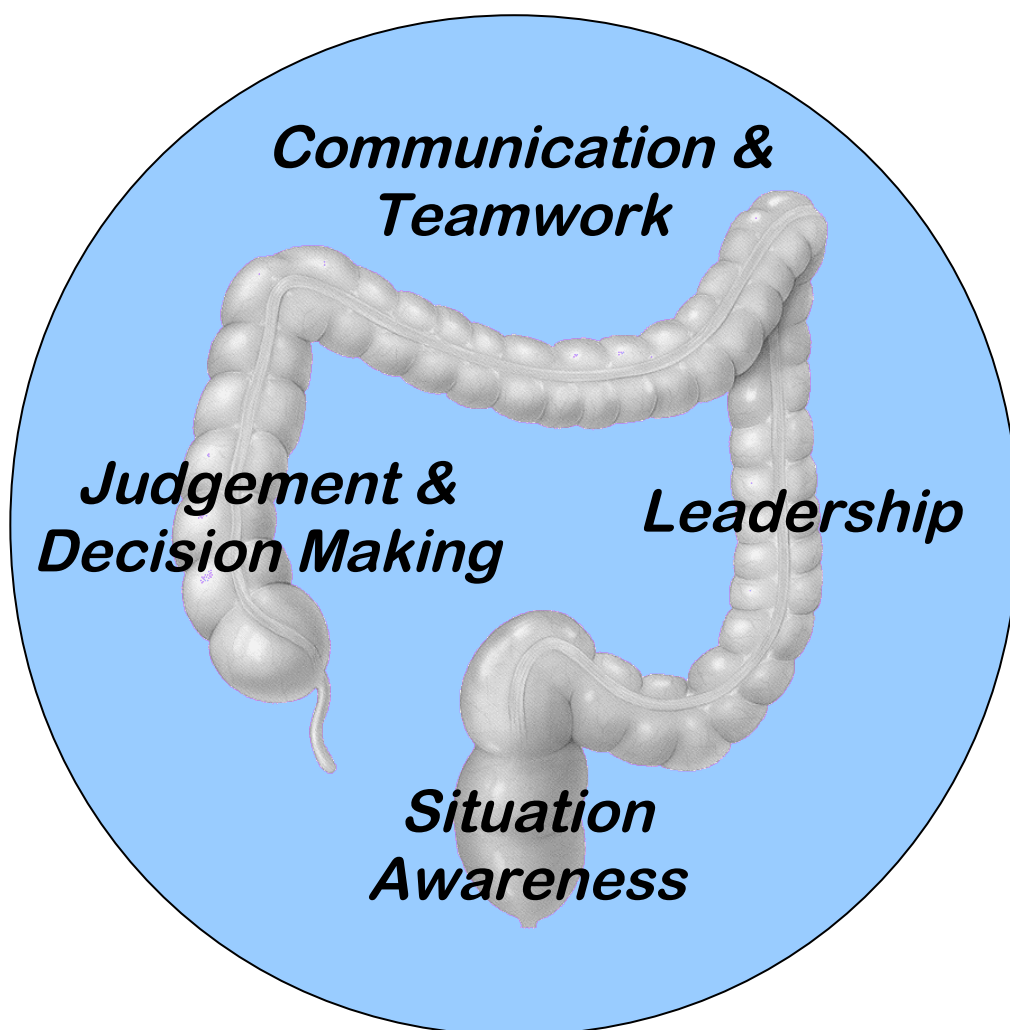


# Framework for observing and rating Endoscopic Non-Technical Skills



Endoscopic Non-Technical Skills  
(ENTS) System Handbook v2.0

## Overview

### The ENTS system

<p><b>Communication &amp; Teamwork</b></p> <p>Exchanging information</p> <p>Maintaining a shared understanding</p> <p>Maintaining a patient-centred approach</p>	<p><b>Situation awareness</b></p> <p>Preparation</p> <p>Continuous assessment</p> <p>Problem recognition</p> <p>Focus</p>
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## Acknowledgement

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## What is the ENTS system?

This system is a behavioural marker system developed during a research project investigating non-technical skills in gastrointestinal endoscopy. It is based on a non-technical skills taxonomy developed using a critical incident analysis technique (see ENTS taxonomy) and an observational study to identify behavioural markers which mapped to the taxonomy.

The purpose of the system is to provide a framework for observing non-technical skills and guiding their assessment in a structured manner. It is designed as a hierarchy with four categories and thirteen elements. Each element has a definition and some examples of good and poor behavioural markers associated with it. These have been derived from real examples given during critical incident analysis and an observational study.

The ENTS system is not intended to provide a complete or exhaustive list of the non-technical skills that have been identified as important in endoscopy, which are published as a separate document. It has been limited to skills that can actually be identified through observable behaviours associated with them.

## How do I use the system?

Ratings can be made at both the category and element level. It is advised that ratings are given at the element level first, and then at the more general category level. A four point scale is used based on the level of performance and whether it detracts from or enhances patient safety (see page 9). Any assessment should be based only on behaviours that are directly observed.

