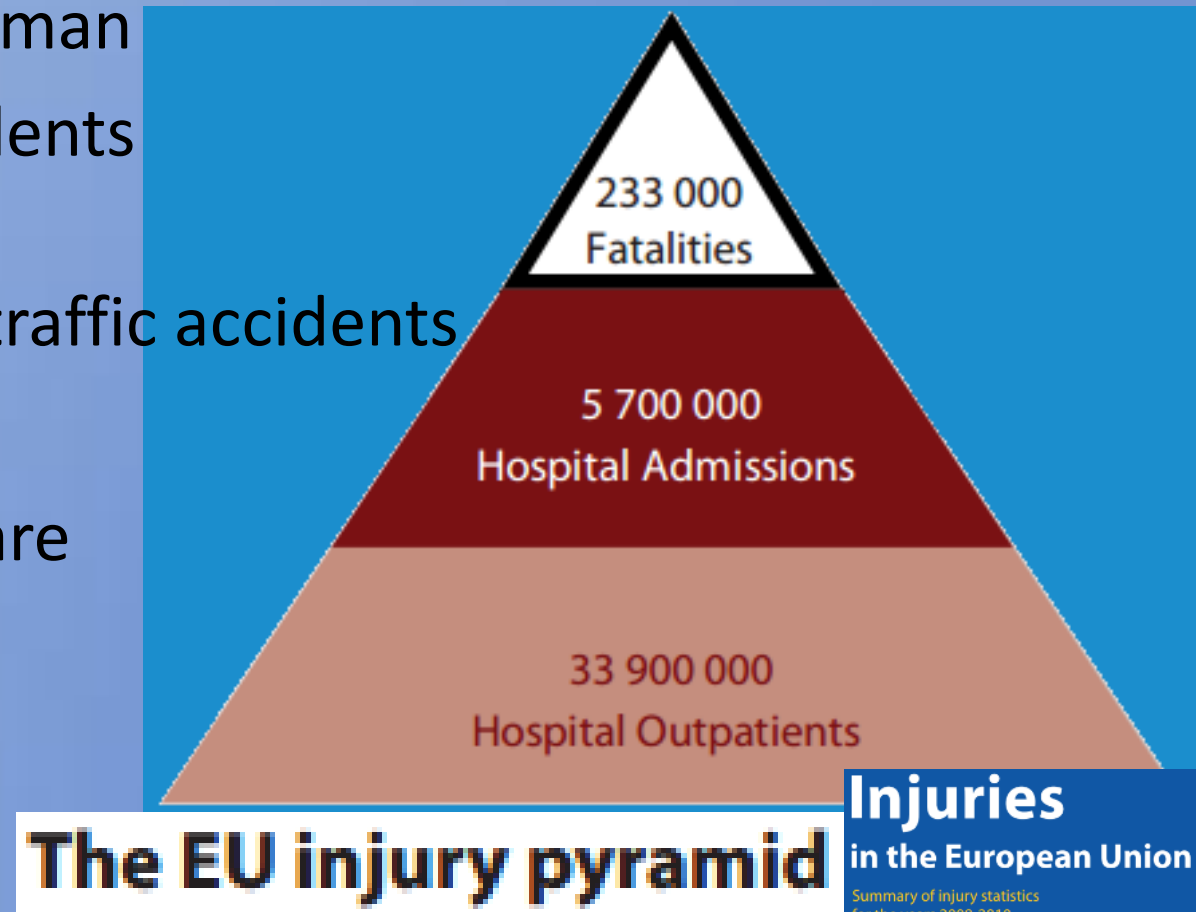


How does CPD support multi-professional team-based care? An example from Finland.

