

SUMMER ■ 2008

Carolinas

Medical Directors Association

Vitamin D Deficiency in Long-Term Care

*Jamehl Demons, MD
Winston—Salem, NC*

Vitamin D is a fat soluble vitamin that is taken in by the body in two ways. UVB rays from direct sunlight activate production of vitamin D in the skin. Vitamin D is also ingested in foods. Several foods in the United States are now fortified with vitamin D including milk, breakfast cereals, and some juices.

Vitamin D is an important nutrient. It is well known to assist in calcium and phosphorus metabolism and therefore plays a role in bone metabolism and bone strength. Recent research also indicates that vitamin D is related to immune function, reduction of inflammation and has effects on cell differentiation and programmed cell death. Clinically, there is a positive effect of vitamin D on muscle strength and supplementation with vitamin D has been shown to decrease falls in the nursing home.

The IOM daily recommended intake is 400 IU for persons 51-70 years old and 600 IU for persons aged >70. This amount was recently debated during the NIH update meeting in September 2007. Several experts feel the recommended doses are too low. While sunlight and dietary intake are natural sources of vitamin D, these are often lacking in our nursing home patients. [Fifteen minutes of direct sun exposure to the skin of Caucasian young adults twice weekly during peak sun hours of 10am and 3pm](#) is needed for sufficient intake. More is needed for patients with darker skin and older patients (decreased absorption in both groups). Few nursing home residents receive the necessary level of direct sunlight. In addition, even the use of SPF 8 sunscreen impairs vitamin D production in the skin. Natural food sources of vitamin D exist but are in small amounts in the typical nursing home diet.

Food	IU per serving	Percent daily Recommended for 51-70 yrs	Percent daily Recommended for 70+ yrs
Cod liver oil, 1 tablespoon	1,340	340	223
Salmon 3 ½ ounces	360	90	60
Canned tuna fish, 3 ounces	200	50	33
Milk, fortified, 1 cup	98	25	16
Fortified cereals, 1 cup	40	10	7
Egg yolk	20	6	3
Beef liver, 3 ½ ounces	15	4	2

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S U M M E R S Y M P O S I U M

Caring for our Seniors: Best Practices in Geriatrics And Long-Term Care

Saturday, June 7, 2008
Marriott Downtown
Columbia, SC

Course Overview

This program is directed toward providers working in geriatrics and long-term care and will highlight issues that impact care of seniors across multiple practice settings. This one-day seminar will address topics including Treatment of Depression in Dementia Patients, Wound Care, Stroke Recognition, Management, & Prevention, Medical Director/Consultant Pharmacist Collaboration, and the Impact of Patient/Employee Satisfaction on Quality of Care. This conference will assist clinicians to improve their recognition of geriatric medical issues and to develop best practices aimed at reducing medical errors and improving consistency and quality of care.

Target Audience

This activity is designed for medical directors, attending physicians, mid-level practitioners, pharmacists, nurses, and others working and/or interested in long-term care.

Learning Objectives

After attending this symposium, attendees should be able to:

- ◆ State the top five issues that cause families and staff to recommend a facility
- ◆ Describe the relationship between how frontline staff score a facility's work environment and quality of life and quality of care for the residents.
- ◆ Recognize the complexities involved in diagnosing depression and anxiety in the elderly
- ◆ Identify optimal pharmacotherapy for elderly patients with anxiety in the elderly
- ◆ Identify optimal pharmacotherapy for elderly patients with anxiety or depression
- ◆ Identify relevant Federal and State LTC regulations
- ◆ Discuss the role of the medical director and attending providers in complying with current regulations
- ◆ Identify barriers to recognition, assessment, and optimal management of stroke in the LTC setting
- ◆ Determine appropriate goals of care for stroke patients
- ◆ Identify steps to recognize and reduce stroke complications and prevent secondary stroke
- ◆ Explain the currently "functioning" provider-pharmacist collaborative practice arrangement in LTC
- ◆ Assess and analyze current and future opportunities for professional relationships
- ◆ Describe wound assessment and documentation
- ◆ Discuss the physiology of tissue injury and wound repair
- ◆ Select and use basic and advanced wound care products/technologies



FEATURED SPEAKER



William Smucker, MD, CMD

Dr Smucker graduated from Case Western Reserve University School of Medicine in 1978, completed his family medicine residency at Summa Health System in 1981 and entered private practice in Medina, Ohio. In 1987, he joined the faculty of the family practice residency at Summa Health System. He holds the CAQ in Geriatrics, is a Certified Medical Director and is a Professor of Family Medicine at the Northeastern Ohio Universities College of Medicine. Since 1987, he has spent at least 30% of his time as an attending physician, medical director and educator in long term care. An AMDA member since 1997, he has served as a member of the Clinical Practice Committee (2000-present), Multidisciplinary Medication Management Committee (2002-present, Co-chair 2005-2006), Palliative Care Workgroup (2002-present, Chair 2003-present) and LTC Educators Forum (2003-2005). He chaired the writing group for the AMDA Stroke Clinical Practice Guideline (2003-2005), was principal author of the LTC Physician Information Tool Kits for Antithrombotic Therapy (2006) and Palliative Care (2007), and assisted with the White Paper on Hospice in LTC.

