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“Obecalp”

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April 12, 2007

By Jeffrey W. Wilson

Dr. Wilson took his undergraduate degree and all of his medical education at Duke University. After two years in the navy, he eventually settled in Lynchburg in 1979, practicing in his specialty of rheumatology. Jeff and his wife Sandra have two daughters and three grandchildren.

In September 2007 Dr. Wilson was presented the William Barney Award by the Lynchburg Academy of Medicine for his many contributions to the community and to organized medicine.

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JW Wilson MD

Obecalp—Mens Sana Corpus Sanus

July 8, 1974 Norfolk, Va. Armed Forces College. Maury Topolosky opened his envelope first—Diego Garcia. Bill McClatchey—GMO on LST out of Norfolk. With more apprehension than I felt two years earlier on internship matching day I opened my envelope: "As per BupersMed report no later than 0800 1974 July 21 Mayport NavSta comDesron 14." In English by orders from the Navy Bureau of Medical Personnel I was to report at 8:00 AM on July 21, 1974 to the Mayport, Florida Naval Station where I would be the General Medical Officer for Destroyer Squadron 14. Two weeks earlier the three of us were completing medical housestaff training at Duke before heading for orientation into the Navy as part of the last Berry Plan physicians. "Clutch" McClatchey eased over to me. "You're going to have to watch out for Burton. That Kentucky hillbilly doesn't sound too swift." Jay Michael Burton had completed a year of general rotating internship and one year of general surgery residency after graduating from UK med school. He was Kentucky blue through and through out of a blinkplum town of West Liberty in true Appalachia (blinkplum?--As you're driving along the road and you come upon the town, it's so small that if you blink, you're plum through it). His accent came from those roots. Mike would report the same day to Mayport as the medical officer for Destroyer Squadron 24. We would do the majority of the active duty sick call at Mayport over the next year. I would try to keep him out of trouble.

11:00 Monday morning sick call on board the tender USS Grand Canyon. We were learning Navy medicine. There is never a healthy sailor Monday morning; nor a sick sailor Friday afternoon. Seaman Jones came to sick call with a severe headache unresponsive to plain Tylenol. A prescription for Tylenol #3 was written—acetaminophen with codeine. 11:30 the next day Jones appeared again with no benefit from the medication. Jones worked as bookkeeper and clerk in the ship's supply store and was extending his tour of duty with thoughts of being a lifer. He had been a four square, solid sailor. A shot of Demerol should break this possible migraine cycle. 11:35 Wednesday and Jones was back in sick call. "Doc Wilson, Doc Burton, this headache's killing me. That Demerol didn't do anything." Mike turned to me. "You know, there's only one medicine that's going to help him—Obecalp." Well, I had trained at a pretty good place; we saw lots of patients with headache problems; we were at the forefront of medical knowledge; and I had never heard of Obecalp.

Mike took over. "Jones, lie down on the stretcher. I'm gonna give you a shot that'll take care of that headache. It'll put you to sleep for 20 minutes and when you wake up the headache will be gone and you won't have any drowsy hangover like from the Demerol. If it works we've got a long acting pill form you can take." The needle wasn't even out of Jones' deltoid and he was sawing logs, asleep as the 1cc of sterile saline worked its way into his system. He awoke 20 minutes later (to the minute) with the headache gone. We started him on B vitamin pills (chosen because they smelled terrible so must be good medicine) which were kept locked up as a controlled medication oral Obecalp; available by prescription only; to be tapered from one every 6 hours to every 12 hours as needed. The Kentucky Wildcat had taught this Dookie a valuable lesson. It's actions not accents that count.

September 16, 1974 sick call on board the USS Sanctuary one day before the Grand Canyon was deploying for a Med (Mediterranean) cruise. Mike was out at sea on

maneuvers in South American waters with his destroyer squadron. "Doc Wilson, Jones from the Grand Canyon says he has to see you!" Okay, now we'd see the pressure of deployment reveal that Jones was a psych case and the Obecalp experience was a fluke. "Doc, I need you to write me another prescription for Obecalp. I was able to cut it down to every 12 hrs but if I go beyond that the headaches come back." He did not want to get out of the cruise; he just wanted to be sure he had his effective medicine. The Obecalp era had begun. Obecalp spelled backwards is placebo. Also, remember-- stressed spelled backwards is desserts.

Mike and I completed our respective cruises and were again doing sick call at the base dispensary by late November. One of the dispensary chiefs disliked our use of Obecalp and remained skeptical as its use increased and we developed Obecalp otic, Obecalp orthopedic, and Obecalp ocular for ear, bone, and eye problems respectively. One morning in the midst of sick call Chief Stickley announced "Dr. Burton, Dr. Wilson, I hate to tell you but we've run out of Obecalp." Mike and I looked at each other in disbelief. "Chief, how can we be out of nothing!" Apparently, we had used up the Navy supply of B vitamins. For awhile we used real pink placebo pills; they did equally well.

