

NON TECHNICAL SKILLS FOR SURGEONS

“A team of experts is
not an expert team”

Learning objectives

- Create an understanding of the relevance of NOTSS for safe surgical practice.
- Discuss key non-technical skills in surgical context.
- Illustrate how non-technical failures can lead to poor clinical outcomes.

Introduction

- Globally, approximately 234m surgeries are done annually.
- This results in 7m complications and 1m deaths.
- 44,000-98,000 people die each year in US hospitals due to medical errors.
- 4.3% of mortality in surgical patients is due to technical issues.
- Rest of them are due to poor decision making.
- Is technical competence enough for modern safe surgical practice?

What are non-technical skills?

- “Skills that allow surgeons to monitor the situation, make decisions, take a leadership role, communicate and co-ordinate in a team to achieve high levels of safety and efficiency.”
- These skills are not incorporated explicitly in surgical training.
- With increasing attention to patient safety this is the need of the hour.

Categories in NOTSS

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CATEGORY	ELEMENTS
1. Situation Awareness	<ul style="list-style-type: none">•Gathering information• Understanding information• Projecting and anticipating future state
2. Decision Making	<ul style="list-style-type: none">• Considering options• Selecting and communicating option• Implementing and reviewing decisions
3. Communication and Teamwork	<ul style="list-style-type: none">• Exchanging information• Establishing a shared understanding• Co-ordinating team activities
4. Leadership	<ul style="list-style-type: none">• Setting and maintaining standards• Supporting others• Coping with pressure

1.Situation Awareness

- Having dynamic awareness of the situation in the theatre/ward/OPD based on collecting data from the environment; understanding what they mean, and thinking ahead about what may happen next.
1. Gathering information
 2. Understanding information
 3. Projecting and anticipating future state

Gathering information

Seeking information from the patient, team, displays, equipment.

1a) Gathering information

- Pre-operative checks of patient notes, investigations and consent.
- Ensures that all relevant investigations (e.g. imaging) are available.
- Talks with anaesthetist regarding anaesthetic plan
- Optimises operating conditions before starting e.g. moves table, lights, AV equipment.
- Monitors ongoing blood loss.
- Asks anaesthetist for update.

Understanding information

Interpreting the information gathered, and to identify the match or mismatch between the situation and the expected state.

1b) Understanding information

- Act according to information gathered from investigation and operative findings.
- Reflect and discuss significance of information.
- Do not discard results that don't 'fit the picture'.

Projecting and anticipating future state

Predicting what may happen in the near future as a result of possible actions, interventions or non-intervention.

1c) Projecting and anticipating future state

- Plan operating list.
- Communicate what equipment may be required during operation.
- Have a contingency plan ('plan B').
- Cite contemporary literature on anticipated clinical event.
- Do not operate beyond level of experience.
- Overconfidence with no regard for what may go wrong is not acceptable

2) Decision Making

- Diagnosing the situation and choosing an appropriate course of action.
 1. Considering options
 2. Selecting and communicating option
 3. Implementing and reviewing decisions

Considering options

Discussing all available options to solve a problem. Weighing the threats and benefits of potential options.

2a) Considering options

- Recognise and articulate problems
- Initiate a balanced discussion of options, pros and cons with team members
- Ask for opinion of other colleagues
- Discuss published guidelines

Selecting and communicating option

Choosing a solution to a problem and letting all relevant personnel know the chosen option.

2b) Selecting and communicating option

- Select an option and clearly communicate it to other team members.
- Make provision for and communicate 'plan B'.
- Explain why contingency plan has been adopted
- Do not shut down discussion on other treatment options.
- Do not stick to what you think is best.

Implementing and reviewing decisions

Undertaking the chosen course of action and continually reviewing its suitability in light of changes in the patient's condition.

2c) Implementing and reviewing decisions

- Implement decision confidently
- Update the team on progress.
- Reconsider plan in light of changes in patient condition or when problem occurs.
- Change to 'plan B' in time if you realise 'plan A' is not working.
- Call for assistance if required.
- Do not rush due to perceived time constraints.

3) Communication and Teamwork

- Skills for working in a team to ensure that the team has a shared picture of the situation and can complete tasks effectively.
 1. Exchanging information
 2. Establishing a shared understanding
 3. Co-ordinating team activities

Exchanging information

Giving and receiving knowledge and information in a timely manner

3a) Exchanging information

- Talk about the progress of the operation/intervention.
- Listen to concerns of team members.
- Communicate that operation is not going as planned.
- Do not attempt to resolve problems alone.
- If you need help from assistant, make it clear what that assistant is expected to do.

Establishing a shared understanding

3b) Establishing a shared understanding

- Provide briefing and clarify objectives and goals before commencing operation.
- Ensure that the team understands the operative plan before starting.
- Encourage input from all members of the team.
- Ensure relevant members of team are comfortable with decisions.
- Debrief team members after operation, discussing what went well and problems that occurred.

Co-ordinating team activities

Working together with other team members to carry out cognitive and physical activities in a simultaneous, collaborative manner.

3c) Co-ordinating team activities

- Ask anaesthetist if it is OK to start operation.
- Proceed with operation after ensuring that equipments and team members are ready.
- Stop operating when asked to by anaesthetist or scrub nurse

4)Leadership

- Leading the team and providing direction, demonstrating high standards of clinical practice and care, and being considerate about the needs of individual team members.
1. Setting and maintaining standards
 2. Supporting others
 3. Coping with pressure

Setting and maintaining standards

Supporting safety and quality by adhering to acceptable principles of surgery, following codes of good clinical practice, and following theatre protocols.

4a)Setting and maintaining standards

- Introduce your self to new or unfamiliar members of the theatre team.
- Clearly follow theatre protocol.
- Ensure that all team members observe standards (e.g. sterile field).
- Do not show disrespect to the patient.

Supporting others

Providing cognitive and emotional help to team members.
Judging different team members' abilities and tailoring one's style of leadership accordingly.

4b) Supporting others

- Modify behaviour according to trainee needs.
- Provide constructive criticism to team members.
- Never show hostility to other team members (e.g. making sarcastic comments to juniors/ nurses)
- Ensure delegation of tasks is appropriate.
- Establish rapport with team members.
- Give credit for tasks performed well.

Coping with pressure

Retaining a calm demeanour and emphasising to the team that things are under control in a high-pressure situation.

4c) Coping with pressure

- Remain calm under pressure.
- Do not 'Freeze' but make appropriate decision under pressure.
- Take responsibility for the patient in emergency/ crisis situation
- Do not blame everyone else for errors.
- Do not lose temper.

Conclusion

- Modern surgical practice requires technical and non-technical skills, evidence based practice, an emphasis on life long learning and monitoring of outcomes.
- Research is now focussed on the mechanism by which lack of NTS causes patient harm.
- Being a good surgeon is more than just being a “good pair of hands”

Professionalism and personal values

- Integrity, respect for patient autonomy and choice, patient centred and compassionate care.
- Hamlin et al found that patients viewed respect for autonomy and communication skills as more important than technical skills.
- Surgeons should offer care that is patient centred and holistic rather than being disease focussed.

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