간호 시뮬레이션에서
효과적인 디브리핑 방법과 평가

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학습목표

- 디브리핑의 표준을 나열할 수 있다.

- 구조화된 디브리핑 방법을 실행할 수 있다.

- 평가도구를 활용하여 디브리핑 역량을 성찰할 수 있다.
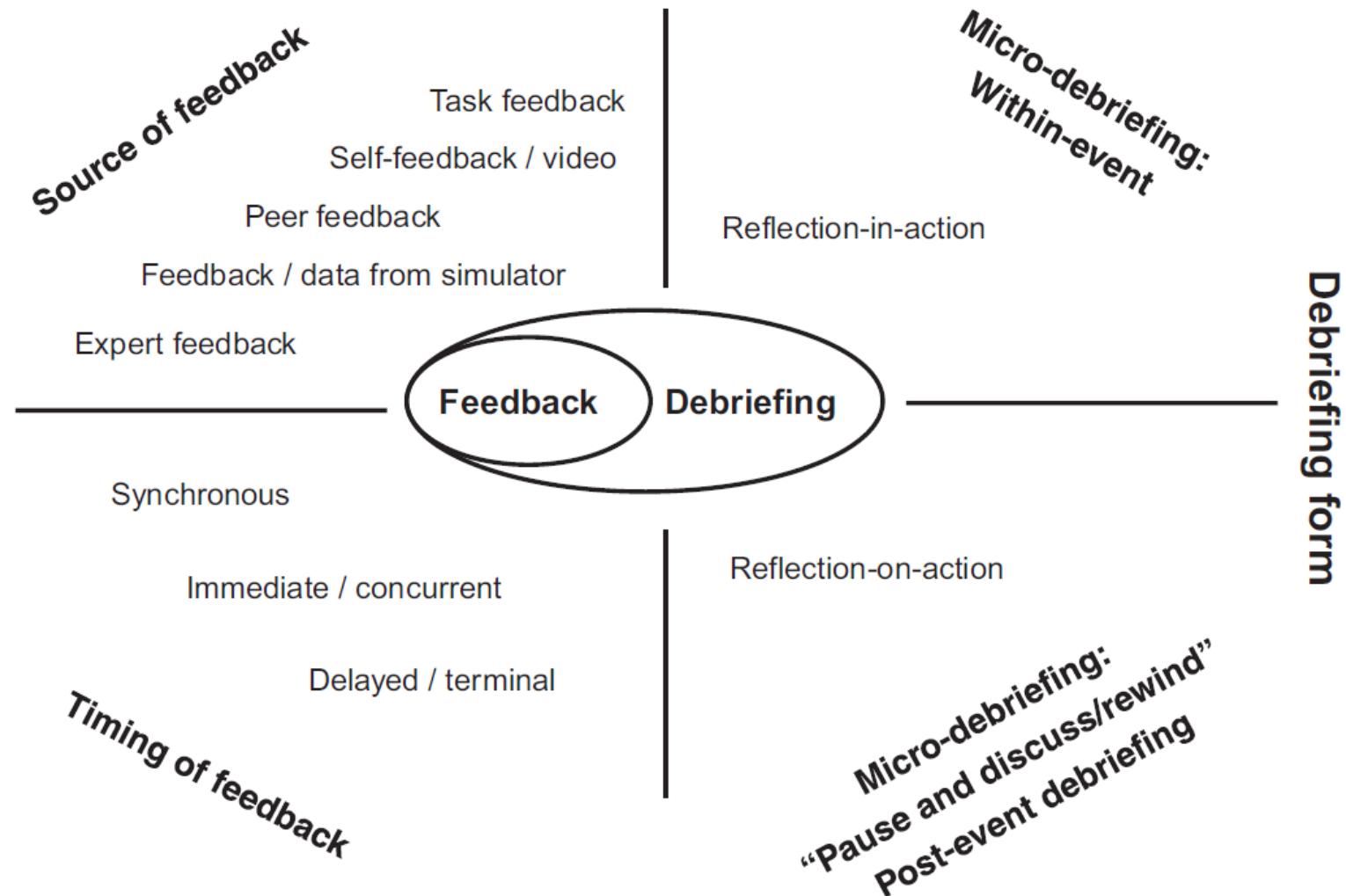
효과적인 디브리핑 방법

디브리핑 (Debriefing)

- A formal, collaborative,

  reflective process

  within the simulation
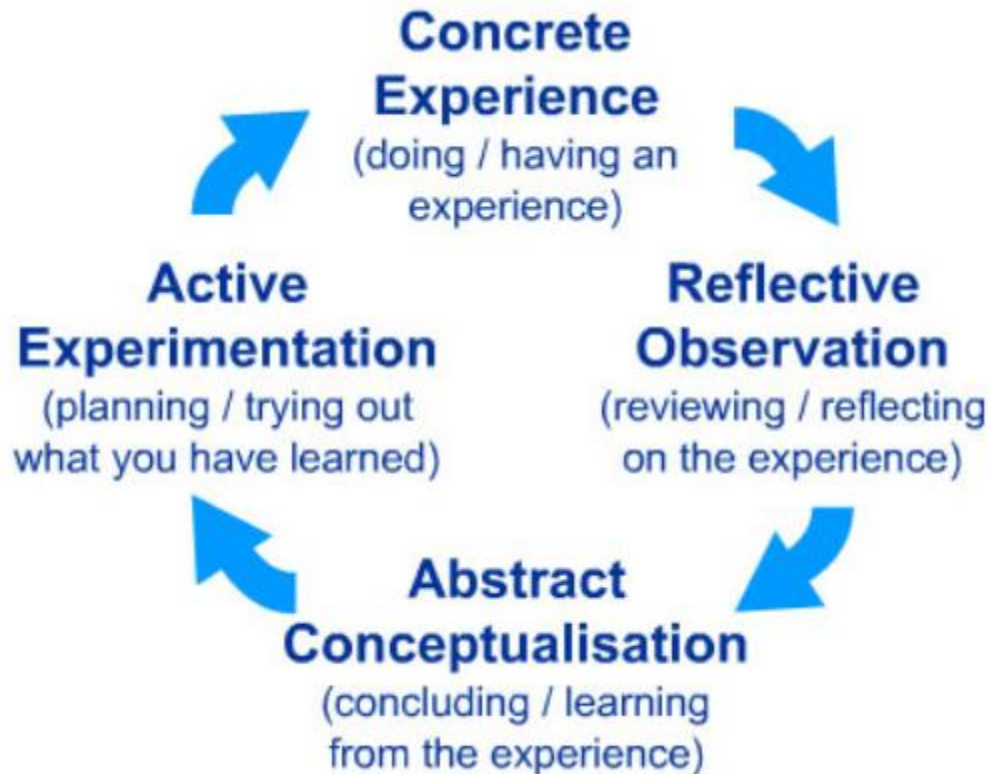
  learning activity

