



AMERICAN ACADEMY OF  
HOSPICE AND PALLIATIVE MEDICINE

**Feature Editor: Mellar P. Davis, MD, FCCP, FAAHPM**



**PC-FACS** (Fast Article Critical Summaries for Clinicians in Palliative Care) provides hospice and palliative care clinicians with concise summaries of the most important findings from more than 100 medical and scientific journals. If you have colleagues who would benefit from receiving PCFACS, please encourage them to join the AAHPM at [aahpm.org](http://aahpm.org). Comments from readers are welcomed at [pc-facs@aahpm.org](mailto:pc-facs@aahpm.org).

## Table of Contents

*From PC-FACS Issue 199—November 2, 2018*

**Cancer-Induced Bone Pain:** Falk S. Carbenoxolone as a novel therapy for attenuation of cancer-induced bone pain. *Pain*. 2018;159(6):1127-1136.

**Moral Distress in the ICU:** Altaker KW, Howie-Esquivel J, Cataldo JK. Relationships among palliative care, ethical climate, empowerment, and moral distress in intensive care unit nurses. *Am J Crit Care*. 2018;27(4):295-302.

**Chemotherapy and Functional Decline:** Hurria A, Soto-Perez-de-Celis E, Allred JB, Cohen HJ, Arsenyan A, Ballman K, et al. Functional decline and resilience in older women receiving adjuvant chemotherapy for breast cancer [published online ahead of print August 26, 2018]. *J Am Geriatr Soc*. 2018.

**Hospice Enrollment:** Gelfman LP, Barrón Y, Moore S, Murtaugh CM, Lala A, Aldridge MD, et al. Predictors of hospice enrollment for patients with advanced heart failure and effects on health care use. *JACC Heart Fail*. 2018;6(9):780-789.

**Parental Stressors in Pediatric Critical Care:** Sood E, Karpyn A, Demianczyk AC, Ryan J, Delaplane EA, Neely T, et al. Mothers and fathers experience stress of congenital heart disease differently: recommendations for pediatric critical care. *Pediatr Crit Care Med*. 2018;19(7):626-634.

**Culturally and Linguistically Diverse Perspectives:** Kirby E, Lwin Z, Kenny K, Broom A, Birman H, Good P. "It doesn't exist...": negotiating palliative care from a culturally and linguistically diverse patient and caregiver perspective. *BMC Palliat Care*. 2018;17(1):90.

## Summaries With Commentaries

### **Carbenoxolone As a Novel Therapy for Attenuation of Cancer-Induced Bone Pain**

**Background.** Only half of patients with cancer who have moderate-to-severe pain experience temporary pain relief through conventional therapies.<sup>1-4</sup> Can carbenoxolone alleviate cancer-induced bone pain (CIBP)?

**Design and Participants.** This study tested the analgesic potential of carbenoxolone, a broad-acting connexin blocker, in a CIBP mouse model and explored mechanisms using connexin43 and connexin37 gap junction blockers: Gap27 and Gap26. Sarcoma cells were inoculated into the medullary cavity, and carbenoxolone was administered intraperitoneally once/day beginning day 5 postsurgery. Limb use and weight-bearing deficits evaluated pain-related behavior, and  $\mu$ CT and X ray were used to evaluate relative bone density (RBD). Analysis included 1-way/2-way ANOVA and Kruskal-Wallis, Friedman, and log-rank tests.

**Results.** Animals were randomized into 5 groups: cancer+vehicle (n=10), cancer+20 mg/kg (n=11), cancer+40 mg/kg (n=12), sham+vehicle (n=8), and sham+40 mg/kg (n=8). Compared with sham-operated, cancer+vehicle demonstrated decreased limb use and weight-bearing 14, 18, and 21 days postinoculation; cancer+carbenoxolone did not display lower limb use until day 21 nor a weight-bearing deficit until days 18 and 21 (all  $P<.05$ ). Eighteen percent ( $P<.01$ ) and 25% ( $P<.05$ ) of cancer+20 mg/kg and cancer+40 mg/kg (vs. cancer+vehicle=70%) reached the humane end point (limb use=0) after 21 days. RBD was lower in sham+40 mg/kg (vs. sham+vehicle;  $P<.05$ ) and lower in the cancer-bearing vs. sham groups (days 14–21;  $P<.0001$ ). However, on day 7, only cancer+vehicle had lower RBD vs. shams ( $P<.05$ );

cancer+carbenoxolone did not until day 14 ( $P<.0001$ ). Gap27 increased limb use after 30 ( $P<.01$ ) and 60 ( $P<.05$ ) minutes and weight-bearing after 30 ( $P<.0001$ ) and 60 ( $P<.01$ ) minutes. Gap26 demonstrated no effect. Connexin43 was downregulated in cancer+vehicle (but not cancer+carbenoxolone) vs. shams ( $P<.05$ ).

