Concepts for Effective Endoscopy Training

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Training Teachers of Endoscopy

• **WEO – Program for Endoscopic Teachers**
  • *Worldwide programming*: Rio de Janeiro, Moscow, Bogota, Chicago, Bangkok, Hyderabad ...>> Rome, Singapore
  • Facilities, Programming, Resources, Training Models, etc. → teaching interaction

• **UK – Train the Colonoscopy Trainers**
  • UK → Ireland, Australia, Canada, Netherlands, Scandinavia, Poland, US (Mayo) ... ...
  • Interpersonal interaction & communication
  • Basic procedural technique, ergonomics
  • Real-time human cases and feedback
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-Procedure

Intra-Procedure

Post-Procedure

* Valori & Anderson
The Training Interaction*

Pre-Procedure
- Physical & Verbal

Intra-Procedure

Post-Procedure

Preparation
- Align agendas

Assessment
- Set Objectives

Ground Rules

Educational Contract

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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

• **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

Intra-Procedure
- Dialogue

Post-Procedure

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

Educational Contract
- 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
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**
  • **Generates specific learning objectives**
  • **Improves Conscious Competence of trainer**
  • **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

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

- **Simplification**: practicing a simplified version of a whole skill – esp. for complex skills

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

Intra-Procedure
- Dialogue
- Clear, consistent
- Performance enhancing
- Avoid overload
- Check Understanding

Post-Procedure
- Summary
- Performance enhancing feedback
- Take Home message

* Valori & Anderson
Initial training & Addressing Gaps*

* After Valori, R.
Maturing Trainee skills

Trainer’s agenda

Trainee’s agenda

time
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
• See Vignette of modern colonoscopy technique.