



OFFICE OF EMERGENCY MEDICAL SERVICES
NJ DEPARTMENT OF HEALTH & SENIOR SERVICES
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SPOTLIGHT ON EMS

(FOR ADULTS ONLY)

Spotlight on EMS—Aging

Welcome to the new EMS newsletter—*Spotlight on EMS*. We plan to address “new” or “hot” topics in the EMS and health care literature and topics some of you might have asked us for more information about .

In this first issue we are going to look at some issues unique to senior citizens. 13.1% of New Jersey’s population is persons 65 years of age and older. Aging is a complex process of increased mortality, physiological changes and increased susceptibility. As people age, there is an increased incidence of diabetes, heart disease, cancer, arthritis and kidney disease. But aging is not merely a collection of diseases and problems. Join us as we explore some of the complexities of the aging process.

Tailor Your Assessment and Interventions

by Raphael M. Barishansky, MPH, EMT-B

Geriatric patients aren’t just “older adults”—they come with their own challenges which can be social, cognitive and/or physical. As EMS providers, most of our basic patient assessments and interventions need to be tailored for this population. The following are some practical tips on how to achieve some success in geriatric interactions:

Assess Your Assessment

Although the physical-assessment algorithm of the geriatric patient will not differ from patients in younger age groups, there are some useful tips you should implement during your interaction. Some geriatric patients may be reluctant to tell you what’s wrong. They may feel they are being a “burden” or that they “don’t want to bother you” with their problems. They may have an extensive history they have related so many times they wonder why they should tell you when you’ll only be with them for 20 or more minutes, and then they’ll have to re-tell it to a nurse, a doctor, and the list goes on. Difficulties in communication are frustrating for those who cannot gather their thoughts, enunciate clearly or understand what is being said to or asked of them. Now, add a medical problem or traumatic injury, or both. It’s the EMS provider’s job to coax this information out of his patient in order to be able to initiate appropriate care that can be maintained throughout the rest of the system.

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Special points of interest:

- 37.9 million people were 65 or older in the United States on July 1, 2007 and 5.5 million were 85 or older
- By 2050 people in this age group will comprise 20% of the total population
- 1,134,636 NJ residents were 65 years old or over in 2007

Communicate

If at all possible, communicate directly with your patient. Although this may seem obvious, you would be surprised how many people listen to the geriatric patient's relative, friend or neighbor, when that patient can and does communicate quite well for him or herself. If the patient uses glasses, hearing aids or even dentures, make sure they are being used— it will make communication a lot easier for both of you.

Always let the patient know everything you are doing—clinically and otherwise. This communication is all the more important in what are unfamiliar surroundings for them. Even when you step behind them in the ambulance (to grab an additional piece of equipment or speak on the radio), let them know you are still there. Remember, you drive around in an ambulance routinely, they don't, and they may be uncomfortable in your environment.

Manners Matter

Ask the patient how she would like to be addressed. For example, ask: "May I call you Bernice, or do you prefer Mrs. Smith?" This simple step goes a long way in establishing patient/rescuer rapport. Don't call them "Pops," "Hon," "Sweetie" or any other cute nickname. They didn't live through 70 or more years to be treated like that. They grew up in a different time—a more formal one—that we need to understand and respect.

Mind Those Meds

Many elderly patients suffer from what EMS providers call "bag-o'-meds" syndrome, or "meds in a shoebox." You may recognize this from a call you've been on where it seems every medication you've ever heard of is in the patient's home. It is important to note that many meds are kept in weekly organizers that don't show the medication name/dose/strength or regimen. Many times, a family member, visiting nurse or aide sets this up for the patient. Bring it along. Another note about medication bottles: Often, the medication in the old, worn bottle with the label half gone is not what it says it is. The reasons vary as to why the patient reuses the same bottle: It's easier to open, easier to remember, and easier to recognize the color/size/shape. Or it might contain something totally different than what the label says. Check every bottle. The patient may have the same prescription from different doctors and/or different pharmacies, which are unaware the patient is taking multiple doses.



