Abstracts From JADPRO Live 2021

VIRTUAL • OCTOBER 7–17

The posters for the abstracts below can be found at JADPROLive.com

JL901

A Comprehensive Bone Marrow Aspirate and Biopsy Educational Program for Advanced Practice Providers Utilizing Task Trainers

Jessica Casselberry, MSN, ANP-BC, AOCNP®, Glen J. Peterson, RN, DNP, ACNP, Jessica Zucker, RN, MSN, AGNP-C; University of Colorado School of Medicine

Background: Advanced practice providers (APPs) who care for patients with hematologic malignancies frequently perform bone marrow aspiration and biopsies (bmbx), yet the literature lacks information regarding standardized educational training programs with simulators. Most invasive bedside procedures are taught through the "see one, do one" or observational training method which can lead to variability in skill acquisition and confidence levels (McMillan et al., 2016). Bmbx is a multi-step procedure that incorporates mechanical, cognitive, and interactive skills that can be gained through simulation training (Yap et al., 2015). Structured instructional design programs can enhance the acquisition of skills taught to APPs through simulation (Nestel et al., 2011). Literature suggests that participants in simulation training express high levels of satisfaction, knowledge gain, and improvement in skills (Nestel et al., 2011). Further, interactive standardized teaching with simulators may reduce provider variability, the development of unintentional procedural errors, and can enhance APP confidence levels in a safe, low pressure environment (Gaubert et al., 2021; McMillan et al., 2015). The purpose of this project was to create a standardized educational program to train bone marrow transplant (BMT) APPs through didactic education and experiential simulation practice on a task trainer. This project was designed to improve bmbx education, specimen collection, and specimen allocation procedures to improve patient safety while reducing medical risks and errors. **Design:** Participants completed a pre-program survey to collect baseline demographics, and assess knowledge and self-reported confidence. Each program was delivered over three hours for new BMT APPs hires and included an hour long educational Powerpoint, a 30-60 minute breakout session for simulation based instruction on a task trainer, and a 30-60 minute breakout session for review of bmbx specimen collection and allocation for laboratory analysis. Following program attendance, participants completed a post-program survey that was compared to pre-program surveys through statistical analysis. Statistical methods included descriptive statistics, unpaired t-tests and Chi-square analysis. To ensure standardization of education, the project coordinator anticipated the program would be delivered a total of six times during the data collection period. During implementation, a PDSA cycle was performed following each program session and a monthly review of the risk reporting system was analyzed to monitor for changes in bmbx specific risk event occurrences. **Outcome Measures:** To determine whether the implementation of a comprehensive bmbx educational program including task trainers would reduce bmbx specific risk event occurrences by 10% between July 2021 and March 2022. To increase APP bmbx knowledge by 25% above baseline and increase self-confidence by an average of 1 on a 5-point Likert scale, as measured through

statistical analysis of pre- and post-program surveys. **Evaluation:** Data collection and analysis is ongoing. By August 2021, preliminary data will be available for poster presentation. **Implications:** The initial implementation of this single institution project suggests that standardized education that includes simulation training for APPs who perform bmbx can reduce risk event occurrences, reduce skill variability, increase bmbx specific knowledge, and increase procedural skill confidence in a low pressure environment.

JL902

Access to Oncology Care During the COVID-19 Pandemic: The Genesis of An Advanced Practitioner-Led Rapid Access Clinic

Mailey L. Wilks, DNP, APRN, NP-C, Taussig Cancer Institute

Background: In 2020, oncology patients were affected by the COVID-19 pandemic in many ways. Access to care remained imperative to the treatment of oncology patients at a time when many health services and cancer screenings were placed on hold during quarantine, and several emergency departments (ED) and hospitals were inundated with the surge of COVID patients. In addition, oncology patients were utilizing the ED during peak business hours for urgent care needs. While facing the challenge of maintaining access to care for patients due to full provider schedules and risk for limited staffing options during the pandemic, our cancer institute, supported by an experienced group of outpatient hematology oncology advanced practitioners (APs), developed the Taussig Rapid Access Clinic (TRAC). Goals for establishing TRAC were to reduce ED utilization, reduce admissions to the hospital that are less than 72 hours, and expedite the oncology-specific care needs of patients in the outpatient setting. **Methods:** In April 2020, our outpatient AP group opened (TRAC) for oncology patients. Services provided include oncology symptom management, evaluation and treatment of suspected cancer-associated thrombosis, low-risk neutropenic fever, and suspected or confirmed COVID-19, including facilitation of monoclonal antibody infusions for COVID-positive patients. Stat imaging and results are also provided. Patients are referred for same day, urgent access by the primary oncology service to TRAC. In addition to the AP, TRAC is staffed by a RN, who schedules the patient and assists with supportive treatment needs. The AP is responsible for the triage, assessment, diagnostics, treatment, and disposition of the oncology patient through a collaborative approach with the primary oncology team. **Results:** From April 2020–July 2021, TRAC has served over 1,042 patients. The clinic has also expanded the expertise and oncology experience for our APs who staff this clinic. The clinic has provided same-day symptom management, cancer-associated thrombosis care, stat imaging, and results for oncologic-related complications, facilitation of direct hospital admissions, and diagnosis and treatment of oncology patients who test positive for COVID-19. **Conclusions:** TRAC patient volume per month continues to increase, with over 1,000 patients served since its opening in April 2020. We continue to focus on decreasing ED utilization during normal business hours and supporting oncology patient needs in the outpatient setting. **Recommendations:** TRAC continues to provide urgent access and resources to our cancer patients through an innovative AP-led team of outpatient hematology oncology APs. Through further expansion of services, staffing support, and multidisciplinary collaboration, we hope to expand our outreach to patients while continuing to support the needs of oncology patients during the COVID-19 pandemic. We continue to review individual TRAC cases with a focus on decreasing ED utilization during normal business hours when applicable. Further chart review and analyzation is needed to determine specific metrics, such as disposition of patients, in addition to continued impact on ED utilization and reduction of hospital admissions less than 72 hours. We are in the process of creating an electronic dashboard to report these metrics for our 2020 and 2021 fiscal year.

JL903

Advanced Practice Providers Signing Chemotherapy/Immunotherapy and Hormonal Therapy Treatment Plans

Erica Doubleday, MSN, FNP-C, BSN, RN, Ochsner Health

Background: Advanced practice providers (APP), in most states, are within their scope of

practice to sign chemotherapy and immunotherapy, however, several institutions do not implement this practice. Nurse practitioners are governed by their state board of nurses, and physician assistants are governed by the state board of medical examiners; both boards often allow the signing of such therapies (this is state specific). Institutions preventing this privilege inhibits the APP from practicing at the top of their license. The purpose of this project is to enhance the utilization of APPs and enforce the complete practice as their license allows. Oncology APPs, with the knowledge, experience, and education, should be signing subsequent chemotherapy orders. **Methods:** It was noted by the lead medical oncology APP at Ochsner that not all sites, community and hospital, were practicing similarly when it came to signing treatment plans. Many discussions with physicians, pharmacists, APPs, and the chemotherapy manager at Ochsner concluded in the need for a more efficient and consistent across-all-sites way to have chemotherapy orders signed to prevent treatment delays. The APPs presented the idea that orders be signed by the provider seeing the patient, including APPs signing orders. The lead medical APP and section head of the oncology department took the initiative to create a standardized policy system wide. This document was created specifically for community sites as well Ochsner Health. All physicians, at all sites, were presented with the new policy and were asked for recommendations and approval. Each new oncology APP, as well as those existing APPs, were presented with the policy and the education needed to be approved to start signing treatment plans. This policy includes definitions, background information including supervision required and indications, education, management of chemotherapy procedure, patient preparation, chemotherapy orders procedure, documentation, competency assessment (which includes initial competence and continued proficiency), and revoking of privileges, if necessary. **Results:** After trialing APPs signing chemotherapy, with a monitoring system in place by the pharmacy team to evaluate errors and effectiveness, a decision was made. At Ochsner, the Oncology Service Line has decided to make this change allowing APPs to sign subsequent orders for chemotherapy, immunotherapy, and hormonal therapy treatment plans, in addition to prescribing initial prescriptions for hormonal therapy. **Conclusions:** The outcomes of this project included an increase in patient satisfaction due to a decrease in waiting time for orders to be signed, an increase in physician satisfaction due to a decrease in calls asking for orders to be signed, and an increase in oncology APP utilization and practice. **Recommendations:** This policy has been approved. Future plans include continuation of evaluating the competency of each APP and reviewing the education material for relevance.

