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Educating Nurses on the Use of the Bedside Mobility Assessment Tool (BMAT) to Create a Culture of Safety

Kaylin Laine

University of San Francisco
Introduction

In 1898 a nursing textbook documented that a nurse injured her back while moving a patient (Rob as cited in Zwerdling, 2015). A hundred years later, government agencies and universities began showing that using proper body mechanics to reposition, move, and mobilize patients, is dangerous. Around the same time, the National Institute for Occupational Safety and Health (NIOSH) started researching why nurses were injuring their backs (Zwerdling, 2015). However, it was not until 2012, 15 years later, that the State of California took action to protect healthcare workers. In January of 2012, California passed the Hospital Patient and Healthcare Worker Injury Protection Act, requiring hospitals to implement a Safe Patient Handling and Mobility (SPHM) policy as part of an injury and illness prevention program (Department of Industrial Regulations, 2016). Since then hospitals have been tasked with rolling out SPHM policies practices to protect both patients and workers.

To implement an effective SPHM program, the Occupational Safety and Health Administration (OSHA) recommends hospitals involve both management and staff when developing a SPHM policy (2015). In addition, OSHA identifies the following as important steps when implementing a SPHM program: perform a needs assessment, obtain equipment, provide education and training, and evaluate the program (2015). This prospectus outlines a proposed process in order to to accomplish the steps listed above, focusing on the education and training of staff.

An essential part of a quality SPHM program is provision of quality education for staff regarding performing patient mobility assessments and use of equipment. Basic knowledge of hospital policies and procedures regarding SPHM is not sufficient education to create a culture of
safety. Nurses need to be taught how to assess patients’ mobility to determine the appropriate assistive equipment to use in positioning, transferring, and mobilizing patients. This mobility assessment needs to be standardized in order to provide consistent care for patients. Nurses and other healthcare workers who participate in direct patient care, also need to be guided in correct use of assistive equipment. In addition, policies are required regarding communication of patients’ mobility status between members of the healthcare team to ensure consistent, proper equipment usage.

Banner Health developed a Bedside Mobility Assessment Tool (BMAT) as a standardized process for nurses to assess a patient’s mobility level. This assessment tool uses four steps to test patients’ functional task levels. It includes assessment of weight-bearing ability and evaluation of patient mobility while standing (Boynton et al., 2014). A study was conducted to assess the validity of the tool: satisfactory validity and inter-rater reliability were found (Boynton et al., 2014). Therefore the BMAT provides a standardized way for nurses to assess patient mobility in order to determine safe and effective practices for patient handling activities. Choosing to educate nursing staff on how to correctly use the BMAT not only meets requirements outlined in the Hospital Patient and Healthcare Worker Injury Protection Act, but also satisfies a portion of SPHM education required to maintain a hospital culture of safety.

The other aspect of SPHM is effective equipment education. Healthcare staff first needs to have easy access to equipment provided to assist with patient handling. They also must be provided with instruction on how to operate the equipment in order to be comfortable using it to move patients. While this paper does not focus on the particulars of how this aspect of a SPHM
is implemented, it operates under the assumption that staff is provided with access to equipment and proper education prior to receiving education on patient mobility assessment.

Statement of Problem

Hospitals are one of the most hazardous places to work. Healthcare workers are more at risk for getting injured on than job than employees in any other industry. In 2011 hospitals in the U.S. recorded an average of 6.8 injuries and illnesses per every 100 full-time employees, almost double the rate reported for the private sector (OSHA, 2013). The Bureau of Labor Statistics analyzed hospital injury and illness reports and found that almost half of those reported were related to overexertion and bodily reaction, which includes lifting, bending, or reaching - actions often performed while repositioning and mobilizing patients (OSHA, 2013).

To combat the amount of injuries related to lifting and moving NIOSH established a maximum lift weight of 50 pounds. In 1994 the limit was changed to 35 pounds after the organization revised their equation that calculates the risk for injury based upon situational criteria, including the weight of the item to be lifted (Centers for Disease Control and Prevention, 2016). Despite this reduction in the maximum lift weight, it is argued that hospital workers should never manually lift a patient as the equation does not account for patients that are uncooperative or resisting; nor does it take into account that nurses and nursing assistants are often not able to be in the ideal positioning or vicinity of the patient to utilize proper body mechanics (Waters, 2007).

Lift equipment and assistive devices are recommended for patient handling activities. These devices either completely or significantly reduce the amount of weight nurses and nursing assistants have to lift, thereby reducing the risk for injury. This reduction of risk for injury is
beneficial not only for hospital staff, but also for hospitals themselves. SPHM injuries tend to be musculoskeletal in nature and are often some of the most expensive injuries in terms of cost to the employer (Waters, 2007). Therefore, hospitals have an ethical and monetary incentive to institute SPHM policies.

Healthcare organizations that create a culture of safety through institution of comprehensive SPHM programs have reported decreased costs related to workers compensation claims and medical treatments, decreased turnover rates and absenteeism (Krupp & Anderson, 2014). “At Stanford University Medical Center, an $800,000 safe lifting program resulted in a five-year $2.2 million net savings, approximately half of which came from a decrease in worker compensation claims and a reduction of pressure ulcers in patients” (Weinmeyer, 2016, p. 416). Though the savings are considerable when compared to the costs, many hospitals are reluctant to invest in SPHM equipment, training, and programs unless required to do so. In addition, many nurses and healthcare workers are reluctant to employ new practices and use equipment that they view will take additional time during an already-busy shift. This means that effective SPHM education needs to incorporate strategies that address a change in culture in order to encourage adoption of practices by staff.

Hospitals struggle to provide effective education to their nurses and staff due to time, space, and monetary constraints. Education is often disseminated using online or e-learning platforms, and is often kept short to reduce the wage expense. Curriculum therefore tends to be designed to communicate the minimum amount of information and often doesn’t adequately engage learners or promote a motivation to change. It is then important to explore educational
practices and teaching methods that maximize engagement and promote knowledge retention to encourage staff adoption of new practices.

**Rationale**

Research shows that in the United States, hospitals are dangerous places to work and that nurses and nursing assistants have a higher risk of incurring a work-related injury than people employed in other professions. It has also been found that a majority of nursing injuries are related to patient handling events (OSHA, 2013). However, it is important to determine the scope of this problem at a particular hospital before employing a plan of action.

The hospital identified for this performance improvement project is a 395-bed, acute care, non-profit hospital located in California’s San Francisco Bay Area. Roughly 1,500 nurses are employed in 21 units at this magnet-recognized hospital. During the 2015 calendar year, the hospital reported 46 SPHM injuries among its nursing staff. While this is only an injury rate of roughly three percent, it is a costly expense for the hospital and its employees. From 2006-2011, the average cost of a hospital worker’s compensation claim was $15,860 (OSHA, 2013). If this figure is used to estimate the cost of SPHM injuries during 2015, in total the hospital spent $729,560. From April 1, 2015 to March 31, 2016 the hospital reported 48 SPHM injuries, resulting in an estimated cost of $761,280. The number of SPHM injuries for nursing assistants was not reported and thus represent additional expenses. While these costs are significant, they only represent the expenses associated with medical treatments for the injuries. The price the hospital incurred for paid sick leave, replacement staffing, and possible turnover is an additional strain on the budget of the organization. In addition, there is no way to quantify the pain and suffering and life changes experienced by the injured nurses.
The medical, patient care resources, and telemetry/stroke unit experienced the largest number of injuries. Hospital leadership also noted the critical care unit experienced a significant amount of SPHM injuries. To assess the root cause of the problem, unit and equipment assessments were performed on four units (two medical-surgical units, the telemetry/stroke unit, and the critical care unit). Behaviors regarding assessment of patient mobility and use and knowledge of lift equipment and assistive devices were observed. Additionally, four other units (the medical surgical unit, telemetry unit, mother and baby unit, and labor and delivery unit) were assessed only for equipment access and availability to provide broader context of needs for the facility as a whole.

