

SCOPE

LOMA LINDA UNIVERSITY



The faces of research at Loma Linda University

Winter 2011

LOMA LINDA UNIVERSITY

transforming lives

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 Diagnostic medical sonography, certificate
 Dietetic technology, post-BS certificate, AS
 Emergency medical care, BS
 Health care administration, BS ††
 Health information administration, post-BS, executive certificate ♦ †
 Health professions education, post-BS certificate, MS
 Medical dosimetry, certificate
 Medical radiography, AS ♦
 Nuclear medicine technology, certificate ♦
 Nutrition and dietetics, BS, MS
 Nutritional care management, MS ††
 Occupational therapy, MOT
 Occupational therapy, OTD ††
 Orthotics and prosthetics, MS
 Physical therapy, MPT, DPT ♦ (post-professional DPT only)
 Physical therapy, DSc
 Physical therapist assistant, AS
 Physician assistant, MPA
 Polysomnography, post-AS certificate
 Radiation therapy technology, certificate ♦
 Radiation science, BS, MS ††
 Radiologist assistant, MS ††
 Rehabilitation science, PhD
 Respiratory care, certificate, BS ♦

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Dental hygiene, BS †
 Dentistry, DDS
 Biomedical sciences/dentistry, post-BS certificate
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 Endodontics, post-doctoral certificate, MS, MSD
 Implant dentistry, post-doctoral certificate, MS, MSD
 Oral and maxillofacial surgery, post-doctoral certificate, MS, MSD
 Orthodontics and dentofacial orthopedics, post-doctoral certificate, MS
 Pediatric dentistry, post-doctoral certificate, MS, MSD
 Periodontics, post-doctoral certificate, MS, MSD

♦ Offered off campus.

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 Periodontics/prosthodontics, post-doctoral certificate, MS, MSD
 Periodontics/implant dentistry, post-doctoral certificate, MS, MSD
 Prosthodontics/implant dentistry, post-doctoral certificate, MS, MSD

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 Biomedical sciences, post-BS certificate
 Biochemistry, MS, PhD
 Medicine, MD
 Microbiology and molecular genetics, MS, PhD
 Medicine/anatomy, MD/MS, PhD
 Medicine/biochemistry, MD/MS, PhD
 Medicine/microbiology, MD/MS, PhD
 Medicine/pharmacology, MD/MS, PhD
 Medicine/physiology, MD/MS, PhD
 Pharmacology, MS, PhD
 Physiology, MS, PhD

Nursing

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 Clinical nurse specialist
 Growing family, MS, post-master's certificate
 Adult and aging family, MS, post-master's certificate
 Nurse practitioner
 Neonatal nurse practitioner, MS, post-master's certificate
 Pediatric nurse practitioner, MS, post-master's certificate
 Family nurse practitioner, MS, post-master's certificate
 Adult nurse practitioner, MS, post-master's certificate
 Psychiatric nurse practitioner, MS, post-master's certificate
 Nursing, BS †
 Nursing, MS
 Nursing administration
 Nurse educator: growing family ♦
 Nurse educator: adult and aging family ♦
 Nursing, PhD, DNP

Pharmacy

Doctor of Pharmacy, PharmD

Public Health

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 Biostatistics, MPH, MSPH, post-BS certificate

† Also offered online.

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 Emergency preparedness and response, post-BS certificate
 Environmental and occupational health geographic information systems, MPH
 Epidemiology, DrPH, PhD, post-BS certificate
 Environmental epidemiology, MPH
 Health services research, MPH
 Medical epidemiology, MPH
 Nutritional epidemiology, MPH
 Research epidemiology, MPH
 Spatial epidemiology, MPH
 Epidemiology research methods, post-BS certificate
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 Global health
 Global epidemiology, MPH
 Global health and maternal and child health, MPH
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 Health education, DrPH ♦
 Health education, MPH †
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 Health geoinformatics, post-BS certificate
 Health policy and leadership, MPH, DrPH
 Lifestyle Medicine, MPH
 Lifestyle Intervention, post-BS certificate
 Maternal and child health, MPH, post-BS certificate
 Nutrition, MS, DrPH
 Public Health Nutrition, MPH
 Public Health Practice, MPH ♦ †
 Preventive Care, DrPH
 Tobacco control methods, post-BS certificate

Religion

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 Clinical Ministry, post-BS certificate, MA ♦
 Religion and the sciences, MA

Science and Technology

Biology, MS, PhD
 Case management, post-BS certificate
 Child life specialist, post-BS certificate, MS
 Clinical mediation, post-BS certificate
 Clinical social work, PhD
 Counseling, MS
 Criminal justice, MS
 Drug and alcohol counseling, post-BS certificate
 Earth science, PhD

Environmental sciences, BS
 Family counseling, post-BS certificate, MS ♦
 Family life education, post-BS certificate, MS ♦
 Family studies, MA, PhD
 Geology, BS, MS
 Group counseling, post-BS certificate
 Marital and family therapy, MS, PhD, DMFT ♦
 Natural sciences, MS (non-thesis)
 Program planning and evaluation, post-BS certificate
 Psychology, MA, PsyD, PhD
 School counseling (PPS Credential Program), post-master's certificate
 Spanish studies for health care professionals, post-BS certificate

Interschool combined programs

Dentistry, DDS/MPH, DDS/MA, DDS/MS, DDS/PhD
 Health sciences, BS
 Medicine/oral & maxillofacial surgery, MD/post-doctoral certificate
 Nursing/public health, MS/MPH
 Nursing/bioethics, MS/MA
 Health education/marriage and family counseling, MPH/MS
 Health education/psychology, MPH/PsyD
 Maternal and child health/social work, MPH/MSW
 Preventive care/psychology, DrPH/PsyD
 Bioethics/medicine, MA/MD
 Social policy and social research/bioethics, PhD/MA
 Bioethics/psychology, MA/PsyD, MA/PhD
 Clinical ministry/marital and family therapy, MA/MS



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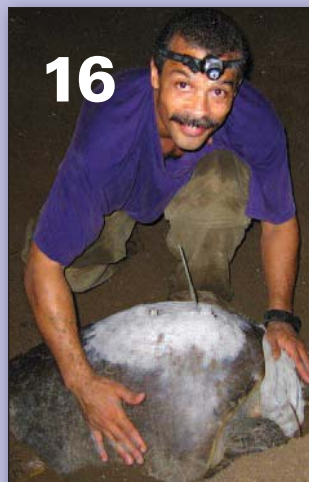
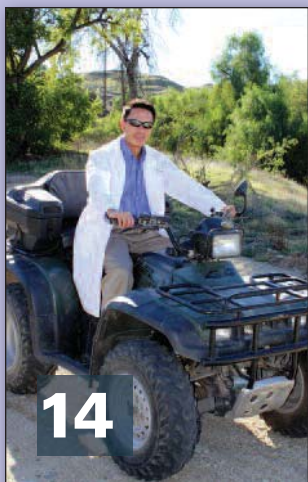
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Front cover: Warren H. Johns, PhD, a special collections librarian at Loma Linda University, has his blood drawn as a study participant during high-altitude research on ischemic pre-conditioning. *Story on page 2.*

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Top left photo: Girls from the Akha and Hmong tribes in the northern hills of Thailand are most at-risk for exploitation. Many villagers make critical decisions, such as selling family members into the sex trade to help pay for more possessions. *Story on page 10.*

Top right photo: The smile on this mother's face is evidence of the relief and joy many parents experience when their child receives the life-changing benefits of cleft lip and palate repair. As the little boy grows older, he will be able to smile with confidence and experience a normal life. *Story on page 20.*

Bottom photo: Researchers are looking for ways to reduce the damage caused to children by near-drowning. *Story on page 24.*



ICE on the summit

Innovative study takes ischemic pre-conditioning to new heights

Warren H. Johns is breathing hard this crisp September morning. The Loma Linda University special collections librarian—who holds a PhD in systematic theology and a master’s degree in library science—is on the home stretch of a 7.5-mile, mostly uphill, high-altitude run to the top of White Mountain near Bishop, California.

Dr. Johns started out two hours ago at an elevation of 11,680 feet. He should arrive in another 25 minutes or so at the 14,252-foot summit of this, the third highest peak in California.

After that, he’ll undergo a series of tests from a team of volunteer physicians and medical students to measure several of the physiological effects of exertion at high-altitude. Before the run, the same group conducted a cardiac ultrasound on Dr. Johns and took his vital signs at the University of California’s Barcroft research station located at 12,470 feet.

At 65 years of age, Dr. Johns embodies the Loma Linda Blue Zone lifestyle and looks decades younger than he is. Despite the fact that he’s been running competitively for the last 30 years, today’s run is no walk in the park. Besides the challenge of running uphill, other hazards abound: thin air can induce mountain sickness; sharp stones threaten falls and injuries; and fatigue is a constant danger. No matter that he was driven some 250 miles through the night to get here this morning, Dr. Johns must stay focused if he wants to finish the course.

As one of 14 runners recruited by cardiology and pulmonary researchers from Veteran’s Administration Loma Linda Healthcare System (VALLHCS)—an affiliate of Loma University School of Medicine (LLUSM)—Dr. Johns is trying to better his time from last month when he first ran up the mountain. Today, he brought extra drinking water and intentionally started out more slowly. He hopes the two adjustments will shorten his time.

The tests he will undergo at the summit—as well as those he endured earlier at Barcroft station—will help researchers under-

stand the effects, if any, of an unusual procedure called ischemic conditioning of the extremity (ICE) on high-altitude performance. The study Dr. Johns is participating in, titled “The Effects of Ischemic Pre-Conditioning on Pulmonary Vasoreactivity and Exercise Performance,” seeks to determine the extent to which ICE produces a systemic—or whole-body—effect on humans.

Defined as an experimental technique that protects many types of body tissues from the detrimental effects of low oxygen, ICE seems to defy logic. The procedure is performed by repetitively occluding blood flow to an extremity over the course of a 40-minute procedure.

While scientists know that ICE has protective effects, they would like to understand more about the underlying mechanism. By analyzing data gathered from this and other experiments, they hope to quantify ICE’s influence on exercise performance, acute mountain sickness, cognitive function, molecular responses, and pulmonary artery pressures. Despite intriguing results from animal studies over the last decade, this is the first extensive test of the procedure on humans at high altitude.

James Anholm, MD, chief of pulmonary and critical care medicine at VALLHCS and associate professor at LLUSM, and Gary Foster, MD, staff cardiologist and director of cardiac imaging at VALLHCS and associate professor at LLUSM, work together as co-investigators on the study.

“Formally, I’m the principal investigator and am responsible for the conduct of the study,” Dr. Foster states. He and Dr. Anholm are cautiously optimistic that ICE may provide significant benefits not only to high-altitude athletes, but also to the many patients suffering from the effects of pulmonary hypertension, or elevated blood pressure in the lungs.

If so, the study could have wide-ranging implications for both basic science and also translational research: that area of science where knowledge gained in the laboratory—and, in this case, the mountains—is applied directly to patient care in a clinical setting. As responsible researchers, both investigators are cautious about asserting overly optimistic outcomes, yet excited about the possibility that findings of the study may one day contribute to improved treatment modalities for this, and perhaps other, deadly conditions.

They are not, of course, the only members of the study team.

Moments before breaking into a fast trot for the final 100 yards of a 7.5-mile course, Warren H. Johns, PhD, a special collections librarian at Loma Linda University, catches his breath. Dr. Johns was participating in a study on the effects of high altitude on human performance. ◀



Gary Foster, MD

Besides themselves and the 14 runners, the study was supported by Paresh Giri, MD, a pulmonary fellow at Loma Linda University Medical Center (LLUMC) and at VALLHCS; Laura Carnahan, RN, RCP, a pulmonary research nurse at VALLHCS; Michael Terry, RCP, RRT, manager of the pulmonary function laboratory at LLUMC; Bertha Jadowicz, RDCS, cardiac sonographer from VALLHCS; medical students from the summer research project of the Center for Health Disparities and Molecular Medicine at LLUSM; several high school students; family members; and assorted helpers and friends.

Medical students who participated in various aspects of the study included second-year students Douglas Rogers, Brenden Matus, and Mousa Saleh and third-year student Laura Foster.

Laura Carnahan says the medical students gained lots of practical experience during the five months of the study. "They were observing how to draw blood," she reports, "performing echocardiograms, and looking at the vessels and the heart chambers. They were looking at pressures and taking measurements 90 minutes after the race, too. Back at the VA hospital, they were also collecting data on patients with heart catheters in place."

Dr. Anholm admits that the basic premise of ICE sounds a bit far-fetched. "It does seem preposterous," he notes. "Initially, I thought, this is crazy; this can't work. Though you look at the data that's been collected and it's pretty impressive. Then you look at our data, and it's pretty impressive, too."

The two categories of data he refers to are the aforementioned animal studies conducted at a variety of labs around the world, and an earlier study the team conducted last year using bicyclists, both at low altitudes and with high-altitude simulation.

Although the study was supposed to be a blind test, it's pretty hard to conceal the fact that a blood pressure cuff around a runner's or cyclist's leg is suddenly being inflated to the point where blood flow to the extremity is curtailed.



James Anholm, MD

"The placebo is partly a sham you try to set up," observes Laura Carnahan. "In some studies, you can hide or blind it, but you can't blind this treatment because they can feel the blood pressure cuff being pumped up. We pumped it up for both runs, but didn't pump it as fully for the placebo run. We tested one time without the treatment and one time with it."

What isn't so obvious is the reason why the act of conditioning the athlete by five daily repetitions of the ICE procedure—the last typically being administered four to six hours before the run—results in a systemic effect. When asked to explain why it happens, Dr. Foster would only speculate based on prior animal studies. He did indicate, however, that the beneficial period occurs in two distinct waves.

"The first effect peaks at 90 minutes," he reveals, "and lasts about three hours. Then it recurs at around 24 hours and lasts until 72 hours."

As Dr. Johns rounds the bend for the last hundred yards of his journey, a group of enthusiastic supporters cheers him on. Some people have trouble even walking at 14,000 feet, but Dr. Johns breaks into a fast trot. When he finally crosses the finish line at 2 hours and 22 minutes, the crowd lets out a yell.

Dr. Johns is elated for three reasons. First, despite innumerable odds, he completed the arduous run. Second, he bested his previous time by several minutes. Third, he managed to beat most of the younger runners in the group. Not all, however: Matt Underwood, an emergency room physician at Riverside Community Medical Center and 1992 graduate of LLUSM, made the run in an amazing hour and a half.

