

PET 2018



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Concepts for Effective Endoscopy Training

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Goals for Optimal Endoscopy Training

- Deliver skilled endoscopists who are:
 - Safe
 - Thorough
 - Efficient
 - Effective

Requirements for Optimal Endoscopy Training

- Appropriate training environment
- Modern equipment
- Culture to ensure sufficient opportunity
- Motivated reasonably adept trainees
- High quality trainers / training
- Robust assessment

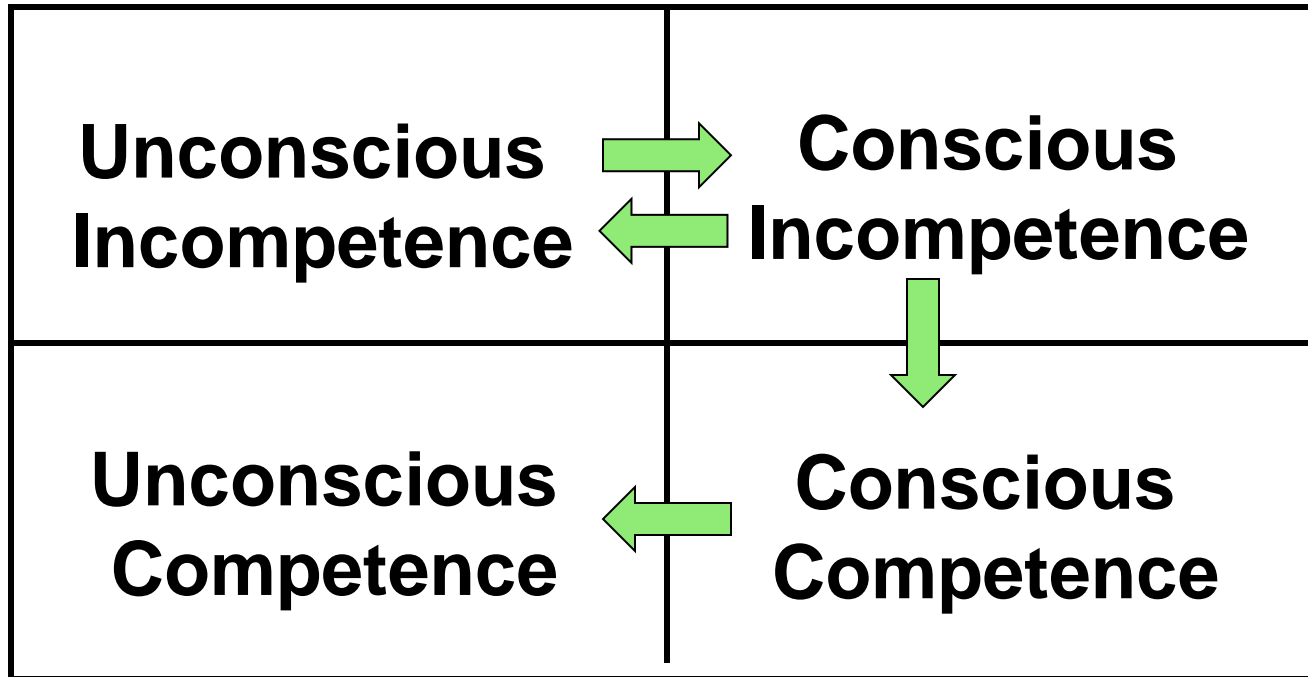
The Training Environment for Gastrointestinal Endoscopy

- *Didactic-Topical training*
 - Clinical patient care, assessment, judgment
 - Sedation & monitoring
 - Risk management

The Training Environment for Gastrointestinal Endoscopy

- *Didactic Topical Training*
- ***Technical Training Domains***
 - Manual, Visual, Cognitive
 - Pre and Intra-procedure
 - Consistency
 - Communication