Feedback vs. Debriefing

Figure 1 Overview of feedback and debriefing characteristics to achieve mastery learning goals.

https://www.ncbi.nlm.nih.gov/pubmed/26375272

Constructivism

- Learners "construct" their own knowledge on the basis of what they already know.

- Learning is active, rather than passive.

https://www.ncbi.nlm.nih.gov/pubmed/12543841

Kolb's experiential learning

Concrete Experience
(doing / having an experience)

Reflective Observation
(reviewing / reflecting on the experience)

Abstract Conceptualisation
(concluding / learning from the experience)

Active Experimentation
(planning / trying out what you have learned)

Reflective practice (Donald Schön)

- Reflection in action

- Reflection on action

https://www.ncbi.nlm.nih.gov/pubmed/12543841

Standards of Best Practice: Simulation

INACSL Standards of Best Practice: Simulation^{SM} Debriefing

INACSL Standards Committee

As the science of simulation continues to evolve, so does the need for additions and revisions to the INACSL Standards of Best Practice: Simulation^{SM}. Therefore, the INACSL Standards of Best Practice: Simulation are living documents.

INACSL Standards of Best Practice: Simulation^{SM} Debriefing

1. Competent debriefer
2. Safe environment
3. Concentrated attention of a debriefer
4. Theoretical framework for debriefing
5. Simulation-based experience

1. Competent debriefer

- 디브리핑과 성찰적 토론 형식(Format)
- 교육 (initial, continuing)
- 피드백 (참여자, 경력 강사)
- 디브리핑 기술의 유지(debriefing skills)
- 디브리핑 강사로서의 역량 유지 (competence as a debriefer)

2. Safe environment

- 비밀보장(Confidentiality)
- Trust, open communication
- Self-analysis
- Feedback, and reflection
- 디브리핑 장소(conference room or special debrief room)
- Timing: 시뮬레이션 경험 직후

3. Concentrated attention of a debriefer

- 시나리오 운영 동안의 다양한 역할, 기능에 의해 방해 받지 않음
- 비밀보장 등 표준 준수
- 교수자 자아성찰과 평가
- 디브리핑 과정에 대한 사전 계획
- 성찰 과정에 학습자 참여 보장
- 촉진기술 (facilitation)

4. Theoretical framework for debriefing

3-Phase Conversation Structures			
Debriefing With Good Judgment[33]	**3D Model**[34]	**GAS**[35]	**Diamond Debrief**[36]
1. Reaction	1. Defusing	1. Gather	1. Description
2. Analysis	2. Discovering	2. Analyze	2. Analysis
3. Summary	3. Deepening	3. Summarize	3. Application

Debriefing with Good Judgment
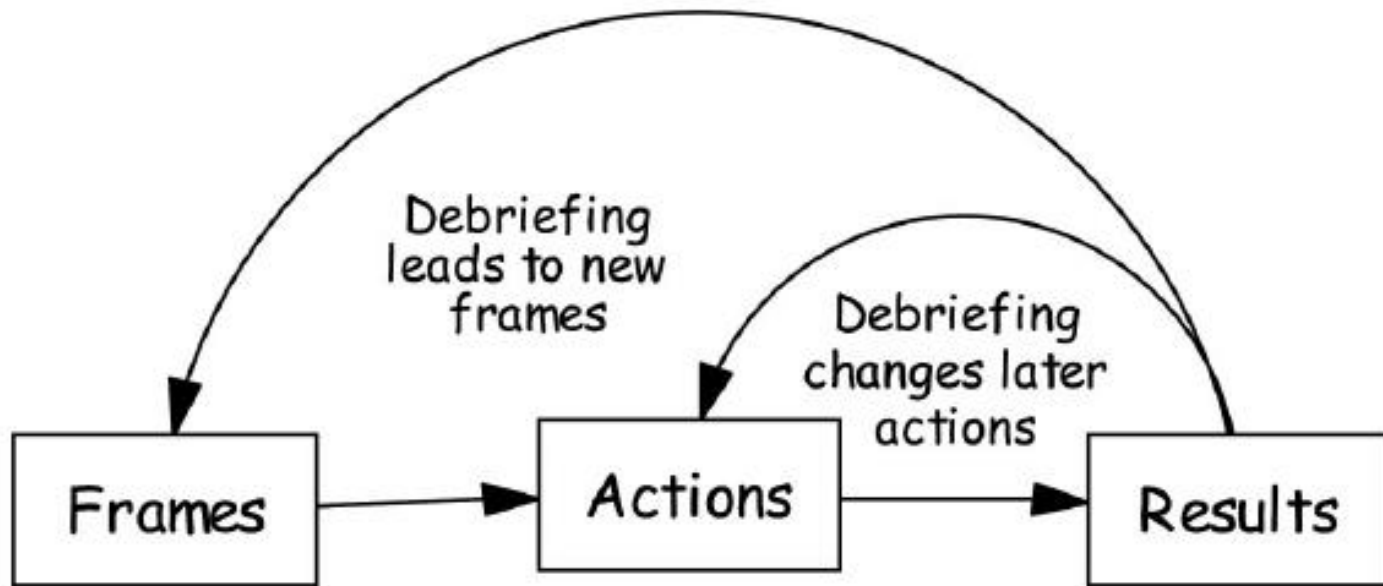
FIGURE 1. Frames are invisible, but inferable; they are in the mind of trainees and of instructors. Actions (including speech) are observable. Most results (e.g., vital signs, order/chaos) are also observable.

