



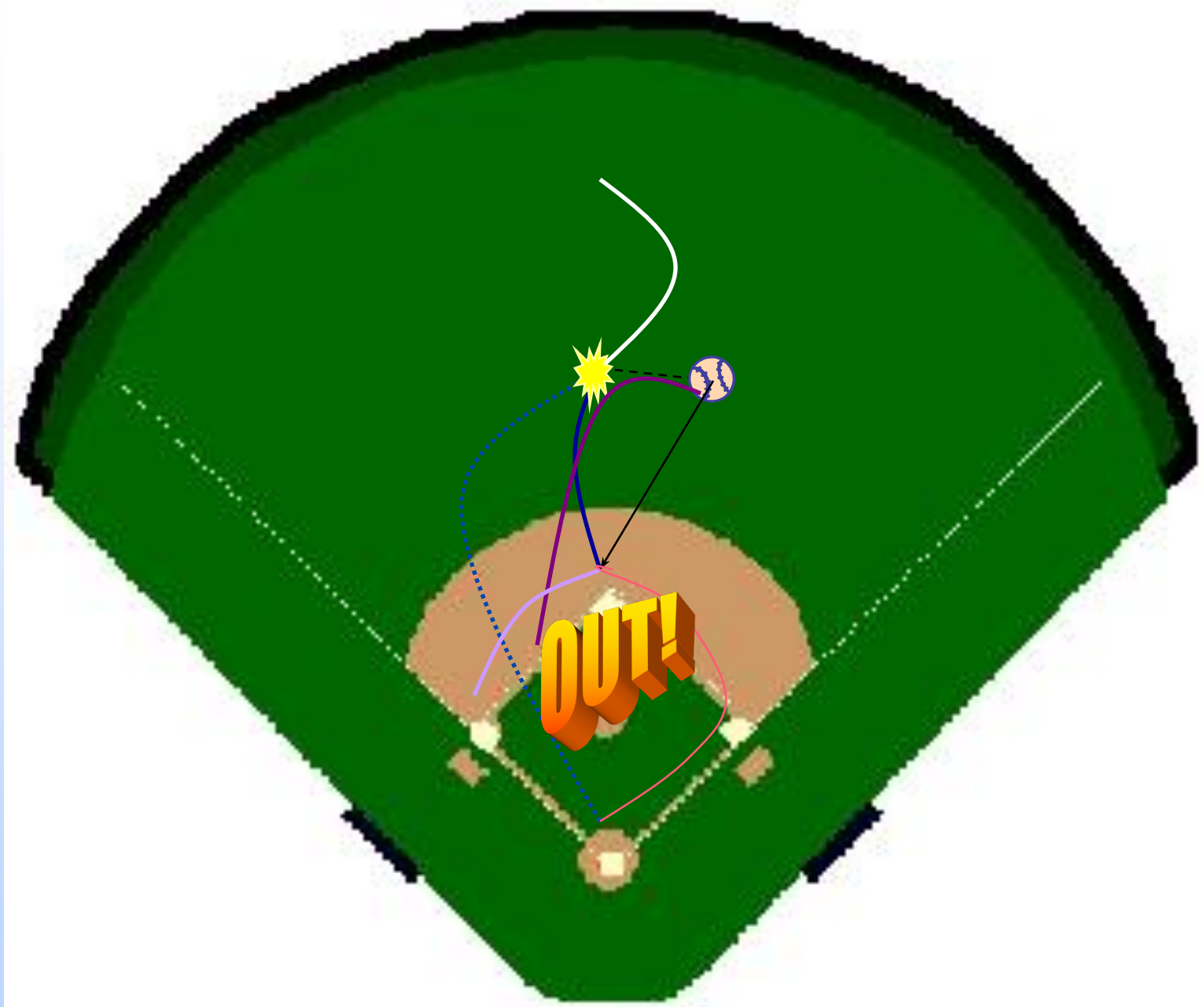
April 2019

Teams and Crew Resource Management

Laurence C. Torsher, MD

Department of Anesthesiology and Perioperative Medicine
Mayo Clinic
Rochester, MN 55905

Torsher.laurence@mayo.edu





Work Groups in industry

Software design

Finance &
Administration

Production

Hardware design

Sales & Marketing



Work Groups

- Each subgroup solves a *part of* the whole problem
- Expertise within the subgroup
- Little cross-training across subgroups
- Know people in your subgroup
- Information is shared across subgroups on a need-to-know basis
- Communication between groups is formal

Work groups work well when the problem is complex, the process is well defined, and rapid changes in the problem are few.



Special Forces Team





Team -1

- Role clarity
 - clearly defined a priori
 - leader articulates goals and roles in advance and whenever the situation changes
 - contingencies for changes in roles are planned for - cross-training
 - leader does not carry an equal share of tasks but maintains an overview of the mission & functions as communication center



Team 2

- Communication is centralized
 - all findings, problems, decisions are communicated through the mission leader
 - communication is explicit and directed
 - “call-backs”





Team - 3

- Personnel use is optimized
 - call for help when necessary
 - members can “cover” for one another because of cross-training
- Resources are used efficiently
 - anticipate problems and have resources available
 - creative solutions to resource limitations are encouraged,
- Reassess, reassess, reassess the mission
 - avoid fixation, indecision, vagabonding



How do they do it?

