

How To

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By Terry Fulmer, PhD, RN, FAAN

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Fulmer SPICES

A framework of six 'marker conditions' can help focus assessment of hospitalized older patients.

Overview: Fulmer SPICES is a framework for assessing older adults that focuses on six common "marker conditions": sleep problems, problems with eating and feeding, incontinence, confusion, evidence of falls, and skin breakdown. These conditions provide a snapshot of a patient's overall health and the quality of care. The SPICES assessment, done regularly, can signal the need for more specific assessment and lead to the prevention and treatment of these common conditions. For a free online video demonstrating the use of SPICES, go to <http://links.lww.com/A100>.



Ed Eckstein

Lucy Semple, an 84-year-old resident of a long-term care facility, was brought to the ED on a Monday morning complaining of hip pain. The previous morning she had fallen on the way to the bathroom. (This case is a composite, based on my experience.) At the time of the fall she insisted that she was fine, but her pain worsened during the day and she slept poorly that night.

Ms. Semple waited in the ED from 9 AM until 2 PM on Monday. Because all of the beds were full in the ED holding area, Ms. Semple was left on a stretcher in the hallway. At 2 PM she was taken for an X-ray, which showed a fracture of the right femoral neck. After the surgeon finished the evaluation, the nurses prepared Ms. Semple for surgery. She had not eaten since lunch on Sunday. She was taken to the operating room at 5 PM on Monday. The operation lasted three hours, and she was brought to the recovery room by 8:30 PM in moderate-to-severe pain (8 out of 10 on a 0-to-10 Faces pain-rating scale). Food and fluids were offered after she could safely swallow, but she said her pain was making her nauseated and she ate nothing.

Ms. Semple was transferred to the orthopedic unit at 11 PM and received an opioid for pain throughout the night. She slept poorly, at one point screaming, “Operator, operator, where’s my mother?” During morning rounds, a nurse suggested that this “delightfully demented lady” would “probably need haloperidol [Haldol] to control her behavior.” It was further noted that there was a small reddened area, without exudate, on her coccyx and that she had been incontinent of urine during the night and been placed in absorbent briefs.

THE NEED FOR THE SPICES FRAMEWORK

When I became a nurse in the 1970s, we had much less evidence than we do now on how best to assess common geriatric conditions. This often forced us to rely on quick fixes that didn’t prevent or improve those conditions. If someone was incontinent, for example, a Foley catheter was inserted. Restraints and medications were used to treat confusion. If someone had trouble eating, a nasogastric tube was inserted. To treat problems with sleep, sedatives were given. When I became a geriatric nurse specialist, I’d go to a cardiac unit and say, “I’m Terry Fulmer, and I’m here to help you care for your older



Web Video

Watch a video demonstrating the use and interpretation of the Fulmer SPICES framework at <http://links.lww.com/A100>.



A Closer Look

Get more information on the assessment and care of older adults.



Try This: SPICES

This is SPICES in its original form. See page 45.

patients. Do you have any problems that I might help you with?” The nurses would usually say something like, “No; the patient has an anterior wall MI, and we’re working on getting the medication titrated and maybe there’ll be a pacemaker inserted.”

It became clear that we needed a new framework for assessing this population. The Nurses Improving Care for Health System Elders (NICHE) project has been identifying and helping hospitals implement best practices for the care of older adults since the early 1990s.^{1,2} (See *The Atlantic Philanthropies Supports Better Care of Older Adults*, page 43.) The NICHE project helps hospitals assess the quality of care they give to older adults and provides four nursing-care models, evidence-based protocols for assessing older adults, and educational materials to help hospitals implement effective systemic changes.^{2,3}

The Fulmer SPICES framework, which was developed in 1988,³ was implemented as part of the geriatric resource nurse model of care in the NICHE project. SPICES is an acronym that focuses nurses on six “marker conditions” in older adults rather than on the disease or injury for which a patient was hospitalized. These conditions, also sometimes referred to as syndromes, are common, preventable, and may signal a need for more in-depth assessment.

