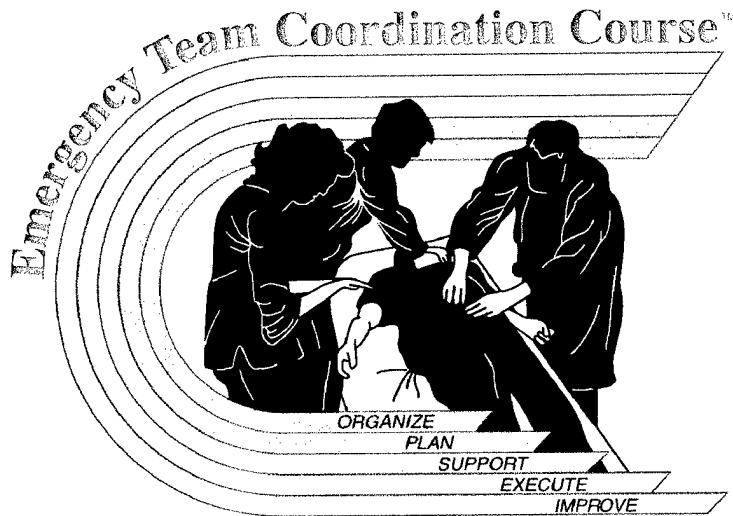


# *Team Performance in Emergency Medicine (MedTeams)*



1997

Draft 3

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## Instructor Guide

# 19980226 013



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# Foreword

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The Emergency Team Coordination Course™ is a spin-off from a highly successful research program executed for the United States Army Aviation Command. It is envisioned that this will be a dual-use program with both military and civilian benefits.

The seed for the research project came from an analysis of US Army aviation mishaps over the period of 1984-89. During this period, crew coordination errors accounted for 147 fatalities and \$292,000,000 in aircraft damage. The analysis also revealed that crew coordination mishaps mostly involved fully qualified, highly experienced crews. From this analysis, researchers organized frequently occurring errors into categories such as: lack of assertiveness by junior ranking or less experienced team members; failure of team members to request critical information and assistance from one another; diversion of the team's attention to distractions or less important tasks at the expense of accomplishing time urgent tasks; failure to inform others of critical decisions or actions affecting another team member's area of responsibility; etc.

To remedy these problems a training solution was developed that highlighted the error patterns and introduced team coordination techniques. Unlike previous teamwork training courses, the Army's training provided coordination techniques and standards defined for specific flight tasks and conditions. The Army aviation course was not simply a course that urged people to work together as a team; instead it taught aviators what to do and how to do it.

An Army sponsored test of the training course showed that crew coordination trained aviators demonstrated mission performance improvements of greater than 20% and a reduction in safety-related task errors of 40 to 100%. Based on these results, the Army estimated a material savings of \$25 to 30 million per year. All of Army aviation was ordered to receive the training. Two years after the training was deployed, an analysis of Army aviation accidents showed that the estimate of \$25-30 million was an underestimate. The reality is closer to \$50-60 million per year.

Based on the success of the aviation program, the Chief of Staff of the Army ordered that this training technology be applied in a new area to see if similar results would be gained. Emergency health care was chosen for its many similarities to Army aviation. Some of the prominent similarities are that in both environments important decisions must be made and actions must be taken in time compressed situations where all the information and skills don't reside within one individual. Teamwork must be quickly and skillfully brought to bear on rapidly developing events. Furthermore, both environments are staffed by highly skilled and experienced professionals who are trained and evaluated as individuals but who perform their work exclusively as part of a team.

Thus, the research project began to focus on hospital emergency departments. It was quickly apparent that many of the lessons-learned from Army aviation were directly applicable to emergency departments. For instance, the environment demanded close, coordinated functioning of individuals; poor performance could yield serious consequences or death; mission accomplishment depended on multiple professionals with

varied skills who had different "ranks", etc. A review of risk management cases and incident reports, combined with over 400 hours of observations in hospital emergency departments, showed that there were multiple opportunities for avoiding problems, what we call "breaking the error chain," through teamwork.

At the same time that the MedTeams project began to focus on emergency health care, the field of medicine began to take a fresh look at the nature of errors and how to reduce them. Again the corollary between aviation and medicine was strong. Fifteen to twenty years ago, the focus of aviation accident investigations was on "who was responsible." If one reads accident reports prior to 1975, most of the time it seems that the only person involved was the pilot in command. Around that time, aviation professionals saw that a focus on finding who is to blame and then punishing them was an inadequate, in fact counter-productive, method of fixing mishaps. With this realization, aviation mishap investigation took on a whole new approach. The focus shifted to a perspective whereby investigators looked to see what was wrong with the system that put highly skilled, dedicated professionals in untenable and unsafe situations. By focusing on changing systems to ameliorate risks, the number and amount of human factors related accidents began to plummet.

At a conference entitled "Reducing Errors in Health Care" sponsored by the American Medical Association, Joint Commission on Accreditation of Healthcare Organizations, American Association for the Advancement of Science and many others, in October of 1996, the health care industry began to take the first steps toward changing the paradigm of understanding errors and what to do about them. Much of the discussion at this noteworthy conference was about aviation "cockpit resource management" and the value of that perspective for health care. The notion is that, if one is flying an aircraft there are multiple resources at your disposal: hardware, software and "liveware". Effectively managing these multiple resources to accomplish mission objectives is paramount to safe and efficient flight. Translated into terms applicable to healthcare: effectively managing these multiple resources to accomplish patient care is paramount to patient well-being.

Emergency health care teams bring all of their technical skills *and* their team coordination skills to work every day. With these skills, the team must manage resources to their patients' benefit. A fundamental premise of the MedTeams Project is that teamwork is a learnable set of skills. Unlike traditional team development which focuses more on improving group dynamics and interpersonal relationships, this program focuses on a concrete set of understandings and behavioral skills applicable in the emergency care environment.

During this course, you will hear about notions such as "breaking the error chain." What this means is that systems errors are typically the results of a series of errors. Serious medical errors usually do not happen over a period of a few seconds or minutes. Medical errors usually unfold over many minutes, hours, or even days. But the ETCC™ is not only a course to reduce errors. To be sure, all of us want to reduce misdiagnosis or improper treatment experienced by patients, but most important to you personally is that the ETCC™ will help you perform better; you will be more satisfied with your job and your colleagues; and your patients will be more satisfied with the care you provide.

Since this is a course that will be a cultural "sea-change" for emergency services, it may be one of the most difficult courses you take. Some emergency departments have personnel who have developed a relationship over many years. These relationships and the interactions you have become accustomed to will now change. By participating in this course, your department's leadership has made a strong and visible commitment to changing the way care is provided in your department. We hope you will enjoy the course and the challenge of embarking on an entirely new and very healthy direction for providing emergency services.

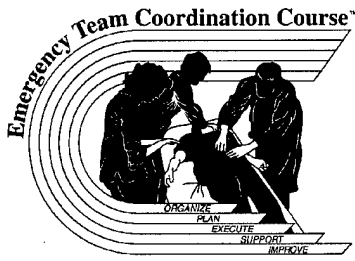


# Philosophy Statement

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It is the premise of this course that teamwork is a learnable set of skills. Unlike a traditional Team Development approach to teamwork which focuses more on improving group dynamics and interpersonal relationships, this program teaches a concrete set of behavioral skills which have been proven effective with permanent, semi-permanent, and ad hoc work groups. The skills taught in this program assure quality outcomes in emergency patient care.

One of the benefits of teamwork is that it improves patient satisfaction. The ETCC is different from a Customer Service program however, because it focuses exclusively on the relationships and actions *between members of the care team*. In this way, the ETCC achieves patient satisfaction through improved team performance.



# Introduction to Teams

**Time:** 10 minutes

**Materials Needed:** Slides In-1 to In-6

Review learning objectives before proceeding with instruction.

## Learning Objectives

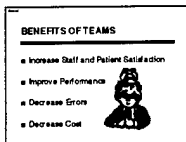
*Upon completion of this module, participants will be able to:*

- 
- ◆ Define the four basic elements of teams.
  - ◆ List the five team dimensions.
-

# Definition of Team

Any collection of personnel who routinely work together to accomplish a well defined, time-bound objective with a measurable standard of performance. Teams can plan, improve performance through practice, critique performance, and assist other member's workload. Team members communicate and meet emerging requirements during mission. The roles of leader and follower are understood by team members, but there are opportunities for emergent leadership and followership depending on the demands of the mission. A team's responsibilities are partitioned and assigned, but there are opportunities to help one another. It is possible for individuals to identify themselves as a member of the team and during the life of the team's assignment it is known that the team mission is superordinate to the goals of the individual.

Display Slide In-2  
*Benefits of Teams*



State the goal of this program: To teach ED staffs how to improve performance through teaming and effective teamwork.

Explain "cost" in terms of risk.

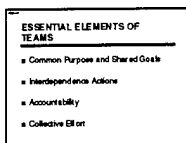
## The Benefits of Teams

Research shows that teams and teamwork:

1. Increase Staff and Patient Satisfaction
2. Improve Performance
3. Decrease Errors
4. Decrease Cost

These outcomes are imperatives for organization survival under healthcare reform.