Juhapetteri Jääskeläinen, Master of Health Care,
Deputy Nurse Manager, Helsinki Burn Center

Basics for Trauma care

- Trauma is a leading death cause in western countries for working age people
- Finnish trauma patient is a middle aged man
- Biggest reason for injury are traffic accidents
 - then falling and work related accidents
- The most severe injuries are a result of traffic accidents
- 80 % of deaths is caused by brain injury
- Summer is the busiest time in trauma care



Object of care

- Aim in traumacare – improve patient care quality
 - Reduce mortality
 - Mitigate injuries
 - Efficient use of resources

Problems in trauma care – starting point (2001)

- Quality of treatment and available resources dependent on
 - Time of the day
 - Day of the week
 - Members of the team
- No uniform practise
- -> **Not acceptable! Too many variables**
- AIM:
 - Provide high quality treatment for traumapatients 24 / 7 / 365

Solution

- Trauma protocol & trauma team
 - Improves quality of treatment
 - Reduces possibilities of conflicts
 - Guarantees that what needs to be done is done
 - Improves the spirit of the workplace

Trauma teams carrying out allocated tasks simultaneously have quickest resuscitation times

Re-organising teams to do this reduced resuscitation time from 122 to 56 minutes

Driscoll & Vincent, 1992, Injury, 23:107-110

Airway was secured and intravenous access provided to all trauma activation patients by trauma team, but only to 75 % and 82% by non-trauma teams

Lomas & Goodall, 1994, Accid Emerg Nurs, 2:205-210

Trauma team improved the mortality despite the same availability of resources the effect was 6-16 more survivors on 100 patients

Petrie et al., 1996, J Trauma, 41:870-875

Trauma team allows an horizontal approach – examinations and procedures can be carried out simultaneously

Traumaprotocol

- Handbook for the traumateam
- Instruction how to treat severely injured patient
- Defines leadership and different roles in the team

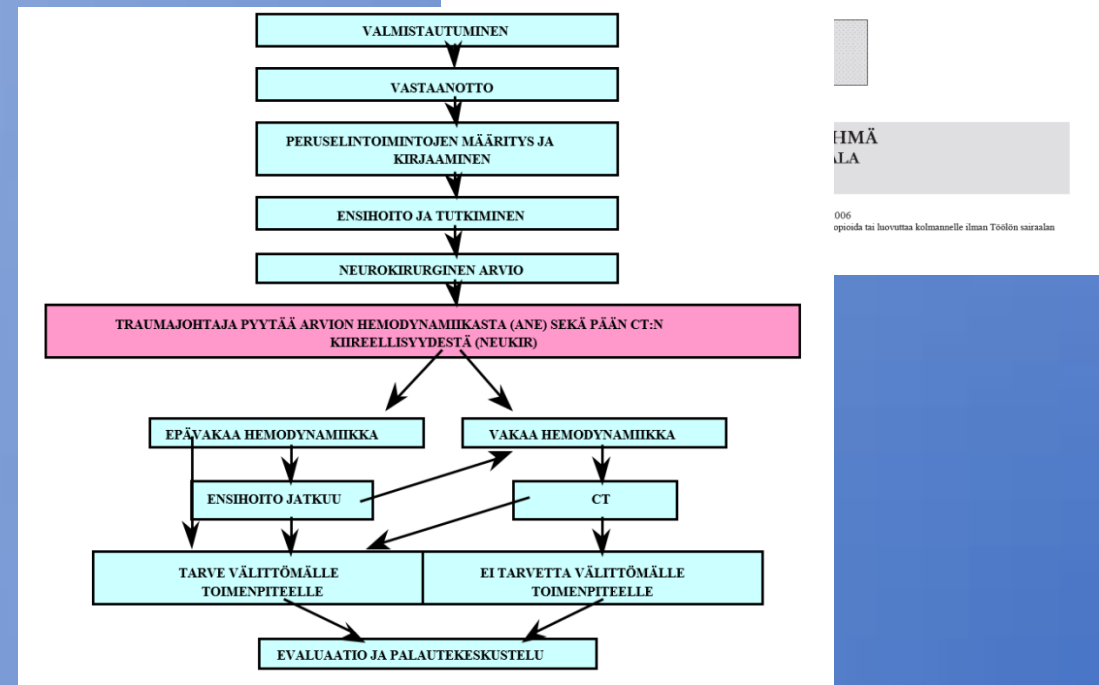
How is a team of professionals transformed into a professional team?