"Once you make it to the top," Dr. Johns reports, "there's a

The trail to the top of White Mountain Peak passes through beautiful yet rocky terrain. At 14,252 feet above sea level, the peak is the third highest in California. ►

great feeling of accomplishment and a little bit of euphoria. You feel that way for about seven minutes.”

Too bad the feeling didn’t last longer. “After that,” he continues, “I was dehydrated; I was losing body salt in my sweat and I started chilling and I got the shakes. What helped me was just plain hot water. Two cups. They put blankets around me, and in 45 minutes, my chilling was gone.”

Fast forward to November 10, 2010, and members of the joint research team are gathering in a fourth floor conference room at VALLHCS. It’s 7:00 p.m. and people are talking excitedly in small groups. Drs. Anholm and Foster are there along with Dr. Giri, Michael Terry, and Laura Carnahan. There are no less than 52 people in the room and to a one, they all seem to be having a wonderful time. Research may be a tough job, but from the looks of these happy people, one could also conclude that it’s a lot of fun! Dr. Johns has a grin half the size of White Mountain as he talks with other runners about their alpine ordeal.

As the group enjoys a potluck supper of haystacks, salads, and cookies, Dr. Foster steps to the front of the room and talks about the study. He begins by explaining how the previous year’s research—which tested the effects of prophylactic ICE at a simulated altitude of 13,000 feet—laid the groundwork for the 2010 study. He tells the group that after the data from the 2009 project was analyzed, two primary questions came into focus: can ICE prevent or minimize high-altitude sickness related to increased pulmonary blood pressure, and can it improve human exercise performance?

For the next 45 minutes, Drs. Foster and Giri present an overview of how the 2010 study was designed to answer those questions. They talk about testing methods, share personal experiences, outline the goals and objectives of the study, thank everyone who participated in it, and confidentially discuss the study’s re-

markable preliminary findings. Then they call Laura Carnahan forward to hand out a number of awards for people who put forth an exemplary amount of effort to make the ambitious project a reality. When she comes to Dr. Johns’ award, she observes that he could have been cited for being the oldest participant by far, but instead she chooses to give him the Energizer Bunny award. Dr. Johns, of course, is delighted.

When the meeting ends, Dr. Anholm reflects on the fact that the findings cannot be released until all of the numbers have been crunched and the study has been published in a peer-reviewed medical journal.

“The preliminary results,” he says, “are very encouraging.” In typical research talk, he underscores the fact that “further evaluation is still needed for all of the data,” before concluding on a note of guarded optimism. “In the end,” he shares, “we will have significant new insights to report. As always, we now have more focused questions to address in next year’s research effort.”

For his part, Dr. Johns takes a thoughtful moment or two before responding to a question Michael Terry just raised.

“Would I do it again? That’s a good question,” he notes. “If I knew there was the prospect to push the research to a whole new frontier, yes. I would want to be assured that it would help. But it is an experiment. There is a little risk in doing this.”

Moments later, Dr. Johns tells Mr. Terry about the herd of deer he saw on the mountain, expresses regrets that he missed the big golden eagle other members of the expedition saw, talks passionately about how much he loves running, and says he wishes he’d taken more time to enjoy the breathtaking scenery on top of the mountain.

It isn’t hard to imagine he’ll be lacing up his running shoes next summer.





The science behind caring

Nursing professor looks at placement decisions in caregiving

As a community nurse, Betty Winslow, PhD, RN, professor in the School of Nursing, saw the stress families went through as they struggled with the decision of what to do for their aging parents.

Working as a nursing consultant in Washington state, Dr. Winslow interacted with many families who had been caring for their loved one, but were considering long-term care.

“Here I was working in community services to keep people at home,” says Dr. Winslow. “We found that working with these families could delay long-term care placement, but we couldn’t stop it completely.”

Dr. Winslow was touched by the devotion of these families to their loved one and wanted to find ways to help family members who are caring for relatives, especially when the relative has some form of dementia.

According to the Alzheimer’s Association, in 2010, there were 5.3 million people in America living with Alzheimer’s disease. Addi-

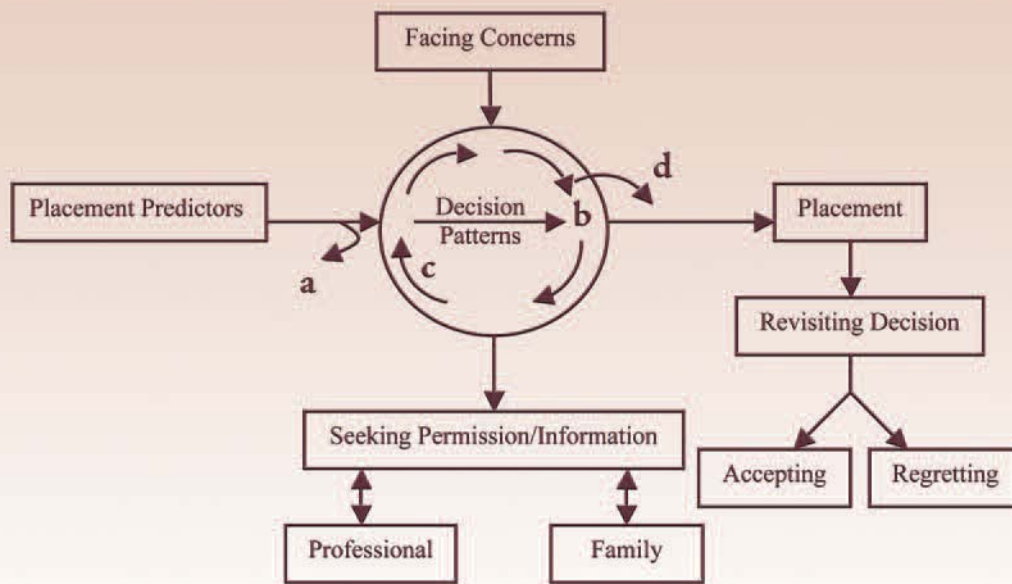
tionally, there are 10.9 million unpaid caregivers attending to these individuals. “Most informal care is provided by family members, and the stress on the family can be overwhelming,” states Dr. Winslow.

While working on her PhD degree, Dr. Winslow learned that her own mother had developed Alzheimer’s disease. Dr. Winslow soon found herself becoming a long-distance caregiver.

“I have always had an interest in this area,” she reveals. “It had been a professional interest for me, but then it became a personal issue.”

In her dissertation research, which focused on the effect of community service use on caregiver stress, Dr. Winslow found that caregivers who had the most services available were most likely to place their relative elsewhere.

“You would think that a caregiver would be strengthened by the many support programs that are available to them,” she says. “But caring for a relative with dementia is a full-time responsibility frequently resulting in high levels of emotional and physical stress for the caregiver. Use of community support programs does help,



Note: a = Refusers; b = Planners; c = Circlers; d = Crises Placers
 Figure 1. Caregiver Placement Decision-Making Process

Dr. Winslow’s model explains the choices and patterns that a family experiences when deciding to place a loved one with senior dementia. ▲

but often the amount of service is too little and received too late to prevent the eventual placement of loved ones.”

To further her research, Dr. Winslow received a \$164,000 grant from the National Institute of Nursing Research, a division of the National Institutes of Health.

Her research in this area resulted in the development of a model of placement decision-making for caregivers of relatives with irreversible dementia.

“More than 40 percent of informal caregivers of relatives with dementia report high levels of emotional stress,” states Dr. Winslow. “Many of these caregivers work either full- or part-time in addition to their caregiving responsibilities.”

According to Dr. Winslow, deciding to place a relative in long-term care is often fraught with conflict, feelings of guilt and loss, stress, and a sense of being alone in the decision. Her study will assist caregivers and health professionals in understanding the difficulties and special needs of caregivers as they face placement decision-making.

Dr. Winslow interviewed 36 individuals that were caregivers who were considering placing their loved ones. Twenty-six caregivers participated in a second interview following placement of their loved one.

“I was interested in the decision-making process, especially the role that health care professionals have in the decision,” reports Dr. Winslow.

Four decision-making patterns were identified through her study and form the core of her model. Also in her findings, many caregivers expressed regret for placing their loved one, while others accepted their decision as inevitable.

“I wanted to understand the social process that a caregiver undergoes in this decision and develop a model that would help explain the process and that could guide future interventional research,” she shares.

This study on Alzheimer’s caregiving was done using a mixed-method approach; both quantitative and qualitative data were collected and analyzed. The model was developed using a grounded theory approach.

“I like using mixed-method research designs,” Dr. Winslow states, “because it puts a face on the numbers and provides a more complete understanding of the research findings.”

Dr. Winslow has served as coordinator of research at the School of Nursing since 2008. She has a passion for research and helps to mentor students and faculty colleagues in the school, encouraging them to study topics that make them curious.

“Research is always easiest when it is something you are already interested in and are eager to find the answer,” she reflects. “As a teacher, I want to demystify research. It’s not just about statistics. It’s about finding an answer to a question that intrigues you.”

Currently, Dr. Winslow is working on a new grant that she hopes to submit in 2011 with Karen Tetz, PhD, a professor at Walla Walla University, in Washington.

She hopes to develop a measurement for quality of care from the standpoint of a family care receiver who has dementia.

“This is groundbreaking,” she adds, “because studies usually focus on information from the caregiver, not the receiver. We are just beginning to see studies where attempts are made to interview and learn from the perspective of the person with dementia. It is important to hear their voice when we plan for their care.”



A voice for the children

Loma Linda researcher looks at ways to better help maltreated children

Sigrid James, PhD, MSW, has spent her entire career studying child welfare systems designed to help children who are taken out of their homes—and more specifically where these welfare systems and the mental health profession intersect.

Children find themselves in the foster care system for a variety of reasons. Because the preferred outcome for social service providers is typically to keep a child within his or her family system, compelling—often tragic—reasons must exist to remove that child from the home.

“It all starts with a report to the child welfare system,” Dr. James explains. “A teacher, school nurse or counselor, physician, neighbor—someone notices odd behavior or unexplained physical injuries, and becomes concerned for the safety of a child.”

About a fifth of children who are the subject of a report and come into contact with the child welfare system are placed into out-of-home care. The paramount goal is to place each child in the least-restrictive environment possible, while still meeting the child’s needs.

In cases where a child cannot stay with his or her biological family, whenever possible that child is placed into kinship care—living with a grandparent, aunt, or some other relative. When kinship care is not a viable solution, a foster home is found for the child. When a child suffers from emotional or behavioral problems, he or she may be at risk with group home placement. A better solution is to place the child in a treatment foster care setting, where foster parents are trained to deal with children’s emotional, behavioral, and/or developmental issues.

The current Child Welfare Services program in California funds a number of group homes throughout the state. Young people in these homes suffer from a wide range of behavioral and emotional problems, and the homes are licensed to care for groups of similar severity, ranging from minimal to maximum supervision.

The most severely disturbed young people are admitted to inpatient mental health facilities and programs.

“What are the best ways to treat children in the foster care

Team members for the NIMH-funded research take a look at some of the preliminary findings. The team includes (from left) Dr. James; Qais Alemi, MPH, a student in the social policy and research PhD program; Sherma Charlemagne, MA, a social policy and research PhD candidate; and Romalene Cruz, a student in the master of social work (MSW) program. A fourth team member, Anna Lopez, MA (not pictured), is also enrolled in the MSW program. ◀

system who have emotional, behavioral, and developmental [EBD] problems?” Dr. James rhetorically asks. “Group homes, for instance, are an expensive solution, and their use and effectiveness are being questioned nationwide.”

Her latest research, titled “Treating EBD Children in Foster Care—the Role of Residential Group Care,” examines that very topic. The research, funded by the National Institute of Mental Health (NIMH) for five years with a grant of nearly \$740,000, has included an in-depth survey of group homes in California.

“Other methods of working with these children include wrap-around services and therapeutic behavioral services,” Dr. James details. “Wrap-around services take an intense case management approach, where a child’s entire social system is treated. The therapeutic behavioral services approach involves a behavioral coach who works with the child at home and in school. However, many of the alternatives to group home care, except for a special treatment foster care program, don’t have a solid evidence base either.”

Despite the less-than-stellar reputation of many group homes, Dr. James’ research has led her to believe that certain elements are more indicative of success than the overall approach itself. For example, she has found that effective group homes tend to have smaller—rather than larger—populations. Their success is also highly dependent on the training and experience of their counselors.

“Some of the group homes we’ve looked at employ college-

Doctoral candidate Sherma Charlemagne, MA, crunches data gathered for the NIMH-funded research project. ▼



Graduate student Romalene Cruz has spent many hours on the phone speaking with representatives from group homes all over the state of California. ▲

age and university-age young people,” she notes. “Not only do they lack training and experience, but they tend stay with the home for a limited time until they return to school or find another job.”

The more successful group homes have a stable counseling staff that is well-trained and experienced, she adds. One such program is Boys Town, with more than a dozen facilities in North America. Groups of six to eight young people live with couples who serve as both foster parents and counselors. Despite its name, Boys Town also works with girls.

Dr. James is concerned by the lack of evidence-based policy and practice in government-run child welfare programs. “Practitioners have often had to resort to trial and error, relying on what has worked for them personally,” she comments. “Fortunately, there is a shift taking place toward more evidence-based practice in the field of social work.”

Currently, Dr. James is working with the Riverside County Department of Mental Health to evaluate its present mix of mental health services for children in the child welfare system.

While Riverside County is very interested in basing its programs on the body of mental health evidence for treating foster children, the county is not typical of many government-run child welfare systems. “My goal,” Dr. James points out, “is to add to the body of evidence that guides state-run child welfare and mental health programs in deciding how to set up their programs to result in the best outcomes for the children.”

Dr. James earned her bachelor’s degree in social work from Loma Linda University in 1988; her master’s degree in social work from the University of California, Los Angeles, in 1990; and her PhD in social work from the University of Southern California in 2003. Her primary interest from the beginning of her career has been the mental health care of children in the foster care system.

Since 2004, she has served on the faculty in the department of social work and social ecology, Loma Linda University School of Science and Technology.

In addition to her research on maltreated children in foster care, Dr. James has completed work on funded research that looks at psychiatric rehospitalization of children and adolescents.



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Pulle Aan

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Quirimaz

The explanation of exploitation

Investigating the issues behind human trafficking in Thailand

Calm rivers, expansive gorges, and picturesque valleys are just some of the natural wonders of Thailand. Annually, more than 14 million tourists visit this southeast Asian country. And though Thailand is known internationally for its pristinely beautiful beaches and landscapes, it is also often perceived as a center for human trafficking.

