

# Geriatric Fracture Program Update

Synthes Geriatric Fracture Program



Spring, 2009

Volume II, Issue I

## In this issue:

Delirium in Elderly Fracture Patients **1-2**

Fractures due to Malnutrition: It can be Avoided **2-3**

## News:

● AONA Management of the Geriatric Fracture Patient : Miami Beach, FL, June 5-6, 2009. Go to [www.AONA.org](http://www.AONA.org) to learn more and register.

● The new Geriatric Fracture Program Website is up and running! Visit: [www.synthesgfp.com](http://www.synthesgfp.com)

● Congratulations to the following hospitals for completing implementation last quarter:

-Virtua Health, NJ

-Medical University Health Hospital, SC

-Mission Hospital, NC

-Memorial Regional South, FL

-Jersey Shore University Medical Center, NJ

-Firelands Regional Hospital, OH

- Aurora Medical Center, WI

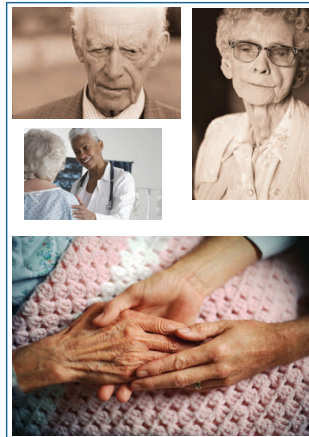
## Delirium in Elderly Fracture Patients

The Diagnostic and Statistical Manual of Mental Disorders (DSM IV) officially defines delirium as a disturbance of consciousness with inattention accompanied by a change in condition or perceptual disturbance that develops over a short period of time (hours to days) and fluctuates over time.<sup>1</sup>

Delirium in hip fracture patients generally has an underlying cause such as severe physical pain, fever, lack of food, water or sleep, and/or traumatic shock. It becomes present in 11-42% of hospitalized elderly; while affecting one-fourth to half of elderly hip fracture patients.<sup>2</sup> There is a difference between delirium in a medically ill patient and delirium in a hip fracture patient. Studies show that while the hip fracture patient frequently has many chronic medical problems, they are not admitted with infections or metabolic problems as the medically ill patient is. Instead the hip fracture patient is at risk for complications due to the nature of the procedures taken to heal the fracture, and these complications are what contribute to delirium. Despite the common occurrence of delirium, it remains unrecognized in 66-84% of hospital patients.<sup>3</sup>

This disorder was once thought of as an unavoidable complication, that held no

long-term effects, however studies show otherwise. They now show that simple changes in hospital care can be taken to avoid the onset of delirium. Studies show that each day spent in a delirious state increases the risk of long-term cognitive impairment by 35%.<sup>4</sup> In addition to cognitive impairment, patients with delirium have an increased likelihood of dying within the year or being placed in a nursing home.



With tests like the Geriatric Fracture Program's Mini-Mental Assessment Protocol, the

chances of diagnosing delirium sooner than later are much greater, and treatment could take place to avoid long term effects. When executing a test like the Mini-Mental Assessment test, the strategy must be simple enough to use frequently. Postoperative delirium symptoms change rapidly, manifesting as mild acute confusion and worsening rapidly which is why it is vital to implement a diagnosis technique that is easy to administer and examine. Early and accurate detection is very important so not to delay the patient recovery. Delirium is often misdiagnosed due to lack of knowledge and awareness in nurses and doctors.

Continued on Page 2



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*Continued from page 1*

With the Mini-Mental Assessment Protocol the likelihood of misdiagnosis will decrease incredibly. The Mini-Mental Assessment Protocol tools allow for an estimated risk of developing delirium during a hospital stay. The test provides the questions and “red flags” a doctor should be aware of in order to determine if their patient is at risk for delirium. The areas the test touches upon are time orientation, local orientation, word repetition, and short term memory. This test is accessible at [www.synthesgfp.com](http://www.synthesgfp.com) under the premium downloads. Knowing risk factors of delirium is very helpful in early diagnosis. Three common risk factors for the onset of delirium have been studied. Results showed that upon admittance, patients who were suffering from visual impairment, severe illness, cognitive impairment, and dehydration were at greater risk for developing delirium.

Once delirium is detected and active in a patient, treatment is sometimes conducted by administering antipsychotics. Doctors must also treat and correct the underlying cause of the delirium correctly. Once the underlying cause is treated the delirium often corrects itself and the patient recovers completely. If the cause continues, delirium can progress to dementia.<sup>5</sup> It is necessary for doctors and nurses to have a great deal of knowledge and understanding about this devastating syndrome. With this knowledge, doctors will be able to better treat delirium.

