First Edition

ABC’s of Team Leadership
Emergency Medicine

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ABC’s of Team Leadership in Emergency Medicine: A Literature Review and Novel Curriculum

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Introduction

Emergency Medicine (EM) residents care for patients with a wide spectrum of diseases of varying acuity during their Emergency Department (ED) clinical shifts. During their 3-4 year training, residents progressively get more responsibility for managing the most critical patients in the ED\(^1\). As they travel along this progression and meet milestones to become more senior EM residents, they lead both medical and pediatric trauma and code teams\(^1\). The Residency Review Committee for Emergency Medicine states that ‘each resident must have sufficient opportunities to...direct major resuscitations of all types on all age groups’\(^1\). The 2008 Academic Emergency Medicine Consensus Conference on ‘The Science of Simulation in Healthcare: Defining and Developing Clinical Expertise’ had a workshop group dedicated to ‘Developing Expert Medical Teams: Towards an Evidence-based Approach’\(^9\). Part of their recommendations focused on further work in six key areas, one of which was ‘leadership training for emergency physicians’\(^9\).

Based on discussions with program directors in EM residencies, there is great variability from program to program in how they prepare residents for the role as “team leader”. Some programs may have minimal curriculum time dedicated to learning about team leadership skills (TLS), and minimal or no practice opportunities for the residents with simulation cases. Without a dedicated TLS curriculum, most of resident education in this area comes from observation of other residents or faculty performing the team leadership role coupled with their own unique experiences as the team leader (“see some, do some” model). Some programs have dedicated curriculum time to team leadership knowledge and skills, coupled with 1-2 years of practicing those skills via simulation, and then ultimately assuming the role of team leader as a senior resident. For the programs with some formal team leadership curriculum, the team leadership education is embedded within a more comprehensive teamwork and communication course (ex: TeamSTEPPS®, MedTEAMS®, or Emergency Medicine Crisis Resource Management) that may have just a small section dedicated specifically to team leadership. We sought to design a focused TLS curriculum with dedicated feedback for residents leading both simulated and in-situ resuscitations; thus, we reviewed the medical and non-medical literature on team leadership and applied the lessons to the development of a team leadership curriculum specific to EM.
In order to learn more about current education for EM residents on team leading, a PubMed search was performed in June 2010. At that time there were no papers from the past 20 years with the keywords ‘Emergency Medicine’ and ‘Team Leader’ or ‘Team Leadership’ found. Given this finding, we also reviewed some of the larger, more popular medical ‘teamwork’ courses to glean key teaching points from those courses that focus specifically on team leadership and leadership knowledge and skill.

In addition to the medical literature, we searched aviation, business, and U.S. Army literature to learn more about best practices in other high stakes fields. The following are summaries of the major areas we researched.

**Teamwork Courses:**

**Airline Crew Resource Management:**

Airline Crew Resource Management was created to address the concern that many aviation accidents were not related to mechanical failures, but were due to human error. Crew Resource Management originated from a NASA workshop in 1979 that focused on the issue of human error with airline accidents. Non-technical factors involved in some crashes include crew fatigue, crew status differential, lack of assertiveness, communication issues, leadership problems, and non-compliance with standard operating procedures. In addition to the Crew Resource Management curriculum, simulation and practice of the Crew Resource Management principles were started. Together they seem successful as there are numerous studies showing reduction in accidents after implementing Crew Resource Management training, and the Federal Aviation Administration now requires Crew Resource Management training for pilots and flight attendants. Specific to the Crew Resource Management curriculum, part of the module on ‘communication and management’ focuses on leadership and managerial skills. Specific leadership skills listed include (1) use of authority and assertiveness, (2) providing and maintaining standards, and (3) planning and coordination.

**Medical Crisis Resource Management:**

Based on the success in the aviation industry with Crew Resource Management, medical groups developed and practiced Crisis Resource Management (CRM). In 1992, Howard, Gaba, and colleagues created the first medical version of this course,
called Anesthesia Crisis Resource Management. Since that time many other fields in medicine have adapted their own version of this course with slight modifications for their specialty, such as Emergency Medicine CRM, Obstetrics CRM, Critical Care CRM, and Pediatric CRM to name a few. CRM takes some of the principles of Crew Resource Management and translates them into the medical world. Skills taught during a medical CRM course include: role clarity, communication, support, resource utilization, and global assessment. Most of these skills are taught as ‘team’ skills that all members of the team should learn and be aware of. Although not created to be primarily a team leadership course, there are elements of all of the CRM skills that can be specifically focused for team leadership training.

