GERONTOLOGY EDUCATION:

What is the Evidence Base?

“Educational theory is routinely cited as justification for practice in medical education, even though the justification for the theory itself is unclear.”
- Colliver, Acad Med 77:1217, 2002

Most education consists of didactic lectures or small group interactions which are often erroneously called “workshops.” The development of educational programming in gerontology, as in most health professions education, has for the most part ignored the emerging evidence base for education. This article reviews the evidence for which kinds of educational methodologies result in actual learning. Using that information we will then attempt to develop a road map for more effective teaching of gerontology to health professionals.

In geriatrics, our educational task is particularly burdensome. We

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Poor nutrition has been associated with the aging process since the beginning of time. When older persons become malnourished, they become frail and the time of death is accelerated. Therefore, administering appropriate nutrition remains one of the great possibilities for improving the aging process. It is for this reason that Saint Louis University is happy to be a co-sponsor of the Third International Academy on Nutrition and Aging Conference in St. Louis on May 6-8, 2005. The symposium is co-chaired by Professor Bruno Vellas of Toulouse, France and me.

The conference will include presentations by over 50 invited speakers from around the world. Speakers will come from Japan, China, Australia, South America, South Africa, Canada, and Europe; as well as the United States. Topics include dietary restriction, cachexia, vitamins, complementary nutritional products, obesity, insulin resistance, screening for nutritional deficiencies, diabetes mellitus, osteoporosis, sarcopenia, food and Alzheimer’s disease, dietary biometals, free radicals, nutrition, and frailty and micronutrients. A special symposium on nutrition and longevity will be featured. A full set of free communications in the form of lectures and posters will be presented on Saturday and Sunday.

We are hoping to attract a thousand participants. Those attending will include allopathic and osteopathic physicians, nutritionists, dietitians, nurses, epidemiologists, and other health professionals. The conference dinner will feature a cruise on the Mississippi River with a jazz band. A full program for accompanying persons is also available. The meeting occurs the week before the American Geriatric Society Meeting, held in Orlando, Florida, and both conferences will allow attendees to spend a full week being exposed to cutting-edge geriatrics.

I hope to welcome many of you to St. Louis in the spring. I am sure that those of you who attend will have an outstanding and enjoyable educational experience in the “Gateway to the West.”

Questions? FAX: (314) 771-8575 • email: agingsuccess@slu.edu
Urinary Incontinence: A Brief Primer

Urinary incontinence is extremely common, occurring in over 20% of women beyond the menopause. Over half of nursing home residents and homebound elderly are incontinent. The prevalence of urinary incontinence among young old men is about a third of that in women. Urinary incontinence is a frustrating condition, where most cures are at best partial. Many persons are embarrassed about being incontinent and the diagnosis often requires the physician to directly ask if the patient is having problems with controlling his or her urination.

Acute Incontinence

Acute incontinence is predominantly due to factors outside the urinary tract. It is usually reversible. The causes of acute, transient incontinence are easily remembered by the mnemonic DRIP DRIP (see below).

Urinary frequency associated with incontinence can occur with atrophic urethritis or vaginitis. It is responsive to local estrogen cream. Bacteria and white cells can often be found in the urine and do not necessarily cause symptoms. Thus one should treat an incontinent person for a urinary tract infection if both white cells and bacteria are elevated, but should not continue to check the urine for infection after the first treatment. Persons with peripheral edema often have excessive urination after they go to bed and lie flat. In these persons, elevating the legs for a couple of hours before going to bed can be helpful. Nocturia occurs with increasing frequency as we age. This is related to the decline in the nocturnal increase in arginine vasopressin (AVP) in older persons. When nocturia becomes (continued on page 4)
very discomforting or associated with incontinence, it may be treated with inhaled desmopressin (DDAVP). However, this treatment often leads to excess water retention and hyponatremia (low sodium levels).

Chronic Incontinence
The causes of chronic incontinence are shown in the figure on pages 12-13. For all forms of incontinence, the person should toilet frequently to keep the volume of urine in the bladder at levels as low as possible.

Functional Incontinence
Functional incontinence occurs either because the patient has restricted mobility which limits his or her ability to reach the toilet in a timely manner or because (s)he either cannot remember to go to the toilet, e.g., dementia, or cannot be bothered to toilet, e.g., depression. Treatment is frequent toileting coupled with prompted voiding.

Reflex Incontinence
Reflex incontinence occurs either when there is damage to the spinal cord resulting in failure of the normal reflex or when urination is being inhibited by higher centers. This is the classical form of incontinence seen in paraplegics. In older persons, lumbar spinal stenosis is a common cause. In males, metastases from prostate cancer to the spinal cord can lead to reflex incontinence. The treatment is intermittent catheterization. Indwelling or condom catheters have a much higher rate of infection than does intermittent catheterization and therefore should be avoided.

