or high-quality art. We are proud to be publishing high-quality articles in The Permanente Journal, which is read by our readership of 1.4 million page views on a quarterly basis, 7620 eTOC readers, and in 2016, 25,000 print readers per quarter. Circulation: 25,000 print readers per quarter, 7620 eTOC readers, and in 2016, 1.4 million page views on 179 articles published from a broad international readership.

**ORIGINAL RESEARCH & CONTRIBUTIONS**

**Body Mass Index and Mortality in a Very Large Cohort: Is It Really Healthier to Be Overweight?** Arthur L. Keeler, MD; Dominique Zhang; Natalia Krakowicz, PhD; Yan Li, MD, PhD; H-Nico Tran, MD, PhD

This retrospective cohort study in a multi-ethnic population of 273,843 persons used logistic regression with 7 covariates (sex, age, race-ethnicity, education, marital status, smoking, alcohol intake). With average follow-up exceeding 30 years, there were 131,218 deaths. 41,219 attributed to cardiovascular causes and 82,003 to non-cardiovascular causes. Compared with persons with body mass index defined as normal, persons who were overweight, obesity, and obese were at increased risk of death during a 30-year period.

**12 Effect of Age on Outcomes of Shoulder Arthroplasty.** Oke A Anakwenze, MD; Tameem Yehyawi, MD; Mark T Dillon, MD; Elisabeth Parkin, MD; Ronald Nawars, MD; Arash Mahyoun, MD

In a retrospective cohort study of prospectively collected data, using an integrated health care system’s shoulder arthroplasty (SA) registry (1/2006-6/2016), patients were grouped into older (>75 years) and younger groups (≤75 years). The total SA cohort had 2,077 patients. 539 (26%) > age 75 years, and the reverse total SA cohort had 968 patients. 295 (32%) age >75 years. In the total SA cohort, older patients had higher risk of readmission and mortality. In the reverse total SA cohort, older patients had lower risk of revision.

**Neurophysiological Carcinoma Diagnostic Challenge in a Nonendemic Setting: Our Experience with 101 Patients.** Kevin W Hwang, MD; Stefana A Austin, MD; Sofia Chen, MD; David C Sonne, MD; Deepak Gurushanthaiah, MD

A retrospective chart review (2007–2010) included 101 patients. 70 were of Chinese or Southeast Asian descent. Median time from symptom onset to treatment was 6 months. One-third of cancers were missed with nasal endoscopy and imaging. An understanding of the risk factors, presenting symptoms, and limitations associated with these diagnostic tests is necessary to support earlier detection of this insidious cancer.

**22 Incidence of Pulmonary Arterial Hypertension in Patients with Psoriasis: A Retrospective Cohort Study.** Young M Choi, MD; Shannon Fennema, MD; Jason J Wu, MD

In a retrospective cohort study (1/2004-11/2016), there were 10,116 patients with mild psoriasis, 3,261 with severe psoriasis, and 68,460 matched controls. On multivariable analysis, there was a significantly increased risk of pulmonary arterial hypertension (PAH) developing in the severe psoriasis cohort as their controls. The systemic inflammatory process underlying psoriasis may be a cause for an increased risk of PAH, but there are numerous secondary causes of PAH.

**28 Complementary and Alternative Medicine in an Integrated Health Care Delivery System: Users of Chiropractic, Acupuncture, and Massage Services.** Stacy McCubbin, MD; Kevin L Kempe, MD; MPH; Anne Back, MD

From 2007–2010, 27,225 patients sought Center for Complementary Medicine (CMM) services (82% female, 73% white). Modalities included Chiropractic (87%), acupuncture (18%), and massage (15%). Spinal pain was most commonly reported (71%). Of patients, 59% saw their physician for their condition; 69% had not used CMM services previously; and 66% received medications for their condition. Mean ratings included pain relief with prior treatment (31%), current pain (4.33), and functional impairment ranging from 3.0 to 5.4 for relationships to 6.4 for enjoyment of life.

**24 Impact of Longitudinal Electronic Health Record Training for Residents Preparing for Practice in Patient-Centered Medical Homes.** Jung O Kim, MD; MPH; Nozit P Rodriguez, PhD; MPH; Katherine AT Estlin, MD; Carl E Morris, MD, MPH

The patient-centered medical home (PCMH) services (62% female, 73% white). The total cohort included 27,225 patients; 19,207 were grouped into older (>75 years) and younger groups (≤75 years). The total cohort had 2,077 patients. 539 (26%) age >75 years, and the reverse total cohort had 968 patients. 295 (32%) age >75 years. In the total SA cohort, older patients had higher risk of readmission and mortality. In the reverse total SA cohort, older patients had lower risk of revision.