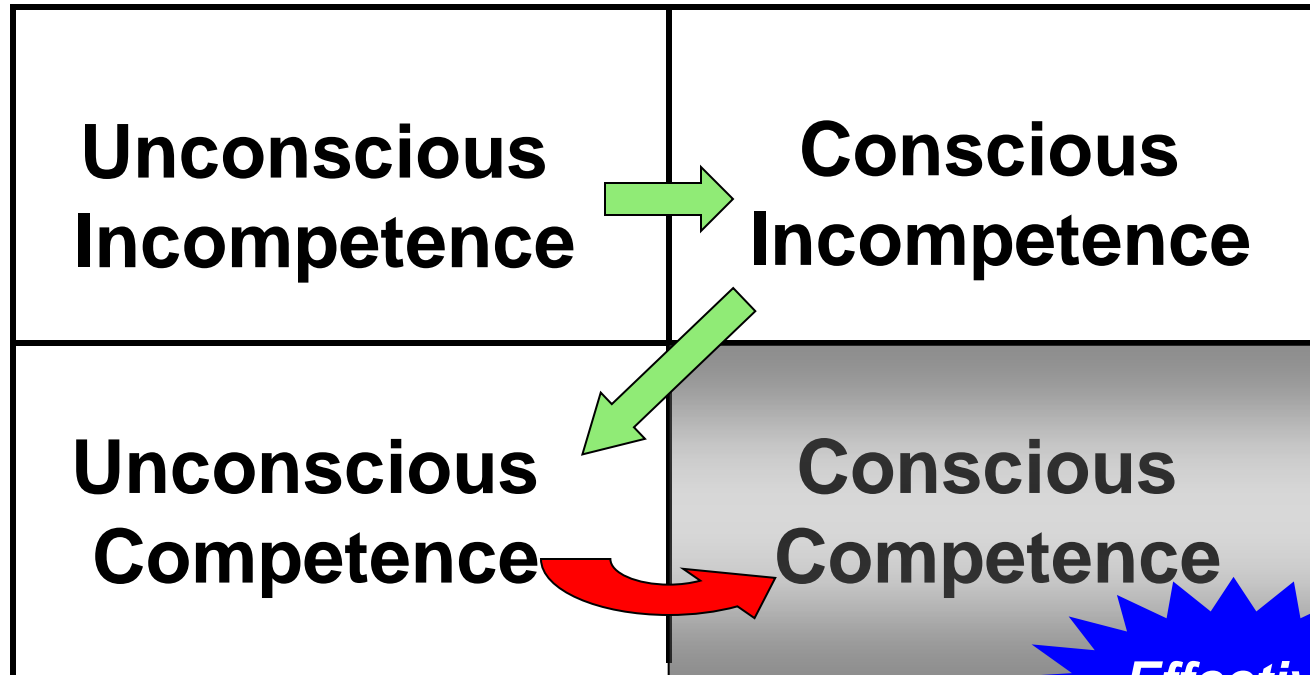
Knowledge/Skill Awareness (Peyton)



- **Explicit:** Conscious, Rule-based, Can be Verbalized
- **Implicit:** Not available for recall, difficult to verbalize.

“Expertise induced Amnesia”