The next year I was assigned to dependent sick call after the year of sea duty and the Navy transferred Mike to a marine duty station in Georgia. Presumably, this was so he would not have another year at sea. I suspect in reality the Navy thought it was best to separate us—but that is another story. I would spend that year seeing retired military and dependent adult patients. Obecalp was being introduced into a new population of patients with continued success. But one patient bothered me.

A 23 yo white female had uncontrollable headaches. She had a host of psychosomatic complaints which peaked whenever her husband was scheduled for another deployment. All the basic blood tests were normal and her symptoms continued in spite of Obecalp therapy. In frustration she decried the Navy medical system and delivered the final insult; she was going to see a private physician in the Jacksonville medical community.

Three months later Chief Stickley appeared at my office door. "Doc Wilson, I've come to apologize. You and Doc Burton were right." Our 23 yo had indeed gone through most of the private physicians in Jacksonville. After many expensive tests she even underwent an extremely painful procedure called a pneumoencephalogram (PEG) in which spinal fluid is withdrawn and air placed in the brain to outline the ventricles in an attempt to detect brain tumors. You have no idea what an advance in patient comfort occurred when CT scans and MRI studies replaced the PEG. Invariably after the PEG a patient would have the most severe headache imaginable, often requiring days in bed with shots for pain and nausea as the cerebrospinal fluid reequilibrated. Sometimes the diagnostic test was therapeutic. "Now that's a headache! If your headaches continue we may have to do another PEG." The neurologist who ordered the test and had tried a host of remedies asked her if any medicine had ever given her any relief. She admitted that the only medication that helped at all was Obecalp. The neurologist brought out his PDR (Physicians Desk Reference—a compendium of all known drugs) to write a prescription but could not find the medicine listed. "This must be an experimental medicine that only the government has available. Here's a prescription. See if they'll be good enough to honor it for you at the Mayport Dispensary." When she presented a prescription for Obecalp from a "real doctor" i.e. a private physician, Chief Stickley became a believer.

"First do no harm" is one of the tenets of our medical training. With the advent of the Internet and medication side effect print outs by the pharmacists our patients often have the attitude "What side effect should I expect?" It was wonderful to have a medication with no side effects. The complaints of nausea, vomiting, diarrhea, constipation, dizziness, light headedness, numbness, tingling, seeing lights, chest pain, etc, etc, etc. may be signs of underlying illness or stress but they weren't caused by Obecalp. It did no harm, but did a placebo help?

I have been called a "traditional physician." The patient making the observation implied that I was not sympathetic or tuned into the new age alternative therapies. Certainly I started out that way. During housestaff training prior to Navy duty I was exposed to Dr. Redford Williams. He had completed Internal Medicine training and now was doing psychiatry and psychosomatic studies related to stress. He accompanied us on rounds and, frankly, I thought he was an unnecessary pain getting in the way of our delivery of "real medicine." It was with some glee that second year in the Navy when I noted the authorship of an article in the New England Journal of Medicine regarding the effect of biofeedback on blood pressure control. A nephrology fellow named Richard Stone coauthored the article with Dr. Williams. Like his name Richard was a rock solid medicine man. No mumbo-jumbo; no psychofluvia. He would prove that all this psychophysiology was bunk. But no! Without a doubt the use of biofeedback and stress control helped lower blood pressure more effectively with the same or lesser doses of meds or no meds. Hmmm.

Duke 1978 Rheumatology inpatient service. A pulp wood cutter from eastern North Carolina was going to lose his fingertips. Perhaps it was Raynaud's phenomenon related to early onset of scleroderma or primary Raynaud's aggravated by vibrating chain saws. This exaggerated vasospasm of the small arteries of the fingers caused impending distal tip gangrene of several fingers. Topical nitroglycerin paste to the wrists and directly to the fingers did not help. One of the Duke cardiologists Dr. Robert Whalen had investigated the use of intrarterial reserpine injections to break the vasospasm. No response. One of the house officers had heard about some psychology research on biofeedback to control Raynaud's. The cynic in me said "Are you kidding? First of all, it's black magic and secondly this fellow's not smart enough to do biofeedback!" But we were at a loss for other things to try. I believe that Dr. Doyle Gentry was doing the biofeedback as part of his research at Duke before coming to Lynchburg. It worked. Biofeedback is a way to learn to control the autonomic or automatic nervous system. It has proven useful in management of diverse disorders such as hypertension, irritable bowel syndrome, Raynaud's, fibromyalgia, and general stress related symptoms. Biofeedback made the vasospasm in the patient's fingertips relax and prevented the loss of fingers.