Display Slide In-3  
*Essential Elements of Teams*



The essential team objective is to provide the highest standard of patient care.

## The Essential Elements of Teams

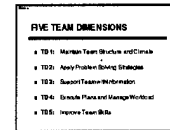
Teams are distinguished by four essential elements:

1. A common purpose and shared goals.
2. Interdependent actions among members.
3. Accountability as a functioning unit.
4. Value for collective effort (synergy).

A group differs from a team in that it can achieve its goal through the combination of individual contributions. No collective effort is necessary.



# The Five Team Dimensions



Research findings indicate that there are five behaviors common to well-functioning teams. Team effectiveness is measured by the level of team performance in each of these areas. These five Team Dimensions form the foundation of the Emergency Team Coordination Course. They are:

## TD 1: Maintain Team Structure and Climate

This dimension addresses the quality of professional relationships among physicians, nurses, and other members of the emergency care team. It considers the overall climate of the ED and the impact of team relationships on team performance. This dimension examines team leadership and followership roles and actions that cultivate team climate, including the ability to manage disagreements within the team.

## TD 2: Apply Problem Solving Strategies

This dimension addresses the team's ability to engage in planning and decision making actions involved in clinical tasks. Planning involves applying or modifying established algorithms, protocols, and other preplanned actions, and planning for emergent situations. This dimension also involves formal and informal decision making methods, and differentiates decision making techniques on the basis of available time and circumstances surrounding a decision event. Advocacy and assertion are promoted as a means for team members to contribute information or ideas to the decision maker, and as a means of avoiding decision biases and errors. The Two-Challenge Rule is introduced as a safeguard against glaring decision errors.

## TD 3: Support Team with Information

This dimension is concerned with the quality of information exchange within the team, and the degree of reciprocity among team members in giving and receiving information. It addresses the extent to which team members seek supporting information from the team. It also addresses the extent to which team members anticipate and offer supporting information to others on the team. This dimension is concerned

with the extent to which decisions and actions are communicated and acknowledged within the team.

#### TD 4: Execute Plans and Manage Workload

This dimension addresses the effectiveness of time and workload management. It assesses the extent to which the team distributes and manages workload and avoids individual task overload. It also addresses the team's effectiveness in managing resources during unexpected events. It examines the importance of situation awareness and how it contributes to effective team performance. It also addresses the use of team member cross-monitoring as a method to avoid team errors.

#### TD 5: Improve Team Skills

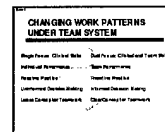
This dimension concerns the team's ability to monitor and review its general performance, evaluate the quality of its work, and improve its work processes. It addresses the essential need for team members to be current in their technical and team coordination skills to effectively perform their individual duties and the work of the team as a whole. The focus of performance review is continuous improvement.

# How Will a Team-System Affect Work Patterns?

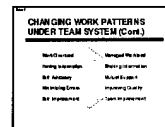
Moving to a team system will result in a number of shifts in work patterns:

From	To
Single Focus: Clinical Skills	Dual Focus: Clinical and Team Skills
Individual Performance	Team Performance
Reactive Practice	Proactive Practice
Uninformed Decision Making	Informed Decision Making
Loose Concept of Teamwork	Clear Concept of Teamwork
Work Overload	Managed Workload
Having Information	Sharing Information
Self Advocacy	Mutual Support
Minimizing Errors	Improving Quality
Self Improvement	Team Improvement

Display Slide In-5  
Changing Work Patterns Under Team System

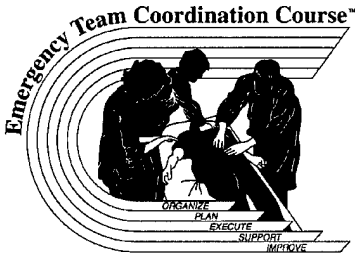


Display Slide In-6  
Changing Work Patterns Under Team System (Cont.)



Comment on the shift from an individual provider focus to a team member focus.





# 1

## ***Maintain Team Structure and Climate***

**Time:** 50 minutes

**Materials Needed:** Slides 1-1 to 1-14

Review learning objectives before proceeding with instruction.

### **Learning Objectives**

*Upon completion of this module, participants will be able to:*

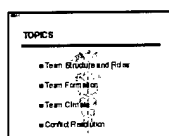
- 
- ◆ Describe the composition of the Core Team.
  - ◆ Describe team Leadership and Followership roles.
  - ◆ Describe the team structure used in the participant ED.
  - ◆ Discuss several characteristics of team climate.
  - ◆ Describe a technique for managing conflict.
-

# Introduction

Teams don't just happen. Deliberate action must be taken to form a team.

This module of instruction defines team membership and structure. It also examines the characteristics of environments conducive to teamwork and includes a method for managing disagreements within the team.

Display Slide 1-1  
*Topics*



## Topics

- ◆ Team Structure and Roles
- ◆ Team Formation
- ◆ Team Climate
- ◆ Conflict Resolution

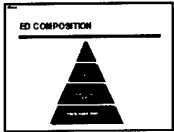
## Sample Teamwork Failure

Dr. Leu takes an ambulance call and is notified of a patient in route post GSW with an ETA of 5 minutes. As he glances around the ED, all the nurses seem to be busy. Dr. Leu decides to complete his discharge orders on the patient in Room 3 so he will be free when the ambulance patient arrives. He will alert the others when he has completed his current task.

Within moments, Triage is announcing the arrival of the ambulance, and the stretcher with the GSW is moving through the acute area doors. Ann is the first to arrive at the stretcher where CPR is in progress. "Who is this patient?", she asks as she directs the ambulance crew to the Trauma room. Other staff members start to arrive on the scene—each scrambling in some way to assist with the transfer as the paramedics start giving report.

Dr. Leu arrives to take charge, but has already missed a portion of the report, causing the paramedics to repeat the information. The patient is a GSW to the chest with CPR in progress for 10 minutes. Dr. Leu yells out to call Respiratory Therapy and the Trauma Team STAT. Ann and another nurse, Beth, are working to get a cardiac monitor on the patient as an ED tech. arrives to take over CPR from the paramedic.

Dr. Abbott from the Trauma Team arrives and attempts to start a femoral line. He is yelling for somebody to get O-negative blood and a chest tube tray. Everything seems chaotic and disjointed. The rest of the Trauma Team arrives, and an open thoracotomy is attempted without success.



# Team Structure

The ED is composed of a number of functional groups:

## ED Composition

### 1. Administrative Staff

- ◆ Establish expectations
- ◆ Hold team accountable for team deliverables
- ◆ Members include the Director of Emergency Medicine and the Nurse Manager.

### 2. Core Staff

- ◆ Direct care providers
- ◆ ED is home base of operation
- ◆ Full-service providers; those who manage the patient from initial assessment to disposition.
- ◆ Members include physicians, nurses, medics, and clinical technicians. May include CNS, NP, PA.

### 3. Coordinating Staff

- ◆ Operations management and coordinating functions
- ◆ Direct patient care is a secondary function
- ◆ Members include the Attending Physician, Charge Nurse, and Unit Clerk. May include the CNS and Triage Nurse.

### 4. Hospital Support Staff

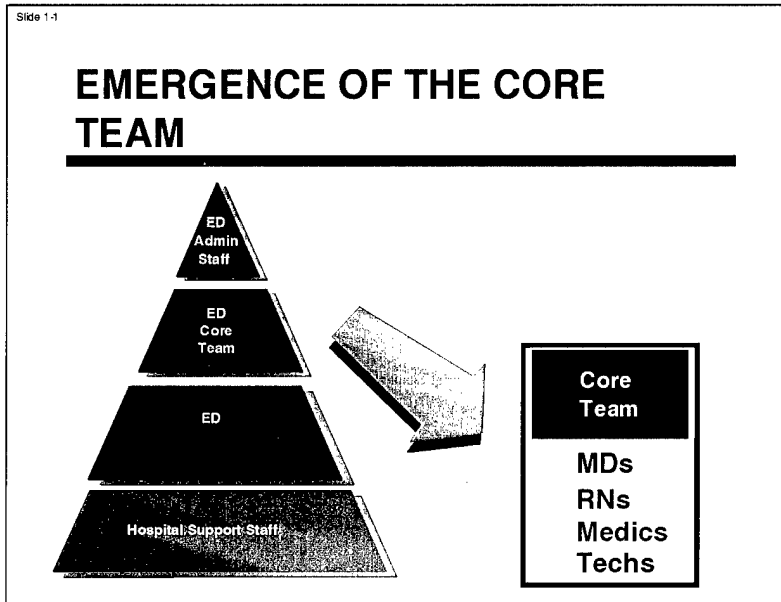
- ◆ Temporary resources
- ◆ Home base is often other than ED
- ◆ Not full-service providers; those who provide task-specific service.
- ◆ Members include consulting physicians, clergy, x-ray technicians, respiratory therapists, and lab technicians.

Explain that the Coordinating Team must consider their primary accountability to the team for operations management when selecting a patient assignment.



The composite of these staff constitutes the ED as an organization. In this course, we will focus on the core staff of direct providers, defined as the Core Team.