Symposium Schedule

8:00am- 8:30am	Registration and Breakfast	
8:30am- 9:30am	Satisfaction Surveys—What do they tell us about quality of care?	Chris Patterson, MD, CMD
9:30am- 10:30am	Treatment of Dementia and Concomitant Depression in LTC	David Greenhouse, MD
10:30am-11:00am	SNF Regulations: A review of the 2008 changes	Keith A. Guest, MD, CMD
11:00am-12:00pm	EXHIBIT HALL	
12:00pm- 1:30pm	LUNCH PROGRAM	
1:30pm- 2:00pm	STROKE: Recognition, Management, and Prevention in the LTC setting	William Smucker, MD, CMD
2:00pm- 3:00pm	Practical Approaches to Wound Healing	Toni Silver, FNP
3:00pm- 4:00pm	Exploring Best Practices in Medical Director / Consultant	
	Pharmacist Collaboration	Network HealthCare
	State Chapter Business Meeting	

Accreditation:

Physicians: This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the American Medical Directors Association (AMDA) and SC Medical Directors Association. The American Medical Directors Association is accredited by the ACCME to provide continuing medical education for physicians. The American Medical Directors Association designates this educational activity for a maximum of 5.5 *AMA PRA Category 1 Credits™*. Each physician should claim only those credits that he/she actually spent in the activity.

CMD Credit Statement: This seminar has been approved for a total of 5.5 credits toward certification as a Certified Medical Director in Long-Term Care (CMD). 2.5 credits have been designated as Medical Direction/Management hours and 3 credits have been designated as Clinical hours. The AMDA CMD program is administered by the American Medical Directors Certification Program. Each physician should claim only those hours of credit actually spent on the activity.

AAFP: This activity has been reviewed and is acceptable for up to 7 Prescribed credits by the American Academy of Family Physicians.

Nurses: This continuing nursing education activity was approved by the South Carolina Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

Pharmacists: South Carolina Pharmacy Association is approved by the Accreditation Council for Pharmacy Education as a provider of continuing pharmaceutical education. This program is approved for 5.5 contact hours and the ACPE UPN is 171-xxx-xx-xxx. Statements of credit will be distributed to the program attendees within 4-6 weeks of this program.



Save The Date *October 24-25, 2008*

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New Approaches to Infectious Disease Management in Long-Term Care

October 24 & 25, 2008
Marriott Executive Park
Charlotte, NC

Course Overview

This program is directed toward providers working in geriatrics and long-term care and will highlight issues that impact care of seniors across multiple practice settings. This one-day seminar will address topics including LTC Infections and Resistant Organisms, Herpes Zoster, Post Herpetic Neuralgia, Sensory Deficits, LTC Litigation Risk and Best Practices, and LTC Billing and Coding Procedures. This conference will assist clinicians to improve their recognition of geriatric medical issues and to develop best practices aimed at reducing medical errors and improving consistency and quality of care.

Target Audience

This activity is designed for medical directors, attending physicians, mid-level practitioners, pharmacists, nurses, and others working and/or interested in long-term care.

ON-LINE REGISTRATION starting August 1st

www.CarolinasMDA.com



HANDOUTS WILL BE AVAILABLE ONLY ON OUR WEB SITE PRIOR TO THE SYMPOSIUM

Save The Date March 5-8, 2009

AMDA 2009 Annual Symposium Charlotte, NC

Plan now to attend the AMDA symposium in Charlotte! Topics will be of interest to medical directors, long-term care providers, directors of nursing, staff nurses, administrators, and pharmacists with continuing education credits for each discipline! Budget now to bring your entire team!

What Part Does Diet Play In Your Practice?

Stephen Ferguson, MD, CMD
Powellsville, NC



There is a growing body of evidence-based research to strongly support the effectiveness of diet in helping to delay the onset of Alzheimer's disease. Dr. Nikolaos Scarmeas MD¹ from Columbia University Medical Center in New York has performed a study where investigators prospectively evaluated 2258 community-based, non-demented individuals in New York every 1.5 years. The study adjusted for cohort, age, sex, ethnicity, education, apolipoprotein (APOE) genotype, caloric intake, smoking, medical co-morbidity index, and body mass index. The follow up was 4 ± 3.0 years (range, 0.2 - 13.9 years). The study had three groups: a group that consumed the Mediterranean diet most of the time, consistently over the study period; a group that was partial consumption; and a third group who had minimal consumption. The group that consumed the Mediterranean Diet the majority of the time had a 40% decrease in the onset of Alzheimer's disease compared to the other groups with a P-value of .007. A similar study with similar results was duplicated with 2000 additional patients at another time and also had very statistically significant results of decreasing the onset of Alzheimer's disease.²