In the early 1970's cardiac catheterization was at least a two day hospitalization with catheters advanced through cut downs in arms or legs. The studies were carefully reviewed by the entire cardiology team and if severe enough occlusions were found the patient was set up for a CABG ("cabbage" coronary artery bypass graft) which was truly in its infancy. On several occasions technical difficulty required the patient's sternotomy to be closed without any operation being performed. Invariably, the patient's angina was improved. It was so striking that several times the cardiologists felt the films must have been mislabelled and the patient was restudied with cardiac cath. The occlusions were still

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there and over time the symptoms recurred. Even a sham, placebo operation gave impressive, albeit temporary symptomatic relief.

But what a powerful ally in health care. Whether part of a medication effect (as seen with Obecalp); part of a biofeedback discipline; or temporary effect of surgery the mind is only just beginning to be appreciated as an important component in health care. The Greeks were ahead of us from the era of Hippocrates "Mens sana, corpus sanus. A healthy mind; a healthy body. Dr. Paul Dudley White a founder and godfather of modern cardiology was asked at the end of his career, if he were starting over at that time (1969) what would he go into. "Psychiatry" was his answer "Because it's at the same stage of infancy as cardiology when I was young and we have so much to learn about the workings of the brain." Still true today.

The December 2, 2002 Newsweek had a series of articles on "The Science of Alternative Medicine." One section by three Harvard physicians discussed the placebo effect. Remember Dr. Bob Bowen's admonition. "You can always tell a Harvard man; but you can't tell him much."

"Skeptics often dismiss responses to complementary and alternative therapies as "mere" placebo effects. And until recently, experts have paid the placebo effect only grudging respect, some insisting that people who experience it must have simply misperceived either their illness or their recovery. Most doctors and scientists, however, believe the placebo effect exists. And though its dynamics are still something of a mystery, its power is now hard to deny. Recent studies suggest that the placebo effect not only exists but may be caused by changes in the physiology of the brain.

Researchers have found, for example, that when people on placebos experience pain relief, their own brains are releasing pain-relieving chemicals called endorphins. Depression studies have yielded similar findings, showing that the 45 percent of sufferers who improve on placebo exhibit changes in brain chemistry, not just altered perceptions.In a study published last year, scientists at the University of British Columbia found that placebos improved the symptoms of Parkinson's disease in some subjects and that, in these individuals, increased amounts of dopamine were produced in the striatum of their brains (the usual meds for Parkinson's disease are dopamine agonists that substitute for the missing dopamine—so placebo was resulting in increased dopamine without drugs).

The placebo effect is the healing that occurs not because of a particular drug or treatment but because of the expectations, beliefs, or hopes embedded in the encounter between a patient and a clinician." I will leave the text of the article to expound on the importance of the patient-physician relationship. This is so important yet so fragile and imperiled by the effects of managed care, insurance companies, and irresponsible lawsuits. As President George Bush said in his State of the Union Address January 28, 2003, "A sick patient was never healed by a frivolous law suit." The role of the physician was well expressed years ago by Sir William Osler, "One thing is certain: it is not for you to don the black cap and, assuming the judicial function, take hope away from any patient...hope that comes to us all."(from Harrison's Textbook of Internal Medicine 10th edition). Can hope and modalities that enhance the patient's spirit be used to enhance standard therapies or safely and more economically replace some treatments?

Continuing with the Newsweek article. "By examining the placebo effect, researchers are mapping the mind-body connection and trying to identify the specific pathways

through which mental factors alter people's symptoms or even an underlying disease. Here are some of the variables now coming to light: The person. Studies suggest that trial participants are more likely to experience a placebo effect if they believe strongly in the treatment they are helping researchers evaluate. Doctors' attitudes may also affect outcomes, too. Studies suggest that when physicians are hopeful and enthusiastic about the active treatment in a study, their patients are more responsive to placebo." I would expand this notion that the patients also respond better to traditional therapy when they have an optimistic, interested physician. Unfortunately, the practice climate now is such that you spend more time making disclaimers and outlining the most minute unlikely side effects that the patient is scared to death, certainly losing any benefit of placebo whether with meds or surgical procedures. I trained in rheumatology fellowship with one of the first dispirited physicians I encountered. He was always down; his greeting was a sigh; his cup always half empty. I wondered how he could take care of patients with chronic illnesses like rheumatoid arthritis. It was no surprise to learn later that he had to seek help for depression and substance abuse. Sadly, we see more and more dispirited physicians and this includes our younger physicians and even physicians in training.. Can their patients do as well? I don't think so and I do not want one for my physician.

"The illness. Placebos may work better for some conditions than others. Studies suggest that maladies with vague causes (such as aches or fatigue) are more responsive than conditions whose origins are obvious and structural (like a broken bone). By the same token, placebos tend to work better with acute pain than chronic pain."

