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

- Explicit Deconstruction
- Explicit Explanation

“Those who know, do. Those that understand, teach.” — Aristotle
The Training Interaction*

Pre-Procedural

Intra-Procedural

Post-Procedural

* Valori & Anderson

The Training Interaction*

Pre-Procedure

- Physical & Verbal

Intra-Procedure

Post-Procedure

- Preparation
  - Align agendas
- Assessment
  - Set Objectives
- Ground Rules

Educational Contract

* Valori & Anderson
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*

Pre-Procedure
- Physical & Verbal

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Intra-Procedure
- Dialogue

Post-Procedure

Clear, consistent, concise, common
- Performance enhancing
- Avoid cognitive overload

Check for Understanding

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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

Also, an opportunity to:
• Allay fears
• Clarify goals
• Identify risks, misunderstandings
• Establish rapport with patient

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

- **Pre-Procedure**
  - Physical & Verbal

- **Intra-Procedure**
  - Dialogue

- **Post-Procedure**

**Preparation**
- Assessment
- Align agendas
- Set Objectives
- Ground Rules

**Educational Contract**
- Clear, consistent
- Performance enhancing
- Avoid overload

**Check Understanding**

**Summary**
- Performance enhancing feedback
- Take Home message

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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