Knowledge/Skill Awareness

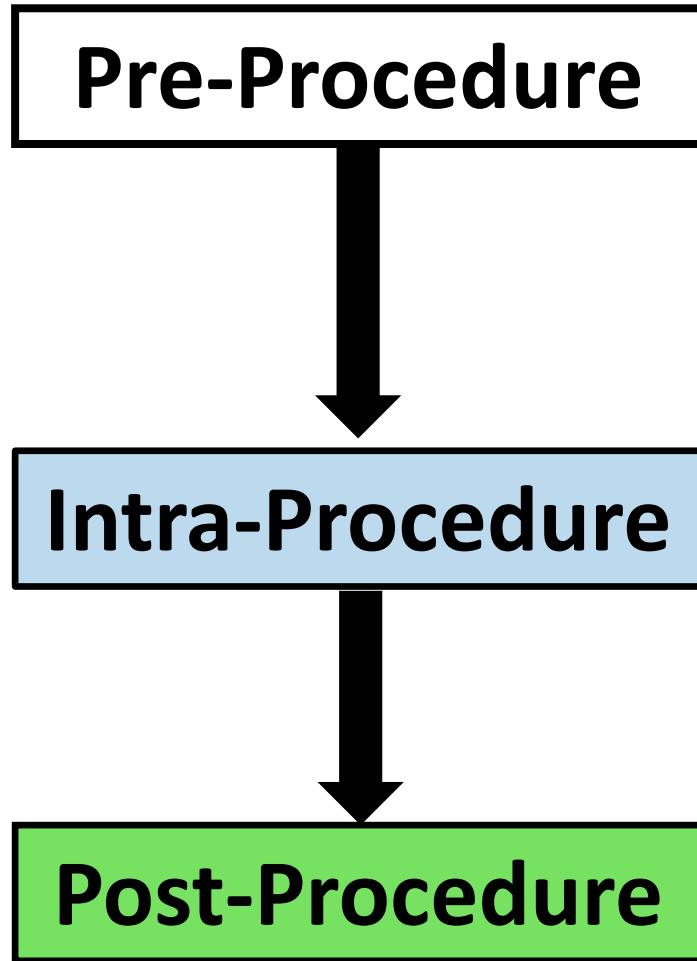


*Effective
Trainer*

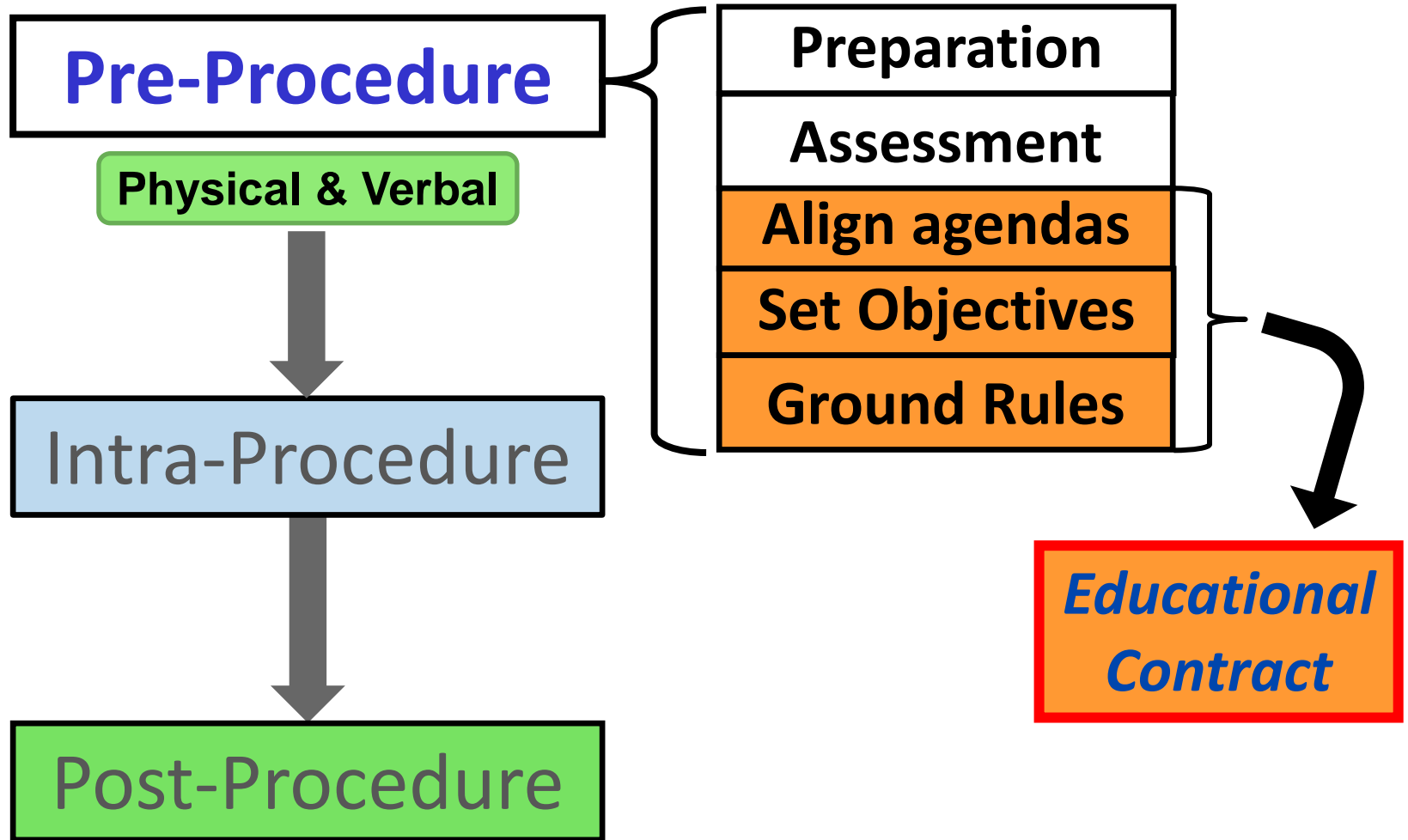
- Explicit Deconstruction
- Explicit Explanation