JL904

An Advanced Practice Provider's Approach to the Management of Capillary Leak Syndrome

Amandine Ndje, MS, MBA, APRN, FNP-C, Jacqueline B. Broadway-Duren, PhD, DNP, APRN, FNP-BC; The University of Texas MD Anderson Cancer Center

Background: Capillary leak syndrome (CLS) is a life-threatening disease characterized by capillary hyperpermeability, leading to edema or anasarca, hypotension, hypoalbuminemia, and hemoconcentration. Because the symptoms and signs are nonspecific, CLS is often underdiagnosed. CLS can be idiopathic or secondary to certain autoimmune diseases, infections (sepsis), snakebites, cancers, and drugs. Idiopathic CLS has very low prevalence (< 1/1,000,000), with approximately 260 cases reported worldwide. While the cause is yet unknown, it has been associated with increased levels of monoclonal proteins, vascular endothelial growth factor (VEGF) and angiopoietin-2, interleukin-2, and anti-inflammatory mediators. For secondary CLS, approximately 50% of cases in patients with cancer are related to anticancer drugs, but the underlying mechanisms are not well-known. In total, 45 antineoplastic and immunomodulatory drugs have been associated with CLS, with episodes occurring at a median of 8 days after drug administration. Most common symptoms at presentation include edema, hypotension, oliguria, and dyspnea, and initial assessments reveal hypoalbuminemia, hypotension, and renal failure. Most drug-induced CLS occurrences are serious

adverse events (86%), with a 27% mortality rate (related or unrelated to CLS). Since there are no standard recommendations for drug-induced CLS diagnosis and treatment, some centers have developed institutional guidelines. Therefore, healthcare providers follow the specific guidelines from the prescribing information for each drug. The objective of this abstract is to provide guidance for the management of drug-induced CLS from an advanced practice provider's (APP's) perspective. **Approaches:** Initial assessments for diagnosis of drug-induced CLS include an updated history and physical, vital signs, weight, echocardiogram, chest imaging, and laboratory tests that include complete blood count, comprehensive metabolic panel, urinalysis, and brain natriuretic peptide and VEGF levels. Drug-induced CLS treatments include diuretics, fluid resuscitation, steroids, intravenous albumin, intravenous immunoglobulins, oxygen supplementation, and anti–interleukin-6 (not widely used). Additional strategies that are implemented for several weeks after administration of the drug involve maintaining CLS as a differential diagnosis; monitoring weight, intake and output, and laboratory values; and educational programs for patients and nurses. **Outcome Measures:** Early intervention and treatment of patients with drug-induced CLS can effectively reduce the severity of CLS symptoms, resolve edema and circulatory and respiratory complications, as well as restore albumin, hematocrit, and blood pressure levels to normal. Ultimately, appropriate management may result in a decrease in drug-induced CLS mortality. **Conclusions:** Drug-induced CLS is a life-threatening condition; therefore, it is imperative that APPs recognize early signs and symptoms and initiate rapid intervention. The intent of this abstract is to promote awareness of CLS by APPs and to provide education and guidance on early recognition and timely management, which could reduce treatment discontinuation, helping to allow for optimal patient outcomes. **Applications:** Principles of CLS diagnosis and management with specific drugs will be reported in the upcoming presentation. The objective of this abstract is that APPs will apply these principles in clinical practice.

JL905

Collaborative Initiatives of the Physician Assistant, Nurse Practitioner, and Professional Development Councils in Order to Enhance and Maximize the Role of the Advanced Practice Provider at Memorial Sloan Kettering Cancer Center

Nadia E. DePaola, BA, MSPAS, PA-C, Catherin Choy, PA-C, Mon Fong So, MBA, PA-C, Latasha Anderson-Dunkley, ANP-BC, Linda D'Andrea, MSN, RN, PPCNP-BC, CPHON®; Memorial Sloan Kettering Cancer Center

Purpose: Memorial Sloan Kettering Cancer Center (MSKCC) is one of the nation's leading comprehensive cancer centers. The Physician Assistant (PA), Nurse Practitioner (NP) and APP Professional Development (PD) councils at MSKCC are robust and dynamic professional councils that support Advanced Practice Provider (APP) driven initiatives within the department, institution, and community. The collaborative success of these professional councils aims to enhance MSKCC's goal of excellence in cancer care. The history, core values, goals, collaborative efforts, organizational structure and initiatives of these professional councils are highlighted here. **Overview:** The core values of the PA, NP and PD councils are commitment, compassion and collaboration. These principles are the foundation of the councils' program development, which are committed to fostering an environment of professional advancement and excellence. Council members act as representatives of their peers and serve as advisory groups for the Executive Director of APPs, APP directors, APP managers and hospital leadership at MSKCC. The NP council was the first professional council for APPs at MSKCC. It was first introduced into the nursing shared governance structure in 2015 and is comprised of 16 council representatives. The council's mission is to represent NPs and develop initiatives promoting excellence in practice. The PD Council emerged as a product of the onboarding subcommittee of the NP Council and progressed into its own entity as the need to support professional development initiatives grew, most notably an institution-wide standardization of an APP curriculum and onboarding program as well as the ASCEND Program, a pathway for APP Career Excellence and Development. The PA Council was introduced in 2018 and currently has 14

council members. Its mission is to represent their peers and implement projects focused on removing barriers to practice while ensure PAs are practicing at the height of their licensure. While each Council functions while representing their respecitive professions, the collaborative efforts on projects has helped enhance and excel the role of the APP at MSKCC. **Summary:** The development of the Physician Assistant, Nurse Practitioner and Professional development councils at MSKCC have flourished over the years and successfully collaborate on several successful and diverse projects. These professional councils bring together Physician Assistants and Nurse Practitioners with varied experiences and interests to develop initiatives to enhance and maximize the role of the APP at MSKCC. Our collaborative philosophy helps to foster relationships that create an integrated APP environment. A carefully cultivated intersectional leadership model that intentionally promotes communication and collaboration while leveraging the advantages unique to each profession allows for strong APP representation and ultimately, patient advocacy. **Implications:** Our intention is to highlight the history, collaborative efforts, organizational structure and initiatives of the PA, NP and PD Councils at MSKCC is to provide other institutions a model to develop similar governing bodies focused on enhancing and maximizing the role of The Advanced Practice Provider.

