HOW TO INCORPORATE CLINICAL SIMULATION INTO GRADUATE MSN/DNP CURRICULUM

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Disclosures

- Dr. Stephanie Burgess- none
- Dr. Sheryl Mitchell- none

Purpose of this Presentation

▣ To articulate the role of clinical simulation in graduate nursing education in assessing NP Competencies in Clinical Courses.

Objectives

- Identify the role of clinical simulation in NP education.

- Develop evidence based scenarios for clinical NP student simulation.

- Develop evaluation tools to assess NP student clinical competency.

Role of simulation in NP education

- Allows direct observation by faculty of student's clinical skills.
- Safe environment.
- Patient disease states can be replicated.
- Assess individual critical thinking skills.
- Assists with determining gaps in student's learning.

Role of simulation in NP education

- Students have time to reflect on their experience.
- Foster confidence.
- Reduce errors.

Why we pursued simulation

- Time constraints
  - One semester, we had 140 check offs just in one course. More than we could manage
- Improve competency check off
  - Get a better idea of student's performance when we could directly watch everything they are doing without distractions

Goals of Simulation

- Assess the student's ability to assess and manage a patient in the clinical simulation lab.
- Assess the student's ability to recognize normal and abnormal diagnostic findings.
- Assess the student's ability recognize normal and abnormal physical exam findings.
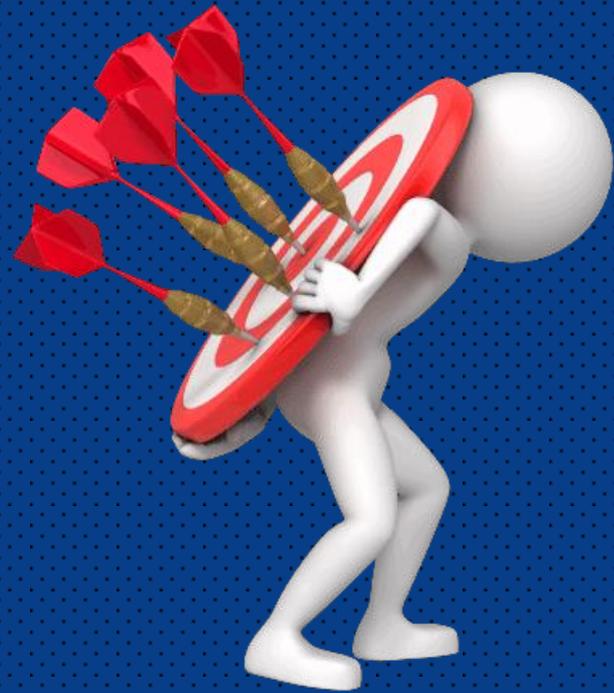
Goals of Simulation

- Assess the student's ability to examine the patient and formulate an appropriate assessment and plan for the patient.
- Assess the student's ability to write an appropriate progress note that includes the SOAP format with the plan, medication, education, referral, and follow-up.
- Assess the student's ability to perform an assessment in a timely manner.
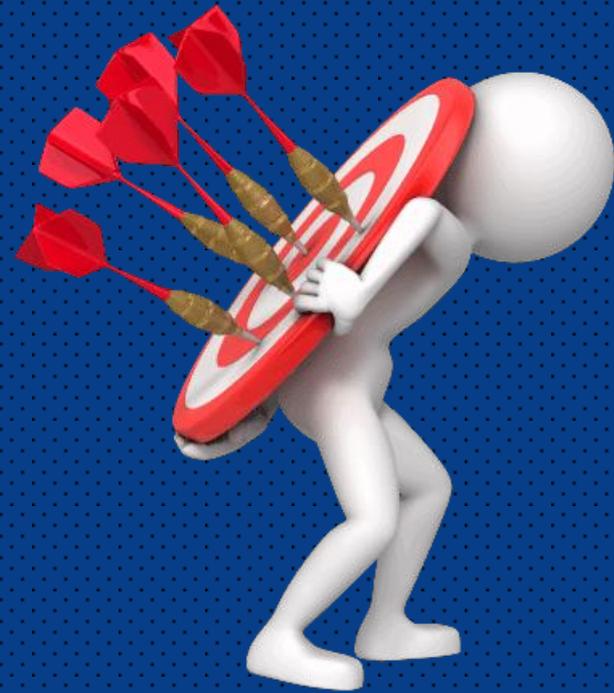
GAPs

- NP simulation scenarios that measure NP competencies.
- Scant research involving FNP students.

Faculty Challenges

- Check offs: 2 at least per clinical course per student: 5 NP Faculty for FNP and AGACNP courses
- Maintaining productive patient quotas while checking off students
- Limited resources (space, clinical sites)
- Increased student enrollments

Simulation Pilot

- Used as one of the check offs in 5 NP courses for check off purposes. The other check off was done in a real clinical setting with us.