What is the Mediterranean Diet? The Mediterranean Diet has been associated with some of the lowest rates of breast cancer, colon cancer, and heart disease in the world. It is an approach to food consumption with several characteristic components. The daily components consist of some of the following: olive oil – replaces most of the fats, oils, butters, and margarine; breads – should be dark, chewy, and crusty loaves; pasta, rice, couscous, bulgur, potatoes – these are often served with fresh vegetables. Dark rice is preferred and wheat flour as opposed to white flour. Unbleached ingredients are preferred to bleached and fortified. The grain intake can come from cereals such as wheat, oat, and bran buds. One should eat two to three pieces of fruit daily: cantaloupe, peaches, and apricots. Fresh fruits are the best, next are frozen, and canned fruit is the worst. Beans should consist of pinto, great northern, navy and kidney beans and the preferred nuts are walnuts and almonds. Vegetables should be dark green or you could consume cabbage broccoli, cauliflower, turnip greens, mustard greens, carrots, spinach, and sweet potatoes. Lastly, fat-free, non-frozen yogurt and cheese should also be consumed daily. Certain meats should only be consumed a few times a week. Cold water fish like cod, salmon, mackerel, and trout are high in omega 3 fatty acids and should be consumed several times a week. The best poultry is white breast meat without the skin and small amounts of eggs. Lastly, lean red meats, largely any meat other than chicken, fish, and turkey, and sweets are limited characteristic components of the Mediterranean Diet.

In conclusion it is not clear why the Mediterranean Diet is so effective in helping to decrease the incidence of Alzheimer's disease, but it is felt that the high content of antioxidants may be a very significant factor, not to mention the importance of eating the Mediterranean diet consistently over time. As a practicing physician with over 15 years of experience in geriatrics, I believe it is important to think out of the box and explore other treatment modalities for Alzheimer's disease. With the limited number of resources available to us for treating Alzheimer's, the time to act on "out of the box" thinking is not only warranted, but critically necessary.

In light of the failure of torcetrapib, a CETP inhibitor that markedly increases high-density lipoprotein cholesterol (HDL-C), to modify cardiovascular risk, new interest has returned to the use of other agents for this indication. One such agent, niacin, is the most potent HDL-raising drug presently available, and it raises HDL irrespective of baseline triglyceride levels. Although this drug has been available in generic form for a long time, the new importance attached to its possible benefits has stimulated renewed interest and new clinical trials evaluating an investigational fixed-dose combination of extended-release (ER) niacin and simvastatin have shown initial promise.

At the American Heart Association 2007 Scientific Sessions, the results of the SEACOAST trial were presented by the study's lead investigator, Christie Ballantyne, MD. The results demonstrated that the fixed-dose combination of ER niacin/simvastatin met its primary endpoint of lowering non-HDL-C (ie, total cholesterol minus HDL-C), while demonstrating improvements in levels of low-density lipoprotein cholesterol (LDL-C), HDL-C, and triglycerides.

This study showed that ER niacin/simvastatin was as effective as simvastatin 80 mg in lowering LDL-C and more effective in improving levels of apolipoprotein B (apo B) and HDL-C in patients with carotid atherosclerosis.

SEACOAST was an international phase III, randomized, double-blind clinical trial that was designed to evaluate the efficacy and safety of ER niacin/simvastatin combination compared with simvastatin alone in patients with elevated non-HDL-C (type II hyperlipidemia or mixed dyslipidemia) who had already been on simvastatin monotherapy. The National Cholesterol Education Program Adult Treatment Panel III (NCEP ATP III) introduced non-HDL-C as a new secondary target of therapy in patients with elevated triglycerides (≥ 200 mg/dL) in 2002. Non-HDL-C equates to very low-density-lipoprotein + LDL-C (which includes intermediate-density lipoprotein), and the NCEP non-HDL-C goal is set at 30 mg/dL higher than the LDL-C goal. Non-HDL-C was added as a secondary target of therapy to take into account the atherogenic potential associated with remnant lipoproteins in patients with hypertriglyceridemia. Statins lower LDL-C and non-HDL-C to a similar percentage, so clinical trials tended not to differentiate between LDL-C and non-HDL-C in regard to benefits in risk reduction.

Trial Design

All patients in SEACOAST who were not treatment-naïve entered a run-in phase during which they were treated with simvastatin (variable dose), they discontinued all other antidiabetic medications, and they began a standard cholesterol-lowering diet. Following this phase more than 600 patients were randomly assigned to either the low-dose (20 mg) or high-dose (40 mg) simvastatin arm.