*Commentary.* Currently, CIPB can be treated with nonsteroidal antiinflammatories, opioids, and adjunct therapy including radiation, nerve blocks, antiepileptics (eg, gabapentin and carbamazepine), antidepressants, and steroids. Despite the number of current analgesic treatments, CIPB continues to be disabling and difficult to treat. Carbenoxolone, a glycyrrhetic acid with a steroid-like structure derived from licorice root, has been used for the treatment of inflammation and ulceration of the gastro-esophageal tract. This study examines the analgesic potential of carbenoxolone, a broad-acting connexin blocker, and reports decreased and slower progression of pain-related behavior in a CIPB mouse model. The analgesic effect of carbenoxolone was felt to be mediated by altered nociceptive signaling by an unclear mechanism, possibly downregulation of connexin43, as opposed to a significant attenuation of bone degradation.

*Bottom Line.* Carbenoxolone, a low-cost and available drug, has analgesic potential in the treatment of CIPB and clinical trials are warranted.

*Reviewer.* Rony Dev, DO, Department of Symptom Control and Palliative Medicine, University of Texas MD Anderson Cancer Center, Houston, TX

*Source.* Falk S. Carbenoxolone as a novel therapy for attenuation of cancer-induced bone pain. *Pain*. 2018;159(6):1127-1136.

### References

1. Delaney A, Fleetwood-Walker SM, Colvin LA, Falton M. Translational medicine: cancer pain mechanisms and management. *Br J Anaesth*. 2008;101(1):87-94.
2. Urch C. The pathophysiology of cancer-induced bone pain: current understanding. *Palliat Med*. 2004;18(4):267-274.
3. Paice JA, Von Roenn JH. Under- or overtreatment of pain in the patient with cancer: how to achieve proper balance. *J Clin Oncol*. 2014;32(16):1721-1726.
4. Smith HS. Painful osseous metastases. *Pain Physician*. 2011;14(4):E373-E403.

### Analyzing the Relationship Between Palliative Care Access and Nurses' Moral Distress,

*Background.* Moral distress "occurs when one knows the ethically correct thing to do, but is prevented from

acting on that perceived obligation."<sup>1</sup> What is the relationship between palliative care (PC) access and intensive care unit (ICU) nurses' moral distress?

*Design and Participants.* This study evaluated relationships among moral distress, empowerment, ethical climate, and PC access in the ICU. ICU nurses in a national database were recruited (2015) to complete an online survey based on the Moral Distress Scale-Revised (MDS-R), Hospital Ethical Climate Survey (HECS), the Psychological Empowerment Index (PEI), and a questionnaire assessing nurses' perceptions of access to PC. Inclusions: current ICU nurse employment, provision of direct adult ICU patient care, and having provided care for a dying patient within 6 months. Descriptive, correlational, and regression analyses were performed.

*Results.* Participants (N=238) were mean (SD) age 38 (11) years, 90% female, 82% white, and 62% BSN degree holding with mean (SD) 8 (9) years ICU experience. Hospitals were 79% community/public. The mean (SD) MDS-R score (possible 0–225; higher reflects greater distress) was 97 (56). The mean (SD) HECS score (1.96–5; higher indicates a positive climate) was 3.9 (0.5). The mean (SD) PEI score (1–7; higher indicates greater perceived empowerment) was 5.3 (0.8). Empowerment ( $r=-0.145$ ;  $P=.02$ ), HECS ( $r=-0.354$ ;  $P<.001$ ), tertiary referral center facilities ( $r=-0.166$ ;  $P=.007$ ), education ( $P=.001$ ), and African American race ( $P<.001$ ) were negatively correlated with MDS-R. ICU bed number ( $r=0.251$ ;  $P<.001$ ) and full PC team access ( $r=0.196$ ;  $P=.004$ ) were positively correlated with MDS-R. MDS-R–empowerment and MDS-R–HECS relationships were unaffected by PC access.

