Approximately one-quarter of adults in the United States are inactive, with most of their time awake spent sitting. Another quarter spend 30 minutes 5 days a week in light or moderate physical activity. Only fifteen of every hundred spend at least 3 days a week in vigorous activity. This is despite the fact that epidemiological studies have shown a clear association between increasing physical activity and decreasing mortality. A person who performs exercise at least at the rate of 1000 kcal/week energy expenditure reduces his/her mortality by 30%.

In persons aged 70 to 80 years, it has been shown that the higher the total energy expenditure, the longer the person lives. The major factor in providing higher total energy expenditure was stair climbing. Exercise has numerous positive effects in older adults including improving function, improving quality of life, decreasing dysphoria, enhancing memory, decreasing obesity, decreasing hyperlipidemia, insulin resistance and hypertension, decreasing pain, strengthening bone, improving balance, reversing sarcopenia and preventing falls and fear of falling. Exercise has been shown to be an important adjunctive therapy in heart disease, diabetes mel-

(continued on page 4)
Miriam B. Rodin, M.D., Ph.D., joined the Division of Geriatric Medicine at Saint Louis University as an Associate Professor in October, 2007. Dr. Rodin is board certified in internal medicine with certificates of added qualifications in Geriatrics and the American Association of Hospice and Palliative Medicine. She also holds certification in the Medical Direction in Long Term Care from the American Medical Directors Association. She received her Ph.D. in Anthropology from the University of Illinois-Urbana, and her M.D. from the University of Illinois - Chicago. Before coming to SLU, she was in the Section of Geriatrics at the University of Chicago.

Dr. Rodin focuses on all aspects of geriatric care with special interest in geriatric oncology, hospice and palliative care, nutrition, and wound care. She has been the medical director of two nursing homes. She serves on the editorial boards of the *Journal of the American Geriatrics Society* and the *Journal of the American Medical Directors Association*, and she is a reviewer for a number of journals. Dr. Rodin is a caring, compassionate, and knowledgeable physician, an excellent clinical teacher, and gifted lecturer. Outside of work, she enjoys music and sailing with her 6-year old son, Dias. Dias is a kindergartner at Wilson School where he shows promising signs of learning to read.

Miguel Paniagua, M.D. joined the Division of Geriatrics at the Saint Louis University School of Medicine as an Assistant Professor of Medicine in July, 2007. His focus is on medical education research as well as researching, educating, and writing on geriatric syndromes in long term care. Previously, Dr. Paniagua received teaching awards for excellence in undergraduate teaching each year while on faculty at the University of Miami’s Miller School of Medicine, including induction to Alpha Omega Alpha. A graduate of Saint Louis University (B.A.) and The University of Illinois College of Medicine in Chicago, Dr. Paniagua completed residency in internal medicine and a two-year fellowship in gerontology & geriatric medicine at the University of Washington in Seattle. He is board-certified in internal medicine, geriatric medicine, and hospice & palliative medicine. Doctor Paniagua is a recipient of a Geriatric Academic Career Award (GACA) from the Health Research Service Administration and The Department of Health and Human Services. He is pursuing a master’s degree in health professions education. Welcome home, Dr. Paniagua.
Despite the fact that over the last 100 years the United States has become the most obese nation in the world, we have also markedly increased our longevity. At the beginning of the 20th century, half of the American population was dead before 50 years of age. Today, women can expect to live to 80 years and men to 72 years. By the year 2020, 20% of our population will be over 60 years of age. There have been marked decreases in deaths from heart attacks and strokes. This, in many ways, is a remarkable success story for health care in the USA.

However, we are not in the top twenty countries for longevity and rank number 26 in the World Health Organization’s rankings. This is below countries such as Iceland, Canada, Hong Kong, Spain, France, Italy, Greece, Cyprus, Malta, Costa Rica, the United Kingdom, and Singapore. This is occurring while we spend more money than any other country on health care. However, the richest 12.5% of the USA population do have health care which is as good as anywhere else in the world. This reveals the inequality in our health care system.

To improve outcomes in health care, we need to change our focus. Instead of demanding the newest, most expensive medication, we should ask our physicians for the oldest, cheapest drugs that have been shown to work. Thus, hydrochlorothiazide and lisinopril are both $4 a month and have been shown to save lives and decrease strokes when used to treat high blood pressure. Recently we have seen the problems of too quickly embracing the newest medicines with the Vioxx and Avandia drug recalls. We need to de-emphasize our expectation that when we go to a physician, s/he will give us a medication. We receive too many, often inappropriate, medications that often lead to side-effects for which another medication is prescribed! We need to expect fewer tests. We need to move from high-technology to “high-touch” care, keeping high-tech procedures and tests for when they are truly needed. But, most importantly, we need to move from an acute care based system to a commitment to PREVENTION.

The centerfold of this issue of Aging Successfully highlights my visit to Okinawa, a city that has long had an excess number of centenarians. Japan, Macau, Hong Kong, and Iceland are perennially among the longest-lived populations in the world. They all eat large amounts of fish. The Japanese eat 6.8% of their diet as fish compared to 0.8% in the United States. Increased fish consumption is a start in our quest towards an increased healthy life expectancy.

Katie Khaw from Cambridge University in England recently published the results of the EPIC-Norfolk study looking at factors associated with good health as we age. She and her colleagues found four factors were key:

- Not smoking
- Not being inactive
- Eating 5 servings of fruit and vegetables a day
- Drinking 1 to 2 glasses of alcohol a day.

Persons who adhered to all of these factors were physiologically 14 years younger than those who adhered to none of them.