Observation data for unit assessments can be found in Appendix A. When the data was synthesized, the following common issues were discovered: there was no standardized approach to assess patient mobility, patient mobility status was often not mentioned during report handoff, and no communication between nurses and Certified Nursing Assistants (CNAs) regarding patient mobility was observed, improper body mechanics were frequently used during patient handling activities, and staff seemed unfamiliar with majority of the lift equipment and assistive devices, which were not widely utilized. Common positive behaviors observed included good communication when assistance was needed to lift and/or mobilize a patient, consistent use of the Hendrich Falls Risk Assessment to assess patients’ fall risk, widespread implementation of the facility’s fall risk prevention program, and use of some assistive equipment, notably Z-Sliders, transfer boards, walkers, and Hovermatts.

The equipment assessments are detailed in Appendix A which shows that all units are in need of either lift equipment or slings, but are well-equipped with walkers which are in every
patient room. Additional assessments found that not only is there a lack of equipment availability, but there is also no standardized central location for storing equipment in units. Equipment was often found to be poorly labeled with many devices lacking instructional reference sheets. Time trials were conducted to measure the amount of time needed to transport equipment from the storage location to the farthest patient room. It was found that it took an average of one minute, thirty eight seconds to transport the device.

These assessments provide evidence that while the hospital does have an existing SPHM policy and provides lift equipment and assistive devices for staff to use during patient handling activities, there are additional steps that need to be taken if the SPHM policy is to expand into a quality program that is effective in reducing risk for injury to patients and nurses. This prospectus focuses on the need for standardized nursing assessment of patient mobility and how to effectively educate nurses on how to perform the assessment and determine the correct equipment to use for patient handling activities.

**Literature Review**

A review of academic literature concerning safe patient handling programs was conducted, and recommendations were identified for the use of a mobility assessment tool for nurses. Boynton, et al. recommends the use of the BMAT at patient admission, every shift, and with patient status changes, such as after a procedure, a medication change, or a tiring therapy session (2014). To aid with communication between all staff, it was also recommended that patients’ mobility status is posted by the room door on on personalized care boards visible in patient rooms (Hursh, Salsbury, Lenhart, Doran & Zadvinskis, 2013). For standardization across
the facility it is advised to use generic terminology for lift equipment instead of brand names, and to use non-medical terminology when posting patient mobility information on patient care boards (Hursh, Salsbury, Lenhart, Doran & Zadvinskis, 2013). When studying the implementation of a SPHM program in an Intensive Care Unit, standardization of room setup and stocking a sling that could be used by both the ceiling lift and portable passive lift in the rooms was found to improve nurse and CNA use of SPHM equipment to reposition, transfer, and mobilize patients (Krupp & Anderson, 2014). When implementing a SPHM program it is important to take into account these considerations in order to provide proper education and ensure effective adoption of policies by staff. It is also important to carefully design the SPHM curriculum for staff education which may maximize engagement and knowledge retention.

Historically, face-to-face instruction has been the primary method of educating groups of people. When the power of the Internet was leveraged to offer online learning options, many organizations, notably those in the private sector, viewed it as an effective solution for solving the problem of educating employees. Online education, or e-learning, solved the issues of time and space restraints, allowing companies to quickly educate employees on needed topics, especially when “just-in-time” education was required. However, online education notably has issues with learner engagement. Its effectiveness has been questioned, for unless the learner is self-motivated, an active learner, or in possession of exceptional organizational habits applied to learning, he or she may not be readily engaged by online learning modules (Lim, Morris, & Kupritz, 2007). In addition, researchers cite that online learning can be dissociative, harmful to the student-teacher relationship, and a barrier to creating a community (Reese, 2015). These are factors that researchers have found significantly influence learner satisfaction with learning and
learning transfer effectiveness (Lim, Morris, & Kupritz, 2007). To address this issue, the method of blended learning has emerged, blending traditional learning methods with online learning.

While blended learning is a relatively new approach to teaching, research shows that it is more effective than traditional learning or e-learning on their own. However, the evidence has low statistical power. Research instead finds that adequately engaging participants, providing opportunities to effectively connect with peers, and offering flexibility for how learning occurs are key components to providing effective instruction (Milanese, et al, 2014). Teaching methodology; therefore, needs to be taken into account when designing instruction in order to maximize learning, retention, and participant satisfaction.

A search of academic literature regarding e-learning and blended learning for nurses and nursing students finds that although there is lack of quality research on the topic, there is no statistical difference between face-to-face instruction and e-learning (Lahti, Hatonen, Valimaki, 2014). Weak evidence has also been found for blended learning versus traditional instruction (Milanese, et al, 2014). However, the literature does show that multi-modal teaching strategies and methods tailored to the learner and are the most influential in engaging learners and impacting knowledge retention (Lahti, Hatonen, Valimaki, 2014). Therefore, it is safe to apply educational research when planning to educate adult learners in the nursing profession.

**Plan of Action**

After taking research into account along with the information found during unit assessments, a plan of action was created for revising the BMAT and creating and disseminating education for nursing staff regarding patient mobility assessment. While availability and education regarding equipment are also essential components of SPHM, this plan focuses on
including performing assessments of patient mobility as part of new hire and annual training on SPHM to staff.

The BMAT was revised to simplify instructions and to increase ease of use for staff. The original BMAT created by Banner Health can be viewed in Appendix B, and the revised version is located in Appendix C. The most notable change can be seen in the splitting of step four into two separate steps: March & Step and Walk. This change allows nurses to differentiate between patients that are able to stand and walk a few steps and patients who are able to ambulate independently for a moderate distance. Additionally, Medicare requires a functional assessment of patients upon admission and discharge that tests a patient’s ability to walk 150 feet so this differentiation provides healthcare providers with needed information for Medicare patients (RTI International, 2014). Other changes made to the BMAT include rewording for ease of understanding and the addition of a second page depicting mobility levels with the corresponding equipment and assistive devices. Reference badges were also created for employees to have as a reference with BMAT steps on one side and mobility level and equipment on the other (Appendix D). Lastly, a detailed BMAT reference guide was created for nurses to refer to if needed (Appendix E). These materials provide the foundation for the curriculum used to educate the nursing staff.

Effective strategies to engage learners include connecting the material to be learned to past experiences and realms of experiences of the learner (Braungart). Presenting to nurses only information on laws and regulations regarding SPHM and evidence-based practices that comply with these policies (BMAT) does little to engage them in the process or create buy-in. Therefore, the BMAT education was designed to be introduced with interactive activities and real-life
EDUCATING NURSES ON THE USE OF THE BMAT

accounts of nurses with debilitating, life-changing injuries related to SPHM. After introducing SPHM regulations and the risks associated with repositioning, transferring, and moving patients, the BMAT educational module reviews each BMAT step, mobility level, and coordinating equipment and assistive devices. The module then requires participants to review case study scenarios and practice using the BMAT to determine the level of a patient’s mobility. The module concludes with a multiple choice and matching assessment that is used to determine participants’ knowledge.