**Display Slide 1-3**  
*Emergence of the Core Team*

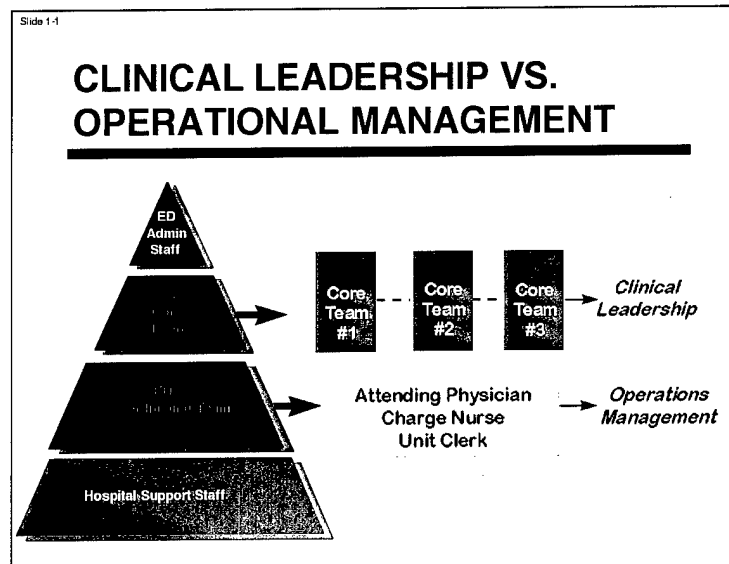


Before initiating instruction in this section, differentiate between clinical leadership and operations management roles. Emphasize the issue of accountability for team performance as an expanded role beyond clinical accountability alone.

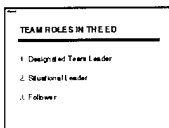
**Display Slide 1-4**  
*Clinical Leadership vs. Operational Management*



## Distinction Between Leaders and Management



**Display Slide 1-5**  
*Team Roles in the ED*



## Team Roles in the ED

1. **Designated Team Leader**  
 Every team must have a leader. Physicians are usually designated team leaders due to their ultimate authority in clinical matters.
2. **Situational Leader**  
 Any team member who has the skills to manage the situation-at-hand can become a situational leader.

## Vignette:

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### Situational Leader

It's 6:50am and change of shift report is in progress. Suddenly the ambulance radio announces a 1 minute ETA of a 36 y/o male run over by a train. Both shifts start scrambling to get things in the Trauma Bay ready. The patient arrives and is quickly transferred onto the ED stretcher. The paramedic is rapidly giving a report.

"The patient was hit by a commuter train after he jumped in front of it. He has bilateral mid-thigh amputations. VS: B/P 90/60, P 126, R 28. The right leg is really mangled and continuing to bleed. He's got contusions across his lower abdomen and its tight."

Looking into the bay, Judy, the night nurse, sees that Dr. Francis and the entire Trauma Team are focused on the patient's legs. They seem overwhelmed by the degree of destruction before their eyes. Quickly, Judy throws a sheet over the patient's legs. She asks loudly, "What's the patient's respiratory status? Does the patient need to be intubated?" Judy successfully re-directs the team allowing Dr. Francis to focus more on what needs to be done.

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### Qualities of Effective Team Leaders

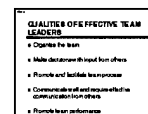
- ◆ Organize the team
- ◆ Make decisions with input from others
- ◆ Promote and facilitate team process
- ◆ Communicate well and require effective communication from others
- ◆ Promote team performance

Relate the vignette, or substitute one from personal experience that provides a clinical example of a situational leader.

In this scenario, Judy emerges as the situational leader when the rest of the Trauma Team becomes temporarily immobilized by the sight of the patient's injuries. She continues to provide leadership until it becomes clear that the physician team leader is ready to assume charge of the case.

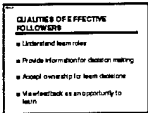
Ask participants to give examples of positive actions exhibited by leaders with whom they like to work.

**Display Slide 1-6**  
*Qualities of Effective Team Leaders*



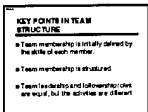
Ask participants to give examples of good followership or a person who is a good follower. Ask participants to identify someone they work with who is good at following and leading, and give examples of their behavior.

**Display Slide 1-7**  
*Qualities of Effective Followers*



The degree of overlap in team member roles will vary depending on the environment and the skill level of personnel.

**Display Slide 1-8**  
*Key Points in Team Structure*



### 3. Follower

A follower is not a person, but a role. Followers and leaders may be the same people playing different roles at different times, for different situations.

#### *Qualities of Effective Followers*

- ◆ Understand team roles
- ◆ Provide information for decision making
- ◆ Accept ownership for team decisions
- ◆ View feedback as an opportunity to learn

## Key Points in Team Structure

1. Team membership is initially defined by the skills of each member. Partial overlap of skills exists among at least some of the team so that workload can be distributed.
2. Team membership is structured. Roles are balanced and shared to facilitate the achievement of tasks and team cohesion.
3. Team leadership and followership roles are equal, but the activities are different. These roles are clear and understood by all.

# Team Formation

Display Slide 1-9  
*Assembling the Team*

## Assembling the Team

### 1. Establish the Leader

A leader is established and acknowledged whether the role is as the "team leader" or "situational leader."

### 2. Designate Role Functions

#### a. For an Emergent Event

- ◆ airway management
- ◆ circulation management
- ◆ documentation
- ◆ medication administration

#### b. For an Urgent Event

- ◆ patient assessment (H&P)
- ◆ data collection (labs, x-rays, etc.)
- ◆ diagnostic evaluation
- ◆ treatment and patient teaching
- ◆ disposition (referral, discharge, transfer, etc.)

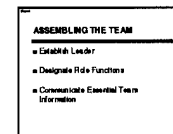
#### c. For the Department

- ◆ triage
- ◆ charge
- ◆ administrative attending

Role functions can be assigned or negotiated. They can be re-assigned or transferred, but must be "announced and acknowledged" (i.e., verified among team members). This will increase situation awareness.

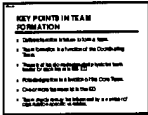
### 3. Communicate Essential Team Information

- ◆ team membership
- ◆ clinical status of team's patient(s)
- ◆ operational issues affecting team operations



With adequate lead time, these functions can be discussed and pre-designated. Role designation can occur situationally or at the beginning of the shift.

Once the team is formed, individuals can be designated to manage specific contingencies. Staff should be encouraged to rotate primary areas of responsibility within their scope of practice. This will help develop and maintain maximum flexibility and the overall skill level of staff.



## Key Points in Team Formation

1. Deliberate action is taken to form a team; teams don't just occur. Teams in the ED are time bound and usually do not exceed the period of a work shift. A team may become permanent if staffing patterns are permanent.
2. Team formation is a function of the Coordinating Team.
3. There is at least one designated physician team leader for each team in the ED.
4. Role designation is a function of the Core Team.
5. One or more teams exist in the ED. Special teams may be formed for specific events such as a code, sudden change in staffing or volume, and/or acuity of patients.
6. Team structure may be influenced by a number of organization-specific variables; for example, ED size and layout, skill mix of members, required staffing ratios, common DRGs, and the existence of organization-specific roles and associated functions.

# Team Structure

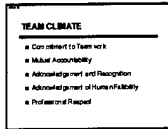
The team structure for your ED has been determined by ED leadership and will be presented here.

The team structure for this ED must be determined by ED leadership prior to the training sessions..

**Display Slide 1-11**  
*Team Structure*



Present only the Team Structure here. The implementation plan will be discussed during Module 6.



# Team Climate

The establishment of a team culture is largely the function of those at upper levels of the organization. A team culture provides the structures, protocols, training and management systems that enable teams to succeed.

While administration takes the lead in establishing a team culture, ED personnel play a key role in cultivating a team climate within their department. A team climate provides the moral support that facilitates teamwork. Several characteristics of team climate are listed below:

Challenge participants to identify mutual goals for team practice in their own ED.

## 1. **Commitment to Teamwork**

Pride in what the team can accomplish or achieve. The belief that the coordinated efforts of a team can produce far greater results than any individual alone. A team that sets its own goals or that is at least actively involved in the process is more likely to be committed to the desired results.

## 2. **Mutual Accountability**

Emphasize the significance and the difficulties associated with mutual accountability. Point out that people become accountable by knowing their colleagues will hold them accountable.

A true team climate emphasizes mutual accountability. Individuals need to know that others truly expect them to achieve, have confidence and trust in their ability, will provide them with necessary support and assistance, and will emphasize accountability for results. Effective teams hold members accountable for maintaining standards of practice.

## 3. **Acknowledgment and Recognition**

Examples of acknowledgment and recognition include simple gestures such as a personal word of appreciation for a job well done or more elaborate acknowledgements such as conferring the "Employee of the Month Award." Ask what other forms of recognition can be utilized in this ED.

Acknowledgment is a primary motivator in sustaining excellence in practice. Most people need to be recognized and need to know that their accomplishments are important to the team and to the organization. Rewards should always be contingent on performance. Undeserved rewards dilute the effects of all reinforcement.



#### 4. **Acknowledgement of Human Fallibility**

Human errors are a part of life. Even with the best of intentions, humans make errors. It is essential that team members acknowledge this human condition and when errors occur, correct them with minimal disruption to ongoing tasks and team relationships.