George Valiant, a Harvard psychiatrist, studied aging successfully in inner-city persons in Boston and in Harvard graduates. He found that not smoking, not drinking excessively, getting some exercise, not being obese (especially if you are poor), being married, and coping with stress well were the keys to aging well.

Our lead article in this issue emphasizes the importance of exercise. The emerging data that exercise three times a week decreases the chances of a person developing dementia is sufficient reason to be active and to exercise.

If, as is now to be believed, 70 is to be the new 50, we need to start doing the simple things that will allow us to function successfully. Exercising will keep you younger than botox. Eating fish, fruits, and vegetables is better than ingesting vitamins and other tablets found at the health food stores. Being spiritual and going to church regularly is better for your health than communing with tele-evangelists. Finally, questioning why your physician is prescribing another new medication for you and asking if there is a cheaper one available, will greatly decrease your chance of the modern epidemic of iatrogenic (physician-induced) disease.

The message is simple – improve your lifestyle and dialog with your physicians and you will age more successfully.
litus, chronic obstructive pulmonary disease, Parkinson’s disease, stroke, peripheral vascular disease, arthritis, rotator cuff tears and varicose veins. In addition, exercise can enhance social integration, widen social networks and enhance intergenerational activity.

Exercise and the Physiology of Aging

Aerobic capacity is the ability of the lungs, heart, and blood to deliver oxygen to active muscles and the ability of those muscles to utilize oxygen and energy substrates during vigorous physical exercise. Aerobic capacity is measured by VO₂ max (maximal oxygen uptake). VO₂ max is considered the best measure of physiological, as opposed to chronological, aging. VO₂ max declines at the rate of 10% per decade after 25 years of age. VO₂ is measured on a treadmill or bicycle ergometer. If equipment to measure oxygen consumption is not available, oxygen consumption at 75% of the maximal heart rate can be calculated: VO₂ = 0.1 x speed (meters per minute) x treadmill grade as a decimal +3.5. The 3.5 accounts for the normal resting oxygen consumption (3.5 milliliters per kilogram per minute). This is 1 metabolic equivalent (MET) (an indicator of physical activity).

At 75 years of age, VO₂ max in many sedentary individuals is 7 to 14 mls/kg/min (2 to 4 METS). It is believed that men require 5 METS and women 4.3 METS to be able to live independently.

Numerous age-related factors are associated with the decline in VO₂ max that occurs with aging. These include decreased maximal cardiac output, decreased maximal heart rate and stroke volume, decreased maximal ventilatory capacity and diffusion capacity in the lung, decreased total number of muscle fibers, increased intramuscular fat and collagen, shortening of tendons and ligaments, decreased oxidative and glycolytic enzyme activity in muscles, slowed reaction time, decreased number of motor units and impaired neural recruitment and reduced executive function.

For developing exercise programs, a key factor is the ability to estimate maximal heart rate. Maximal heart rate declines by 10 beats per minute per decade. A simple equation to calculate maximal heart rate is: HRmax = 220-age.

This equation, however, tends to underestimate the value by 6 to 11 beats per minute. Heart rate during exercise programs in older adults should not exceed 75 percent of the maximum heart rate.

Assessing Fitness in Seniors

A decade ago, Rikli and colleagues1 developed the Senior Fitness Test (see yellow box below). Additionally, Guralnik and his colleagues3,4 developed a separate set of functional tests that can be used to predict future disability and mortality.

Types of Exercise

There are 5 types of exercise: aerobic, resistance, balance, posture, and flexibility.

Women in their 80s and 90s can improve their VO₂ max by 15 to 17 percent after 6 months of exercise. If pulse rate is not used as an indicator, then maximum aerobic exercise should be hard (heavy) on the Borg Rating of Perceived Exertion Scale (see page 6). If an estimation of METs is used, it should aim at 10 METs. The aim for aerobic exercise is that it occurs most days a week or at least 3 days a week. Common types of aerobic exercise include walking (3 miles per hour which equals 3 to 8 METs), dancing (4 to

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<table>
<thead>
<tr>
<th>Test</th>
<th>Normal Range for 60-64 Years</th>
<th>Risk Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 30-Second Chair Stand</td>
<td>men: 14-19</td>
<td>&lt;8 stands</td>
</tr>
<tr>
<td></td>
<td>women: 12-17</td>
<td>&lt;11 curls</td>
</tr>
<tr>
<td>2. Arm Curl (seconds)</td>
<td>men: 16-22</td>
<td>&lt;350 yards</td>
</tr>
<tr>
<td></td>
<td>women: 13-19</td>
<td>&lt;65 steps</td>
</tr>
<tr>
<td>3. 6-Minute Walk (yards)</td>
<td>men: 610-735</td>
<td>&gt;-4” men</td>
</tr>
<tr>
<td></td>
<td>women: 543-660</td>
<td>&gt;-2” women</td>
</tr>
<tr>
<td>4. 2-Minute Step Test</td>
<td>men: 87-115</td>
<td>&gt;-8” men</td>
</tr>
<tr>
<td></td>
<td>women: 73-107</td>
<td>&gt;-4” women</td>
</tr>
<tr>
<td>5. Chair Sit-and-Reach</td>
<td>men: -2.5-+4.0</td>
<td>&gt; 9 seconds</td>
</tr>
<tr>
<td></td>
<td>women: -0.5-+0.5</td>
<td></td>
</tr>
<tr>
<td>6. Back Scratch (inches)</td>
<td>men: -6.5-+0.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>women: -3.0-+1.5</td>
<td></td>
</tr>
<tr>
<td>7. 8-Foot Up-and-Go (seconds)</td>
<td>men: 5.6-3.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>women: 6.0-4.4</td>
<td></td>
</tr>
</tbody>
</table>
EXERCISE and aging