*Commentary.* Not surprisingly, ICU nurses who work in an ethically supportive environment experienced lower levels of moral distress. In addition, there was a curvilinear relationship between moral distress and empowerment suggesting that nurses with very low and very high perceived empowerment have lower moral distress. Most surprisingly, nurses with access to PC teams reported higher levels of moral distress. Possible reasons cited for this were insufficient PC team integration, unmet expectations, and knowledge gaps regarding the role and benefits of PC for patients in the ICU. Perhaps this inverse relationship might be better understood if baseline knowledge of PC's role was assessed among all interdisciplinary ICU staff. This would then help identify key areas of deficiency and allow for targeted intervention.

*Bottom Line.* Additional studies looking at how to best integrate PC teams into the ICU might ameliorate moral distress among nurses.

*Reviewer.* Timothy Mark Corbett, MD MA HMDC FAAHPM, Trellis Supportive Care, Winston-Salem, NC

*Source.* Altaker KW, Howie-Esquivel J, Cataldo JK. Relationships among palliative care, ethical climate,

empowerment, and moral distress in intensive care unit nurses. *Am J Crit Care*. 2018;27(4):295-302.

#### Reference

1. Wocial LD, Weaver MT. Development and psychometric testing of a new tool for detecting moral distress: the Moral Distress Thermometer. *J Adv Nurs*. 2013;69(1):167-174.

#### Effect of Chemotherapy on Functional Decline in Older Women with Breast Cancer

**Background.** Almost half of breast cancer diagnoses occur in patients older than 65 years.<sup>1</sup> How much physical function change occurs in older adults receiving adjuvant chemotherapy?

**Design and Participants.** This unplanned secondary analysis of the Cancer and Leukemia Group B-49907 prospective randomized clinical trial assessed self-reported physical function changes in women  $\geq 65$  years receiving adjuvant breast cancer chemotherapy and investigated physical function decline—associated vs. “resilience-associated” factors. The physical function subscale of the European Organization for Research and Treatment of Cancer Quality-of-Life Questionnaire was administered prechemotherapy, immediately postchemotherapy, and 12 months postchemotherapy initiation. “Functional decline” was a  $>10$ -point decrease from baseline. “Resilience” was a return to  $\leq 10$  points of baseline (physical function return-to-baseline). Multivariable regression was used.

**Results.** Participants (N=256) were mean (SD) age 72 (4.7) years, 88% white, 69% unemployed, 58% married, and 89%  $\geq$ high school educated. The mean (SD) pre-chemotherapy function score was 86 (16). The most common prechemotherapy symptoms were fatigue (82%) and pain (65%). Forty-two percent had a decline at the end of chemotherapy (median 20 points), 47% of whom were resilient by 12 months postinitiation. Marriage (odds ratio [OR]=2.52, 95% CI=1.06–6.03,  $P=.04$ ),  $<4$  positive nodes (3.57, 1.01–12.60,  $P=.048$ ), and no pretreatment appetite loss (3.65, 1.20–11.11,  $P=.02$ ) were resilience-associated. Women with fatigue at baseline had greater odds of decline (2.37, 1.12–5.02,  $P=.02$ ). Thirty percent had decline 12 months postinitiation (median 20 points). Being unmarried (1.98, 1.14–3.44,  $P=.01$ ) and prechemotherapy dyspnea (2.37, 1.26–4.46,  $P=.007$ ) were decline-associated. Fifty percent were decline-resistant. Resistance-associated factors were absence of both pretreatment fatigue (2.49, 1.20–5.19,  $P=.01$ ) and pretreatment dyspnea (1.94, 1.07–3.54,  $P=.03$ ).

**Commentary.** Older women with breast cancer are less likely to be included in clinical trials.<sup>2</sup> Given limited evidence, clinicians may wonder whether benefits

of chemotherapy outweigh quality-of-life (QOL) concerns. Many older women with breast cancer don't receive standard regimens.<sup>3</sup> However, standard chemotherapy was associated with better survival for older women, and the effects on QOL resolved at 1 year.<sup>4</sup> Functional decline also is important given its association with loss of independence and poor survival.<sup>5</sup> This study adds information on the prevalence of significant, sustained functional decline that can inform shared decision making. Predictors of functional outcomes included fatigue, appetite loss, marital status, and dyspnea. Targeting exercise, diet, and social support may improve function. More investment in and evaluation of lifestyle and support programs, such as 1-on-1 peer support, is needed.