Patients in the simvastatin control groups received a 50-mg dose of immediate-release niacin to maintain study blinding.

The primary endpoint of SEACOAST I and II was median percent change from baseline to Week 24 in non-HDL-C. However, SEACOAST I was aimed at demonstrating the superiority of ER niacin/simvastatin vs simvastatin monotherapy in patients already at NCEP III coronary heart disease risk-adjusted target LDL-C, while SEACOAST II was aimed at demonstrating the noninferiority of ER niacin/simvastatin vs simvastatin monotherapy in patients at NCEP-defined higher risk with any level of LDL-C.

Results

SEACOAST I patients receiving combination treatment achieved 14% (1 g/20 mg) and 23% (2 g/20 mg) reductions in non-HDL-C vs a 7% reduction with simvastatin 20 mg alone (Table 1). Combination treatment also resulted in significant improvements in HDL-C and triglycerides compared with simvastatin monotherapy.

Patients in the low-dose group (SEACOAST I) were randomized to:

ER niacin 1 g/simvastatin 20 mg;
ER niacin 2 g/simvastatin 20 mg; or
Simvastatin 20 mg.

Patients in the high-dose group (SEACOAST II) were randomized to:

ER niacin 2 g/simvastatin 40 mg;
ER niacin 1 g/simvastatin 40 mg; or
Simvastatin 80mg.

Table 1. SEACOAST I: Median Percent Change in Lipids From Baseline at 24 Weeks

Lipid	Simvastatin 20 mg	ER Niacin 1 g/ Simvastatin 20 mg	ER Niacin 2 g/ Simvastatin 20 mg
Non-HDL-C	-7.4%	-13.9%*	-22.5%**
LDL-C	-7.1%	-13.1%	-14.2%
HDL-C	6.7%	18.3%**	24.9%**
TC:HDL-C	-10.3%	-21.0%**	-31.3%**
Lp(a)	-7.6%	-16.7%*	-25.0%**
Triglycerides	-15.3%	-26.5%*	-38.0%**

*P < .01; **P < .001 vs simvastatin monotherapy; HDL-C = high-density lipoprotein cholesterol; Lp(a) = lipoprotein (a); LDL-C = low-density lipoprotein cholesterol; TC:HDL-C = ratio of total cholesterol and HDL-C

More patients on combination treatment achieved their lipid goals (HDL-C \geq 40 mg/dL, triglycerides < 150 mg/dL, and NCEP cardiovascular risk factor adjusted goals for non-HDL-C and LDL-C) and a significantly greater percentage of patients on ER niacin 2 g/simvastatin 20 mg compared with patients on simvastatin 20 mg achieved LDL-C, HDL-C, and triglyceride goals.

The combination of ER niacin/simvastatin was well tolerated with no unanticipated adverse events. The proportion of patients who experienced flushing was similar in all 3 treatment groups (Table 2), but over 90% of the flushing episodes were mild or moderate in intensity. The overall discontinuation rate for ER niacin/simvastatin was 7.5%. About 28% of patients who reported flushing with combination treatment within the first 12 weeks of the study did not report it during Weeks 13-24.

Table 2. SEACOAST I: Incidence of Treatment-related Flushing

Flushing	Simvastatin 20 mg	ER Niacin 1 g/ Simvastatin 20 mg	ER Niacin 2 g/ Simvastatin 20 mg
Flushing	49 (43.0%)	64 (52.0%)	39 (60.9%)
Discontinuation due to flushing	0 (0.0)	8 (6.5%)*	6 (9.4%)*

In SEACOAST II, combination therapy showed non-inferiority in reducing non-HDL-C, with decreases of about 11% (1 g/40 mg) and 17% (2 g/40 mg) compared with a 10% reduction with simvastatin 80 mg alone (Table 3). Both combination treatment doses were associated with significant improvements in other lipid parameters, including HDL-C, triglycerides, lipoprotein (a) (Lp[a]), and apolipoprotein A-1 (apo A-1). Three times more patients on ER niacin 2 g/simvastatin 40 mg achieved their lipid goals than patients on simvastatin 80 mg monotherapy.

Table 3. SEACOAST II: Median Percent Change in Lipids From Baseline at 24 Weeks

Lipid	Simvastatin 80 mg	ER Niacin 1 g/ Simvastatin 40 mg	ER Niacin 2 g/ Simvastatin 40 mg
Non-HDL-C	-10.1%	-11.3%	-17.1%
LDL-C	-12.7%	-8.6%	-11.6%
HDL-C	-1.0%	14.8%*	21.9%*
TC:HDL-C	-5.1%	-16.2%	-24.5%*
Triglycerides	0.3%	-22.8%*	-31.8%*
Lp(a)	0.0	-16.7%*	-21.0%**
Apo B	-8.8%	-10.1%	-14.1%
Apo A-1	1.4%	5.4%*	8.7**

The combination of ER niacin/simvastatin was also well tolerated in SEACOAST II. A similar proportion of patients in each group experienced flushing (Table 4), but over 90% of the flushing episodes were mild or moderate in intensity. Overall discontinuation rates for ER niacin/simvastatin were 4.6%. Almost 50% of patients who reported flushing with combination treatment within the first 12 weeks of the study did not report it during Weeks 13-24.