To address the possible barriers to a change in SPHM policy, an in-person educational lesson was created to educate hospital nurse educators, nurse managers, and unit and shift peer leaders. Though the BMAT content is the same as listed above, this lesson (Appendix F) employs the use of games and group discussion to assist in the introduction of SPHM regulations as well as the BMAT, and utilizes small groups for the case study scenarios. The PowerPoint presentation used to facilitate teaching the module can be found in Appendix G. Pre- and post-tests to assess the gaining of knowledge were also created (Appendix H).

Due to time and space constraints, an interactive online module was created to be used by bedside nurses. This module (Appendix H), covers the same information as the in-person lesson minus the group games, discussions and activities. The plan for the hospital-wide implementation is depicted in Appendix I and denotes that bedside nurse education should follow the in-person educational module, assuming all equipment is accessible, labeled correctly, and all resources and signage are printed and distributed for immediate use by staff.
Evaluation and Expected Results

Prior to the in-person educational module, a trial run was conducted with university-graduate nursing students to assess its effectiveness. Aside from running over the allotted 90-minute time slot, the lesson was paced and organized well, and provided valuable instruction per participant feedback (Appendix I). Most participants suggested reducing the number of case study scenarios so that three out of twelve scenarios were retained one for each of the first three mobility levels. In addition, instead of each small group working through a scenario and then presenting to the class at large, each group received all three scenarios and worked through them as a group.

The students were also administered the pre- and post-tests (Appendix I) to assess the construction of the assessment and gain in knowledge from the presentation. A Google Forms online application was used to administer the assessment for grading ease. Unfortunately, application limitations were found during the administration of the pretest. Participants were unable to select more than one answer for the matching question. In addition, one of the selections on the matching question did not have a correct answer available to choose, and participants were unable to select more than one answer for a select all question. Due to these issues, the assessments had to be scored by hand, throwing out one question and giving participants points for selection of one correct answer for each matching item as well as for the select all question. While accounting for these changes, participants still showed an increase in knowledge after participating in the module. The average score on the test increased by 17.31% from 63.46% on the pretest to 80.77% on the posttest (Appendix J), attesting to the effectiveness of the module in increasing knowledge about patient mobility.
Participants were asked to complete a module feedback evaluation in addition to the pre- and post-tests to assess the pace, organization, clarity, and content of the module (Appendix K). The feedback form also asked participants to evaluate their confidence in knowledge learned and instructor performance in order to assess if any changes were needed before presenting the final module to hospital nursing staff. The graduate students rated the module as clear, well organized, and paced well with valuable information given. The interactive activities were also the favorite part of the module. However, the module was commented on as being too long and it was recommended to rework how the scenarios were presented in order to reduce overall module time. Additionally, participants recommended that the instructor speak more slowly to facilitate better understanding of the topics presented.

Edits to module and assessments were made based upon feedback from the nursing graduate students. The final version of the in-person educational module was subsequently presented to the hospital’s educational director, nursing educators, nurse managers and a small group of nurses boarding to the facility. Though better paced, the module still ran long and the final two activities involving a card sort and mobility level/equipment matching were not used. The participants appeared engaged throughout the lesson and gave good feedback for presentation style and content. The introductory activity and the segment from the NPR report When Hospitals Fail to Protect Nursing Staff From Becoming Patients were especially well-liked and created a great springboard for discussion, though both activities ran over planned time and were the cause of cutting the overall lesson short. The hospital’s educational director was pleased with the module and requested an edited 45-minute version so that an attempt could be made to provide in-person education to more staff. The module was also effective in terms of
knowledge gain with an average gain of 18.17% between the pre and posttest. Participants averaged a score of 46.12% on the pretest and 64.29% on the posttest, with the educational director and nursing educators scoring the highest on the pre-test and nursing educators scoring the highest on the post-test. Details of the pre- and post-test results can be found in Appendix L, which describes the effectiveness of the educational module for all participants.

Summary/Conclusion

Effective patient mobility assessment is a crucial part of a successful SPHM program, and usage of a standardized assessment tool assists nurses in improving the plan of care for mobilizing patients safely using the appropriate equipment. The Banner Health BMAT was reviewed and streamlined for ease of use by staff with the addition of a flowchart and equipment paired to each mobility level. Reference sheets, mobility level signs, and reference badges were developed as resources for staff to use, and an educational module on how to use the BMAT was developed for nursing educators, nurse managers, and shift and unit peer leaders. The educational module was demonstrated to be effective in increasing knowledge regarding patient mobility assessment and participants expressed high satisfaction with the method of delivery.

Future steps to promote hospital-wide implementation of the BMAT include supplying units with needed lift equipment, devices, and accessories in central locations, and distribution of reference sheets, signs, and badges to employees as reminders and resources on how to correctly assess patients and to choose the most appropriate equipment for mobilization. It is recommended to pilot the BMAT on one unit, performing an in-depth root cause analysis regarding patient mobility prior to the implementation of the change in order to assess possible
barriers to usage of the BMAT. Once successfully implemented in a unit, assessed for effectiveness, and modified to be maximally effective, units should be introduced to the BMAT one by one to ensure adoption of culture change and compliance with the process.

When hospital-wide deployment of the BMAT is complete, it is expected that the number of nursing and nursing assistant injuries related to patient handling and mobility tasks will be reduced. In addition, a corresponding reduction in patient fall rates and injuries should also be seen. Overall, the hospital should also see a decrease in costs associated with workplace injuries. Therefore, not only will the health and safety of staff and patients increase, but the hospital will also experience positive financial benefits by implementing usage of an effective patient mobility assessment tool.
References


http://www.npr.org/2015/02/04/382639199/hospitals-fail-to-protect-nursing-staff-from-becoming-patients
## Appendix A

### Mobility Assessment Data By Unit

<table>
<thead>
<tr>
<th>Unit Observed</th>
<th># Patients Observed</th>
<th># of Mobility Assessments Observed</th>
<th>Mobility Given In Report</th>
<th>Patient Asked About Mobility</th>
<th># Patients Ambulated / Moved</th>
<th>Equipment Used to Mobilize Patient</th>
<th>Appropriate Equipment Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>2C (Medical)</td>
<td>25</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>10</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>3C (Stroke/Telemetry)</td>
<td>23</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>4A (Medical-Surgical)</td>
<td>25</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>15</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>CCU (Critical Care Unit)</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Medical-Surgical LG</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1</td>
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<tr>
<td><strong>Totals</strong></td>
<td><strong>85</strong></td>
<td><strong>11</strong></td>
<td><strong>9</strong></td>
<td><strong>2</strong></td>
<td><strong>38</strong></td>
<td><strong>24</strong></td>
<td><strong>14</strong></td>
</tr>
<tr>
<td><strong>Percentage</strong></td>
<td><strong>12.94%</strong></td>
<td><strong>10.59%</strong></td>
<td><strong>2.35%</strong></td>
<td><strong>44.71%</strong></td>
<td><strong>65.16%</strong></td>
<td><strong>59.33%</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Type of Equipment Used on Each Unit