(continued from page 4)

6 METs) and cycling (5 to 6 METs). Aquatic exercises and/or swimming are particularly useful for persons with arthritis.

Resistance training improves muscle mass, strength, and resting metabolic rate more than does aerobic training. In addition, it has equal effects on insulin sensitivity, bone density, and resting blood pressure. While resistance-training increases muscle mass and strength, it also needs to be aimed at increasing power. Power is the rate at which work is performed, i.e., workload divided by time. To increase power resistance, exercise needs to be performed at high velocity. Muscle endurance is the ability of muscles to continue contracting over multiple repetitions. There are three types of resistance exercise: 1) Concentric contraction – which results in muscle and tendon shortening and is the most demanding form of exercise.

2) Eccentric contraction – causes lengthening of muscles and tendons and results in hypertrophy of muscles. 3) Isometric contraction – is metabolically demanding and mainly increases strength around the joints.

Over the age of 65 years, about 40 percent of healthy, community-dwelling adults have a fall at least yearly. Balance is the mechanism by which the body’s center of mass is maintained. Balance can be seen as being either static or dynamic. Maintenance of balance requires adequate function of ankle, thigh, trunk, neck, head, and eye muscles, as well as the visual, vestibular, and somatosensory systems. Vision plays a key role in maintaining balance when standing on a compliant or moving base. Balance can be assessed by having the person stand on one leg with his/her eyes both open and shut. The eye-shut one leg stand is also an excellent exercise for improving balance. Tai Chi is a complex, but fun, exercise form to improve balance. Throwing a beach ball to one side of a person in a wheelchair improves his/her sitting balance.

Range of motion of joints declines with aging, with a nearly 90% decline in spinal extension, 20% in hip extension and 2% in ankle extension from the age of 20 to 70 years. Stiffness, the force required to move a joint, increases with aging. Increases in collagen in muscles and tendons as well as a breakdown of joint cartilage are the major factors responsible for this. Lack of flexibility leads to difficulty in putting on clothing, ascending stairs, or getting down and up from the floor. Flexibility exercises can be either static – the muscle group is moved and then held in an end position, or dynamic - wherein stretching fails to hold the end position. Dynamic flexibility (stretching) exercises are used during the warm-up for other exercises while static exercises should be used for cool-down.

Posture exercises should be used to correct the tendency of older persons to stoop forward as they age. This stooping changes the person’s center of balance and increases the chance of falling.

In a frail older person, balance and resistance exercises should be introduced before aerobic exercises in order to reduce the possibility of falls associated with the exercise.

Effects of Exercise: Evidence

In over 5,000 persons who participated in the Longitudinal Study of Aging, physical activity resulted in a slower rate of decline in activities of daily living and instrumental activities of daily living. In a randomized trial of 704 nursing home residents for 17 months, exercise resulted in a significantly smaller decline in activities of daily living.

Numerous studies in persons with diabetes mellitus have demonstrated that resistance training significantly enhanced insulin sensitivity and glucose homeostasis. Exercise increased bone mineral density and reduced fear of falling.

Exercise can improve cerebral blood flow, decrease the rate of cerebral atrophy development, and enhance cognitive function. In a nursing home study, exercise slowed the rate of ADL loss to a greater degree than did cholinesterase inhibitors (drugs used to treat dementia). Resistance exercise tends to reverse dysphoria.

(continued on page 6)
Engaging in Spontaneous Physical Fun

Maintaining physical activity plays an important role in slowing the aging process. Persons who get out of the house once a day have better outcomes than those who stay at home.

A classic example of the effect of movement on weight is found in the Pima Native Americans who become enormously obese. However, a subgroup fails to put on weight. Studies showed that the Pima Native Americans who did not gain weight were excessive fidgeters. This led to the concept that if persons could be taught to fidget, they would gain less weight.

This idea has been validated in animal studies which have shown that rodents that move more become less obese. This has been traced to increased orexin activity in the hypothalamus.

For all of these reasons, it has been suggested that older persons should indulge in spontaneous physical fun (SPF). This means taking stairs rather than escalators, parking as far away as one can in the parking lot, dancing in the kitchen to whatever is on the radio, gardening, walking up and down all the aisles in the grocery store even if you are only going there for a few things, and in general, increasing physical activities of all sorts.

Dual Tasking

Mobility requires an interaction of the central and peripheral nervous systems with muscles and tendons. With aging, a decline in executive function results in a decrease in the ability to perform two tasks at the same time. This is a major reason for increasing falls with aging.

Testing of a person’s ability to carry out dual tasking represents a major component of the mobility examination. Tests include the ability to maintain walking speed while talking or subtracting 7 from 100 and then from the remainder. Performing the Get-Up-and-Go test holding a full glass of water represents another method for testing dual tasking ability. The integration of multiple components of mobility can be tested by dancing, as long as some more complex dance moves are included.

REFERENCES:


**BORG RATING OF PERCEIVED EXERTION SCALE**

The Borg Rating of Perceived Exertion (RPE) is a way of measuring physical activity intensity level. Based on physical sensations a person experiences during physical activity (increased heart rate, increased respiration or breathing rate, sweating, and muscle fatigue), perceived exertion is how hard you feel like your body is working. Although a subjective measure, a person’s exertion rating may provide a fairly good estimate of the actual heart rate during physical activity.