*Sources can be found on page 4.*

## *Fractures due to Malnutrition: It can be Avoided*

### **Malnutrition Information:**

One of the most important factors influencing bone health is nutrition. It is very common for the elderly to become malnourished which then leads to more problems such as weak bones, confusion and weight loss as well as other serious medical conditions. If a malnourished elderly individual were to fall they are more likely to suffer from a fragility fracture (a bone fracture from falling at a standing height or less). Once in the hospital for a fragility fracture, for example a hip fracture, the malnourished patient has a much longer hospital stay compared to a nourished patient’s stay. Up to 64% of elderly hospitalized with a hip fracture are undernourished at admission or develop nutritional deficits while hospitalized.<sup>1</sup>

Several studies have shown that poor nutrition is more prevalent in elderly hip fracture patients when compared with the general elderly population.<sup>2</sup> With this notion one would think a complete nutritional evaluation would be obvious after an elderly patient is admitted with a hip fracture, however it is quite the contrary. Not only that,

but studies also show that many elderly hospital patients receive only 60% of their recommended dietary allowances while hospitalized.<sup>2</sup>

If doctors and nurses are more aware of the risk malnutrition poses against elderly fracture patients, the dietary protocol can be more useful. The Synthes Geriatric Fracture Program offers a Mini-Nutritional Assessment Test. By using this test doctors are given guidance in knowing which questions to ask, and what background is necessary to learn in order to decide whether or not their patient is at risk for malnutrition, or already suffering from malnutrition. You can access this Assessment test by visiting the Geriatric Fracture Program website at [www.synthesgfp.com](http://www.synthesgfp.com). The Mini-Nutritional Assessment test can be found under the premium downloads.

### **Recommendations to avoid Malnutrition:**<sup>3</sup>

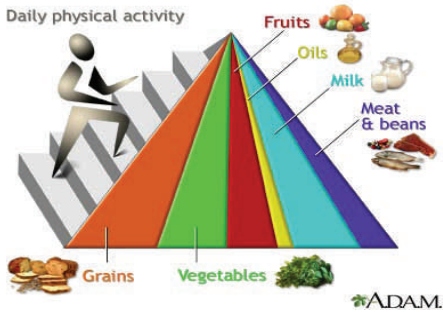
- Do not skip breakfast
- Eat at least three meals each day

Malnutrition, continued from page 2

- Eat foods from each food group at every meal
- Eat 4 servings of fruit and 5 servings of vegetables per day
- Read the nutrition label and ingredients of all the food you consume

**MyPyramid:<sup>3</sup>**

The U.S. Department of Agriculture’s newest food pyramid guide encourages consumers to combine healthier food choices with regular exercise. The food groups are also displayed differently, where the band width represents the portion size.



**Osteoporosis and Calcium Intake:<sup>3</sup>**

A main cause of Osteoporosis is low calcium content which makes the bones brittle and more prevalent to fracture. The recommended amount of calcium intake varies from age and gender. Below you can find a chart by the Dietary Reference Intakes for Calcium, National Academy of Sciences:

Ages	Amount mg/day
19–30	1000
31–50	1000
51–70	1200
70 or older	1200
Pregnant & Lactating	1000
14–18	1300
19–50	1000

**Osteoporosis and Vitamin D Intake:**

Vitamin D is a key element in maintaining optimal bone health, especially in woman over 50;<sup>4</sup> however it seems that vitamin D insufficiency, defined as values less than 12ng/ml<sup>6\*</sup>, is a frequent finding among community-dwelling elderly, and an almost universal finding among institutionalized elderly.<sup>7</sup> Studies have revealed increased sway and affected psychomotor function with increased risk of falling among vitamin D-deficient elderly, as well as an increased risk for osteoporosis, falls and fractures.<sup>7</sup> A recent survey from the Society for Women’s Health reveals that most women do not associate Vitamin D with bone health and are unaware of how to increase the amount of vitamin D in their diets. Vitamin D supplements may be the best way to get the proper daily dose,<sup>5</sup> however increasing foods such as orange juice, fortified milk, and fatty fish such as salmon and sardines will contribute to a healthy amount of vitamin D.<sup>4</sup> The surgeon General’s report recommends that men and woman over the age of 50 get 400 IU of vitamin D per day, and that men and women over the age of 70 get 600 IU of vitamin D per day.<sup>4</sup>

## Delirium in Elderly Fracture Patients

### Sources:

1. <http://en.wikipedia.org/wiki/Delirium>
2. Brauer, C., Silberzweig, S.B.: The Cause of Delerium in Patients With Hip Fracture, Archives of Internal Medicine, 160: 1856-60
3. Landro, L.: Delirium in ICU Patients, Once Thought Temporary, Can Inflict Lasting Damage, Wall Street Journal, October 17, 2007
4. Delirium Overview, <http://icudelirium.org/delirium>
5. Robertson, B.D., Robertson, T.J.: Postoperative Delirium After Hip Fracture, The Journal of Bone and Joint Surgery, 2006

## Fractures Due to Malnutrition: It can be avoided

### Sources:

1. Bopp, M.M., Nelson, C. L., Puskarich-May, C.L., et. al: Nightly Enteral Nutrition Support of Elderly Hip Fracture Patients: A Phase I Trial, Journal of the American College of Nutrition, 12(1):155-61, 1998.
2. Himes, J.H., Huang, Z., McGovern, P.G.: Nutrition and Subsequent Hip Fracture Risk Among a National Cohort of White Women, American Journal of Epidemiology, 144(2):124-34
3. Dietary Guidelines for Americans 2005. Rockville, MD: US Dept of Health and Human Services and US Dept of Agriculture, 2005. Reviewed 2008
4. Wider, J.: Vitamin D Necessary for Healthy Bones, [www.obgyn.net](http://www.obgyn.net).
5. D-fending your Health: Vitamin D is a Nutritional Powerhouse (2006). Retrieved from: Washington Examiner website
6. Vitamin D Deficiency (2006), [www.healthatoz.com](http://www.healthatoz.com)  
\*ng/ml: nanograms per milliliter
7. Mosekilde, L.: Vitamin D and the Eldery (2005), [www.medscape.com](http://www.medscape.com)