Table 4. SEACOAST II: Incidence of Treatment-related Flushing

	Simvastatin 80 mg	ER Niacin 1 g/Simvastatin 40 mg	ER Niacin 2 g/Simvastatin 40 mg
Flushing	60 (50.4%)	65 (56.0%)	67 (67.0%)
Discontinuation due to flushing	1 (0.8)	5 (4.3%)	5 (5.0%)

There was no evidence for increased risk of hepatotoxicity or myopathy with the combination. Only 1 patient in both studies combined had elevations 3 times the upper limit of normal of aspartate aminotransferase and alanine aminotransferase, on 1 visit only (the last).

The SEACOAST results demonstrated that reductions in non-HDL with the ER niacin/simvastatin combination were greater than those achieved with the same or even a larger dose of simvastatin alone. Regarding the principal side effect of niacin, 6% of the patients on the combination treatment discontinued therapy due to flushing, compared with 0.8% with simvastatin alone.

Commenting on the results, Dr. Ballantyne emphasized the important of controlling HDL-C and triglycerides levels as well as LDL-C. "With the SEACOAST study, ER niacin/simvastatin provided comparable LDL-C lowering to simvastatin with significant benefit in raising good cholesterol and lowering triglycerides. This type of combination approach could be an important tool in treating patients with complex lipid disorders," he commented.

REFERENCES

See Full Article at <http://www.medscape.com/viewarticle/567894>

WHAT'S HAPPENING...



IT WAS VERY ENCOURAGING TO SEE SO MANY OF YOU AT THE AMDA NATIONAL SYMPSIUM IN SALT LAKE CITY, UTAH. Next year the travel will not be as onerous since the meeting will be held right here in Charlotte, NC. This is a great opportunity to bring your administrator and director of nursing to the meeting and plan time to brainstorm about putting new information and skills into action within the nursing homes of NC that you serve. (see more below about this event).

The AMDA House of Delegates was hard at work in Salt Lake City. One white paper was approved that highlighted the importance of every nursing facility having an ethics committee that can help when end of life issues need to be discussed. Two resolutions were approved. One highlighted the importance of standardize flow of critical information between acute and long-term care sites and resolved that AMDA work with the AMA and others to improve and standardize these procedures and policies in an effort to enhance care transitions. The other resolution reiterated AMDA's opposition to the CMS 3-day hospitalization requirement for skilled nursing rehabilitation eligibility and urged CMS to allow observation bed status and emergency room observation time to count toward meeting the 3-day inpatient stay requirement. These resolutions and the white paper are available on the AMDA website (amda.com) under 'governance'.

We now have a full compliment of NC chapter board members. Randy Long, MD from Lexington, NC was elected as representative for the central region. Steve Ferguson is representing the eastern region and Eileen Caquias-Gonzalez, MD is representing the western region. Jamehl Demons, MD is our past president, Gwen Buhr, MD is the current vice President, and Jose Gonzales is our secretary/treasurer. If you are interested in serving the organization in some specific capacity please let one of us know.

We are looking forward to an outstanding NC/SC MDA symposium in Charlotte, NC October 24-25, 2008. Many of the speakers have already been chosen and the schedule will soon be finalized. We are considering a new hotel site for this exciting symposium so save the date and watch for further details to come

We are gearing up for the AMDA National Symposium in Charlotte, NC March 5-8, 2009. At the North Carolina State Chapter meeting in Salt Lake City each member agreed to contact two other medical directors or attending physicians in their region who are not currently members of the organization to especially let them know about the upcoming AMDA National Symposium that will be held in Charlotte, NC within the year. This is an exciting opportunity that will not come our way again for a long time. March, 2009 are the dates for next AMDA National Symposium. We would like to see the medical director, director of nursing, administrator and consulting pharmacist from each of the over 400 NC facilities represented. Continuing education credits are available for each of these professions and the AMDA provides a registration discount for attendance of more than 2 people from a single facility.