<table>
<thead>
<tr>
<th>Unit Observed</th>
<th>Walker Percentage</th>
<th>Wheelchair Percentage</th>
<th>Portable Passive Lift Percentage</th>
<th>Mechanical Sit-to-Stand Percentage</th>
<th>Total Percentage</th>
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</thead>
<tbody>
<tr>
<td>2C (Medical)</td>
<td>3</td>
<td>11.54%</td>
<td>0</td>
<td>0.00%</td>
<td>18.82%</td>
</tr>
<tr>
<td>3C (Stroke/Tele)</td>
<td>6</td>
<td>26.09%</td>
<td>1</td>
<td>4.35%</td>
<td>31.94%</td>
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<tr>
<td>4A (Med-Surg)</td>
<td>7</td>
<td>28.00%</td>
<td>0</td>
<td>0.00%</td>
<td>28.00%</td>
</tr>
<tr>
<td>Critical Care</td>
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<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>MS Los Gatos</td>
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<td>12.50%</td>
<td>0</td>
<td>0.00%</td>
<td>12.50%</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>18.82%</strong></td>
<td><strong>1</strong></td>
<td><strong>0.00%</strong></td>
<td><strong>18.82%</strong></td>
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</table>

### Non-Mechanical Sit-to-Stand

<table>
<thead>
<tr>
<th>Unit Observed</th>
<th>Percentage</th>
<th>Z-Slider Percentage</th>
<th>Ceiling Lift Percentage</th>
<th>Hovermatt Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2C Medical</td>
<td>0</td>
<td>0</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>3C Stroke/Tele</td>
<td>0</td>
<td>2</td>
<td>8.70%</td>
<td>0.00%</td>
</tr>
<tr>
<td>4A Med-surg</td>
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<td>0</td>
<td>100.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Critical Care</td>
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<td>3</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Los Gatos</td>
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<td>0</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td><strong>5.88%</strong></td>
<td><strong>1</strong></td>
<td><strong>1.16%</strong></td>
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### Mobility Assessment Data for All Units

<table>
<thead>
<tr>
<th></th>
<th># of Mobility Assessments</th>
<th>Mobility In Report</th>
<th>Patient Asked About Mobility</th>
<th># Patients Ambulated / Moved</th>
<th>Equipment Used to Mobilize Patient</th>
<th>Appropriate Equipment Used</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Percentage</strong></td>
<td><strong>5.88%</strong></td>
<td><strong>10.59%</strong></td>
<td><strong>2.35%</strong></td>
<td><strong>44.71%</strong></td>
<td><strong>65.16%</strong></td>
<td><strong>59.33%</strong></td>
</tr>
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</table>

### Equipment Usage Data for All Units

<table>
<thead>
<tr>
<th></th>
<th>Walker</th>
<th>Wheelchair</th>
<th>Portable Passive Lift</th>
<th>Mechanical Sit-to-Stand</th>
<th>Non-Mechanical Sit-to-Stand</th>
<th>Z-Slider</th>
<th>Ceiling Lift</th>
<th>Hovermatt</th>
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</thead>
<tbody>
<tr>
<td><strong>Percentage</strong></td>
<td><strong>18.62%</strong></td>
<td><strong>1.18%</strong></td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>5.88%</td>
<td>1.18%</td>
<td>4.71%</td>
</tr>
</tbody>
</table>
Appendix B

**BMAT-Picture Guide**

**Assessment Level One**

**Sit and Shake**

**Mobility Level 1**

Unable to move to assessment level 2, consider use of total lift and other SPHM mobility equipment.

**Assessment Level Two**

**Stretch and Point**

**Mobility Level 2**

Unable to proceed to assessment level 3 consider sit to stand and other SPHM Mobility equipment.

**Assessment Level Three**

**Stand**

**Mobility Level 3**

Unable to proceed to assessment level 4 or needs assistive equipment. Standby or offer assistance with non-powered stand aid.

**Assessment Level Four**

**Walk**

**Mobility Level 4**

Patient is able to walk independently. Always implement safest method for ambulation remind patient “Call don’t fall”.

*Refer to the Banner Mobility Assessment Tool for Nurses (BMAT) for complete assessment details.*
Appendix C

**BMAT CONTRAINDICATIONS**
- Bilateral extremity non-weight bearing
- Strict bed rest
- Unable to follow commands

*Before you begin this assessment determine the patient's baseline functional mobility level.*

**BMAT BEDSIDE MOBILITY ASSESSMENT TOOL**

**STEP 1: SIT AND SHAKE**
Assess if the patient can:
1. Sit themselves up from a semi-reclined position and maintain balance on the edge of the bed
2. Reach across midline, grab and shake clinician's hand. Assess bilaterally, one hand is sufficient to proceed.

- YES, GO TO STEP 2
- NO = LEVEL 1

**STEP 2: STRETCH & POINT**
Assess if the patient can:
1. From seated position, straighten one knee, and hold for 5 seconds.
2. Flex the ankle and point toes towards the ceiling. Assess legs that patient is intending to stand on. One leg is sufficient to proceed.

- YES, GO TO STEP 3
- NO = LEVEL 1

**STEP 3: STAND**
Assess if the patient can:
1. Stand up from chair or bedside without assistance and hold standing position for 5 seconds

*Note: Use a walker if prescribed, used at home, or otherwise indicated*

- YES, GO TO STEP 4
- NO = LEVEL 2

**STEP 4: MARCH & STEP**
Assess if the patient can:
1. March in place for 5 seconds
2. Take a step forward and return each foot to original position. Assess bilaterally.

*Note: Use a walker if prescribed, used at home or otherwise indicated*

- YES, GO TO STEP 5
- NO = LEVEL 3

**STEP 5: WALK**
Assess if the patient can:
1. Walk at least 150 feet (75 floor tiles) safely, without loss of balance, without assistance, and without assistive device.

*Note: Use fall prevention chair*

- YES = INDEPENDENT
- NO = LEVEL 4
BMAT
BEDSIDE MOBILITY ASSESSMENT TOOL EQUIPMENT GUIDE

LEVEL 1: TOTAL ASSIST
- Ceiling Lift
- Portable Passive Lift
- Hovermatt

LEVEL 2: MAXIMUM ASSIST
- Mechanical sit-to-stand
- Z-slider

LEVEL 3: MODERATE ASSIST
- Non-mechanical sit-to-stand

LEVEL 4: MINIMAL ASSIST
- Walker
- Crutches
- Belt
- Cane

LEVEL 5: INDEPENDENT
Appendix D

**BEDSIDE MOBILITY ASSESSMENT TOOL (BMAT)**

| STEP 1: SIT & SHAKE | Sits @ edge bed or chair maintain balance; shake hands to grab across midline |
| STEP 2: STRETCH & POINT | Straighten knee & hold 5 sec flex ankle/toes & hold 5 sec |
| STEP 3: STAND | Stand from sitting for 5 sec; use assistive device prn |
| STEP 4: MARCH & STEP | March in place 5 sec; step forward & back; use assistive device prn |
| STEP 5: WALK | Walk min 150 safely; no loss of balance, no assistive device |

<table>
<thead>
<tr>
<th>BMAT LEVEL</th>
<th>EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>Ceiling or portable passive lift, maximove, golvo, hovermat, repositioning sheets</td>
</tr>
<tr>
<td>Level 2</td>
<td>Mechanical sit-to-stand device, SARA plus, Z-slider</td>
</tr>
<tr>
<td>Level 3</td>
<td>Non-mechanical sit-to-stand, SARA steady</td>
</tr>
<tr>
<td>Level 4</td>
<td>Walker, cane, crutches, gait belt</td>
</tr>
<tr>
<td>Level 5</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Appendix E

**WHAT IS BMAT?**

The Bedside Mobility Assessment Tool (BMAT) is a nursing mobility assessment. It should increase nurses' consistency in assessing patients' mobility and assist with the selection of the safest and least restrictive lift or other safe patient handling devices. By completing a task, at one of the assessment levels results in the tool recommending a specific piece of safe patient handling equipment to the caregivers. Each step of the BMAT tests the patient for functional abilities in a safe manner. With each step, the patient must demonstrate a function to safely move to the next level.