Check all possible locations for prescription and nonprescription bottles. The bedroom, bathroom and kitchen are popular places to look for all of those bottles to be stored together. Take them all with you and don't forget any vitamin supplements or herbal remedies. Many elderly patients who take a large number of pills use pillboxes to carry a specific drug with them. Ask about this and take it with you as well. All of these steps may help the doctor determine whether or not they have been taking the prescription.

Remember also that many people stop medications when they begin to feel better thinking that they no longer need it. And others think that taking a particular medication (and seeing blood work/test results/blood pressure return to "normal" levels) means that they don't have that disease/diagnosis any more.

Let's Get Physical

Physical presentation of geriatric patients is different from other patient groups. Some basic differences to be aware of are:

- Skin will usually be thinner and more fragile; bruising and tearing are common and it usually takes longer for wounds to heal. Be careful when taking a blood pressure, applying/removing tape, bandaging, etc.
- Significant hearing loss is common. Communicate in a normal tone, but slowly. Speak to the patient face to face. Don't yell.
- Musculature in general is decreasing and is often coupled with stiff, inflexible joints, as well as arthritis. Movement is slower and can be painful. Be aware and be patient.
- Eyesight tends to diminish with age. Cataracts are prevalent, and surgery to remove them can affect pupil reaction. Vision can be severely limited, even with glasses.

Also remember that in traumatic events, a less significant mechanism of injury (MOI) may adversely affect geriatric patients more than other patients. A fall from a standing height, for instance, may be painful to a pediatric or adult patient, but debilitating to the elderly. Coup/contracoup brain injuries and breakage of intracerebral vessels can occur in lower speed motor vehicle accidents with greater

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ease due to the shrinkage of tissue. Finally, older bones can be completely calcified and prone to snap when less force is applied, especially in older females suffering from osteoporosis.

Give Them the Power

Like most adults, your geriatric patients will want some measure of autonomy—that is, they will want to have a say in their own care. We need to work with them, whether it means allowing them to pick their own hat color or lock their own door. Keeping the patient updated on the intervention you will be providing is also important. Instead of saying, “This is an O2 mask” or “This is an IV,” tell them “this is some oxygen; it may help your breathing,” or “this is just some medication/fluid to help your heart.” Communicate with patients on a level they will understand. This may seem silly to you, but it isn’t to them.

Giving a geriatric patient autonomy shows respect and goes a long way in building the patient-caregiver relationship.

Lifting the Patient

During the lifting, moving and transportation of a geriatric patient, remember that their normal body cushioning may be diminished, and it is easier for them to get “banged up” than some of your other patients. Using pillows, blankets and linens will help protect them and make the journey more comfortable. Ask what position is most comfortable and adjust appropriately.

Conditions like kyphosis (hunchbackedness) and extreme arthritis may require creative padding, packaging or movement techniques.

Inventive Interventions

Prehospital interventions need to be approached from a unique perspective when handling the geriatric patient. Standard splinting techniques may have to be adjusted with more padding. You might need to use a padded short splint to keep an IV in place, or another pillow to help position a patient with a hip fracture.

For c-spine immobilization, search out the gaps caused by the patient’s unique musculature and fill them with sheets, blankets, etc.

Watch the Weather

Geriatric patients are more susceptible to changes in the weather than some other age groups. Older patients may not feel as comfortable as you do in hot or cold temperatures. That’s why you find them wearing sweaters in 90° weather.



Don’t guess—ask the patient about his comfort level. It’s also important to use blankets on an elderly patient during winter months and make sure that the head and extremities are covered before going outside.

Conclusion

The elderly can be some of the most unique and challenging patients we will see. This subgroup of EMS patients is increasing, so you will surely be seeing and treating more of them.

Polypharmacy and the Elderly

by Tom Hendrickson, MSN, RN, EMT-B

Polypharmacy means “many drugs.” In its strictest sense it means the taking of five or more medications by one person. While the elderly account for just 12%-13% of the population, they receive 32% of all prescriptions. The average American senior spends \$670 per year for pharmaceuticals.

Ninety-nine percent of older adults use at least one medication and nearly 30% use at least five medi-

cations. Research indicates 68% of those who use prescription drugs also combine them with over-the-counter medications and/or dietary supplements or herbs.