JL906

Effects of a 12-week Individual Cancer Rehabilitation Program on Physical and Quality of Life Indicators for Cancer Survivors

Laura R. Trissel,[1] DNP, AGACNP-BC, RN, AOCNP®, Kathryn B. Reid,[2] PhD, RN, FNP-C, CNL, Michele D. Howe,[1] BS, PT, CLTLANA, Tracey Hill,[1] CES, Michele Bascle,[1] RN, OCN®; [1]Sentara Martha Jefferson Hospital, [2]University of Virginia School of Nursing

Background: Cancer survivors undergo treatments that induce a variety of acute or long-term side effects including fatigue, peripheral neuropathy, balance disturbance, pain syndromes, lymphedema, functional limitations, and various psychosocial problems. Many of these conditions are amenable to improvement through focused rehabilitative interventions, and may improve overall health and well-being. This pre-post-design study evaluated the physical outcomes, and impact on quality of life (QOL) and fatigue derived from an individual-focused cancer rehabilitation program conducted at a community oncology program. **Methods:** Patients were referred to the Cancer Rehab and Renewal (CRR) program, in which they attended 60-minute exercise sessions supervised by a Physical Therapist and/or Clinical Exercise Specialist three times weekly for a total of 12 weeks. Physical outcomes were collected at baseline and completion of program and included: Body mass index (BMI), chest press, grip strength, fraction of expired volume in one second (FEV1), 30-second chair-stand, plank hold time, Dynamic Gait Index (DGI), and Modified Clinical Test of Sensory Interaction in Balance (CTSIB-M). Fatigue and QOL outcomes via the Functional Assessment of Chronic Illness Therapy-Fatigue (FACIT-F) were collected at baseline, program completion, and 6 months post-program completion. **Results:** Fifty-two patients, with a variety of solid tumor and hematologic malignancies, enrolled in the CRR program. Thirty participants completed the program (attrition rate 58%), and 23 of those completed the 6-month follow-up assessment. Paired t-tests were performed on physical components at baseline compared to completion, and statistically significant differences were found in 30-second chair stand test (p = .000), plank hold time (p = .000), and DGI (p = .000). FACIT-F scores at baseline compared to completion were statistically significant for five of the six subscales: physical well-being (p = .000), emotional well-being (p = 0.11), functional well-being (p = .000), and fatigue (p = .000). These significant differences did not persist, and waned by the 6-month follow-up assessment. **Conclusions:** Individualized rehabilitative instruction through the CRR program led to significant physical benefits of increased stamina, strength, and decreasing likelihood of falls. Improvements in balance were also seen, though did not reach statistical significance. The CRR program also demonstrated significant improvement in QOL measures and fatigue. Despite the lack of statistically significant changes at six months, the measures all reflected sustained improvement as compared to baseline, which is a clinically significant finding. There was a relatively high attrition rate, which was due to

a variety of personal and disease-related factors. **Recommendations:** Findings of this study inform the types of physical and QOL benefits that may be expected from rehabilitative programming. This therapy may allow for continuation of, or recovery from, cancer-directed treatments. Oncology nurse practitioners are well poised in clinical interactions to identify and refer patients who may benefit from dedicated rehabilitative exercises.

JL907

Feasibility of Biosimilar Integration in Oncology Practice: An Integrative Review

Kelley D. Mayden, MSN, APRN-BC, AOCNP®, Ballad Health Cancer Care

Background: Oncology practice is highly dependent on the use of biologics which account for half of the oncologic pharmacology market. An aging population and the continued prevalence of cancer cases is expected to increase the demand for life-saving biologics. Cost may be prohibitive, and the continued delivery of biologically based cancer treatment must be balanced against the economic limitations of the United States healthcare system. The availability of biosimilars can provide cost-savings for patients, healthcare systems, and the nation, ensuring access to biologically based therapy. Uniform adoption of biosimilars is hindered by a lack of provider knowledge and concerns surrounding safety data, extrapolation, immunogenicity, and interchangeability. **Purpose:** This integrative review is designed to identify and examine current literature surrounding biosimilar determination of available oncology therapeutics to determine if adult patients diagnosed with cancer can be treated with biosimilars as compared to reference biologics without a compromise in safety and efficacy over the course of therapy. **Method:** The review is supported by the methodology of Whittemore and Knafl. Five electronic databases (CINAHL, Clinicaltrials.gov, Cochrane Library, Medline, Nursing & Allied Health) were searched beginning January 1, 2015, to present. The search used the terms "biosimilars" and "oncology" and generated 193 articles. Inclusion criteria included: scholarly works published in a peer-reviewed journal; works written in English; works published within the last five years; and quantitative studies consisting of systematic reviews, meta-analyses, and randomized controlled trials (RCTs). Exclusion criteria included: qualitative studies; opinion articles; and articles published before January 1, 2015. **Results:** After duplicates were removed, inclusion and exclusion criteria applied, and evidence rated according to levels outlined by Melnyk and Fineout-Overholt, 15 articles qualified for the review. The review comprised 5 systematic reviews, 2 meta-analyses, and 8 RCTs. Biosimilars addressed included bevacizumab, filgrastim, pegfilgrastim, rituximab, and trastuzumab. Based on varying clinical endpoints, the use of these biosimilars as compared to reference biologics found no difference in the efficacy or safety of the products as compared to a reference biologic, and new immunogenicity concerns were not identified. Likewise, switching from a reference biologic to a biosimilar was not associated with a compromise in safety or efficacy, and new immunogenicity concerns did not surface. **Conclusion:** Biosimilars can be used in adult patients diagnosed with cancer over the course of therapy without a compromise in safety or efficacy. The use of biosimilars is not associated with immunogenicity concerns outside of those expected with reference biologics. Patients can be safely switched from a reference biologic to a biosimilar. **Implications:** Advanced practice providers (APPs) can confidently promote the use of biosimilars to ensure that oncology patients have access to affordable life-saving biologics. To promote the uniform uptake of biosimilars, APPs can participate in formulary selection, provide education to key stakeholders and patients, serve as legislative consultants, and participate as investigators in biosimilar clinical trials.

JL908

Molecular Genetic Aberrations in Chronic Lymphocytic Leukemia With Richter Transformation

Jacqueline B. Broadway-Duren, PhD, DNP, APRN, FNP-BC; The University of Texas MD Anderson Cancer Center

Background: Chronic lymphocytic leukemia (CLL) is a chronic incurable B-cell disease that affects primarily older adults. It is the most common leukemia in the Western world and viewed

as a heterogenous disease with a highly variable clinical course. Approximately 2-10% of CLL patients will develop aggressive histological transformation to diffuse large B-cell lymphoma (DLBCL), commonly recognized as Richter transformation (RT), with a transformation rate of 3% to 25% in patients treated with novel agents. The 2008 World Health Organization defined RT as the transformation of CLL into a more aggressive lymphoma. Richter transformation occurs due to dysregulation of signaling pathways of CLL cells. The purpose of this abstract is: 1) to increase awareness of predictive factors for RT and associated molecular aberrations and 2) to promote early recognition and intervention by advanced practice providers towards improving patient outcomes. **Approaches:** Advanced practice providers (APPs) are often the initial point of contact upon patient presentation. Certain clinical features indicative of RT requires comprehensive evaluation by advanced practice providers, such as: elevated LDH, rapidly enlarging bulky lymphadenopathy (> 3 cm) on physical examination, unexplained fevers and, weight loss. Likewise, APPs need be cognizant of risk factors for RT including: 1) advanced Rai stage (III-IV), 2) unmutated somatic mutations (IGHV) genes, 3) recurrent mutations in TP53, NOTCH1, SF3B1, and trisomy 12. NOTCH1 mutations are more common. Diagnostic approaches for RT are multi-faceted including, 1) a thorough history and physical examination, 2) appropriate diagnostic laboratory tests, 3) PET/CT – 18-fluorodeoxyglucose (18-FDG) uptake increased on PET (with standardized max most uptake commonly ≥ 10), noting an SUV ≥ 5 warrants biopsy and, 4) excisional biopsy of lymph node identified on the PET scan. **Discoveries:** The literature supports evidence of molecular features associated with RT in CLL. Such aberrations include: 1) mutations in NOTCH1 that are characterized by trisomy 12 activating NOTCH1 mutations, 2) SF3B1 gene abnormalities are commonly associated with non-Richter transformation in CLL, 3) CDKN2A/B loss with or without MYC abnormalities are common. The CDKN2A gene encodes p161NK4A causing dysregulation of TP53, 4) disruption of TP53 is often associated with aberrant activation of the MYC gene and, 5) unmutated IGHV status is also generally associated with RT. **Outcomes:** The expected outcome of the poster presentation is to identify molecular aberrations that are common in CLL patients with RT leading to prompt clinical evaluation, diagnosis, and early initiation of treatment. **Conclusions:** Richter transformation occurs (2-10%) in advanced stage B CLL (III-IV), previously treated CLL patients, and those with molecular abnormalities i.e., TP53, NOTCH1 mutations, CDKN2A/B loss and unmutated IGHV status. CLL patients who present with clinical signs of RT should be evaluated immediately with a PET/CT and possible biopsy if indicated. **Implications:** As frontline providers, it is imperative that APPs caring for CLL patients be aware of risk factors and predictive indicators associated with RT. This will allow early intervention towards improving patient outcomes.