HYKS
TÖÖLÖN SAIRAALA

TRAUMA- TOIMINTAOHJE

Vaikeasti vammautuneen potilaan
ensihoito ja diagnostiikka Töölön sairaalan
tapaturma-aseamalla



Traumateam members

- Traumaleader – Orthopaedics and Traumatology doctor
- Anaesthesiology doctor
- Traumanurse
- Anesthesia nurse
- Surgical nurse
- Radiology doctor
- Radiographer x 2
- Medical Laboratory Technologist x 2
- Neurosurgeon if needed

- Altogether 10 – 11 professionals
- Multiprofessional team

Pre-hospital notification

- Who / what unit is transporting
- Number of patients
- Mechanism of injury
 - what has happened
- Found and suspected injuries
- Vital signs (airway, breathing, circulation, disability)
- Identity of the patient
- Problems during the transport
- Estimated time of arrival to Töölö ER

Trauma Team Activation

- Based on the pre-hospital notification the Trauma nurse makes the decision to activate the trauma team
- Criteria:
 - Patient has
 - Airway or breathing problems
 - Unstable hemodynamics or suspected major bleeding
 - Severe head injury
 - Severe injuries
 - Patient is transported by emergency doctor
 - Patient has been in a high energy accident

Primary survey

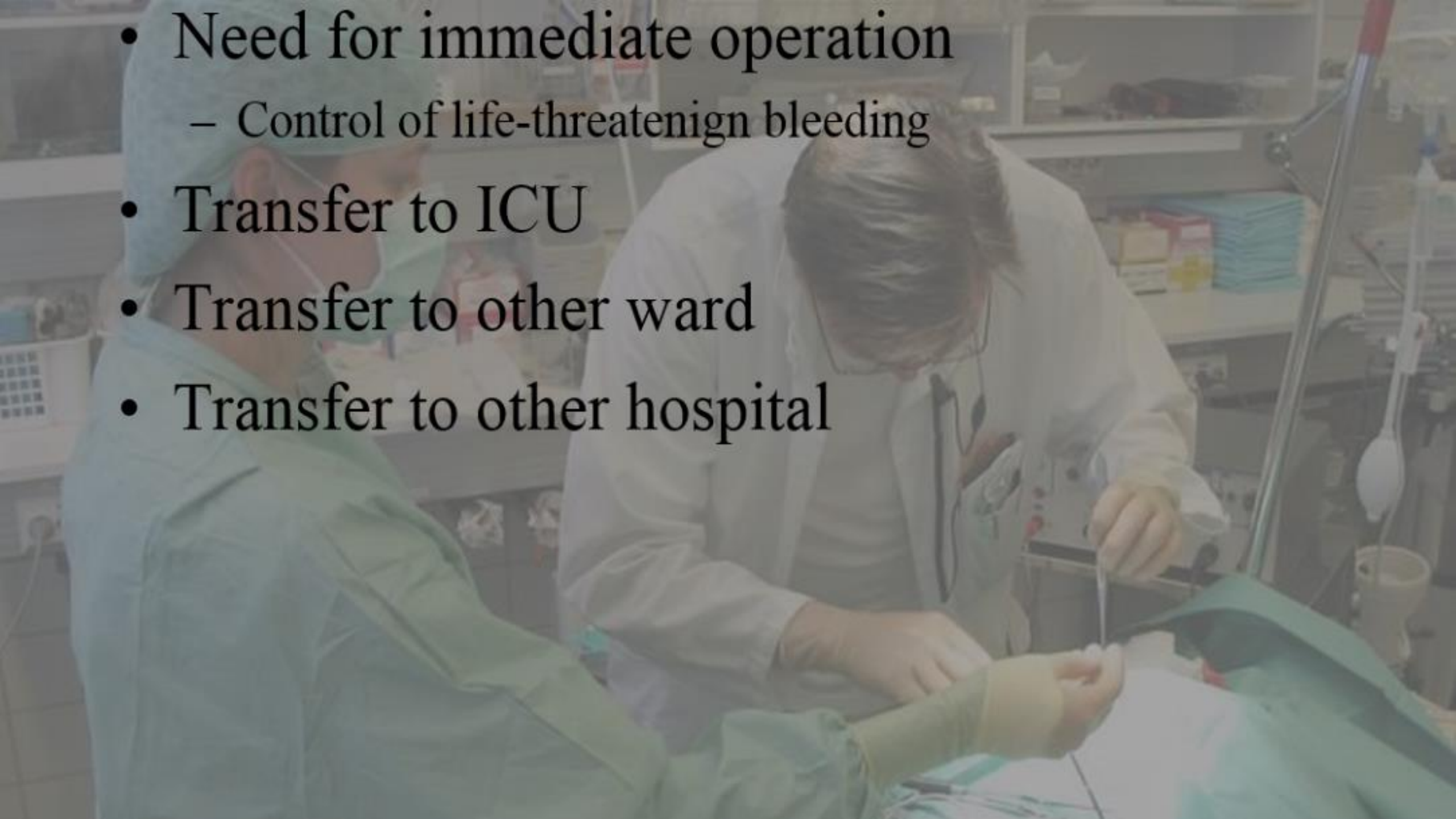
- Five second round!
- Finding and treating life threatening injuries!
- Airway
- Breathing
- Circulation
- Pre-Hospital report from the EMS crew