Siroj Sorajjakool, PhD, professor, School of Religion, was born and raised in Thailand. He was aware of the effects of human trafficking and the toll it takes on those involved.

“I kept hearing stories of children being abused, stolen, or locked up in chains,” Dr. Sorajjakool says.

In the early 1990s, Dr. Sorajjakool was working for the Adventist Development and Relief Agency (ADRA–International) in Thailand and began to notice how much abuse of women and children was taking place. He started to wonder what could be done to address it and what role he could play to help those in need.

“When a person hears about these atrocities, their first response is moral outrage, and in many ways, that is an appropriate response,” he states. “But I was really interested in what the root of the problem was. What causes this situation in the first place?”

During the 1990s human trafficking and the sex trade business were rampant in Thailand. In 1997, in response to the annual increase in victims, the Thai government passed the Prevention and Suppression of Trafficking in Women and Children Act. This legislation criminalized trafficking for sexual exploitation.

Though protection of male victims of human trafficking was not included in the law, the penalty for trafficking of women and children ranged from imprisonment for a year to life and fines of \$50 to \$1,000. According to the United Nations, a draft law which allows for prosecution of all forms of trafficking, including trafficking of men, was finalized in 2006 but awaits passage in the Thai legislature. Currently, it is estimated that human trafficking in Thailand is a \$12 billion dollar industry.

Human trafficking is a \$12 billion dollar industry in Thailand. The Thai government has tried many different ways to tackle the issue, including legislation. The Prevention and Suppression of Trafficking in Women and Children Act of 1997 brought in stiff penalties for violations. ◀

“The number of brothels in Thailand dropped significantly following the passage of the 1997 law,” says Dr. Sorajjakool. “But these were replaced by massage parlors and other forms of entertainment such as karaoke bars, cafés, cocktail lounges, and beer bars.”

Unfortunately, HIV and AIDS also became a growing problem in Thailand during the 1990s, when at one point, 143,000 Thais were diagnosed as HIV positive annually. According to one international AIDS prevention charity, education and other government programs have helped decrease that number significantly, with only 19,000 diagnosed as HIV positive in 2003. The United Nations Joint Program on HIV/AIDS (UNAID) states that the prevalence of HIV/AIDS as of 2007 was at 1.4 percent.

“I remember very clearly reading stories about tribal girls who were sold into sex work,” reflects Dr. Sorajjakool. “When they eventually returned to their families because they were HIV positive, their families placed them in bamboo shacks and left them to die apart from the rest of their families.”

Dr. Sorajjakool felt urged to take part in combating a situation he knew was detrimental to the future of his country. In 2000, following completion of his doctoral degree, he returned to Thailand to work on a research project on child prostitution.

Now a member of the faculty of the School of Religion at Loma Linda University, Dr. Sorajjakool was able to research what contributing factors led to the sex trade.

According to the 2001 Second World Congress against Commercial Sexual Exploitation of Children, villagers in the northern region of Thailand are the most common victims of human trafficking. In fact, in one Thai region, Mae Sai, 70 percent of the 800 families there had sold a daughter into prostitution.

In his own research, Dr. Sorajjakool discovered that in the years following the Suppression of Trafficking in Women and Children Act of 1997, the sex trade in Thailand had become less brutal and forced prostitution was declining. However, economic prostitution was on the rise. The issue seemed to be moving away from forced sex into some kind of debt bondage.

“I found that prostitutes have more choices and that there are more deterrents to them being involved in the sex trade,” reports

Dr. Sorajjakool. “More of those involved in the sex trade were poor urban girls, rather than village girls.”

In 2001, Dr. Sorajjakool reported his findings in a book, titled *Child Prostitution in Thailand—Listening to Rahab*, published by the Haworth Press. The book explores the lives of 10 Thai prostitutes, using their own words.

Following his initial research, Dr. Sorajjakool and his wife, Huiling Lee, started a program that helps at-risk girls receive an undergraduate education. The Sorajjakools are currently sponsoring seven girls to go through college. An additional six girls have already graduated from college and are in the workforce.

“There is a spiritual component that drives our involvement with these girls,” says Dr. Sorajjakool. “You are just presented with a huge need and you feel that you have to respond in some way that helps the situation. I think there has to be a place where these young girls realize that their values are not defined by the society, and that simplicity is rooted in the realization that God is the source of self-definition.”

The girls that the Sorajjakools work with are mostly from the Akha and Hmong tribes (there are six main hill tribes in northern Thailand). These villagers have little to no education and are very vulnerable to the sex trade. ADRA–Thailand helped to identify these girls as at-risk and notified the Sorajjakools if there was capacity to help them.

“One of the girls that we work with was particularly at-risk,”



reports Dr. Sorajjakool. “Her village is predominantly populated by sex workers. But she wanted an education and that’s how we found her.”

Through the help of the Sorajjakools, these girls will pursue an undergraduate degree of their choice.

In 2009, Dr. Sorajjakool embarked on another research project in Thailand examining the exploitation risks.

His goal for this research project was to focus on the perceptions of human trafficking in Thailand and to explore the current situation.

“There are a lot of misconceptions about Thailand when it comes to what human trafficking is about,” he says.

For example, Thailand is often thought of as a hub for human trafficking and that the nature of trafficking is mostly sex-related.

“I wanted to understand what the difference is between public perceptions and what is really going on,” he states. “When policy to address this issue is informed by data that are not reliable, it can really affect those who are vulnerable.”

His travels led him to Chiang Rai, a city located at the northernmost tip of Thailand. It is here that girls are most vulnerable.

Over the next three months, Dr. Sorajjakool interviewed more than 30 individuals that are working to combat the human trafficking problem in the country.

As part of his interviews, he spoke with the country coordinator for the United Nations Inter-Agency Project on Human Trafficking. Additionally, he spoke to non-government organizations, United Nations bureaus, and offices of the Thai government.

“One of the trends that I uncovered during my interviews was that sex trafficking is just one of many areas of human trafficking,” reports Dr. Sorajjakool.

“Greed is a major reason of why exploitation continues to take place,” Dr. Sorajjakool reflects. “It all comes down to simplicity and sustainability.”

According to Dr. Sorajjakool, many of these villagers used to live a very simple life, requiring very little for happiness. As a culture of materialism slowly crept into the northern territory, these villagers often required more possessions than what their economic resources could provide.

This need to own things forces the villages into making critical decisions, such as selling family members into the sex trade to continue their lifestyle.

Siroj Sorajjakool, PhD, a professor in the LLU School of Religion and a native of Thailand, is passionate about investigating the reasons behind the exploitation. Since 2000, he has been working on a project that may help. ◀



Girls from the Akha and Hmong tribes in the northern hills of Thailand are most at-risk for exploitation. A culture of materialism has slowly crept into these villages. Many villagers make critical decisions, such as selling family members into the sex trade, to help pay for more possessions. ▲

This is a considerable change from how exploitation has worked in the past. Previously, children and women were forced into the sex trade, either by kidnapping or imprisonment. Today, human trafficking is far more economically driven.

“Fixing the symptoms will not address the root of the problem,” states Dr. Sorajjakool.

Among the many possible solutions, he says, is the need to educate these individuals about building a simple and sustainable economy for themselves and their villages.

To Dr. Sorajjakool, adding as much information as he can glean from the field is an important aspect of addressing the problem of human trafficking in Thailand.

He admits that it will not be an easy task, especially when the media and general population have preconceived notions about the causes of exploitation.

“But if you don’t have a clear picture of this issue, how can you really help people?” he asks.

Through additional research, Dr. Sorajjakool hopes to clarify what specific factors lead to human trafficking. He feels that this information will provide a clearer picture to the public on the issue of human trafficking in Thailand and help him realize what he should focus on as he seeks to be a partner to address this issue.

“What concerns me the most about this particular issue is

that it often causes such moral outrage from the public and demands for arrests and new laws,” he says. “But I feel that these demands are made without understanding how complex the issue is.

“In my opinion,” he continues, “these demands, while important, do not provide long-term sustainable solutions to the problem. If it’s a problem of economics, then it needs to be solved from an economic standpoint.”

Dr. Sorajjakool has seen first-hand what those who are at risk for exploitation can accomplish if they are given the right education and a chance to use it.

The Sorajjakools hope to continue the program they have initiated for as long as they are able.

“It gives me great hope to see these girls succeed and make something special out of their lives,” he continues.

One other thing that gives Dr. Sorajjakool hope on this issue is how passionate other people are about it.

“It is very encouraging to see churches and young people who are eager to help address this issue,” he offers. “People want to help others—especially those being exploited.”

Currently, Dr. Sorajjakool is writing a manuscript based on his findings, titled *Human Trafficking in Thailand: Trends, Issues, and the Role of Thai Government*.



A risky ride

Study suggests higher risk of amputation in multi-rider ATV accidents

People thinking about buying a multi-rider all-terrain vehicle (ATV) for off-road adventure may wish to consider the findings of a study recently conducted by a team of researchers at the Loma Linda University School of Medicine.

“ATVs with multi-rider capabilities are inherently unsafe,” says Danny Wongworawat, MD, associate professor at LLUSM. “Accidents involving multi-rider ATVs present a significantly higher risk of severe injuries—including traumatic limb injuries and amputations—than similar accidents involving single-rider ATVs.”

There are two main types of ATVs—four-wheeled single-rider and four-wheeled bench-seat multi-rider—and after being called to the emergency department of Loma Linda University Medical Center (LLUMC) on numerous occasions to consult on ATV accident cases, senior resident Gregg Schellack, DO, began to suspect that multi-rider ATVs were the more dangerous of the two.

For one thing, multi-rider ATVs—sometimes called glorified golf carts—have a much higher center of gravity and tend to roll over more easily than single-rider units. For another, they weigh a lot more—as much as 1,100 pounds—so when accidents occur, the risk of severe crushing injuries is much greater. To test Dr. Schellack’s hypothesis, Dr. Wongworawat assembled a research team composed of Dr. Schellack; Daniel Patton, a third-year medical student; Alan Afsari, MD; and himself, and designed a study to see if the data supports the initial observations.

The test evaluated all LLUMC emergency department patients who had sustained fractures related to ATV accidents between the three-year period from January 1, 2005, to December 31, 2007. In all, 110 patients with ATV-associated extremity fractures were evaluated in the emergency department. Of that number, 39 cases involved the use of a multi-rider ATV and 71 involved single-rider ATVs.

Danny Wongworawat, MD, associate professor, Loma Linda University School of Medicine, and a team of LLU researchers recently conducted a study of injury accidents involving the use of single-rider and multi-rider ATVs. He found that multi-rider ATV accidents are 11 times more likely to result in amputation compared to single-rider ones like the unit he is sitting on. ◀

“What we found,” Dr. Wongworawat shares, “is that the risk of amputation is almost 11 times higher in accidents involving multi-rider units than those involving regular single-rider ATVs.”

In crunching the numbers, Dr. Wongworawat and his team found that six of 39 patients involved in multi-rider ATV accidents required amputation, while only one of 71 accidents involving single-rider ATVs required surgical removal of a limb or extremity.

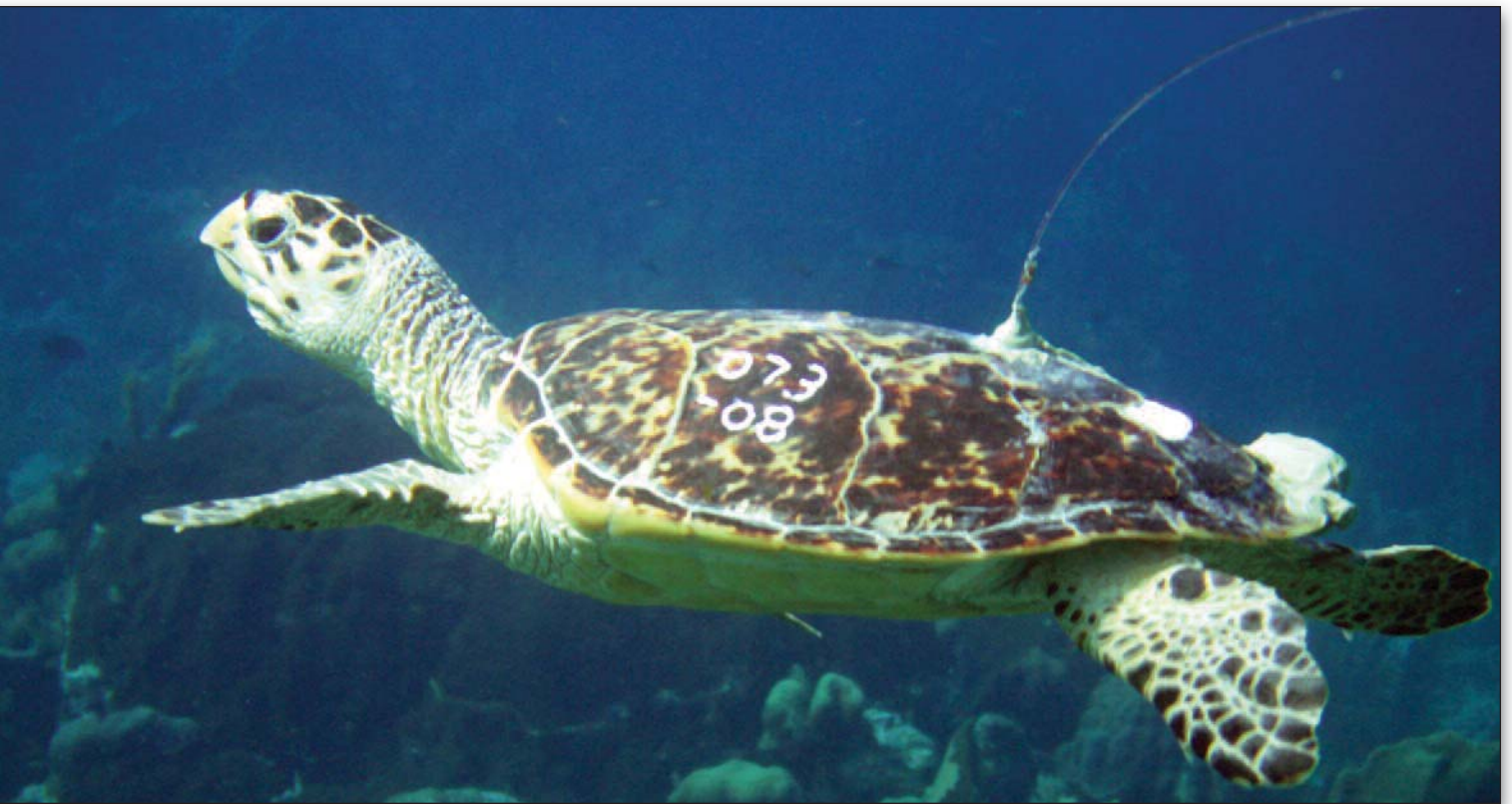
Other findings of the study also confirm the observation that multi-rider ATVs carry a much higher risk of severe injury than single-rider units. In addition to the higher risk of amputation, the study found that multi-rider ATVs are associated with more open extremity fractures (where there is a break in the skin or underlying soft tissue) and more severely morbid extremity trauma (where the severity of damage to a limb is extreme).

