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Article 1: Breast; General Surgery

Twenty-five year trends in the incidence of ductal carcinoma in situ in US women. Oseni TO, Zhang B, Coopey SB, et al. *J Am Coll Surg* 2019;228:932–940

Article 2: Burn, Trauma, Critical Care; General Surgery

Frailty identification and care pathway: an interdisciplinary approach to care for older trauma patients. Bryant EA, Tulebaev S, Castillo-Angeles M, et al. *J Am Coll Surg* 2019;228:852–859

Article 3: Colon/Rectal; General Surgery

Comparison of outcomes between total abdominal and partial colectomy for the management of severe, complicated *Clostridium difficile* infection. Peprah D, Chiu AS, Jean RA, et al. *J Am Coll Surg* 2019;228:925-930

Article 4: Endocrinology, Thyroid, Parathyroid; General Surgery

Subtotal parathyroidectomy vs total parathyroidectomy with autotransplantation for secondary hyperparathyroidism in dialysis patients: short- and long-term outcomes. Zmijewski PV, Staloff JA, Wozniak MJ, Mazzaglia PJ. *J Am Coll Surg* 2019;228:831-838

Objectives: After reading the featured articles published in this issue of the *Journal of the American College of Surgeons* (JACS), participants in this journal-based CME activity should be able to demonstrate increased understanding of the material specific to the article featured and be able to apply relevant information to clinical practice.

A score of 75% is required to receive CME and Self-Assessment credit. The JACS Editor-in-Chief does not assign a manuscript for review to any person who discloses a conflict of interest with the content of the manuscript. Two articles are available each month in the print version, and usually **4 are available online for each monthly issue, going back 24 months.**

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ARTICLE 1

(Please consider how the content of this article may be applied to your practice.)

Twenty-five year trends in the incidence of ductal carcinoma in situ in US women

Oseni TO, Zhang B, Coopey SB, et al
J Am Coll Surg 2019;228:932–940

Learning Objectives: After study of this article, surgeons should be able to describe recent trends in ductal carcinoma in situ incidence, as well as understand associated trends in mammography screening. Surgeons should also be able to explain how incidence is influenced by patient race/ethnicity and age and consider these factors when discussing screening recommendations.

Question 1

Which of the following is TRUE regarding ductal carcinoma in situ (DCIS) incidence in the US population?

- DCIS incidence in the US population remained stable between 1998 and 2014.
- Between 1990 and 2014, DCIS incidence increased 4-fold.
- Between 1990 and 2014, DCIS incidence increased 6-fold.
- Between 1990 and 2014, DCIS incidence fell among African-American women.
- Between 1990 and 2014, DCIS incidence rose only among Caucasian women and not non-Caucasian women.

Critique: The incidence of invasive breast cancer in the US population has been rising. This study evaluated whether the same trend is seen in DCIS. Based on a retrospective cohort study using the Surveillance, Epidemiology, and End Results data, there was a 2.5-fold increase in DCIS incidence in the general population of US women ≥ 40 years old, between 1990 and 1998. This increase was seen across all races and ethnicities. Between 1998 and 2014, however, DCIS incidence was relatively stable.

Question 2

Non-Caucasian women exhibited which of the following after 1998?

- Decrease in ductal carcinoma in situ (DCIS) incidence
- Increase in DCIS incidence
- No change in DCIS incidence
- Increase in DCIS incidence for a period of 5 years then sudden decrease
- Decrease in DCIS incidence for a period of 5 years then sudden increase

Critique: This study revealed 2 distinct patterns in DCIS incidence. From 1990 to 1998, there was a rapid rise in the number of DCIS diagnoses. This rise was seen across the entire US population. After 1998, DCIS incidence remained relatively stable in the general US population. On subset analysis by race/ethnicity, however, DCIS incidence was stable among Caucasian women, but it increased among women of African-American, Hispanic, and Asian-Pacific Islander race/ethnicity.

Question 3

Based on the data in this study, which of the following factors is an independent predictor of ductal carcinoma in situ (DCIS) incidence rate?

- Mammography screening
- Digital mammography
- Digital mammography with tomosynthesis
- Family history
- Estrogen receptor/progesterone receptor mutation status

Critique: Ductal carcinoma in situ is a disease most commonly diagnosed on screening mammography. In this study's multivariate linear regression, mammography screening, age, and race/ethnicity affected DCIS incidence. Family history and mutation status are risk factors in breast cancer, but were not assessed in this study. Although mammography screening was assessed, this study was not able to determine whether film vs

digital mammography or tomosynthesis was used during mammography screening.

Question 4

Based on the current evidence available, which of the following groups had the highest incidence of ductal carcinoma in situ (DCIS) per 100,000 individuals in 2014?

- African-American women
- Hispanic women
- Asian-Pacific Islander women
- Women aged 50 to 64 years
- Women aged ≥ 65 years

Critique: Since 1990, DCIS incidence has risen for US women of all age and racial/ethnic groups. That said, women aged 65 years and older had the highest incidence of DCIS (43 cases per 100,000 individuals) when compared with the other groups. Of the answer choices listed, Hispanic women had the lowest incidence of DCIS (22 cases per 100,000 individuals).

ARTICLE 2

(Please consider how the content of this article may be applied to your practice.)