TeamSTEPPS®:

TeamSTEPPS is a teamwork system for healthcare providers that has been developed by the Department of Defense’s Patient Safety Program in collaboration with the Agency for Healthcare Research and Quality. This program focuses on teamwork skills and communication for healthcare professionals based on research and lessons from the application of teamwork principles. Many hospital systems have implemented formal TeamSTEPPS training for all hospital employees, while other groups such as EM residencies have used TeamSTEPPS to teach to a focused audience such as EM residents. The TeamSTEPPS website has many free resources available that detail the program and ways to implement it at individual facilities. Key principles of TeamSTEPPS are: team structure, and then the four teachable-learnable skills of leadership, situation monitoring, mutual support, and communication. Under the leadership section there is mention of traits of effective team leaders, and they are:

1. organize the team,
2. articulate clear goals,
3. make decisions through collective input of members,
4. empower members to speak up and challenge when appropriate,
5. actively promote and facilitate good teamwork,
6. be skillful at conflict resolution.

MedTEAMS®:

MedTEAMS is a broad teamwork curriculum, created by Dynamics Research Corporation through funding by the Army Research Laboratory, based on human factors and Crew Resource Management principles. The primary objective of MedTEAMS is to improve patient care through teamwork. Five team dimensions form the foundation of the MedTEAMS Emergency Team Coordination Course: (1) maintain team structure and climate, (2) plan and problem solve, (3) communicate with the team, (4) manage workload, and (5) improve team skills.
Although this is a broad teamwork course, there are focused areas dedicated to the team leader. MedTEAMS teaches that effective team leaders: organize the team, articulate clear goals, make decisions with input from others, openly encourage questions regarding patient care and safety, and actively promote and facilitate good teamwork.

Courses incorporating teamwork principles

Advanced Cardiac Life Support (ACLS):

As part of the Advanced Cardiovascular Life Support curriculum, there is a section titled ‘Roles of the Team Leader and Team Members’. In this section, the roles of the team leader are defined as: (1) organizes the group, (2) monitors individual performance of team members, (3) backs up team members, (4) models excellent team behavior, (5) trains and coaches, (6) facilitates understanding, and (7) focuses on comprehensive patient care. Elements of effective resuscitation team dynamics that the team leader should model include: (1) closed-loop communications, (2) clear messages (concise communication spoken with distinctive speech in a controlled tone of voice), (3) clear roles and responsibilities, (4) knowing one’s limitations, (5) knowledge sharing, (6) constructive intervention, (7) reevaluation and summarizing, and (7) mutual respect. Finally, debriefing after a case is encouraged in order to ‘…facilitate analysis, critique, and practice in preparation for the next resuscitation attempt’.

Pediatric Advanced Life Support (PALS):

Like ACLS, PALS has a section focusing on resuscitation teamwork entitled ‘Resuscitation Team Concept’. Here, the responsibilities of the team leader are defined as: directs the resuscitation, monitors performance of tasks, and models excellent team behavior. Some of the team behaviors highlighted include: (1) closed-loop communication, (2) clear messages, (3) knowledge sharing, (4) constructive intervention, (5) reevaluation and summarizing, and (6) mutual respect. For a team assembled with many members, the location of the team leader is recommended to be at the foot of the bed.

Advanced Trauma Life Support (ATLS):

In the 8th Edition of the Advanced Trauma Life Support (ATLS) For Doctors Manual, there is no specific section on teamwork or team leadership. The manual does however emphasize the importance of preparation prior to the arrival of the critically ill trauma victim in both the pre-hospital phase as well as the hospital phase. One important step in the pre-hospital phase involves communication from the EMS providers to the receiving...
hospital to allow the hospital time to mobilize the appropriate personnel and equipment. The hospital phase of preparation emphasizes preparing the room and preparing the team with personal protective equipment.

Other Medical Field Literature

One final area that we searched was team leadership in other medical specialties. An interesting study of internal medicine residents in Canada revealed that 49.3% felt unprepared to lead cardiac arrest teams, and only 1.3% of them received any specific feedback on their team leadership abilities. This may show that the gap in team leadership training exists in many fields of medicine, and that residents in internal medicine did not feel they received specific feedback on their team leadership abilities.