## General recommendations

- Users should become familiar with the structure and language of the ENTS system before use
- Time should be allocated for feedback to trainees after a non-technical skills assessment
- It is advisable to keep contemporaneous notes in order to provide directly observed examples of behaviour and to assist debriefing
- Trainees should be given a copy of the handbook for reference and to encourage reflection
- Feedback should focus on identifying strengths, weaknesses and to support skills development

# Communication and Teamwork

Skills for working within a team to ensure that knowledge is shared and understanding is reached to provide an effective patient-centred approach to safe procedural completion

**i. Exchanging information** - Giving and receiving knowledge and information in a clear and timely fashion.

Good behaviours	Poor behaviours
Gives clear, specific instructions to staff and patient	Fails to give clear instructions
Seeks further information to aid understanding e.g. previous endoscopy reports	Does not seek further information or makes inappropriate assumptions
Listens and responds to team input	Does not listen to or acknowledge team members
Confirms team preparation including equipment availability	Does not check if team ready or if equipment available

**ii. Maintaining a shared understanding** - Ensuring that both the team and the endoscopist are working together from the same information and understand the 'big picture' of the case.

Good behaviours	Poor behaviours
Clarifies indication and objectives with team	Does not discuss case beforehand with team members
Confirms shared information with team e.g. medication doses, patient parameters, therapeutic efficacy	Does not check information with team
Talks about progress of procedure, including difficulties and concerns	Fails to keep team informed about progression or problems
Gives notice prior to therapeutic intervention to allow preparation time	Does not anticipate need for therapy
Explains unusual findings to team or trainee to increase understanding	Does not discuss findings within the team
Calmly indicates when situation requires urgency	Fails to convey need for urgency when required

**iii. Maintaining a patient-centred approach** - Ensuring that the patient is at the centre of the procedure, emphasising safety, comfort and giving information in a clear and understandable fashion.

Good behaviours	Poor behaviours
Greets patient and introduces self and team	Does not introduce self
Allays patient anxiety and maintains a relaxed atmosphere	Makes no attempt to reassure patient or maintain relaxed atmosphere
Gives clear instructions to patient	Does not give clear instructions
Regularly checks patient comfort	Does not check or ignores patient discomfort
Warns patient prior to uncomfortable event e.g. PR examination	Makes no effort to warn patient prior to uncomfortable events
Keeps patient informed about procedural progression (if appropriate)	Does not attempt to involve patient in the procedure
Explains findings to patient and/or relatives in clear, understandable language	Does not explain findings to patient and/or relatives or uses complex language or jargon

# Situation Awareness

Creating and maintaining a dynamic awareness of procedural progression by good preparation, continuous assessment of the situation, recognition of problems or potential issues and maintaining clear focus to deal with these

- i. **Preparation** - Ensuring that the patient is fit, the procedure is appropriate, and that it is being done by an endoscopist with the necessary skills, equipment and assistants for safe and successful completion

Good behaviours	Poor behaviours
Checks indications are appropriate	Does not make a pre-procedural review of notes or patient
Checks patient is fit for the procedure, including co morbidities and allergies	Fails to question indications and proceeds with inappropriate procedure or unfit patient
Checks unfamiliar assistants are adequately trained and experienced for the procedures	Fails to appreciate limitations of staff experience or views
Ensures equipment present and functioning correctly	Makes no effort to check equipment supplies or functioning
Optimises environmental conditions before starting e.g. bed height, equipment positioning	Proceeds with procedure in inadequately set-up or inappropriate surroundings
Does not perform procedure beyond own level of skill or experience	Proceeds with procedure beyond own limitations

- ii. **Continuous assessment** - Maintaining a continuous evaluation of the patient's condition and updating the shared understanding to identify any mismatch between the current situation and expected state.

Good behaviours	Poor behaviours
Regularly checks patient response to sedation	Does not monitor patient or over-relies on assistants to identify problems
Articulates findings clearly	Overlooks or ignores findings
Uses all available techniques to inform decision-making process	Fails to adequately assess for pathology
Monitors results from therapy e.g. bleeding, patient pain	Discards results or findings that are not expected
Re-evaluates risk regularly depending on findings	Ignores results or findings that may increase risk

iii. **Problem recognition** - Recognising a mismatch between the current situation and the expected state and anticipating what may happen as a result of possible actions, interventions or non-intervention

Good behaviours	Poor behaviours
Identifies issues quickly and highlights them to the team	Fails to identify problems
Articulates difficulties in procedural progression	Fails to discuss potential problems
Recognises increased risk due to unexpected finding	Proceeds with overconfidence with no regard for what may go wrong
Reflects and discusses significance of issues with team	

iv. **Focus** - Ensuring lack of distractions and maintaining concentration, particularly during difficult situations.