Debriefing with Good Judgment

- Judgmental
  - "Here's how you messed up."

- Nonjudgmental
  - "What do you think you could have done better?"

- Good judgment
  - "I noticed X. I was concerned about that because Y. I wonder how you saw it?"

Debriefing with Good Judgment

- Reaction
  - Get initial reactions
- Understanding/Reflection
  - Stimulate reflection on behaviour/performance
  - What was working and what did not?
- Summary
  - Do a "Teaching Riff"
  - Review take-home message
 - Give an "Education Prescription"

3D Model

Defusing

Purpose: To allow learner to "vent" emotions. To recap and clarify what happened during the scenario. To conduct a needs analysis of objectives important to the learner.

Points to Include
- Elicit reactions and emotions
- Describe what happened

"How did it feel to be part of that scenario?"
"Thank you for bringing that up . . . . Let's hold that thought and come back to it during the second part of the debriefing . . . . ."
"Let's recap WHAT happened during that scenario so that we can then discuss WHY during the second part of the debriefing."

Discovering

Purpose: To analyze and evaluate performance through reflection. To discover mental models or rationale for specific behaviors through Inquiry. To identify gaps/matches between existing and targeted mental models.

Points to Include
- Identify an observed behavior or outcome
- Ask a question to discover the mental model guiding that action
- Cue Individual to make/identify analogy/ connection to Target Mental Model

"Person A, I noticed that you did x in y situation.
I was curious about that action because . . . (instructor offers his own mental model about how to deal with y).
Can you tell me why you did x?"
"Thanks for sharing the rationale. Has anyone else every experienced this? What did you do to deal with that situation and why?"
"Person A, how might this situation have been different if you had used that strategy".
Or
"Another way to handle x is z (target mental model). If you had done z, how would that change y?"

Deepening

Purpose: To apply lessons from simulation and make connections to clinical practice.

Points to Include
- Prompt learner to connect new learning to larger clinical environment

"If you were to encounter a similar situation in the future, how would you handle it?"
"How can you use the information we just discussed in your clinical practice?"
"Can you think of other situations where this information could be applied?"

GAS

Gather

"We are going to do a quick debrief of that simulation. The goal is to improve our performance as a team and the care we provide. Let's start with a description of the key clinical events."

- *Review the clinical events and establish a shared mental model of what happened.*
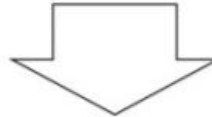
Analyze ('plus/delta')

"Okay team, let's talk about our performance. What went well, and what didn't go so well?"

- *Did the team follow NRP guidelines? If not, why?*
- *Were there any technical, equipment, or procedural issues? If so, what?*
- *Discuss 2 to 3 key behavioral skills relevant to the simulation. How was team performance in these areas?*
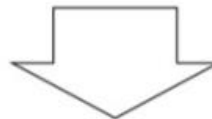
Summarize

"How can we do better next time?"

- *Discuss changes in team performance that will be implemented in the future, based on discussion above.*

Debrief Diamond: Key Phrases to Remember

Description

"So what happened? ... and then what happened next?"

Continue asking until confident that the details of the scenario have been raised by the candidates

"Let's not judge our performance now, let's just focus on what happened"

Transition
"This scenario was designed to show..."
"Let's address technical & clinical questions. What is the protocol for ...?"
"How do we normally deal with this clinical situation?"
"Everyone ok with that?"

"How did that make you feel?" *To participants then group*
"Why?" *Then use silence*

"How did you / they do that exactly?"
"Why did you respond in that way?" or "Why did you take that action?"

"It feels like ... was an issue. Did it feel like that to you?"
"What I am hearing from you is ... is that correct?"

"This is part of ..." *(identify the non-technical skill / human factor)*
"We refer to that as a human factor or non-technical skill, which means ..."

Analysis

Transition
"So, what we've talked about in this scenario is ..."
"What have we agreed we could do?"

"What other kinds of situations might you face that might be similar? How are they similar?"

"How might these skills we discussed play out in those situations?"

"What are you going to do differently in your practice tomorrow?"

Application

Figure 1. The first side of the Diamond contains the scaffold with a series of specifically constructed questions for each phase of the description, analysis and application debrief

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4497353/pdf/tct0012-0171.pdf

4. Theoretical framework for debriefing

	Multiphase Conversation Structures	
PEARLS[37]	**TeamGAINS[38]**	**Healthcare Simulation AAR[26]**
1. Reaction	1. Reaction	1. Define rules
2. Description	2. Discuss clinical component	2. Explain learning objectives
3. Analysis	3. Transfer from simulation to reality	3. Benchmark performance
4. Summary	4. Discuss behavioral skills	4. Review expected actions
	5. Summary	5. Identify what happened
	6. Supervised practice of clinical skills, if needed	6. Examine why things happened the way they did
		7. Formalize learning

https://www.ncbi.nlm.nih.gov/pubmed/27254527

The PEARLS Healthcare Debriefing Tool

		Objective	Task	Sample Phrases
1	Setting the Scene	Create a safe context for learning	State the goal of debriefing; articulate the basic assumption*	"Let's spend X minutes debriefing. Our goal is to improve how we work together and care for our patients." "Everyone here is intelligent and wants to improve."
2	Reactions	Explore feelings	Solicit initial reactions & emotions	"Any initial reactions?" "How are you feeling?"
3	Description	Clarify facts	Develop shared understanding of case	"Can you please share a short summary of the case?" "What was the working diagnosis? Does everyone agree?"
4	Analysis	Explore variety of performance domains	See backside of card for more details	**Preview Statement** *(Use to introduce new topic)* "At this point, I'd like to spend some time talking about [insert topic here] because [insert rationale here]" **Mini Summary** *(Use to summarize discussion of one topic)* "That was great discussion. Are there any additional comments related to [insert performance gap here]?"