How we built Simulation into our Curriculum?

- Developed scenarios, CASE study models
  - Patient presents with problem, chief complaint
    - VS
    - Diagnostics

How we built Simulation into our Curriculum?

- Developed faculty scripts that follow the patient scenario
  - History
  - Physical exam
  - Faculty scripts also have the patient's vital signs and all diagnostics.

How we built Simulation into our Curriculum?

- Incorporate NONPF competencies
- Incorporated the International Nursing Association for Clinical Simulation & Learning Standards of Best Practice for Simulation
  - Standard I – Terminology
  - Standard II – Professional Integrity of Participants
  - Standard III – Participant Objectives

How we built Simulation into our Curriculum?

- Standard IV – Facilitation
- Standard V - Facilitator
- Standard VI – Debriefing Process Standard VII - Participant Assessment and Evaluation

How we built Simulation into our Curriculum

- Developed an online introductory module
  - To help students acclimate to the Simulation Lab
  - Posted the link in the Course Website
  - Included a demonstration on how to assess the manikin using a patient scenario
    - History
    - Physical exam

How we built Simulation into our Curriculum?

- ▣ Used high fidelity manikins
  - ▪ Collaborated with the Technician and Sim Lab Guru to program the manikins to have physical findings
    - ▫ Lung sounds
    - ▫ Heart sounds
    - ▫ Findings that could not be programed, the student had to ask about
    - ▫ Technician also was with us while running the scenario student check offs

How we built Simulation into our Curriculum?

- Developed 6 Cases, all for FNP and 5 for AGACNP
  - Contraception
  - Severe Dyspepsia (STEMI)
  - Head Injury
  - DM, CRF, and HTN
 - DM, Substance Abuse, Seizure
  - CVA

How we built Simulation into our Curriculum?

- ▣ Student has 45 minutes top to bottom
  - ▪ Conducting additional History
  - ▪ Doing the Physical exam
  - ▪ Reviewing VS and LABs
  - ▪ Formulating Diagnoses
  - ▪ Formulating Plan
    - ▫ Meds, Ed, Ref, F/U
  - ▪ Write up
  - ▪ Debrief

Simulation day

- Students are not given any information prior to simulation other than general orientation information.
  - Video
  - Optional orientation day
- Must arrive 15 minutes prior to their scheduled time.
- Pick their case without knowledge of the case.
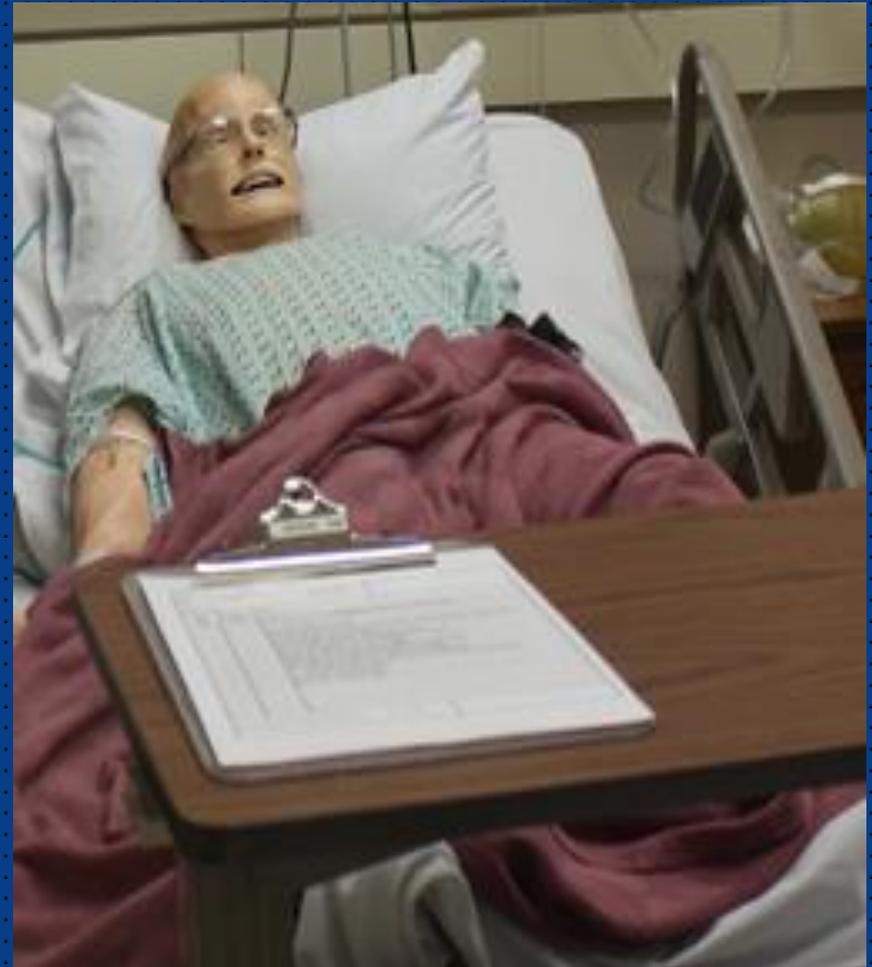
Simulation Day