**Impact of Longitudinal Electronic Health Record Training for Residents Preparing for Practice in Patient-Centered Medical Homes.** Jung O Kim, MD; MPH; Nozit P Rodriguez, PhD; MPH; Katherine AT Estlin, MD; Carl E Morris, MD, MPH

The patient-centered medical home (PCMH) electronic health record (EHR) training consisted of case-based routine clinic visits delivered to 3 resident cohorts (N = 159). Participants (127) completed a self-assessment at baseline (2015–2016). Comprehensive training designed to improve EHR competencies for practicing in a PCMH resulted in improved assessment scores. Findings indicate EHR training improves physician resident exposure to the PCMH measurable improves self-assessed competencies, even among residents less engaged in EHR training.
40 Mortality After Total Knee and Total Hip Arthroplasty in a Large Integrated Health Care System. Maria C S Inacio, PhD; Mark T Dillon, MD; Alex Minic, MD; Ronald A Navarro, MD; Elizabeth W Paxton, MA

In a retrospective analysis of an integrated health care system population in 2010, 10,163 primary total knee arthroplasties (TKAs), 4,963 primary total hip arthroplasties (THAs), 606 revision TKAs, and 496 revision THAs were evaluated. Patients undergoing primary THA and TKA had lower odds of mortality than expected. Patients with revision TKA had higher-than-expected mortality odds, whereas patients with revision THA did not have higher-than-expected odds of mortality.

Special Report
46 Physician Guide to Appropriate Opioid Prescribing for Noncancer Pain. Timothy Munzing, MD, FAAP

The author highlights key topics in the management of patients using opioids (or potentially needing opioids) in outpatient clinical practice: federal and state law enforcement actions regarding physicians’ illegal prescribing of opioids; multimodal approaches to pain control; nonmedication management of pain; response strategies when suspecting a patient of diverting or misusing opioids; and warning signs for abuse or diversion. In addition to individual action, the initiation of systemwide and clinicwide safe prescribing practices supports the physician and patient such that the patient’s well-being is at the heart of all pain management decisions.

Special Report
53 The Kaiser Permanente Northern California Enhanced Recovery After Surgery Program: Design, Development, and Implementation. Vincent X Liu, MD, MS; Efren Rosas, MD; Judith C Hwang, MD, MBA; Eric Cain, MD, MBA; Anne Foss-Durant, RN, MSN, FNP, MBA; Molly Clopp, RN, MS, MBA; Mengfei Huang, MSc; Alexander Mustille; Vivian M Reyes, MD, Shirley S Paulson DNP(c); MPA, RN, NEA-BC; Michelle Caughey, MD; Stephen Parodi, MD

In this report, the authors describe the design, development, and implementation of an Enhanced Recovery After Surgery program in the Kaiser Permanente Northern California integrated health care delivery system (2014), targeting patients with elective colorectal resection and those with emergent hip fracture repair across 20 Medical Centers. The program leveraged multidisciplinary and broad-based leadership, high-quality data and analytic infrastructure, patient-centered education, and regional-local mentorship alignment. This program has already had an impact on more than 17,000 patients.

REVIEW ARTICLES

62 Supporting Muslim Patients During Advanced Illness. Nathan A Boucher, DrPH, PA-C, MS; MPA, CPHQ; Ejaz A Siddiqui, MIS; Harold G Koenig, MD, MHS

Worldwide violence perpetrated by people identifying as Muslim has been a growing fear for people living in the US and elsewhere. This article explores conditions needed for prayer, roles of medical treatment and religious authority, modesty, and the role of family in making medical decisions. Initial recommendations are provided to optimize care for Muslim patients and their families, informed by the described tenets of Muslim faith.

CLINICAL MEDICINE

67 Use of a Technetium99m-Sestamibi Scan to Detect Isplateral Double Adenoma in a Patient with Primary Hyperparathyroidism: A Case Report. Joseph Gabriel Gabriel, MD; Alejandro Contreras, MD; Andrew Rosenthal, MD

Patients with primary hyperparathyroidism generally have a single parathyroid adenoma that causes excessive excretion of parathyroid hormone. About 2% to 15% of these patients have a double adenoma. Presurgical imaging and nuclear scans can help to localize multiple lesions, and intraoperative parathyroid hormone assays can confirm the diagnosis and cure.