“People think the multi-rider ATVs are safer,” Dr. Wongworawat observes, “but they’re actually far more dangerous. Some of the worst injuries occur when an arm or hand gets crunched under the roll bar, or a leg gets mangled under the side of the vehicle. All that momentum, mass, and energy adds up to devastating injuries involving a lot of crushing and cracking. We feel that these vehicles are inherently unsafe by design.”

Dr. Wongworawat is quick to point out that although single-rider ATVs are safer than multi-rider units, they can’t be considered safe by a long shot. “Multiple studies have shown that single-rider units are also dangerous,” he points out. “A 2003 study in *Clinical Orthopaedics and Related Research* describes the single-rider units as ‘a perfect recipe for injury.’ No type of all-terrain vehicle can be considered safe at this point.”

Findings of the LLU study were presented at the March 2010 annual meeting of the American Academy of Orthopaedic Surgeons. Dr. Wongworawat points out that he and his team are currently working on a manuscript outlining the scope and conclusions of their study to submit for publication.

Thinking about the future, Dr. Wongworawat acknowledges that additional study is needed to determine which of the two types of ATVs is implicated in the greater number of fatal injury accidents. “We didn’t evaluate fatality statistics in our study,” he notes. “If the patient died en route to the medical center, or in the emergency department, we didn’t hear about them.”



Saving the sea turtles

Loma Linda researcher works to save hawksbill turtles and their habitat

There is something troubling to Stephen G. Dunbar, PhD, about the decline or complete loss of certain species of animals. Yes, the biologists and conservationists will miss them, but for most people, the decline or loss of a species doesn't have a direct impact on their lives.

Or does it? Dr. Dunbar, associate professor of earth and biological sciences at Loma Linda University, believes that the fates of animal species are tied very closely to the fate of the human species. Therefore, the decline of turtle populations off the coast of Honduras is important to everyone.

Dr. Dunbar has made it his business to discover the reasons that juvenile hawksbill turtles—also known as “Carey”—are on the decline, and he has chosen the Reef House Resort on the Honduran island of Roatán as his base of research.

“Honduras is especially rich in sea turtle diversity,” Dr. Dunbar explains, “having five of the seven known species of sea turtles that exist on the planet.”

This puts Honduras and the coastal areas where sea turtles are found in the enviable position of having a rich resource in biodiversity and potential benefit to local communities.

“No real research and only a few scattered, uncoordinated conservation efforts have taken place in the country,” says Dr. Dunbar, “since Archie Carr, a pioneer turtle researcher and one of the first to make notes on sea turtles in Honduras, walked these coasts in the early 1960s.”

This lack of data and conservation efforts served as motivation for Dr. Dunbar to form the Protective Turtle Ecology Center for Training, Outreach, and Research—better known as the ProTECTOR program, a not-for-profit, non-governmental organization—in 2007.

“The north coast of Honduras was historically recognized as one of only seven major nesting areas in the Caribbean for hawksbill and other sea turtle species,” Dr. Dunbar continues. “We know almost nothing about what is going on with their population num-



Dr. Dunbar finishes the task of attaching a radio transmitter to Erica, one of his research turtles. Erica was released by the ProTECTOR team and is being tracked. ▲

This hawksbill turtle, part of Dr. Dunbar’s research program, swims with a radio transmitter attached to its shell and will provide valuable migration information. ◀

bers. What we do know is that all sea turtle numbers around Honduras are way down and continue to decline.”

Dr. Dunbar’s efforts have taken him in two directions. First, he is studying the turtles themselves—specifically the hawksbills—learning their migration habits and other behaviors. To accomplish this, he and his team attach radio transmitters to the study turtles in a way that neither harms them nor impedes their mobility.

“Right now, I’m most excited about launching sea turtle satellite tags for the very first time in Honduras,” he shares. “We have no idea where any of the turtle species come from to nest in Honduras, or where they go after mating and nesting, but we’re about to find out with these satellite tags.”

The satellite tags send GPS tracking information to orbiting satellites every few days, allowing Dr. Dunbar and his team to pinpoint the location of individual turtles.

On September 23, 2010, Dr. Dunbar launched an olive ridley (*Lepidochelys olivacea*) turtle that had nested on the beach at Punta Ratón. The team dubbed the turtle “Erica” in honor of one of the local environmental officials. “Hopefully we’ll be able to follow her for a year or more,” Dr. Dunbar details, “and see her come back to Punta Ratón in the future.”

A second important part of Dr. Dunbar’s research entails the education of the local populations who share habitat with the sea turtles. “We have to persuade Hondurans that they can make a better living by keeping turtles alive than from selling the eggs and killing the turtles for meat,” he explains. “That’s the only way that everyone—the turtles, the communities, and the conservationists—will all win.

“These young turtles are spending many years in the same



LLU graduate student Melissa Berube was one of the first students to study sea turtles in Honduras. Her work has provided evidence for the need to secure special protection of the study area for both hawksbills and their marine habitats. ▲

area,” shares Dr. Dunbar. “That means they need special recognition and protection to keep them and their habitats from being destroyed by overdevelopment, overfishing, and poaching.”

Under the leadership of Dr. Dunbar and his country director, Lidia Salinas, the ProTECTOR program is beginning to have an impact.

“We still have so little information,” Dr. Dunbar reports, “but we’re beginning to coordinate efforts around the country.”

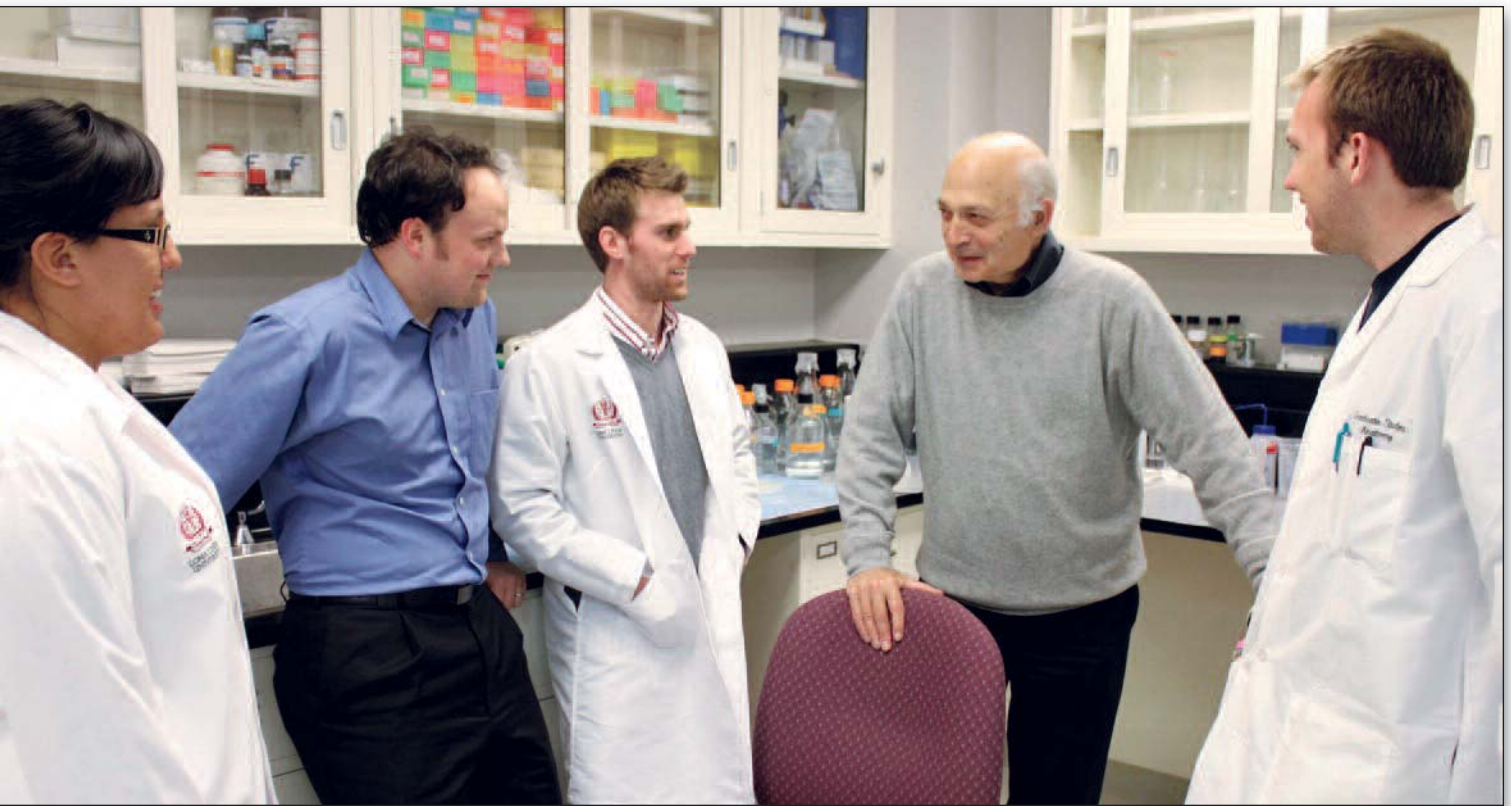
Dr. Dunbar has come to realize that he can’t help the sea turtles or the marine environment unless, as he puts it, he “helps the communities who rely on the turtles and their eggs as sources of income and food.”

To remedy the situation, ProTECTOR works through local community organizations, such as the Pequeño Proyecto Desarrollo (PPD), to solicit funds to help communities like El Venado and Punta Ratón on the Gulf of Fonseca, and Flowers Bay in Roatán, to develop environmental education programs, eco-tourism, craft development, and micro-businesses.

Another important part of his efforts is the protection of migration routes for the turtles. The turtles travel through heavy fishing areas, and Dr. Dunbar hopes to be instrumental in creating international treaties to protect the turtles along their migration routes—which can be thousands of miles. “There is still so much to learn about these amazing animals,” Dr. Dunbar smiles.

Erica, the young juvenile olive ridley, has been going about her daily routines for months now. Satellites high above the oceans and beaches visited by Erica have been sending back valuable information that will help Dr. Dunbar not only understand her better, but allow him and his team to help save her life.

Somehow, when one species is saved from extinction, the entire world can breathe a little easier.



Diagnosing Alzheimer's sooner

Researchers find promising biomarker source for early detection

Neuroscience researchers at Loma Linda University School of Medicine (LLUSM) and George Mason University (GMU) in Virginia have found a trail of biomarkers they hope will lead to the early detection of Alzheimer's disease.

Should that happen, the findings would rank among the greatest medical achievements of the new century.

"Rather than a single protein marker," notes Claudius Mueller, PhD, "we found the whole heme degradation pathway to be a very promising source of serum biomarkers for the early detection of Alzheimer's disease."

Heme—a key constituent of hemoglobin in red blood cells—is defined by an online dictionary from Princeton University as "a complex red organic pigment containing iron and other atoms to which oxygen binds."

Dr. Mueller says the team used mass spectrometry to screen for low-abundance serum proteins and protein fragments, which he describes as "garbage shed into the blood," in search of products

connected to the existence of Alzheimer's disease.

At the time the bulk of the research was conducted, Claudius Mueller was a graduate student affiliated with the Neurosurgery Center for Research, Training, and Education (NCRTE) at LLUSM. He is currently a research assistant professor affiliated with the Center for Applied Proteomics and Molecular Medicine (CAPMM) at GMU. Proteomics is the large-scale study of protein structure and function.

Principal investigator Wolff M. Kirsch, MD—who is also a professor of neurological surgery and biochemistry at LLUSM, and founder of the NCRTE—describes the process.

"Inflammation of the brain causes a reaction," Dr. Kirsch explains. "Blood cells break down and are digested by the body. These signal production of enzymes that break down the blood even more. Fragments of these enzymes are getting into the blood."

Lance Liotta, MD, professor of life sciences and co-director of the CAPMM at GMU, notes, "There is a great need to develop



Wolff Kirsch, MD ▲, professor of neurological surgery and biochemistry, Loma Linda University School of Medicine (LLUSM) and director of the LLUSM Neurosurgery Center for Research, Training and Education, debriefs his team: (from left) April Dickson, research assistant; Matthew Schrag, doctoral candidate; Matthew Zabel, doctoral candidate; and Andrew Crofton (right), doctoral candidate. ◀

biomarkers for early stage Alzheimer's disease—the only time it may be treatable. This study provides some new candidates for that purpose.”

LLUSM graduate student Matthew Schrag observes that “a biomarker for the existence of Alzheimer's would be the Holy Grail. The other Holy Grail would be a cure for the disease.”

The team of Dr. Mueller, Dr. Kirsh, Dr. Liotta, and Mr. Schrag published its findings in the *Journal of Alzheimer's Disease*, volume 19, pages 1081–1091.

According to Dr. Mueller, the group is excited to be on the cusp of an important discovery, although not ready to claim they've found the Holy Grail of Alzheimer's research.

“It is still too early to correctly evaluate the significance of our findings,” he says. “If, however, based on our discovery, we are able to diagnose Alzheimer's disease before the onset of neurode-



Andrew Crofton (foreground) and Matthew Zabel labor in the laboratory where Wolff Kirsch, MD, working with a team of researchers from George Mason University in Virginia and the LLU School of Medicine, found a chain of biomarkers that may lead to early detection of Alzheimer's disease. ▲

generation, then yes, this would turn out to be the Holy Grail.”

The idea for the study emerged from a 2005 dining room conversation between Dr. Kirsch, Dr. Mueller, and Rodney L. Levine, MD, principal investigator of the biochemistry laboratory at the National Heart, Lung, and Blood Institute.

Dr. Levine recommended that Dr. Kirsch contact Dr. Liotta.

To capitalize on the opportunity, Drs. Kirsch and Mueller flew to Virginia to meet Dr. Liotta, and the project was underway.