Lower Urinary Tract Symptomatology (LUTS)
LUTS is due to the lower part of the bladder or the internal sphincter failing to open adequately when the detrusor bladder muscle contracts. This results in a post-void residual volume of at least 100 to 200cc. It was originally considered to be obstructive incontinence due to a large prostate. However, not only does it occur in women but small holes in the prostate (prostatotomy) can also cure it in men. This has led to the concept that LUTS is mainly due to detrusor muscle dysenergy. Treatment consists of inhibiting the internal bladder sphincter with a sympatholytic drug such as terazosin. Treatments to shrink the prostate by decreasing the activity of the 5-alpha reductase enzyme that converts testosterone to dihydrotestosterone, e.g., finasteride, have had varying effects. Finasteride increases the amount of high grade prostate cancer in mice. Saw palmetto, a complementary medicine, has proven efficacy in LUTS. A variety of prostate surgeries also improve outcomes.

Neuropathic Overflow Incontinence
Neuropathic overflow incontinence occurs when there is decreased parasympathetic flow to the detrusor muscle as is seen in persons with autonomic neuropathy due to diabetes mellitus. Treatment includes parasympathetic mimetics such as urecholine and intermittent catheterization.

Urge Incontinence
Urge incontinence occurs in persons who have detrusor hyperactivity. They get the feeling (urge) to void and cannot postpone it. It can occur at relatively large bladder volumes, e.g., 200 to 400cc. Treatment consists of inhibiting the parasympathetic system with either oxybutynin or tolterodine. Implantation of a pacemaker into either the bladder wall or the spinal cord to counteract the

(continued on page 5)
detrusor contractions may decrease the number of wet episodes significantly in some persons with large numbers of incontinent episodes.

**Stress Incontinence**

Stress incontinence occurs in women whose bladder neck has prolapsed outside of the abdominal cavity. Thus, when they cough or sneeze or jog, this results in increased intraabdominal pressure on the bladder but not on the internal sphincter. Treatment consists of pelvic muscle exercises (called Kegel exercises. See figure and box on page 12 for patient instructions). These exercises can be done with or without biofeedback. Topical estrogen cream, dissolving tablets, or ring insertion may be helpful. Sympathomimetics such as pseudoephedrine can be useful in some younger women. Duloxetine, a serotonin and norepinephrine reuptake inhibitor, has moderate efficacy. Pessaries can be inserted once a month, but shortening of the vagina can make this difficult in older women. Periurethral bulking agents have produced cures in about half of patients with mild stress incontinence. Suburethral sling procedures have become popular with the availability of stronger meshes. Suspension operations (either open abdominal, laparoscopic, or vaginal) all have their proponents. Artificial sphincter operations have shown reasonable success.

**Detrusor Hypercontractibility and Impaired Contraction (DHIC)**

DHIC can occur in up to 20% of older frail persons. It is a combination of urge and neuropathic incontinence which makes it extremely difficult to treat. If the person has a specific time that (s)he wishes to be dry, e.g., night or when going out, (s)he can be treated with short-acting oxybutinin followed by urecholine after the time (s)he wishes to be dry is over.

**Conclusion**

Urinary incontinence is difficult to treat. Combinations of behavioral and drug therapies produce the best results. Patient advocacy organizations such as the National Association for Continence (www.nafc.org) and the Simon Foundation for Continence (www.simonfoundation.org) can be helpful for patients. They are particularly useful for steering patients towards choosing appropriate garments and pads. For professionals, the International Continence Society (www.continet.org) provides useful updates and links to other sites.
must teach not only knowledge (at a minimum the basic geriatric syndromes and an understanding of health care systems), but also skills (geriatric assessment), behavior (interaction with older persons and interdisciplinary team etiquette), and beliefs (positive feelings towards aging and the older patient). In the end, however, geriatric educators face the same needs as all health care educators in that they must do a good job training the trainer and then the trainers must educate the students who must then improve patient care which will lead to improved societal outcomes.

The basic principle of education is: LESS IS MORE and yet in health education the amount of knowledge to be learnt is beyond the capabilities of any individual. We are constantly being bombarded with new information, much of which is erroneous. This requires that we also teach students the ability to access information (often in real time with the patient present) and to be able to determine what is valid and what is not. To do this we need to teach students how to access Evidence Based Medicine (EBM). EBM has been defined as “the conscious and appropriate use of available best evidence in determining the management of a patient.” EBM is more than reading a textbook or this week’s New England Journal of Medicine. It requires synthesis of knowledge from multiple sources. As such, true EBM is rarely used in patient care or even in teaching. By its very nature EBM has to be computer-driven. The best source at present for EBM is the Cochrane Database. Finally, in gerontology, we need to realize that solid data obtained about middle-aged persons may have no relevance, and may even be harmful, when applied to older persons. Guidelines are often particularly poor in regard to suggesting how to care for the elderly patient as they tend to generalize data from large trials using middle aged persons, and use this information to suggest possible treatment for the older person.

