

MEDICAL SIMULATION

Dedi Fitri Yadi
Anesthesia Department
UNIVERSITAS PADJADJARAN

Introduction

Student will “get it” in time

“See one, do one”

Quality of education?

Traditional Theory

- ⦿ Teacher-oriented education
- ⦿ It does not matter how well information is packaged and delivered, *only content matters*



Avionic

Space lab

HUMAN ERROR FREE FUNCTION

“ONE CHANCE” TO GET IT RIGHT

SIMULATION

**SOUNDS LIKE
MEDICINE**

Medical Simulation



Life threatening situation “scripted”



Can be modified in each subsequent

Medical Simulation



No risk to real patient



Can be stopped at
any time



Reflection on action
& planning

Low-tech Simulation Modalities

- Simple three dimensional organ model
- Animal models
- Basic manikin
- Human cadavers
- Standardized Patient

Simulation Models

- ◎ Standardized patient
 - Smooth transition to care of real patient
 - SP can be trained to demonstrate limited abnormalities
 - Interact with person
 - In emergency situation
 - Delivering bad news

Simulation Models

- ◎ Computer-based simulation
 - Students 'work' without regard to patient availability
 - All students can evaluate the same case
 - Students can be given detailed feedback on their knowledge

(Friedman)

Simulation Models

◎ Manikin

- Used to teach aspects that are particularly sensitive or cause discomfort to patient
- When abnormalities may be unpredictably encountered in daily practice

Simulation Characteristics

◎ Fidelity

- The likeness of a simulation to the real life simulation designed to mirror
- Must match with education purpose

◎ Validity

- Formative and summative purpose
- Generic skill are not dependent on the specific content of the case

⦿ Reliability

- Reproducibility
- Ability of the SP to present the same signs and symptoms accurately on many occasions
- The accuracy of the feedback to the student

⦿ Learning

- Should be related to the objectives for the student, who the student is

⦿ Feasibility

- Simulation can be implemented based on
 - Cost
 - Personnel
 - Faculty time
 - Logistic of buying, maintaining, updating and storing equipment

Evaluation

- ◎ Objective Structured Clinical Examination
 - Strongly endorsed by accreditation boards
 - Formal certification requirements

Summary

Offers the potential for the evolution of a **new teaching paradigm** for the new millennium



Thank You