This concept is key to accepting the practice of cross-monitoring introduced in Module 4.

#### 5. **Professional Respect**

Effective teams believe in the potential of all their members. Team members strive to provide opportunities for growth through the expression of mutual respect and confidence in the team and individual members.

Give at least one personal example, then have participants identify behavioral examples of mutual respect within their own teams.

##### **Examples:**

- ◆ Team members are valued and utilized by others for their expertise and judgment.
- ◆ Educational and experiential differences between team members do not influence their willingness to speak up.
- ◆ Team members demonstrate a high level of courtesy to one another.

Comment on the significance of words and behaviors in a culturally diverse environment.

# Conflict Resolution

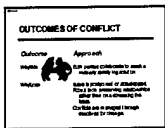
In effective teams, alternative viewpoints are considered a normal and expected part of team interaction. Differences of opinion are freely expressed. The team does not demand narrow conformity. Conflict is inevitable. It can be caused by differences in personality, values, opinions, or work approaches. It can have positive outcomes.

Resolution of conflict must focus on "what" is right, not on "who" is right. Skill in conflict management can enhance team development. Effective teams exert energy toward problem solving instead of allowing interpersonal issues or competitive struggles to drain their resources.

Several approaches to conflict management result in a "win-lose" situation and should be avoided when possible.

Effective teams strive for a "win-win" solution to conflicts.

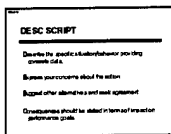
Display Slide 1-13  
Outcomes of Conflict



## a. Outcomes of Conflict

Outcome	Approach
Win / Win	Both parties collaborate to reach a mutually satisfying solution.
Win / Lose	Issue is postponed or sidestepped.
	Focus is on preserving relationships rather than on addressing the issue.
	Conflicts are managed through directives for change.

Display Slide 1-14  
DESC Script



## b. DESC Script: An assertiveness technique for managing conflict.

**D**escribe the specific situation/behavior providing concrete data.

**E**xpress your concerns about the action.

**S**uggest other alternatives and seek agreement.

**C**onsequences should be stated in terms of impact on performance goals.

## **Example 1**

---

The team physician criticizes a team member in front of a patient.

### **Describe the specific situation...**

*Nick, this is the second time today you've criticized me in the presence of a patient.*

### **Express your concerns about the action.**

*This impacts my credibility with the patient and my effectiveness in discharge teaching.*

### **Suggest other alternatives...**

*I'd prefer you to discuss any issues you have with my work outside the patient's room.*

### **Consequences should be stated...**

*Using that approach allows me to benefit from your feedback without losing credibility with patients.*

---

## **Example 2**

---

Denise's pattern of breaking late for lunch is creating a log jam of patients and a work overload situation for covering staff that persists throughout the afternoon.

### **Describe the specific situation...**

*Denise, over the last couple of days when I've covered for you during your lunch break, I've noticed that you're leaving and returning later than usual.*

### **Express your concerns about the action.**

*When that happens it becomes so busy I can barely manage the workload. Then when I leave for lunch, I pass along the same problem to you.*

### **Suggest other alternatives...**

*If you could leave and return from lunch just 15 minutes earlier, we could both get to lunch before the usual rush.*

### **Consequences should be stated...**

*If we continue with this late schedule, we're going to get so overloaded with patients that we may not be able to get to lunch at all.*

---

# Behavioral Criteria for Maintain Team Structure and Climate

These ratings highlight the observable and measurable actions associated with varying degrees of team effectiveness for a team dimension. This is a synopsis of the ratings described in the BARS (Appendix?).

## Superior Rating

- + The attending physician and nursing team member ensure that role functions and responsibilities are partitioned and clearly assigned.
- + Team members have very good interpersonal relationships and go beyond common workplace courtesies to express appreciation for the contributions of others.
- + The climate is very open; team members freely talk and ask questions.
- + Disagreements are perceived as a normal part of team interactions, and the team directly confronts the issues over which the disagreement began. The solution produced is "win-win."

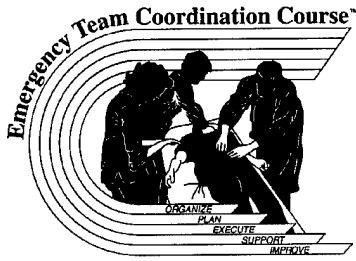
## Acceptable Rating

- ◆ Routine assignments are adequately covered, but contingencies for special situations are not carefully planned.
- ◆ Team members have sound interpersonal relationships. They interact on clinical and operational issues in a business-like manner.
- ◆ The climate is an open one and team members are free to talk and ask task-oriented questions.
- ◆ When disagreements arise, the team directly confronts the issues over which the disagreements began. The solution is generally seen as reasonable.

### **Very Poor Rating**

- There is little or no discussion of responsibilities or their assignments to specific team members.
- Team interactions are often uncomfortable and awkward. Team members do not appear to like or respect each other.
- Team members do not tend to ask questions about the operations for their shift. If asked, questions tend to be cut off, only briefly addressed, or ignored by the other team members.
- When disagreements arise, the team fails to directly confront the issues. A "win-lose" situation develops in which one team member is shown to be right and the other to be wrong.





# 2

## Apply Problem Solving Strategies

**Time:** 70 minutes

**Materials Needed:** Slides 2-1 to 2-21

**Gather Exercise Data:** Prior to beginning instruction, have class members complete three brief estimation exercise. Answers will be solicited later. The first exercise (a) is a timed exercise that gives the respondent 7 seconds to answer a multiplication problem, and (b) has two forms, which means you must differentiate each form so half the class gets one form and the other half the second form. The letter "k" and the tube and ball exercises appear on a single sheet of white paper. These exercises are not timed. Once the exercise sheets are distributed, explain that these data are being collected for use later in the lecture. The students then complete the exercises and retain the sheets. Complete directions for these exercises are provided with the exercise masters in Appendix F.

Review learning objectives before proceeding with instruction.

### Learning Objectives

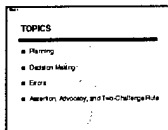
- 
- ◆ Identify two forms of planning.
  - ◆ Distinguish four types of decision making processes.
  - ◆ Describe how errors and bias can enter into decision making.
  - ◆ Discuss how the team can help the decision maker avoid errors.
  - ◆ Distinguish between advocacy and assertion.
  - ◆ Recognize two forms of the Two-Challenge Rule.
- 

*Upon completion of this module, participants will be able to:*

# Introduction

Once teams are established, their work is coordinated by planning and decision-making. Planning must be a shared activity among team members. Decisions are the responsibility of the team or situational leader, but team members provide essential information that aids the decision-making process. Likewise, team members play an essential role in monitoring plans and decisions for biased judgement and errors in task execution. Team members have a responsibility to advocate for the patient if faulty planning, biased decisions, or errors effect the patient's welfare.

Display Slide 2-1  
*Topics*



## Topics

- ◆ Planning
- ◆ Decision Making
- ◆ Errors
- ◆ Assertion, Advocacy, and Two-Challenge Rule



# Sample Teamwork Failure

Ten-year-old Billy arrives at the ED at 7:00 pm with complaint of headache after an unhelmeted fall from a bicycle. The Triage nurse documents LOC (loss of consciousness) based on a statement from one of Billy's friends. Dr. Rivera examines the child at approximately 7:30 pm and questions the documented LOC. The boy's mother explains that a younger sister reported that "Billy started to cry when he fell off the bike." Billy has a severe headache and is drowsy, but can answer questions about the date, the President, etc. and appears generally lucid.

Dr. Rivera, reluctant to order a CAT scan during on-call hours, expresses his disturbance to another staff member about the Triage nurse's notation of LOC on the patient record. He feels the notation will "dictate" the treatment intervention for this child.

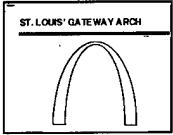
Dr. Rivera decides to give Billy something to eat and observe him for the next half hour. The primary nurse points out that Billy "seems too sleepy." Dr. Rivera abruptly responds that the boy has "just played hard all day" and that he will probably discharge him after a little longer observation.

At 8:45 the primary nurse reiterates that she is "uncomfortable" with the way Billy looks. Dr. Rivera decides to order the CAT scan, but continues to voice annoyance that he is being coerced. By 9:45 the CAT scan results are back and reveal an epidermal hematoma. A determination is made to transfer the child to a nearby medical facility where he will be seen by a pediatric neurosurgeon.