Gerontology Education Report Card

Over the past 20 years there has been a marked increase in the exposure of medical students, residents, subspecialty residents, and practicing physicians, as well as other health care professionals, to gerontology education. However, studies continue to demonstrate that physicians fail to recognize dementia, depression, incontinence, functional decline (frailty), and weight loss in older persons. The Steel Valley Seniors Survey, published in 2004, found that physicians documented...
memory loss in only 23% of older persons in whom it was present. Clearly there is still room for improvement in the gerontology education that is currently being offered.

Physicians who have completed their geriatric fellowship training between 1990 and 1998 have reported that they need more subspecialty training in psychiatry, neurology, rehabilitation and hospice/palliative care. Over half of those physicians felt they needed increased administration training to learn how to be a medical director and to increase their understanding of Medicare and managed care. Seventeen percent wanted more training in research methodology and mentorship. Sadly only 6% felt they needed more training in how to teach.

Which Teaching Methods Work?

We have numerous educational approaches available to us (see box). Oxman and colleagues (CMAJ 153: 1423, 1995) have pointed out that there are no magic bullets among the educational interventions available to improve professional practice. In their systematic analysis of 102 studies, they found that dissemination (conferences or mailings) by themselves had little or no effect on learning. Lectures, at best, can create enthusiasm, but rarely impact knowledge. Outreach visits (detailing) and the use of local opinion leaders were effective in 20 to 50% of the studies reviewed but effect size was often small.

Davis and colleagues in their systematic review of the science and practice of continuing medical education (CME) found that physician performance improved in 70% of studies reviewed, but patient outcomes improved in only 48% of the studies reviewed. Once again, conferences alone had little impact, and audit/feedback and educational materials had relatively poor impact when used by themselves. Multifaceted offerings tended to perform the best, although reminders, patient-mediated interventions, outreach visits, and opinion leaders all had positive outcomes. The Cochrane collaboration identified a small improvement in learning when audit was coupled with feedback. Of interest, adding either an educational or a multifaceted program to audit and feedback did not change the compliance rate.

Implementation with guidelines, even when the physicians agree with the guidelines and endorse participation, fails to produce a change in outcomes.

Problem-Based Learning (PBL): Does it Work?

“The meta-analysis...does not support the application of small group learning in medical education...The effect can be trivial...Research over the last 20 years has produced little evidence for the educational effectiveness of PBL.”

- Coliver, 2002; 2003

PBL has been widely accepted as the best way to train health care professionals, especially physicians. The evidence for this claim is, unfortunately, limited. Vernon and Blake, in their systematic review, found that while students enjoyed it better than other forms of learning and that PBL improved clinical performance, PBL created no difference in factual or clinical knowledge and students educated using PBL performed worse on the Na- (continued on page 14)
Services of the Division of Geriatric Medicine at Saint Louis University Health Sciences 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

Call 314-977-6055 to make an appointment at the Saint Louis University Health Sciences Center.

Services of the Division of Geriatric Medicine at Des Peres Hospital include clinics in the following areas:

✓ Geriatric Assessment
✓ Memory Clinic
✓ Wound Clinic

Call 314-966-9313 to make an appointment at the Des Peres Hospital Geriatric Medicine Clinic.

The next Saint Louis University Geriatric Academy (SLUGA) to train young faculty in administration, geriatrics, research, and teaching is on July 11-15, 2005. See page 23 for more info.
Geriatric Research Within the VA

The aging of the veteran population is a major issue confronting the Department of Veterans Affairs (VA). Today, 4.5 million veterans from WWII remain, but a significant number of veterans from the Korean War and the leading edge of the Vietnam-era veterans are also age 65 or older, representing over 40% of the total veteran population. By 2020, the proportion of older veterans will increase dramatically to 51 percent of the total. Anticipating the impact of older veterans on its health-care system, VA established the Geriatric Research, Education, and Clinical Center (GRECC) program in 1975 to increase basic knowledge of the aging process, share that knowledge with other health-care providers, and improve the overall quality of care for elderly veterans.

Today, VA’s 21 GRECCs are at the forefront of the fields of gerontology and geriatrics, applying novel teaching methodologies and dedicated to applying original basic research to clinical programs. These programs not only benefit older veterans, but they are also exported beyond the veteran community, both nationally and internationally. VA researchers’ work has influenced therapies for diseases affecting older veterans and has improved the ways in which health care is delivered to meet their unique needs.

Selected researchers presented their latest observations and findings on the aging process and its consequences at a special GRECC symposia during the annual meeting of the Gerontological Society of America in Washington, D.C., in November 2004. These symposia highlight some of the many leading-edge programs explored at VA’s geriatrics centers throughout the nation.