July 1, 1977. The first day of Rheumatology fellowship training. All my fellow senior residents in Internal Medicine discarded the short white coats and white pants of the house officer and donned the long white coat of a fellow. We were professorial; we looked like real doctors. "I can't believe you're going into rheumatology!" I was being greeted by a friend Dr. Jeff Crawford. "What do you mean?" I asked. "Aw you know, it's such a depressing specialty. All the patients are whining, passive aggressives who never get better." It was true that textbooks of rheumatology had chapters on "the rheumatoid personality." Jeff was right on with some descriptions. But I had learned a few things during my two year military respite. Returning to Duke I encountered patients with arthritis problems I had helped 2 years before. They were better than they would have been, they were still alive, and most had an attitude and spirit in the face of chronic disease that were true profiles in courage. Most of the patients I had flogged in the medical or respiratory intensive care units with terrible heart disease or lung problems were gone. Still, I was taken aback with Dr. Crawford's comment. He thought I was going into a depressing specialty. Guess what fellowship he was starting? Oncology! And he thought rheumatology was depressing. As soon as I started practice in Lynchburg I encountered many patients especially from out in the country who shared a similar sad refrain. "Doc Wilson, I know you can't do anything about arthritis. My doc at home's been telling me that for years. I just wanted to see if anything could be done." Those are fighting words for a rheumatologist. Sometimes we gave the patient the first words of hope they had heard. There's very little placebo "wiggle room" to work with in that patient but over time when you and the patient join forces in the battle against their arthritis you find that spirit, attitude, and faith are magnificent therapeutic adjuvants.

After over 25 years of practicing rheumatology I am repeatedly impressed with the importance of the patient's spirit and attitude in the outcome of their arthritis. Two patients with a similar disease such as rheumatoid arthritis on the same treatment may have very different response to their medicines. I can almost predict which patient will do better based on what I learn of their attitudes, spirit, faith, and family situation. One patient followed for over 20 years with RA is an accomplished handicraft artisan with magnificent needlepoint works. No one can believe she has arthritis. However, she has an adopted son who is usually one step ahead of the law. He has been incarcerated multiple times. At least four times over the last 10 years the same scenario has been observed. As his jail time ends and he heads home, my patient's arthritis flares and her sedimentation rate (a measure of inflammation) becomes abnormally elevated. There has been no change in her medical regimen. We usually have to increase therapeutic modalities to handle this flare. After four to five months the son invariably runs afoul of the law and he is returned to the big house. Her arthritis comes under better control; we are able to cut back on medications; and the sedimentation rate decreases back to normal. Her spirit, attitude, faith community, and natural family help maintain her through the flares and probably contribute to her excellent arthritis control except when superstressed. Placebo effect is important in chronic as well as acute processes.

The treatment. The usual placebo is an inert pill that has no direct physical effects. In some studies, however, patients receive an "active placebo"—a drug that causes noticeable symptoms (rapid heartbeat, for example) but has no therapeutic effect. Not surprisingly, patients receiving that kind of placebo are more likely to believe they are being treated with the active medicine—and more likely to experience relief....

The NIH Center for Complementary and Alternative Medicine is now supporting research focused squarely on the placebo effect. Besides demystifying the placebo effect, this research could help address many of the questions surrounding complementary and alternative medicine. Do CAM therapies, as delivered by a typical practitioner, deliver a larger dose of placebo effect than mainstream therapies? If so, how do they do it? Do the themes of complementary and alternative medicine—the mystery of vital energy, the beauty of nature's restorative power—enhance the placebo effect? Do different CAM therapies trigger different chemical responses in different parts of the brain? And how much depends on the relationship between the practitioner and the patient? Does a procedure that involves laying hands on a patient have more placebo potency than a less intimate treatment, such as a pill? Science can answer these questions—and all of medicine will grow richer as it does."

Medical Riddle: What kind of fun does a priest have? Answer—Nun
In the late 1980's sociologist David Snowdon, Ph.D. began a study which resulted in the book Aging with Grace (What the Nun Study Teaches Us About Leading Longer, Healthier, and More Meaningful Lives). The Nun Study is an epidemiological investigation into the mysteries of aging and Alzheimer's disease. Religious groups were an ideal study population because they kept extensive membership lists and historical records. By initiating the study with the School Sisters of Notre Dame he was able to study one of Minnesota's largest groups of Catholic nuns. Their similar lifestyles including the orderly nature of their daily lives with service and prayer; non-smoking, celibacy, similar jobs and income, as well as similar health care helped reduce confounding

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variables of many epidemiological studies. They were even found often to have similar historical backgrounds in many cases.