**“Those who know, do.
Those that understand, teach.” Aristotle**

The Training Interaction*



The Training Interaction*



Educational Contract

- *Aligning Agendas:*

- **Mutual understanding of Goals**

Early Unrefined *Agenda & Goals*

- Patient: Safe, Comfortable, Quality Exam

Early Unrefined Agenda & Goals

- Patient: Safe, Comfortable, Quality Exam
- Trainee:
 - Procedural
 - *Reach the cecum*
 - *Complete exam independently*

Early Unrefined Agenda & Objectives

- **Patient:** Safe, Comfortable, Quality Exam
- **Trainee:** Procedural
Reach the cecum
Complete exam independently
- **Trainer:**
 - **Knowledge:** Pre-, Post, Intra procedure
Awareness of patients needs
 - **Skills:** Endoscopic Technique
Time Management
 - **Attitudes:** Motivation
Interactions w/ staff, patients

Educational Contract

- Aligning Agendas:

- Mutual understanding of Goals

- Setting Learning Objectives:

- **Training needs specific to level of experience**
- **Composite of dual objectives; (SMART)**
(Specific, Measurable, Achievable, Realistic, Time related)

Educational Contract

- Aligning Agendas:

- Mutual understanding of Goals (fellow & teacher)

- Setting Learning Objectives:

- Training needs, specific to level of experience
- Composite of dual objectives; SMART