The NC chapter is serving our state and our members. I was invited to speak at the NC Health Care Facilities Association January meeting in Greensboro, NC. It was good to have the attention of a committed group of nursing home administrators for a full 90 minutes and to share a productive conversation about improving medical care in nursing facilities for our oldest and frailest citizens. Dr. Buhr, Dr. Demons and I are sharing the responsibility of discussing medical direction with administrators-in-training. This professional development and licensing preparation course is required for anyone seeking a license to serve as a nursing home administrator in North Carolina. This course is conducted by the [North Carolina State Board of Examiners for Nursing Home Administrators \(NCBENHA\)](#) in partnership with the School of Public Health, at the University of North Carolina at Chapel Hill. We are willing and able to serve NC in other ways and to partner with other organizations that promote excellent long-term care services. We rely upon our members in large part to bring opportunities to our attention.

Heidi Heidi K White, MD, MHS, CMD President, NCMDA *Durham, NC*

NC Members ♦ In Our Spotlight

Jose Gonzalez, MD *Asheville, NC*



Born and raised in Puerto Rico Jose Gonzalez, MD, left to go to Syracuse University on a swimming scholarship. After completing his undergrad work he returned to Puerto Rico to attend Ponce School of Medicine and later transferred and completed his medical training at Brody School of Medicine, Greenville, NC. His residency was completed in Asheville, NC with the MAHEC Family Medicine residency program.

Jose lives in Western North Carolina where he has worked in the areas of public health and private family practice before transitioning into long term care and joining Extended Care Physicians in 2006, where he is the Assistant Medical Director.

He is married to Eileen Caquias-Gonzalez, MD, a colleague at Extended Care Physicians and the current Western Carolina Regional Representative to the AMDA Board. Jose and Eileen have three children.

When not seeing patients or performing medical director duties, Jose serves as Secretary / Treasurer of the NC Chapter of AMDA and on the Board of the Buncombe County Medical Society, volunteers with project Access, co-hosts a local alternative music radio show, swims, runs, bikes, cooks out, and tries to keep up with his two sons and daughter. He also holds an MBA in entrepreneurship from Western Carolina University.

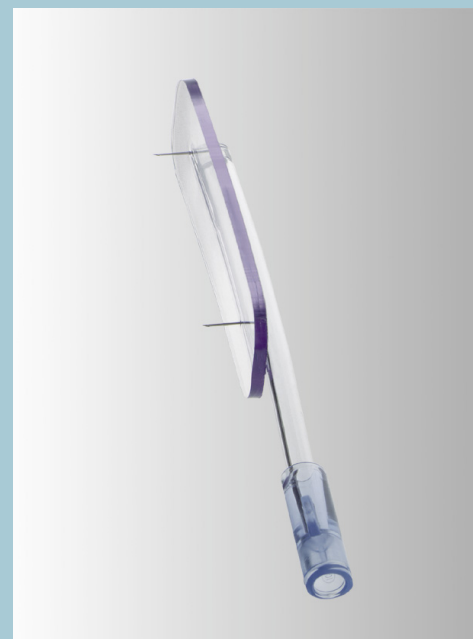
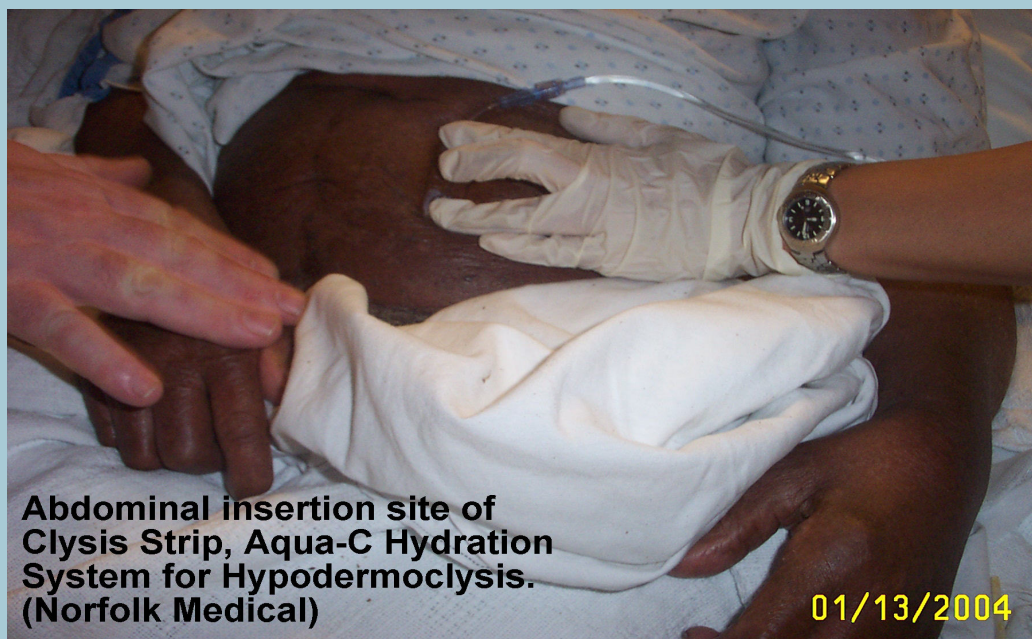
DEHYDRATION in the Elderly LTC Patient

by RANDY LONG, MD, CMD *Lexington, NC*

In the elderly population, for whom we care on a daily basis, dehydration is a serious medical illness. Intravascular volume depletion is one of the 10 most common reasons for hospitalization in older adults and has a higher 60 day mortality than hip fracture. Dehydration is recorded as a sentinel event by state surveyors and even a single event is judged as unacceptable. This problem is addressed by QM/QI 7.3 and F tags 272, 279, 282, and 327.