JL909

Immuno-Oncology in 2021: Knowledge, Practice Patterns, and Perceived Barriers Among Oncology Advanced Practitioners

Una T. Hopkins,[1] DNP, FNP-BC, Janelle Schrag,[2] MPH, Lorna Lucas,[2] MSM, Leigh Boehmer,[2] PharmD, BCOP; [1]Montefiore Medical Center, [2]Association of Community Cancer Centers

Background: Oncology advanced practitioners (OAPs) represent a key role in the care of patients with cancer who are receiving immunotherapy. Not only do they participate in the treatment of these patients, including monitoring for adverse events, but many also provide education, counselling, and navigation services. As such, we examined the knowledge, practice patterns, and perceived barriers of OAPs when caring for patients being treated with immunotherapies. **Methods:** In July of 2021, the Association of Community Cancer Centers administered its annual Immuno-Oncology (IO) Census, an online survey, to its constituency of multidisciplinary cancer care team members. Survey questions assessed familiarity with various immunotherapies, current practices when treating patients with immunotherapies, including supportive care services, and perceived challenges when using immunotherapies or supporting patients. Preliminary descriptive analysis was conducted among a subset of OAP respondents. **Results:** At the time of interim analysis, OAPs comprised 20%

of all survey respondents (n=10). Of this group, respondents were nearly evenly split between advanced practice nurses or nurse practitioners (40%) and pharmacists (60%). Most respondents were from smaller practices, such as community cancer programs (60%), located in urban settings (60%), and had been in practice for over 5 years (90%). When asked about familiarity with different IO agents, most respondents were familiar with immune checkpoint inhibitors and combination treatment regimens that incorporate IO agents. Familiarity with cellular therapies, such as bispecific antibody therapies and chimeric antigen receptor T-cell therapies, was mixed as respondents reported slight to moderate familiarity. When asked about the frequency of discussions had with patients regarding certain topics, respondents reported always discussing topics like treatment decisions, biomarker testing, and toxicity management with patients. However, topics such as survivorship or palliative care, sexual health and fertility, and care coordination with other members of the patient's care team were less likely to be discussed (e.g., only 20% of respondents reported having these discussions "often"). The top challenges reported by OAPs included managing patient demand and expectations, helping to address patient financial toxicity, and coverage and reimbursement issues. **Conclusions:** This interim analysis supports our previous findings that OAPs are well versed with established, and becoming more familiar with emerging, IO therapies, and that issues such as patient demand and reimbursement remain persistent challenges. While the sample size is limited, we have also now gained new insights into the more distinct challenges related to OAPs' role in supportive care, such as mitigating financial toxicity and holistic care conversations. **Recommendations:** These findings should be considered when developing new educational initiatives for OAPs related to IO. Educational content related to cellular therapies, financial toxicity prevention, cancer treatment reimbursement, and managing patient demand may be well received by OAPs. Likewise, education related to effective supportive care conversations may be warranted in efforts to improve care for patients receiving immunotherapies.

JL910

OUTSTANDING POSTER AWARD WINNER

Implementation and Impact of an Advanced Practice Provider-Led Bedside Procedural Team at a Major Cancer Institution

Caitlin Treacy, MSN, AGACNP-BC, Yulia Kit, PA-C, Laura C. Kounev, MSN, FNP-C, Marie K. Marte, MA, ANP-BC, AOCNP®; Memorial Sloan Kettering Cancer Center

Purpose: Due to the increased complexity of the inpatient cancer population and lack of adequately trained clinicians, the number of Interventional Radiology (IR) referrals for ultrasound guided paracentesis and thoracentesis has increased. IR suite time is valuable and limited as higher acuity cases take precedence. This can lead to these procedures being delayed potentially resulting in increased length of stay. Dynamic ultrasound guided paracentesis and thoracentesis are routine procedures that can be performed with local anesthesia safely at bedside by trained advanced practice providers (APPs). The purpose of this paper is to describe the implementation of an APP led bedside procedural team at a major metropolitan cancer institution and its effect on procedure turnaround time. **Design and Process:** A team of four APPs was established including two nurse practitioners (NPs) and two physician assistants (PAs). Prior to joining the procedural team, the APPs had minimal to no ultrasound guided procedural skills. Each APP achieved initial competencies through a combination of didactic learning, simulation and hands-on skills training in the IR suites and clinic by IR attendings and radiologist assistants. After performing an average of 25 supervised procedures, the APPs achieved baseline competency and began practicing independently. A multidisciplinary team including IR attendings, APPs, and key stakeholders worked with the institution's process improvement team. The goal was to review current IR procedural workflow and to establish and standardize a new bedside procedural workflow. This included defining team member roles, necessary procedural and bedside equipment as well as proper documentation and image acquisition. By utilizing nursing informatics data, an APP data analyst developed a dashboard to track key data metrics including IR referral time, procedural start and end time. From these metrics, the percent

of IR referrals for paracentesis and thoracentesis completed within 24 hours was determined. **Findings:** In the year prior to the implementation of the APP led bedside procedural team, 53% of IR paracentesis and 32% of IR thoracentesis were completed within 24 hours. However, after the launch of the APP led bedside procedural team, turnaround time was greatly reduced. From January 2020 to June 2021, the team performed a total of 661 ultrasound guided paracenteses with 88% of them completed within 24 hours of referral. From January 2021 to June 2021, 62 ultrasound guided thoracenteses were performed with 82% completed within 24 hours of referral. **Conclusions:** Prior research has established that ultrasound guided bedside paracentesis and thoracentesis procedures are safe, cost effective and equally as satisfying to patients when compared to those performed in the IR suites. The implementation of an APP led bedside procedural team to perform dynamic ultrasound guided paracentesis and thoracentesis demonstrated safe and efficient care which led to decreased wait times for patients and reduced utilization of IR suite time. **Recommendations:** Areas for future research include determining the APP led procedural team's impact on patient length of stay and patient satisfaction as well as financial impact. Areas for future utilization include implementation of other bedside procedures, as well as expansion into the outpatient setting.