The elderly take so many meds for a variety of reasons. First there are so many more medications available, both by prescription and

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Polypharmacy and the Elderly. . .continued from page 3

over-the-counter. Individuals over 65 are more likely to have several chronic disorders and are also more likely to see several practitioners, each prescribing different medications for the same symptoms. Drug side effects are also sometimes misdiagnosed as another disease symptom with the end result being another drug added to the person's daily regimen.

The aging process affects drug sensitivity, including absorption, distribution and clearance. What exactly does this mean? When a med is taken by mouth, absorption is usually a little slower, but still complete. However, taking multiple meds simultaneously can cause one to interfere with the absorption of another. Adversely, absorption through the skin is generally faster as aged skin has become thin and fragile.

The elderly population frequently has a higher percentage of body fat causing fat-soluble medications to stay in the body longer. This aging group also has a decrease in total body water; thereby increasing the concentrations of water soluble drugs. Metabolism is decreased causing decreased blood flow through the liver. Therefore drugs are metabolized more slowly and not as well. Kidney function also declines with age, making it difficult for the body to eliminate drugs. Changes to the drug receptors in the body cause the elderly patient to become more or less sensitive to some medications.

Increased drug use also exists because health care providers willingly write prescriptions for their patients thinking that is what the patients want. And patients think that's what they need. Drug advertising has lead all of us to believe that there is a medication to take care of every symptom and to cure anything and everything. 75% of all visits to a physician result in a written prescription.

All of these factors contribute to a marked increase in drug reactions and drug-drug or drug-food interactions in those over 65. Researchers estimate that the potential for an adverse drug reaction is:

- 6% when a patient takes 2 medications a day
- 50% when a patient takes 5 medications a day

- 100% when a patient takes 8 or more medications a day

When evaluating an emergency situation in anyone over age 65, the types of medications, the amounts, and the potential for adverse outcomes have to be considered. When reviewing the medication history, be specific to ask about over-the-counter medications, including herbs and supplements. There are many drug-herb interactions that have been documented in the last ten years. Some herbs will prevent certain drugs from being absorbed so less of it reaches the bloodstream. Some herbs will allow certain medications to reach unusually high concentrations. These drug-herb interactions have the potential to affect about 75 percent of all medications.

When preparing to transport any older patient, gather all of their medications together and transport them with the patient. (This actually applies to any patient.) Be sure to include not only the prescription medications, but also over-the-counter drugs, topical meds, herbal preparations, vitamins and supplements. Ask a family member to help gather all of these items. This "brown bag" method of obtaining a drug history has been shown to produce the most accurate list of the drugs a patient takes.

Modern-day drug therapy saves lives and has improved the quality of life for many others. Used thoughtfully and sensibly, medications are great. But polypharmacy is a growing problem that requires careful consideration and awareness of the predicament in the elderly population. As the elderly population continues to increase, so will the incidence of problems with their medications.



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- Culberson. JW & Ziska, MD. Prescription drug misuse/abuse in the elderly. *Geriatrics*. 2008;63(9)22-31.

Understanding Dementia. . .

by Kathleen Lutz, MSN, CPNP

Getting older can be a very humbling process. Skin wrinkles, hair fades, muscles mass decreases, the brain shrinks. You can't find the car keys. You lost your glasses again. Is this really just a part of getting older? Or is this the beginning of Alzheimer's Disease?

Many people notice mild and gradual memory loss as part of their aging process. Reaction time increases, short term memory takes longer to function and there is more distractedness.

Severe memory loss is an entirely different matter. Dementia is the medical term used to describe a collection of symptoms that include memory loss, personality change and impaired intellectual functions. It can be the result of inflammation, disease or brain trauma to those parts of the brain involved with memory, learning, decision-making and language.

How Common is Dementia?

We usually think of dementia as a late-life disease. About 5–8 percent of people over age 65 have some form of dementia, and this number doubles every five years above that age. Some researchers believe that as many as half of all people over 85 years old develop some form of dementia. But it can also strike a person as young as 45.

With dementia there is a noticeable decline in communication, learning, remembering and problem solving. These changes may occur quickly or very slowly over time. The progression and outcome will vary from person to person and is also dependent upon the cause and the area of the brain affected.

An accurate diagnosis is critical for management and treatment. Diagnosis includes brain imaging, clinical examinations and diagnostic testing.