The study entailed repeated testing of mental faculties over several years and a unique request. Immediately after death the participating nuns agreed to have their brains removed and studied pathologically for evidence of Alzheimer's or other degenerative processes. Each year an hour long battery of tests were administered to the participant which assessed memory, concentration, language, visual-spatial abilities, and orientation to time and place. From year to year they could capture patterns of change in each woman.

There are some fascinating findings. First of all, the nuns live longer than the average population frequently into their nineties. The School Sisters of Notre Dame originated in Bavaria. The founder was a teacher at a parochial school, Caroline Gerhardinger, who later took the religious name of Mother Teresa and believed that society could be transformed through the family. The School Sisters of Notre Dame provided a unique family for the nuns. Was there something about the order of their lives, their religious observances, their social interactions and relationships that resulted in longer lives? More important than the length of life perhaps is the Nun Study motto "That You May Have Life to the Full" or more relevant to Alzheimer's is the phrase from a song by The Who—"I hope I die before I get old." Before the wonderful cholesterol lowering drugs were available there is the story of the patient with heart problems who upon receiving the severely restricted cholesterol lowering diet instruction asked his cardiologist, "Doc, will this diet really help me live longer?" The cardiologist responded, "No, but it will seem longer."

One part of the study looked at level of education and mental and physical abilities late in life. The records showed that 85% of the sisters had bachelor's degrees and 45% had master's degrees—and most of these study subjects were born in the early part of the century. British studies in the 1800's discovered a link between education and health with better educated people living longer with a lower risk of diseases such as TB, heart failure, and dementia.

In each sister's file was an autobiographical note of no more than 200 to 300 words to include place of birth, parentage, interesting events of childhood, influences that led to the convent, and outstanding events. These were written when they first joined the convent many years before. The investigators found that the sisters who used more colorful, richer language had a lower incidence of Alzheimer's years later. These same sisters were often involved with continuous learning such as Sister Dolores who at age 76 took a sabbatical year learning about computers at Mount Mary College or Sister Dolores who worked in Kenya at age 80 as part of her childhood dream of helping in Africa. Formal education and continuing education as well as continued service seemed to be associated with lower incidence of Alzheimer's.

In the Nun Study a neuropathologist at the University of Kentucky William Markesberry graded the severity of Alzheimer's changes in the brain specimens. The spread of plaques and neurofibrillary tangles from the entorhinal cortex (an area at the base of the brain important for memory—Braak stages I and II) to the hippocampus (learning and memory center—Braak stages III and IV) to the neocortex (relating to more complex intellectual achievements and social behavior—stages V and VI) parallels, in part, the general pattern of the progressive loss of mental, physical, and social functioning that

occurs in Alzheimer's patients. How did the pathology correlate with the mental exams over the years?

Sister Maria's clinical exams showed classic Alzheimer's pattern. However, at post mortem exam her brain showed changes compatible only with Braak stage II. She had suffered with chronic depression throughout her life and recent research suggests that patients with chronic depression often have slight atrophy of the hippocampus as seen with Alzheimer's. The more typical case was Sister Margaret who showed stepwise progression with decline in language and cognition classic for Alzheimer's over the several years of testing. At post mortem her brain showed a low weight of 970 gms with a Braak stage V score.

There were two extraordinary cases. Sister Bernadette's brain showed severe changes of Braak stage VI yet had normal scores for all clinical tests of mental and physical function. Sister Rose had similar normal clinical test scores. When she died at 100 yrs of age her brain had a normal healthy weight of 1280 gms and a Braak score of 0. She taught grade school for 50 years. Subsequent studies showed that about 1/3 of the sisters in stages V and VI were like Sister Bernadette—considered escapees from Alzheimer's; dying before symptoms showed clinically. Sister Rose shows us that Alzheimer's is not an inevitable consequence of aging.

Dr. Snowdon discusses many factors felt to be relevant to the Nature vs Nurture debate regarding Alzheimer's. Factors such as inherited genetic tendency, head trauma, prior small blood vessel lacunar strokes, inflammation, education, smoking, continued brain activity such as idea-density in language use and working crossword puzzles all point to more of a nature and nurture effect.

In January of 1985 I was paged from the Medical Care Center. My 93 year old patient had demonstrated one of the principles in the book House of God—Gomers go to ground. Older, demented patients somehow often fall out of bed in spite of restraints, attendants, and medications. She was found on the floor having hit her head. There was a large goose egg size lump on her forehead. This was a great time in medicine—you could actually hospitalize patients simply because you were worried and wanted to observe them for any problems. A veritable Camelot. She had a wonderful attentive family. A son visited several times each week and washed her hair every Saturday. After examining the patient I felt she had a concussion from the fall and did the appropriate CT scan to rule out any unusual pathology such as a subdural hematoma. Over the next several days there was a family member present 24 hours a day. During that time mother was constantly alert (though disoriented to place and time) and gave instructions with detailed recipes for the 1966 Thanksgiving celebration the family enjoyed. Family members confirmed the accuracy of her orders. Toward the end of the week she slipped back into her baseline dementia state and returned to the Medical Care Center. The concussion had unlocked mental capacities still present but usually buried. Dr. Paul Dudley White continues to be correct about the untapped knowledge of the brain we have yet to discover.