“Together with his colleagues, Dr. Liotta provided the needed proteomics expertise,” Dr. Mueller recalls. “He was instrumental in the experiment design process and also the analysis. We collected and analyzed a lot of data, but it wasn't until December of 2008 that we were suddenly able to connect the dots.”

Currently, the team is hard at work trying to move the study to the next level. Dr. Kirsch is pleased with the group's progress so far. “The guys are doing a great job in the lab,” he beams. “They're really doing beautiful work down there!”

Matthew Zabel subjects a vial of water to a series of ultrasonic oscillations. ◀



The face in the mirror

Advances in cleft lip and palate repair bring smiles back to children

What a child sees in the mirror—the bathroom mirror and the social mirror—will significantly affect the direction of his or her life.

Children born with a cleft lip and/or cleft palate face a variety of potential disadvantages. Parental bonding with the infant may be impeded, and socializing with family and community may be interrupted by the unexpected appearance, unusual speech, and multiple surgeries required. Support for the parents, as well as for the child, can be pivotal.

Due to their noticeable cosmetic differences, adolescents with cleft palate/lip are particularly at risk to develop psychosocial difficulties and peer relationship complications.

Self-concept may be adversely affected by the presence of an unsightly cleft lip and or cleft palate that negatively affects speech. Research has shown that during the early preschool years (ages 3 to 5), children with cleft lip and/or cleft palate tend to have a self-concept that is similar to their peers without a cleft. However, as they grow older and their social interactions with other children increase, those children with clefts tend to report more dissatisfaction with peer relationships and higher levels of social anxiety.

Cleft lip and cleft palate are among the most common birth defects in the United States. Cleft lip/palate cases occur in one of every 700 to 1,000 newborns in the United States.

The condition has a variety of causes, including genetics, drugs, vitamin deficiency or excess, and cigarette smoking. Environmental and other unknown factors may also contribute.

Regardless of the cause, infants born with cleft lip and/or palate face multiple and potentially lifelong health problems that need to be resolved. The protracted treatment journey can be very challenging for patients, parents, and health professionals.

In the United States, infants born with cleft lip and/or palate are referred to a craniofacial team that consists of a pediatrician, plastic surgeon, feeding consultant, speech pathologist,

The smile on this mother's face is evidence of the relief and joy many parents experience when their child receives the life-changing benefits of cleft lip and/or palate repair. As the little boy grows older, he will be able to smile with confidence and enjoy a normal life. ◀

ear/nose/throat (ENT) specialist, pediatric dentist, orthodontist, oral surgeon, prosthodontist, social worker, and others.

Dentists play an important role in the treatment, providing presurgical soft/hard tissue molding, regular dental checkups due to high caries risk, orthodontic treatment, orthognathic surgery, and speech prostheses.

The dentist's role in treatment

From birth into early teen years, regular dental checkups and an aggressive oral hygiene prevention plan are important for the cleft lip and/or palate patient.

The initial appointment should be scheduled around the time of the first tooth eruption. A cleft lip and/or palate patient may require follow-up dental visits at less than six-month intervals to receive sufficiently detailed instruction in oral hygiene and fluoride application.

With the appearance of the first permanent teeth, orthodontic evaluation should be obtained in order to achieve optimal timing for initiating orthodontic treatment. The oral surgeon and orthodontist will determine the best time for an alveolar bone graft and possible orthognathic surgery (the alveolar margin or ridge is the bony structure that supports the teeth).

Presurgical orthopedic soft/hard tissue molding

At the Loma Linda University School of Dentistry department of pediatric dentistry, presurgical orthopedic or soft/hard tissue molding of the cleft lip and palate has become the treatment of choice for the school's craniofacial team.

This treatment modality is used to reduce the soft tissue cleft and minimizes the number of surgeries needed to facilitate lip and palate repair. It precludes the need for lip adhesion (a surgical halfway measure) with its attendant operative risks, expense, and potential tissue damage.

Twenty years ago, Drs. Barry Grayson and Court Cutting introduced the presurgical nasal alveolar molding (PNAM) appliance. It enables surgeons to perform an initial repair of the lip, nose, and gingiva with one surgical procedure.

The appliance not only molds the affected intraoral and extraoral structures, but also provides nasal support to mold collapsed



This little girl suffers from bilateral cleft lip and palate, and her disfigurement is pronounced. ▲

nostrils. It improves the position and symmetry of nasal deformities and has shown significant reduction in the size of the cleft palate. The PNAM appliance function is analogous to the way an orthodontist moves the orientation of the bite, except it is accomplished much more quickly due to the plasticity of neonatal cartilage and bone.

Objectives of presurgical nasal alveolar molding appliance

The objectives of PNAM therapy for unilateral and bilateral cleft patients are to approximate and align the alveolar segments, correct the position and shape of the cartilage of the affected nostril(s), center the philtrum (midline groove that runs from the upper lip to the nose), reconstruct the nasal septum and columella

This little boy below is the same one as on the previous page, but a bit earlier in the repair process. ▼



Following surgery, the same little girl now has a chance to live a normal life free from stares and comments. ▲

(tissues that divide the nasal cavity into halves), and lessen closure tension and ease the surgical process.

It also improves essential functions, such as swallowing and breathing, through the elevation of the collapsed nostrils.

Clinical procedure of PNAM appliance

Fabricated from an intraoral impression of the upper jaw, the PNAM looks very much like an after-orthodontia retainer.

The base of the molding appliance, made from acrylic resin, is polished and fitted for insertion. Two stabilizing buttons, added to the base of the appliance with a wire core, allow the direction of the buttons to be adjusted. This molding appliance is frequently

Dr. Chen proudly holds a young patient following surgery and some recovery time, who looks like any normal little girl her age. ▼





This device, known as the presurgical nasal alveolar molding (PNAM) appliance, is central to the repair process. ▲

adjusted to encourage gradual changes that result in a more symmetrical upper jaw.

The PNAM appliance assists practitioners in meeting the goal of presurgical orthopedics, which is to normalize mid-facial anatomy by reducing some of the forces that frequently cause collapse of the maxillary arch.

Parents are instructed to remove the appliance daily in order to clean any food debris and/or secretions from the appliance. The appliance is coated with fresh denture adhesive and is reinserted.

Once the alveolar gap is reduced, one or more nasal stents are added. The nasal stents provide support and mold the affected nostrils into a more symmetrical shape.

The nasal stent is designed to apply selective pressure gradually—to either stretch or pull the affected tissues of the nose.

External PNAM appliances increase columellar (tissue between nostrils at the end of the nose) width, decrease columellar deviation, and increase the height of the affected nostrils, resulting in a more symmetrical appearance. Internally they reduce clefts as well as align segments.

The advantages and disadvantages of PNAM appliance

The PNAM appliance offers several unique advantages. One is producing increased symmetry of both the soft and hard tissues.

This in turn decreases the number of surgeries, limits risk and trauma to the child, and minimizes the extent of scar tissue formation. The molding appliance also covers the cleft palate and thereby facilitates the creation of negative pressure during the swallowing process.

This increases the amount of formula ingested and shortens the feeding time, resulting in greater feeding efficiency. In addition the tongue can be trained to occupy a better position during both the swallowing phase and resting position. The ability of the PNAM appliance to treat both unilateral and bilateral cleft lip and palate patients clearly demonstrates its advantages.



Dr. Chen holds another young patient after one of several surgeries to repair the cleft lip and palate. ▲

The primary challenge of the PNAM is that it is a labor-intensive procedure. It requires a significant parental commitment, without which the pediatric dentist's continuing adjustments cannot be productive. In addition, minor trauma to soft tissues can occur because of the continuous use of tape to reposition the affected segments of the lip. However, overall the advantages far outweigh any disadvantages.

Conclusion

Dentists play an important role in treating cleft lip/palate patients. Since late 2009, the School of Dentistry's craniofacial team has treated 20 cleft lip and/or palate infants using the presurgical nasal alveolar molding appliance. Under the school's advanced education program in pediatric dentistry, four residents each year achieve proficiency in the treatment of cleft lip and/or palate patients with PNAM.

With appropriate dental support as discussed above, the probability of a satisfactory result is much improved. Excellent results have been achieved using the PNAM appliance by increasing both hard tissue and soft tissue symmetry, which decreases the extent of surgery required for repairing the lip and palate. With the proper multi-disciplinary approach to dental treatment, cleft lip and/or palate patients can anticipate favorable aesthetic and functional results, and consequently an improved quality of life. PNAM proficient pediatric dentists can greatly enhance the message from the mirror that the victims of cleft lip and/or palate sufferers will receive for their entire lives.

The author would like to express her appreciation to Drs. Carmen Chavarria; Edward Elmendorf, associate professor, department of pediatrics, LLU School of Medicine; Mark Martin, associate professor, department of plastic and reconstructive surgery, LLU School of Medicine; Andrea Ray, assistant professor, plastic and reconstructive surgery, LLU School of Medicine; and the Loma Linda University School of Dentistry craniofacial team and pediatric dentistry residents.



Saving children from a silent tragedy

Researchers look for new ways to help child drowning victims

Curious, detail-oriented, able to believe new solutions are possible in areas where the brightest minds have already looked—these are just a few of the innate characteristics of the medical researcher.

Yet opportunities for the greatest medical breakthroughs spring from the researcher's own humanity.

One of the hardest things that Shamel Abd-Allah, MD, chief, pediatric critical care, must do is to tell parents of children who have suffered accidental drowning and who are on life support that, while everything medically possible has been done, their child's brain has been permanently damaged or has stopped working.

"It's such a tragic accident," says Dr. Abd-Allah. "When a child is under water and can't breathe, oxygen stores in the body immediately begin to deplete. When the body's oxygen reserves fall below the critical level, the heart loses its ability to beat."

After being starved of oxygen for as few as 10 minutes, lungs and other organs are damaged. This is followed by brain damage.

Whether drowning occurs in a bathtub, spa or pool, or any body of water, it is the second leading cause of death for children under the age of 14, according to Kim Patrick, who coordinates SAFE KIDS Inland Empire. "Adults think that they will hear a child who is danger of drowning cry for help, but it truly is a silent occurrence."

Each year, about 20 children who have suffered drowning or near drowning are rushed to Loma Linda University Children's Hospital. Their loved ones anxiously await updates about their condition. Each time he gently speaks with parents of children who have suffered long-term brain damage or brain death, Dr. Abd-Allah's own heart breaks.

There are few options available, and as they grieve and as the tragedy unfolds, families search for meaning. Parents may choose to donate their child's organs to save lives; some decide to keep their child on life support, knowing that he or she will never wake up, will remain unaware of his or her surroundings, and will never come



Shamel Abd-Allah, MD

home. “No matter what the family decides to do,” says Dr. Abd-Allah, “their lives will have been changed forever.”

As a Level I trauma center, Loma Linda University Children’s Hospital provides the highest level of trauma care within the Inland Empire and a four-county area, and it is the only children’s hospital for almost 1.3 million of California’s kids. Though he is confident that the best protocols are followed, and that the best evidence has been used in treatment planning, Dr. Abd-Allah experiences deep sadness when an otherwise healthy child dies.

A seasoned researcher, Dr. Abd-Allah was convinced that more could be done. “For me,” he says, “the big motivator was seeing too many kids die or become severely brain damaged. Another motivation was to not only help them survive, but with as little brain damages as possible. This study could be the answer.”

As is the case with each new research study, the task is daunting. In less than one second, an Internet search using the words “children drowning” returns more than 4.4 million results.

As a teaching institution, Loma Linda University Children’s Hospital provides the opportunity for junior physicians to assist with major research projects. Theodore Wu, MD, now an attending physician and assistant professor of pediatric critical care, University of Texas, San Antonio, was a fellow in training at the time he was in Loma Linda.

Dr. Wu reviewed existing literature and wrote the protocol for the study. Dr. Wu also enjoys research; he emphasizes that, in addition to exercising their curiosity, researchers must look for patterns, be diligent, and inquisitive. “As a study is being designed,” he says, “it is important to come up with the right questions.”

Most children instinctively love the water. The best defense is to make them watersafe with swim lessons. ►



Theodore Wu, MD

The LLU Children’s Hospital research team learned that research had been done on administering magnesium, and that it hadn’t been shown to be effective. As the team members’ query progressed, they discovered that there hadn’t been many recent developments or breakthroughs in treating drowning victims.

They knew that fevers are damaging to the brain after one’s heart has stopped. They reviewed research that had studied what would happen if patients’ body temperatures were maintained at 89.6 degrees Fahrenheit, and then later gradually restored to normal body temperature.

However, the results of the 20-year-old study showed that the techniques had not proven to be effective in preventing neurological damage.



LLU Children's Hospital researchers believed there was enough evidence to show that carefully controlled hypothermia would help prevent brain damage after the asphyxia or cardiac arrest. They believed that better outcomes would result if the child's body temperature was slightly warmer than temperatures used in the earlier study (91.4 degrees Fahrenheit to 93.2 degrees Fahrenheit instead of 89.6 degrees Fahrenheit) and were maintained for 24 hours.

Transport teams and nurses were critical to the study as they began to implement the new protocol as soon as possible after the heart had stopped—with the child's head being cooled with ice packs during transport to LLU Children's Hospital. During treatment, blood levels were carefully monitored and recorded, and chemical levels (markers) that revealed the severity of brain injury were documented and studied.

"Because pool safety awareness has increased," says Dr. Abd-Allah, "we now see fewer infants and children who have suffered drowning accidents. Ten years ago we treated from 20 to 40 pediatric drowning patients each year, while today we see from 10 to 20."

Eventually, 12 patients were enrolled in the study. Results suggest improvement in brain function, and one child whose story was later told in the local media experienced a truly remarkable recovery and outcome. The study has been accepted as an oral presentation by the World Federation of Pediatric Critical Care that will take place in 2011 in Sydney, Australia.

Dr. Abd-Allah is pleased that, in the future, increased understanding may lead to more children who have suffered cardiac arrest avoiding long-term neurological damage or death.

But before enough documented evidence is recorded to

change treatment planning, more study is needed.

In 2010, LLU Children's Hospital was invited to join a group of 34 facilities in the United States and Canada participating in a \$21 million research project, funded by the National Institutes of Health. Mudit Mathur, MD, pediatric intensivist, will serve as the site investigator at LLU Children's Hospital.

The study reflects and expands upon the original LLU Children's Hospital research, and includes infants and children whose hearts have stopped beating for other reasons. Each year, as many as 16,000 children experience cardiac arrest. Causes for these previously healthy children's hearts to stop beating include asthma, cold, flu, and pneumonia. Other infants and children are living with congenital heart problems and later experience cardiac arrest. Researchers are hoping to enroll 900 infants and children in the study.