Within the VA, Marsha Goodwin-Beck, MSN, RNC, had a major impact on the development of geriatrics. She was, for many years, the guiding light of the development of geriatric services across the nation. For this reason, the GRECC Symposia at the 2004 Gerontology Society of America’s Annual Symposia were dedicated to Marsha’s memory.

VA Tribute to Marsha Goodwin-Beck: Her Educational Legacy

From 1989 to 2004, Marsha Goodwin-Beck managed the national program that supported GRECCs and her accomplishments were summarized by Thomas Edes, MD, Office of Geriatrics and Extended Care, VA Central Office. During her tenure, the program monitored the changing medical requirements of the aging veteran population and encouraged GRECC personnel to meet those changing needs by developing state-of-the-art educational programs in geriatrics to better prepare the VA’s medical workforce. Examples of these programs include palliative and end-of-life care education that were presented by Judy Howe, PhD, of the Bronx VAMC GRECC. These programs incorporate a variety of teaching methods including individual and team assessment, cultural diversity, leadership styles, work allocation and conflict resolution, as well as geriatric scholar programs developed to provide caregivers with information about chronic illnesses so prevalent in the geriatric population. Innovative tools that are used to teach geriatric care to students, residents, fellows, and practitioners in the many healthcare disciplines that provide care to our nation’s veterans were discussed by Nina Tumosa, PhD, of the St. Louis VAMC GRECC. The teaching tools that she illustrated included board games, internet-based games, newsletters, and mnemonic-based summaries of how to make medical diagnoses of common geriatric diseases.

VA Tribute to Marsha Goodwin-Beck: Geriatric Systems

Mary Goldstein, PhD, from the Palo Alto Veterans Health Care System discussed the FLAIR (Functional Life and Independence Research) Project. This project is developing methods of capturing the benefits of improving functional status to value the impact of interventions on functional status. It is also exploring the relationship of ADL limitations to the quality of life of health states. A computer-driven questionnaire has been developed to allow older persons to rate their function and mood. Preliminary data suggest that older (continued on page 10)
adults place a great value on living independently in their own home and are prepared to accept higher risks to allow this to happen. Older persons with limitations of ADLs have a surprisingly good mood.

Richard Macko, PhD, from the Baltimore VA Medical Center discussed the effect of task orientated exercise after stroke. Over three quarters of a million strokes occur per year in the United States and 75% lead to some level of chronic deficits. Conventional rehabilitation places emphasis on the first three-month recovery period with no long-term rehabilitation. Available data suggests that brain plasticity extends beyond six months following a stroke. Stroke victims have much lower peak fitness levels (VO2 max) and economy of gait up to three years following a stroke when compared to an age matched population. The peak VO2 max decline is related to the decline in thigh lean tissue mass. The Baltimore group has developed a six-month treadmill aerobic exercise training program for persons with chronic hemiparetic stroke which improves functional mobility and cardiovascular fitness. The program results in bilateral increased motor cortex activation during knee movement.

The St. Louis VA Medical Center group reported on the development of a delirium room, located within an Acute Care for the Elderly (ACE) Unit, for acutely delirious patients. The principles of care are to empower the interdisciplinary team, create an elder-friendly environment, and avoid iatrogenesis. These environments are restraint free. The Delirium Room (or Intensive Care Unit) is a four-bed room that has 24-hour nursing care to monitor the patients. An important component is that placing a patient in the delirium room allows the interdisciplinary team to recognize early that this patient has delirium. Also, an emphasis is placed on the fact that delirium is often multifactorial in causation. It is stressed that “bedrest is for dead people.” The delirium room in a quasi-experimental study has been demonstrated to reduce length of stay and not alter death rate.

VA Tribute to Marsha Goodwin-Beck: Scientific Breakthroughs

In the research symposia, Sanjay Asthana, MD, the GRECC Director at the William S. Middleton Memorial Veterans Hospital in Madison, Wisconsin, reviewed the effects of estrogen on cognition. He shared data from the Women’s Health Initiative (WHI) that showed that increased deep vein thrombosis, pulmonary embolus, stroke, and coronary artery disease occurred in this study. There was a decrease in hip fracture and colon cancer. In addition, Alzheimer’s disease appeared more often in those receiving treatment. He argued that it is possible that lower dose and different forms of estrogen may have positive effects on cognition and lower toxicity. He based this on both animal studies and short-term human studies conducted by his group and others in humans. He suggested that low dose B-estradiol given transdermally would be the ideal approach to enhancing cognition. He strongly felt that many of the negative effects of WHI were due to using conjugated equine estrogen.

