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Simulation and Learning to Care for Patients: Acute Alcohol Withdrawal
Hasta Bakımı İçin Simülasyon ve Öğrenme: Akut Alkol Yoksunluğu

Leighsa Sharoff[1]

[1]Associate Professor,
Coordinator of
Simulation City
University of New York
at HunterCollege
 425 East 25th Street,
New York, NY 10010

Corresponding Author:
Leighsa Sharoff, EdD,
RN, NPP, AHN-BC

Coordinator of
Simulation City
University of New York
at HunterCollege
 425 East 25th Street,
New York, NY 10010

Email:
lsharoff@hunter.cuny.edu

Phone: 917.842.7902
Fax: 212.481.4427

ÖZET

Bu yazı kıdemli hemşirelik öğrencilerinin klinik yargıı ve nedenleme, problem çözme ve iletişim becerilerini geliştirme deneyimlerini sağlayan kompleks hasta simulasyon senaryosunun gelişimini incelemektedir. Alkol yoksunluk sendromu gibi görünmeyen eşlik eden durumlar hastaneye yatırlıma sırasında seslendirilebilinir. İş deneyimi ile ilişkili muhtemel durumların tüm yönlerinin deneyiminin sunulmasını sağlayan eğitim ve öğrenme startejileri daha iyi hsata bakımını teşvik eder.

Anahtar sözcükler: Simulasyon, akut alkol yoksunluk sendromu, hemşirelik eğitimi, translasyonel pratikte uygulama

ABSTRACT

This paper examines the development of a complex patient simulation scenario providing senior nursing students experiences in enhanced clinical judgment, clinical reasoning, problem-solving and communication skills. Unforeseen co-morbid conditions, such as alcohol withdrawal syndrome, can become pronounced upon hospitalization. Teaching-learning strategies to provide opportunities to experience all facets of possible work-related experiences promote excellent patient care.

Key Words: Simulation, acute alcohol withdrawal syndrome, nursing education, translational practice application

Introduction

The purpose of this article is to provide a greater appreciation of how using a simulation for baccalaureate senior nursing students improved clinical judgment, reasoning, reflective practice and problem-solving skills. The goal of this focused activity was to immerse students in a realistic clinical experience, providing them with complex patient assessments and communicative opportunities to gain increased proficiency in their competencies and assessment skills.

Preparation of nursing students for the care environment requires faculty to be innovative and creative with the use of simulation that provide adiversity of scenarios. Encouraging clinical judgment and reasoning as well as increasing problem-solving, confidence and communicative techniques are essential components of teaching-learning strategies in simulation. Nursing education studies have demonstrated that simulation is highly effective in teaching students clinical care, enhances critical thinking and confidence, and increases retention and knowledge[2]. By using a simulated hospitalized patient who experiences AWS, students learn about the dynamics involved in providing complex patient care. For example, using conditions that produce similar symptoms entails sound clinical judgment and reasoning. With more co-morbid conditions, students needto feel more competent and confident in their abilities and capabilities in caring for patients with multiple co-morbid conditions. Utilizing a medical-surgical scenario merged with a mental health situationhelps students to approach the patient as a whole person balancing all their care needs at once.

Background and Literature Review

Simulation

As nursing education integrates simulation into the curriculum, it is imperative they begin to expand scenarios to include more complex patient conditions. This alternative experience is necessary in today's educational environment for several reasons: limited clinical placements {clinical sites are extremely limited due to the number of nursing schools and large number of students enrolled); increased demands of nursing competencies required for future nurses to effectively join the workplace; difficulty scheduling classes {due to demands of increased student enrollment and shortage of nurse educators}and shorter patient hospitalizations[2-5]. Merging various aspects of nursing specialties require students to delve deeper into their comprehension of theory and application.

An understanding of the complexities in managing medical-surgical patients and the nursing care required for these patients is routinely integrated in simulation scenarios. Studies exploring the relationship of simulation scenarios with nursing assessment skills and clinical judgment[6-9]; communication[10-12] and anxiety[13]have been well documented.Areas such as end-of-life education[14], maternal-child nursing[15-16] and community health nursing[17] have utilized simulation.