JL911

Implementation of a Quality Improvement and Research Workshop for Advanced Practice Provider Professional Development

Leigh M. Ehinger, DNP, AGPCNP-BC, OCN®, Kelly Haviland, PhD, FNP-BC , Yulia Kit, PA-C, Nicole Zakak, MS, RN, CPNP, CPHON®, Shila Pandey, MSN, AGPCNP, ACHPN®, Francine Osikowicz, PA-C, MPH, Deborah Diotallevi, MS, RN, CPNP, Joanna Yohannes-Tomicich, MSN, NP-C, AGACNP-BC, Dylan Stein, DNP, RN, CPNP-PC, CPHON®, Andrew Parmelee, PA-C; Memorial Sloan Kettering Cancer Center

Background: Physician Assistants (PAs) and Nurse Practitioners (NPs), collectively referred to as Advanced Practice Providers (APPs), are valuable contributors to clinical services, quality improvement (QI) and research initiatives in oncology settings. However, APP training varies according to profession and degree earned. Only 27% of Physician Assistant educational programs provide well-established instruction in performing quality improvement research. Nurse Practitioner curriculums include core competencies in healthcare quality improvement, yet NPs rarely develop and lead research and evidence-based practice activities. Reasons for not developing and leading research include inadequate knowledge and skills and lack of appropriate mentorship and resources. When equipped, APPs are uniquely situated to improve care for the increasing cancer patient population through QI and research projects. **Design:** APP-led QI and research workshops were developed at a large metropolitan cancer center to address disparities in education, mentorship, and resource allocation. A Likert scale pre- and post-workshop survey measuring participant knowledge and confidence of QI and research topics was given to all participants. The aim of this survey was to evaluate the efficacy of the workshops' didactic sessions by participants' reported knowledge and confidence. All participants (n=40) in the three cohorts completed both surveys. Pre- and post-workshop survey responses for each cohort were combined and analyzed to assess the improvement of the practitioners' knowledge and confidence in QI and research topics. The workshops were conducted in October 2020, March 2021, and June 2021. **Results:** The surveys indicated that APPs' knowledge about QI and research topics and their confidence in performing these modalities were improved in all areas. In most of the presented topics, APP knowledge or confidence increased by greater than half. APPs reported an increase in knowledge of the types of EBP/QI/research (75%), library resources (63%) available, their understanding of the levels of evidence and critical appraisal of literature (90%), implementation of QI and research projects (78%), research methodology (53%), the project initiation process specific to the center (70%), and of basic statistics (45%). **Conclusions:** The results indicate that APPs had an increase in knowledge to perform QI/research projects and gained confidence to initiate these types of patient improvement endeavors. These APP activities can help increase job satisfaction and institutional productivity as well as improve cancer care. **Recommendations:** Institutions should provide QI and research development workshops to establish core

competencies and guide APPs in this work alongside their clinical duties. With appropriate training to build the skills and confidence required for QI and research projects, APPs can improve oncology care. It will be important to follow up with workshop participants to see if projects are implemented and completed and to identify barriers.

JL912

Improving the Advanced Practitioner's Role in Oncology Clinical Research: Current State and Needs Assessment

Alison J. Holmes Tisch, MSN, RN, ANP-BC, AOCNP®, Rochelle A. Reyes, PA-C, Deepa Shah, PA-C, FNP, Alexandra Ross, PA(c), Jessie Coty, MSN, MEM, NP-BC, Anisia Dugala, MPH; Stanford Health Care

Background: To provide optimal, state of the art oncologic care, patients need robust access to clinical trials throughout the continuum of their cancer care. Advanced Practitioners (or APs) can be key in providing access to clinical research in terms of patient identification and management on study, however there is variable engagement and training of APs across different research groups within our academic cancer center. Currently, there is not a system to easily assess AP participation in clinical research and no standardized training to develop AP capability in clinical research. **Methods:** A multi-faceted approach was taken to assess the current state and needs from the perspective of the AP and from clinical research physician leaders. To assess the AP perspective, participants completed a 40-item survey tool. The survey assessed AP experience and specialty practice area with targeted questions to evaluate the current level of involvement of the AP in clinical research, including scope of practice and specific tasks completed, using Likert, multi-select and write-in options. The survey also assessed areas for additional training and desire to grow the scope of clinical practice. Structured interviews were conducted with physician leaders to determine physician perception of current state and ideal state practice for APs in clinical research and to assess barriers to practice and gaps in training. **Results:** Data from a total of 63 survey responses from APs were evaluated in addition to data from a total of 15 physician leader interviews. 73% of APs reported involvement in direct patient care in research visits, with 32% identifying having been sub-investigators. APs reported that their most common study related tasks included ordering labs/imaging/testing (66%) and conducting routine study follow-up visits (56%). 59% of respondents reported having interest in serving as a sub-investigator. The top perceived barrier to research involvement was having limited time given standard of care patient volume (79%). Requested areas for additional training included building an awareness of clinical trial resources for clinicians (52%), evaluating imaging (47%), protocol design (42%), developing presentation materials (44%) and support for publishing or presenting at conferences (41%). 14 physician clinical research leaders were interviewed, and all reported that AP involvement is important in oncology care, but different research areas had varying levels of involvement based on the volume of research studies, AP interest and degree to which AP involvement is prioritized within the research groups. Top tasks identified were assessing, managing, and documenting adverse events (57%) and providing study-specific patient education (50%). The top barrier to AP involvement was lack of time (57%). **Conclusions:** APs are highly involved in clinic research at this academic cancer center and AP involvement is supported by physician leaders. APs need specific education and training to best support clinical research involvement and professional development in additional to dedicated time within their day-to-day duties to support this work. **Recommendations:** Standardized education and training to support APs at progressive levels of involvement in clinical research needs to be developed. Time for research activities needs to be prioritized in AP job responsibilities.

JL913

Ochsner Health System's Chemotherapy Care Companion: Technology for Monitoring Outpatient Oncology Patients at Home

Erin M. Pierce, MSN, APRN, FNP-C, Carlie Stott, MSN, APRN, FNP-C, OCN®, BMTCN®, Zoe Larned, MD; Ochsner Medical Center

Background: Patients receiving oncologic care are predisposed to acute issues that have shown to be preventable with proactive monitoring and management. To manage these therapy complications at Ochsner Health System, Chemotherapy Care Companion was developed. The program

is used to monitor patients who are receiving outpatient chemotherapy or immunotherapy through their vital signs which can help identify issues related to or exacerbated by cancer treatment. This pilot focused on the feasibility of recruitment, compliance, implementation, and barriers to integrating proactive chemotherapy monitoring. **Method:** Starting in January 2020 to present, patients planning to start an intravenous chemotherapy treatment plan and had a smart phone were enrolled. Providers completed an order set manually or were reminded by an enrollment EMR alert for any patients with an active treatment plan in the last 3 months. Once orders were placed and consent signed electronically, patients were provided at no cost with a digital thermometer, digital scale, and digital blood pressure cuff through philanthropy and grant funding. Once active, patients were assigned a series of daily tasks for completion including daily symptom survey, weight entry, temperature entry, AM/PM blood pressure and heart rate reading. Vital signs are compared to preset data ranges. Electronic alerts are sent to providers when outside of predetermined acceptable limits. For example, systolic blood pressure ≥ 160 or ≤ 100, heart rate ≥ 110 or ≤ 60, and temperature ≥ 100.5. APPs are responsible for monitoring and following up with patient alerts to provide intervention. **Results:** As of July 2021, 156 order sets for Chemotherapy Care Companion have been placed, with 81 total active patients and 12 patients deceased or opted out. Patient compliance was at 71.64%, which indicated that they have entered at least two different vital sign components per time. Interventions undertaken by APPs based on patient data included identification for the need for urgent care visits with APPs, blood pressure management, referrals to different specialties such as cardiology and nutrition, and orders for IV fluids and antiemetics. **Conclusions:** APPs felt management of patients outside of the clinic was improved with proactive monitoring of vital signs. This in turn helped providers correlate patient's subjective symptoms better. Results show that this program is a feasible and improved way to monitor outpatient oncology patients receiving cancer treatment. Limitations of this pilot include required access to a smartphone, need for basic technology skills, collection of patient feedback, and the small number of patients enrolled. **Implications:** APPs are well versed in their position to monitor and provide symptom management. Successful completion of this pilot led to expansion of this program to patients already on active treatment, receiving immunotherapy, and those being treated with oral systemic therapy for renal cell carcinoma. With the use of proactive monitoring, APPs can continue to improve patient care, patient engagement, and quality of life. Future work hopes to show that proactive monitoring can decrease complications and hospitalizations during cancer treatment.