Dr. John Morley from the St. Louis VAMC GRECC reviewed their 15 year experience of studying a spontaneous model of memory impairment in a mouse – the SAMP8. Originally, they had demonstrated that amyloid beta protein impairs memory and learning in normal mice. They found that the SAMP8 mice have a cholinergic deficit in the hippocampus. This is related to a decline in serotonin in the median raphe and an increase in gamma amino butyric acid activity in the septum. The SAMP8 mice have an increase in the amyloid precursor protein mRNA and the protein. When very old (16 months), these animals develop amyloid plaques in the hippocampus. Both antibodies and antisense to amyloid beta protein reverse the attention and memory deficits in these animals. Antibodies to amyloid beta protein also increase acetylcholine release in the hippocampus. The free radical scavenger, alpha-lipoic acid, also improved memory in the SAMP8 mice. SAMP8 mice have elevated levels of protein oxidation, lipid peroxidation, and glutamine synthetase. These alterations were reversed by the antisense to amyloid beta protein. He concluded that SAMP8 mice develop premature memory deficits and increase brain oxidative damage due to over production of amyloid beta protein. These deficits are reversed by reducing amyloid beta protein levels.

Dr. William Banks from the St. Louis VAMC GRECC discussed Alzheimer’s disease and the blood-brain barrier. He pointed out that persons with Alzheimer’s disease have a leaky blood brain barrier. The reason for this is uncertain but could be due to secretion of a neu-
Geriatricians Have Greatest Career Satisfaction

In a recent study, Leigh and his colleagues (Arch Intern Med 162:1577, 2002) analyzed the responses from 12,474 physicians to compare satisfaction and dissatisfaction with the job across specialties. Geriatricians reported the highest percentage of being very satisfied (59.6%) with their jobs. This is compared to 42.8% of family practitioners, 36.5% of internists, 41.4% of ophthalmologists, 38.6% of psychiatrists, and 43.0% of general surgeons. Geriatricians had the second lowest rate of being dissatisfied with their profession (7%). Physicians over the age of 65 years showed the greatest rate of satisfaction with the job. Female physicians were neither more nor less satisfied with their jobs than were male physicians.

Gateway GEC Continues to Have Impact on Patient Care

The Gateway GEC of Missouri and Illinois surveyed all persons who had received education from them over the last five years to determine the impact of the training on patient care. Overall, 66% of learners felt that the GEC training had caused them to make changes in the care they provided. Nurse practitioners, internists, chiropractors, and nursing home administrators were the most likely disciplines for whom our educational programs led to changes in care provided.
Kegel Exercises

No sweat - - just commitment

Kegel exercises are for the treatment of stress incontinence:

a. During urination, try to stop and start the urine flow. At the end of the exercises MAKE SURE YOU EMPTY YOUR BLADDER TOTALLY.

b. Tighten your anal muscles as if stopping gas from coming out. Then shift tightness from the rear to the front (vaginal area).

c. Tighten your vaginal muscles around two fingers inserted into the vagina or a tampon inserted halfway into the vagina.

Contract these muscles 50 to 100 times daily. Before coughing or sneezing, contract these muscles.

Expect results after eight weeks of exercising.

Drawing is of Kegel’s original perineometer used to measure effectiveness of pelvic muscle contractions.
Incontinence

Functional Incontinence
Rx: Frequent toileting coupled with prompted voiding

Reflex Incontinence
Rx: Intermittent catheterization

Neuropathic Overflow
Rx: Urecholine
Intermittent catheterization

Urge Incontinence
Rx: Oxybutynin, Tolterodine
Nerve stimulation

LUTS
Rx: Sympatholytic, e.g., Terazosin
Saw palmetto
Finasteride
Surgery

Stress Incontinence
Rx: Estrogen
Kegel exercises
Biofeedback
Duloxetine
Surgery
national Board of Medical Examiners (NBME) Part I standardized examination. Given the extra time and expense involved in providing a PBL program, these outcomes give little incentive to support the widespread change that has occurred in medical schools.

Another medical educational myth is that longitudinal, compared to block, ambulatory care rotations are better. Ogrinic and colleagues (2002) found no difference between the two approaches.

**Continuing Medical Education (CME)**

CME represents the largest piece of lifetime physician education. It is poorly defined and of unknown utility. The effectiveness of the traditional CME lecture, which is often given by a Professor who has been asked to lecture on some esoteric subject of little interest to the participants, is quite low. This is in part because the lecture often contains excess material that the professor added in an attempt to bring everyone up to his or her level of knowledge in 50 minutes or less. For example, the classical Grand Rounds at medical schools tend to be dense and not very informative. Some have likened such CME offerings to shouting irrelevant nonsense out of windows.

In addition to not being very effective in promoting learning, CME has become grossly over-regulated which increases its costs without enhancing the delivered product. It, however, represents the major determinant of patient outcomes. Therefore, attempts to improve CME must be supported. Recent changes in CME have encouraged the development of learning objective(s) for each CME offering. However, this rush to improve CME may be a bit over zealous. Instead of defining multiple objectives for every presentation, perhaps education would be better served by the “Less Is More” principle. A single objective for a single topic or perhaps for a single conference might inspire the creation of offerings that would ensure improved learning. Pre- and post-test quizzes focusing on the learning objective(s) may be the best associated learning tool. At a minimum, all CME offerings should have a follow-up mailing reinforcing the message. Handouts should always include a patient education page.