- Sleep disorders
- Problems with eating and feeding
- Incontinence
- Confusion
- Evidence of falls
- Skin breakdown

The presence of these conditions, alone or in combination, can lead to increased death rates, higher costs, and longer hospitalizations in elderly patients.^{4,7} The need for such a framework will become even more urgent as the number of people ages 65 to 84 doubles between 2000 and 2030, from 30 million to more than 61 million, according to U.S. Census Bureau projections.⁸ New models of care will be needed in all settings to accommodate the rapidly rising number of people living with one or more chronic conditions.⁹

Hospitals face particular challenges; as Ms. Semple's case illustrates, there's a great potential for functional decline in hospitalized older adults. If a SPICES assessment had been performed after Ms. Semple's first night of hospitalization, she would have received a positive result for all six conditions.

MARKER CONDITIONS

It can be debated whether SPICES covers all the conditions that are the most serious markers of health in older patients. While constipation and depression, for example, are also significant, the SPICES framework is not a comprehensive list of what can go wrong in a hospitalized older adult. Rather, it's intended to be a mnemonic device covering "geriatric vital signs" that, taken together, provide a good overview of a geriatric patient's response to the care given and point to the need for more detailed assessment when necessary.¹⁰ For example, if the patient reports to a nurse performing a SPICES assessment that she or he is sleeping poorly, further assessment might reveal that the cause is inadequately controlled pain. In this way the many complex connections among apparently unrelated problems in older adults can become clearer to nurses and help guide their plans of care.

Sleep disruption is common in hospitalized patients.^{11, 12} While there have been no national prevalence studies on sleep problems in hospitalized older adults, sleep disruption is common in that population. (For more information, see "Sleep Disruption in Older Adults," May.) The stress of hospitalization, being awakened for routine care, pain, the effects of medications, changes in environment, and noise can all further compromise sleep during hospitalization.

Assessing the patient. If a patient is cognitively intact, you can simply ask, "How well do you usually sleep?" In the case of Ms. Semple, the nurses could see that her sleep was fitful. Her pain and the medication she received for it may have played a role in her sleep disruption. Later, when she's lucid,

she can be asked about her usual sleep patterns and habits. Every effort must be made to create a good environment for sleep for older adults; such measures might include minimizing conversation in hallways and at the nurses' station during sleeping hours and limiting nursing interventions during this time—which might, for example, mean postponing a 4 AM blood pressure measurement if the patient is clinically stable.

SPICES is one of the many assessment tools and best practice approaches presented in the Hartford Institute's *Try This: Best Practices in Nursing Care to Older Adults* (www.hartfordign.org/trythis). Two *Try This* tools can be used to further evaluate a patient whose SPICES assessment suggests there is a sleep problem: The Epworth Sleepiness Scale (www.hartfordign.org/publications/trythis/issue06.pdf) and The Pittsburgh Sleep Quality Index (www.hartfordign.org/publications/trythis/issue06_1.pdf). More detail will be provided in upcoming articles and videos in this series.

Problems with eating and feeding. One study found that 20% of hospitalized older adults were undernourished.¹³ Weight loss, low body mass index, and malnutrition have repeatedly been associated with higher mortality rates in older adults in all settings.^{14, 15} These problems may be most apparent in patients who are anorexic or unable to feed themselves. A small study of hospitalized older adults by St-Arnaud-McKenzie and colleagues found close associations between poorly controlled pain and aversion to food and between hunger and a sense of physical well-being.¹⁶ The ability to feed oneself is a basic activity of daily living. Hospitalized older adults often have practical difficulties when feeding themselves: the bedside table is out of reach, utensils are hard to use because of IV lines, or food is cold by the time they are able to reposition themselves.

Assessing the patient. Ms. Semple's nurses were able to see that she had no appetite on the evening immediately after her surgery; when asked why, she reported that her pain was nauseating her. In order to improve her appetite, better pain management is required, and her desire and ability to eat should be assessed again the following morning and throughout her hospital stay. Research is needed to improve our understanding of problems with eating and feeding in hospitalized older adults. For a more detailed approach to assessment, see the *Try This* tool Assessing Nutrition in Older Adults (www.hartfordign.org/publications/trythis/issue_9.pdf), which will be featured in a future article in this series.