<table>
<thead>
<tr>
<th>RPE</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>No exertion at all</td>
</tr>
<tr>
<td>7</td>
<td>Extremely light (7.5)</td>
</tr>
<tr>
<td>8</td>
<td>Very light</td>
</tr>
<tr>
<td>9</td>
<td>Hard (heavy)</td>
</tr>
<tr>
<td>10</td>
<td>Very hard</td>
</tr>
<tr>
<td>11</td>
<td>Maximal exertion</td>
</tr>
<tr>
<td>12</td>
<td>Somewhat hard</td>
</tr>
<tr>
<td>13</td>
<td>Extremely strenuous</td>
</tr>
<tr>
<td>14</td>
<td>Very hard</td>
</tr>
<tr>
<td>15</td>
<td>Extremely hard</td>
</tr>
</tbody>
</table>

9 corresponds to “very light” exercise. For a healthy person, it is like walking slowly at his or her own pace for some minutes.

13 on the scale is “somewhat hard” exercise, but it still feels OK to continue.

17 “very hard” is very strenuous. A healthy person can still go on, but he or she really has to push him- or herself. It feels very heavy, and the person is very tired.

19 on the scale is an extremely strenuous exercise level. For most people, this is the most strenuous exercise they have ever experienced.
Health care and healthcare education have both undergone major transformations in the past decade. With the explosion of health information on new diseases and their diagnoses, management, and prevention/treatment, healthcare providers are often overwhelmed by the sheer weight of knowledge they are expected to learn and retain. As a result, healthcare educators are constantly developing new educational strategies to aid these adult learners with accessing and using this new information.

Book learning has its place for teaching basic concepts but health information changes daily and grows exponentially. New teaching methods are being developed to ensure that healthcare providers are kept up-to-date in their knowledge and competencies. The series of articles that follow introduce some of the innovative educational programs that are being provided by gerontologists and geriatricians at Saint Louis University. A new interdisciplinary certificate program allows students to explore the multifactorial nature of geriatric healthcare;

(continued on page 8)
Clinical Teaching in the Nursing Home
By Miguel Paniagua, MD

The long term care setting has a number of unique characteristics that make it an ideal venue for clinical teaching of students for a variety of tasks, many of which are sorely underutilized and underappreciated.

Clinical Skills Teaching
Nursing homes are ideal for the purpose of instruction of history and physical exam skills in that they contain relatively stable patient populations that are akin to “the clinic that never leaves.” An instructor who is familiar with the residents will not be burdened with constantly hunting down appropriate patients as on a medical ward, or have the time constraints that may come with the use of clinic patients. Furthermore, an instructor can always find patients with specific physical findings of interest. There is a high prevalence of residents with cognitive, sensory, or communication impairments. This provides an opportunity in the instruction of history-taking under less than ideal conditions.

“Sensitivity” Training
Most students will eventually do clinical rotations that are purely hospital-based. They will be seeing frail elderly patients who may have come from an institutionalized setting. Providing them with a clinical experience based in a nursing home when they are students can give them a unique look “from the other side” of their future training venues. Furthermore, it helps the student understand the intricate connections between acute and long-term care settings and how these transitions between care settings affect these frail individuals. They will also better appreciate the profound differences in the level of care provided in each of these settings. In most cases, nursing home residents are willing participants and enjoy the opportunity to assist in the education of students.

The Medico-legal Side of Medicine
The nursing home setting is the site of a large proportion of medical litigation cases that may involve such complications as pressure ulcers.
Providing them with a clinical experience based in a nursing home can give them a rare and unique look “from the other side”

insights into the social and psychological aspects of a patient’s illness.

Treating the Patient, Not the Numbers

Generally speaking, the long term care setting is less dependent on the technology that dominates the acute care setting. The spotlight is on the patient as a person, with a focus on patients’ problems in the context of their overall function. This provides an opportunity for students to have a more detailed and comprehensive experience with their patients than they get elsewhere.

Time is on Our Side

The nursing home provides an in-depth exploration of patients’ acute, sub-acute, and chronic ailments and the context in which they affect overall function and quality-of-life. Finally, with the larger proportion of patients having chronic or sub-acute conditions to address, this setting allows more time for mentoring and instruction.

REFERENCES:

(continued on page 10)
Undergraduate Research as Service Learning: OT Student Encounters with Residents of an Assisted Living Facility
By Margaret A. Perkinson, PhD, Sara Mosher, & Karen F. Barney, PhD, OTR/L, FAOTA

Service learning is a collaborative and mutually beneficial effort in which students learn and develop through a service activity that meets actual community needs (Kogan & Kelleway 2004). Gerontological community-based research in the form of service learning provides an opportunity for students to gather data on issues of interest to gerontological health or service providers. This active, hands-on learning experience can generate a heightened level of engagement in undergraduate research methods classes and is an effective way to introduce students to the field of aging. It is a useful approach because it addresses a basic conflict frequently found in pre-professional classrooms. Students’ initial exposures to the science and theory of their professions are often confined to classroom settings, leaving practical application of theory and method for post-graduation. Service learning expands or redefines the boundaries of the classroom, to allow hands-on learning experiences that require students to apply their knowledge in real-life settings.