**Patient Education**

Important lessons in education can be learned from recent patient education campaigns. Written health information, coupled with verbal instructions, significantly increases knowledge and satisfaction among patients. Computer-generated patient education materials have been shown to produce small improvements in patient outcomes. Also it is clear that patient-directed education leads to improved physician performance.

**Marketing and the Pharmaceutical Industry: The Ultimate Case-Study of Making Education Work**

The pharmaceutical industry spends $11 billion on promotion and marketing each year. Of that, $5 billion is spent on detailing or outreach visits. Approximately $10,000 per year is spent on marketing to each physician. Thus the take-home message from the pharmaceutical industry example is that, when done correctly, education is expensive.

Good pharmaceutical representatives stay on message and talk about their drug, its indications, and its dosage. This type of detailing has been shown to change prescribing practices, particularly when coupled with sampling. **Academic detailing** (one-on-one, simple message, repeated a number of times) is an excellent teaching tool.

Drug company CME, which involves lecturing, improves prescribing for their drug. Why, one might ask, is this the case when we know that didactic lectures fail in the academic situation? The answer is multifaceted. Drug company CME focuses on a single...
message, i.e., the drug. The name of the drug is repeated multiple times. Drug company CME adheres to the principle of “LESS IS MORE.” Attending a symposium and receiving meals and/or gifts increase prescribing and formulary requests. Food, a pleasant environment, and take-home reminders are key to learning. Positive rewards ALSO enhance learning.

Direct-to-patient advertising increases physician prescribing. Physician education should be coupled with patient education.

Examples of Geriatric Education

A controlled educational intervention to introduce the American Academy of Neurology Practice Guidelines to neurologists was undertaken in New York. The multifaceted intervention included mailing, courses, practice tools, opinion leader discussion groups, and follow-up mailings. This resulted in improved adherence in 3 of the 6 recommendations (limited neuroimaging, referral to Alzheimer’s Association, Alzheimer’s Safe Return Bracelet).

An educational effort to introduce Agency for Health Care Policy and Research (AHCPR) Clinical Practice Guidelines was undertaken. The education consisted of a three-hour CME program, patient education materials, and on-site support. This educational strategy did not improve learning.

A program developed to teach geriatric assessment to family practitioners showed that a one-day conference alone was ineffectual. A workshop on a “knowledge translation” event led to improved perception of competence. There was no effect on attitudes toward the elderly or elderly patients.

In teaching geriatrics to medical students, an integrated program (blocked rotation) was shown to be more effective than dispersal of geriatrics throughout the curriculum. The “Aging Game” at Duke University was shown to be effective at changing perceptions for up to two years after it was carried out.

Producing Change

Factors associated with change occurring are:
- An identified need for change
- Inclusion of knowledge tests
- Benchmarking
- Regulations.

The major barriers to change are:
- Low motivation
- Lack of time
- Lack of equipment/systems.

Outcomes

 “…the very nature of being professional in today’s social and fiscal context demands that medical educators provide evidence of effectiveness and efficiency of their programs…” Dauphinee Wood-Dauphis, Academic Med 79:925, 2004.

To determine an outcome it is essential that there is first a needs assessment. A needs assessment must determine not only the needs of the health care provider but also those of patients and society. Without appropriate needs assessments, meaningful outcomes are difficult, if not impossible, to measure.

Classical outcomes assessment has consisted of measuring the participant’s satisfaction with the education event. This provides minimal useful information. What would be more useful is a demonstration of a change in knowledge or attitudes by pre- and post-event testing. This also reinforces the learning objectives of the educational event.

Follow-up surveys, performed three to six months following the event, can retest knowledge or ask if the participant has implemented any of the knowledge acquired during the educational event. A more accurate judgment of the utility of an educational event can be gauged by doing a chart audit to see if patient care improvement can be demonstrated. Finally, the effect on societal patient care can be measured by obtaining changes in mortality rate, rates of hospitalization, length of hospital stay, vaccination, or patient satisfaction for a hospital or region. These data should be gathered not only for the persons you trained but on other...
Journals of Gerontology: Series A: Medical Sciences Has Markedly Improved Impact Factor

Over the last five years, the Journal of Gerontology (Series A) has markedly improved its impact factor. The impact factor is the number of citations in the current year to articles in the previous two years, divided by the total number of articles. It is the major index of the impact the articles are having on the field. This journal now has the highest impact of all of the clinical geriatric journals. Dr. John E. Morley has just completed his five-year period as editor-in-chief, and in January 2005, Dr. Luigi Ferrucci from the National Institutes of Aging became the new editor.