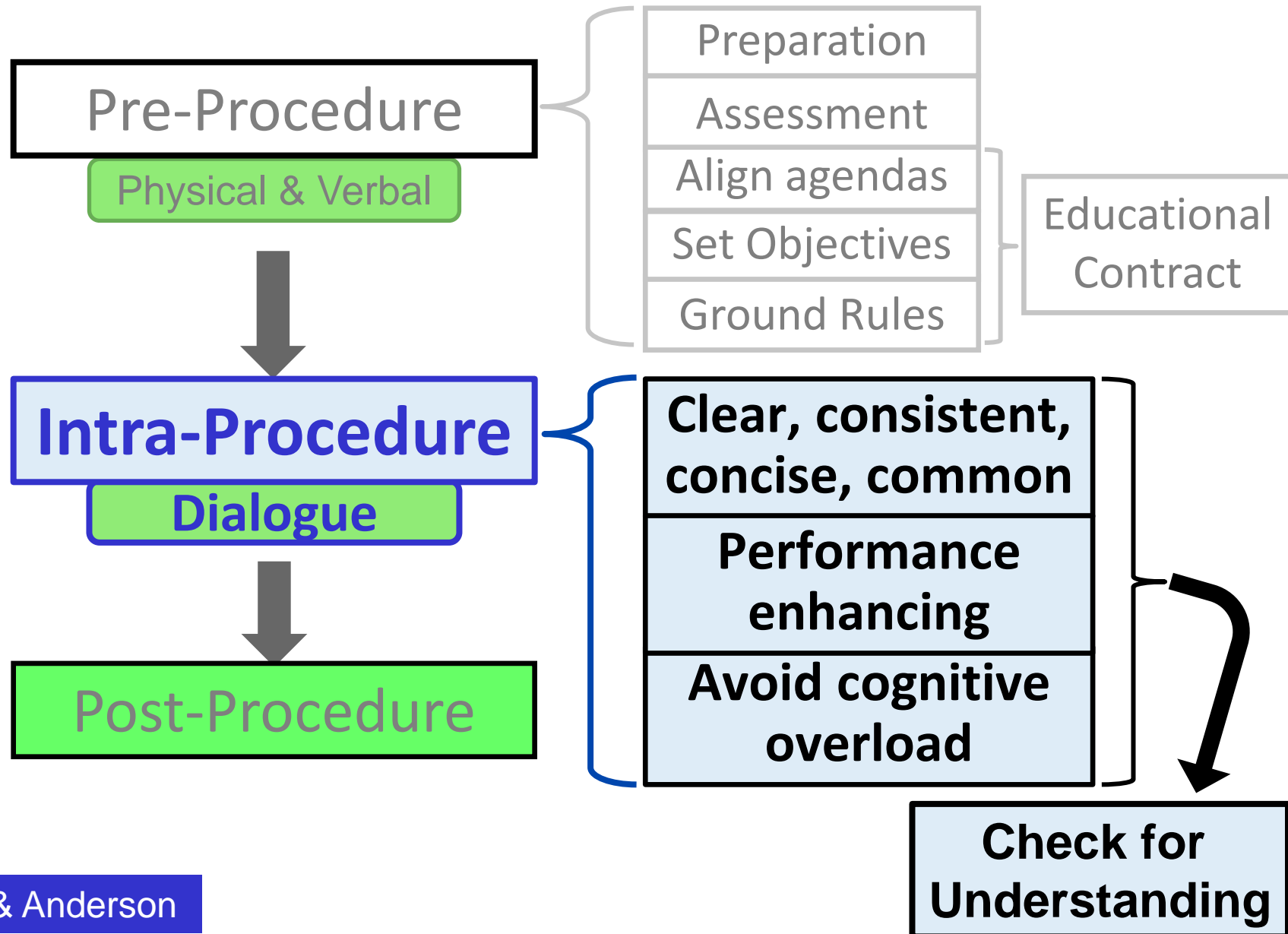
- Ground Rules:

- **Roles & Responsibilities**
- **Ensures patient safety**
- **Scheduling and time demands**

II. Intra-Procedure

- Technical aspects dominant
 - Pattern recognition
 - Decision making
 - Recognition & Response to Adverse Events
 - Tenor and decorum
-

The Training Interaction*



* Valori & Anderson

Intra-procedural Instruction

- Rm entry to departure >> 'scope in - scope out'
 - Courtesy, Efficiency, Conversational
- Timing -
- Type –
- Language –
- Teaching Vignettes -

Consent

What must be covered?

- ✓ Indications
- ✓ Risks
- ✓ Common / major complications
- ✓ Alternatives
- ✓ For both procedure & sedation