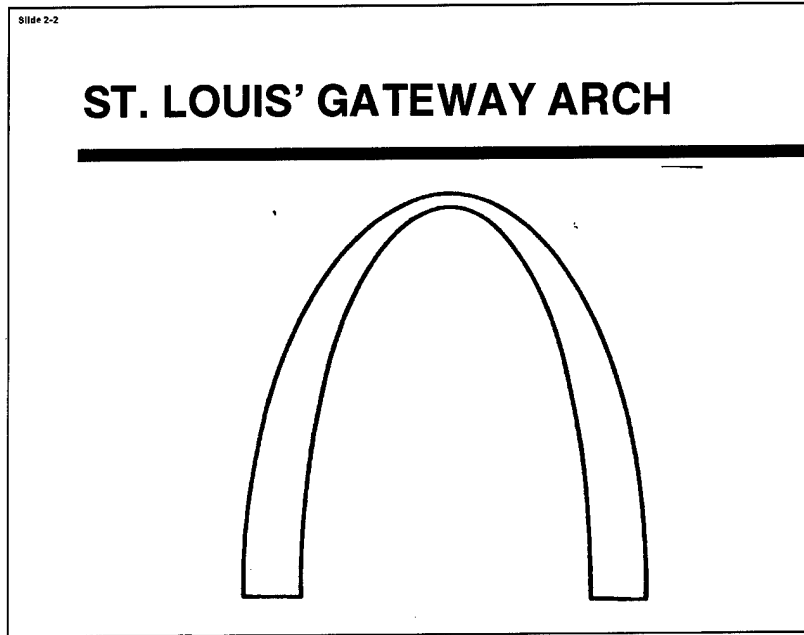
Discuss the teamwork failure and add from personal experience.

Dr. Rivera's need to assert himself as being "in charge" limited his investigation of the Triage nurse's concerns and led to a high risk delay in treatment.

**Display Slide 2-2**  
*St. Louis' Gateway Arch*



The St. Louis Arch slide (Slide 2-2) depicts a perceptual illusion. Although the arch is as high as it is wide, the viewer can not help but perceive that the arch is higher than it is wide. Our perceptual system has inherent features that result in misperceptions or illusions such as this one. In the same way, our cognitive system has built-in limitations that can cause biases and errors in judgment. These are information processing limitations that have nothing to do with personality or motivation. Recognizing these judgment limitations, and the importance of teamwork in helping the decision maker avoid the effects of these limitations, are major themes of this module.



# The Role of Long-Term and Situational Planning

## Introduction

1. The essential purpose of a team is to perform tasks.
2. All teams must perform the functions of planning and decision making to accomplish multiple tasks with varying levels of priority.
3. Planning reduces the "problem space" associated with making decisions under conditions of high workload and stress. This means that planning anticipates foreseeable problems and works out possible solutions before events start to unfold.
4. Issues addressed by planning involve patient care, emergency department operations, and team processes.
5. Planning takes two forms: long term and situational.

## Long-Term Planning

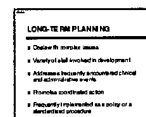
1. Deals with complex issues that require thorough analysis to arrive at a prescribed course of action.
2. Developed in a forum involving a variety of staff members and drawing on personal experience and technical sources.
3. Addresses frequently encountered clinical and administrative events applicable to all Core Teams.
4. Promotes coordinated action with a minimum of team planning effort.
5. Frequently implemented as a policy or a standardized procedure.

Planning is an essential human activity. A part of our consciousness is always engaged in looking ahead a few minutes, a few hours, a few days. Therefore, all team members are engaged in ongoing individual planning of their clinical activities. The point here is that the team leader must externalize his or her, and other team members', planning activity. Although not all details of plans need to be verbalized, essential directions and goals need to be made explicit to coordinate actions.

### Examples:

- ◆ Clinical algorithms.
- ◆ Patient transfers to other facilities.

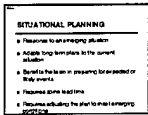
### Display Slide 2-3 *Long-Term Planning*



**Examples:**

- ◆ Impending arrival of a critically ill patient.
- ◆ Backup of patients due to delays in lab results.
- ◆ Reassignment of staff from one ED team to another.

**Display Slide 2-4**  
*Situational Planning*



## Situational Planning

1. Is a response to an emerging situation.
2. Adapts long-term plans to the current situation or, using team members' experience, develops an event-specific solution from two or more available courses of action.
3. Benefits the team in preparing for expected or likely events.
4. Requires some lead time to grasp the situation, inform the team, and develop a workable plan.
5. Requires adjusting the plan to meet emerging conditions.

## Planning Essentials for Teams

1. The team leader or situational leader initiates the planning process.
2. Team members are included in the planning process or are informed of the team's plan.
3. Plans are built around considerations of time available, resources needed, tasks required, and contingencies for unexpected events.
4. Planning ensures that team members have a "collective visualization" of the problem and an understanding of their roles in carrying out the solution.

This last point on "collective visualization" is a key concept that is picked up later in the discussion of "shared mental models." Involvement of all team members in the planning process (or communicating the actual plan to absent team members) is a central feature of this course. Team members need to have a picture of what's going on, where the team is headed, and what tasks need to be performed.

# Introduction to Four Kinds of Decision Making

## Why Present Decision Making Models?

1. Individuals use a variety of means for making judgments and exercising choice. Team performance is improved in part by collective support of the decision making process.
2. Teams help the decision maker by providing information, ideas, and alternative interpretations. However, team members must understand the kinds of decision making processes the decision maker is using in order to be helpful.
3. Teams help the decision maker avoid known types of errors associated with decision making.

DECISION MAKING PROCESSES		
Nature of the Problem		
	Simple	Complex
Formal	Algorithmic	Analytical
Naturalistic	Rules of Thumb	Event-Driven

# Four Kinds of Decision Making Processes

1. Formal Process: Algorithmic
2. Formal Process: Analytical
3. Naturalistic Process: Rules of Thumb
4. Naturalistic Process: Event-Driven

Slide 2-1

## DECISION MAKING PROCESSES

---

		Nature of the Problem	
		<i>Simple</i>	<i>Complex</i>
Decision-Making Strategy	Formal	Algorithmic	Analytical
	Naturalistic	Rules of Thumb	Event-Driven

# Formal Processes: Algorithms

1. An algorithm is a procedure that will always yield the correct answer when followed exactly.
2. The decision problem is limited to assessing the situation and choosing the correct algorithm.

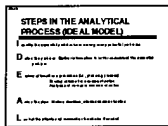
## Examples of Algorithms:

- ◆  $\text{length} \times \text{height} = \text{area of rectangle}$
- ◆ Triage protocol
- ◆ ACLS

# Formal Processes: Analytical Decision Making

1. The analytical process is undertaken to explore a specific, clearly articulated problem and arrive at a solution among multiple alternatives.
2. Chief factor in selecting the use of this method is the availability of time to complete the process, but it also assumes:
  - ◆ stable goal or purpose
  - ◆ known and fixed set of alternatives
  - ◆ identifiable and meaningful values for alternatives

Display Slide 2-6  
Steps in the Analytical Process  
(Ideal Model)



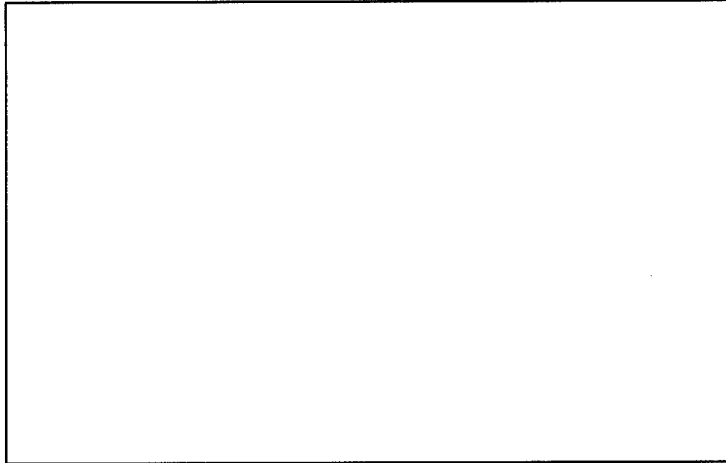
## Steps in the Analytical Process (IDEAL Model)

1. **I**dentify the essential problem from among many potential problems.
2. **D**efine the problem: Gather information to better understand the essential problem.
3. **E**xplore alternative approaches (i.e., planning process).
  - ◆ Develop alternative courses of action.
  - ◆ Analyze and compare courses of action.
4. **A**ct on the plan: Make a decision, choose a course of action.
5. **L**ook at the effects and reconsider the choice if needed.



# Examples of Analytical Decision Making

Requirement: Develop example of the *analytic* decision-making method



The analytical method is frequently presented in textbooks and other sources as the preferred or "normative" model for rational problem solving. When time and the decision ingredients are available—alternatives, criteria, desired goals—the analytical method is effective and desirable. However, recent research has determined that seasoned experts use other methods too, determined in part by their knowledge and experience, but also by the nature of the problem and the information available. Therefore, the analytical method should not be touted as the gold standard for decision making, as some texts imply. In fact, research has shown that a typical expert used the analytical method for fewer than 5% of the decisions made.

## Decision Criterion

The analytical method seeks the optimal solution.

# Naturalistic Processes: Rules of Thumb

Individuals are generally aware that applying a rule of thumb can result in errors either because the rule doesn't really fit the situation or the problem is too complex. But a different kind of error called judgmental bias in using rules of thumb (also called "heuristics") has been explored by cognitive psychologists. A few examples from the extensive judgment bias literature are provided here. The objective is not to have class members learn a list of cognitive biases. Rather, the point is that team members may sense that the decision maker is misapplying a rule of thumb, or that an obvious bias is operating. Rules of thumb are more subject to error than algorithms or protocols because they are less formal. That is, rules of thumb are not as rigorously developed and implemented as algorithms and protocols. This leaves room for individual interpretation of the rule or assumptions about how other team members may carry it out. Intervening to avoid rule of thumb errors using the communication techniques provided in this course is a teamwork obligation.