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Enhance YOUR skills as a faculty member. Come to the next SLUGA. See page 23 for more info.
The International Academy of Nutrition and Aging presents

ABSTRACT SUBMISSIONS DUE MARCH 1, 2005

Third International Academy on Nutrition and Aging

May 6-8, 2005
St. Louis, Missouri
USA

Questions? FAX: (314) 771-8575 • email: agingsuccess@slu.edu
Mark your calendars for the Third International Academy on Nutrition and Aging in St. Louis, Missouri, USA. Topics will range from research into the precise physiological aging mechanisms to broad epidemiological studies of the aging population in various residential settings. Specific focal points will be the impact of selected nutritional elements on the cognitive process and assessment methods which combine simplicity of execution with the provision of sufficient data to allow adequate clinical evaluation.

To register, for hotel information, and for abstract submissions, visit www.BoomerEdu.com/IANAconference.htm
Phone: 866-968-2851   FAX: 314-909-9439
e-Mail: IANA@BoomerEdu.com
Renaissance Grand Hotel, St. Louis, Missouri

Friday, May 6, 2005

3:00 - 3:30 p.m.  OPENING CEREMONY
Bruno Vellas, John E. Morley

3:30 - 4:00 p.m.  PLENARY: NUTRITION AND ELDERLY
Wija Van Staveren (The Netherlands)

4:00 - 5:30 p.m. SYMPOSIUM: WEIGHT LOSS
Epidemiology
Tamara Harris (USA)
Causes
John E. Morley (USA)
Management
David R. Thomas (USA)

6:00 - 7:00 p.m.  RECEPTION AND EXHIBITS

7:00 - 7:30 p.m.  PLENARY: PREVENTIVE STUDIES FOR ALZHEIMER’S
Bruno Vellas (France)

7:30 - 9:00 p.m. SYMPOSIUM: NEW FRONTIERS
Advertising Nutrition
Connie Bales (USA)
Homocysteine
Lissette de Groot (The Netherlands)
Pre-Biotics
Eduardo Schiffrin (Switzerland)
Nutritional Supplements and Aging
Johanna Dwyer (USA) (Invited)
### Symposium Track A
- **Overview**
  - Gary Wittert (Australia)
- **Obesity and Function**
  - Gordon Jensen (USA)
- **Insulin Resistance in Animals**
  - William Banks (USA)
- **Obesity, Medicare, and Elderly**
  - Paul Aravich (USA)

### Symposium Track B
- **Nutrition in Nursing Homes**
  - John Schnelle (USA)
- **Management Guidelines**
  - Carolyn Philpot (USA)
- **IANA IAG Guidelines**
  - Antoni Salva (Spain)
- **Improving Nutrition in Nursing Homes**
  - Steven Sevenson (USA)

### Symposium Track C
- **Screening**
  - MNA
    - Yves Guigoz (Switzerland)
    - CNAQ
    - Margaret M.G. Wilson (USA)
  - Nutrition Screening in the United Kingdom
    - Marinos Elia (United Kingdom)
  - Developing World
    - Demetre Labadarios (South Africa)

### Lunch and Poster Session
- **Sarcopenia**
  - Richard Baumgartner (USA)
  - Pathophysiology
    - John E. Morley (USA)
  - Treatment with Anabolic Hormones
    - L.W. Chu (Hong Kong)

### Free Radicals
- **Introduction**
  - Jaap Krulder (The Netherlands)
- **Free Radicals and the Brain**
  - D. Allan Butterfield (USA)
- **The Potential of Antioxidants in Alzheimer’s Disease**
  - Hannes Staehlin (Switzerland)
- **Carotenones as Free Radical Quenchers: The Good and Bad News**
  - Robert Russell (USA)

### 3rd International Academy on Nutrition and Aging
- **Alzheimer’s**
  - Overview
    - John Morris (USA)
  - Consequences of Malnutrition
    - Bruno Vellas (France)
  - Food Behavior and Alzheimer’s
    - Carol Greenwood (Canada)
  - Diet and Alzheimer’s
    - Akira Ukei (Japan)

### Dietary Biometals and Dementia
- **Epidemiological Study**
  - Martha Clare Morris (USA)
- **Animal Models**
  - Larry Sparks
**Conference Preview Insert**

**Sunday, May 8, 2005**

<table>
<thead>
<tr>
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<tr>
<td>7:00 a.m.</td>
<td><strong>Breakfast and Registration</strong></td>
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<td>Helen Payette (Canada)</td>
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<td>Laurence Rubenstein (USA)</td>
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<td>Christy Carter (USA)</td>
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<td>NUTRITION IN SOUTH AMERICA</td>
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<td>Ann Gallagher</td>
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<td>Marianne Smith-Edge</td>
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<td>Richard Weindruch (USA)</td>
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<td>Samuel Klein (USA)</td>
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<td>HORMONES AND NUTRITION IN THE</td>
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**Questions? FAX: (314) 771-8575 • email: agingsuccess@slu.edu**
health professionals associated with them as well in order to ascertain “the ripple effect” of that education. It is important to gather “societal” data on factors that your education could have changed.