70 A Clinical Approach to Animal Bites with an Avulsion Flap: A Case Report. Andrew Williamson, MD; Cyril Thomas, MS, PA-C

A 90-year-old white woman sustained a large dog bite to her hand, over the dorsal aspect of the first metacarpal, which was repaired with the avulsion flap as a biologic dressing that employed a perforating technique to successfully treat the wound and allow for optimal wound healing. Photographs at several stages are included.

72 Splenic Abscess in Immunocompetent Patients Managed Primarily without Splenectomy: A Series of 7 Cases. S Divyashree, MBBS, MSc; Nikhil Gupta, MBBS, MD

A microbiological diagnosis of splenic abscess is of utmost importance. In this case series, all patients underwent percutaneous aspiration. This was performed under radiologic guidance (either ultrasonography or computed tomography). Only one patient required diagnostic splenectomy. Appropriate antibiotic therapy is the cornerstone of management.

78 Flood Syndrome: Spontaneous Umbilical Hernia Rupture Leaking Acidic Fluid—A Case Report. Lei V Nguyen, MD; Leah A Tuttles-Hans, MD

The spontaneous rupture of an umbilical hernia in a 42-year-old man with hepatitis C and alcoholic cirrhosis was complicated by ascites and esophageal varices. This is a rare complication with high mortality rates and stresses the challenge of treatment that falls in the area between medical and surgical management.

80 Image Diagnosis: Multivessel Percutaneous Coronary Intervention in Dextrocardia: Success with Usual Techniques in a Case of Mirror-Image Heart. Mohamed Morsy, MD; Pranab Das, MD; Inyong Hwang, MD; Rami N Khouzam, MD, FACC, FACP, FASNC, FASE, FSCAI

Although dextrocardia is very rare, it could be clinically noted in a variety of cardiovascular and noncardiovascular conditions. Patients with dextrocardia can have various clinical presentations, including acute coronary syndrome and congestive heart failure. Successful diagnostic catheterization and multivessel intervention can be achieved through conventional catheters with appropriate reversed rotation and without need for right/left reversal of radiologic views.

82 Image Diagnosis: A Gastric Siganet-Ring Adenocarcinoma of Type Limitsis Plastica Mimicking Splenomegaly in a Patient with Chronic Lymphocytic Leukemia. Leonid L Yavorkovsky, MD, PhD; Shazia Ali, MD

Typically, adenocarcinoma of type limitsis plastica, known as Brinton disease or leather bottle stomach, is characterized by diffuse infiltration of neoplastic signet-ring cells. This imparts a rigid consistency to the stomach wall, with a thickened, fibrotic appearance. These symptoms in this patient mimicked the appearance of an enlarged spleen.

84 Image Diagnosis: Rapidly Enlarging Scrotal Hematoma: A Complication of Femoral Access? Raza Akkar, MD; Rami N Khouzam, MD, FACC, FACP, FASNC, FASE, FSCAI; Dwight A Dishmon, MD, FACC

Diagnosis of retroperitoneal bleeding is made with abdominopelvic computed tomography. Ultrasound or computed tomography can provide the diagnosis for scrotal hematoma. Treatment of scrotal hematoma has ranged from conservative measures, including scrotal elevation and resuscitation with IV crystalloids or blood products, to open surgical options.

86 Image Diagnosis: Iliopsoas Abscess from Crohn Disease. Ashley S Abraham; Michelle Y Liu; David R Vinson, MD

Crohn disease is a common cause of secondary iliopsoas abscesses, occurring in an estimated 0.4% to 4.3% of patients. Although long-term corticosteroid use with its attendant immunosuppression could increase the risk for abscess formation, a short course is unlikely to have the same effect.

Contents continued on next page.
COMMENTARY

88 Considerations in the Neuropsychological Evaluation and Treatment of Children with Limited English Proficiency. Alonso Cardenas, MD; Laura Villavicencio, MD, MS; Mani Pavuluri, MD, PhD

Given the large number of Spanish speakers in the US, the authors illustrate, with a case example, the need to test students in their native language especially when the second language has not yet been mastered. Accurate assessment of the brain’s potential may yield enhanced opportunities and optimize expectations, rather than undervaluing a developing child’s elastic brain maturation.