JL914

Oncology Advance Practice Provider Quality and Safety Grand Rounds: Development, Implementation, and Improving Patient Outcomes

Courtney Dryden, MPAS, PA-C, Angela Bazzell, DNP, APRN, FNP-BC, AOCNP®; UT Southwestern Simmons Comprehensive Cancer Center

Background: Patients with cancer are at high risk of adverse events due to their underlying malignancy, treatment related toxicities, and overall immunocompromised state. Advanced Practice Providers (APPs) play a key role in providing quality care for oncology patients while ensuring patient safety. At UT Southwestern Simmons Comprehensive Cancer Center (SCCC), we identified a practice gap for oncology APPs to discuss the management of adverse events, complications, and current practices. The Oncology APP Quality and Safety Grand Rounds (QS Grand Rounds) was developed to facilitate a formal discussion of impactful safety events, complications, and oncologic emergency processes from an APP perspective. By creating an open dialogue across APPs from all subspecialties, past events can inform process change to improve patient outcomes in the future. **Intervention:** A comprehensive review of the literature and an online search was conducted to identify examples of oncology quality and safety grand rounds which included APP participation. The intervention was led by the Oncology APP Quality and Safety Coordinator. Multiple insti-

tutions were found with APP Grand Rounds; however, none of the grand rounds were focused on quality and safety in oncology. Safety events were reviewed to identify areas in which a system or process led to a near miss or potential for patient harm. Based on this data, topics applicable to oncology APPs were identified for discussion. A virtual platform was used to present quarterly Oncology APP QS Grand Rounds. The virtual format allowed a larger group of APPs to attend during the COVID-19 pandemic. **Effects:** The first SCCC Oncology APP QS Grand Rounds focused on safety events involving spinal cord compression, with an emphasis on the importance of early diagnosis and management. A total of 112 APPs across 26 subspecialties in the UT Southwestern Health System accepted the meeting invitation, with 41 attending. Seventeen APPs actively participated in a post presentation discussion exploring process changes based on the presentation which could improve quality care. The decision was made as an APP-led initiative to create a spinal cord compression protocol for the rapid evaluation and management of patients to improve morbidity and mortality. Subsequent input has been obtained from a multidisciplinary stakeholder group including representation from radiology, neurosurgery and radiation oncology. **Conclusions:** By implementing the Oncology APP QS Grand Rounds, an opportunity for oncology APPs to discuss quality and safety using a multidisciplinary approach was created. A new forum for oncology APPs who were otherwise siloed within their own subspecialty was also formed. Oncology APP QS Grand Rounds ultimately led to oncology APP real time participation in quality improvement projects, which in turn improves outcomes and promotes safe patient care. **Recommendations:** APPs are a relatively new addition to the oncology provider workforce and are historically underrepresented in quality and safety improvement initiatives. However, we provide a large proportion of oncology care to patients across the United States and bring a unique perspective to patient safety and quality initiatives. Future institutions should adapt similar models to encourage a collaborative approach to improve patient care.

JL915

Oncology Advanced Practice Provider-Led Initiative to Improve Wait Times and Quality of Bone Marrow Procedures

Keri L. Clements, MSN, APRN, AGACNP-BC, OCN®, Courtney Dryden, MPAS, PA-C, Angela Bazzell, DNP, APRN, FNP-BC, AOCNP®; UT Southwestern Medical Center

Background: Prompt bone marrow evaluation in the outpatient setting is essential in the management of patients with hematologic malignancies. Results provide information related to prognosis and management, allowing providers to develop individualized care plans. At UT Southwestern, oncology advanced practice providers (APPs) perform all bone marrow biopsy procedures in an outpatient procedure clinic. An evaluation of time to next available appointment and patient satisfaction was completed in November 2019. Patient experience data showed patient dissatisfaction related to expectations, wait times and procedural technique in some instances. A Bone Marrow Biopsy Workgroup was created to decrease wait times, improve workflow, ensure quality through evidence-based protocols, and improve patient satisfaction. **Interventions:** In December 2019, an APP-led multidisciplinary Bone Marrow Biopsy Workgroup was created to address the issues discovered in the bone marrow procedure evaluation. Key stakeholders were represented in the workgroup, including APP and clinic leadership, nursing, scheduling, pharmacy, laboratory services, and a Patient and Family Advisory Council member. The workgroup recognized the importance of engaging with patients and/or family members to improve bone marrow procedure services. Using the Health Care Quality Improvement Action Template an action plan was created. Within the action plan, procedure clinic hours were extended by adding 3 new procedure appointments per day along with expanded laboratory and pathology hours of support. We developed a bone marrow order set within the electronic medical record based on diagnosis to improve order standardization and efficiency and reduce the risk of errors. APP bone marrow procedural retraining was offered, along with standardizing procedural nursing responsibilities. After a comprehensive literature review, the existing bone marrow standard operating procedure was updated to reflect best

practice. **Effects:** The workgroup interventions improved patient access and decreased wait times from 10-14 days in November 2019 to 24 hours or less by April 2020. Bone marrow biopsy volumes surpassed previous monthly totals from 90 procedures in June 2019 to 119 procedures in June 2020 while maintaining wait times of 24 hours or less. Standardization of processes and improved efficiency also led to improved patient experience based on Press Ganey survey results before and after the interventions. The development of a bone marrow procedure order set based on disease state resulted in improved APP efficiency and clinic workflow. **Conclusions:** In summary, with the leadership of oncology APPs and the commitment of a multidisciplinary team to integrate patients and families as advisors, we have successfully improved the quality and efficiency of bone marrow biopsy procedures. Expanding available procedure times, standardizing roles and improving processes has led to decreased wait times and increased patient satisfaction. **Recommendations:** It is imperative that we acknowledge the imminent need. With a growing and aging population, the global cancer burden continues to rise. This recognized increase in incidence further supports the need for prompt quality bone marrow evaluation. There is also a notable impending physician shortage in the US4, supporting the need for Oncology APPs nationwide to participate in both the management of cancer patients and the leadership of clinics involved in their care.

JL916

Oncology Advanced Practitioner Involvement in Cancer Clinical Trials: Findings from an Academic Versus Community Analysis

Christa M. Braun-Inglis,[1] MS, APRN-Rx, FNP-BC, AOCNP®, Leigh Boehmer,[2] PharmD, BCOP, Laura Zitella,[3] MS, RN, ACNP-BC, AOCN®, Brianna Hoffner,[4] MSN, ANP-BC, AOCNP®, Yurii Shvetsov,[1] PhD, Jeffrey Berenberg,[1] MD, Randall Oyer,[5] MD, Al B. Benson,[6] III, MD, FACP, FASCO; [1]University of Hawaii Cancer Center, [2]Association of Community Cancer Centers, [3]University of California, San Francisco, [4]Harborside; [5]Ann B. Barshinger Cancer Institute, [6]Northwestern Medicine

Background: Oncology Advanced Practitioners (OAPs) are integral members of the oncology care team, yet little is known about their role in cancer clinical research. In 2019-2020, a benchmarking survey was designed and distributed via a collaboration between the University of Hawaii Cancer Center, the Association of Community Cancer Centers (ACCC) and Harborside. Objectives were to examine the attitudes toward and roles held by OAPs in clinical trials. The initial analysis showed that OAPs view clinical trials favorably and are interested in supporting and participating in research. In the present analysis, we aimed to determine if participation in clinical research differed between academic OAPs and community OAPs. **Methods:** The survey response data were analyzed using cross-frequency distributions and the chi-square test. Plots of percent distribution of responses by practice setting (academic or community) were constructed for each survey question. **Results:** OAPs in academic practice settings were more likely to serve as primary investigators (PIs) (academic 16%; community 7%) or sub-investigators (57%; 47%). OAPs in the academic setting were also more likely to conduct clinical trial visits (63%; 47%) and standard of care visits for patients on trial (67%; 49%). NCI-sponsored trials were available at 94% of academic practices and 58% of the community practices. The percentage of OAPs registered as non-physician investigators (NPIVRs) for NCI-sponsored trials was similar (academic 37%; community 35%). Regardless of practice site, a minority of OAPs reported being enrolling investigators (academic 19%; community 13%); involvement with cooperative groups (20%; 9%); involvement in selecting trials at their practice setting (25%; 18%) or involvement in institutional research committees (35%; 20%). The majority of academic and community OAPs report interest in becoming more involved with clinical trials (73%; 77%). **Conclusion:** OAPs in the academic setting have greater involvement in clinical research, however, there are more opportunities for clinical trial involvement due to higher availability of NCI-sponsored trials at academic institutions. This analysis demonstrates that OAPs value clinical research and are interested in greater involvement regardless of practice setting. **Recommendations:** OAPs can positively influence the accrual to and conduct of cancer clinical trials at both academic and community settings. At a minimum, OAPs should be integrated into the research team and encourage enrollment as a component of the standard of care where trials are readily