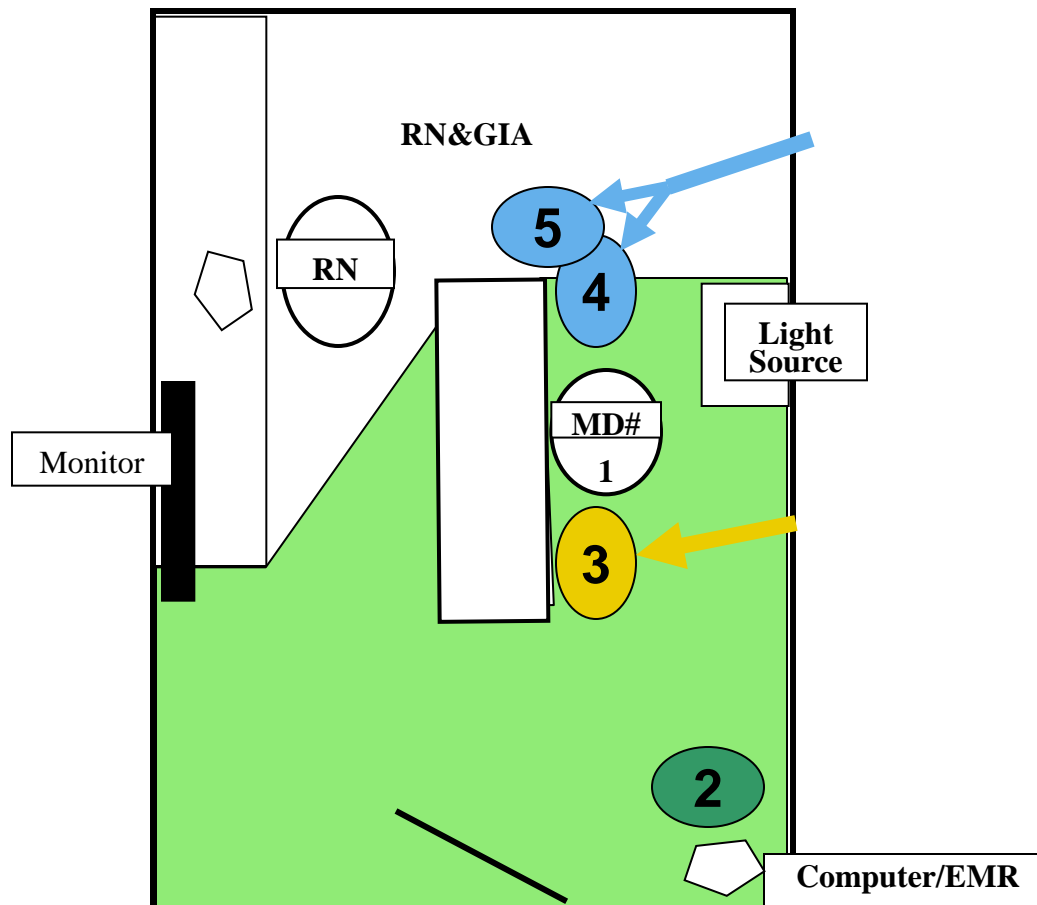
- ✓ Duty - Check-off
- ✓ Timidity vs Nuisance
- ✓ Insufficient, or intimidating
- ✓ Non-respectful

ALSO, an opportunity to:

- Allay fears
- Clarify goals
- Identify risks, misunderstandings
- Establish rapport with patient

Relative positions for instructor (#) and fellow (MD#1):

- 1 – Instructor in hallway at computer – inappropriate
- 2 – Instructor in room on computer – suboptimal unless practice session
- 3 – Instructor to fellows left – suboptimal for viewing hands, endoscope
- 4, 5 – Instructor at foot of bed = OPTIMAL for viewing all aspects of the procedure



Intra-procedural Instruction

- Rm entry to departure
- **Timing - Selective vs. Urgent, Slow or Stop to talk**
- **Type**
- **Language**
- **Teaching Vignettes**

Dual Task Interference

- Concept of Cognitive Overloading
 - Providing / Receiving excessive verbal commentary or guidance during procedure
- Importance esp. during skill acquisition
- Varies significantly with Experience, Age
- Dual task performance improves with skills

Intra-procedural Instruction

- Rm entry to departure
- Timing – care with cognitive overload
- Type - Directive, Inquisitive, Observational, Praise, ..
- Language
- Teaching Vignettes

Intra-procedural Instruction

- Rm entry to departure
- Timing – care with cognitive overload
- Type - Directive, Inquisitive, Observational, Praise, ...
- Language - Specific and Consistent
- Teaching Vignettes -

12 Endoscopic Instructions

- Stop
- Withdraw / Pull back
- Advance / Insert
- Insufflate / blow
- Aspirate / suction
- Tip Up
- Tip Down
- Tip Left
- Tip Right
- Clockwise torque
- Counter-clockwise torque
- Slow down / Slowly