Dehydration is commonly misdiagnosed by practitioners unfamiliar with the older adults living in long term care (LTC) facilities because some traditional clinical signs such as dry mouth and poor skin turgor are not reliable in this population. As with any disease, this diagnosis is made on the basis of history, physical exam, and laboratory features. Postural vital signs have been found to have a sensitivity of 40% and a specificity of 80%. The most reliable physical finding in favor of dehydration is a dry axilla which has a sensitivity of 50% and specificity of 82% whereas dry mucus membranes has a sensitivity of 85% and a specificity of 58%. These numbers demonstrate why simple laboratory tests are essential in making the diagnosis of dehydration. The osmolarity should be greater than 295 mOsmol/kg or a sodium of greater than 145 which is a surrogate. [Osmolarity = $2(\text{Na}^+) + \text{glucose}/18 + \text{BUN}/2.8$] BUN/Cr should be greater than 20. One study demonstrated that at least 61% of older patients were misdiagnosed as having dehydration at admission to the hospital that was not substantiated by the lab results.

Cases of true dehydration can be treated as effectively in a skilled nursing home as in the hospital using standard fluids either IV or SQ. Nursing skills and IV access sometimes precludes the use of IV fluids in LTC facilities prompting an admission to the hospital. In an attempt to avoid hospitalization SQ administration of fluids is becoming increasingly popular. Hypodermoclysis is simply a butterfly needle inserted into the SQ tissue bevel up connected to a bag of fluid. Standard technique is to use two separate sites and to administer up to 1.5 liters through each needle per 24 hours. Equipment is available to connect both sites to the same bag of fluid. SQ infusion is easier to initiate, requires limited training, easy to restart, rarely causes infection, produces minimal bruising, and rarely causes fluid overload. This procedure is very cost effective if standard IV tubing and solutions are used. Some medications, including opioids and potassium, can also be administered in this manner. Nuclear studies have shown that a 500 cc bolus administered into the chest SQ tissue is absorbed within one hour. Recombinant hyaluronidase is now available to allow the more rapid absorption of SQ solutions and to minimize the amount of swelling of the SQ tissues during the infusion. Hypodermoclysis is a safe and effective technique for administering up to 3 liters of fluid per 24 hours in LTC facilities.



WHAT'S HAPPENING....

NEW NURSING HOME REGULATIONS EFFECTIVE MAY 1, 2008.

The new SC nursing home regs were sent back to DHEC by the SC legislation in April. The state legislators have asked DHEC to reconsider the fees charged for licensure. (DHEC had proposed increasing the fees.) If DHEC agrees not to increase the fees then the new regs will be published in the state register sometime in June of this year.

A complete summary of the proposed legislative changes and the outcomes of those proposals can be found on the CarolinasMDA web site.

www.CarolinasMDA.com

After you login (SC members), go to:

- File Archive
- Advocacy Documents
- 2008 Changes to SNF Regs

or send e-mail to stephanieguest@sc.rr.com and I will send you a copy.

Vitamin D: Deficiency in Long-Term Care

Continued from page 1...

These sources are not sufficient to keep adequate vitamin D levels in nursing home patients. NHANES III study found approximately 1/4 of persons >60yo had vitamin D deficiency and that <2% met the adequate daily intake of vitamin D from food alone.

Vitamin D status is classified as replete: >20ng/ml (50nmol/L); mild deficiency: 10-20ng/ml (25-50nmol/L); moderate deficiency: 5-10ng/ml (12.5-25nmol/L); severe deficiency: <5ng/ml (<12.5nmol/L).

Persons who are already deficient in vitamin D cannot just begin a multivitamin (which has 400-800 IU per tablet) and expect to reach replete levels. Studies have estimated that anywhere from 1160 IU to 2200 IU (above the current IOM tolerable upper intake level of 2000 IU) of vitamin D daily would be needed to reach and maintain a vitamin D level of 32 ng/ml (80 nmol/L) in individuals with mild to moderate deficiency. A cost effective means to replace vitamin D is to prescribe a 50,000 IU vitamin D2 (ergocalciferol) tablet weekly for two months and then every other week or every month.