available. They can participate in the conduct of research as a sub-investigator who performs study visits, toxicity assessments, and study procedures. Furthermore, OAPs can register as NPIVRs for NCI-sponsored trials and enroll their patients on supportive care, cancer control and cancer care delivery trials independently from their physician counterparts. There are also opportunities to participate on cooperative group and institutional research committees, as well as develop leadership roles in clinical research. Organizations such as ACCC and APSHO have started to offer educational opportunities but there is still a need to create a supportive clinical environment so OAPs can grow in the clinical research role.

JL917

Prevalence and Adverse Effects of Polypharmacy in Oncology Patients

Courtney Bendig, MSPAS, PA-C, Selena N. Carmona, MS, MPAS, PA-C, Monique H. Rose, MPAS, PA-C; The University of Texas MD Anderson Cancer Center

Background: Polypharmacy (PP), most commonly defined as the use of ≥ 5 medications, continues to be a growing problem in multi-morbidity, complex and geriatric populations. Oncology patients are especially susceptible to PP given poorer performance status, inappropriate medication use, and higher risk of comorbidities. Burden is further complicated by complex, multidisciplinary cancer care approaches, poorly updated electronic medical records (EMRs), improper transition of care, and treatment of iatrogenic conditions. Additionally, lack of consensus regarding a definition of PP leads to improper quantification of burden in this sub-population. Clinical screening tools including Beers Criteria, Medication Appropriateness Index (MAI), and Screening Tool of Older Person's Prescriptions (STOPP) aim to address PP. All are clinical assessment tools used for PP screening and deprescribing of medications. The aims of this study include: describe various definitions of PP, highlight the consequences from lack of a consensus definition, emphasize the prevalence of PP in oncology, and provide an analysis of current clinical tools to identify, prevent, and reduce overall PP-related burden. **Methods:** A systematic review was conducted to identify current literature on definitions of PP available via PubMed. Once the most common definitions were identified, a literature search was conducted to best summarize the incidence of PP in oncology patients, common offending agents, and subsequent effects of PP. NCCN-screening tools were identified with their respective criteria, strengths and limitations, and the impact of clinicians on these interventions. **Results:** Masnoon et al. performed a systematic review of 1156 publications with 110 meeting all inclusion criteria that identified vast heterogeneity in definitions of PP based on numerical definitions with various subtypes, duration of therapy, health care setting and descriptive definitions1. The most common definition was the use of ≥ 5 medications for PP and ≥ 10 medications for excessive polypharmacy (EPP). Geriatric populations are at the greatest risk of PP and side effects due to decreased liver and kidney function, leaner body mass, cognitive impairment, and reduced hearing, vision and mobility. A study published in the *Journal of Clinical Oncology* found that in ambulatory geriatric oncology patients, the mean number of medications per patient was 9.2 with 41% and 43% experiencing PP and EPP, respectively. PP led to increased incidence of adverse effects, drug-drug interaction, geriatric syndromes, functional decline, delirium, cognitive impairment, financial and systematic burden, and increased incidence of morbidity, hospitalization and mortality. Effects during active treatment resulted in treatment delays, reduced efficacy, and discontinuation of therapy. Adverse effects were noted in all stages including survivorship and end of life/palliative care. No single tool was identified as superior in increasing efficiency and accuracy in PP screening and subsequent deprescribing of contributing agents. **Conclusion:** Discrepancy in defining PP creates confusion among researchers, clinicians, and patients. Consequently, this prevents accurate measurements of prevalence which hinders identification of solutions to address PP1. The cause of PP is multifactorial including pharmacological and non-pharmacological factors. Optimizing patient care and awareness of PP risk should improve overall wellness and long-term health outcomes among the oncology population.

JL918

5 Year Update: Climbing the APP Professional Ladder at an Academic Oncology Institution

Sara M. Tinsley-Vance, PhD, APRN, AOCN®, Tiffany Valone, PA-C, Melissa Adams, PA-C, Stephanie McCarrell, CRNA, Dave Johnson, PA-C; Moffitt Cancer Center

Background: A need was identified to improve recognition, retention, and recruitment of Advanced Practice Professionals (APP) at Moffitt Cancer Center, an NCI designated Comprehensive Cancer Center. The APP clinical ladder was developed from 2015-2016 to meet this need and has evolved since inception in the fall of 2016. **Methods:** A team of APPs developed the ladder with several items in specific categories based on Moffitt's core values of People, Quality, Innovation, Service, and Growth. Within each category a variety of healthcare activities were created and then categorized into their respective core values. The ladder consists of four levels based on minimum eligibility criteria, years of APP experience, and years of experience at Moffitt in specialty. Prior to applying to the ladder, each APP is considered level 1, with no monetary award associated with level 1. Applicants apply for levels 2 through 4, with level 2 an award of 3,000 annually, level 3 an award of 6,000 annually, and level 4 an award of 9,000 annually. The application period is bi-annual, with annual renewal required for monetary award once a level is obtained. **Results:** The APP clinical ladder has been successful in recognition of approximately 45% of APPs employed at Moffitt Cancer Center since 2018, with total participants exceeding 100 individuals in 2020. The first application period was September 15th, 2016, and the initial participation rate was 21%. Growth of the ladder in acceptance is apparent with the increasing participation of eligible APPs over the years: 2016: 23(21%); 2017: 52(38%); 2018: 74(44%); 2019: 97(48%); and 2020: 117(43%). Other metrics include a decrease in our turnover rate in 2016 of 10% to the 2020 turnover rate of 4.68%. In addition, APP engagement improved from 4.03 to 4.27. The clinical ladder is part of the recruitment strategy when hiring new APPs and is a focus of discussion for new hires. **Conclusions:** The Moffitt Cancer Center APP clinical ladder has been an effective tool for recognition of advanced practice professions, with growing interest and participation over the 5 years since its inception. The ladder has successfully been utilized for recruitment of additional APPs to Moffitt Cancer Center. Retention has improved over the 5 years since its inception, primarily in APPs remaining within their specialty, which promotes expertise within their various disease states. **Recommendations:** The APP clinical ladder is a proven tool used for recognition, retention, and recruitment of APPs. Our committee recommends utilization of an APP clinical ladder for healthcare facilities that employ nurse practitioners, physician assistants, certified registered nurse anesthetist, and anesthesiologist assistants.