The Atlantic Philanthropies Supports Better Care of Older Adults

The NICHE program now has a strong mandate to expand its programs.

The Atlantic Philanthropies has awarded the Hartford Institute for Geriatric Nursing, part of New York University's College of Nursing, a \$5 million, five-year grant to expand its NICHE (Nurses Improving Care for Health System Elders) program. Since 1996, the Hartford Institute has administered NICHE, which has as its vision that all patients ages 65 and older be given sensitive and exemplary care. NICHE is a national geriatric nursing program that helps hospitals achieve systematic nursing change to benefit older patients. It is currently implemented in 225 hospitals in more than 40 states and parts of Canada.

Many nurses are unaware of the ways in which older adults differ from younger patients in terms of symptoms and appropriate treatment. Hospitals are recognizing that such teaching is necessary to prepare their organizations for the future. The Atlantic Philanthropies grant will help NICHE build its internal capacity, dramatically improve the program's "tool kit"—particularly its measurement and reporting capacity—and initiate outreach to accelerate adoption of the program by additional hospitals.

When hospitals first join the NICHE program, they send a team to a conference where they learn about the various ele-

ments of the NICHE tool kit. NICHE is a modular program that offers hospitals an array of options to improve their nursing resources for older adults. The most frequently used component, the Geriatric Resource Nurse model, helps hospitals train interested and motivated nurses in best practices for the care of older adults. These nurses then become resources for their colleagues, and many go on to become certified in gerontologic nursing. Some hospitals have adopted the Acute Care of the Elderly model, and others have instituted hospital-wide programs to address specific issues such as falls prevention, skin care, incontinence, and delirium.

The NICHE program aims to expand to 600 or more hospitals during the five-year grant period. The project's current plan includes regional and audio conferences and a new Web site for NICHE members that will offer interactive, Wikipedia-type technology, enabling users to share information about best practices in the care of older adults. For more information, go to www.nicheprogram.org.—Liz Capezuti, PhD, RN, APRN-BC, FAAN, associate professor and codirector, John A. Hartford Foundation Institute for Geriatric Nursing, New York University College of Nursing, New York City: ec65@nyu.edu.

Incontinence, of either bladder or bowel, in hospitalized older adults can vary in severity and may result from delirium or dementia, reduced function because of illness, medications that interfere with the ability to detect bladder fullness, disrupted ability to walk to a bathroom or use a bedside commode, and passive restraints such as IV lines, catheters, or traction devices. Although urinary incontinence, like weight loss, has shown close associations with longer hospitalization, poor outcome, and a poor sense of physical well-being,^{4, 17} one small exploratory study found that nurses often view incontinence as inevitable in this population and tend to use "containment" strategies such as pads rather than promoting continence.¹⁸ A literature search turned up no recent prevalence and incidence rates of incontinence in older hospitalized patients, but in 1991 the Centers for Disease Control and Prevention reported that from 1984 to 1987, 15% to 34% of hospitalized older adults had urinary incontinence.¹⁹

Assessing the patient. Ms. Semple's incontinence was initially assessed through observation. When she is oriented and responsive, she should be asked such questions as "Do you usually have difficulty reaching the toilet?" and "What can we do to help

you now?" Urinary incontinence can often be prevented using interventions such as a voiding schedule; once it does occur, it can be either acute and reversible or chronic and irreversible. An indwelling catheter should be used only as a last resort. Further assessment of Ms. Semple's incontinence might have been done using the *Try This* tool Urinary Incontinence Assessment (www.hartforddign.org/publications/trythis/issue11.pdf), which will be featured in this series.

Confusion, whether temporary or more long-term, afflicts many hospitalized older adults. A study at one hospital found that almost one-third of patients age 70 or older suffered delirium within 24 hours of admission.²⁰ And in a study of 118 consecutively admitted ICU patients ages 65 and older, 70% developed delirium in the ICU, as did 31% of those with a "normal mental status" at the time of admission.²¹ Hospitalization can disrupt older adults' eating and sleeping patterns and medication dosages and schedules, which may disorient those in an unfamiliar environment. Nurses should assess older patients for confusion, attempt to prevent its occurrence, and intervene to reverse and alleviate the fear that this condition can provoke.