While there is no current national recommendation to check vitamin D levels, the level of deficiency in the nursing home population and the positive effects of normal vitamin D levels make it a notably appropriate screening test in this population.

Jamehl L. Demons, MD
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How Low Should We Go?

Statin Therapy Revisited

A Review by Gwen Buhr, MD
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Statin therapy in the elderly – should it be used, and how low should the LDL target be? This issue was debated at the American Medical Directors Association annual meeting in Salt Lake City. The pro side was defended by William Simonson, PharmD, CGP, an independent consultant pharmacist and past president of the American Society of Consultant Pharmacists, who has authored 2 books and more than 100 articles on medicine use and misuse in the elderly. The con side was presented by Phillip Thornton, RPh, PhD, CGP, a clinical geriatric pharmacist at Stanley Regional Medical Center and adjunct assistant professor at the University of North Carolina School of Pharmacy.

Dr. Simonson began by characterizing coronary artery disease (CAD) in the elderly, and then summarized the evidence supporting lipid lowering with statin therapy in the elderly. CAD is the leading cause of death in the elderly in the United States: 84% of those over the age of 65 die from CAD, and the majority of myocardial infarction-related mortality occurs in those over the age of 75. The current cholesterol treatment guidelines, which come from the NCEP ATP III, were updated in 2004 and put a big emphasis on LDL. The update suggests that treating to a target LDL of <70 is optimal in high risk patients. Dr. Simonson then summarized the evidence for using statins for lipid lowering (see Table).

Trial	Age, mean in yrs (inclusion criteria)	Treatment regimen	Outcome
PROVE IT-TIMI 22	58 (≥18)	pravastatin 40 mg vs. atorvastatin 80 mg	16% relative risk reduction favoring atorvastatin in composite endpoint: death from any cause, MI, unstable angina requiring rehospitalization, revascularization, and stroke
HPS	(40-80); 52% ≥ 65	simvastatin 40 mg vs. placebo	Similar risk reduction between elderly and total population; reduction in all cause mortality, coronary death and non-fatal MI
PROSPER	75 (70-82)	pravastatin 40 mg vs. placebo	reduction in coronary death and non-fatal MI
4S	(35-70); 23% 65-70	simvastatin 20 mg vs. placebo	in subgroup ≥ 65, reduction in all cause mortality, coronary death and major CV events
CARE	59 (21-75); 31% 65-75	pravastatin 40 mg vs. placebo	NNT 4 older patients and 8 younger patients to prevent one hospitalization due to CV events
SAGE	72.5 (65-85)	pravastatin 40 mg vs. atorvastatin 80 mg	greater reduction in LDL and reduction in all cause mortality favoring atorvastatin
LIPID	(31-75); 39% 65-75	pravastatin 40 mg vs. placebo	Similar risk reduction between elderly and total population; reduction in all cause mortality, coronary death and non-fatal MI

Dr. Simonson finished by saying that these trials support intensive statin therapy, with equal efficacy in older and younger patients. The numerous studies that used with various statins at different doses showed benefits across the board.

Dr. Thornton began his argument against statins with statistics showing that 73% of the patients in nursing homes are over the age of 75, and 42% are > 85 years-old. As can be seen in the table, few of the studies included patients over the age of 75 and even fewer included anyone over 85 years old. Further, epidemiologic studies show that those with the lowest cholesterol had the highest mortality. He mentioned a study not mentioned by Dr. Simonson, which supported his contention that there is no evidence for intensive therapy with statins – the TNT study which compared atorvastatin 10mg to atorvastatin 80 mg in which the average age was 60 years with a range of 35-75. This study showed a 2.2 % absolute risk reduction in cardiovascular events, but a 1% increase in elevated liver enzymes and no change in overall mortality. He also highlighted the fact that the risk of adverse events goes up with age. There is a 4-fold increase in rhabdomyolysis in patients over the age of 65, with the risk increasing with a higher dose and with renal insufficiency.

A major point agreed upon by both presenters was that patients being considered for treatment with a statin should have a life expectancy of 2 years or greater. Dr. Thornton argued that most patients in a nursing home do not have a 2 year life expectancy. Dr. Simonson countered that assisted living residents are likely to live 2 years and generally have a good quality of life.

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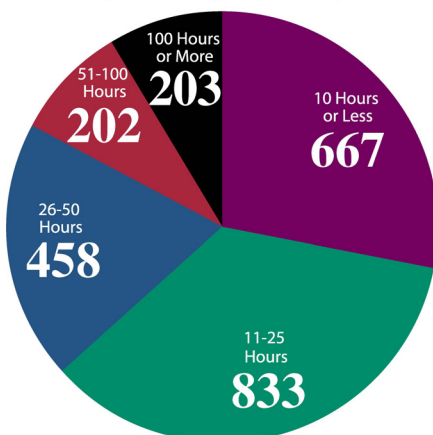
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