- BMAT was developed during a multi-hospital SPH implementation.
- It is used to determine patient mobility level and appropriate equipment to use for various mobility levels.
- The BMAT may reduce witnessed falls.
- The BMAT is a Nursing tool that recommends equipment for safe patient transfers and mobility.
- The BMAT reduces variation in care related to the risk of patient handling and falls.

**BEFORE YOU BEGIN**

1. Check that BMAT is not contraindicated for your patient
   - Bilateral extremity non-weight bearing
   - Sock bed rest
   - Unable to follow commands
   - Severe mental confusion, delirium, or delusion, or any other condition that may prevent him from coming to a sitting position independently (temporary impairment)
     - you may make accommodations to safely assist the patient with the BMAT. This is not primary concern with a patient whom the clinician assumes able to perform advanced mobility (able to sit, stand or walk) but has difficulty sitting up to the edge of bed.

2. Determine your patient's functional mobility baseline and adjust the assessment accordingly.

**STEP 1: SIT AND SHAKE**

The purpose of the assessment level one is to test the patient's ability to come to a sitting position (sitting strength) and sit on the edge of bed (sitting balance). If your patient is unable to achieve a sitting position independently and you desire to continue the assessment, the options below will safely assist the patient to an edge of bed sitting position.

1. Sit themselves up from a semi-recumbent position and maintain balance on the edge of the bed
   - RM may provide minimal assist to patient when sitting up
   - Patients with severe weakness in lower extremity may require assistance to roll to side, push up with elbow and lower legs. Specific Instructions may be given for hip precautions and other surgical patients.
   - RM may raise the head of the bed to assist the patient in sitting up
   - The patient should face forward on the bed until the edge of the bed is at mid-shin.
   - The patient's feet must be flat on the floor, use a stool if necessary.

2. Reach across midline, grab and shake the clinician's hand. Assess bilaterally, one hand is sufficient to proceed.

**LEVEL 1 EQUIPMENT**

- Ceiling Lift
- Portable Positive Lift
- Hoyer Matt

If patient successfully completes this step move on to Step 2.

If the patient is LEVEL 1: Total Assist.

**STEP 2: STRETCH & POINT**

The purpose of this step is to verify that the patient has adequate lower extremity stability and strength.

- Stretch portion of the assessment tests for the minimal load strength needed to stand. If the patient does not have the past strength indicated by his leg, he is not safe to ask him to stand.
- Exceptions: Amputees with prosthesis, Amputee with one leg weight bearing ability, Orthopedic surgical patients with one leg weight bearing ability. Other conditions limiting weight bearing ONLY to one side.

- The POINT portion of the assessment sets the conditions for a foot drop. If the patient cannot complete this the RM should consider asking the physician for a therapy consult to address this.

1. From seated position, straighten one knee, and hold for 5 seconds.
   - Observe for instability, if the patient is using their arms to balance on the bed this may indicate a need for a walker in following steps.

2. Flex the ankle and point toes towards the ceiling, hold for 3 seconds.
   - Assess legs that patient is intending to stand on. One leg is sufficient to proceed.
   - If the patient has unilateral restrictions to weakness for example from orthopedic restrictions or weakness after CVA, it is appropriate to measure only one leg.

If patient successfully completes this step move on to Step 3.

If not the patient is LEVEL 1: Total Assist.

**LEVEL 1 EQUIPMENT**

- Ceiling Lift
- Portable Positive Lift
- Hoyer Matt

**STEP 3: STAND**

The STAND portion of the assessment tests the patient's ability to come to a standing position and maintain standing for 5 seconds.

- Provide assistive device such as walker, cane, or crutches if needed.
- Remember to ask whether the patient uses any assistive devices at home.

1. Stand up from chair or bedside with assistance and hold standing position for 5 seconds.
   - Use assistive device if prescribed, used at home, or indicated during first two steps of BMAT assessment.
   - If the patient is unstable, guide them back to a seated position by encouraging them to lean forward and bend at the knees until their bottom reaches the bed or chair.

If patient successfully completes this step move on to Step 4.

If not the patient is LEVEL 2: Max Assist.

**LEVEL 2 EQUIPMENT**

- Mechanical sit-to-stand
- Walker
EDUCATING NURSES ON THE USE OF THE BMAT

**STEP 4: MARCH & STEP**

The March & Step portion of the assessment tests for steady standing and walking. Ensure that your patient is stable on his feet before you ask him to take a step.

- Some conditions cause taking steps forward and backward difficult. Ensure safety and guide the patient back to the edge of bed if your patient appears unstable.
- Some ortho and neuro conditions may render a patient unable to step backwards. Please use your clinical judgment.
- Provide assistive device such as walker, cane, or crutches if needed.

1. March in place for 5 seconds
   - Use assistive device if prescribed, used at home, or indicated during first three steps of BMAT assessment.
   - Make sure the bed is right behind the patient
2. Take a step forward and return each foot to original position. Assess bilaterally.
   - If patient is using a walker or other assistive device complete Step 1, but enter independent walking in Step 5. Patient will be a Level 4 if any type of assistive device is needed.

If patient successfully completes this step move on to Step 5.
If not the patient is: LEVEL 3 - Moderate Assist

**Level 3: Equipment**

Non-mechanical sit-to-stand

**STEP 5: WALK**

The WALK portion of the assessment tests for steady walking for more than 150 feet. Ensure that your patient is stable on his feet before you ask him to take a step.

- Provide assistive device such as walker, cane, or crutches if needed.
- Please have a fall prevention chair ready while assisting patient to walk

1. Walk at least 150 feet (75 floor tiles) safely, without loss of balance, without assistance, and without assistive devices.
   - Follow patient with fall prevention chair and use clinical judgment to determine need for supervision.

If patient successfully completes this step they are: INDEPENDENT
If not the patient is: LEVEL 4 - Minimally Assist

Wii Walker  Crutches  Cane  Belt
Appendix F

Planned Lesson Date: April 27, 2016
Planned Lesson Duration: 90 minutes
Target Audience: ECH Nursing Educators, Shift and Unit Peer Leaders, Nursing Managers

LESSON TOPIC:
Bedside Mobility Assessment Tool (BMAT)

RATIONALE/OVERVIEW:
California requires hospitals to adopt a safe patient handling policy as part of the Injury and Illness Prevention Program
- Nurses must assess patients’ mobility needs and “prepare safe patient handling instructions for the patient” (Cal/OSH Standards Board, 2014)
  - The Bedside Mobility Assessment Tool (BMAT) offers a standardized approach that can be used by all nursing staff

OBJECTIVES:
Participants will be able to:
- Explain the purpose of using the Bedside Mobility Assessment Tool (BMAT).
- Demonstrate how to conduct each step of the BMAT.
- Correctly assess patients’ mobility level using the BMAT.
- Identify the correct mobility assistive device to use for each BMAT level.