**Bottom Line.** Forty-seven percent of older women with breast cancer who experience initial functional decline after chemotherapy recover, but, ultimately, 30% remain impaired at 12 months.

**Reviewer.** Elizabeth Chuang, MD MPH FAAHPM, Albert Einstein College of Medicine, Bronx, NY

**Source.** Hurria A, Soto-Perez-de-Celis E, Allred JB, Cohen HJ, Arsenyan A, Ballman K, et al. Functional decline and resilience in older women receiving adjuvant chemotherapy for breast cancer [published online ahead of print August 26, 2018]. *J Am Geriatr Soc*. 2018.

#### References

1. Howlader N, Noone AM, Krapcho M, Garshell J, Miller D, Altekruse SF, et al. SEER Cancer Statistics Review, 1975–2012. Bethesda, MD: National Cancer Institute; 2015.
2. Early Breast Cancer Trialists' Collaborative Group. Effects of chemotherapy and hormonal therapy for early breast cancer on recurrence and 15-year survival: an overview of the randomised trials. *Lancet*. 2005;365(9472):1687-1717.
3. LeMasters T, Madhavan SS, Sambamoorthi U, Hazard-Jenkins HW, Kelly KM, Long D. Receipt of guideline-concordant care among older women with stage I-III breast cancer: a population-based study. *J Natl Compr Canc Netw*. 2018;16(6):703-710.
4. Kornblith AB, Lan L, Archer L, Partridge A, Kimnick G, Hudis C, et al. Quality of life of older patients with early-stage breast cancer receiving adjuvant chemotherapy: a companion study to cancer and leukemia group B 49907. *J Clin Oncol*. 2011;29(8):1022-1028.
5. Sehl M, Lu X, Silliman R, Ganz PA. Decline in physical functioning in first 2 years after breast cancer diagnosis predicts 10-year survival in older women. *J Cancer Surviv*. 2013;7(1):20-31.

### **Effects on Healthcare Use with Patients with Advanced Heart Failure Enrolled in Hospice**

**Background.** The number of individuals  $\geq 65$  years with advanced heart failure (HF) is rising.<sup>1</sup> How does hospice affect end-of-life healthcare use by patients with HF?

**Design and Participants.** This study sought to identify predictors of hospice enrollment for patients with HF and determine the hospice impact on healthcare use. Medicare administrative, claims, and patient assessment 2009–2010 data were used to compare hospitalizations, intensive care unit (ICU) stays, and emergency department visits for hospice-enrolled vs. unenrolled beneficiaries using a propensity score-matched, greedy algorithm-derived sample of Medicare decedents. The inclusion criteria were: 1)  $\geq 2$  HF discharges within 6 months; 2) Outcome and Assessment Information Set assessment  $\leq 7$  days after second HF discharge; and 3) death  $\leq 6$  months after second HF discharge. Analyses included chi-square, t-tests, negative binomial regression, and Kaplan-Meier curves with the log-rank test.

**Results.** Beneficiaries ( $n=6,134$ ) were mean age 82 years, 53% female, and 15% black, Asian, or Hispanic. Hospice-enrolled beneficiaries had fewer emergency department (ED) visits during 6 months before the second discharge (2.38 vs. 2.59;  $P=.01$ ). Enrollees had fewer ED visits (2.64 vs. 2.82;  $P=.04$ ), inpatient days (3.9 vs. 4.67;  $P<.001$ ), and ICU days (1.25 vs. 1.51;  $P=.001$ )  $\leq 30$  days after the second discharge. Enrollees had fewer ED visits (4.25 vs. 5.25;  $P<.001$ ), inpatient days (11.7 vs. 14.8;  $P<.001$ ), inpatient stays (1.75 vs. 2.18;  $P<.001$ ), ICU days (3.75 vs. 4.86;  $P=.04$ ), and skilled nursing facility days (4.38 vs. 6.44;  $P=.04$ )  $\leq 6$  months after the second discharge. Enrollees were less likely to die in-hospital (3% vs. 56%;  $P<.001$ ) and had longer median survival (80 days vs. 71;  $P=.004$ ).