- Five minutes to review the case prior to entering the room.
- 15 minutes to assess the patient.
  - >15 minutes, time deducted from write up.
- 20 minutes to write

Simulation Day

- Student Case

- Patient's name: Justin Jones
- Identifying Data: 38 YO, male presented to your office. New Patient
- S:
- CC: new onset seizure and SOB this morning x 30 minutes. No other seizures. Feeling of something in his throat, constant clearing throat with no relief
- HPI: Wife witnessed intermittent seizure activity this AM, Heavy ETOH consumption and marijuana use last nite. Compliant with meds

Simulation Day–Student Ex.

- PMH: CKD stage 3, HTN, DM, CHF with EF of 35% dx. 2013
- PSH: renal bx. r/o Reiters Syndrome neg, 7/2013
- SH: Disabled, lives with wife. +ETOH, +marijuana use. NKDA
- FH: Mom: CHF, HTN, DM
- Medications: Lasix 80mg daily, Isosorbide Dinitrate 20mg 3x/d, Lisinopril 5mg/d, Metoprolol XL Lipitor 20mg, Calcitrol 0.25mcg/d

Simulation Day–Student Ex.

- PE
- General: WDWN, NAD. VS- T- 98.5, HR- 106, R-20, BP- 180/94. O2 sats 100% on RA. BMI- 32 WT. 79kgs.

Simulation Day–Student Ex.

- Labs Today at your Office:
- troponin 0.08
- CPK- 908
- TSH- 2.11
- BNP- 978
- Urine drug screen- Positive Cannabis
- Sodium 139, Potassium 5.1, Chloride 26, Bicarb 21, BUN 39, Creatinine 2.2, Glc 77

How we built Simulation into our Curriculum?

- After the Simulation was conducted by the student, they wrote up findings SOAP Note.
  - They could use books, references
  - No phones though (had a student text another student)

Simulation Day-Student Ex.
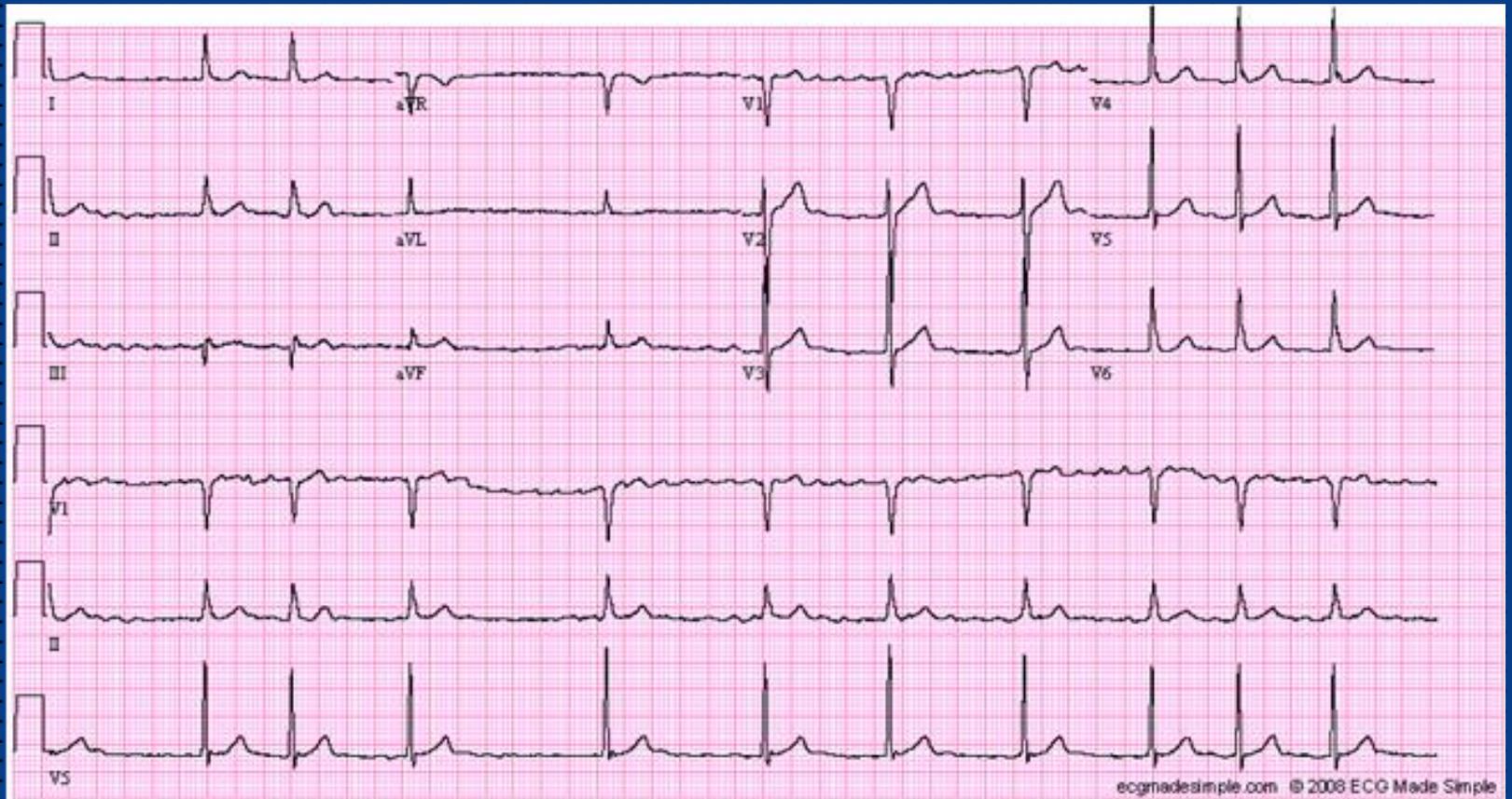
Simulation Day-Sample Script