Clinical Judgment, Reasoning and Reflection in Simulation

The complexity of individualized patient care requires nurses to be responsible for a multitude of patient situations, including co-morbidity, coordinating and providing complex care and family interactions. Developing clinical judgment and reasoning is required to inform nurses' decision-making and problem-solving processes. Nursing students begin to "reason things through analytically…learning to recognize a situation…develop a practical knowledge that allows refinement, extensions and adjustment of textbook knowledge"[1,p.206]. Simulation provides an excellent venue to help students establish clinical judgment and reasoning by exposing them to complex simulated patient scenarios. Helping students to recognize patterns practiced in simulation and then refine and revise these patterns in the clinical setting is vital to help students make these essential connections[18]. These connections are triggered when

students make a clinical judgment error, reflects/analyzes the situation, and then reinforcement of clinical-judgment and reasoning will be enhanced during future experiences. Simulation provides a learning environment that is safe for error recognition and reflection to occur.

Reflective practice, the process of reflecting upon one's experience to make sense of that experience, enhance his/her knowledge base, and expand on clinical judgment will contribute to improved patient care and outcomes[19-21].Assisting students to think more deeply about a simulated situation and promote reflective practice may be encouraged with an adapted version of the Guide for Reflection using Tanner's Clinical Judgment Model[22]. Reflection facilitates learning which enhances competence in nursing care. Reflection in and on practice is critical for the development of clinical knowledge and improvement in clinical judgment and reasoning[1].

Acute Alcohol Withdrawal and Simulation

Acute alcohol withdrawal and its effects on medical-surgical patients provide a unique opportunity as a case study for simulation. Medical-surgical nurses are often not fully aware of the prevalence of alcohol consumption and potential complications of alcohol withdrawal within their patient population. Approximately 10 million Americans have an alcohol dependency and up to 40% of hospitalized patients have the potential to experience alcohol withdrawal syndrome[23]. An estimated 20 to 40 percent of patients in large urban hospitals are there because of illnesses that have been caused or made worse by their drinking. Out of every 100 patients in these hospitals, almost half may be there because of their alcoholic intake and/or alcohol is a co-morbid condition[24].

The U.S. Department of Health and Human Services and the National Institute of Alcohol Abuse and Alcoholism (NIAAA) definealcoholism as a treatable chronic disease, influenced both by a person's genes

and by his/her lifestyle[24].Acute alcohol withdrawal, also known as alcohol withdrawal syndrome (AWS) is a significant problem.The American Psychiatric Association has defined AWS as a result of brain hyperexcitability, with the presence of two or more of the following symptoms after an individual ceases or reduces alcoholic intake: diaphoresis, tachycardia (autonomic hyperexcitability); increased hand tremor; insomnia; nausea or vomiting; transient visual disturbances, hallucinations (visual, auditory, tactile); psychomotor agitation; anxiety and tonic/clonic seizures[25,26]. Symptoms of alcohol withdrawal are based on the number of hours of alcohol cessation: 6-8 hours: mild anxiety, insomnia, headache, palpitations, hypertension, GI upset, diaphoresis, nausea and vomiting; 12-48 hours: hallucinations (visual, tactile, auditory); 48-96 hours: delirium tremors (tachycardia, hypertension, agitation); and generalized tonic-clonic seizures can occur between 6-48 hours[27].

Table 1: AWS Symptoms

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6 to 8 hours	Mild anxiety, insomnia, headache, palpitations, hypertension, GI upset, diaphoresis, nausea and vomiting
12-48 hours	Hallucinations (visual, tactile, auditory);
48-96 hours	Delirium tremors (tachycardia, hypertension, agitation); and generalized tonic-clonic seizures can occur between 6-48 hours

With an unexpected hospitalization, sudden AWS may lead to severe and life-threatening complications if nurses are unable to recognize and treat these manifestations. Simulation provides a safe and effective way to provide opportunities for nursing students to learn how to use their assessment and communication skills to determine potential problems.

Simulation Integration

Developing simulation scenarios provides ample opportunity for quality learning experiences. It is important to first

understand the dynamics of your schools need and facilities availability for simulation integration. For example, senior baccalaureate nursing students at a diverse large urban public university are scheduled simulation as part of their clinical experience, with the clinical instructor acting as the simulation facilitator. Typically, 8-10 students are in the clinical setting, with 4-5 scheduled per simulation experience. Simulation lab has an extremely experienced computer technician to provide additional guidance for the experience.