Assessing the patient. Ms. Semple's confusion was



Watch It!

Go to <http://links.lww.com/A100> to watch a nurse use the Fulmer SPICES to assess an older woman for common geriatric problems and discuss ways to meet the challenges of administering it and interpreting and quickly acting on findings. Then watch the health care team plan short- and long-term interventions to address the woman's condition.

View this video in its entirety and then apply for CE credit at www.nursingcenter.com/AJNolderadults; click on the *How to Try This* series. All videos are free and in a downloadable format (not streaming video) that requires Windows Media Player.

first assessed through observation. The nurse's comment that Ms. Semple was "delightfully demented" suggests the assumption, common among health care providers, that all older adults in long-term care have dementia; it also reveals a lack of communication with the long-term care facility staff about the patient's usual mental status as well as with the ED staff about her mental status at the time of admission. The suggestion to give haloperidol may have been premature because Ms. Semple's change in cognitive status might have been alleviated by reducing her pain medication or by engaging a family member to help orient her. Ms. Semple's nurses could have used the following *Try This* tools for more detailed assessment of Ms. Semple's mental status: Mental Status Assessment of Older Adults: The Mini-Cog (www.hartfordign.org/publications/trythis/issue03.pdf) and The Confusion Assessment Method (www.hartfordign.org/publications/trythis/issue13.pdf), both of which will be featured in this series.

Evidence of falls. According to a literature review by Tinetti and colleagues, approximately 30% of community-dwelling adults ages 65 and older fall each year.²² Stevens and colleagues estimated the cost of nonfatal falls among people in the United States ages 65 and older in 2000 to have been more than \$19 billion.²³ A literature review by Oliver and colleagues notes that the most consistently identified risk factors for falls in hospitalized patients are confusion, gait instability, urinary incontinence or frequency, a history of falls, and the administration of sedatives and hypnotic drugs.²⁴ A

program instituted by Fonda and colleagues reduced falls by 19% over a two-year period at a hospital for the elderly in Australia; the program reviewed toileting protocols and instituted the use of nonslip bedside mats, identification and surveillance of patients at risk for falling, glow-in-the-dark commode seats, and staff orientation on falls prevention, among other measures.²⁵ It's important to determine which hospitalized older adults have a history of falls and take measures to anticipate and prevent them. If a patient who has no history of falls does so while in the hospital, assessment and treatment should focus on identifying possible iatrogenic causes.

Assessing the patient. Ms. Semple's hospitalization was known to be the result of a fall. When she is able to answer, she can be asked, "Is this the first time you've fallen?" The long-term care facility should also be consulted to find out whether Ms. Semple has a history of falls. The fact that she fell in the long-term care facility and her SPICES assessment was positive for evidence of falls should motivate her nurses to further assess her risk of future falls by using a tool such as Fall Risk Assessment for Older Adults: The Hendrich II Model (www.hartfordign.org/publications/trythis/issue08.pdf), to be highlighted in a future article in this series.

Skin breakdown—specifically pressure ulcers—can be fatal in older adults. The one-day 1999 National Pressure Ulcer Prevalence Survey found that of nearly 43,000 acute care patients, 14.8% had a pressure ulcer; 61% of these were in patients age 71 or older.²⁶ Skin breaks down in immobilized patients when pressure reduces the blood supply to an area and the tissue dies. Some of the major risk factors and causes are older age; bed rest; neuropathy, which can impair the detection of pain; poor nutrition; cognitive impairment, which can impede self-care or recognition of a problem; friction and shearing against bedsheets; and urinary incontinence resulting in moisture in areas over bony prominences.

Assessing the patient. Ms. Semple had several of the above risk factors. The redness on her coccyx was identified through physical examination and should have immediately led to measures to prevent the progression of skin breakdown, such as the use of a pressure-relieving mattress, turning every two hours, putting her on a voiding schedule instead of applying absorbent pads, and using a pressure ulcer assessment tool such as the Braden Scale for Predicting Pressure Sore Risk (see *Try This*, Predicting Pressure Ulcer Risk, www.hartfordign.org/publications/trythis/issue05.pdf).