Any Outstanding Issues/Concerns?

		Objective	Task	Sample Phrases
5	Application/ Summary	Identify take-aways	Learner centered	"What are some take-aways from this discussion for our clinical practice?"
			Instructor centered	"The key learning points for the case were [insert learning points here]."

TeamGAINS

- Reaction
- Discuss clinical component
- Transfer from simulation to reality
- Discuss the behavioral skills
- Summary
- Supervised practice of clinical skills

TeamGAINS

Table 2 Guided team self-correction, Advocacy-Inquiry, Systemic-constructivist: the integrated approach for structured debriefings

Step	Instructor's method	Examples of instructor's communication	Sample sources for debriefing step
1. Reactions	Narrative question	'How did you feel?', 'How was it for you?'	27 36 37 51 55 56
2. Debriefing the clinical part of the scenario, clarify clinical questions, allow for understanding the appropriate clinical procedures	Narrative question	'What happened?'	27 36 52 56
	Advocacy-inquiry	'I would like to talk about intubation procedures. I saw you re-attempting to intubate using the laryngoscope three times in a row, each time it turned out unsuccessful. I think that you could have intubated faster by using another device such as the Laryngeal Mask or Bag Mask Ventilation. So, I am wondering what was on your mind in that moment?'	
	Guided team self-correction	'What alternative device could you have used for intubation?'	
	Systemic-constructivist approach: circular question	*(to the nurse)* 'If a senior anaesthesiologist had been present at this moment, what would he/she have recommend to the resident?'	
3. Transfer from simulation to reality	Narrative question	'What aspects of this scenario are familiar to you from your 'real' work? What similar situations have you already experienced?'	27 36 52 66
4. Reintroduce the expert model, systematically discuss the behavioural skills and their relationship to clinical outcomes	Guided team self-correction: elicit reflection about positive behaviour	'Let's go on to CRM-Principle 5: anticipation and planning. Give me an example of a situation where you anticipated a potential complication. What did you do?'	37 50–52 55 56
	Systemic question (elicitation meaning of behaviour)	'Having anticipated the potential complication—how did this help you later on?'	
	Advocacy-inquiry (using the video)	'Let's talk about shared planning. During that situation I saw you working very quietly together and I was concerned whether each of you knew about each other's plan for the next step. What was on your mind?' (....) *(to nurse)* 'What did you know about her plan in that situation?'	

TeamGAINS

	Circular question	*(Turning to resident)* 'How could it have been useful for him to know what you were about to do and what you needed?' (…)
	Guided team self-correction: elicit reflection about positive behaviour	'As heard earlier, rising voice when in doubt can be life-saving in anaesthesia. It is also one of the 10 CRM principles. Describe an instance when one of you spoke up'.
	Advocacy-inquiry (using the video)	'In that situation my impression is that you are not OK with what he is doing. I was concerned that you would not let him know this and that he would proceed giving the wrong medication dose. What was on your mind?'
	Observer-perspective, circular questions using the Reflecting Team	*(to trainees who have observed the scenario)* 'What do you think she might have needed from him to speak up in that situation?'
5. Summarise learning experience and finish debriefing	Inquiry	'Which of the CRM-Principles do you consider most important after that simulation?' [27 37 51 55 56]
	Circular question	'Overall, if inexperienced anaesthesia residents and nurses had watched you during the scenario, what could they have learned from you?'
6. If required, improve clinical skills	Practice clinical skills that were not optimally performed during the simulation	Supervised practice of using the defibrillator [67 68]

CRM, Crisis Resource Management.

Health Care Simulation
After-Action Review

Debriefing Steps*	Questions Answered	Time Spent (%)
Define rules	How are we going to do this debriefing?	25
Explain learning objectives	What was this simulation designed to teach?	
Benchmarks for performance	What performance standards were evaluated?	
Review what was supposed to happen	What did the facilitator intend to happen?	
Identify what happened	What actually happened?	50
Examine why	Why did things happen the way they did?	
Formalize learning	What went well, what did not go well, and what would you do different next time?	25

*The facilitator should address steps 1 to 4 and help guide the debriefing discussion during steps 5 to 7.
The acronym "DEBRIEF" can be used to remember the steps of the health care simulation AAR.

4. Theoretical framework for debriefing

- Debriefing for Meaningful Learning(DML)

  – https://doi.org/10.3928/01484834-20120409-02

- Outcome Present State-Test Model (OPT) Model of Clinical Reasoning

  – https://doi.org/10.2202/1548-923X.1466

The DML method of debriefing

- Engage (the participants)
- Explore (options reflecting-in-action)
- Explain (decisions, actions, and alternatives using deduction, induction, and analysis)
- Elaborate (thinking-like-a-nurse and expanding analysis and inferential thinking)
- Evaluate (the experience reflecting-on action)
- Extend (inferential and analytic thinking, reflecting beyond-action)

DML Student Worksheet

1. What is the first thing that comes to mind about the simulation experience?

2. What went right and why?

3. What would you do differently and why?

Framing: (What is the client's story?)