MATERIALS:
- Overhead projector
- Computer
- BMAT PowerPoint Presentation
- 2015 NPR Report on Nursing Injuries Podcast
- BMAT Video
- 4 Corners Letters
- BMAT Scenarios Cards
- BMAT Card Sort Cards
- Mobility Level Cards
- BMAT Pre Test
- BMAT Post Test
- BMAT Folder of Handouts
  - Handout of PPT Slides
  - BMAT Instruction Sheet
  - Summary of Mobility Level Handout
  - Handout of BMAT Scenarios PPT
- 1 Inpatient hospital bed
- 1 of each lift device
- Walker
- Cane
- Fall Prevention Chair
PROCEDURES:
Welcome/Pretest
- Facilitator/Module introduction
- Pre Test
- Pass out BMAT folder of handouts

BMAT Intro (Slides 1-10 of Powerpoint)
- Pass out the BMAT packet (Powerpoint, BMAT handout, etc)
- Introduce the BMAT tool and rationale for use
- Present findings from ELCO unit assessments that support the need for BMAT implementation

Four Corners (Slides 11-22 of Powerpoint)
- Refer to the “Four Corners Directions” handout for instructions on how to facilitate the activity and the Powerpoint notes to facilitate question discussion.

2015 NPR Report on Nursing Injuries (Slide 23 of Powerpoint)
- Play a segment of the 2015 NPR Report on Nursing Injuries (1:56-2:47)
- Using the questions on slide 23 as prompts, facilitate a small discussion with the group regarding their experience with injuries on the job

BMAT Learning Objectives, Purpose, Steps (Slides 24-36 of Powerpoint)
- Present a quick overview of how to use the BMAT tool
- Physically demonstrate each step to the group
- Review each mobility level

BMAT Video (Slide 37 of Powerpoint)
- Play the BMAT video

BMAT Surgical Tips (Slides 38 and 39 of Powerpoint)
- Outline tips for surgical patients

BMAT Scenarios (Slides 40-49 of Powerpoint)
- Break participants into equal groups
  - Have participants bring their BMAT Instruction Sheet and Summary of Mobility Level Handout to use as resources
- Assign each group a facilitator who will act as a patient
  - Each facilitator/ “patient” will have 3 scenarios and 3 rationale cards (Use BMAT Scenarios Powerpoint as card handouts - this lesson will use scenarios 1, 7, 9)
● Have each group go through the BMAT with their “patients” to determine the patients’ mobility level AND the appropriate devices that can be used for the determined mobility level
● Note: Each group’s facilitator should be available to answer questions that may arise about the patient/scenario and able to guide the group as needed.
   ○ If there is only one facilitator for the entire lesson a group member should be assigned to be the “patient” and the facilitator should rotate amongst the smaller groups during this time to answer questions

**BMAT Card Sort** (Slides 50 and 51 of Powerpoint)
● In their smaller groups have participants race to see who can put the BMAT steps in the correct order the fastest

**BMAT Levels** (Slide 52 of Powerpoint)
● Put the Mobility Level Signs up around the room
● Assign each small group some assistive devices and have them move them under the appropriate mobility level
● Review as a group

**ECH BMAT Rollout** (Slides 54 and 55 of Powerpoint)
● Review the planned rollout of using the BMAT at ECH

**BMAT Post Assessment** (Slide 56 of Powerpoint)
● Distribute the post assessment to all participants and have them answer all questions.

**Feedback/Questions** (Slide 58 of Powerpoint)
Appendix G

Evaluating Nurses on the Use of the BMAT

BMAT Pre-Test

- Please complete the BMAT Pre-Test.
- Turn in to facilitator when done.

Why BMAT

- California requires hospitals to adopt a comprehensive back management program as part of the injury control/compliance program.
- BMAT can assist your facility and improve patient care for the treatment and prevention of back injuries.
- BMAT is an educational activity developed for nurses and provides information on the best way to lift patients.
- BMAT can help nurses reduce workplace injuries and improve patient care.

Injuries

Did you know that a hospital is one of the most hazardous places to work? Trailblazers report 26,000 work-related injuries and illnesses that caused harm to healthcare workers in 2013.

Injury and Illness Rates, 1992–2011

- The average worker’s compensation claim for a hospital injury from 1990-2011 was $15,850.
- In 2005 there were 46,000 patient handling or mobility injuries at IC (SAFETY MA) Program.
- From 2007-2012, there were 48,000 patient handling and mobility injuries reported (IC 2013-2012)

Costs

- The average worker’s compensation claim for a hospital injury from 1990-2011 was $15,850.
- In 2005 there were 46,000 patient handling or mobility injuries at IC (SAFETY MA) Program.
- From 2007-2012, there were 48,000 patient handling and mobility injuries reported (IC 2013-2012)

Four Corners

- Outline the center of the room.
- After each question, step to the corner that describes what you will do (not BMAT task).
- Discuss with others what choice you made.

Four Corners

- 1. What is the number one cause of worker injuries?
   a) Slips, trips, and falls
   b) Overexertion and bodily reaction
   c) Contact with objects
   d) Violence

Four Corners

- 2. What is the maximum manual lift weight for nurses?
   a) 50 lbs
   b) 40 lbs
   c) 30 lbs
   d) 15 lbs

Four Corners

- 3. Do you agree that 1,000-lb objects should be moved up to the head of the bed, where is the floor?
   a) Use the stair to get from the floor to the head of the bed
   b) Call someone to help you move the patient up to the floor
   c) Get a stair ascender to move the patient up to the floor
   d) Position the patient on the floor and have someone help you move the patient.

Four Corners

- 4. Do you agree that 1,000-lb objects should be moved up to the head of the bed, where is the floor?
   a) Use the stair to get from the floor to the head of the bed
   b) Call someone to help you move the patient up to the floor
   c) Get a stair ascender to move the patient up to the floor
   d) Position the patient on the floor and have someone help you move the patient.
EDUCATING NURSES ON THE USE OF THE BMAT

**Four Corners**

1. How do you know if a patient can safely stand independently?
   - The patient can do the following without using the handrail:
     a. Stand for 10 seconds
     b. Lift one leg
     c. Turn around

2. What are the risks if the patient is at risk of falling while standing?
   - If the patient is at risk of falling, they may need assistance from a healthcare provider or a mobility aid.

3. What are the benefits of using the BMAT?
   - The BMAT helps patients maintain their independence and reduce the risk of falls and fractures.

**When RNs Become Patients**

- How does the BMAT help prevent falls?
- What are the different types of BMATs available?

**BMAT Learning Objectives**

- To understand the benefits and limitations of the BMAT.
- To learn how to safely and effectively use the BMAT with patients.

**The Purpose of BMAT**

- The BMAT is a safe and effective tool for performing patient falls and providing support during transfers.