Business courses on leadership skills:

A brief review of many business references for leadership was performed, but most were not felt to have specific areas that would translate well to medical TLS. One course that did seem to have some applicability to our project was from the Harvard School of Public Health and The Kennedy School of Government. They have recently established a course on leadership in crisis, or meta-leadership, which they have distilled into 5 dimensions: (1) The person—In crisis situations, leaders need emotional intelligence, self-awareness, and self-regulation. (2) The situation—Usually leaders are given incomplete information about a large, complex problem, and they must filter through a range of options for possible solutions and clearly articulate them. (3) Leading your silo—Good leaders inspire subordinates to excellence. (4) Leading up—Using effective communication, leaders can use “truth-to-power” discussions to lead their own bosses. (5) Leading across—Connect effectively with other key leaders in different agencies. The Meta-Leadership practice method and framework has been developed by faculty at the National Preparedness Leadership Institute after extensive research on and observation of leaders in high-stress, high-stakes situations. It is designed to help individuals be equipped to act and direct others in emergency situations. Meta-leadership is currently being used by leaders in the fields of public health, emergency preparedness and response, and homeland security.

U.S. Army leadership skills:
When considering high-stakes fields, few compare to the situations that military teams and leaders are faced with during combat situations. To prepare Army leaders, the U.S. Army Leadership Field Manual notes that leader development is based on the concepts of BE, KNOW, DO, i.e. character, competence, and action. “Army leadership begins with what the leader must BE: the leader’s character—the values and attributes that shape a leader’s character. The second part of Army leadership is KNOW—skills—competence in everything: interpersonal skills, conceptual skills, technical and tactical skills. The third part is DO—you cannot be a leader until you apply what you know, until you act and do.” Other areas stressed in defining military leadership are influence, operating, and improving. Leaders influence others with every action they take, and they must communicate purpose, direction, and motivation. Effective leaders should strive to create an environment of trust. Excellence in leadership does not mean perfection—it is acceptable for leaders and their teams to make mistakes and good leaders learn from their mistakes and allow their teams room to learn from their mistakes as well as their successes.

One key part of what a leader must BE is to be respected. Major General John M. Schofield said, “It is possible to impart instruction and to give commands in such a manner and such a tone of voice to inspire in the soldier no feeling but intense desire to obey, while the opposite manner and tone of voice cannot fail to excite strong resentment and a desire to disobey.” It is stated that ‘leadership is not a natural trait…but is a skill that can be studied, learned, and perfected by practice.’ Good leaders should display the emotions they want their people to display.

Skills an Army Leader must KNOW include interpersonal, conceptual, technical, and tactical, and competence in these areas results from hard, realistic training. For direct leadership, interpersonal skills are the most important skill that a leader must know. Two of the important interpersonal skills are communicating and supervising. Communicating is the most important interpersonal skill, and this involves talking (transmitting information so that it is clearly understood) and listening. Supervising focuses on checking on the team and their tasks to minimize the chance of oversights or mistakes.

Once prepared, a leader must act or DO: influence through interpersonal skills to guide others towards a goal, operate by planning and preparing, executing and assessing, and improve to leave their organization better than they found it. When communicating with their team, leaders must try to inform their team members about decisions made in order to show the indi-
viduals that they are valued members of the team. In order to ensure that a clear message has been received by a team member, it is a good idea to ask for a back brief or call back to close the communication loop.

Other areas of focus in Army Leadership training include the human dimension of leadership. Morale is noted to come from good leadership, shared hardship, and mutual respect, resulting in a cohesive team that enthusiastically strives to achieve common goals. Specific to training of teams, leaders must induce stress into training to prepare their teams for stress in actual situations. Practice or rehearsal is an important part of preparation as it gives the team a chance to practice teamwork skills and consequently builds confidence.

Leaders must always be themselves, but depending on the situation there are five different types of leadership styles that they can use: directing, participating, delegating, transformational, and transactional. Two of the leadership styles that may apply more to medical teams and team leaders are the directing leadership style and the participating leadership style. The directing leadership style is leader centered, and this style is most appropriate when leaders are running out of time. With this style, the leader does not ask for input from team members, and gives detailed instructions and then supervises their execution very closely. Although this style is leader centered, it does not include abusive or demeaning language. Slightly different than the directing leadership style is the participating leadership style. This style centers on both the leader and the team, and is appropriate to use when there is sufficient time and/or when dealing with experienced team members. The leader asks their team for input and recommendations, empowering the team and giving them incentive to make their plan work—although ultimately the final decision is made by the leader who is responsible for the decisions and plans.
Despite the varied areas of application, many common themes arose in our literature review. We applied common themes from the above literature review to our experience to develop an EM-specific team leadership curriculum for faculty and residents to use when discussing team leadership in simulated and real resuscitations, which we call “The ABC’s of Team Leadership in Emergency Medicine” (Figure 1). We used the ABC’s as this was a familiar mnemonic to residents, and the letters corresponded to the key concepts and order for the team leading principles.