Secondary survey

- A = Airway & cervical spine control
- B = Breathing
- C = Circulation
- D = Disability
 - Glasgow Coma Scale
- E = Exposure & environmental control

Secondary survey – surgical procedures – imaging

- Need for immediate operation
 - Control of life-threatening bleeding
- Transfer to ICU
- Transfer to other ward
- Transfer to other hospital



Trauma resuscitation challenges

TABLE 3. Types of Errors

- Task execution errors: In surgery, this could include technical slips and psychomotor errors (eg, bowel injury during laparotomy), and judgment or perceptual errors causing a technical error such as laparoscopic bile duct injury.
- Procedural errors: Errors involving deviation from existing practice pattern or protocol (eg, failure to administer preoperative antibiotics for a bowel case).
- **Communication errors:** Communication of incorrect data, failure to communicate important data, delayed communication of critical data, etc.
- **Decision errors:** Errors in judgment related to patient management.
- Intentional noncompliance.



TABLE 6. Examples of Potential Problems (Failures) in Team Dynamics: Trauma Resuscitations and the Operating Room

Error in patient management due to incomplete information (failure to maintain situational awareness)

~~Incomplete history or physical examination [resuscitation]~~

Inadequate patient physiological monitoring (eg, arterial, CVP lines) [resuscitation, OR]

Inadequate patient laboratory monitoring (eg, coagulation parameters, hematocrit, base deficit, ABGs) [resuscitation, OR]

Failure to recognize ongoing blood loss [resuscitation, OR]

Failure to recognize worsening hypothermia, acidosis, or coagulopathy [OR]

Failure to maintain uninterrupted supply of blood and blood products [OR]

Errors in communication

~~Clinical findings clear to team~~ [resuscitation team leader]

Overall management plan [resuscitation team leader]

Expectations, danger points of anticipated procedure [resuscitation, OR]

Significant changes in patient's physiological status (hypotension, hypoxia etc.) [resuscitation, OR]



Continuing Professional Development in traumateam

- Culture of the Töölö hospital
- Has taken years to develop and work of several dedicated professionals
- Individual training
- Small-group teaching and discussions
- Lectures – ward training days – trauma courses
- Full scale simulations
- Debriefing – traumameetings

Individual training

- Ongoing individual orientation based on former experience
 - Can take from weeks to years
- Learning at work
 - Personal mentoring – apprentice – mentor

Small-group teaching and discussions

- Slow morning time is used to teach small-groups
 - Systematic evaluation of trauma patient and vital signs (A B C D E)
 - Monitors and equipment
 - Procedures
 - Non-technical skills
 - Communication
 - Multi-casualty incidents

Lectures – ward training days – trauma courses

- Ward training days
 - Twice a year – two training days
 - Lectures
 - Small-group teaching
- National conferences
 - Participants from different parts of Finland
 - Lectures and workshops
- National trauma courses
 - For doctors and advanced doctors