The instructor should present at least one of these examples of bias.

A rule of thumb draws on personal experience, intuition, "common knowledge," or an uncomplicated formula as a means to solve a simple problem. It won't always give the right answer, but it is a convenient, helpful aid.

## Examples of Rules of Thumb

1. To pick the size of a pediatric endotracheal tube needed, use the diameter of the child's little finger as a measurement.
2. An estimate of body surface area for a burn can be determined by using the area of the palm as 1% BSA.
3. If the patient has a femoral pulse, you can estimate that the BP is about 60 mmHg.

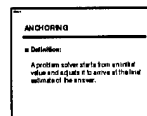
## Examples of Rules of Thumb Involving Cognitive Bias

Using rules of thumb can result in errors due to judgment biases. These biases, also referred to as cognitive biases, include anchoring, availability, and representativeness.

## Anchoring

1. **Definition:** Anchoring means a problem solver starts from an initial value and adjusts it to arrive at the final estimate of the answer.
2. **Example Problem:** Estimation of product of an ascending and descending series of numbers. (Exercise #1)
3. **Solution:** In laboratory studies, the median estimated value of the ascending sequence is 512. The median of the descending sequence is 2250. The correct answer is 40,320.
4. **Pros and Cons of Using this Rule of Thumb:**
  - a. **Pro:** A standard or benchmark serves as the anchor for comparative judgments of sample or specimen values.
  - b. **Con:** Not adjusting earlier estimates based on later or possibly disconfirming evidence results in a biased estimate. Subsequent adjustments tend to be insufficient. Moreover, different starting points yield different estimates that are biased toward the initial values.

### Display Slide 2-8 Anchoring



The class members' estimations of the answer to the timed multiplication exercise are solicited now. Take a blank transparency, divide it into two columns, and ask the participants to read off their estimates. Record the answers for those given the ascending series in one column and for the descending series in the other column. The estimates for the descending series should be larger than those for the ascending series. This may not happen, however, so be prepared to focus on the laboratory finding provided in "3. Solution."

Relate the following vignette, or substitute one from personal experience that provides a clinical example of the anchoring bias.

## Vignette:

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### The Anchoring Bias

A 5 y/o boy presents to the ED, carried by his mother, after falling off his bicycle. The child was wearing a helmet, and suffered no apparent head injury. However he had a 6 in. laceration to his R lower leg with tendon involvement and severe bleeding. The mother was frantic and the child was crying. Triage vital signs are B/P 102/56, HR 116, R 22, T 98.8.

After extensive cleaning and exploration of the involved tendon, leg x-rays were completed and the laceration repaired. The physician remains concerned about the child's resistance to extension and requests that the boy return in 24 hours. While reviewing wound care instructions with the mother, the child complains of nausea and vomits. The physician asks the child about pain, but the child quickly denies and insists on "going home now."

The mom in a worried voice states that her son never vomits. The physician assures her that children often vomit after being so upset and to come back if he has more problems. The nurse then prepares to discharge the patient while the physician goes off to see another patient. The nurse repeats the vital signs-- B/P 108/64, HR 125, R 28. She tells the mother that her son's "still just a little uptight and nervous from being here, like the Doctor said." The nurse never tells the physician about the change in the child's vital signs thinking that it is just as he said--a reaction from being in the ED.

The child was discharged, but returned 12 hours later pale, weak, vomiting and complaining of left-sided abdominal pain. A CT scan revealed a splenic laceration.

---

## Availability

1. **Definition:** A rule of thumb by which an individual estimates the likelihood of some event on how easily he or she can remember examples or instances of that event.
2. **Example Problem:** Are there more words in the English language that begin with the letter k or that have the k in the third position? (Exercise #2)
3. **Solution:** More words have the letter k in the third position (e.g., make, like, lake). However, most people answer that more words start with k (e.g., kite, kiss, kick) because it's easier to recall examples of words that begin with k.
4. **Pros and Cons of Using this Rule of Thumb:**
  - a. **Pro:** Awareness of recent events or findings alerts to the present situation (e.g., toxic shock syndrome, Lyme disease).
  - b. **Con:** Familiarity, vividness, or recency of occurrences biases memories about that class of events.

## Vignette:

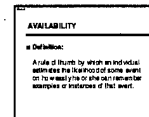
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### The Availability Bias

In a book on women's health, a physician discussed the decision of whether women in their late thirties or early forties should have their ovaries removed while undergoing a hysterectomy. The author described the decision process of a colleague this way. "I recall operating some time ago with a former professor of gynecology at Harvard. He was in a rather philosophical mood and was pondering the pros and cons of what to do with the ovaries. 'Sometimes whether or not I remove the ovaries depends on what has happened to me in the last few weeks,' he said. 'If I've watched a patient die from cancer of the ovary, I often remove them. But if I've been free of this experience for a while, I'm more inclined to leave them in.'" (from Halpern, *Thought and Knowledge. An Introduction to Critical Thinking*, p. 316)

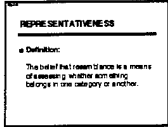
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## Display Slide 2-9 Availability



The class members' answers to this question are solicited now. Record the final tally on a plain transparency. The laboratory finding is provided in "3. Solution."

Relate the following vignette, or substitute one from personal experience that provides a clinical example of the availability bias.



## **Representativeness**

1. **Definition:** The belief that resemblance is a means of assessing whether something belongs in one category or another.
2. **Example Problem:** Frank is a quiet individual, whose hobbies are chess and crossword puzzles. He graduated near the top of his college class and majored in philosophy. Is Frank (a) a librarian or (b) a businessman?
3. **Solution:** The stereotype “match” with a librarian tends to override the consideration that there are significantly more businessmen than there are librarians. The best guess in this situation should be businessman, but the representative bias intervenes.
4. **Pros and Cons of Using this Rule of Thumb:**
  - a. **Pro:** Useful for identifying the kinds of categories that may occur, rather than identifying membership in a specific category.
  - b. **Con:** The basis of stereotyping.

## Vignette:

Relate the following vignette, or substitute one from personal experience that provides a clinical example of the representative bias.

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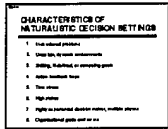
### The Representativeness Bias

A young, healthy male presents to the ED with pleuritic chest pain, hemoptysis, and shortness of breath. The Attending asks a first year resident, without any other information, to estimate the probability that this patient has pneumococcal pneumonia versus a pulmonary infarction. Since the presenting symptoms are consistent with both diagnoses, the use of the representativeness rule-of-thumb would lead the resident to believe that both diagnoses at this point are equally likely. A nurse on the resident's team points out in actuality the presenting symptoms do not help much in differentiating between the two diagnoses. The nurse goes on to explain that the resident's best estimate of the likelihood of each diagnosis would be based on its prevalence in a young, healthy male outpatient population. Based on that, the resident responds that the more likely diagnosis would be bacterial pneumonitis. The Attending agrees and tells the resident to start his assessment with a chest x-ray, then move to the more complex diagnostic procedures that would rule out an infection, if necessary.

---

### **Cognitive Biases, Rules of Thumb, and Teamwork**

1. Rules of thumb are useful decision aids that may or may not lead to biases in decision making
  - a. The representative bias vignette shows teamwork was effective in overcoming the bias.
  - b. The anchoring bias vignette shows a bias not corrected by effective teamwork.
2. Team members need to assess the situations to ensure that the decision is not being effected by a cognitive bias.
3. Team members evaluate whether a bias is affecting the decision by considering:
  - a. If the rule of thumb is *applicable* (e.g., a rule of thumb appropriate for an adult is being applied inappropriately to a child).
  - b. If the decision reached by the rule of thumb is sufficiently *accurate* (e.g., estimation of BSA).



An effective way of opening the discussion of event-driven decision making is to relate a typical decision making event having the characteristics given here. The first chapter of the Klein, et al. reference has some examples. However, draw an example from personal experience to make the distinction between this form of decision making and the more deliberate and structured approach of the analytical method. Key concepts to emphasize in this method are the continual situation assessment and information needs of the decision maker in order to reach and refine a decision. The team is essential to meeting these needs.

# Naturalistic Processes: Event-driven Decision Making (EDD)

## Characteristics of Naturalistic Decision Settings

1. Ill-structured problems
2. Uncertain, dynamic environments
3. Shifting, ill-defined, or competing goals
4. Action-feedback loops
5. Time stress
6. High stakes
7. Highly experienced decision maker, multiple players
8. Organizational goals and norms

## Characteristics of EDD

1. Much effort is devoted to situation assessment.
2. Single options are evaluated through mental simulation of outcomes.
3. An option is accepted if it is satisfactory (in contrast to the best option).