**Commentary.** Although the potential benefits of hospices for HF are frequently cited, this study tries to prove these benefits using rigorous methods and a large data pool in a way that will speak to cardiologists, hospitals, and payers. What did they find? First, following hospice enrollment, all measures of healthcare utilization decreased. Second and somewhat surprisingly, patients who received hospice had a longer median survival than patients with usual care. Unfortunately, the proportion of HF decedents who receive hospice care still lags behind other diagnoses.<sup>2</sup> More research is needed to understand the unique barriers to hospice enrollment with HF. In addition, opportunity exists to integrate evidence-based HF treatments into hospice care

through education for hospice staff, clinical pathways, and remote monitoring.

**Bottom Line.** In this large propensity-score matched study of HF patients, hospice was associated with significant decreases in the use of EDs, acute care, and ICUs as well as modest increases in survival.

**Reviewer.** Nina O'Connor, MD FAAHPM, University of Pennsylvania, Philadelphia, PA

**Source.** Gelfman LP, Barrón Y, Moore S, Murtaugh CM, Lala A, Aldridge MD, et al. Predictors of hospice enrollment for patients with advanced heart failure and effects on health care use. *JACC Heart Fail.* 2018;6(9):780-789.

### *References*

1. Lloyd-Jones D, Adams RJ, Brown TM, Carnethon M, Dai S, De Simone G, et al. Heart disease and stroke statistics—2010 update: a report from the American Heart Association. *Circulation.* 2010;121(7):e46-e215.
2. Aldridge MD, Bradley EH. Epidemiology and patterns of care at the end of life: rising complexity, shifts in care patterns, and sites of death. *Health Aff (Millwood).* 2017;36(7):1175-1183.

### **How Do Mothers and Fathers Experience Stress Related to Pediatric Critical Care**

**Background.** Congenital heart disease (CHD) affects 9/1,000 live births.<sup>1</sup> What are the emotional states, stressors, and supports of parents caring for children with CHD?

**Design and Participants.** This qualitative study examined how mothers and fathers experience the stress of caring for a young child with CHD and use hospital and community supports. Parents whose children underwent cardiac surgery at  $< 6$  months old participated in semistructured, individual interviews (via a pediatric psychologist/psychology fellow) about their experiences at the time of diagnosis, surgical admission, and discharge to home postsurgery. Interview data were coded, and themes related to emotional states, stressors, and supports were identified. Analysis of data used an inductive thematic approach.

**Results.** Parents ( $N=34$ ; 21 families) were 41% male and 38% white. Thirty-eight percent earned  $< \$30,000$  and 29% had at least a college degree. Thirty-eight percent of children were 12–23 months old. Participants described stress, fear, being overwhelmed, frustration, guilt (diagnosis to discharge), insufficient preparation/knowledge, inadequate support networks, support from and confidence in doctors/nurses, and friends/family/community—provided support. Mothers were more likely to report anger, sadness, loneliness, helplessness, numbness, and confusion; describe stressful healthcare provider communication; discuss

spouse/partner—related problems (emotional support, childcare help); discuss difficulty balancing care for their other children; describe concerns about daily expenses, attaining educational goals, and maintaining work and transportation; and discuss support from hospital resources, partners/spouses, and other CHD parents. Fathers were more likely to report feelings of shock, discuss difficulty balancing work responsibilities and care/support for the mother (who tended to be at the hospital alone), describe mistrust of healthcare providers, discuss coworker/manager—provided support, and feel that the return to a work routine was helpful.

*Commentary.* Patient- and family-centered care is a mutually beneficial partnership that recognizes the importance of the family in the patient's life.<sup>2</sup> However, previous studies examining stressors on the family often focus on mothers or treat the parents as a single dyadic unit. This qualitative study's unique *a priori* hypothesis is that mothers and fathers experience healthcare challenges in different ways. Fathers of children with CHD report stressors as well as support that are grounded in their work environment. As such, the medical team may be unaware of the challenges particular to fathers, which may lead to further isolation and helplessness. Although this study was conducted in parents of children with CHD, the findings likely are generalizable to parents of children with other life-limiting or life-threatening illnesses.

*Bottom Line.* To practice true patient- and family-centered care, the medical team must identify the distinct stressors mothers and fathers each experience and develop strategies on how to best include and support them.