Blankets surround the young patients, circulating chilled water which cools their bodies. Body temperatures for one group will be held at 89.6 to 93.2 degrees while a second group will be maintained at 96.8 to 99.5 degrees. After they are discharged from the hospital, patients will be evaluated neurologically for 12 months.

Every day numerous research studies are being conducted at LLU Children's Hospital, driven by dedicated researchers who believe that what they do can make a difference, with their experiences leading them toward excellence and innovation. Their findings will result in new knowledge and understanding that will help improve and save lives.





From patient to graduate

Abraham Hoyos received a new heart and new career future at LLU

The trauma of a personal health crisis is something many medical professionals have never experienced for themselves. But Abraham Hoyos is truly in a position to comfort patients experiencing fear. Nearly 17 years ago, Abraham underwent a lifesaving heart transplant at Loma Linda University, and in June, he graduated from the same institution with a degree in medical radiography.

Now, when he interacts with patients—some of whom are also facing the possibility of heart procedures—he can offer hope.

“I tell them, ‘I had a heart transplant,’” he says. “They look at me and they’re like, ‘What?’ There’s still a misconception that there is no quality of life following a transplant.”

Looking at Abraham, one can see he’s vibrant and full of life. And he’s fulfilling his career dream.

Since he was a freshman in high school, Abraham was interested in x-ray technology. But it didn’t always look possible that he would be able to pursue this hoped-for career—or anything at all.

Abraham’s illness started out at age 15 as a simple autumn flu—or so it seemed. But when he went to his pediatrician complaining of symptoms including fever, runny nose, sneezing, and stomach pain, the doctor recognized signs of a bigger problem.

The physician referred him to Loma Linda University Medical Center, where the medical staff at International Heart Institute ultimately diagnosed him with cardiomyopathy—otherwise known as heart failure—which affects one out of 100,000 children under 18 in the United States.

With this condition, abnormalities in the heart’s muscle fibers prevent it from contracting and relaxing normally, weakening the heart and resulting in decreased circulation. In Abraham’s case, the disease was brought on by a viral infection.

“I went from being really healthy in high school and doing all kinds of activities to just having to be at home on oxygen,” he says. “It was really, really quick.”

As time went by and Abraham didn’t improve, he decided to



◀ **Sixteen years and five months after his transplant at LLU Medical Center, Abraham receives his diploma for an associate's degree in medical radiography in June 2010 from Craig Jackson, JD, MSW, dean of the LLU School of Allied Health Professions.**

have a heart transplant rather than being treated by medication. His parents stood by in support but ultimately let him make the decision.

"I was really protected by my faith," he says, "so I was never shaken up. I said, 'Here I am, Lord, I'm in your hands.' Of course I was only 15, so I wanted to live, and I said 'Let's do a heart transplant.'" His parents were, of course, more scared.

Abraham was placed on the transplant list December 5, 1993. Since the illness had begun a couple of months before, he had been in and out of LLU Medical Center. Twice, he almost suffered a heart attack. But his family found comfort in that the doctors and nurses would pray with Abraham.

Throughout his illness, Abraham wanted the Lord's will to be done. He also wanted to live. "My prayers were 'Lord, heal me through a miracle or heal me through a transplant.'"

In January, he had been in the hospital for about a week. Late one night, as he was lying in bed having trouble breathing, transplant coordinator Kay Ogata came into the room. She told Abraham and his mother that there was a donor heart available that matched perfectly.

"Do you still want the heart transplant?" she asked.

The answer was yes. Abraham's medical team prepped him and took some labs, and within a couple of hours, he was rushed into the operating room.

To this day, he bears large scars on his chest and on his wrists, where they hooked up the heart-lung machine that kept

him alive as his old heart was being replaced by the new.

He awoke to a whole new day.

"Honestly, it was almost like a rebirth," he says. "I went from feeling really sick, to then going under anesthesia, and then when I woke up I realized 'I feel refreshed. I can breathe on my own.' I was a little sore, but other than that I felt healthy again. It was pretty cool."

Abraham's mother, Luz Saucedo, felt relief tempered by confusion and some resentment. While she believed that Abraham, as her child, was a gift borrowed of God, who could take him back if it was His will, she didn't understand why this was happening to a good young man. Despite the successful transplant, she remained worried.

"I didn't think he was going to have a future," she remembers. "At that time, they weren't giving heart transplant recipients too much time to live."

By now, heart transplant recipients have proven that life can extend for decades after the procedure. But Ms. Saucedo thought her son's new heart would only keep him alive for another handful of years.

"You have that in the back of your mind for quite a bit of time, until you start to see that they're capable of doing anything, like any other normal person," she says.

And it was true that, physically, Abraham could do anything he wanted to. But he thought his planned career path was now closed off to him.

One of his doctors advised that perhaps he should pursue a career that didn't involve being around sick people, because of the immunosuppressing medication he takes to prevent his body from rejecting his new heart.

So in college, Abraham started studying graphic design and photography. He never finished it.

"I just always had in the back of my mind x-ray, x-ray," he remembers. "I just enjoy helping people that are sick and helping people get better. And it was that way before I had my transplant."

Several years later, Abraham asked another doctor whether he could become an x-ray technician. This time, the doctor said, "Go for it." So Abraham went back to school and started taking all his prerequisites at San Bernardino Valley College. And he thought

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Abraham's story: every researcher's dream

Abraham's dream come true is a fulfillment of every investigator's ultimate hope for his or her research—that people will someday be able to live fuller, more complete lives because of discoveries newly made by these scientists. It could take years, decades, or longer, but in the end, the desire is changed lives.

Successful transplants like Abraham's, for example, are possible because of meticulous study of immunology since the 1700s. By the late 1800s, scientists were able to begin experimenting with transplants in animals.

It wasn't until 1967 in South Africa that a human heart transplant was attempted. The patient survived for 18 days. In the years following, more transplants and experiments led to longer survival times. Immunosuppression researchers ultimately discovered drugs that could prevent rejection of a foreign organ.

In 1984, Columbia University performed the first successful pediatric heart transplant. Shortly following, LLU's Leonard Bailey, MD, performed the first successful infant heart transplant in 1985—made possible because he first attempted a xenographic transplant with a baboon heart on an infant known as Baby Fae in 1984. Her life was famously extended for three weeks after surgery.

When it comes to Abraham's condition—cardiomyopathy, or heart failure—researchers are always looking for ways to successfully treat the condition without resorting to transplantation.

"It's always best for the patient to keep his or her own heart, until current therapies fail to keep the disease from progressing," says Sharon Fabbri, RN, a nurse practitioner and clinical trials coordinator for the cardiomyopathy clinic at LLU Medical Center.

When researchers devise possible new treatments, they have to first prove efficacy. The medical staff of the cardiomyopathy clinic has helped make new treatments available by participating in externally funded clinical trials of drugs and devices. The cardiology department has been participating in research activities since the 1960s. Some trials are successful; others are not. But when the medical staff witnesses firsthand the lifesaving benefit of a new therapy being tested, it's an amazing feeling, Ms. Fabbri says.

This was the case with a trial in the early 2000s that studied whether a defibrillator combined with a biventricular pacemaker that makes both sides of the heart beat in sync could save the sickest patients who were failing existing therapies. Participants were randomized into three groups: those with the combined device

(AICD and Bi-V pacing), those with only a bi-ventricular pacemaker, and a placebo group that received neither.

At Loma Linda and the other trial locations worldwide, researchers noticed such a marked difference in mortality and quality of life for patients receiving the combined device that the trial was cut short after two years. Here at LLU, every single patient in the combined group survived. A woman was able to begin dating and got married. A man lived to become a grandfather.

"It was really exciting to participate in changing those lives," says Ms. Fabbri.

In 2005, another trial the clinic participated in helped chip away at a serious health disparity: African Americans experiencing cardiomyopathy don't respond as well to treatment. Years ago, the drug combination of hydralazine and isosorbide was used to treat heart failure. But a study showed that there were more effective therapies, and the drugs were replaced with ace inhibitors.

The problem is that ace inhibitors don't always benefit African Americans the same way they do other races. When researchers went back and conducted a subanalysis of the previous study, they discovered the drug combination was helpful for African Americans. A new clinical trial was begun, with LLU participating. The random group that received the combined drug experienced a 45 percent decrease in mortality—the biggest Ms. Fabbri has ever seen. This trial, too, was cut short because the results were so remarkable.

While not all trials end with a confirmed hypothesis and effective new treatment, it is just as important to know what therapies don't work, as well as the ones that will.

"Less than 20 years ago, the diagnosis of heart failure had drastic consequences—a life expectancy of one to five years," says Ms. Fabbri. "Thanks to brilliant researchers and wonderful people who volunteer to participate in research studies, this is no longer true. Life expectancy for heart failure is now much more difficult to define because, thankfully, about one-third of patients with heart failure have significant improvement in cardiac function—thanks to new drugs and devices. If their hearts don't improve, many are still able to live longer and more productive lives thanks to research that produces new therapies," she continues.

"This is why we love what we do and why research will always be an important part of our goal 'to make man whole.'"

*It could take years, decades, or longer,
but in the end, the desire is changed lives.*

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about where he'd like to earn his degree.

"Ever since I was a patient here, I knew that Loma Linda was a faith-based institution, and I really appreciate that," he says. "So I always had it in the back of my mind that it would be really neat to go to Loma Linda because of that."

Though his grades weren't top of the class, Abraham says God's grace helped him get into LLU. With only 33 students in the incoming class, they formed a tight-knit group among themselves and their instructors.

"The professors are really here for you," he says. "I made a lot of good friends and just got to meet a lot of people from different walks of life, different religions," he says.

In the two years the program took, Abraham said the work was difficult and intense. He was up studying at all hours, his mother remembers. But he impressed his teachers. Assistant professor Mike Iorio, MPA, describes him as a superb student who

▼ **Though Abraham looks serious in this photo taken with his grandmother a few days after his transplant, he was experiencing something wonderful—the feeling of being able to breathe normally again.**

demonstrated caring and altruism.

"It is these attributes that set him apart because he places the needs of others before his own," says Mr. Iorio.

Dedication is what clinical instructor Jerone Murphy, RT(R), noted about Abraham: "He was determined to learn without being lazy; he was determined to walk with confidence; and he was determined to live without excuse."

This past June, Abraham graduated with his associate's degree in medical radiography from the School of Allied Health Professions. On that day, he was excited to have made it into LLU and to have accomplished his ultimate goal. It was also an emotional day for his mother.

"I feel like God has given Abraham a second opportunity to do what he wanted in life," Ms. Saucedo says. "I was so surprised to see him get his diploma because you always have it in the back of your mind 'What if he gets sick and loses some semesters and is not able to graduate?'"

"I thank God because he made it," she says.

She's not the only one. Abraham's transplant surgeon, Leonard Bailey, MD, has this to say about the achievement: "We are all so proud of him and his accomplishment. May God bless him and keep him well."



It's all in the delivery

Pharmacy researcher looks at innovative way to deliver AIDS microbicides

Sometimes you have to think small to dream big. Take microbicides, for instance. Richard Maskiewicz, PhD, an assistant professor in the Loma Linda University School of Pharmacy, thinks the tiny molecules—which kill bacteria, fungi, protozoa, and viruses—have potential for saving thousands, perhaps even millions, of lives by preventing the spread of sexually transmitted HIV.

Dr. Maskiewicz hopes that combining a unique matrix containing one or more microbicide molecules into a novel drug delivery system might halt transmission of the disease at the point of contact.

How many lives are lost to HIV/AIDS each year? According to the December 2009 edition of the United Nations' *AIDS Epidemic Update*, approximately two million AIDS-related deaths were reported worldwide in 2008. Another 2.7 million individuals became infected with HIV that year, bringing the total number of people living with HIV to an estimated 33.4 million.

To visualize the impact of that many fatalities, imagine the entire population of San Bernardino, next door to Loma Linda University, dying of AIDS in a single year.

Although barely past the planning stages, Dr. Maskiewicz'

research on the use of subliming solids—compounds that transition directly to a gaseous state without becoming a liquid—for sustained release of drugs recently brought the School of Pharmacy its first-ever National Institutes of Health (NIH) grant. The \$2.1 million “request for applications” research award will enable researchers at LLU and two other facilities to conduct a four-year, pre-clinical evaluation of a universal, sustained-release system for anti-HIV microbicides.

The idea fell into place as Dr. Maskiewicz wondered what pharmaceutical researchers might do to help end the AIDS epidemic. He conceived the idea of formulating almost any microbicide in a subliming solids matrix to ensure stable, consistent delivery of the anti-viral agent for a month or longer.

Dr. Maskiewicz pursued the idea at a modest pace without an extramural research grant until he saw an announcement from the National Institute of Allergy and Infectious Diseases (NIAID) at the NIH last summer. It was for a one-time research grant competition to evaluate highly innovative tactics for interrupting HIV transmission. It seemed like perfect timing.

“I had already obtained preliminary data at LLU,” says Dr. Maskiewicz, “so I decided to apply. But first I needed to do some networking to find the right collaborators. I contacted Jim Turpin at NIAID, who referred me to Kevin Whaley in San Diego. He, in turn, suggested Charlene Dezzutti in Pittsburgh.”

The names he drops are highly regarded in the research community: Jim Turpin, PhD, a microbiologist and grant administrator at the NIAID; Kevin Whaley, PhD, CEO of Mapp Biopharmaceutical, Inc., of San Diego; and Charlene Dezzutti, PhD, who wears many hats. In addition to serving as associate professor of obstetrics/gynecology and reproductive sciences at the University of Pittsburgh, Dr. Dezzutti is an associate investigator at the MaGee-Women Research Institute in Pennsylvania and principal investigator of the network laboratory for the Microbicide Trials Network, a clinical trials program of the NIAID and NIH.

The offer to serve as a co-investigator on the study intrigued Dr. Dezzutti because of her enthusiasm for evaluating the effectiveness of subliming solids microbicide formulations. While working at the Centers for Disease Control and Prevention in Atlanta,



◀ **Richard Maskiewicz, PhD**



she had developed an innovative cervical explant model for testing the anti-HIV properties and tissue toxicity of topical microbicides; it seemed an excellent vehicle for the LLU investigation.