Research Questions
Thirty-two juniors in occupational science/occupational therapy are currently spending a semester studying a local residential care facility for older adults. Working in groups of four or five, each student group formulated a theory-based research question that addressed an area of need or concern among residents or staff at the facility. Their research questions were based on observations and informal interviews at the facility and on reviews of the research literature. Research questions centered around issues of residents’ time use, engagement in activities, and preferences regarding their physical environment, and included the following: how do residents currently spend their time; how have the nature and frequency of their activities changed since their move to the facility; how is spirituality/religiosity experienced and expressed by residents and how does that relate to their well-being; what are residents’ preferences for outdoor activities; and what are their preferences for room modifications. Each group is developing a research proposal explicating the research design, sampling strategy, measurement, and analysis that they would use to address their respective questions. They have collected pilot data by conducting focus groups, in-depth interviews, and surveys to further refine their proposals.

Conscious reflection represents an integral component of the service learning
experience, and students are maintaining journals and will write reflection papers on their personal experiences as gerontological researchers that will focus on individual areas of personal growth and personal reactions to the research experience, understandings of late life experiences and everyday life among the residents of the residential care facility, and considerations of policy-related issues relevant to gerontological service delivery.

**Culmination**

The class will culminate with a reception and display of student posters on their respective projects, to which the residents and staff of the facility and the guest lecturers for the class will be invited as honored guests.

**REFERENCES:**


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**SERVICES**

Services of the Division of Geriatric Medicine at Saint Louis University Medical Center include clinics in the following areas:

- Aging and Developmental Disabilities
- Bone Metabolism
- Falls: Assessment and Prevention
- General Geriatric Assessment
- Geriatric Diabetes
- Medication Reduction
- Menopause
- Nutrition
- Podiatry
- Rheumatology
- Sexual Dysfunction
- Urinary Incontinence

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In the Bible (Genesis 5:27), it is stated that Methuselah lived for 969 years. This was most probably because they used lunar cycles, and he was really 12.4 times younger, i.e., 78 years of age. Similar counting errors seem to account for other long-lived populations such as the Georgians in Russia, the people of Vilacabamba (“Sacred Valley”) in Ecuador, and the Hunza valley (John Hilton’s Shangri-La) near the Khyber Pass. The documented longest living person is Madame Calment from Arles, in Southern France, who died at 122 years of age.

Today, the top ten countries for life expectancy are:

1) Andorra 83.51 years  
2) Macau 82.19 years  
3) Singapore 81.71 years (tied)  
4) San Marino 81.71 years (tied)  
5) Hong Kong 81.59 years  
6) Japan 81.25 years  
7) Sweden 80.51 years (tied)  
8) Switzerland 80.51 years (tied)  
9) Australia 80.5 years  
10) Guernsey 80.42 years  
48) USA 77.85 years

Most citizens of the top ten countries eat large amounts of fish.
Japan remains at the top of the list for larger countries. Approximately 1000 miles south of Tokyo is the Japanese island of Okinawa. Okinawa has long been famous for its long-lived population. On the west coast of Okinawa is Ogimi Village. (A village is equivalent to a county in the United States.) This idyllic village lies between the sea and mountains. Ogimi Village has long been famed for producing more centenarians than any other part of the world. In 1996, the World Health Organization declared it humanity’s oldest county. There are 55 centenarians for every 100,000 people in Okinawa. Approximately one-third of the 3,500 people living in Ogimi are more than 65 years old and their rate of centenarians is 171 per 100,000 people. The major reasons for death in the village are neoplasm, heart failure, and stroke.

The secret of longevity in Ogimi Village has been a diet high in vegetables, tofu (high protein, low fat, high calcium), seaweed (high vitamin and mineral content), and fish. They consume seven servings of vegetables and twelve of fruits each day. Eleven percent of their diet is fish. They also eat pork. Exercise is of the “SPF” (spontaneous physical fun) type related to the mountainous region with lots of walking. They live in a highly supportive community where older people are included in all activities. They are involved in the graceful but slow-moving dances of the community. The motto of the Village is “Our Wealth is People.” Gate ball is the modern exercise of choice – a relatively slow-moving game. Religion is Shintoism and Buddhism. The greeting of one older person for another is “are you eating good food?” When ill, they eat “Kusuimen” which are “healthy foods with curative process.”

Because of post-World War II dietary changes, life expectancy for men in Okinawa has fallen sharply compared to other prefectures. The arrival of McDonalds is often cited as one of the causes of this fall.
Engaging in Inter-Professional Skill Building

By Susan Tebb, PhD, MSW

Life expectancy nearly doubled in the 20th century, and now 35 million Americans are over 65 years of age. As this number of older citizens continues to increase, the demand for professionals with training in geriatric issues is increasing, but few are choosing to work with the older adult population.

Determining the Need

In 2006, the United Way of Greater St. Louis conducted a study for the Boeing Company entitled “Assessment of the Top Five Health and Human Service Needs in the St. Louis Metropolitan Area.” Elder care and services for older adults, such as in-home services, nursing home care, alternative living situations, health care, and caregiver support, were in the top five needs noted.

Finding the Solution

One way in which Saint Louis University is responding to this increasing need for gerontologically trained professionals is to develop certificate programs in gerontology across the campus. The University-wide Interdepartmental Committee on Gerontology and Geriatrics is creating interprofessional certificate programs in gerontology. The interdepartmental committee has members from approximately fifteen different disciplines and/or departments. The certificate programs that are being developed will include not only geriatric and gerontology courses that already exist, but will also engage the certificate students in inter-professional skill building activities and service experiences that help prepare future geriatric professionals. It has been found that learning experiences that increase a student’s contact with older people, develop aging related internships and provide reflective service learning are successful in increasing the number of those interested in a profession that serves the elderly. The School of Social Work’s certificate in gerontological social work goes into effect in 2009. Students will begin with an introductory online aging course, picking either an inter-professional team-taught course in Nursing or a social work assessment and intervention course. Next, students will select at least one course from each of the following areas: Sociology of Aging, Psychology of Aging, Biology/Physiology/Health Aspects of Aging, and Research.