Full scale simulations

- Whole team practises in real-life conditions
 - Realistic mannekin



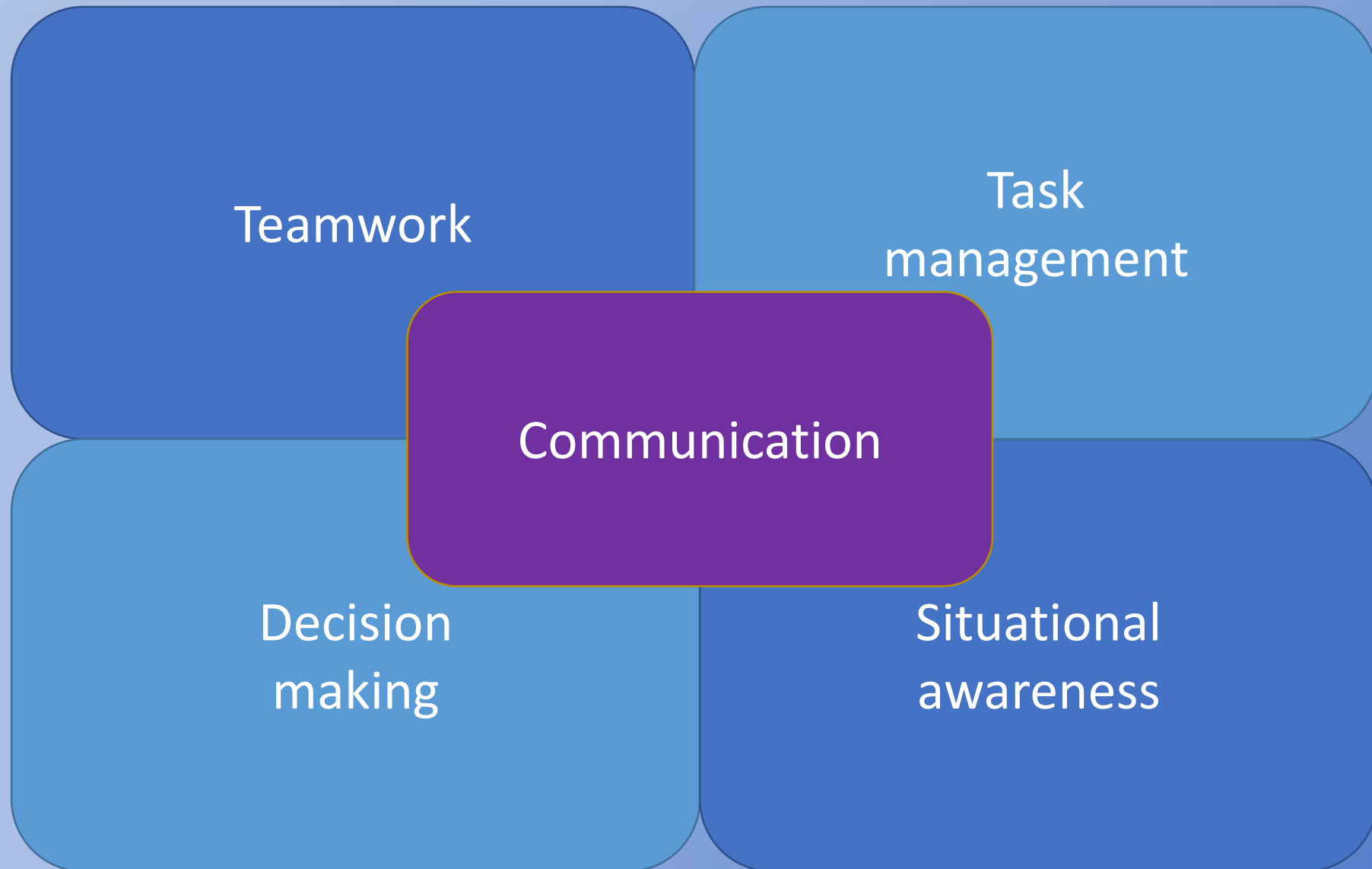
Debriefing - traumameetings

- Debriefing after Trauma Team Activations
 - what we did right?
 - what could've been done better?
 - is there any concerns?
- Traumameetings
 - Retrospective analysis of interesting patient-cases
 - Multi-ward, multiprofessional

- Technical skills – procedures etc are fairly easy to master
- Non-technical-skills – organizing the team is difficult!



Non-technical skills & communication



Conclusions

- Training and learning matters
 - Technical and non-technical skills improve
 - Patient safety increases