The School of Nursing (SON) adapted Tanner's Clinical Judgment Model as the conceptual framework for the utilization, integration and implementation of simulation as a teaching strategy. The four phases to this model include: Noticing, Interpreting, Responding, and Reflecting. The "major components of clinical judgment are in complex patient care situations that involve changes in status and uncertainty about appropriate course of action"[28,p.204]. Tanner's Clinical Judgment Model analyzed and described the complex model of clinical judgment, defining clinical judgment as "an interpretation or conclusion about a patient's needs, concerns or health problems, and/or the decision to take action (or not), to use or modify standard approaches, or to improve ones as deemed appropriate by the patient's response"[1,p.204]. The Tanner model is derived from a synthesis of the literature on clinical judgment and reflects the stages or levels in the development of clinical judgment. Students are exposed to increasingly complex clinical scenarios in the simulation area in order to progressively develop clinical judgment and reasoning. The various phases of Tanner's model, with respect to the simulation scenario, are presented by providing students with specific information: Noticing –does the student notice that the patient beginsto exhibit irritability and complains of headache, nausea and has one episode of vomiting. Diaphoresis, as well as increasing symptoms of anxiety; Interpreting –how does the student interpret when the patient states, "I feel like I could really use a drink."

In response to further assessment by the RN the patient states that he has been a heavy drinker for a period of several years but has kept this information from his family and primary physician. He states "I travel so much and my job is so stressful, I am alone a lot. Drinking takes the edge off." "I'm afraid." Responding –This is what we want to assess as the simulation unfolds. How does the student respond? How is their ability to appropriately and professionally respond to this patients' statement? Reflecting –This is discussed during the debriefing process, with faculty providing additional structure and reassurance to the overall learning outcomes.

The SON uses the National League of Nurses simulation scenarios, adapts them to best fit the learning objectives and outcomes of the school's curriculum. The goal of thisadapted simulation scenario for this articlewas a patient admitted for an acute myocardial infarct (AMI)who then experiences acute alcohol withdrawal. The rationale behind this case scenario for simulation was to assist students in their critical thinking abilities as well as learn to enhance their assessment and communicative skills to provide complex patient care. The communication between nurse-patient is extremely important, so instructors may better assess 'how' effectively students communicate.

The scenario ran 15-20 minutes; the debriefing, with audio-video viewing, was 20-30 minutes, and students were given the opportunity to engage in a positive dialogue about how the scenario unfolded and their participation in the process. Reflective debriefing, engaging in self-examination and personal discovery is a perfect way of learning about being and participating in the care of another.Instructors are provided with essential material regarding the case scenario and informedthat the focus and goal of the simulation is to make certain students understand the dynamics of an AMI with comorbid conditions, such as AWS. The communication between nurse and patient is extremely important in this scenario so instructors are encouraged to pay close

Table 2: Learning Outcomes, Simulation Activity and Evaluation Outcome

Student Learning Outcomes	Simulation Activity	Instructor Evaluation Outcomes
Identifies the primary nursing diagnosis	Preparatory pre-briefing handout provides essential information	Is student able to identify nursing diagnosis after simulation experience; and during debriefing process
Implements patient safety measures	Does student: Wash Hands Introduce self Identify patient (name, ID band, DOB, etc.) Obtain BP, pulse, RR, Temp, SpO2 Attach ECG monitor leads	Instructors are provided with a time frame for when student activity should occur during the simulation. Any alterations can be addressed during the debriefing
Evaluates patient assessment information including vital signs	Does student: Obtain BP, pulse, RR, Temp, SpO2 Attach ECG monitor leads Assess pain utilizing pain scale Auscultate lung sounds Assess IV site	Instructors are provided with a time frame for when student activity should occur during the simulation. Any alterations can be addressed during the debriefing
Implements therapeutic communication	This activity is occurring through-out the scenario	Instructors observe students verbal and non-verbal communication. Debriefing with audio-video recording assists in identifying various aspects of therapeutic communication and nursing care
Implements direct communication with multidisciplinary team members	Does student: Evaluate labs Communicate lab values to physician (Instructor)	Instructors are informed that they should 'play' the physician and receive the communication, using I-SBAR-R. This is then discussed during the debriefing process
Demonstrates effective teamwork	Determine best course of nursing action collaboratively	Instructors are informed that they should observe students interactions. This is then discussed during the debriefing process
Identify the symptoms of acute alcohol withdrawal/Initiate patient teaching	Does student: Discuss with patient the signs and symptoms of AWS Provide patient/family with appropriate teaching and education Provide patient/family with information for discharge on how to receive additional support and help	Instructors are provided with information so they will know the specific signs and symptoms to elaborate with students Instructors are provided with information to utilize during debriefing to provide additional information on support groups and patient teaching

attention as to 'how' the students communication. For the debriefing process, the instructors are provided with prompts to guide them in leading a structured reflective review of the students' participation, which encourages the students' self-reflection process.Such prompts include "How did you (the student) feel when the patient stated he needed a drink?", "What did you think you could do for him when he stated his need for a drink?", "How does the nurse talk to the family members?" and "What can you do for this patient when he is ready for

discharge (to encourage patient teaching and patient education)?".