*Reviewer.* Kevin Madden, MD FAAP, University of Texas MD Anderson Cancer Center, Houston, TX

*Source.* Sood E, Karpyn A, Demianczyk AC, Ryan J, Delaplane EA, Neely T, et al. Mothers and fathers experience stress of congenital heart disease differently: recommendations for pediatric critical care. *Pediatr Crit Care Med.* 2018;19(7):626-634.

#### References

1. van der Linde D, Konings EE, Slager MA, Witsenburg M, Helbing WA, Takkenberg JJ, et al. Birth prevalence of congenital heart disease worldwide: a systematic review and meta-analysis. *J Am Coll Cardiol.* 2011;58(21):2241-2247.
2. Committee on Hospital Care and Institute for Patient- and Family-Centered Care. Patient- and family-centered care and the pediatrician's role. *Pediatrics.* 2012;129(2):394-404.

#### Recognizing Culturally and Linguistically Diverse Patient Perspectives in Palliative Care

*Background.* The transition to palliative care (PC) among culturally and linguistically diverse (CALD) populations may lead to communication barriers and community isolation.<sup>1</sup> What are the attitudes toward and understandings and experiences of end-of-life care among CALD patients and caregivers?

*Design and Participants.* This qualitative study used semistructured interviews to explore experiences and perspectives of CALD patients and caregivers who were being transitioned to PC in two Australian hospitals. A purposive sampling strategy was used, and interviews were recorded. Interviews focused on PC experiences/understandings; communication needs/values in the context of hospital care; experiences of being cared for/caring during serious illness; and experiences/perspectives on formal/institutional support/care for CALD patients and caregivers. Thematic analysis was conducted using the framework approach.

*Results.* Patients (n=16; care type=75% public; 8 outpatients) were 44% 60–69 (range=30–89) years old, 69% female, 19% Catholic (19% no religion/undisclosed), 31% from Asia, and 38% from the European Union; 75% spoke English and 25% Mandarin. Caregivers (n=14; care type=57% public; 4 daughters, 4 wives, 4 husbands, 1 granddaughter, and 1 ex-wife) were 50% 60–69 (range=20–69) years old, 71% female, 29% Catholic (36% no religion/undisclosed), 57% from Asia, and 14% from the European Union; 79% spoke English and 36% Mandarin. Four themes emerged: terminology in the PC transition (variable or absence of understanding of the PC concept/meaning); communication, culture, and pain management (difficulties communicating with clinicians about expectations of treatment); (not) talking about death/dying (talking about death/dying was associated with giving up); and religious faith as a coping strategy, challenging the terminal diagnosis (preference to focus on religious faith instead of medical futility).

*Commentary.* Effective communication about end-of-life care can be difficult, especially when it involves culturally diverse patients and families. Participants in this study identified 4 opportunities for improvement: defining PC, setting expectations for pain/symptom management, talking about death, and integrating religion into end-of-life discussions. Although some recommendations were relevant for subsets of CALD patients (eg, the necessity of language interpreters), these 4 opportunities also echo universal PC patient experiences. Concepts of palliative care commonly are misunderstood, pain and symptom management often can be improved, death is frequently a taboo topic, and we always should ask about patients' faith. Furthermore, attributing specific communication needs to specific

cultures is risky; rather than make culturally based assumptions, clinicians should explore preferences with all patients and families regardless of their culture.

*Bottom Line.* Attending to cultural differences is part of good PC. It involves exploring and supporting patients' stories, hopes, worries, and values.

*Reviewer.* Abby R. Rosenberg, MD MA MS, Seattle Children's Research Institute; Palliative Care and Resilience Research, University of Washington, Department of Pediatrics; Division of Bioethics and Palliative Care; Seattle, WA

*Source.* Kirby E, Lwin Z, Kenny K, Broom A, Birman H, Good P. "It doesn't exist...": negotiating palliative care from a culturally and linguistically diverse patient and caregiver perspective. *BMC Palliat Care.* 2018;17(1):90.

#### Reference

1. Broom A, Good P, Kirby E, Lwin Z. Negotiating palliative care in the context of culturally and linguistically diverse patients. *Intern Med J.* 2013;43(9):1043-1046.

#### PC-FACS Feedback

We appreciate your feedback. Help us help you—send your comments to [pc-facs@aahpm.org](mailto:pc-facs@aahpm.org).