Good behaviours	Poor behaviours
Minimises interruptions (e.g. by locking door)	Fails to limit distractions (e.g. not turning mobile phone off)
Stops inappropriate discussions or distracting behaviour by staff	Tolerates inappropriate discussion or distracting behaviour
Keeps focus on screen at all times	Allows attention to be diverted easily
Maintains silence if needed during technically difficult manoeuvres	

# Leadership

Demonstrating leadership by supporting team members, following procedures to maintain high quality clinical care and providing direction when dealing with problems

- E Supporting others** - Providing emotional and cognitive support to team members and trainees by tailoring leadership and teaching style appropriately

Good behaviours	Poor behaviours
Maintains a relaxed atmosphere	Shows hostility or negativity to other team members
Gives praise for tasks done well	Fails to provide recognition for tasks done well or criticises inappropriately
Uses varied teaching techniques according to trainee needs	Fails to recognise needs of trainee or other staff
Does not rush staff when not necessary	Fails to recognise needs of others, requiring task reallocation

- EE Maintaining standards** - Supporting safety and quality by adhering to current protocols and codes of clinical practice.

Good behaviours	Poor behaviours
Clearly follows unit procedures and protocols	Fails to observe protocols and standards
Ensures privacy and patient dignity	Shows disrespect to the patient
Adequately documents procedure immediately afterwards	Fails to adequately document procedure

- EEE Dealing with problems** - Adopting a calm and controlled demeanour when under pressure. Utilising all resources to maintain control of the situation and taking responsibility for patient outcome.

Good behaviours	Poor behaviours
Emphasises urgency of the situation if needed	Suppresses or dismisses concerns over problems
Gives clear directions to team to help resolve problem	Fails to assume leadership role
Delegates tasks in order to achieve goals	Fails to use team effectively to address situation
Remains calm under pressure	Panics or loses temper when under pressure
Maintains control and assumes responsibility for the patient	Blames others for errors and does not take personal responsibility



# Judgement & Decision Making

Utilising all resources for dealing with issues and making a judgement in order to choose an appropriate course of action

- i. **Considering options** - Generating possible courses of action to solve an issue or problem, including assessment of risk and benefit

Good behaviours	Poor behaviours
Generates options to resolve problems	Does not discuss options
Initiates discussion of options	Does not solicit views of team members
Weighs up pros and cons	Makes no evaluation of risk
Seeks help or opinion of colleagues	Fails to seek help when needed

- ii. **Making decisions** - Choosing a solution to a problem, communicating this to team members and implementing it

Good behaviours	Poor behaviours
Reaches and clearly communicates decisions	Hesitates or fails to reach a decision when time critical
Implements plan effectively	Selects inappropriate option that leads to increased risk or complication
Makes provision for alternate options	Does not develop provisional plan if option is unsuccessful

- iii. **Reviewing situation** - Reviewing outcomes of procedure or options for dealing with problems. Reflecting on issues and instituting changes to improve practice

Good behaviours	Poor behaviours
Re-evaluates outcomes and checks for complications	Does not review the impact of actions
Asks for opinion of team members	Fails to seek alternate opinions
Debriefs team and reflects on procedural difficulties and alternate solutions	Makes no effort to discuss problems or successes
Ensures appropriate follow-up for patient	Fails to arrange suitable follow-up
Makes changes based on reflection to improve practice	Makes the same error repeatedly

## Rating Endoscopic Non-Technical Skills

The scale below can be used to rate non-technical skills based on observed behaviour. It is determined by the degree to which the behaviour impacts on patient safety. If it is not relevant for a particular element to be demonstrated in a situation, the 'not observed' rating should be used.

Rating	Label	Description
1	Poor	Performance endangered or potentially endangered patient safety. Serious remediation is required
2	Marginal	Performance indicated some cause for concern. Considerable improvement is needed
3	Acceptable	Performance was of a satisfactory standard, but could be improved
4	Good	Performance was of a consistently high standard, enhancing patient safety. It could be used as a positive example for others
N/A	Not Applicable	Not applicable or not observed

## Using ENTS as part of DOPS

The ENTS marker system has been incorporated into all the new Directly Observed Procedural Score (DOPS) forms for gastrointestinal endoscopy in the UK. Ratings on the form are at the category level, rather than the element level.

The marking system is based on the degree to which the supervisor is required to intervene in the procedure:

Label	Description
Maximal Supervision	Supervisor undertakes the majority of the tasks/decisions & delivers constant verbal prompts
Significant Supervision	Trainee undertakes tasks requiring frequent supervisor input and verbal prompts

Minimal Supervision	Trainee undertakes tasks requiring occasional supervisor input and verbal prompts
Competent for independent practice	No supervision required
Not Applicable	Not applicable or not observed

For ENTS, the rating should reflect the degree of intervention required by the trainer to maintain high quality patient care and safety. An independent endoscopist (and competent trainee) should demonstrate non-technical skills and behaviours that are consistently of a high standard and positively enhance patient safety.

Should trainees not demonstrate these skills in a particular category, feedback to the trainee should be given ideally at the element level, with specific behaviours used as examples.