For students to truly benefit from the full integration of simulation that pertains to complex patient care, faculty must be equally prepared for this experience, with specific infrastructure, resources and evaluation tools to assess student learning. At Hunter College SON, both students and faculty receive preparatory pre-briefing material, which provides essential information and data so they can fully participate in the simulation experience.

Students receive a brief overview of the case scenario, with specific simulation learning objectives (outcomes) that we hope to accomplish. Instructors receive an extensive handout, which includes all that the students receive with the addition of a comprehensive overview of the case scenarios physiology, pathophysiology, signs and symptoms, nursing management and nursing diagnosis'. Instructors are provided with suggested time frames for student interactions as the case unfolds. Providing both students and faculty with this information assists in achieving the learning outcomes. Table 2: Learning Outcomes, Simulation Activity and Evaluation Outcomes

Measuring Outcomes

Verbal feedback from both students and instructors was extremely positive after this adapted simulation experience. Students felt they had a better understanding of how AWS may manifest. Instructors felt this adapted simulation provided essential information for students developing their critical judgment, reasoning, problem-solving and communicative skills abilities.

Through guided reflection students acknowledged their learning gaps and appreciated their missed cues, high personal anxiety, and setting care priorities. For example, students'comments included the following reflections post-simulation: that "The goal was to alleviate his chest pain and give him medication to help him relax. I wasn't happy with my nursing response because I couldn't help but become frustrated that the patient only wanted a drink and all I wanted to do was to help fix his chest pain"; "This exercise is great preparation for actual nursing experiences. I always learn a tremendous amount of critical thinking skills from the simulation and from the interaction with my colleagues"; "I realize that when I get nervous I can say things that are totally opposite of what I learned. The whole situation went by so quickly and it took a while to gather all that I studied and then apply it. I also became

aware that sometimes the patient's personal life might be different than the norm and can make me uncomfortable. But I must overcome that".

Another student commented "I honestly think its best to see the mistakes we make on video to correct them before an actual emergency happens" while another student stated "My nursing skills improved in terms of assessment, prioritizing patient needs and having effective communication. Background information and knowledge in terms of clinical situation is key in understanding what exactly is going on with the patient in terms of the disease process". Finally, one instructor commented that the "preparatory material…very detailed info which also encouraged me to review the clinical material in greater detail" while another instructor stated "Excellent experience – next time I will take more initiative altering the scenario as it unfolds based on students responses – preparation material great!"

Conclusions and Practice Implications

To improve patient outcome, research must be able to be translated to clinical practice and practical applications. Researchers provide clinicians with new tools for use in patients and for assessment of their impact and translational research has proven to be a powerful process that drives the clinical research engine[29]. Growing barriers to workplace nurses integrating clinical practice applications can be diminished with the utilization of simulation. Many hospitals are utilizing simulation as a format for educational in-service programs. The process of bedside-to-bench-to-bedside approach to translational research requires a variety of non-traditional expertise and intense two-way collaborations with clinicians[30]. Basic scientists complement the expertise of clinicians in making novel observations; clinical researchers also make unique observations about the nature and progression of disease that can, in turn, stimulate basic investigations. Thus, translational research is a key junction in the

process, where new knowledge is both tested and gained, producing new observations and hypotheses that keep the system productive and rich with discovery[30].

Understanding the heightened intensity that AWS has on patients and how many of our patients actually come to the hospital for treatment of one condition but eventual exhibit manifestations of AWS, it is imperative that our healthcare professionals are able to provide the necessary care and assessment to this unique population. If a hospital does not have access to simulation, then the educators can contact nursing/medical schools and begin to develop their own clinical translational application programs. Simulation is an easy way to bring new knowledge and concepts to bedside care.