PET (Positron Emission Tomography) scans are a way to look at the metabolic activity of the active functioning brain. Although touted as a way to detect cancers showing differences between normal tissue and metabolically altered neoplastic tissue, the behavioral neurophysiologists are making some fascinating observations. Different areas of the brain "light up" on PET scans according to different stimuli. Using normal college

students (?an oxymoron) exposing them to videos with a wide range of subjects including violence, psychological stress, comedy, uplifting spiritual experience, peaceful, comforting presentations correlated with different areas of the brain showing metabolic activity. Pain clinic studies have shown patients with chronic pain disorders responding differently on PET scans from patients with acute pain. Drug addicts show some distinct patterns on PET scans. Does activity in different areas of the brain correlate with the production of different chemicals that could affect the immune system with subsequent inflammatory or pathological effects on the brain ultimately leading to diseases such as Alzheimer's or behavioral disorders such as autism, antisocial behavior with tendency to substance abuse or crime? If so, was the suspicion we had as parents correct that MTV and violent video games may not be the best thing for our children? Is there a role for censorship? Stay tuned.

July 26, 2002 Rehearsal Dinner for Jay Watts and Melissa Wilson. My daughter Elizabeth and her husband Brian were giving a clever, comedic preview for Jay coming into the Wilson family. Elizabeth warned Jay that when you call home with a problem and Dad answers, the first advice for the problem is "Are you exercising?" Yes, Dad, I'm exercising. "Well, are you going to church?" Yes, Dad, I'm going to church—now put Mom on the phone. Medical riddle: What do they call the last child left in the orphanage? The end orphan. Endorphins are the body's natural pain killers. These substances and enkephalins have a similar chemical makeup as opioid pain meds. They are responsible for the jogger's "high" he may experience with running. They are low in patients with chronic fatigue and fibromyalgia probably related to altered sleep patterns with a deficit in the nonREM (rapid eye movement) restorative rest. Aerobic forms of exercise will increase the endorphins. A recent Archives of Internal Medicine article showed that subjects taking part in regular aerobic exercise had lower measured levels of inflammatory proteins including CRP (C-reactive protein getting much popular press in its relationship to coronary artery disease). The exercise seems to have a beneficial effect on the immune system with fewer and less severe infections in the exercising population and may decrease the detrimental effects of oxygen radicals. There are many forms of potential aerobic exercise such that almost anyone can find a suitable regimen. I have several patients with rheumatologic disorders who are at the Y at 5:30 AM each day doing laps in the pool. Exercise bikes, Nordic Track, elliptical bicycles, water aerobics, stair master, power walking, cardiovascular and pulmonary rehab programs, and personal trainers offer ways to modify exercise for almost all individuals regardless of their problems. Remember as stated above, an increase in endorphins may be a mechanism of placebo effect. And, yes, both my daughters exercise. "Up your endorphins!" is the exercise battle cry.

March 2000. Duke University Conference entitled "Faith in the Future". Dr. Harold Koenig of DUMC arranged a two day multidisciplinary conference of great interest. Dr. Ralph Snyderman Chancellor of DUMC and Dr. Harvey Cohen Head of Geriatrics presented the economic reality of health care costs in an aging population. The fastest growing segment of our population is 85 years and older. We have suffered from our successes in being able to extend what can be done technologically beyond what should be done. The greatest expense in care occurs in the last two weeks of the octogenarian's life often on intensive care units. Managed care had failed to control costs and showed its misnomer—in plain talk managed care is restricted services. Linda George PhD in

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Sociology presented a talk clarifying the difference between care and services. Dr. Koenig, Dr. Keith Meador, and others presented the evidence that suggests the potential role of the church and spirituality as a means to enhance the health of our aging population and subsequently achieve economic savings in health care without the chicanery of restricting care to our elderly through managed care. There are over 2000 studies showing beneficial effects of hospital pastoral care through hospital chaplaincy, church support groups, and parish nursing programs resulting in shorter lengths of stay for hospitalized patients. One study looked at 300 consecutive admissions to a Cardiac Care Unit with patients randomized to receive intercessory prayer. Intercessory prayer was practiced unbeknownst to the patient. There were fewer complications in the unit among the intercessory prayer recipients.

The church's role went well beyond meals-on-wheel, home visits for the elderly, or transportation to doctor's appointments. They found that senior citizens involved in the programs (elderly care to the elderly) were healthier themselves. The Nun Study is the ultimate example of healthier aging in a religious family.

