor awareness.

“Mark is an example of an individual whose job is his vocation,” Land said. “Organ and tissue donation is truly the gift of life for someone who is critically ill and waiting for a lifesaving transplant. Mark’s passion is to ensure that each patient has the best chance possible for a healthy life – and that mean the continued promotion of organ donation to medial personnel, patients and the public.

“It is particularly telling that Mark is noted by his colleagues as one who ‘takes his job to heart’ and is highly deserving of a Shining Star.”

Committed to the cause of organ and tissue donation every minute of the day, Mark’s dedication has placed the University of Michigan Health System in the limelight as one of three hospitals nationally with exceptional organ donation achievements.

Mark Gravel, who is a registered nurse and a certified procurement transplant coordinator, has worked diligently to education hospital staff about the importance of organ and tissue donation. He keeps himself available as a resource for staff to ensure that organ donation is portrayed to families in a positive light. As a result, donation is supported nearly universally among hospital personnel.

Mark was instrumental in changing hospital policy to allow families to donate their loved ones’ organs at the point of cardiac death once all measures to save the patient’s life were exhausted. Prior to Mark’s efforts, numerous families had approached UM hospital staff requesting to donate organs but were denied because hospital policy only allowed organ donation at the point of brain death.

Patients who died when their hearts stopped were ineligible to donate, much to the disappointment of their families. Mark wrote new hospital policy, which was adopted by the hospital leadership. As a result, several dozen donations at UM hospitals have been made possible that otherwise would not have been considered.

The success of Mark’s initiative has sparked similar donation programs at Henry Ford Hospital in Detroit, Spectrum Health in Grand Rapids, and other hospitals around the state. The U.S. Department of Health and Human Services has subsequently issued guidelines imploring other hospitals to adopt similar practices.

Mark, his wife, and three children live in Dexter. Mark has worked for the University of Michigan Health System since 1990.

Dr. Jeffrey Punch, director of the Transplant Center and a Fellow of the American College of Surgeons, nominated Mark for the Shining Star award.

“I can’t say enough about Mark’s effort and quality of work,” Dr. Punch said. “I think one of Mark’s best assets is his personality. His ability to get along with everyone really enables him to be an effective advocate for donation.”

Congratulations on a job well done! <M



# Transplant Center joins HHS Transplantation

## Collaborative

*Transplant Center Joins in New U.S. Health & Human Services Organ Transplantation Breakthrough Collaborative – Aimed at producing a dramatic increase in the number of organs transplanted*

Building on the success and improvement models

learned in the previous Organ Donation Collaboratives, the U.S. Department of Health & Human Services (HHS) has launched a new Organ Transplantation Breakthrough Collaborative. And once again, the University of Michigan Health Systems and Transplant Center are actively engaged in facilitating the national aim of dramatically increasing the number of organs transplanted. HHS estimates that “increases anticipated from this new initiative, when coupled with the continued momentum of the current Collaborative, could double the number of transplants annually, saving or enhancing thousands more lives each year.”

Although the recent Organ Donation Collaborative did significantly increase in the number of annual organ donors, the United Network for Organ Sharing reports there are still:

- ♦ Over 90,000 patients wait-listed for a transplant
- ♦ One waitlisted patient dies every 43 minutes waiting for a life saving transplant.

There are three primary “estates” recognized to impact the outcome of each potential organ donor case. The three estates are; 1) donor hospital; 2) organ procurement organization; and, 3) transplant center. UM will be participating as both a donor hospital and transplant center. The Transplant Collaborative will work “to create systems that will assure accurate and timely referral, screening, consent, donor management, organ placement, organ recovery, and organ transplantation using best practices. This will be achieved by implementing OPO, transplant program, and hospital-specific practices which focus on the needs and strengths of each institution with the common understanding that success is achieved when a donor’s wish is carried out or grieving families find comfort in their decision to donate, and end-stage organ failure patients receive the life-sustaining organ they need.”

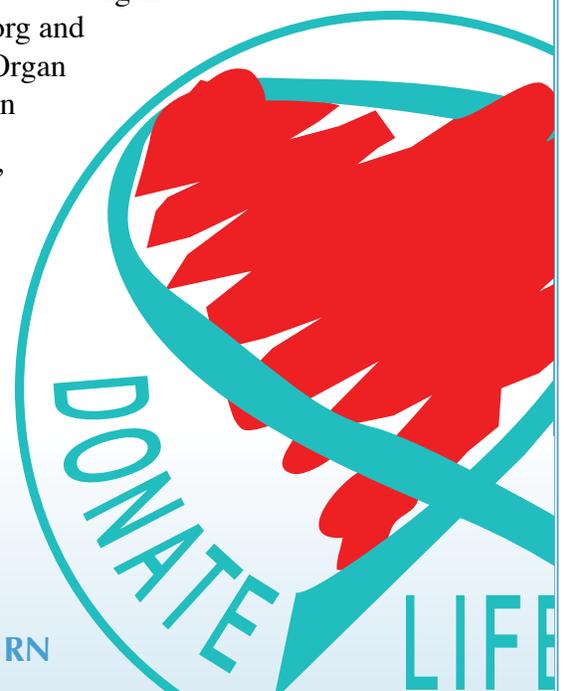
The key indicator that the Transplant Collaborative will use to monitor success is “organs transplanted per donor (OTPD).” HHS reports that in 2004 there were an “average of 3.06 organs (out of a possible 8)” transplanted from each organ donor. The primary stretch goals of the Collaborative are; 1) 3.75 OTPD or greater; and, 2) increase donation following cardiopulmonary death to 10% or greater while maintaining or increasing the level of donations following brain death. The Transplant Center’s Donation Initiatives program reports that 25% of all FY 2005 UMHHS donors were donations following cardiopulmonary death.

Although these are lofty goals, they are achievable. HHS studies have already shown that “4% of the nation’s Donation Service Areas have already achieved organ transplantation rates of 3.75 organ per donor or more; 10% have already achieved rates of 3.5-3.75 organs per donor; 36% have already achieved rates of 3.25 to 3.5 organs per donor.”

Learn more about the Transplant Collaborative by going to, <http://www.organ-donationnow.org> and click on the “Organ Transplantation Breakthrough Collaborative” link in the highlights section.

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– Mark Gravel, RN



# UM Physicians Noted in HOUR Detroit Magazine's "Top Docs – 2005"

Anna Lok, M.D. Jeffrey Punch, M.D. and Darrell Campbell, M.D. were the answers...

The October 2005 issue of HOUR Detroit Magazine listed Top Docs as identified by their peers -- other doctors and nurses in the area. This question was put to doctors and nurses in the metropolitan Detroit area: "To whom would you refer a loved one for medical care?" In the area of Organ Transplant, Drs. Punch and Campbell were UMHS docs noted as Top Docs for 2005. In the area of Liver Specialists, Dr. Lok was the UMHS doc noted as Top Doc! Congratulations!



## WHAT DO YOU THINK?

*Share your suggestions and ideas with Transplant Center Leaders!*

We welcome your feedback. Please share with us your thoughts on the Transplant Center Newsletter. Whether you wish to share your thoughts on a published article, make a suggestion, share news of your area, tell us what subjects you find interesting or valuable, we are interested in hearing from you!

Make this publication your own by sharing with Transplant Center leaders the topics that interest you! Send your thoughts to Mary Kruger at [mckruger@umich.edu](mailto:mckruger@umich.edu). Please include your name and telephone number so we can explore potential stories.