# Characteristics of Naturalistic Decision Events

Charateristic	Description
1. Ill-structured problems	Requires effort to hypothesize what is happening, develop options on how to proceed, and what choices are permissible. Task at hand may suggest many ways to proceed, with no single or best answer.
2. Uncertain, dynamic environments	The situation is one of incomplete and imperfect information. The tasks required are dynamic because the environment or conditions are changing.
3. Shifting, ill-defined, or competing goals	Two or more goals might be available, or goals may be competing.
4. Action/feedback loops	The decision environment is composed of a series of actions to either solve or better define the problem. Failures generate information that has corrective value later.
5. Time stress	Decisions are made under significant time pressure. Very few decision options can be considered, and none of them exhaustively.
6. High stakes	Outcomes have real significance to all participants in the decision process.
7. Multiple players	Two or more team members are involved in, or affected by, the decision making process. All players must understand the goals and situation so that the relevant information is brought forward to the decision maker.
8. Organizational goals and norms	Situational decisions are made in a context of policies, procedures, and standards of the organization. The values and goals involved are not simply those of the individuals involved.

*Note: All factors do not need to be present at the same time.*

# The EDD Process

## ***Situation Assessment***

1. Decision maker classifies the situation as typical or novel.
2. Typical situations lead to habitual or customary actions; novel situations use variants of old routines.
3. In recognizing the situation, the decision maker identifies critical cues and causal factors that explain what is happening and what will happen.
4. The decision maker sets plausible goals that can be achieved in this situation and proceeds to select the appropriate action from those available.

## ***Serial Evaluation of Options***

1. Decision maker evaluates action alternatives one at a time until a satisfactory alternative is found.
2. First action evaluated is usually the most typical response for the particular situation.
3. The process by which actions are evaluated is mental simulation (rehearsal).

## ***Mental Simulation of Outcomes***

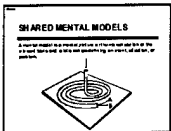
1. To evaluate if an action is satisfactory, the decision maker acts it out in his or her imagination.
2. Mental simulation identifies the successive steps to be taken, the problems that are likely to be encountered, and if and how these problems can be handled.
3. The decision maker either implements the action as is, modifies it, or rejects it altogether and turns to examine the next action candidate in the sequence.
4. Decision criterion referred to satisficing.
  - ◆ The decision making process is terminated when a solution good enough to satisfy the important considerations is found.
  - ◆ Contrasts with analytical method criterion of the optimal solution.
5. Mental simulation also results in reassessment of the situation, and previously unnoticed aspects of the situation surface in the process of imagining future developments.

# Integration of Plans and Decisions: Shared Mental Models

## Shared Mental Models

This is the third exercise participants completed at the beginning of the module. Ask how many class members picked option A and how many picked option B. Expect that about half the class will have picked each option, which is the result found in laboratory studies. The correct answer to the problem is B because of the physics principle that an object in motion will move in a straight line unless acted on by an external force. The external force in this example is the tube, which forces the ball into a circular path. Once emerging from the tube, this external force is removed so that the ball takes a straight (linear) path (option B). The teaching point is that there are two mental models of this physics problem. The emphasis is not on having the correct mental model, but that there are two "pictures" of what's going on. Team members may have different pictures of a situation and, without adequate communication, proceed with actions compatible with one interpretation of the situation but not the other. This example is used later in the discussion of mistakes.

Display Slide 2-12  
*Shared Mental Models*



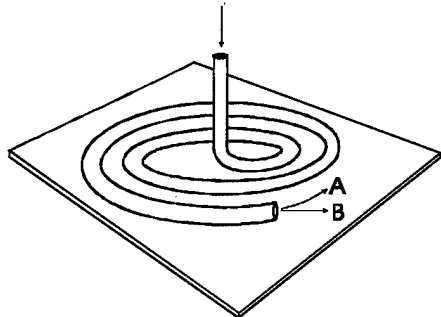
1. A mental model is a mental picture or sketch of the relevant facts and relationships defining an event, situation, or problem.
2. The same mental model held by members of a team is referred to as a shared mental model.
3. A mental model becomes
  - ◆ shared by team members through the processes of planning, team decision making, and vocalizing.
  - ◆ maintained through situational awareness and communication.
4. Examples of mental models:
  - a. The Tube and Ball Problem

Slide 2-5

### SHARED MENTAL MODELS

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A mental model is a mental picture or thumbnail sketch of the relevant facts and relationships defining an event, situation, or problem.



- b. Relationship of needle length to flow (to be developed)
- c. Starling Principle (to be developed)

## Vignette:

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### Shared Mental Model

Dr. Sue Winston has just completed her assessment of Mrs. Garber, the patient in Room 2-B. Michele, her assigned nurse, comes up and says, "Isn't Mrs. Garber a little confused today? I think she's depressed about her daughter moving away last month. I was going to ask the Psychiatric Clinical Nurse Specialist to talk with her."

Dr. Winston looks up and replies, "Yes, I think she may be confused, but from checking her record it's gone on longer than a month. I think she may have something organic going on. We need to go ahead and start checking her out for medical reasons for her confusion."

"Now that you mention it," Michele says, "some of her answers didn't sound like this was a new occurrence. Would you like me to draw some blood and start an IV?"

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## How Shared Mental Models Help Teams

1. For a specific problem, a team must develop a shared mental model, which is in turn grounded in the team members' understanding of the ED environment, their tasks, and the team itself.
2. Shared mental models include a mutual understanding of the problem together with the goals, information cues, strategies, and member roles needed to reach a solution, (i.e., the plan).
3. Communication is used to ensure that the same model exists in other team members' minds or to build a shared mental model when conditions demand nonhabitual responses.
4. Once a shared model has been created, it provides a context for interpreting commands or information requests, and allows for volunteering information or actions at appropriate times.
5. Shared mental models provide a basis for predicting behavior or the needs of other team members.

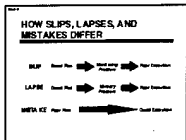
Pose the following questions to the class:

Have you ever...

- ◆ Walked into a room and wondered why you decided to go there in the first place?
- ◆ Said "thank you" to a stamp machine?
- ◆ Put oatmeal into the washing machine?
- ◆ Squeezed a tube of Ben-gay onto your toothbrush?
- ◆ Failed to recall the name of someone you've known for years?

These are examples of our consciousness being absent from the task at hand. These states of absent-mindedness are not pathological, but are everyday occurrences called action slips. Even the most conscientious and competent person makes this kind of error. The next section provides a framework for understanding action errors, and how teamwork can intervene to prevent a simple slip or lapse from having a serious consequence.

Display Slide 2-13  
*How Slips, Lapses and Mistakes Differ*



# The Concept of Error

1. Fallacy—an error in the *thinking* process—was introduced earlier under rules of thumb. Discussion now turns to error that occurs in the domain of *actions*.
2. "The notions of intention and error are inseparable." Error has no meaning with respect to unintended or involuntary actions such as bumping into someone in the cafeteria line.

## Intentional Behavior

Distinguish different kinds of intentional behavior based on answers to three questions:

1. Was there a prior intention to act?
2. Did the actions proceed as planned?
3. Did the actions achieve their desired (intended) end?

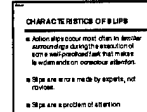
## Human Error

Human error is differentiated into:

1. slips
2. lapses
3. mistakes

### Characteristics of Error

1. "If the action is not what was intended, this is a slip or lapse."  
(Form an appropriate goal but mess up the performance.)
2. "If the intention is not appropriate, this is a mistake."  
(Form the wrong goal, and you've made a mistake.)



# Slips

## Characteristics of Slips

1. Action slips occur most often in *familiar surroundings* during the execution of some *well-practiced task* that makes few demands on *conscious attention*.
2. Slips are errors made by experts, not novices.
3. Slips are a problem of attention.
  - a. **Inattention**
    - ◆ Attention is diverted by some pressing internal consideration (preoccupation).
    - ◆ Attention is directed to some engaging but unrelated external happening (distraction).
  - b. **Overattention**
    - ◆ Too much attention may be paid to a task that is routinely done with minimal attention.

## Types of Slips

### **Habit Intrusion**

A frequently done activity suddenly takes charge instead of the one intended.

#### **Examples:**

- ◆ Go to get the Sunday paper and find yourself driving to work.
- ◆ Documentation on a 9-month old infant states; "Awake, alert, and oriented x3."

## **Recognition Failure**

Performance of the correct action on the wrong object.

### **Examples:**

- ◆ Pouring orange juice into your coffee cup.
  
- ◆ A nurse hangs half normal saline instead of normal saline.

## **Intrusion Error**

Automatic actions, triggered by the arrival of some form of sensory data, that intrude into ongoing activities.

### **Examples:**

- ◆ You notice the mirror on the passenger side of your car is not adjusted properly. You tell the passenger, "Please adjust the window" rather than "Please adjust the mirror."
  
- ◆ While retrieving lab data for a patient at the computer, a nurse is questioned by the unit secretary about the type of x-ray order on patient A. The nurse replies that patient A has to go to x-ray "for a BUN."

## **Mode Error**

Actions appropriate for one mode have different meaning in another mode. (A "failure" of the user's memory if mode information is ignored.)

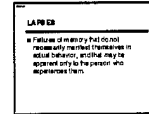
### **Examples:**

- ◆ Obliterating information in a VCR that is in program mode rather than in normal mode.
  
- ◆ Doing a drug calculation based on weight in pounds rather than in kilograms.

## **Detection of Slips**

1. Detection depends on feedback from the action that does not match the intention.
  
2. Mostly self-correcting, but not always.
  
3. Brought to conscious attention by team mate.





# Lapses

This term is generally reserved for more covert error forms, largely involving failures of memory that do not necessarily manifest themselves in actual behavior, and that may be apparent only to the person who experiences them.