Intra-procedural Instruction

- Rm entry to departure
- Timing -
- Type -
- Language –
- Teaching Vignettes -
 - Algorithms for repetitive predictable challenges
 - Deconstructed guidance
 - Improves Conscious Competence of trainer
 - Generates specific learning objectives
 - Enhances efficiency

Opportunistic Instruction & Feedback

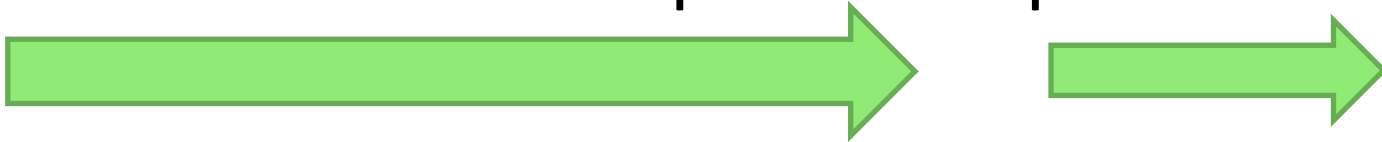
- Situational
- May depart from “contract”
- Instruction vs. Feedback
- Demonstration vs. instruction
 - Experience dependent
 - Time & Safety constraints

When to take over during Colonoscopy

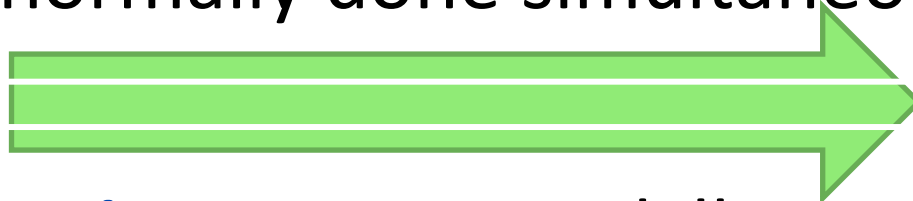
- **3 Primary Considerations** more important than skill acquisition, instruction, feedback:
 - Patient Safety, Comfort
 - Exam Quality
 - Exam Efficiency
- Can technical challenge be identified?
- Can resolution be explained, understood, performed?
- Is resolution beyond skill of trainee?
- Should also employ demonstration, commentary
- Ideally change in roles is temporary.

Partial Task Practice

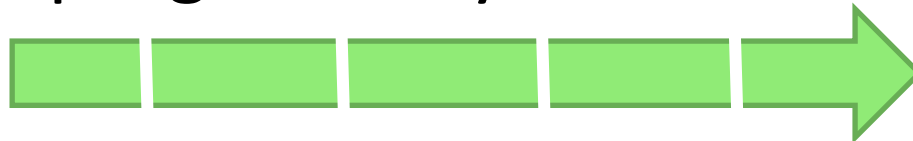
- Reducing task difficulty to aid learning
- **Simplification**: practicing a simplified version of a whole skill – esp. for complex skills



- **Fractionation**: practicing components of a skill that are normally done simultaneously



- **Segmentation**: separates skill into component parts and progressively adds new components.