With Dr. Dezzutti aboard, Dr. Maskiewicz contacted Sandy Hilliker, PhD, MBA, senior proposal advisor in the department of research affairs at LLU. “Dr. Hilliker offered to help me identify other potential collaborators who were major researchers in the microbicides area,” he recalls.

By reviewing the recently approved grant applications that Dr. Hilliker uncovered, Dr. Maskiewicz found the final investigator for his study: Philippe Gallay, PhD, an associate professor of immunology and microbial sciences at The Scripps Research Institute in the San Diego suburb of La Jolla.

“Dr. Gallay has several new and ongoing R01 grants,” Dr. Maskiewicz adds, referring to the most prestigious type of NIH research grant. “He also designed one of the most potent HIV microbicides to date.” Dr. Gallay will serve as principal investigator for the project’s HIV infection studies.

Dr. Hilliker notes that “NIH’s multiple principal investigator option is commonly used for managing cross-disciplinary research between different institutions. Under this project, Dr. Maskiewicz is the contact principal investigator responsible for submitting the grant application and for future communication with NIH about the project.” She also points out that no HIV infection studies will be conducted at LLU.

When Dr. Maskiewicz learned that his project had been approved in June of 2010, it was news not only for the School of Pharmacy, but also for the entire university.

Ron Carter, PhD, provost of Loma Linda University, observes that research is a team effort. “Under the leadership of Dr. Rashid Mosavin, chair, department of pharmaceutical sciences, and with ongoing financial support for research from School of Pharmacy dean William Hughes, PhD, faculty members are encouraged to engage in novel research with both university and external collaborators. It is exciting to see Dr. Maskiewicz awarded the NIH R01 funding. As the newest clinical doctoral school, this represents another step in a rich tradition of research excellence.”

Anthony Zuccarelli, PhD, associate vice president for research affairs at LLU, adds his congratulations to Dr. Maskiewicz for his outstanding achievement.

“NIH has made only seven awards nationally,” reports Dr.

School of Pharmacy faculty and staff toast Dr. Maskiewicz’s success. ▲

Zuccarelli. “We can gain a true appreciation for the quality of his proposal by the fact that it placed Loma Linda University among such research-intensive institutions as Massachusetts General Hospital and the University of California at Irvine. This is an auspicious beginning for research in the School of Pharmacy.”

For his part, Billy Hughes, PhD, dean of the School of Pharmacy, affirms Dr. Carter’s comments about the role of Rashid Mosavin, PhD, MBA, and says there’s still lots to do to maximize opportunities the grant affords.

“The NIH grant awarded to Dr. Maskiewicz is an important step toward developing research excellence in the School of Pharmacy,” says Dr. Hughes. “Dr. Rashid Mosavin, during his tenure as chair of the department of pharmaceutical sciences, has systematically nurtured teaching and research excellence among his faculty. Dr. Mosavin has worked with the dean’s office to secure seed money to enable faculty to pursue research that is foundational to the pursuit of federal and private grant funding. As dean, I am excited for Dr. Maskiewicz—the real work now begins to ensure that goals are met as required to continue funding.”

Dr. Maskiewicz’ study aims to correct a flaw in the way AIDS-preventing microbicides are administered. Ultimately, he hopes it will reduce fatalities.

“The problem with the current delivery system is that people don’t take their microbicides on time,” he notes. “They need to be taken before and after intercourse, but women often neglect, or are unable, to do that. Our grant is designed to demonstrate a delivery system that will continuously release any microbicide for up to a month.”

Perhaps no one summarized the importance of Dr. Maskiewicz’ research better than David Yaeger, MPA, administrative assistant to the chair of pharmaceutical sciences at LLU School of Pharmacy.

In an e-mail distributed campus-wide the week the award was announced, Mr. Yaeger observed, “This grant marks the arrival of LLUSP as a research institution of note, not only on campus, but among similar institutions in the state of California. Congratulations to Dr. Maskiewicz on this outstanding achievement.”

The lion's endodontist

By Doug Hackleman

Big cats in captivity enjoy at least one advantage over their independent relatives: access to free dental care—sometimes even that of specialists such as endodontist Roderick William Tataryn, DDS, MS.

Recently this School of Dentistry alumnus was asked to perform two root canals on a famous Barbary lion.

Zamba, the former MGM actor and source of the studio's trademark movie-opening roar, was suffering at his retirement placement in Cat Tales Zoological Park, near Spokane, from two right canine teeth broken off at the gum line, exposing the nerves. The tissue around the lower cuspid tooth was infected and puss-laden.

Dr. Tataryn was chosen to treat the 650-pound lion, not only for his proximity and professional expertise, but because he had a portable root canal surgery setup. Nevertheless, he had to special order 5-inch files to clean and shape the canal systems sufficiently deep to treat Zamba's compromised teeth, the largest dental procedure he has ever attempted.

Mike Wyche, Zamba's keeper at Cat Tales, put the lion to sleep with a shot to the flank from a dart gun, and eight workers and volunteers moved the cat to a makeshift operating table where Dr. Brian Hunter put the temporarily sedated animal under general anesthesia for the three-hour procedure.

With relief from his oral misery, Zamba's disposition has returned to the norm that allowed him before his retirement to appear in movies such as "Gladiator," television specials like NBC's "Noah's Ark," and commercials, such as one for Right Guard that featured Brett Favre.



Rod Tataryn, DDS, MS, and his three endodontic assistants—Lisa Howard, Emily Ballensky, and Jerilynn Cunnington, pose with Zamba as he recovers from general sedation following his two root canal treatments.

Zamba's home, Cat Tales Zoological Park, was founded and licensed as a zoo in 1991 primarily to rescue and nurture big cats. Cat Tales is also home to the Zoological Training Center, the only school in North America that teaches exclusively zoo-keeping as a state-licensed trade school.

Cat Tales boards a menagerie of animals that include bears, snakes, geese, parrots, lizards, and goats. But it is the nearly 50 large cats (lions, tigers, pumas, panthers, lynx, and leopards) that are the park's biggest attraction and who eat the "lion's share" of the roughly 15,000 pounds of food its guests consume each month.

Zamba's British Columbia born and raised

endodontist, Rod Tataryn, graduated from Walla Walla College, and earned his DDS degree from Loma Linda University in 1989.

He returned to his alma mater for a two-year post-graduate residency in endodontics for which he received a master's of science degree in 1994, and then established Tataryn Endodontics in Spokane, Washington, where he continues to practice.

Dr. Tataryn has participated in research and published scientific and clinical articles in the field of endodontics. He is a contributing author to the sixth edition of *Ingle's Endodontics*. With his wife, Carol, Dr. Tataryn is raising their four sons: triplets—Alexander, Nicholas, and Christopher; and Zachary.



LLU Medical Center boasts largest hyperbaric oxygen chamber on West Coast

By James Ponder

Thanks to the efforts of a dedicated team of health care professionals led by Takkin Lo, MD, MPH, Loma Linda University Medical Center is only the third institution in the world equipped with the new Sechrist 4100 monoplace hyperbaric oxygen chamber. There are four total.

“The first two are in a wound program in Connecticut,” notes Dr. Lo, who serves as director of hyperbaric medicine. “The third is in El Paso, Texas, and we’ve got the fourth one. It happens to be the only one on the West Coast so far.”

According to Lori Scott, RCP, RRT, manager of special procedures in the department

of respiratory care, the process of acquiring the new unit was colorful and fun to watch.

“Like a Las Vegas high-roller, Dr. Lo negotiated the right price and ultimately landed the deal,” she remarks. “He looked like a kid at Christmas opening a much-anticipated gift from Santa Claus.”

Dr. Lo remembers things a bit differently. “I’ve been in negotiations with the manufacturer, a very good friend whom I’ve known for 20 years, for the last 18 months,” he counters. “I was able to work out a very amicable deal in exchange for allowing the company to bring prospective buyers here to see the 4100 in operation. I also continue working with the company in research and development.

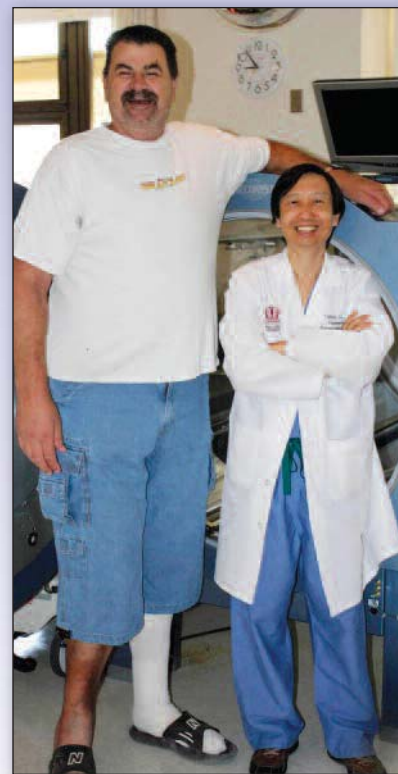
“We also have the model 3200 and 3600 units,” he adds. “We used to have a 2500 here as well, but it’s now in the so-called ‘hyperbaric museum’ at Sechrist headquarters on La Palma Avenue in Anaheim.”

At just under nine feet long, model 4100 is the largest single-occupancy hyperbaric chamber on the market. It’s used to treat a variety of wounds and infections, such as diabetic skin ulcers, chronic bone infections, and soft-tissue radiation damage, to name a few. Dr. Lo is particularly pleased at how it works with skin ulcers and tissue damage.

“In the last 10 years,” he says, “there have been a few significant new indications for hyperbaric oxygen therapy. In 2003, Medicare gave us permission to use it for diabetic foot ul-



When you’re seven feet tall and weigh 365 pounds, climbing into an enclosed chamber might seem a bit intimidating. Not if you’re Val Simon. Mr. Simon—shown here being assisted into Loma Linda University Medical Center’s new Sechrist 4100 monoplace hyperbaric oxygen chamber by Richard Sample, RCP, RRT, CHT, hyperbaric safety coordinator—says the new chamber is positively spacious. It is, in fact, the largest single-occupancy hyperbaric chamber on the market. LLUMC owns the fourth unit in existence and the only one on the West Coast.



Ordinarily, Takkin Lo, MD, rises to any challenge, but the 5-foot-7-inch physician can’t measure up to patient Val Simon, who stands seven feet tall.



The inside of the new Sechrist 4100 monoplace hyperbaric oxygen chamber recently acquired by Loma Linda University Medical Center doesn't seem nearly so crowded as the outside, with staff looking through.

cers. It's made a real difference to our patients. We are now able to save many affected limbs that would have required amputation in the past."

The need for hyperbaric treatment for radiation tissue damage stems from the fact that radiation damages not only the cancer cells it targets, but surrounding tissues as well. "It can lead to internal and external ulcers," Dr. Lo insists, "and teeth can also fall out due to its devastating impact on capillary networks in the gums and jaws. Hyperbaric oxygen therapy can reverse some of the effect, and regenerate the blood supply to the radiated areas and hence promote healing in these challenging places."

Tipping the scale at a whopping 3,500 pounds, the new chamber is hardly small. But Dr. Lo says there's an important reason for the large size. "About 10 percent of our patients develop claustrophobia in the smaller chambers," he points out. "For instance, the 2500 unit—the first chamber we had at the Medical Center—was more than 15 inches smaller in internal diameter, and nearly 18 inches shorter in inside height."

The 4100, by comparison, is large and spacious. It can accommodate patients weighing up to 700 pounds. But the real test is measured in how patients feel.

To gauge that, Dr. Lo pointed to a veritable giant of a man, Val Simon of Apple Valley. At seven feet tall and weighing 365 pounds, Mr. Simon looks huge, especially next to Dr. Lo, who measures in at five feet, seven inches.

"I was in the 2500 the first time I was here," Val Simon says. "Later on, I was in the 3600, and now the 4100. I can stretch out in there. My shoulders touched the sides in the 2500, but the 4100's much better."

Ironically, even though his height consumed all but a fraction of an inch of the 2500's length, Mr. Simon says he never felt claustrophobic. But he does prefer the 4100. "It's much more comfortable," he admits.

Like many of Dr. Lo's patients, Mr. Simon travels to Loma Linda for therapy. "I make the trip from the High Desert because the doctors down here know what they're doing," he insists. "In fact, the best thing about Dr. Lo is

his knowledge. He can look at a wound and say, 'That's infected.' Or, 'That's getting better.'"

A veteran of 31 knee surgeries, Val Simon returned to Dr. Lo for hyperbaric therapy after a wound on his ankle refused to heal.

"It's opened inside due to infection," he reports. "I saw several doctors in the High Desert, but they couldn't close it, so I came back to Dr. Lo. I've seen him before; he's great! Of course, for such a little doctor, he can cause a lot of pain. When he grabs a Q-tip, you cringe. He's not afraid to dive in and go for it."

The history of hyperbaric oxygen therapy goes back more than 300 years. However, Dr. Lo says it was formerly used primarily for military applications such as treating scuba divers who have sustained decompression sickness.

Clinicians began to seriously consider it for wound care applications after a number of studies showed that pressurized oxygen is useful for a variety of conditions.

Dr. Lo explains that most outpatient treatments are on a 90-minute, once-per-day basis for a period of one to two months, depending on the severity of the injury or infection. "Sometimes it takes three months," he adds. "For more acute indications, it may take two or three 90-minute sessions per day."

None of that seems to matter to Val Simon as he relaxes inside the giant tube. He alternates between dozing peacefully and watching television through the clear chamber walls.

And so it goes until the technician waves through the acrylic panel to signal that the treatment is over. Mr. Simon is all smiles as he exits the chamber and raises his enormous torso to full upright position.

"I have full confidence in you guys," he says to Dr. Lo and the technician. "I wouldn't go anywhere else!"

Imagination Manor moves in next door to LLU Children's Hospital

By James Ponder

Imagination Manor, a gigantic playhouse for kids of all ages, recently landed on a specially constructed building site at the south entrance to Loma Linda University Children's Hospital (LLUCH).

Weighing in at a hefty 5,800 pounds, the charming structure was donated by Steve and Denise Hertel. Mr. Hertel is executive director of parking and transportation for Loma Linda University; Ms. Hertel is a volunteer who serves on the board of directors of the Big Hearts for Little Hearts Loma Linda Guild and other charitable organizations.

"Our desire," Steve notes, "is to give something to Children's Hospital where children can be children while they're going through their treatment, and we felt this would give a safe and secure environment in the sunshine and fresh air."



Steve Hertel describes the process of moving Imagination Manor, the new 5,800-pound playhouse at the south entrance to Loma Linda University Children's Hospital, to his wife, Denise.

"Kids need to be kids," Denise adds. "Adults forget that."