Finally, simulation is an excellent strategy for a multitude of settings in the healthcare arena. For example, staff development, either in a hospital setting, outpatient clinics or home health care. Simulation is a versatile teaching tool that can easily be adapted to meet the needs of all individuals at various learning levels. Novice nurses and physicians can utilize simulation to learn about patient care on a variety of medical conditions. Experienced seasoned nurses and physicians can utilize simulation to reinforce their knowledge base and complement their nursing skills. It is important to accurately assess nursing care, interventions and outcomes for both faculty and student learners as it relates to the actual patients scenarios, such as a patient experiencing acute alcohol withdrawal syndrome.

Based on the limited literature available on co-morbid simulation scenarios, innovative nurse educators should be encouraged to develop or adapt simulation scenarios to create new learning opportunities.Being resourceful and inventive is a trademark of nurse educators and nurse leaders. Adapting simulation

scenarios to incorporate, for example, an acute alcohol withdrawal scenario provides students with the elements of a cardiac condition and mental health nursing. "Nursing competence involves the acquisition of relevant knowledge, the development of psychomotor skills, and the ability to apply the knowledge and skills appropriately in a given context"[31,p.75]. Simulation provides a creative format to refine, revise, enhance and expand on these competencies.

Today's hospitalized patients present with more complex and co-morbidities requiring comprehensive nursing care. Simulation can provide an avenue to enhance students understanding of the multitude of medical situations and co-morbid conditions they will encounter. Alcoholism and AWS, unfortunately, are becoming a more commonly observed phenomenon in hospitals and the potential to cause acute coronary events is an area that requires urgent attention from healthcare providers[32]. Health care educators must be at the forefront of medical awareness and bring that knowledge and skills to the frontline of students learning. By stimulating students and nurses with innovative complex dynamic simulated scenarios, they will be better able to utilize their assessment and communicative skills, thus improving their critical thinking aptitudes in the nursing workplace.

Key Points

With the explosion of simulation as a teaching-learning strategy, nurse educators are implementing creative patient scenarios to provide nursing students with diverse experiences. Integrating simulation into the nursing curriculum involves resourcefulness and inventive approaches. Clinical judgment, reasoning, reflective practice and problem-solving are essential skills that may be augmented with the use of simulation. Providing learning

opportunities through simulationencourages and enhances our student's ability to think like a nurse[1]. In addition, providing learning opportunities for nurses in the workplace can be conducted through the integration of simulation.

Clinical judgment is a problem-solving activity, with nursing interventions directed toward understanding the possible diagnoses, leading to implementation of interventions and evaluation of patient outcomes. Clinical reasoning is the process by which nurses make their judgments[1]. With the advent of more complex patient needs and individuation of patient care, it is imperative that student nurses are encouraged to begin the detailed process of clinical judgment and reasoning leading to comprehensive assessment abilities. Providing students with complex simulated patient scenarios is a safe and effective opportunity for students to begin the process of this enhanced action. One such simulated patient scenario is with a patient admitted for one condition and then manifests, for example, acute alcohol withdrawal syndrome (AWS).

Alcohol withdrawal syndrome is a perfect learning simulation. Patients are often admitted for one condition and present with additional co-morbid manifestations.Students may not consider these co-morbid conditions during an initial assessment and patients may not always be forthcoming about their alcoholic intake. This may lead to unforeseen acute alcohol withdrawal syndrome (AWS). The stress ofAWS during hospitalizations is important to recognize and treat. By providing students with opportunities to begin the learning process of identifying this condition and learning how to recognize the signs and symptoms, they can assist patients with early interventions and appropriate treatments.Furthermore, translational application of the same principles can be integrated into hospital continuing education in-service programs.

References

1) Tanner C. Thinking like a nurse: A research-based model of clinical judgment in nursing. J of Nsg Ed 2006; 45:204-211.

2)Jeffries P. Getting into S.T.E.P. with simulations: Simulations take educator preparation. Nsg Ed Persp 2008; 29:70-73.

3)Medley E, Horne C. Using simulation technology for undergraduate nursing education. J of Nsg Ed2005; 44:31-34.

4)Brown J. Applications of simulation technology in psychiatric mental health nursing education. J of Psych and Mental Health Nsg2008; 15:638-644.

5)Cannon-Diehl M. Simulation in healthcare and nursing: State of the science. Critical Care Nsg Qtly 2009; 32:128-139.

6)Nehring W, Ellis W, Lashley F. Human patient simulators in nursing education: An overview. J of Nsg Ed 2001; 45:204-211.

7)Feingold C, Calaluce M, Kallen M. Computerized patient model and simulated clinical experiences: Evaluation with baccalaureate nursing students. J of Nsg Ed 2004; 43:156-163.