These four areas are designated by the Association of Gerontology in Higher Education as being areas that need to be addressed when offering a certificate program.

Other individual academic units across the campus are developing certificate programs in their units that will offer inter-professional opportunities for the certificate seekers.

Requirements for Success

Finally, there will be a required practicum and integrative seminar at an agency or institution that provides services to older adults. Upon completion of the certificate program the social work students/graduates will have skills in the competencies for gerontological social work practice approved by the Hartford Practicum Partnership Program and revised/adopted by the Council on Social Work Education Gero-Ed Center.
Reaching Out with Online Continuing Education

By Helen Lach, RN, PhD

The increased use of computers and the internet have provided opportunities for reaching health professionals with computer-based continuing education (CE). This is crucial with the growth of information needed to maintain up-to-date health care practices. For those who don’t have access to programs in their local area or who just have busy lives, computer-mediated formats offer many choices for education. They include: CD-ROM or DVD, audio-teleconferencing, live on-line classrooms, Internet based webcasts, archived lectures and classes, and podcasts.

The major advantage of computer-based CE programs is the flexibility to access CE from work or home, in the evening, or on a weekend at his/her convenience. Learning is often self-directed and at a pace comfortable for the learner, tailored to topics the learner is interested in.

The key disadvantage is the lack of personal interaction with faculty and other students or networking with other health professionals. Some of the live and interactive formats try to overcome this potential disadvantage. Online learning does require some computer skill, so those who are not comfortable with the computer in general, will have a learning curve in adapting to online education.

A review of studies on computer-based CE showed that the use of the internet to deliver CE is increasing, that it is effective, and participant satisfaction is good. Strategies to make online CE most effective and useful include a model described by Harden, with the CRISIS mnemonic.

The use of computer-based CE in geriatrics and gerontology is also growing. Health professionals can find information from a basic overview of aging to the geriatric syndromes and specialty treatments. A survey of geriatric medical programs found 79% use the internet for geriatric education.

While many good programs and sites exist, these websites can help you get started:

- **Portal of Geriatric Online Education** (http://www.pogoe.org/frames.aspx)
- **ConsultGerIRN by the Hartford Institute for Geriatric Nursing** (http://www.consultgerirn.org/)
- **CSWE Gero-Ed Center by the Hartford Social Work Initiative** (http://depts.washington.edu/gerocrtr/)

A new computer-based CE program on falls prevention is being developed through the Gateway Geriatric Education Center. It will be pilot tested next fall. An interdisciplinary group, including doctors, nurses, physical and occupational therapists, chiropractors, and others, will develop this program. Look for more information about this important on-line program in future issues of Aging Successfully.

**REFERENCES:**
The Geriatric Skills Workshop Course
by Julie Gammack, MD

The Geriatric Skills Workshop course at Saint Louis University (SLU) is different from most other pre-clinical medicine courses. Specifically, this course introduces communication skills and the assessment methods used to evaluate the social, psychological, and physical problems of aging. Each session focuses on skills or techniques that are used in caring for elderly patients. Students are then able to immediately practice the skill on volunteer patients.

These sessions focus on improving the interaction between medical providers and older adults. Each of the eight, two-hour sessions targets a common geriatric syndrome or condition. Topics include:

- Sensory Assessment
- History and Physical Exam
- Communication Skills
- Physical, Occupational, and Speech Therapy
- Wound Care
- Mental Status Evaluation
- Gait and Balance
- Breaking Bad News.

Instruction is provided through a variety of teaching methods: lecture, small group discussion, role-play, and hands-on skill building sessions. The hands-on sessions occur at a nursing home near the SLU campus. Volunteers provide students with an opportunity to practice communication techniques, history taking, and assessment skills.

The Geriatric Skills Workshop has been offered to first- and second-year medical students and to trainees from the Schools of Medicine, Nursing, Public Health, Pharmacy, Social Work, Therapy, and other health care disciplines at SLU. The skills and assessments taught in this course are important for a wide interdisciplinary audience. Attendance is improved when this course is taught over several evening sessions that each highlight a different topic/skill in working with older adults.

Several important points emerged during the program’s development.

It is vital to have a core group of students who are interested in the content area in order to launch and sustain the workshop program. Students report that they were drawn to this workshop to get a broader, more practical educational experience. Students were enthusiastic about real-world care experiences and skills training.

The first 14 students who participated in the Geriatric Skills Workshop were tested for learning performance. Precourse and postcourse scores were 21.8 (50%) and 27.9 (68%) respectively. For comparison, new first year geriatric medicine fellows who had already completed a residency and were not enrolled in the Workshop course scored 26.4 points (64%). Thus, this course does appear to significantly improve knowledge about geriatric care.

Student feedback on the course was extremely positive with the sessions receiving almost universally an overall rating of 8-9 (1=poor; 9=excellent). Students found the practical, hands-on skill training and the use of volunteer patients to be the most beneficial aspects of the course.

(continued on page 17)
“Smart Phones” for Older Chinese with Diabetes
by Joseph H. Flaherty, MD

The continual climb in the prevalence of diabetes is a major problem in China1. Access to programs and resources to promote behavioral modification and patient education are limited. Moreover, diabetics who live in rural areas of China are often seen and treated at facilities with no trained diabetes health care personnel. This situation is particularly acute for the growing aged Chinese population for whom diabetes is a costly, chronic condition and a major cause of disability2.