- How much did you drink last night? 4-5 12 oz beers
- How often do you usually drink? Daily
- Do you use any other drugs besides marijuana? No
- How much marijuana do you use? A dime bag every other day
- Have you ever tried to stop drinking or using drugs? No

Simulation Day-Sample Script

- Have you ever had withdrawal symptoms? No
- How long have you noticed the shortness of breath? A little on yesterday, but primarily this am.
- How many pillows do you sleep on at night? One
- Have you increased the number of pillows recently? Yes, I am using 2 now.
- Do you weigh yourself at least three times per week? No

Simulation Day–Sample Script

HTN	Yes, 2012
DM	Yes, 2012
CHF	Yes, EF 35% 2013
CKD	Yes, stage 3, 2013
CAD	No

Debrief

- Individual debriefs, one on one
- Review strengths
- Review Gaps
- Suggest opportunities for growth, improvements

Debrief

- What do you think you did well?

- What areas could you have improved on?

- What would you do differently next time?

After Debrief

- Graded Scenarios and emailed the student Pass or Fail within 2 days.
  - If fail, tell them why and what they missed or did wrong.
  - Most of them knew (internally) anyways after the debrief

Sample Grading Rubric

Physical	HEENT (total of 2 pts; each is worth 0.67 pt)	NCAT
		PERRLA
		Fundi: cotton wool exudate
	Neck (total of 2 pts; each is worth 1 pt)	JVD Positive
		No adenopathy, supple
	Lungs (2 pts)	Bilateral rales
	CV (2 pts)	Irregular rate, S3

Simulation Schedules

- For one faculty person
  - Can run about 12 a day
  - 45 minutes each

Findings

- N = 37
- 84% agreed that Simulation was realistic

- 97% agreed that Simulation scenarios were appropriate to their level of learning

Findings

- 94% agreed that the objective of Simulation was clearly stated

- 84% agreed that improved their confidence

- 91% agreed that de-briefing helped them learn

Findings

- 62% agreed that Simulation should be offered in beginning of semester
  - Now we offer an optional on-campus session to practice Simulation one week prior to the semester onset

- 75% agreed that Simulation should be offered several times during semester

Findings

- 88% agreed that the were prepared for Simulation scenarios through clinical and course work.

- 54% agreed that Simulation was enjoyable

- 85% agreed that the Demonstration module was helpful and eased their comfort in Simulation (five students said no, probably those that failed more than twice, took an incomplete)

Lessons Learned

- IT WORKED……………………………………………
- Ensuring the Scenarios are scripted tightly
- Ensuring the Scenarios are competency based
- Managing student anxiety
- Managing student failures
- Scheduling repeaters
  - 7 repeaters
  - 5 took Incompletes

What is next?

- ▣ Simulation check offs in 5 NP Clinical Courses

- ▣ Develop more Scenarios

- ▣ Continue to refine the Process and Scenarios

- ▣ Continue to collect data

Questions