The journey of Imagination Manor began four years ago when Steve heard that the Inland Empire chapter of the Building Industries Association was sponsoring HomeAid Project Playhouse.

The event is an annual fundraiser in which leading contractors and homebuilders build larger-than-life playhouses to be auctioned to raise money for the charity, which builds and maintains dignified housing where homeless families and individuals can rebuild their lives. The Hertels decided to go see if they might find a playhouse that met their specific requirements.

"It needed to be non-gender-specific," Denise

points out. "There were several playhouses at the auction that were very cute—there was a fire station, an ice cream shop, a motorcycle shop, and a princess house—but we wanted something that would appeal equally to both boys and girls."

There were other requirements as well. The playhouse selected must have an entry door large enough to accommodate IV poles and adult companions. It needed to look realistic, also, so kids would want to go inside and play.

"We bid on four homes before this one," Steve remembers, "driving the price to our limit and beyond." Although the couple does not wish to disclose the amount they spent on the playhouse, a glance at the details ensures that it was not cheap. Everything is very well made and scaled to size.



Just inches above its final destination, volunteer workmen guide Imagination Manor onto its permanent location just outside the south entrance to Loma Linda University Children's Hospital. Following a ribbon-cutting ceremony on October 4, 2010, the new playhouse opened its doors to provide a safe haven where hospitalized children and their siblings can play to their hearts' content.

Board of Trustees names new dean to lead public health

By Heather Reifsnnyder

The Loma Linda University Board of Trustees has named Tricia Pennicook, MD, MPH, as new dean of the Loma Linda University School of Public Health.

Dr. Pennicook has served with the School of Public Health as associate dean for academic affairs since 2007. She replaces David Dyjack, DrPH, who resigned in August to become director of health for the Adventist Development and Relief Agency (ADRA).

Dr. Pennicook's achievements as academic dean include coordinating the self-study process in preparation for the school's reaccreditation, leading to the maximum seven-year accreditation from the Council on Education for Public Health this past July.

During her three years at the School of Public Health, Dr. Pennicook says she has developed a renewed appreciation for its legacy and mission—and its dedicated leadership, faculty, and students.

"We are a school of world-class distinction, not just because of how we work, but especially because of whom we serve," she says. "It is our honor to help prepare public health professionals for health institutions worldwide, and, because of our heritage, to develop the leaders that will advance the health ministry work of the Adventist Church.

"We are living in exciting and challenging times for public health," Dr. Pennicook adds, citing issues such as the increase in diseases directly related to lifestyle choices and the reappearance of infectious diseases that scientists had believed were under control.

She also is concerned with the widening gap between those who have and those

"It has all the furniture," Steve notes. "The drapes are scaled, the chairs are scaled, it has a flat screen plasma with a game system, there's a staircase to the loft, it has working light fixtures, the wall lights have shades, and the loft has a little bedspread mattress. It's very realistic."

Denise agrees. "It's also got pickled hardwood oak floors," she adds. "If you include the loft, it's a little over 100 square feet in size. It's 80 feet without it."

On the morning of Thursday, August 19, 2010, the Hertels—along with LLUCH administrator Zareh Sarrafian, MBA, and a crowd of spectators—watched as the playhouse was hoisted off the large flatbed truck that brought it to Loma Linda, using a giant crane. Slowly, steadily, the crane lifted the playhouse several feet into the air, transported it across the parking lot, and set it down on a special concrete pad built especially for the structure. From start to finish, the move took just over one hour.

A team of volunteer workmen, recruited by the LLUCH Foundation, donated their time and equipment to move the building. But even though the playhouse was in place, it wasn't quite ready to play in yet. The yard first needed to be finished around it, a bench built, and—as with any fine house—the grand opening must be held before it would truly be a home. Ribbon-cutting ceremonies took place on Monday, October 4, 2010.

"One of the things I love about this," Denise explains, "is the name: Imagination Manor. Everybody can relate to that!"

She pauses for a moment before sharing the couple's motivation for purchasing the expensive playhouse and donating it to LLUCH for the benefit of the children of the Inland Empire.

"We've said all along that if it brings a smile to just one child's face, it will be worth it!"



Tricia Pennicook, MD, MPH

who don't—and its impact on their lives and health.

However, she believes the School of Public Health does more than educate qualified professionals who are passionate about solving such issues. The school also exists, she says, to explore life's most ponderous questions with students and offer them a place to deepen their relationships with God.

Dr. Pennicook has a long history of career experience in public health and medicine. For five years prior to her arrival at LLU, she worked at Universidad de Montemorelos, in Montemorelos, Mexico, where, she served as coordinator of the School of Public Health and professor in the Schools of Medicine and Dentistry. She worked to infect medical students with passion for public health.

Dr. Pennicook also worked for five years for her country of origin—Costa Rica—in the Ministry of Health. Her positions there included state epidemiologist, state health director for the Limón province, and advisor to the minister of health for Costa Rica's Atlantic region.

'Who Touched Me?' sculpture unveiled at Loma Linda University

By James Ponder

One of the most electrifying incidents in the New Testament recently came to life on the campus of Loma Linda University when a larger-than-life sculpture depicting Christ and the woman who touched His garment in faith was unveiled at the north entrance to the Centennial Complex on Wednesday, October 20, 2010.

Titled "Who Touched Me?" in honor of the story recorded in the Gospels of Matthew and Luke, the new work of art is the result of a collaboration between philanthropist Reuben Matiko, MD, and sculptor Alan Collins.

Several other individuals were also involved in overseeing the project, creating the sculpture, or installing it at its permanent location: members of the LLU president's committee and dean's council; the foundry artisans of Monterey Sculpture Center in Marina, Cal-

ifornia; installation specialists Ethan Johnston and Jesse Cortez, who drove the giant bronze statues from the Monterey Peninsula and installed them at LLU; and Robert Cole and his team of LLU maintenance workers who kept the installation under wraps until the unveiling and dedication events.

At the ceremony, Richard Hart, MD, DrPH, president of the university, welcomed the audience and said the sculptural installation "has been a long time in coming." He pointed out that sculptor Alan Collins—who was detained by inclement weather at San Francisco International Airport—was approached several years ago by Dr. Matiko to create a sculpture that would memorialize the incident described in Matthew chapter 9 and Luke chapter 8.

Mr. Collins is well known in Loma Linda as the artist responsible for the bronze Good Samaritan sculpture, located on the campus

mall between Prince Hall and the University Church.

B. Lyn Behrens, MBBS, president emerita, followed Dr. Hart's welcome with reflections on the meaning of the sculpture.

She said the story of the nameless woman whose touch of faith 2,000 years ago brought health and healing to her body continues to bear silent witness, and serves the dual purpose of reminder and invitation today.

It was a reminder, she noted, that Christ is the source of all true healing and wholeness, and He invites us to find ourselves in the story. "Let us not be part of the anxious crowd, or the skeptics. The invitation is to receive Christ as our personal Messiah."

Since Dr. Matiko was unable to attend the service due to a health issue, his son, Jim Matiko, MD, read the words of a poem his



Although inclement weather delayed his flight from San Francisco, sculptor Alan Collins (pictured in the photo to the right of Richard Hart, MD, DrPH, president of Loma Linda University) finally got to see his latest sculptural installation in place. Titled "Who Touched Me?" and depicting the biblical story of the woman who touched Christ's garment in order to be healed, the sculpture resides near the north entrance to the Centennial Complex.

father wrote in response to the conclusion of the story from Matthew 9:22:

*Christ's sacred words verity tell.
For twelve worrisome years she
grievously bled.
Her doctors didn't succeed—alibis
probably said.
Her FAITH, a spiritual essence,
distinctly divine,
So readily provided ample courage
to her spine.*

Dr. Hart noted that the poem will be inscribed on a plaque and placed at the base of the installation.

The ceremony assumed a poignant aura when Dr. Hart informed the audience that Dr. Matiko has reached a turning point in his life because of advancing age. Dr. Matiko, who is in his 90s, is unable to get out as much as he would like to because of problems with his knees.

When it came time for the unveiling of the sculpture, Marilyn Herrmann, PhD, RN, dean, School of Nursing, and Jeff Cao, MD, professor of pathology and human anatomy, School of Medicine, struggled with the considerable bulk of the blue, satin-like cloth shielding the sculpture. Moments later, workers stepped forward to help fold the large cloth. The audience erupted in applause as the sculpture was revealed.

After allowing a few moments for photographs, four individuals stepped to the microphone to memorialize the occasion and discuss the significance of the sculpture to the students, faculty, patients, and community.

David Ward, MD, a resident in the department of family medicine, spoke for the students. He shared the story of how a Loma Linda physician eased the end-of-life transition for one of his patients by singing hymns to the man in his final moments.

“At LLU,” Dr. Ward concluded, “we are

taught how to diagnose and treat illness, but we are also taught how to reach out and touch Jesus and receive His healing power.”

In his role as official representative of the LLU faculty, Leonard Bailey, MD, distinguished professor at the School of Medicine, said he is thrilled and honored to be part of this event.

He thanked Mr. Collins and Dr. Matiko for “this beautiful sculpture,” calling it “a stunning portrayal about humility and faith.” He concluded by reciting the lyrics to the song “He Touched Me,” penned by Bill and Gloria Gaither.

Monique Crouser, the mother of Loma Linda University Children’s Hospital patient Tristen Crouser, shared her views on what the healing ministry of the university means to her personally. “My son has been battling cancer for such a long time,” she shared. “Saul, one of our chaplains [referring to Saul Silva, MA] has been with us every step of the way. He has just continued praying and praying for us.” She said the faith-based legacy of Loma Linda University “has been an inspiration to us. There is definitely Someone up there looking after us.”

In his remarks, Lowell Cooper, MDiv, MPH, chair of the Board of Trustees, suggested that “a picture is worth a thousand words, and depending on who is speaking, maybe ten thousand.”

He transitioned to the serious, noting that there are moments when words obscure meaning and silence leads to deeper understanding. He said that “we contemplate life’s deepest questions in silence” and expressed his hope that this sculpture would provoke many silent encounters in the years to come as students, faculty, and members of the community come face to face with the meaning of the story.

“Jesus Christ stands before us as the Pattern Man,” Elder Cooper concluded. “His

love, pure and simple, blessed all who came within the circle of its influence. We are to do the same.”

In his concluding prayer, Wil Alexander, PhD, emeritus professor in the School of Religion, and professor of family medicine in the School of Medicine, said to God that “we read in Your word that the clouds are the dust underneath Your feet, and so You walk among us today.” Dr. Alexander thanked the Creator for the gifts “that have brought all this about,” and commented that the woman depicted in the sculpture reached out in faith. “You have called us to continue the teaching and healing ministry of Jesus Christ,” he concluded. “Your power is the source today as it was then. Each of us is touched by Your love. Some day, in the not-too-distant future, may the meaning of the sculpture come to life in our hearts.”

The ceremony adjourned when Dr. Hart announced that a plaque containing the Gospel account of the woman’s encounter with Jesus would be unveiled at the site in the next few weeks.

Besides Alan Collins and Dr. Matiko, two other men who played a large and influential role in bringing the sculpture to Loma Linda University were not present at the ceremony. Jesse Cortez and Ethan Johnston—the skilled artisans from the Monterey Sculpture Center who installed the sculptures on Friday, October 15, 2010—were back in Monterey. Although perhaps largely unnoticed, the contributions of these two individuals are substantial: They drove the sculpture from Salinas on Thursday, October 14, 2010.

Unloading the sculpture components, they drilled holes in the surrounding concrete, setting two pairs of screws into the feet of the figures, stabilizing them in place, spot-welding the joints where the woman’s hand contacts Christ’s garment, and expertly blending the final patina to cover the welds.

Loma Linda entities take home six awards at annual PRSA award ceremony

By *Dustin R. Jones*

Employees of Loma Linda University and its entities received six awards during the 45th annual banquet for the Public Relations Society of America—California Inland Empire Chapter (PRSA—CIEC).

Held October 13 at the historic Mission Inn Hotel and Spa in Riverside, the event was emceed by Allan Borgen, food critic for *Feed Me 411* and *Let's Dine Out*, as well as radio host.

"It was fantastic to see so many gather to celebrate the tradition and legacy of public relations in the Inland Empire," says Karen Bergh, 2010 PRSA—CIEC president. "In today's economic climate, it's refreshing and inspiring to see the many entries from the Inland Empire public relations community."

Inland Empire public relations professionals submitted entries in more than 20 different categories, ranging from community outreach and media relations to collateral development and social media programs. The submissions were reviewed by judges from the PRSA Bluegrass Chapter in Kentucky.

Two categories of recognition are awarded to submissions that meet the strict requirements—the Polaris Award for first-place submissions and the Capella Award for second-place submissions.

Melissa Bassham, events specialist, Loma Linda University Children's Hospital Foundation, received the Polaris Award for her work in organizing the LLU Children's Hospital Foundation gala.

Dustin Jones, MA, associate director of public relations, office of university relations, won the Polaris Award for his work as editor and designer for Loma Linda Nurse, an alumni publication for the School of Nurs-

ing. Marilyn Herrmann, PhD, RN, dean of the school, serves as executive editor for the publication.

Mr. Jones also won a Polaris Award for his work as editor and designer on the Adventist Health International *Annual Report*. Richard Hart, MD, DrPH, president of Loma Linda University, serves as executive editor for the publication.

James Ponder, publications editor, office of university relations, was recognized with a Capella Award for his article "Loma Linda University researchers discover source for 250 additional transplant hearts."

Mr. Ponder also received the Capella Award for his article "How becoming a guild lady made me a better man."

Richard Weismeyer, MA, executive director of university relations, was awarded the

Capella Award for his work in planning and implementing the Loma Linda University exhibit at the 59th General Conference Session for the Adventist Church.

O'Reilly Public Relations took home the most awards with a total of seven awards—five Polaris and two Capella Awards. Loma Linda University came in second place with six awards—three Polaris and three Capella Awards.

The awards banquet is an annual celebration of public relations in the Inland Empire and encourages professionals to increase quality and accountability in their work. This year's competition featured public relations professionals from the private sector, government agencies, educational institutions, health care institutions, and PR agencies.

A complete list of Polaris Award winners can be found at <www.prsaie.org>.



Loma Linda employees show off their awards with Karen Bergh, 2010 Public Relations Society of America—California Inland Empire Chapter president. Pictured are (from left) Richard Weismeyer, MA; James Ponder; Ms. Bergh; Dustin Jones, MA; and Melissa Bassham.

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