JL919

Time Will Tell: The Mini-Cog© With Clock Drawing Test – A Quick Snapshot of Cognitive Status and Its Role in Personalizing Care for Oncogeriatric Patients

Rosalie El-Rady, AOCNP®; Moffitt Cancer Center

Background: In the older adult population, depending on the clinical setting, 25-90% of dementia diagnoses are missed. Consider the consequences to the growing oncogeriatric population during treatment and survivorship. This group is at high risk for over-treatment and under-treatment because in medicine, age is just a number, not a reflection of the variations found within people of the same decade. When time is limited, de-intensifying regimens to maximize functionality and quality of life in vulnerable patients with metastatic disease is of paramount importance. In addition, when it meets individual goals, offering aggressive care to those who are found to be fit those with good functional status and reserve is key to preventing disparities. **Methods:** In our practice at a Senior Adult Oncology Clinic within an NCI-designated Comprehensive Cancer Center, the Mini-Cog© aids in identifying the functional level of individuals. The 3-word recall and the often-striking visual of the patients Clock Drawing Test provide rapid results. The tool is included in the SAOP3 (Senior Adult Oncology

Program, version 3) Screening Questionnaire. This multi-dimensional instrument is used at new patient evaluations and repeated during each cancer re-staging to concurrently re-stage a patients functional status as fit, vulnerable, or frail. Treatment adjustments are made as appropriate. We have developed a protocol for evaluation of abnormal screens. Among the first steps are a pharmacy consult to review medications and lab studies to rule out metabolic, nutritional, or endocrine etiology. Consideration of brain metastases is undertaken, and referrals for formal dementia evaluation are made when needed. **Results:** Tracking cognition with the Mini-Cog© over time, the visual of the Clock Drawing Test and number of words recalled (i.e. 0, 1, 2, or 3) allows an easy, side-by-side comparison of pre-treatment versus on-treatment status. We have seen improvement in patients clocks after their burdensome cancers displayed treatment response or after treatment was de-intensified. We have seen normalization in clocks of patients who likely had hypoactive delirium due to recent anesthesia or sedation with cancer staging procedures. Stability has been displayed in those with dementia undergoing de-intensified regimens. In the few cases in which cognition worsened, as evidenced by markedly abnormal clocks or refusal to draw the clock, the decline was usually related to cancer progression. In those with markedly abnormal Mini-Cog© and significant deficits in ADLs and IADLs, our oncologists recommend supportive care or in ER positive breast cancer patients who are poor surgical candidates, a trial of aromatase inhibitors alone. **Conclusion:** Goals of care, toxicity, and complications are highly dependent on patients individual functionality, not just on cancer type and stage. Therefore, it is imperative that geriatric screening is operationalized and that it comprise multiple measures, including that of cognition, as part of a holistic evaluation. **Recommendations:** NPs and PAs are in prime positions to advocate for and to perform cognitive screenings in older adult cancer patients. This additional layer of information can expose vital cognitive and concurrent functional, psychosocial, and caregiver issues that, when addressed, will provide the best individualized outcomes.

JL920

Utilization of an Amino Acid-Oral Rehydration Solution to Reduce Treatment-Related Diarrhea and Improve Quality of Life in Solid Tumor Cancer Patients

Holly Chitwood, DNP, APRN, FNP-C, AGACNP-BC, University of Kentucky College of Nursing, Markey Cancer Center

Background: Treatment or chemotherapy related diarrhea (CRD) is a common adverse effect of many chemotherapy agents used to treat cancer. CRD negatively affects quality of life (QOL) for cancer patients and often results in treatment delays or hold, dose reductions, and hospitalizations affecting morbidity and mortality. Proper management of CRD with novel therapeutics is needed to improve the quality of life and patient outcomes for this population. **Purpose:** The purpose of this study was to determine if the use of amino acid oral re-hydration solution (AA-ORS) would improve the QOL of patients experiencing CRD by reducing the amount of diarrhea. **Conceptual Model:** Imogene M. King's Theory of Goal Attainment was utilized as the framework for this study. **Methodology:** An experimental study without randomization in a single population with two separate measurements over time was performed in a National Cancer Institute (NCI) designated cancer center in the South-Central United States. The variables included sociodemographic data, participant weight measured in kilograms, treatment delays, holds, and dose reductions, cancer diagnosis, chemotherapy treatment regimens, Common Terminology Criteria for Adverse Events (CTCAE) v5.0 grade of diarrhea, stool consistency using the Bristol Stool Scale, use of antidiarrheal medications, use of AA-ORS, associated symptoms, and QOL measured with the Functional Assessment of Chronic Illness Therapy-Diarrhea questionnaire (FACIT-D). **Results:** A total of 22 participants enrolled in the study. Only 16 completed both the pre- survey and post survey. A statistically significant difference was not found between the patient's subjective report of quality of life when comparing pre-survey and post survey responses. There was a subjective improvement in associated symptoms such as nausea, abdominal pain, weight loss, muscle weakness and cramping, dehydration, appetite, and electrolyte imbalances

with the exception of hypokalemia. There was a statistically significant improvement from baseline in the QOL questions specific to bowel concerns due to diarrhea, a reduction in the CTCACE grade of diarrhea demonstrating a reduction in the frequency of stools per day (p = .001) and a change in the consistency of stools moving from watery to more formed stools using the Bristol Stool Scale (p =.049). **Conclusion:** Use of AA-ORS in combination with standard of care loperamide and lomotil was found to be useful in the reduction of CRD in patients receiving systemic oncology therapies in this study. This study needs to be replicated vigorously with a larger, more inclusive sample size to further support the use of AA-ORS in the reduction of CRD and QOL.

JL921

Utilization of the Standardized Assessment for Clinical Trial Enrollment (SAFE) Template to Improve Clinical Trial Screening and Enrollment

Amanda Brink, DNP, APRN, FNP-BC, AOCNP®, Sara Bresser, MPAS, PA-C, Gabriele Urschel, DNP, APRN, FNP-C, AOCNP®, Isabel Cepeda, MSN, APRN, AGNP-C, Sandra Musekiwa-Adjei, MSN, APRN, FNP-C, Nageli Perez, MSN, APRN, FNP-C; The University of Texas MD Anderson Cancer Center

Background and Significance: The successful enrollment of oncology patients in early phase clinical trials requires clinical and research teams to work together to identify an appropriate treatment option for the patient. The screening process is labor-intensive and requires both clinical knowledge and knowledge of study protocol requirements. Advance practice providers (APPs) are an important part of the clinical team and are heavily involved in the patient screening process. In this study, we assessed the efficacy of utilizing a novel template, known as the "Standardized Assessment for Clinical Trial Enrollment" (SAFE), to assist both APPs and clinical trial coordinators to screen patients for trial eligibility. **Methods:** The SAFE template was utilized in six physician clinics from November 2020 to February 2021 to screen new patients and consultations for clinical trial enrollment. The trial enrollment rate for each physician clinic from this period was compared to the trial enrollment rate from April 2020 to July 2020 when the SAFE template was not utilized. The SAFE template was completed by APPs and uploaded to MOCLIA, which is the online portal containing resources for trial enrollment, at least 24 hours before the patient's clinic visit. Study coordinators then utilized the template to screen patients. The goal of the study was to determine if completing the SAFE template improved the enrollment rate on clinical trials. **Results/Conclusion:** A total of 256 new patients and consultations were screened for trial enrollment using the SAFE template. The trial enrollment rate increased in three clinics and decreased in three clinics after the implementation of the SAFE template. The average overall enrollment rate for all six clinics combined decreased (56% to 49%). For this reason, we assessed barriers to clinical trial enrollment. The most common barrier to enrollment was that the patient either continued standard of care (SOC) therapy or had another SOC option (35% of patients). Other major barriers included poor ECOG performance status (18%) and organ dysfunction (16%). **Study Limitations:** The baseline data before SAFE utilization was collected shortly after the COVID-19 pandemic started, which may have impacted baseline enrollment rates. The actual utilization of the SAFE template by clinical trial coordinators for screening was not evaluated. Patients that are scheduled shortly before their appointment date or are scheduled on the actual date of the appointment limited utilization of SAFE in these situations. **Future Implications/Research:** Educating referring providers, who request consultations, and nursing staff on the new patient team, who are responsible for compiling a patient summary for acceptance of new patients, regarding common barriers to clinical trial enrollment may ensure that appropriate patients for clinical trial enrollment are referred. This could increase overall enrollment rates and ensure that the screening process is more efficient.