Causes of Dementia

More than 50 conditions involve dementia:

- Degenerative neurological diseases, including Alzheimer's disease, Parkinson's, Huntington's and dementia with Lewy bodies
- Vascular disorders, such as multi-infarct dementia
- A single trauma or repeated injuries to the brain
- Chronic drug use
- Depression
- Hydrocephalus, infections, brain tumors

Alzheimer's disease is just one form of dementia, although it is probably the most common, causing 50% to 70% of all dementia. Early diagnosis and some medications can prolong independence by delaying the onset of some of the more debilitating symptoms.

Vascular dementia is considered the second most common form of dementia. It results from a series of small strokes or changes to the brain's blood supply which severely impact memory and cognitive functioning. The person may have a past history of

heart attacks. High blood pressure, high cholesterol, hardening of the arteries, diabetes, or other risk factors for heart disease are often present. The sudden onset of symptoms may signal this form of dementia.

With the unraveling of the Human Genome scientists have finally begun to understand dementia. Genetics may increase your risk, but scientists believe

that it is a combination of heredity, the environment and lifestyle that determine a person's true risk. Vaccinations, genetic interventions and new medications may some day provide an answer and bring hope to countless individuals and their families.

(see page 6 for additional information about Alzheimer's Disease)

Typical Aging	Dementia
Complains about memory loss but able to give examples of the forgetfulness	Complains about memory loss only if asked but can give no examples
Occasionally searches for correct word	Frequent word substitutions or pauses while searching for word
Pauses to remember directions	Gets lost in familiar places
Remembers recent important events	Noticeable decline in memory of recent events
Social skills intact	Loss of interest in social activities or may behave in socially inappropriate ways

...Understanding Alzheimer's Disease

by John Liqua, MICP and Kathleen Lutz, MSN, CPNP

In 1910, Dr. Alois Alzheimer described a patient who at age 51 began experiencing memory loss, confusion, disorientation, hallucinations and ultimately her death at age 55. An autopsy showed some abnormalities of the brain including a thin cerebral cortex and senile plaque with neurofibrillary tangles. The senile plaque had previously only been seen in elderly people and the nerve tangles were something new. The disease was named after Dr. Alzheimer.

Alzheimer's disease is a progressive, degenerative and irreversible brain disorder with no definitive treatment and no cure. Approximately 4 million Americans have been diagnosed (including some under the age of 65) and over 100,000 die annually from this disorder. Similar statistics are reported in other countries. The most recognized case study of Alzheimer's disease is Shakespeare's King Lear.

10 Warning Signs of Alzheimer's

The Alzheimer's Association has identified a list of warning signs that include the common symptoms of Alzheimer's disease.

- Memory changes that disrupt daily life
- Challenges is planning and solving problems
- Difficulty completing familiar tasks
- Confusion with time or place
- Trouble understanding visual images and spatial relationships
- New problems with words in speaking or writing
- Misplacing things and losing the ability to retrace steps
- Decreased or poor judgment
- Withdrawal from work or social activities
- Changes in mood and personality

The Right Environment

EMS providers often have a limited understanding of Alzheimer's disease and may feel uncomfortable when interacting with someone with this diagnosis. This is based, in part, on the difficulty in communicating with these patients. Though often unable to speak, that doesn't mean they lack ideas or things to say. They often try to communicate in other ways: they may shout or use a word repeatedly, stand up suddenly as if to walk away or try to hold your hand. These actions are best interpreted as attempts to communicate. Families often know what the person needs because they have learned the signs. Though it is difficult, we must try to listen and interpret.

Individuals with Alzheimer's are highly sensitive to their surroundings: lighting, sound, voices, noise level, physical position and sensations provide strong input.

- Avoid TV & radio—those with Alzheimer's are easily confused by the presence of voices in the absence of people.
- Keep the lights bright—you might consider dim lighting to be soothing but since Alzheimer's diminishes a person's ability to perceive objects, low lighting only makes it worse.
- Keep your voice down—unless you know a person is hard of hearing, there is no reason to assume he is. Calmer voices yield calmer patients.
- Touch may work better than words—As one family member described it the gift of touch seems to preempt the need to think and communicate in words and sentences. Touching a person's shoulder or holding her hand may help to alleviate anxiety (which in an ambulance can be considerable.)
- Make eye contact as much as possible—individuals with Alzheimer's find this comforting.