**BMAT Contraindications**

- Contraindications for using the BMAT include:
  - Patients with a history of falls or fractures.
  - Patients with muscle weakness or weakness of the arms or legs.
  - Patients with limited mobility or severe pain.

**STEP 2: STRETCH AND POINT**

- Asses if the patient can:
  1. Stand with support
  2. Lift one leg
  3. Turn around

**LEVEL 1: TOTAL ASSIST EQUIPMENT**

- Total support equipment includes:
  - Transfer belt
  - Transfer board
  - Transfer sheet

**LEVEL 2: MAXIMUM ASSIST EQUIPMENT**

- Maximum assist equipment includes:
  - Electrical patient lift
  - Manual patient lift
  - Manual transfer belt

**LEVEL 3: INTERMEDIATE EQUIPMENT**

- Intermediate equipment includes:
  - Patient slide sheet
  - Patient transfer sheet
  - Patient transfer board

**LEVEL 4: MINIMUM ASSIST EQUIPMENT**

- Minimum assist equipment includes:
  - Patient sliding sheet
  - Patient transfer belt
  - Patient transfer board

**Summary of Mobility Level**

- Mobility Level 1: Independent mobility with no or minimal assistance.
- Mobility Level 2: Partially independent mobility with some assistance.
- Mobility Level 3: Limited mobility with significant assistance.
- Mobility Level 4: Non-mobility, requiring total assistance and/or mechanical devices.

**Four Corners**

1. How do you know if a patient can safely stand independently?
   - The patient can do the following without using the handrail:
     a. Stand for 10 seconds
     b. Lift one leg
     c. Turn around

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  - Patients with limited mobility or severe pain.

**STEP 2: STRETCH AND POINT**

- Asses if the patient can:
  1. Stand with support
  2. Lift one leg
  3. Turn around

**LEVEL 1: TOTAL ASSIST EQUIPMENT**

- Total support equipment includes:
  - Transfer belt
  - Transfer board
  - Transfer sheet

**LEVEL 2: MAXIMUM ASSIST EQUIPMENT**

- Maximum assist equipment includes:
  - Electrical patient lift
  - Manual patient lift
  - Manual transfer belt

**LEVEL 3: INTERMEDIATE EQUIPMENT**

- Intermediate equipment includes:
  - Patient slide sheet
  - Patient transfer sheet
  - Patient transfer board

**LEVEL 4: MINIMUM ASSIST EQUIPMENT**

- Minimum assist equipment includes:
  - Patient sliding sheet
  - Patient transfer belt
  - Patient transfer board

**Summary of Mobility Level**

- Mobility Level 1: Independent mobility with no or minimal assistance.
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EDUCATING NURSES ON THE USE OF THE BMAT

- **BMAT Summary Video**

- **Tips for Surgical Patients**

  - Patients with cancer tend to a patient throughput involving these steps:
  - BMAT Step 1: Prevention
  - BMAT Step 2: Interception
  - BMAT Step 3: Evaluation

- **Tips for Surgical Patients**

  - When administering medications, be sure to follow the 7 Rights:
  - Right patient
  - Right medication
  - Right route
  - Right dose
  - Right time
  - Right documentation
  - Right follow-up

- **Patient Scenarios**

  - **Scenario 1**
    - You are about to go to the patient who has been sleeping on his right side. He has a left hip replacement surgery.
    - He is currently in a hospital bed and will be transferred to a wheelchair.
    - The patient needs help getting out of bed and into the wheelchair.

  - **Scenario 2**
    - The patient will be transferred to a hospital bed and then to a wheelchair.
    - The patient needs help getting into the wheelchair.

  - **Scenario 3**
    - The patient will be transferred to a hospital bed and then to a wheelchair.
    - The patient needs help getting into the wheelchair.

- **Scenario 1 Rationale**

  - The patient was able to pass the Sit and Stand, Sit and Pull, and Stand and Pull, which indicates that the patient passed the Mobility Level 1. Although the patient was able to stand, the patient was unable to step forward, indicating that the patient is a Mobility Level 2 (Mildly impaired).

- **Scenario 2 Rationale**

  - The patient was able to pass the Sit and Stand, Sit and Pull, and Stand and Pull, which indicates that the patient passed the Mobility Level 1. Although the patient was able to stand, the patient was unable to step forward, indicating that the patient is a Mobility Level 2 (Mildly impaired).

- **Scenario 3 Rationale**

  - The patient was able to pass the Sit and Stand, Sit and Pull, and Stand and Pull, which indicates that the patient passed the Mobility Level 1. Although the patient was able to stand, the patient was unable to step forward, indicating that the patient is a Mobility Level 2 (Mildly impaired).

- **Card Sort**

  - **Card Sort**
    - In your small group:
      - Sort the BMAT steps into the correct order.
      - Create a description of each step.

      | BMAT Step | Description of step |
      |-----------|---------------------|
      | Step 1    | Definition of step 1 |
      | Step 2    | Definition of step 2 |
      | Step 3    | Definition of step 3 |

- **Did you know?**

  - According to Cal OSHA, safe patient handling regulations require that patients be transferred from a bed to a wheelchair and then to a hospital bed. If patients are unable to provide their own mobility assistance, they should be assisted by a health care provider.

  - The patient who is in a wheelchair should be assisted by at least two people.

  - The patient who is in a hospital bed should be assisted by at least two people.
EDUCATING NURSES ON THE USE OF THE BMAT

Did you know?

According to the COACH of the AHA, nurses have a leading role in the prevention of cardiovascular disease. The BMAT (Blood Measurement Assessment Tool) is an important tool for nurses to use in patient care. It allows nurses to perform a quick and accurate assessment of a patient's blood pressure, heart rate, and other vital signs. By using the BMAT, nurses can identify potential health issues and intervene early to prevent complications.

BMAT Equipment

- Move the BMAT equipment to the wall with the correct mobility level.

BMAT Rollout

- Patient needs guide:
  - Identify patient's overall health
  - Assess patient's risk factors
  - Set appropriate goals for patient

ECH BMAT Rollout

- Quick reference guide
  - Quick access to BMAT reference guide

BMAT Post Test

- Please complete the BMAT Post Test
  - Turn in to facilitator when done

References


Feedback/Questions

- How do you think you will proceed with further steps and training for ECHP?
- What barriers do you see?
Appendix H

Learning Objectives

- In the end of this presentation, the learner will be able to:
  - Outline 5 purposes of using the bedside mobility assessment tool (BMAT)
  - Demonstrate how to perform each task of the BMAT
  - Correctly assess patient to independently perform using the BMAT
  - Identify the correct equipment and assist attached device to use for each item
  - Identify

The Purpose of BMAT

- May reduce hospital falls
- May reduce patient injuries/need for follow-up care
- May reduce wait time for treatment
- May improve patient satisfaction and perception of staff
- May reduce hospital-acquired infections

Criteria to Begin BMAT

- Able to sit on the floor
- Able to get up from sitting
- Able to walk with assistance
- Able to use the toilet
- Unable to take commands

Step 1: Sit and Shake

- Ask client to sit on the floor and turn their head to the left
- Ask client to turn their head to the right
- Ask client to turn their head to the left
- Ask client to turn their head to the right