- Practice, practice, practice
 - both partial tasks and full mission
- Team briefing before starting any mission
 - everyone participates and is empowered to ask questions, provide input, contribute ideas
- Debrief after every mission, even drills
- Celebrate successes, as well as failures

Teams excel when tasks are unpredictable, resources are uncertain, and goals are changing



Which model do we fit in the operating room?





What can we learn?

What should we emulate?

How do we integrate it into practice?



Briefing

- Do this everyday
- Discuss with the whole team, not just your own subgroup: surgeons, anesthesia, nursing, techs
 - Introductions
 - Case type and needs
 - Special needs from each group-bleeding, vascular access, special procedures, ICU postop





Debriefing at end of case

- Debrief even with routine or successful cases
- Debrief immediately at the end of case
 - What went well
 - What will we do differently



Role Clarity

- Establish & maintain clear responsibilities of team members
- How are roles “reassigned” if changes occur
- If one member is overloaded how do roles shift?
- Does role clarity hold up under challenge





Communication

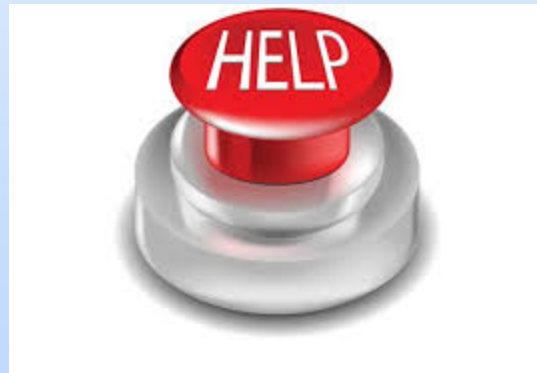
- Does the team share information in an efficient & reliable manner?
- Is communication directed, or into “thin air”
- Are call-backs used?





Support

- Do you call for help when necessary
- Role clarity
- Are team members given the information and resources to fulfill their role





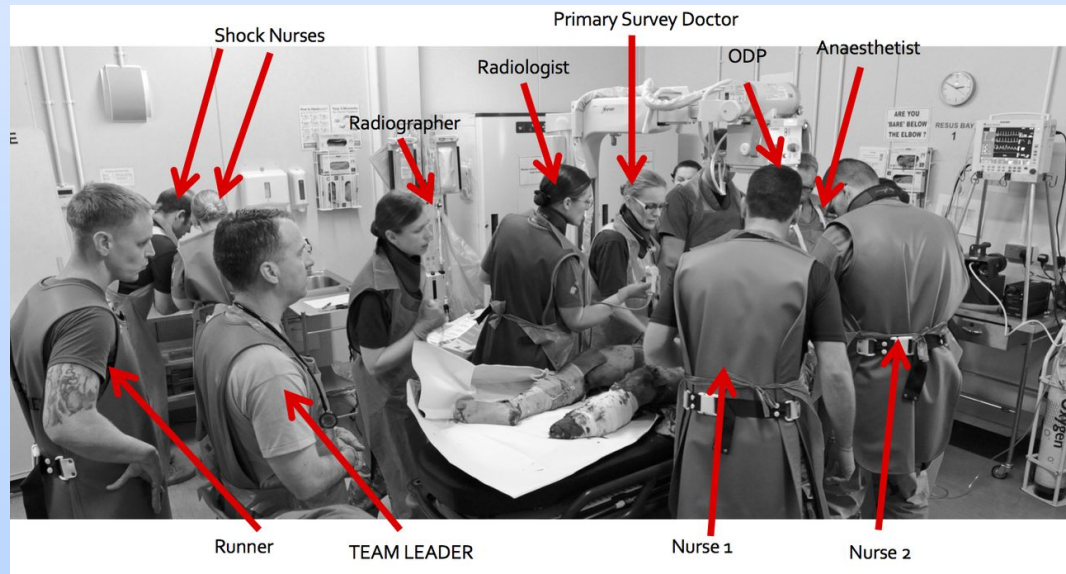
Resources

- Do you anticipate resource needs
- Do you utilize the people and tools around you
- Can you come up with creative solutions to resource shortcomings



Global Assessment

- Maintain *situational awareness*
- Leader must survey, act as communication center, and not become distracted by a single task.
- Are verbal reviews occurring: what has happened until now, what data has been collected, what is the plan, how is the plan progressing





Teamwork routines

- Practice
- Briefing
- Debriefing
- Celebrate





Teamwork Skills

- Role clarity
- Effective communication
- Optimize support
- Effective resource utilization
- Maintain a global view

<https://youtu.be/0NRJ7LjL1YU>