Unlike the rest of your patients, the person with Alzheimer's requires concrete, closed-end questions. "How are you feeling?" will not mean much to someone who has trouble with abstract thought. Instead, you might ask (depending on the complaint) "Does your arm hurt?" or "Is it hard for you to breathe?"

Do not speak about a person as if he's not there. During transport is not a good time to catch up on conversation with your partner. To varying degrees, many patients can listen and communicate in some form.

Your perceptions of Alzheimer's disease can be modified. EMS providers can make a difference through communication, patient assessment and a broader understanding of the diagnosis.

References

Alzheimer's Association Web site:

www.alz.org (last accessed Sep 25, 2009)

Eder, Stephen. *The Alzheimer's Challenge*. *Emergency Medical Services* 01/07/05; 34(6): 99-103

POST TEST

- Alzheimer's disease is a common cause of dementia.
 - True
 - False
- How many New Jersey residents are 65 years old or over?
 - Less than 250,000
 - Less than 500,000
 - Over 1 million
 - Over 5 million
- Polypharmacy affects ___ of the older population.
 - 12%
 - 30%
 - 68%
 - 99%
- The aging process increases the incidence of:
 - Heart disease
 - Diabetes
 - Kidney disease
 - All of the above
- _____ can cause dementia:
 - Chronic drug use
 - Brain injury
 - Inflammation
 - All of the above
- It is important to gather a patient's current medications plus all over-the-counter meds, vitamins, herbal products and supplements they use because:
 - There is no need to do this. It is not important
 - They might be admitted and will need them
 - It will give the family member something to do while you complete the assessment
 - It is the only way to accurately review all medications a person may be taking
- Symptoms of dementia include:
 - Memory loss, feelings of being lost & poor decision-making
 - Feeling of being lost, poor decision-making & tiredness
 - Memory loss, personality changes & impaired intellectual function
 - All of the above
- Geriatric patients often have a significant hearing loss. Your appropriate response when talking to them should be:
 - Talk slowly and louder
 - Talk louder
 - Use sign language
 - Talk in a normal tone, but slowly
- What affects absorption and elimination of medications in the geriatric population?
 - Body fat percentage, metabolism, total body water content
 - Poor absorption through the skin
 - Increased metabolism and improved kidney function
 - Decreased body fat and increased total body water content
- Osteoporosis can cause:
 - Older adults to fall
 - A coup/contra-coup brain injury
 - Bones to break
 - Bone density problems in older males

ANSWER SHEET (#090239337) Spotlight on EMS Newsletter, Fall 2009

Name _____ EMT ID # _____

Address _____

Town _____

State: _____ Zip Code: _____

All answer sheets must be received prior to **March 30, 2010**.

Complete and return only the answer sheet
via mail, fax or e-mail—**do not** submit multiple copies

OEMS

Attention Kathy Lutz

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1 (One) Elective CEU for NJ EMTs with a minimum score of 70%

1 (One) Professional Development Hour for NJ School Nurses with a minimum score of 70%

- Check this box if NJ EMT
- Check this box if NJ School Nurse

Aging (circle correct answer only)

- | | |
|------------|-------------|
| 1. A B C D | 6. A B C D |
| 2. A B C D | 7. A B C D |
| 3. A B C D | 8. A B C D |
| 4. A B C D | 9. A B C D |
| 5. A B C D | 10. A B C D |



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Spotlight on OEMS

Created in 1967, the New Jersey Office of Emergency Medical Services (OEMS) was one of the first offices of its kind in the United States. OEMS is part of the Department's Division of Health Infrastructure Preparedness and Emergency Response.

OEMS maintains the certification of more than 26,000 Emergency Medical Technicians—Basics (EMT-B's) and 1,700 Emergency Medical Technician—Paramedics (EMT-P's) as well as the provider licensure of mobility assistance vehicles, ambulances, mobile intensive care units, specialty care transport units and air medical units totaling approximately 4,000 vehicles.

OEMS staff include

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