90 To Err is Human: Can American Medicine Learn from Past Mistakes? Jeffrey B Ritterman, MD

The history of medicine includes many errors. Some persisted for decades and caused great harm. Several are highlighted in this article, including the mythical thymic diseases: thymic asthma and status thymico lymphaticus. Some medical mistakes, such as the diet-heart hypothesis of Ancel Keys, continue to cause harm. To avoid future errors and their associated harm, the author suggests a cultural shift encouraging professional humility and greater questioning of medical dogma. Medical education focused on teaching students this history may help with this cultural shift.

95 The Patient-Centered Medical Home as a Community-based Strategy. Berkeley A Franz, PhD; John W Murphy, PhD

Although patient perspectives are critical to the patient-centered medical home (PCMH), this article questions whether the PCMH in practice is truly community-based. That is, do physicians, planners, and other health care professionals take seriously the value of integrating local knowledge into medical care? The argument presented is that community-based philosophy contains a foundational principle that the perspectives of health care practitioners and community members must be integrated.

EDITORIAL

100 Philanthropy and Beyond: Creating Shared Value to Promote Well-Being for Individuals in Their Communities. Thomas E Kotteke, MD, MSPH; Nico Pronk, PhD, MA; Andrew R Zinkel, MD, PhD; Laura Villavicencio, MD, MS; Mani Pavuluri, MD, PhD; Alonso Cardenas, MD; Shekhar Kunal, MBBS

Health care organizations can magnify the impact of their community service and other philanthropic activities by implementing programs that create shared value. The author uses three initiatives in sectors other than health care to illustrate the concept of shared value, and also presents examples of shared value programs sponsored by health care organizations: telehealth, work-site health promotion, school-based health centers, green and healthy housing, and clean and green health services.

NARRATIVE MEDICINE

105 Lessons Learned in War. Alberto Hayek, MD

In civilian life one does not encounter these kinds of experiences, but the pain of a family with an ill child confronting a fatal prognosis is akin to a missile sent from an unknown source. As a physician, these painful experiences haunt me when all I can do is to be a silent participant while sharing the pain of unavoidable death.

107 Deer in the Headlights. Tom Paluch, MD

“I just don’t know,” I respond flatly. The profundity of those four words is not lost on her. Her eyes widen like those of a deer in the headlights on a lonely country road late at night, frozen by the oncoming, unknown terror, unable to run, waiting to see if this thing, this rushing menace will stop, or sweep it away.

109 Abdominal Distension—An Unexpected Gift. Ching Soong Kho, MD, MRCP (UK)

“That is a baby!” I swiftly showed her the fetal heartbeats on the scan. Her eyes immediately welled up with tears of joy—relieved that the swelling in her tummy wasn’t something more sinister. Being underprivileged with limited access to health care services, she had felt helpless and frightened by her abdominal distension.

ONLINE

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CLINICAL MEDICINE

Image Diagnosis: Bronchial Anthracofibrosis—A Bronchoscopic Diagnosis. Ashok Shah, MD; Shekhar Kunal, MBBS

Image Diagnosis: Carcinoid Tumors and Pulmonary Sequestration in a Patient With Chronic Cough Without a History of Malignancy. Zhou Zhang, MD; Harleen Hayreh, MD

Pembrolizumab-Induced Pancytopenia: A Case Report. Dinesh Atwal, MD; Krishna P Joshi, MD; Rahul Ravilla, MD; Fade Mahmoud, MD

Well-Differentiated Neuroendocrine Tumor—A Low b-Grade Tumor’s Aggressive Course and Dismal Outcome: A Case Report. Dinesh Atwal, MD; Krishna Prasad Joshi, MD; Susanne Jeffus, MD; James Ntambi, MD; Fade Mahmoud, MD, FACCP

Small-Bowel Intussusception in a Pregnant Woman: A Case Report. Roxana Covall, MD, PhD; Lucian Ambrose, MD; Micea Onofreescu, MD, PhD; Alexandru Luca, MD, PhD; Gabriela Dumachita-Sargu, MD, PhD; Violeta Aurulesceu, MD; Dumitru Gaftanu, MD, PhD

EDITORIAL & PUBLISHING OFFICE
The Permanente Journal, 500 NE Multnomah St, Suite 100, Portland, Oregon, 97232, USA; phone: 503-813-3286; fax: 503-813-2348; E-mail: permanente.journal@kp.org.

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