Conclusion

Best evidence medical education is providing us with clues of how we should educate health professionals to improve patient and societal outcomes. As we move through the twenty-first century we need to stop being ostriches, to remove our heads from the sand, and to build our educational programs on the available evidence. All education should be multifaceted. Teaching should be interactive. Lecture halls should be fitted with automatic response systems to allow students to answer questions before, during, and after educational events. This would decrease the need for small group teaching, though academic detailing (one-on-one) will remain an important component of education. Educational events should be coupled with patient education materials and, where possible, direct patient education. Physician reminders in the chart reinforce teaching behavior. All educational events should have a telephone, mailing, or e-mail follow up. Where possible, a patient audit with feedback should be included in the educational design. Outcomes will improve when the educational event is coupled with an administratively mandated behavior, as has been demonstrated in the Veterans Administration program of computer reminders for appropriate management of diabetes mellitus. A useful mnemonic for approaching health care professional education appears on this page.

Determine/establish need and knowledge

Opportunity to interact during the educational process

Couple with reminders/patient education materials

Telephone or other follow up

Outcomes measured with feedback

Regulate performance (educate the administrator)
rotoxic agent, vessel tortuosity or direct effects of amyloid beta protein on the microvasculature. The effects of amyloid beta protein could be due to the release of pro-inflammatory cytokines. Amyloid beta protein is transported from the brain to the blood. It has been suggested that decreased efflux of amyloid beta protein from the brain may have etiological significance in the development of Alzheimer’s disease. In the SAMP8 mouse, there is a decreased efflux of amyloid beta protein 1-42 from the brain. Antibodies to amyloid beta protein cross the blood brain barrier. This was the basis for vaccinating against amyloid beta protein which improves memory in transgenic animal models of Alzheimer’s disease. Unfortunately, in humans this strategy resulted in increased brain inflammation. Using a phosphorothioate 42mer antisense to the mid-region of amyloid beta protein, he showed that it passed across the blood brain barrier. This antisense could enhance memory in the SAMP8 mouse after peripheral administration. This suggests that antisense may be useful in treating Alzheimer’s disease.

Philip Scarpace from the Gainesville VAMC GRECC discussed gene therapy and its potential use for treating age-related obesity. He started by showing the marked increase in obesity that had occurred in the United States over the last 16 years. The peak in obesity prevalence occurs between 60-69 years. He has shown that insertion of the leptin gene into rats markedly reduced visceral fat. However, older rats are resistant to the effects of leptin. This is due not only to a deficit in the ability of leptin to cross the blood brain barrier but also to reduced numbers of leptin receptors, desensitization of leptin signaling, impaired pathways downstream of the receptors, and end organ resistance. This leptin resistance interacts with a high fat diet to result in increased obesity with aging. Understanding leptin resistance is a key to combating the obesity epidemic that is occurring in middle-age and young old persons living in the United States.
Upcoming CME Programs

16th Annual Saint Louis University Summer Geriatric Institute
STAYING FOCUSED ON QUALITY
June 7-9, 2005

1st International Conference on Nutritional Needs of Elderly People in Long Term Care
May 4-5, 2005
National Press Club, Washington, DC
For more information, e-mail evanswilliamj@uams.edu

Saint Louis University Geriatric Academy (SLUGA)
July 11-15, 2005
For more information, e-mail tumosan@slu.edu

Multi-Disciplinary Certificate Program in Long Term Care
Fridays, March 4 & 18, April 1, 15, & 29, May 13 in Lombard, IL
Wednesdays, March 16 & 30, April 13 & 27, May 22 & 25, in Springfield, IL

3rd International Academy on Nutrition and Aging
May 6-8, 2005
at the Renaissance Grand Hotel, St. Louis, MO
For more information, contact Jacqueline Dougherty at 866-968-2851 or visit www.boomeredu.com/ianaconference.htm

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All of the conferences will be held at Saint Louis University, except as noted. For more information about any of these conferences, please call 314-977-8848.

Been Here? Done This?
Offering regular updates on geriatrics, Cyberounds, an internet-based educational program for physicians and other health providers, is edited by Dr. John E. Morley. The internet address for Cyberounds is: www.cyberounds.com

A cybersite for seniors has been developed in collaboration with Saint Louis University and the Gateway Geriatric Education Center. Besides articles written by geriatric experts, this site provides health updates and an interactive question and answer section. The address for this site is www.thedoctorwillseeyounow. See you in cyberspace!
Please fax the mailing label below along with your new address to 314-771-8575 so you won’t miss an issue! If you prefer, you may email us at agingsuccess@slu.edu. Be sure to type the address exactly as it appears in the label below.