Is the patient's spirituality an untapped resource for better health and legitimate health cost savings? Sir John Templeton spoke to the group and discussed his initiative to have the role of spirituality as part of medical school curriculum in over 50% of med schools today. This involves asking about and appreciating the patient's faith or spiritual community. I believe it also helps the physician think about the role of his own spirituality in providing medical care. With respect to increased longevity Templeton and several guest speakers including the founder of Habitat for Humanity talked about looking forward to active rewarding second careers after retirement. "Saging—not aging" is one concept. Most of the speakers were pursuing second careers of caring and service in the context of their faith. They were healthy and happy.

M. Meador

In conclusion I would suggest that a healthy mind complements a healthy body. The advice for the surest way to achieve this comes from the superb commentator on human nature William Shakespeare. "Get thee to a nunnery!" But make sure it has an exercise facility.

1. "Benjamin Franklin and Medicine" *Ann Int Med* Dec 6, 2005—Electric therapy and the placebo effect. In 1740, Dutch scientists discovered how to store static electricity in foil-coated glass bottles. In 1750, using these Leyden jars to electrocute a turkey (which he roasted for Christmas dinner), Franklin accidentally shocked himself, causing his body to shake violently. This and other electrical accidents may have suggested therapeutic possibilities for electricity because Franklin began treating paralyzed patients with thrice-daily shocks to their affected extremities. The patients' limbs seemed to strengthen somewhat, but the sessions were painful and the benefits short-lived. Franklin was uncertain why the patients had apparently improved: Whether "from the exercise in coming daily to my House or from the Spirits given by the Hope of Success, enabling them to exert more Strength in moving their Limbs, I will not pretend to say". Nearly 200 years before its elucidation in medicine, Franklin was postulating the placebo effect—improvement after a treatment that arises from the pt's expectation rather than from the therapy itself. According to a friend's report Franklin had 1 outstanding successful result with rx of a young woman with "almost the whole train of hysteric symptoms." After receiving twice daily shocks, she claimed that excellent health returned—placebo or early electroconvulsive rx for psych problems?

2. "Humor in the Physician-patient Encounter" *Arch Int Med* 4/26/04

3. "Powers of the Mind" *News & Advance* Feb 28, 2003
Dr. Marc Feldman at Duke had cancelled appts when pts

saw sign on his office door “Psychosomatic medicine”
Stigma of “It’s all in your mind.” Now making connection
of mind and body. 25% of pts who visit the doctor have
physical symptoms caused by their emotional state and as
many as 80% show signs of significant psychological
distress resulting from physical ailments—Dr David Sobel
Kaiser Permanente Calif. Learn to use mind to make
physical ills better rather than worse.

4. “A controlled trial of arthroscopic surgery for
osteoarthritis of the knee” NEJM 7/11/2002 Outcomes after
arthroscopic lavage or arthroscopic debridement were no
better than placebo procedure. Follow up editorial “Is
placebo surgery unethical?” Mike Gillette

5. CAM—“The placebo effect in alternative medicine: Can
the performance of a healing ritual have clinical
significance? Ann Int Med 6/4/02 Therapeutic patterns that
heighten placebo effects are especially prominent in
unconventional healing, and it seems possible that the
unique drama of this realm may have “enhance placebo
effects in particular conditions.

6. “New love: the brain on natural cocaine” Ken West
News & Advance 3/2/07 “But love is blind and lovers
cannot see the pretty folies that themselves commit.”
Shakespeare Merchant of Venice. Prof Helen Fisher of
Rutgers reviewed studies of how the brain changes when
one is first in love. A “flush” of dopamine is observed in
the brains of new lovers. Acting in a manner not unlike
cocaine (and we don’t have to legalize it!)—which also

works through the dopamine pathway causing intense craving. All of the addictions are associated with dopamine in one way or another. “Love struck” is a natural cocaine high. When does objectivity end and nature’s cocaine high eventually ends. May take as long as 18 months. Too many couples fall in love and marry while the dopamine is raging. Quick marriages that end in divorce are so common today that experts call these “starter marriages”. After the “high” the perfect person becomes a fallen angel. NPR program on low divorce rate in Japan. Very critical before marriage—and a lot less critical after marriage.

7. Jeff Crawford’s review in NEJM 3/22/07 “Treatment and Management of Cancer in the Elderly” DUMC—but he never got to practice in Lynchburg

8.”Influence of Social Support and Emotional Context on Pain Processing and Magnetic Brain Responses in Fibromyalgia” Arth Rheum 12/04 When the significant other was present, FM pts reported less pain and thermal pain sensitivity and showed diminished brain activity elicited upon tactile stimulation of a tender point compared with these levels when the pts were alone. These findings are consistent with the hypothesis that social support thru the presence of a significant other can influence pain processing at the subjective-behavioral level as well as the CNS level.