Focused Key Problem/ND:

Outcome Present State-Test Model (OPT) Model of Clinical Reasoning

Reflection

Frame 52 year old anxious male with spontaneous pneumothorax.

Outcome State NOC
- Sa02 > 90%
- ABG's within normal limits
- Vital signs within normal limits
- Breath sounds symmetrical
- Pain and anxiety relieved
- Chest tube maintained

Present State
- Sa02 < 85%
- Respiratory acidosis/hypoxia
- Hypertension and tachypnea
- Decreased breath sounds on L
- Pain and anxiety
- Left anterior chest tube

Testing

Assessment, chest x-ray, ABG, EKG, Hbg/HCT, CBC, cardiac enzymes, electrolytes, Sa02

Judgments
1. After chest tube, Sa02 > 90%, ABG's and vital signs within adequate limits
2. Breath sounds were symmetrical and unlabored
3. Incentive spiromentry and breathing excursion were adequate depth
4. Pain and anxiety were relieved with position and pain medication
5. Chest x-ray – expanded L lung
6. Positioned for ease of breathing
7. No signs of wound infection

Cue Logic
- Risk for altered urinary elimination
- Risk for impaired tissue perfusion
- Risk for infection
- Risk for decreased cardiac output
- Risk for aspiration
- Altered comfort (acute pain)
- Ineffective breathing pattern
- Activity intolerance
- Anxiety

NANDA Keystone Issue
Impaired Gas Exchange

Client –in-Context Story
- 52-year-old male admitted to the ED c/o dyspnea. After collapsing in the hallway. Patient stated, "Oh, something just popped! I can't get any air."
- EKG monitor shows atrial fibrillation rate 180 bpm
- Vital signs: BP 170/110, Respirations 30-38, Sa02 < 85%
- ABG's: Arterial blood gas pH 7.33, pO2 82 mm Hg, pCO2 48 mm Hg
- Chest x-ray: 80% pneumothorax
- History of smoking for 34 pack/yrs, emphysema, chronic atrial fibrillation, heart failure
- Current medications: coumadin, atrovent