Recent studies have indicated that Smart technology phones may be a useful tool in care of diabetest3,4,5. China is experiencing a proliferation of mobile phone usage. Even areas with limited telecommunications infrastructure generally do have electricity, and smart phones may be used as multimedia devices to promote diabetes education and support e-health options in rural China.

Seven researchers are part of a 2-year grant from Microsoft to study the use of “Smart Phones” in the care of older people in China with diabetes. They are:

- Joseph Flaherty, MD, (Geriatrics, Saint Louis University [SLU]);
- Jiao (Maggie) Ma, PhD, (Aviation Sciences, SLU);
- Cynthia LeRouge, PhD, (Business, SLU);
- Gianluca De Leo, PhD, (Medical Lab and Radioactive Sciences, Old Dominion University, Norfolk, Virginia);
- Mei Lin Liu, MD, (Geriatrics, Beijing Medical University);
- Yingshuo Huang, (medical student, Geriatrics, Peking University First Hospital, Beijing, China); and
- Xueru Feng, MD, PhD, (Peking University First Hospital, Beijing).

The team will design and prototype an age- and culturally-appropriate, interactive, diabetes self-management system called CADA (Chinese Aged Diabetic Assistant) to send daily messages to elderly patients with diabetes in China. The messages will include recommendations and guidelines related to physical activity, blood glucose monitoring, blood pressure monitoring, weight and waist measurement, and eating habits.

Patients will be taught how to input daily glucose levels and his/her affective state. Additionally, physicians may input the patient’s measurements and health goals during office visits. A graphical representation of the trends of the various indicators and personal health goals can be displayed.

Microsoft technologies are particularly well-suited to the development of such a system. A stand-alone application at the health clinic which will allow health providers to update the data on the Smart Phones will be developed by using Microsoft Visual Studio. Microsoft Access will be used as the database.

“This technology could change the way doctors and patients interact, and it has the potential to help older patients take charge of their own health. We think this is the next logical step in health literacy.”

REFERENCES

SAINT LOUIS UNIVERSITY PREPARES THE DOCTORS OF THE FUTURE

The 2007 Medical School Graduation Questionnaire has recently been released. The questionnaire surveys medical students about the quality of the education in many areas. Schools analyze the findings to learn ways to improve the education they provide. In the geriatrics section, Saint Louis University has increased their rankings and, in fact, outranks “All Schools” - the average ranking across all medical schools.

### Indicate Whether You Agree or Disagree with the Following Statements About Your Medical School.

**(Scale: 1=Strongly Agree to 5=Strongly Disagree)**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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<tr>
<td>I learned about the health care needs of healthy older adults during my medical training.</td>
<td>53.7%</td>
<td>43.9%</td>
<td>2.4%</td>
<td>0.0%</td>
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<td>All Schools 2007</td>
<td>23.5</td>
<td>63.2</td>
<td>8.0</td>
<td>4.4</td>
<td>0.9</td>
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<td>I am well prepared to care for older adult patients in acute settings.</td>
<td>31.7</td>
<td>46.3</td>
<td>22.0</td>
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<td>11.1</td>
<td>5.6</td>
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<td>I am well prepared to care for older adult patients in long-term health settings.</td>
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<td>26.8</td>
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<td>4.9</td>
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How My Trip to China Has Changed My Future as a Physician

By Bessevelyn Tables, Medical Student

As I prepared for my externship to Sichuan University Hospital in Chengdu, China, I didn’t really know what to expect. Consequently, I flew across the Pacific full of excitement, but at the same time, apprehensive.

This was my first international travel. I was not prepared for what awaited me in Chengdu, China. For the first time, it dawned on me exactly how severely handicapped I was due to my lack of communication skills. The “survival words” that I had looked up, memorized, and placed handily in my pocket were worthless.

A few examples of my cultural and linguistic ineptitude I share here. When I arrived in Chengdu, I was standing outside the airport with my luggage and I couldn’t hail a taxi nor would I have been able to tell him where to take me. Later in my visit, when I was at a biscuit stand, I thought I was telling the vendor what I wanted, only to discover that I was repeatedly asking, “How much?” Another incident involved one of the elderly patients who wanted us to call him a term of endearment that means “grandpa.” To my chagrin, I learned that my rendering of the term meant not “grandpa,” but “duck.” However, by the end of my externship, my “survival” communication skills had improved. I became more independent in maneuvering around the city. No longer was I asking “how much?” when I was trying to say “I want.” I had even begun to call that elderly patient “grandpa.” By the time I left China, I was able to order my own food (without pointing to a picture), shop at the local markets, use public transportation, and, more importantly, understand more medical terminology during rounds.

This experience made me more cognizant of how patients may feel when they enter the medical arena. Often physicians and medical personnel forget that laypersons are not familiar with medical terminology- and those who have heard the terminology may not fully understand the meanings of the words. Therefore, it is important for medical providers to be aware of this language disconnect when we speak to our patients. Good physician-patient communication demands that physicians be patient, observant, and accountable during...
each encounter, even on extremely busy days.

While in China, I realized that the core of medicine - the desire to heal and to improve the quality of life for patients - is the same universally. The differences lie in the specifics of methodologies used to obtain these goals as influenced by culture. In addition to treating patients with pharmacological agents, our Chinese counterparts incorporate acupuncture and herbal medicine into their management of pancreatitis, strokes, and myalgias. In a few patients, the omission of dual treatment modalities was considered to be sub-par treatment. I now recognize that both the country where the training was received and the cultural background of the physician influence the decisions made. This realization makes me more attuned to my own cultural background and how it impacts my interactions with patients and influences the decisions that I make.