9. US News & World Report Bern Healy “Not yet dearly departed” Art Buchwald’s deathwatch became five months of happy living—book “Too Soon to Say Goodbye”

Kidney failure—hospice. “I have had such a good time at the hospice. I am going to miss it.”

10. Am Medical News AMA—“It’s not OK to use placebos deceptively” 12/4/06 Ethics Forum 8/5/02 “Is it ethical to give patients a placebo for pain rx?” No according to Pain Clinic Center at Utah where he was director at time of writing—but only complains of failure to use effective therapies in favor of placebos—would not be either/or.

11. “Nonspecific Medication Side Effects and the Nocebo Phenomenon” JAMA 2/6/02 Nocebo phenomenon –the patient’s expectations of adverse effects at the outset of rx; a process of conditioning in which the pt learns from prior experiences to associate medication-taking with somatic symptoms; certain psychological characteristics such as anxiety, depression, and the tendency to somatize. Drs attempt to ameliorate nonspecific side effects to active meds by identifying in advance those pts most at risk for developing them by explaining & helping the pt to understand and tolerate these bothersome but nonharmful symptoms.

12. “Lessons on Aging” News & Advance 7/14/06 Nun Study Update Pass around

13. Wall St J 1/19/07 Sharon Begley “Train your mind, change your brain:How a new science reveals our extraordinary power to transform ourselves”
Neuroplasticity—the ability of the brain to change its structure and function in response to experience. Dalai

Lama--? can the mind shape brain matter? Neuroscientist Helen Mayberg in 2002 showed that inert placebo pills work the same way on the brains of depressed people as antidepressants do. Activity in the frontal cortex, the seat of higher thought, increased; activity in limbic regions, which specialize in emotions, fell. 1993 monkey experiments. Device tapped monkeys fingers 100 minutes a day. Sounds provided thru headphones (IPOD implications?). 2 groups—one was taught ignore the sounds; pay attention to the taps—when feeling of taps on fingers changes if monkey notes it, reward with juice. Other group—pay attention to sound; if you indicate it changes—juice reward. After 6 weeks brains compared—when a spot on the skin receives unusual amounts of stimulation, the amount of cortex that processes touch expands—that was found only in the group that paid attention to the taps. Other group showed expansion of auditory cortex. “Through attention, we choose and sculpt how our ever-changing minds will work—these choices are left embossed in physical form on our material selves” UCSF’s researcher Michael Merzenich. Since 1990’s Dalai Lama lending monks to neuroscientists for studies of how meditation alters activity in the brain. Monks and novices practiced form of meditation called nonreferential compassion. Meditator focuses on unlimited compassion and loving kindness toward all living beings. Prof Davidson used fMRI imaging to detect which regions of brains became active during compassion meditation. Interesting differences between monks and novices—monks had greater activation in right insula and caudate—a network that underlies empathy and maternal love. They also had stronger connections from the frontal regions to the emotion regions, which is the pathway by which higher thought can control emotions. Monks with the most hours of meditation showed the most dramatic brain changes. Meditation can change the fx of the brain in an enduring way.

14. US News & World Report 8/14/06 Video games used to help heal and soothe the sick
 Remission game for children with cancer; NIH Hungry Red Planet and Escape from Diab and Glucoboy. Snowworld for burn pts. Post traumatic stress disorders.
 Findings of children exposed to sex videos became sexually active at younger age.
 ?Relationship of violence with video games like Grand Theft Auto.

15. Sports Illustrated July 3, 2006—Rolf Benirschke former kicker for San Diego Chargers—Hx of UC and hep C from transfusion. 3 children—1 natural child with cerebral palsy. 2 adopted boys Eric 14 and Timmy 12 adopted in 1998 from Russia with “reactive attachment disorder”—inability to show affection for a caretaker or to interact with peers. Nancy; critical imprinting times; Harold Koenig —by age 9 if compassion for others not initiated, may never develop

16. Use it or lose it
 “Leisure Activities and the Risk of Dementia in the Elderly” NEJM June 19,2003::
 reading; board games, musical instruments, dancing. Crossword puzzles; sudoku
 US News & World Dec 27, 2004

17. Not "The Secret" Rhonda Byrne's book "Ask, believe, receive."

18. Sister Marie Simon Pierre 46 yo French nun. Parkinson's in 2001. Cured June 2, 2005 two months after Pope John Paul II's death. Her fellow nuns had prayed to John Paul for her recovery. Since then—she has not needed any further meds. Wonder what her CNS dopamine levels were before and after. This could be a miracle attributed to his intercession which the Vatican requires as a last formal step before possible sainthood.