Fulmer SPICES: An Overall Assessment Tool for Older Adults

*By: Meredith Wallace, PhD, APRN, CS, Fairfield University School of Nursing, and
Terry Fulmer, PhD, APRN, GNP, FAAN, New York University College of Nursing*

WHY: Normal aging brings about inevitable and irreversible changes. These normal aging changes are partially responsible for the increased risk of developing health-related problems within the elderly population. Prevalent problems experienced by older adults include: sleep disorders, problems with eating or feeding, incontinence, confusion, evidence of falls, and skin breakdown. Familiarity with these commonly-occurring disorders helps the nurse prevent unnecessary iatrogenesis and promote optimal function of the aging patient. Flagging conditions for further assessment allows the nurse to implement preventative and therapeutic interventions (Fulmer, 1991; Fulmer, 1991).

BEST TOOL: Fulmer SPICES, developed by Terry Fulmer, PhD, APRN, FAAN at New York University College of Nursing, is an efficient and effective instrument for obtaining the information necessary to prevent health alterations in the older adult patient (Fulmer, 1991; Fulmer, 1991; Fulmer, 2001). SPICES is an acronym for the common syndromes of the elderly requiring nursing intervention:

S is for Sleep Disorders

P is for Problems with Eating or Feeding

I is for Incontinence

C is for Confusion

E is for Evidence of Falls

S is for Skin Breakdown

TARGET POPULATION: The problems assessed through SPICES occur commonly among the entire older adult population. Therefore, the instrument may be used for both healthy and frail older adults.

VALIDITY AND RELIABILITY: The instrument has been used extensively to assess older adults in the hospital setting, to prevent and detect the most common complications (Fulmer, 2001; Lopez, et al, 2002; Pfaff, 2002; Turner, J., et al, 2001; NICHE). Psychometric testing has not been done.

STRENGTHS AND LIMITATIONS: The SPICES acronym is easily remembered and may be used to recall the common problems of the elderly population in all clinical settings. It provides a simple system for flagging areas in need of further assessment and provides a basis for standardizing quality of care around certain parameters. SPICES is an alert system and refers to only the most frequently-occurring health problems of older adults. Through this initial screen, more complete assessments are triggered. It should not be used as a replacement for a complete nursing assessment.

MORE ON THE TOPIC:

Best practice information on care of older adults: www.ConsultGeriRN.org.
Fulmer, T. (1991). The Geriatric Nurse Specialist Role: A New Model. *Nursing Management*, 22(3), 91- 93.
Fulmer, T. (1991). Grow Your Own Experts in Hospital Elder Care. *Geriatric Nursing*, March/April 1991, 64-66.
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Lopez, M., Delmore, B., Ake, J., Kim, Y., Golden, P., Bier, J., & Fulmer, T. (2002). Implementing a Geriatric Resource Nurse Model. *Journal of Nursing Administration*, 32(11), 577-585.
Nurses Improving the Care of the Hospitalized Elderly (NICHE) project at the Hartford Institute for Geriatric Nursing, <http://www.hartfordign.org>.
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Fulmer SPICES: An Overall Assessment Tool for Older Adults

Patient Name:	Date:	
	EVIDENCE	
SPICES	Yes	No
S leep Disorders		
P roblems with Eating or Feeding		
I ncontinence		
C onfusion		
E vidence of Falls		
S kin Breakdown		

Adapted from Fulmer, T. (1991). The Geriatric Nurse Specialist Role: A New Model. *Nursing Management*, 22(3), 91- 93.
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 try this: Best Practices in Nursing Care to Older Adults

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Online Resources

USING SPICES

In most cases the SPICES framework will be used to complement other, more detailed assessment strategies. A SPICES card can be completed on the day of admission and on each day of hospitalization for each patient age 65 or older. The card can be created and reproduced by using a three-by-five-inch index card with S-P-I-C-E-S written on the vertical axis and yes and no check boxes by each condition. (See *Fulmer SPICES: An Overall Assessment Tool for Older Adults*, page 45). In settings using electronic medical records, the card can be converted to an electronic file.