Step 2: Stretch and Point

- Ask client to stretch their arms forward
- Ask client to stretch their arms backward
- Ask client to stretch their arms up
- Ask client to stretch their arms down

Step 3: Stand

- Ask client to stand up
- Ask client to stand up with assistance
- Ask client to stand up with assistance and help
- Ask client to stand up with assistance and help

Step 4: March & Step

- Ask client to march
- Ask client to step forward
- Ask client to step backward
- Ask client to step sideways

Level 1: Total Assist Equipment

- Chair
- Walking辅助

Level 2: Minimum Assist Equipment

- Walker
- Cane
- Rollator

Level 3: Moderate Assist Equipment

- False cane
- False cane with handles
- False cane with handles and seat

Level 4: Maximum Assist Equipment

- False cane with seat
- False cane with seat and backrest
- False cane with seat, backrest, and handle

Summary of Mobility Level

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>No assistance</td>
</tr>
<tr>
<td>Level 2</td>
<td>One person must assist</td>
</tr>
<tr>
<td>Level 3</td>
<td>Two persons must assist</td>
</tr>
<tr>
<td>Level 4</td>
<td>Three or more persons must assist</td>
</tr>
</tbody>
</table>

Case Studies

Scenario 1

A patient is seated on the floor with difficulty getting up. The nurse needs to assess the patient’s mobility level. The nurse asks the patient to sit up, turn to the left, turn to the right, and turn to the left again. The nurse then asks the patient to stand up and walk forward, backward, and sideways. The patient is able to perform all tasks with assistance and is classified as Level 1 mobility. The nurse then assesses the patient for any signs of dizziness or weakness and decides to monitor the patient closely for the next 24 hours.
EDUCATING NURSES ON THE USE OF THE BMAT

Case Studies

Scenario 1

Correct!

Scenario 2

Correct!

Scenario 3

Correct!

Scenario 4

Correct!

Scenario 5

Correct!
Appendix I

BMAT Pre and Post Test Questions

Directions: Please read each question and select the best answer from the options below

1. What is the recommended maximum amount of weight a healthcare worker should lift without lift equipment and/or assistive device?
   a. 15 lbs.
   b. 25 lbs.
   c. 35 lbs.
   d. 50 lbs.

2. What does BMAT stand for?
   a. Bedside Mobility Assistance Tool
   b. Bedside Mobility Assessment Tool
   c. Bariatric Mobility Assessment Tool
   d. Bariatric Mobility Assistance Tool

3. What is the correct order of the BMAT?
   a. Sit and Shake, Stretch and Point, Stand and Walk
   b. Sit and Stretch and Point, Stand and March, Walk
   c. Sit and Shake, Stand and Stretch, March and Walk
   d. Sit and Shake, Stretch and Point, Stand, March and Step, Walk

4. Prior to using the BMAT to assess a patient, what should the nurse do?
   a. Assess the patient to see if he/she can follow verbal commands
   b. Determine if ambulation is contraindicated
   c. Check MD orders to see if bed rest is prescribed
   d. Question the patient to determine his/her mobility baseline prior to hospitalization
   e. All of the above

5. Match the BMAT level to the appropriate equipment and/or assistive device(s).
   Note: Each mobility level may have more than one answer

   Level 1: Total Assist _____ a. Z-Slider f. Cane
   Level 2: Maximal Assist _____ b. Walker g. Crutches
   Level 3: Moderate Assist _____ c. Ceiling Lift h. Hovermatt
   Level 4: Minimal Assist _____ d. Portable Passive Lift i. Non-Mechanical Sit to Stand
   Level 5: Independent Assist _____ e. Mechanical Sit to Stand j. Cane
6. How often should a nurse use the BMAT to assess patient mobility? (Select All That Apply)
   a. During the initial admission assessment
   b. Every day
   c. Every shift
   d. Before discharge
   e. When there is a change in patient status (i.e. after a procedure, medication changes, or a tiring therapy session)
   f. All of the above
   g. A, C, and E

7. If a patient requires the use of a walker, can he/she be assessed with the BMAT?
   a. Yes
   b. No

8. Your patient is able to stand without assistance, however when attempting to March and Step, the patient starts to lose balance. What is the nurse’s next step: (select all that apply)
   a. Assist the patient back to bed and identify the patient as Level 3: Moderate Assist
   b. Assist the patient safely to a sitting position
   c. Have patient reattempt the March and Step with the use of a walker
   d. Have the patient stand in place for a moment and once balance is regained, continue the assessment

9. While performing the Stretch and Point, a patient is only able to successfully perform the task with the left lower extremity. What is the nurse’s next step?
   a. Continue with next step of the BMAT
   b. Stop and assist the patient back to a lying-down position
   c. Identify the patient as a Level 1: Total Assist
   d. Identify the patient as a Level 2: Maximal Assist

10. A patient successfully performs the Sit and Shake, and Stretch and Point, but is unable to stand. What is the nurse’s next step?
    a. Pause the assessment and perform the BMAT one hour later
    b. Assist the patient back to bed and identify that patient as Level 2: Maximal Assist
    c. Assist the patient to a standing position and continue the BMAT assessment
    d. None of the above
### BMAT Education Module - Nursing Graduated Student Scores

<table>
<thead>
<tr>
<th>Pretest Scores Out of 13 Points</th>
<th>Pretest Percentages</th>
<th>Posttest Scores Out of 13 Points</th>
<th>Posttest Percentages</th>
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<tr>
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<td><strong>10.5</strong></td>
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Appendix K

On scale of 1-10, how would you rate the pace of the course? (1 = Way too slow, 5 = Just right, 10 = Way too fast)
(4 responses)

How would you rate the overall organization of the course? (1=Super disorganized, 5 = Fairly well organized, 10 = Super organized)
(4 responses)
On a scale of 1-10, rate the clarity of instruction. (1 = Super unclear, 5 = Just clear enough, 10 = Crystal clear)

(4 responses)

On a scale of 1-10, how would you rate the content of the course? (1 = Not enough information, 5 = Just right, 10 = Way too much information)

(4 responses)
How would you rate your overall knowledge of how to use the BMAT? (1 = No clue, 5 = Enough to give a general description, 10 = Pro status, can teach a class)
(4 responses)

What do you like best about this course? (4 responses)
- the interaction and practice
- the activities - it allowed us to interact and move around the classroom
- It is very interactive
- Activities

What would you like to change about the course? (4 responses)
- more organization with who is doing which scenario
- maybe not use all of the scenarios (to save time)
- Cut down on scenarios and change the wording of questions
- cutting down on scenarios
What are the instructors' strengths? (4 responses)

- Explaining the steps and answering questions
- Explained info thoroughly and talked about the background
- Very engaging and clear, loud voice

What suggestions do you have to improve the instructors' teaching? (2 responses)

- Speak a little more slowly :)  
- N/A

Any additional feedback/comments. (Put N/A if no additional feedback) (4 responses)

- N/A
- N/A
- N/A
- N/A
Appendix L

### Pre-Test

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<th>Participant Job Title</th>
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### Post-Test

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### Pre-Test (Number of Participants)

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### Post-Test (Number of Participants)

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<th>Difference in Number of Participants</th>
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<td>64.02%</td>
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<td><strong>-5</strong></td>
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### BMAT Pre- and Post-Test Scores

![BMAT Pre- and Post-Test Scores Chart]