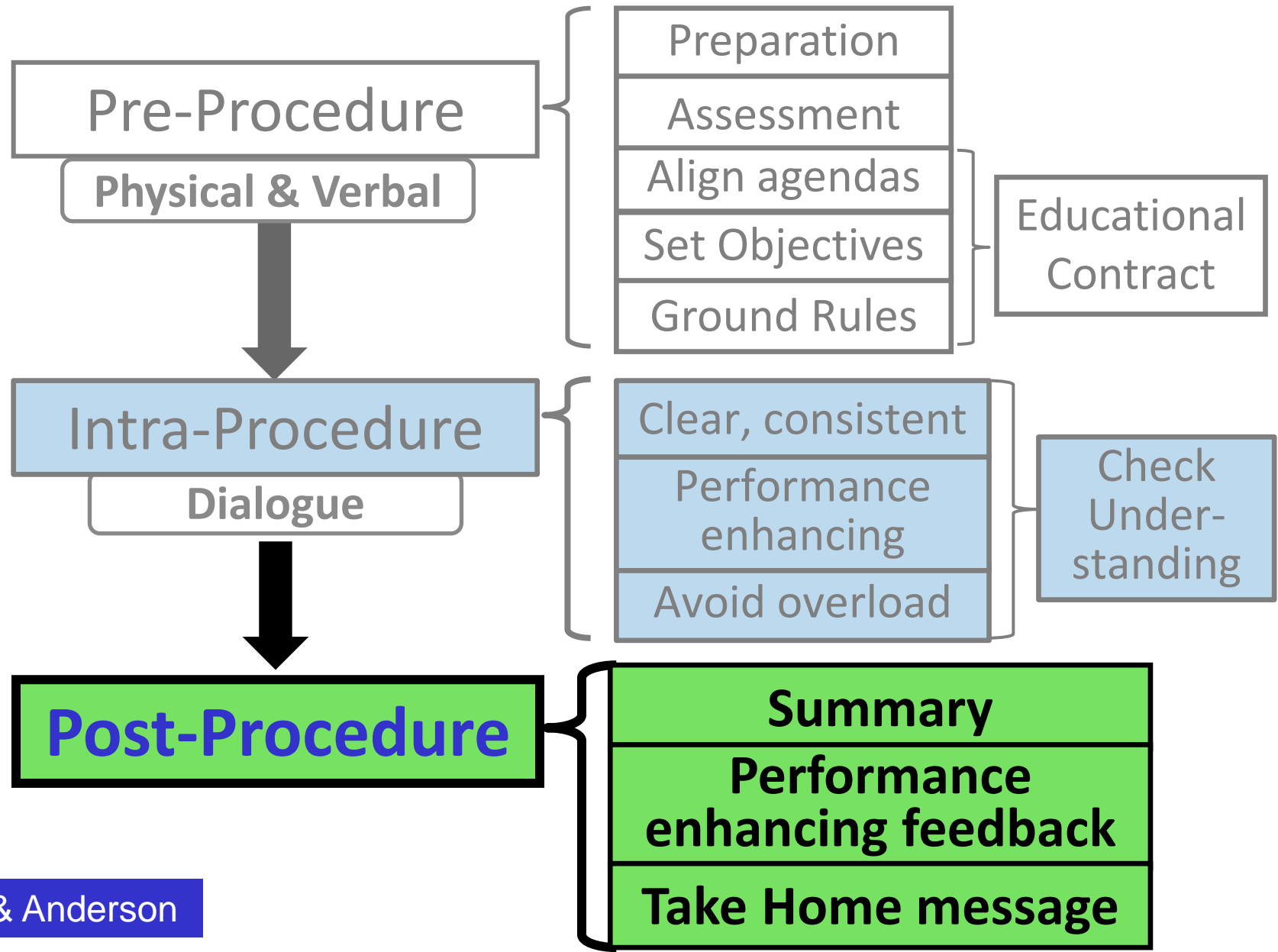
III. Post-Procedure

Patient Care

Communication

The Training Interaction

The Training Interaction*



* Valori & Anderson

Suggestions to fellows

- Being prepared greases the skids → know the patients details, procedural plans
- No procedure is a make or break event for a trainee
 - ... but it may be for the patient.
- Patience is two way street
- Remember, young staff may be on learning curve for some techniques, & for training
- All staff have time pressures of their own
- Observation is the first step in modelling a skill

Take Home Messages:

- Procedural teaching is an *active* process
- Conscious Competence of the *teacher* enables deconstruction & teaching of individual tasks
- Pre, Intra, and Post procedure teaching tasks:
 - ✓ Establishing an **Educational Contract** of aligned agendas, objectives, and ground rules
 - ✓ Clear & consistent **communication**
 - ✓ Avoidance of **cognitive overload**
 - ✓ Provision of **performance enhancing feedback**
- **Ask → Converse → Take-home message**



The satisfaction of
'well taught and learned'
exceeds that of
personally 'well done.'

"Teaching is not a lost art,
but the regard for it is a
lost tradition." [Jacques Barzun](#)

Credits

Thanks – for your patience,
and my family's good cheer