Positive responses should be noted in the patient's record, and preventive strategies should be detailed for any of the six marker conditions *not* present on assessment. Positive responses should lead to more detailed assessment. For example, if a patient is positive for "skin breakdown" or for the erythema that precedes skin breakdown, the nurse can then apply a well-established assessment tool such as the Braden Scale.

The bigger picture. The SPICES framework can also be used for unit-wide quality improvement. As nurses begin to see patterns emerging in their unit's SPICES data, they can review the literature for best-practice protocols. In a study conducted on one pulmonary and renal unit, each nurse filled out a SPICES card for every patient over the age of 65 for one month, with the goal of creating a nutritional screening tool.²⁷ They compiled data from more than 200 cards and found that sleep problems and problems with eating and feeding were the most prevalent conditions documented. Although these results were not surprising (many of the patients had difficulty breathing or were metabolically unstable because of renal disease), the data helped the nurses determine which patients needed more detailed assessment. This information also helped them establish clinical practice protocols for older adults on the unit, such as assessing for medications that might decrease appetite or offering patients their main meal at either lunch or breakfast.

The SPICES card can likewise help nurses see *what did not happen* on the unit in any given period. If a cardiac unit collects SPICES cards for older adults for an entire month and can report that there have been no documented SPICES conditions, that success will only reinforce the effectiveness of determining and implementing best practices.

CONSIDER THIS

Psychometric testing of the SPICES framework has been minimal, and interrater reliability has not been

For more information on SPICES and other geriatric assessment tools and best practices, go to www.hartfordign.org, the Web site of the John A. Hartford Foundation-funded Hartford Institute for Geriatric Nursing at New York University College of Nursing. The institute focuses on improving the quality of care provided to older adults by promoting excellence in geriatric nursing practice, education, research, and policy. Download the original *Try This* document on SPICES by going to www.hartfordign.org/publications/trythis/issue01.pdf.

To see links to many geriatrics institutions and associations, as well as gerontology-related journals and resources, curriculum guides, gerontology and education centers, and listservs, go to www.hartfordign.org/links/geriatric_links.html.

And go to www.nursingcenter.com/AJNolderadults and click on the *How to Try This* link to access all articles and videos in this series.

established. Face validity has been established with one interdisciplinary group at one hospital^{3, 10} and should be replicated, and formal content-validity testing has been conducted at diverse work sites. The effect of the racial and ethnic backgrounds of nurses and patients on the administration of SPICES has not been tested and is open to research. ▼

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How to Try This is a three-year project funded by a grant from the John A. Hartford Foundation to the Hartford Institute for Geriatric Nursing at NYU's College of Nursing in collaboration with AJN. This initiative promotes the Hartford Institute's geriatric assessment tools, Try This: Best Practices in Nursing Care to Older Adults: www.hartfordign.org/trythis. The print series will include 30 articles and corresponding videos, all of which will be available for free online at www.nursingcenter.com/AJNolderadults. Sherry A. Greenberg, MSN, APRN, BC, GNP (sherry@familygreenberg.com), and Nancy A. Stotts, EdD, RN, FAAN (nancy.stotts@nursing.ucsf.edu), are coeditors of the series. These articles and videos are to be used for educational purposes only.

Routine use of a Try This tool may require formal review and approval by your employer.

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2 HOURS

Continuing Education

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GENERAL PURPOSES: To present registered professional nurses with information on Fulmer SPICES, a framework for assessing older adults that focuses on six common "marker conditions" and provides a snapshot of overall health and quality of care.

LEARNING OBJECTIVES: After reading this article and taking the test on the next page, you will be able to

- present an overview of the SPICES framework for assessing older adults.
- review the background information on the need for and basis of the SPICES framework.
- plan the appropriate interventions for marker conditions that the framework identifies.

TEST INSTRUCTIONS

To take the test online, go to our secure Web site at www.nursingcenter.com/CE/ajm.

To use the form provided in this issue,

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