Frailty identification and care pathway: an interdisciplinary approach to care for older trauma patients

Bryant EA, Tulebaev S, Castillo-Angeles M, et al
J Am Coll Surg 2019;228:852–859

Learning Objectives: After the study of this article, surgeons should be able to understand the high prevalence of frailty in older adults with trauma, the importance of early identification of frailty in older patients with trauma, and the importance of implementation of the standardized interdisciplinary pathway to improve outcomes in frail older adults.

Question 1

Frailty is defined as a progressive decline of physiologic reserve and accumulation of deficits leading to adverse outcomes. According to the article, what is the percentage of frail geriatric (>65 years old) trauma patients?

- 11%
- 15% to 20%
- 30% to 40%
- Up to 50%
- 78%

Critique: In the general population, 11% of older adults are considered frail by various criteria. However,

up to 50% of older adults who are admitted to trauma are frail. Frail older adults have a much higher prevalence of impaired mobility, gait abnormalities, previous falls, sensory impairment, and cognitive impairment. As many as 78% of frail older adults have functional impairment before the injury. Therefore, they are more vulnerable to traumatic falls and motor vehicle accidents.

Question 2

Which of the following statements about screening for frailty is TRUE?

- Screening for frailty is usually done in the context of research and is hard to implement in clinical practice.
- Surgical residents can feasibly be trained to screen for frailty.
- Screening for frailty always needs to be done either by a geriatrician or a geriatric nurse practitioner.
- Screening for frailty takes only about 15 minutes and can easily be implemented in practice.
- Screening for frailty is usually not necessary because experienced surgeons can easily spot frailty when they evaluate their patients.

Critique: It is true that many frailty screening instruments were designed in the context of research and are challenging to implement in practice. However, the FRAIL questionnaire is straightforward to memorize, takes only 2 minutes to perform, has a reasonably high sensitivity and specificity for frailty, and is well suited for a busy emergency department or surgical ward. Any health care practitioner can be trained to screen for frailty, and they do not need specialized geriatric training. In this research, surgical residents were successfully trained to use the FRAIL screen and deployed it quickly in the setting of a hectic level I trauma center emergency room. Relying on the “eyeball” test to screen for frailty is not useful, as many frailty cases are missed.

Question 3

Which of the following statements is TRUE about early identification of frailty and implementation of geriatric-centered care?

- Early identification of frailty does not change outcomes because frail trauma patients are destined to fail.
- Early identification of frailty and the implementation of a standard pathway can significantly reduce the rate of delirium and 30-day readmission.

- Consultation with a geriatrician or geriatric nurse practitioner is necessary to trigger a geriatric-centered pathway.
- It is not necessary for trauma clinicians to learn principles of geriatric medicine because one can always consult a geriatrician or a geriatric nurse practitioner.
- A dedicated geriatric unit is necessary for geriatric-centered care.

Critique: Frail trauma patients have worse outcomes such as increased rate of delirium, longer length of stay, and higher mortality. However, frailty is a dynamic state and may worsen without proper care. In this study, early identification of frailty and implementation of a frailty pathway resulted in the reduced rate of delirium and 30-day readmission. Initiation of a geriatric-centered pathway does not need a previous consultation by a geriatric specialist because the early screening for frailty can itself trigger a specific geriatric-centered care protocol. In essence, the pathway itself can trigger a consult by a geriatric specialist if one is available. However, the national shortage of geriatricians and the increasing aging trauma population necessitate education of trauma clinicians in the principles of geriatric medicine. Several studies demonstrated that a dedicated geriatric unit is not essential for providing excellent geriatric care.

Question 4

According to the article, which of the following is CORRECT about the standardized frailty interdisciplinary pathway?

- Implementation of a standardized interdisciplinary pathway requires substantial additional resources.
- It is essential to check vital signs overnight to make sure that frail patients are stable.
- Continuous education of nurses, residents, and ancillary staff is necessary for successful implementation of the interdisciplinary pathway.
- Early ambulation may worsen the pain after trauma in frail older adults and might trigger delirium.
- Delirium is a frequent complication of trauma in older adults, and nurses should monitor for the possible signs of delirium daily.

Critique: The implementation of a standardized frailty interdisciplinary pathway does not require substantial additional resources. If the patient is clinically stable, it is essential to avoid taking vital signs at night because this may disrupt the sleep-wake cycle in vulnerable older adults and contribute to the development of delirium. In

order to successfully implement the interdisciplinary pathway and improve outcomes, continuous education of residents, nurses, and other staff is essential. Continuous education includes distributing educational printed materials and video lessons, interdisciplinary patient conferences, continuously assessing feedback from the team members, and making corrections in the pathway. Early ambulation is essential in preventing

hospital-associated deconditioning, pneumonia, and delirium and therefore should be an integral part of any geriatric-centered pathway. Because delirium is a very frequent complication of trauma in frail older adults, the nurses should monitor the patient's mental status every 8 hours using standardized assessment methods such as CAM (confusion assessment method) or other validated instruments.

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Twenty-five year trends in the incidence of ductal carcinoma in situ in US women

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	ANSWERS	
Name: _____	Article 1	Article 2
ACS Fellow ID _____	Question 1 _____	Question 1 _____
Fax: _____	Question 2 _____	Question 2 _____
Email: _____	Question 3 _____	Question 3 _____
	Question 4 _____	Question 4 _____

Evaluation Form	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
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3. I will seek additional information on this subject.	<input type="radio"/>				
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5. Content was fair, objective, and unbiased.	<input type="radio"/>				
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Article 2					
1. Topics and content were consistent with learning objectives.	<input type="radio"/>				
2. Content was relevant to my educational needs.	<input type="radio"/>				
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