PC-FACS was created in 2005 by Founding Editor-in-Chief *Amy P. Abernethy, MD, PhD, FACP, FAAHPM*. The Academy is deeply grateful to Dr. Abernethy for creating this important publication and for her many contributions to the field of hospice and palliative medicine.

PC-FACS is edited by Editor-in-Chief, *Mellar P. Davis, MD, FCCP, FAAHPM*, of the Geisinger Health System, and Associate Editor-in-Chief, *Robert M. Arnold, MD, FAAHPM*, of the University of Pittsburgh Medical Center. All critical summaries are written by *Jeff Fortin, MD, AAHPM* thanks the following PC-FACS Editorial Board members for their review of the critical summaries and preparation of the commentaries:

#### Editorial Leadership

Mellar P. Davis, MD, FCCP, FAAHPM, Editor-in-Chief  
Robert M. Arnold, MD, FAAHPM, Associate Editor-in-Chief

#### Basic Science

Rony Dev, DO, MS, FACP, FAAHPM, Senior Section Editor  
Amy L. Davis, DO, MS, FACP, FAAHPM  
Rosene Pirrello, RPh  
Jacob Strand, MD

#### Bioethics, Humanities, and Spirituality

Jessica A. Moore, DHCE, MA, Senior Section Editor

Timothy Mark Corbett, MD, MA, HMDC, FAAHPM  
Adam Marks, MD  
Beth Popp, MD, HMDC, FAAHPM, FACP  
Erin Zahradnik, MD

#### Geriatrics and Care Transitions

Eric Widera, MD, FAAHPM, Senior Section Editor  
Gouri Bhattacharyya, MD, MRCP  
David B. Brecher, MD, FAFAP, FAAHPM  
Elizabeth Chuang, MD, MPH  
Catherine Bree Johnston, MD, MPH

#### Hospice, Hospice and Palliative Medicine Interface, and Regulatory Issues

Joel S. Policzer, MD, FACP, FAAHPM, Senior Section Editor  
Christopher Jones, MD, FAAHPM  
Nina O'Connor, MD  
Renato Samala, MD, FACP

#### Pediatrics

Robert C. Macauley, MD, FAAP, FAAHPM, Senior Section Editor  
Christopher A. Collura, MD  
Sue Sreedhar  
Kevin Madden, MD  
Rachel Thienprayoon, MD

#### Psychosocial

Ronit Elk, PhD, Senior Section Editor  
Dan Handel, MD  
Laura Porter, PhD  
Karen Ogle, MD, FAAHPM  
Abby R. Rosenberg, MD, MS, FAAP

#### Symptom Assessment and Management

Marcin Chwistek, MD, FAAHPM, Senior Section Editor  
Dulce M. Cruz Oliver, MD, CMD, FAAHPM, AGSF  
Giovanni Elia, MD, FAAHPM  
Jennifer Pruskowski, PharmD, BCPS, BCGP, CPE  
Jason A. Webb, MD

#### Medical Writers

Jeff M. Fortin, PhD (September 2016-present)  
Lana Christian, MS (August 2015-August 2016)  
Moses Sandrof (October 2014-July 2015)  
Jane Wheeler (July 2005-September 2014)

#### AAHPM Staff

Laura Davis, CAE, Director, Marketing and Membership  
Allison Lundberg, Manager, Marketing and Membership

Andie Bernard, Managing Editor  
AAHPM Publications Committee (Joanne Wolfe, MD,  
chair)

*The views expressed herein are those of the individual authors and are not necessarily those of the Academy. Information included herein is not medical advice and is not intended to replace the judgment of a practitioner with respect to particular patients, procedures or practices. To the extent permissible under applicable laws, the Academy disclaims responsibility for any injury and / or damage to persons or property as a result of any actual or alleged libelous state-*

*ments, infringement of intellectual property or other proprietary or privacy rights, or from use or operation of any ideas, instructions, procedures, products or methods contained in this publication.*

American Academy of Hospice and Palliative Medicine  
8735 W. Higgins Road, Suite 300  
Chicago, IL 60631, USA  
Phone: 847-375-4712  
Fax: 877-734-8671  
E-mail: [info@aaahpm.org](mailto:info@aaahpm.org)  
Website: [www.aaahpm.org](http://www.aaahpm.org)