Decisions - NIC
1. Encourage incentive spirometry and deep breathing
2. Monitor - vital signs, breathing, laboratory values
3. Administer pain medications and monitor pain
4. Assist with position changes to aid breathing
5. Assist with activities of daily living
6. Wound care
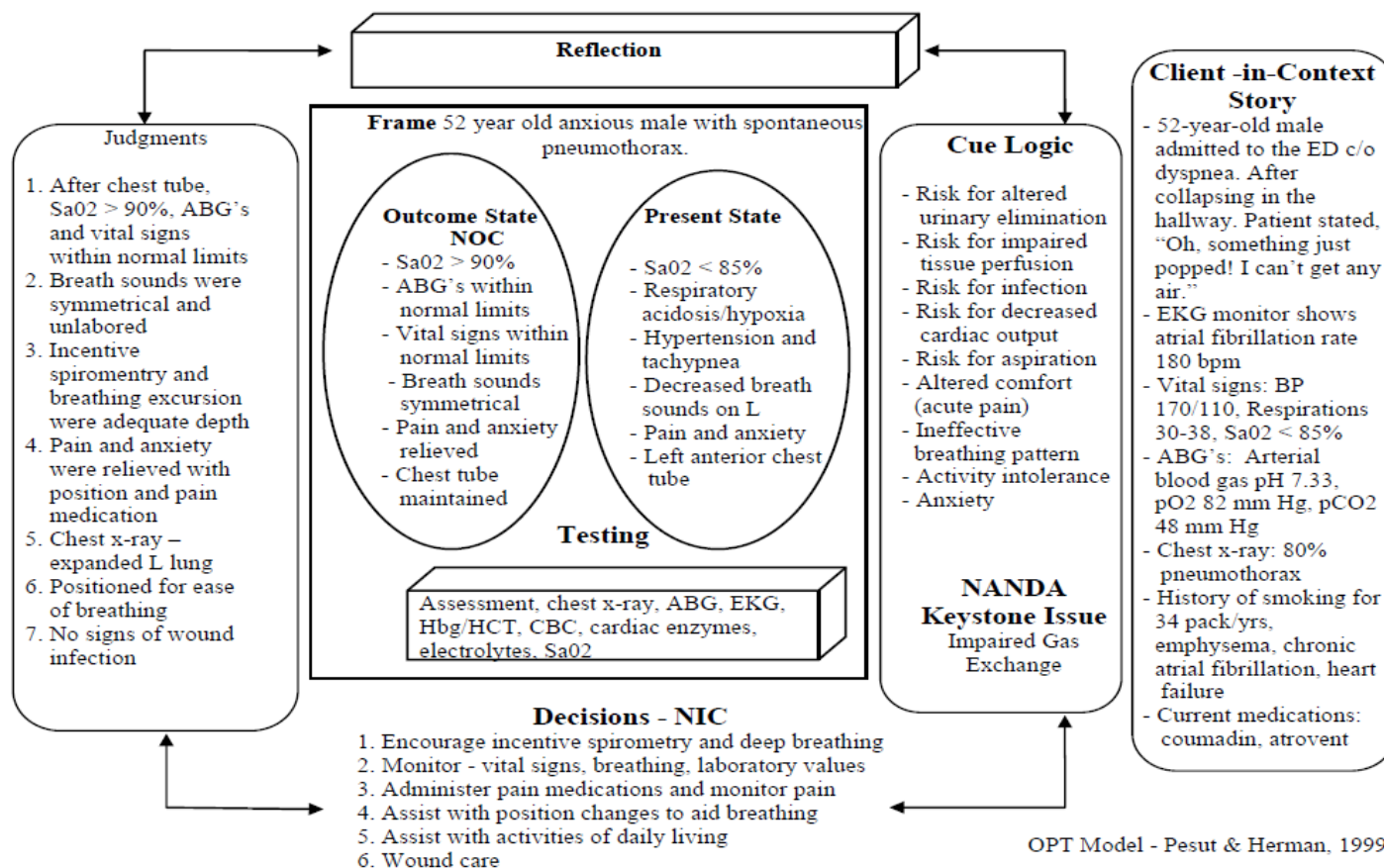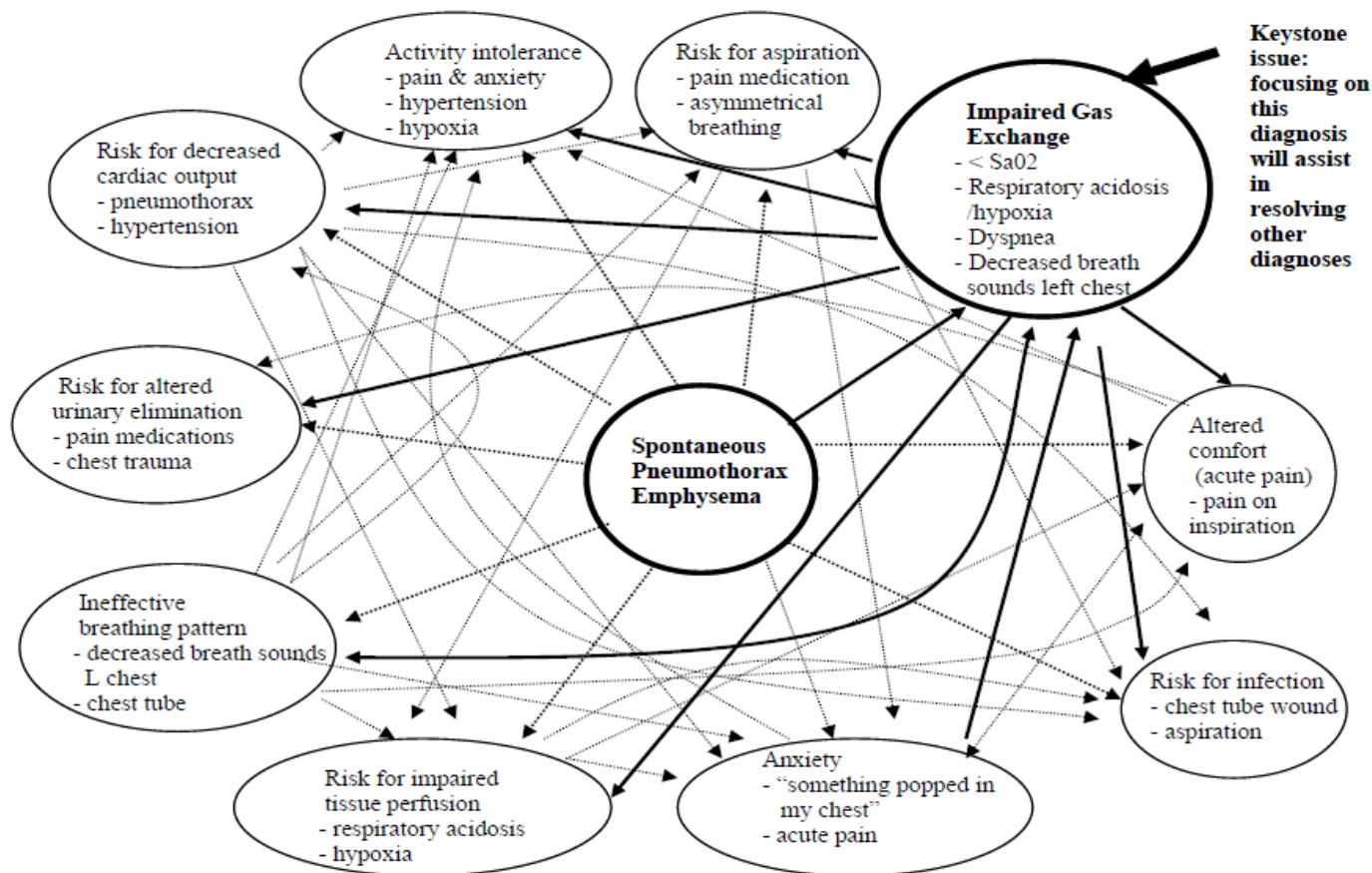
OPT Model - Pesut & Herman, 1999

Figure 1 OPT Model of Clinical Reasoning

Outcome Present State-Test Model (OPT) Model of Clinical Reasoning

Kuiper et al.: Debriefing with the OPT Model of Clinical Reasoning

Steps for Web creation
1. **Identify medical diagnosis and NANDA diagnoses that apply**
2. **Include supporting data to define each NANDA diagnosis**
3. **Connect related diagnoses with arrows – creating a "web" leading to the priority or keystone problem –diagnosis with most arrows**

Clinical Reasoning Web - Pesut & Herman, 1999

Figure 2. OPT Clinical Reasoning Web

4. Theoretical framework for debriefing

- 교육목적과 기대 성과(Objectives and expected outcomes)
- 시나리오의 복합성(Complexity)
- 참여자의 요구도(Needs)
- 최소 디브리핑 단계(reaction, analysis, summary)
- 디브리핑 기틀에 대한 교수자 역량(debriefing framework)
- 시뮬레이션 경험(experience)

5. Simulation-based experience

- 디브리핑 과정의 목표 (Objectives)

- 시뮬레이션 기반 경험의 성과(Outcomes)

- 기대성과 대비 수행의 격차(Performance gaps)

INACSL Standards of Best Practice: Simulation^{SM} Debriefing

1. Competent debriefer
2. Safe environment
3. Concentrated attention of a debriefer
4. Theoretical framework for debriefing
5. Simulation-based experience

