

Development of a Standardized Bone Marrow Procedure Training and Competency Toolkit for Advanced Practice Providers in a Large Community Oncology Practice

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Abstract

Bone marrow procedures are a common diagnostic tool utilized in hematology/oncology and can be completed in the office by trained clinicians. Currently, there are limited guidelines for appropriate training and competency for bone marrow procedures performed by advanced practice providers (APPs) in a community oncology practice setting. The need to create a standardized training and competency protocol for APPs in this setting was recognized. A comprehensive, standardized educational and procedural toolkit was created. The creation of a comprehensive training toolkit for APPs in the community oncology practice setting helps to ensure a high standard of procedural proficiency and consistency among individual providers and practices. The creation of such an extensive toolkit is time consuming. By adopting and standardizing toolkits such as this one, community hematology/oncology practices can ensure the delivery of high-quality patient care by highly trained and proficient APPs.

Bone marrow aspiration and biopsy procedures are commonly used in oncology practice for the diagnosis and staging of hematologic/oncologic disease and evaluation of response to treatment. Trained providers, including advanced practice providers (APPs), perform this procedure in both inpatient and outpatient settings. Historically, within our institution, there have been limited

guidelines available to ensure appropriate training and competency for APPs performing this procedure. This, coupled with the acknowledgment that nurse practitioner and physician assistant educational programs are inherently void of specialized procedural training, results in an opportunity for invention. Thus, clinical leadership, including both nurse practitioners and physician assistants, within a large community oncology practice identified the need for training and competency guidelines due to significant growth in the number of APPs performing the procedures, improved APP skill development, and ultimately, a desire for standardization to ensure uniform, high-quality provider training.

BACKGROUND

Size, Growth, and Care Model Transitions

Texas Oncology consists of over 200 individual oncology care locations, currently with more than 500 oncology physicians. Since the first APP joined Texas Oncology in the late 1990s, the number of APPs has grown to more than 180, with most growth occurring in the past 5 years. This transition to a more collaborative physician/APP model helps enhance cancer care and better meet the needs of patients. As a result, many oncology APPs have expanded their skills to provide procedures, including bone marrow aspiration and biopsy. Physicians have historically mentored and facilitated the incorporation of this skill into APP practice over the years; however, more and more APPs now train new or onboarding APPs to perform this procedure, leading to numerous inquiries regarding how to properly train an APP.

APP Competency, Training, and Standardization

With an expanding number of APPs now performing these procedures, it became clear that it was increasingly difficult to ensure knowledge and skill competency within such a large multisite organization. Moreover, such training was largely occurring without thorough documentation. In our experience, APPs are provided limited training of this kind during their formal education and only develop such procedural skills on an ad hoc basis. After acknowledging the need for a comprehensive training protocol, the first challenge

was to ensure baseline understanding of the scientific principles to justify the need for the procedure and establish a stepwise learning approach, both didactic and procedural. A well-structured process was necessary to measure current competency and ensure a seamless plan for appropriate training of both existing and future APPs.

Process of Toolkit Development

Clinical leadership identified a select group of APP clinicians to form a Bone Marrow Taskforce. Group members are regarded as experts who consistently perform bone marrow biopsies and aspirations at a highly competent level and/or had undergone training in an outside program. The taskforce consisted of eight APPs: seven practicing clinicians, bringing hands-on expertise to the group, and one clinical leader to provide administrative support. A project lead was identified, monthly meetings were scheduled, and goals were outlined with a completion deadline of 1 year. The goal was to develop a comprehensive toolkit encompassing the basic understanding of results interpretation, instruction to perform the procedure, and standardized documentation guidelines.

Taskforce members were asked to conduct a review of current literature pertaining to guidelines and established protocols for APP training and competency of bone marrow biopsy and aspiration procedures. It quickly became apparent that there was limited information and established guidelines. This further stressed the importance of developing a standardized approach to training and competency.

Each member of the taskforce was assigned an area to research and contribute to the standardization protocol, including education on and preparation for the procedure, what to include on a comprehensive training checklist and the process for verification of skill(s), and patient education and consent. In addition, the other critical pieces identified were standard documentation of APP training and competency, documentation within the electronic medical record, and billing consistent with current guidelines. As the team constructed the toolkit, additional groups were given the opportunity to review and provide feedback, including an internal legal team and human resources, as well as APP and physician leadership.