We incorporated the ABC’s into our curriculum through lecture and small group sessions involving simulated resuscitations. After multiple observations and iterations, we developed a simple tool for helping residents reflect on and self-evaluate team leadership skills after a single real or simulated resuscitation (Figure 2). This tool was also designed to assist EM faculty and nursing staff in delivering real-time, specific feedback on team leadership. The specific language of the ABC’s (Figure 1) was printed on the back of the two-sided form for reference. The resident completes the form as soon as possible after the resuscitation and briefly discusses the case and the form with the faculty. Nursing staff (often a charge nurse watching the resuscitation or a nurse documenting the resuscitation) add comments on the form and give verbal feedback to the resident as well. Faculty members are asked to do a global rating of resident performance at the bottom of the form. We chose a single global assessment of performance (instead of multiple data points) based on a review of CRM teamwork assessment tools that show that the global score is just as accurate as a more detailed scoring system, with users preferring a global rating as opposed to a more detailed specific checklist of performance. The completed form is turned in to the residency coordinator to be uploaded as a PDF to be kept in the resident’s file and shared with key residency personnel and the resident.

The form was trialed in our ED and improved based on feedback received. A survey from residents and faculty showed that 100% of the users felt the form was helpful in giving residents specific feedback about their team leadership performance, 100% of the users felt it was realistic to have the resident fill out the form either during the shift or just after the shift, and 100%
of the users felt the form was user friendly. Some specific comments from the survey were “excellent reflective practice”, “I feel that going over team leading, especially early on in the transition has been beneficial for my learning and has helped modify my approach to both trauma and medical team leads”, and “idea is great, form worked well, total time it took to fill out the form and give feedback was less than I expected it to be! I think it’s an excellent addition to any EM residency to give residents focused feedback on team leadership”. The current version includes all of the recommendations we received regarding the configuration and flow of the feedback form.
Figure 1: The ABC’s of Team Leadership in Emergency Medicine

ASSEMBLE:
- Prepare yourself:
  - Personal precautions (gown, gloves, mask)
  - Mental aids if needed (ACLS, ATLS, PALS electronic or paper algorithms)
- Prepare your team:
  - Organize the team with clear roles
  - If possible, inform team members about any knowledge available about the case prior to the patient’s arrival in the ED
  - Articulate goals and first steps for team members
- Consider any special steps needed to prepare for the incoming case (e.g.; blood products, supplies, consultants)

BE AN EFFECTIVE LEADER:
- set a positive tone
- choose an appropriate leadership style (directing versus participating)
- maintain a global assessment while supervising and prioritizing activities
- invite the ideas and input of your team, use that input
- periodically reassess team structure and roles
- use resources wisely
- obtain support when needed (equipment, consultants)
- resolve or diffuse conflict

COMMUNICATE:
- direct
- clear
- closed loop communication
- effectively control room volume
- use positive tone
- periodically review plan with the entire team
- listen to team members

DEBRIEF:
- create environment where reviewing a critical case is the norm, even if only briefly
- review what went well and areas for improvement

Figure 2: Evaluation Form Front

ABC’s of Team Leadership
Evaluation Form

Resident: Date:

Faculty: Feedback given to resident: Yes / No

Resuscitation Type: Adult / Pediatric Medical / Trauma Location: ED / SIM

ASSEMBLE:
Were you prepared? Yes No
Was your team prepared? Yes No

Comments:

BE AN EFFECTIVE LEADER:
Were you an effective leader? Yes No

Comments:

COMMUNICATE:
Overall, did you communicate well with your team? Yes No
Did you use direct, clear, closed-loop communication? Yes No
Did you periodically review the plan with the entire team? Yes No

Comments:

DEBRIEF:
Did you do a quick debriefing of the case with your staff, team, or key personnel? Yes No

Overall, what went well:
Areas for improvement:

Global rating score: 1 2 3 4 5
(below expectations competent exceeds expectations)

Nursing feedback:
Summary

Given the need for Emergency Medicine residents to receive training in team leadership and the gap we found in the Emergency Medicine literature, we reviewed the pertinent literature from medical, business, aviation and U.S. Army sources to assist in the development of a novel Emergency Medicine-specific team leadership curriculum. We incorporated this curriculum into didactic sessions, small group simulation cases and ED practice. We also are successfully using this rubric to improve resident self-reflective and faculty feedback on team leadership skills vital to the successful practice of Emergency Medicine.

Any questions about our work or for more information on our team leadership project, contact us at:

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2. AHRQ TeamStepps Website. Available at: http://teamstepps.ahrq.gov/


4. Advanced Trauma Life Support For Doctors. American College of Surgeons, Committee on Trauma. Chicago, IL, 2008.