Simulation Debriefing Topics

- 시기 (timing)
  - Postevent vs. within event
- 대화촉진법(conversation facilitation)
  - Facilitator-guided vs. self-guided
- 대화구조(conversation structure)
  - 3 or more phases
- 과정 요소(process elements)
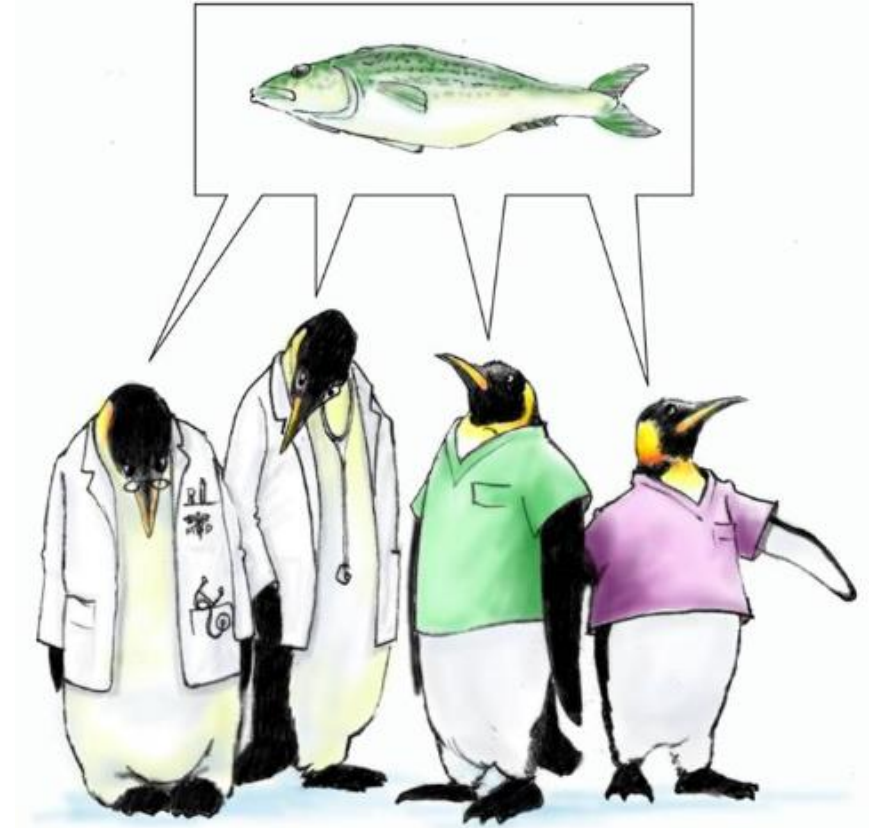 - 대화 기술
  - 교육전략
  - 보조매체 (Codebriefer, video review)

https://www.ncbi.nlm.nih.gov/pubmed/27254527

Simulation Debriefing Process Elements

- 디브리핑 전(before):

  – 심리적 안전감

    (Psychological safety)

  – 기본가정(assumptions)

  – 디브리핑 규칙(rules)

Simulation Debriefing Process Elements

- 디브리핑 동안(during):
  - Shared mental model
  - 학습목표 기술(learning objectives)
  - 개방형 질문(open-ended questions)
  - 침묵 활용(silence)

디브리핑 설계 특성

- 학습 목표와 연계
- 실제적인 시뮬레이션 시나리오
- 심리적으로 안전한 디브리핑 환경
- 시뮬레이션 룸과 분리된 디브리핑 공간
- 6인 이하 소수의 학생 대상
- 디브리핑 시간: 시뮬레이션 시간의 2~3배
- facilitator-guided post-event debriefing vs. 동료주도 디브리핑
- 구두 디브리핑 vs. 비디오 활용 디브리핑

Factors influencing learner engagement with simulation debriefing

TABLE 3 Factors influencing learner engagement with simulation debriefing

Variable	B	SE	β	t	P-value	Adjusted R²	F	P-value
								N = 296
(Constant)	1.697	0.673		2.522	0.012	45.6	25.731	<0.001
Simulation design	0.913	0.096	0.518	9.542	0.000			
Confidentiality	0.114	0.039	0.154	2.915	0.004			
Stress	−0.191	0.082	−0.103	−2.331	0.020			
No. students	−0.022	0.011	−0.145	−2.017	0.045			
Setting	0.170	0.115	0.068	1.483	0.139			
Time	0.002	0.002	0.054	1.181	0.239			
Communication skills	0.119	0.140	0.039	0.850	0.396			
Satisfaction with peer discussion	−0.036	0.045	−0.040	−0.812	0.417			
Student year	−0.056	0.152	−0.027	−0.369	0.713			
Use of video recording	0.034	0.096	0.016	0.357	0.721			

SE, standard error.