The opportunity to travel to China has not only increased my knowledge in terms of medicine, but it also has given me a deeper awareness of social and cultural differences. This externship forces you to step out of what you know, so that you have an earnest view of how patients or those from different cultures/countries feel. It further affords one the opportunity to embrace a culture different from your own. No amount of reading and viewing of documentaries are equivalent to immersing yourself in a real live experience in another culture.

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**SURPRISED IN THE HOSPITAL**

*By Susan Sun Stephens, Medical Student*

Although I did not realize it, I went into our trip with a lot of preconceived ideas of what geriatric care would look like in China. I probably drew these ideas from the care my relatives in Taiwan received. I had expected that elderly persons in China received a lot of home health. With help from a relative or a hired caregiver, my relatives stayed at home pretty much until the end of their lives; hospitals were used for health problems too big to handle at home. Dying in the home is viewed as much more desirable than dying in the hospital. In China, what we observed was vastly different. First, dying in the home was highly undesirable. Secondly, patients stayed in the hospital for what seemed to be an exorbitant amount of time. Stays could range from months to years, even in stable patients. These patients treated the hospital like a free nursing home. True nursing homes, according to Dr. Ding, do not exist in China. Dr. Ding also explained that this hospital/nursing home phenomenon is reflective of the younger generation's increasing commitment to work. As adult children get busier, less time is available to care for their aging parents in their homes. Unfortunately, home health is also not an option, as doctors
in cities are already overwhelmed with the patient load, and currently no system is in place for administering this type of care. On the other hand, a commonality between Chinese and Taiwanese, which is in contrast to what I observed in the U.S., is that families are still highly involved. Whereas people in nursing homes in the U.S. rarely get visited by their relatives – maybe once a week/month, or a few times a week – in China there was not one day that I did not observe a family member caring for or visiting the patient. To me, it showed a great deal of respect and care to be so highly involved. Perhaps this is something that we can learn from them.

I traveled thousands of miles to ultimately find life more or less the same as life here at home. People in the hospital--patients and staff--had the same desires and the same needs as many of the people I have encountered in St. Louis. They want to be well. They want to be comfortable. They want to have successful lives, ensuring their ability to care for themselves and their families. Once I looked past the obvious differences, such as language and environment, it became easier to adapt to and adjust to my situation.

This experience has definitely convinced me that any differences that people have, any differences that communities have, and any differences that cultures have, persist only because of a failure to observe and experience someone else’s situation. I hope that I continue to be reminded of this everyday of my life so that my relationships with other people won’t suffer because I did not take the time to look past an initial appearance. But, as Jules Renard wrote, “until then, keep your chin up, forget your sensitivities and observe people, especially those nearest you. You’ll enjoy it. I guarantee that you’re in for a pleasant surprise.”

(continued on page 22)
I have traveled around China several times before. The amazing amount of people everywhere, the incessant noise, the street activity, the hordes of bicycles parked everywhere, and the driving skills of taxi drivers were not new to me. Still, spending one month in Chengdu taught me a few things about China that I had not realized during my previous visits. First of all, the numbers of ways you can make money in China is unbelievable. There is always someone looking to buy something and someone else willing to sell it. Food sales on the street are the most obvious and popular way to make money. You can buy food just about anywhere in Chengdu. You cannot walk a block without seeing at least three food vendors. This food is all cooked fresh on the back of a modified bike. People also sell trinkets, jewelry, and even pets on the sidewalk or out of the back of their bikes. If you are not looking for something to buy, you can find people who offer a toenail trim with your shoe shine or even someone to clean out your ears.

The second thing I noticed about China was how their several thousand year history blends right into a bustling, modern urban landscape. Next to a temple older than the U.S., you will find a crane and a new high rise going up. You see department stores selling international brands and outside its doors, you will find stalls offering fresh vegetables with people noisily haggling over prices.

Finally, I have a new perspective on pollution. While I do not doubt that China is a major producer of pollution given the population size and their current rapid economic growth, I do not think we are giving individual Chinese people credit for their attempts to save energy. The majority of restaurants are not heated. People eat in their coats and scarves and drink warm tea. Many of the smaller stores turn off all of their lights when no customers are in the store. When you walk in they turn on the lights, and they turn them right back off when you leave. Those simple acts save much energy. Every time I visit China I am amazed by something. To me, China is an endlessly fascinating place and I hope to visit again soon.
Upcoming Continuing Education Programs

18th Annual Multi-Disciplinary Certificate Program in Geriatrics for Non-Physicians

- In Macomb, Illinois - Wednesdays
  Sept. 10, 24, Oct. 8, 22, Nov. 5, 19, 2008
- In Plainfield, Illinois - Thursdays
  Sept. 11, 25, Oct. 9, 23, Nov. 6, 20, 2008
- In Mt. Vernon, Illinois - Wednesdays
- In Winnetka, Illinois - Wednesdays
- In Peru, Illinois - Fridays

For more information on these conferences, call 217-443-8777.

27th Annual GRECC Symposium and 2nd Annual Symposium on Complementary & Alternative Geriatric Health Care
Promoting Balance and Fall Prevention
September 20-21, 2008
St. Louis, Missouri USA

For more information on this conference, visit www.logan.edu.

For more information about upcoming conferences, contact 314-894-6560.

Questions? FAX: 314-771-8575  email: aging@slu.edu

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