8) Bremner M, Aduddell K, Bennett D, VanGeest J. The use of human patient simulators. Nur Ed 2006; 31:170-174.

9) Bambini D, Washburn U, Perkins R. Outcomes of clinical simulation for novice students: Communication, confidence, clinical judgment.NsgEd Persp 2009; 30:79-82.

10) Kameg K, Mitchell A, Clochesy J, Howard V, Suresky J. Communication and human patient simulation in psychiatric nursing. Issues in Mental Health Nsg 2009; 30:503-508.

11) Kameg K, Clochesy J, Mitchell A, Suresky J. The impact of high fidelity human simulation on self-efficacy of communication skills. Issues in Mental Health Nsg 2010; 31:315-323.

12) Zerhouni E. National Institute of Health: Enhancing Clinical Research, Testimony, Subcommittee on Health, Committee on Energy and Commerce, United States House of Representatives 2004; Retrieved July 11, 2012 from http://www.hhs.gov/asl/testify/t040325a.html.

13) Gore T, Hunt C, Parker F, Raines K. The effects of simulated clinical experiences on anxiety: Nursing students' perspectives. Clin Sim in Nsg 2011; 7(5):e175-e180.

14) Hamilton C. The simulation imperative of end-of-life education. Clin Sim in Nsg 2010; 6(4):e131-e138.

15) Cioffi J, Purcal N, Arundell F. A pilot study to investigate the effect of a simulation strategy on the clinical decision making of midwifery students. J of Nsg Ed 2005; 44(3):131-134.

16) Guirmond M, Simonelli C. Obstetric nursing self efficacy instrument: Development and reliability for assessing outcomes of an obstetric simulation experience. Clin Sim in Nsg 2010; 6(3):e115.

17) Yeager S, Gotwals B. Incorporating high-fidelity simulation technology into community health nursing education. Clin Sim in Nsg 2010; 6(2):e53-59.

18) Dillard N, Sideras S, Ryan,M, Carlton K, Lasater K, Siktberg L. A collaborative project to apply and evaluate the clinical judgment model through simulation. Nsg Ed Persp 2009; 30(22):99-104.

19) Boyd D, Keogh R, & Walker D. Promoting reflection in learning. In D Boud, R Cohen, D Walker, eds. Using experience for learning, Buckingham, England: Open University Press, 1985: 73-86.

20) Schon D. Educating the reflective practitioner. San Francisco, California: Jossey-Bass, 1987.

21) Schon D. The reflective practitioner.New York, New York: Basic Books, Inc., 1991.

22) Nielsen A, Stragnell S, Jester P. Guide for reflection using the clinical judgment model. J of Nsg Educ 2007; 46:513-516.

23) Jennings-Ingle S. The sobering facts about alcohol withdrawal syndrome. Nsg Made Incredibly Easy! 2007; 5:50-60.

24) U.S. Department of Health and Human Services/National Institute of Alcohol Abuse and Alcoholism. Tenth Special Report to Congress on Alcohol and Health 2011;

Retrieved February 10, 2011 from http://www.niaaa.nih.gov/FAQs/General-English/Pages/default.aspx#whatis.

25) Lemon S, Winstead P, Weant K. Alcohol withdrawal syndrome. Adv Emerg Nsg J 2010; 32:20-27.

26) Keys V. Alcohol withdrawal during hospitalization. Am J of Nsg 2011; 111:40-44.

27) Tetrault J, O'Connor P. Substance abuse and withdrawal in the critical care setting. Critical Case Clin 2008; 24(4):767-788, viii.

28) Lasater K. Clinical judgment development: Using simulation to create an assessment rubric. J of Nsg Ed 2007; 26:496-503.

29) National Institute of Health Common Health Fund. Translational research. Retrieved July 11, 2012 from http://commonfund.nih.gov/clinicalresearch/overview-translational.aspx.

30) Zavertnik J, Huff T, Munro C. Innovative approach to teaching communication skills to nursing students. J of Nsg Ed 2010; 49:65-71.

31) Decker S, Sportsman S, Puetz L, Billings L. The evaluation of simulation and its contribution to competency. The J of Cont Ed in Nsg 2008; 39:74-80.

32) Jochum R, Schulz S, Stein M, Shroder R, Voss A, Bar K. Drug alcohol dependency. J of Med Case Reports 2011; 5:369.