THE TOOLKIT

Education and Preparation

To adequately prepare an APP to perform bone marrow procedures, education was an essential component of the toolkit. An educational outline was created to include both written and video instruction of the indications, procedure and safety protocols, and results interpretation. A link to *The New England Journal of Medicine* educational bone marrow aspiration and biopsy video was provided for viewing (Malempati et al., 2009). Recommended reading material included “Bone marrow aspiration and biopsy: A guideline for procedural training and competency assessment” as published in the *Journal of the Advanced Practitioner in Oncology* (Jackson et al., 2012).

A slide presentation was developed, which included an explanation of the anatomical location and pathophysiology of bone marrow function, indications and procedures for bone marrow aspiration and biopsy, as well as patient education highlights and consent process. Precautions and equipment required to safely perform the bone marrow procedure were detailed, including the need for laboratory personnel support. A thorough outline of procedural steps was provided, including sterile technique, location identification, the steps in performing aspiration, and details necessary for obtaining a core biopsy. Following the procedural discussion, a summary of results interpretation was provided in outline form as well as detailed in the provided slide presentation. These written and visual education components were included to build a foundation of knowledge and understanding before safely proceeding with hands-on components of the toolkit.

Training Checklist and Verification

A document entitled “Bone Marrow Biopsy and Aspiration Training Checklist/Verification” was created for the purpose of verifying the completion of tasks in a systematic fashion. Checklists are clear and concise tools to ensure proper training has occurred and allows clinic managers, or lead clinicians, to maintain records on employees. Separate checklists were created for APPs new to the procedure as well as for those previously trained, the former requiring more rigorous proof

of proficiency. Checklists for the newly trained APPs begin with the didactic portion of training, followed by procedural observation. These APPs are required to first assist with a minimum of five bone marrow biopsies and aspirations followed by performing up to 10 (but no less than five) procedures with supervision. A date and signature from the supervising provider are required to ensure competency. To maintain credentialing, an established APP must review the didactic components of training and perform five or more procedures per year.

Patient Education and Consent

To fully inform and educate patients, a handout was created entitled “Bone Marrow Biopsy and Aspiration Expectations.” This document uses simple and clear language to explain both the procedure and what to expect after the procedure. In addition, patients are asked about allergies and the use of blood thinners and reminded that a blood draw may occur on the day of the procedure. It is noted that the procedure may be performed by a physician or an APP, and that a nurse and/or a lab technician may be present in the room. The document also addresses post-procedural instructions and parameters for when to call the office.

A consent form for the procedure was created and entitled “Authorization for Bone Marrow Biopsy and Aspiration Procedure,” which includes sections entitled “Purpose,” “Overview of Procedure,” “Risks,” “Care Instructions,” and “When to Call the Office.” The consent form was approved by internal legal advisors and, while informative and compliant, the language is simple enough to be easily understood. Provider and patient must both sign and date the consent form.

Documentation and Billing

Another important component of the toolkit is understanding the appropriate documentation and billing practices. In accordance with current guidelines, sample documentation templates are provided, which include several common scenarios for performing the procedure, and, if needed, the addition of a separately identifiable evaluation and management charge, as well as indications for using a modifier. An overview of the specific Current Procedural Terminology codes

associated with all possible bone marrow procedures are provided and added into the electronic medical record for consistency.

CONCLUSION

Bone marrow biopsies are routinely performed by APPs in the community oncology practice setting. The creation of a comprehensive training toolkit for APPs in this setting helps to ensure a high standard of procedural proficiency and consistency among individual providers and practices. Setting a higher procedural standard helps APPs advance their skill set, makes APPs more versatile, and promotes APP utilization in the community oncology practice setting. Additionally, including a minimal annual procedure requirement to maintain competency ensures an ongoing high standard of procedural excellence. Standardization of patient education materials, consents, dictation templates,

and billing guides creates consistency between practices and among providers. The creation of such an extensive toolkit is time consuming. By adopting and standardizing toolkits such as this one, community hematology/oncology practices can ensure the delivery of high-quality patient care by highly trained and proficient APPs. ●

Disclosure

The authors have no conflicts of interest to disclose.

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