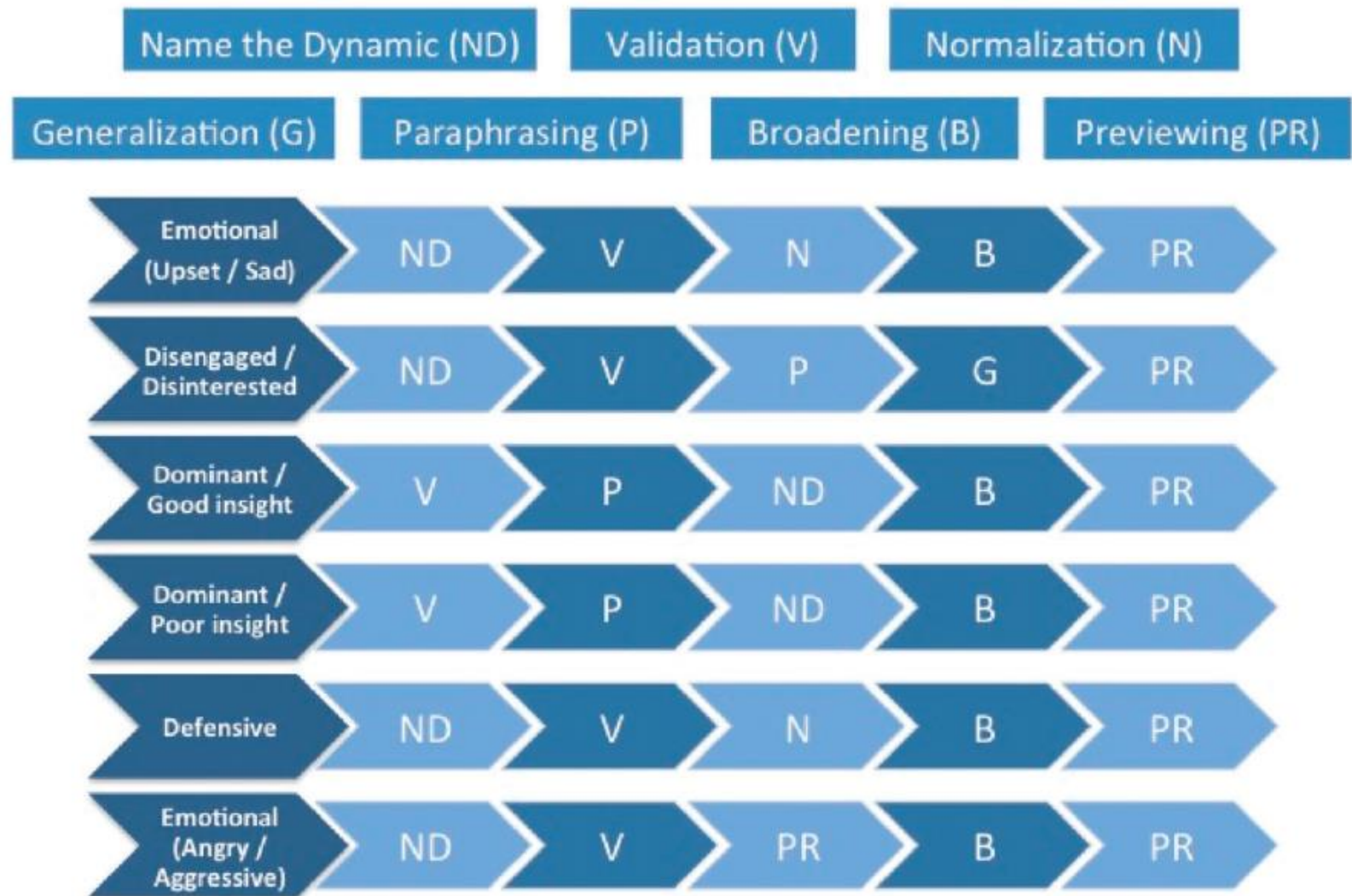# Difficult debriefing situations – a "toolbox" of solutions

Proactive strategies

- Pre-simulation briefing (prebriefing)
- Debriefing environment
- Body language
- Eye contact

Reactive strategies

- Body language
- Eye contact
- Silence
- Directive questioning
- Communication tools

Applying Strategies in Difficult Debriefings

| Name the Dynamic (ND) | | Validation (V) | | Normalization (N) |
| Generalization (G) | Paraphrasing (P) | Broadening (B) | | Previewing (PR) |

Emotional (Upset / Sad)	ND	V	N	B	PR
Disengaged / Disinterested	ND	V	P	G	PR
Dominant / Good insight	V	P	ND	B	PR
Dominant / Poor insight	V	P	ND	B	PR
Defensive	ND	V	N	B	PR
Emotional (Angry / Aggressive)	ND	V	PR	B	PR

The suggested sequence of strategies may differ depending on the situation.
Tailor the sequence, number, and selection of strategies to the situation.

Figure 2. Cognitive aid for combining reactive strategies.

디브리핑 평가

디브리핑 평가도구

- Debriefing Assessment for Simulation in Healthcare
- Debriefing Experience Scale
- Debriefing for Meaningful Learning;
- Health Sciences Reasoning Test
- Lasater Clinical Judgment Rubric

Debriefing Assessment for Simulation in Healthcare© (DASH)

https://harvardmedsim.org/

Debriefing Assessment for Simulation in Healthcare© (DASH)

- DASH Rater version

- DASH Instructor version

- DASH Student version

Debriefing Assessment for Simulation in Healthcare (DASH)© Score Sheet

Directions: Rate the quality of the debriefing using the following effectiveness scale on six Elements. Element 1 allows you to rate the introduction to the simulation course and will not be rated if you do not observe the introduction. The Elements encompass Dimensions and Behaviors pertinent to the debriefing as defined in the DASH Rater's Handbook. Within each Element, the debriefing may range from outstanding to detrimental. Please note that the overall Element score is *not* derived by averaging scores for individual Dimensions or Behaviors. Think holistically and not arithmetically as you consider the cumulative impact of the Dimensions, which may not bear equal weight. You, the rater, weight dimensions as you see fit based on **your holistic view of the Element**. If a Dimension is impossible to assess (e.g., how well an upset participant is handled during a debriefing if no one got upset), skip it and don't let that influence your evaluation.

Rating Scale

Rating	1	2	3	4	5	6	7
Descriptor	**Extremely Ineffective / Detrimental**	Consistently Ineffective / Very Poor	Mostly Ineffective / Poor	Somewhat Effective / Average	Mostly Effective / Good	Consistently Effective / Very Good	**Extremely Effective / Outstanding**

DASH

- Element 1. Establishes an engaging learning environment.
- Element 2. Maintains an engaging learning environment.
- Element 3. Structures the debriefing in an organized way.
- Element 4. Provokes engaging discussion.
- Element 5. Identifies and explores performance gaps.
- Element 6. Helps trainees achieve or sustain good future performance.

Conclusion

- Make debriefing safe

- Make debriefing stick

- Make debriefing last