## Loss-of-Activation Error

Decay or loss of a goal for an intended action.

### Examples:

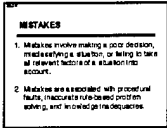
- ◆ Purposely standing, walking into a room, and having no idea why you decide to go there (destinesia).
- ◆ A physician examines a patient for a complaint of ankle pain. She leaves to order an x-ray, but can't remember which extremity she wants filmed.

## Losing One's Place

Failure to keep track of one's position in a planned sequence of actions.

### Examples:

- ◆ While spooning coffee into the coffee maker, you loose track of how many spoonfuls you've already added.
- ◆ A patient questions a nurse about several issues, including the need for pain medication. The nurse leaves to deal with each issue, but forgets to get pain medication.



# Mistakes

1. Mistakes involve making a poor decision, misclassifying a situation, or failing to take all relevant factors of a situation into account.
2. Mistakes are associated with procedural faults, inaccurate rule-based problem solving, and knowledge inadequacies.

## Vignette:

Relate the following vignette, or substitute one from personal experience that provides a clinical example of mistakes.

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### Mistakes

It's 1:45 am. The Trauma Rooms have been busy all night with really sick patients. The last patient that has arrived is a GSW to the abdomen with unstable vital signs. Dr. Blank asks John, the new intern on the team, if he wants to insert the chest tube before the patient gets sent off to surgery. John turns to Michael, the medical student on the team, and hands him the patient's blood tubes to send off labs. Michael goes to the desk and sends the lab off. Ten minutes later, the ED Clerk is taking a call from the lab saying that the Blook Bank specimen was mislabeled and discarded. The specimen has to be resent.

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3. Mental models as an example of a knowledge inadequacy.
  - a. **Examples of Mental Models**
    - ◆ Water faucet as model of furnace thermostat
    - ◆ The tube and ball problem
  - b. **Mental Model as Source of Error**
    - ◆ in one's own representation of a current problem
    - ◆ in shared mental model across team members
4. Faulty actions stemming from a mistake are corrected by team intervention. The fundamental knowledge deficit can be dealt with individually as a matter of professional competence either through training or administrative solutions.

The water faucet as a model of a furnace thermostat is incorrect because turning a thermostat to a high value does not produce heat any faster than setting it to a lower value. In contrast, turning a faucet all the way open does result in faster results. As discussed earlier, the tube and ball problem has two representations of what will happen when the ball exits the tube. Only one representation is correct, however.

# The Role of Advocacy and Assertion

## Introduction

Advocacy and assertion are interventions invoked when your viewpoint does not coincide with that of a decision maker.

“What you do” = Advocacy

“How you do it” = Assertion

## Advocacy

1. Stronger than a recommendation, which is to urge or suggest a course of action as appropriate or beneficial.
2. “What you do” is to speak out in support of a course of action different than that being planned or followed.
3. Also involves listening to other viewpoints that may be contradictory in nature.

## Assertion

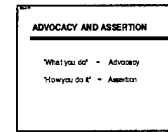
1. The forceful, nonthreatening statement of a belief, feeling, position, or idea concerning a situation with which one is uncomfortable.
2. “How you do it” is by stating a position with some force or conviction.

## Being Assertive: The DESC Script Revisited

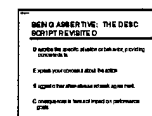
1. **D**escribe the specific situation or behavior, providing concrete data.
2. **E**xpress your concerns about the action.
3. **S**uggest other alternatives and seek agreement.
4. **C**onsequences in terms of impact on performance goals.

The previous sections have discussed the different sources of errors in the decision making process and the team's role in helping the decision maker avoid these errors. This section introduces techniques that team members can use to point out and communicate the error.

Display Slide 2-17  
*Advocacy and Assertion*



Display Slide 2-18  
*Being Assertive: The DESC Script Revisited*



Relate the following vignette, or substitute one from personal experience that provides a clinical example of mistakes.

### Vignette:

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An elderly female tripped over a rug at home and suffered several lacerations and abrasions. The physician did an evaluation, sutured her lacerations and discharged her. The nurse gave her a tetanus booster and discharge instructions. The nurse asked the aide to take the patient out to her son's car in a wheelchair. The aide made several attempts to get the patient up but she was unable to bear weight. The aide communicated this to the nurse and she told the aide the patient was really sore from the fall. She was also told that 3 MVAs were coming in and make the bed available right away. The aide went back and make another attempt, only to have the same outcome. The aide then went to the physician who had evaluated the patient and he told her the same things as the nurse. Absolutely frustrated by this time, the aide sought out the medical director who evaluated the patient for the aide and diagnosed the patient with a hip fracture.

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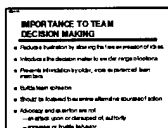
## Making the Process Work

1. **Sender Characteristic:** Goal must be patient welfare.
2. **Receiver Characteristic:** Motivation to affirm or revise a decision, or to remove a bias or error.

## Importance to Team Decision Making

1. Reduces frustration by allowing the free expression of ideas, which team members may be holding back for various reasons.
2. Introduces the decision maker to a wider range of options than might otherwise be available.
3. Prevents intimidation by older, more experienced team members whose opinions are held in high regard.

Display Slide 2-19  
*Importance to Team Decision Making*



4. Builds team cohesion because team members know their ideas will be heard and considered – that their ideas are important to the decision process.
5. Should be fostered, especially in terms of a “devil’s advocate” to examine alternative courses of action.
6. What advocacy and assertion are not:
  - ◆ an attack upon, or disrespect of, authority
  - ◆ aggressive or hostile behavior

What do you do if you believe that someone on your team is placing a patient at risk with possible serious consequences? What form of intervention is necessary and sanctioned? Some hospitals have a formal policy to deal with such situations. Others rely on less formalized norms or practices. This topic is raised to encourage a dialogue among class members about what mechanisms exist to deal with a risky situation. The issue is raised with a 5-10 minute discussion, and may very well not be resolved with a few minutes of classroom discussion. Raising the issue will inform the class members of currently available remedies. Further exploration of the Two-Challenge Rule is encouraged through the Team Challenges provided in the appendix.

Relate the vignette, in which the intervention of a team member averted placing a patient in jeopardy, or substitute one from personal experience. The vignette should prompt discussion of the ED's current policies and practices, be they official or ad hoc. The intention should be to surface the team member challenge issue and to plan for a satisfactory resolution.

# The Two-Challenge Rule

ED teams need to have available to them the means for any team member to be heard if he or she believes a patient is at risk through another's actions or inaction.

## Vignette:

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### Two-Challenge Rule

It's 3 am, and a 42 y/o overdose patient has just arrived. She's an obese woman who is somnolent but arousable. In talking with her family, it's discovered that she has mostly ETOH on board but did take about 6 Valium 10 mg tablets. The physician orders the appropriate decontamination of gastric lavage. The patient is currently laying supine on the stretcher with sonorous respirations. You question the need to intubate the patient for airway protection, but the physician feels it isn't necessary and leaves to care for another patient. You are still concerned about the patient's risk for aspiration with the gastric lavage and her own secretions in the absence of an endotracheal tube.

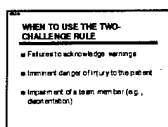
You approach the physician in private outside the patient's room to express your fears regarding the patient's airway status. After discussion, the physician agrees that the patient should be intubated for safety.

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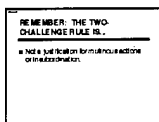
1. **Strong Form of the Rule:** The automatic assumption of duties from any team member who fails to respond to **two** consecutive challenges.

- a. Used in situations such as
  - ◆ Failures to acknowledge warnings
  - ◆ Imminent danger of injury to the patient
  - ◆ Impairment of a team member (e.g., disorientation)
- b. Not a justification for mutinous actions or insubordination.

**Display Slide 2-20**  
*When To Use The Two-Challenge Rule*



**Display Slide 2-21**  
*Remember: The Two-Challenge Rule is...*



2. **Weak Form of the Rule:** Exercising the principles of assertion and advocacy through two challenges, with reliance on one of the **two** following options:

a. Options

- ◆ accepting the decision or explanation provided or,
- ◆ taking an administrative action on the patient's behalf.

b. Not a justification for mutinous actions or insubordination.

# Behavioral Criteria for Apply Problem Solving Strategies

## Superior Rating

- + The team acquires new and updated information and uses it to develop or modify the plan of action.
- + All actions, duties, and task responsibilities of the plan are partitioned and clearly assigned to specific individuals.
- + The level of team participation and deliberate analysis of options is appropriate for the decision time available. Resulting decisions are timely and appropriate given the time urgency and level of information available in each situation.
- + Team members state to the rest of the team a course of action that they consider best.

## Acceptable Rating

- ◆ A brief description of the situation is provided to the entire team. Responsibilities are partitioned and assigned to specific individuals.
- ◆ Some discussion takes place to clarify responsibilities in the event of unexpected problems or contingencies.
- ◆ Most decisions are appropriate for the situation with the team occasionally overlooking one or more factors or options.
- ◆ Occasionally, team members do not recognize or exploit opportunities for additional planning or rehearsal, substituting ad hoc strategies or plans.
- ◆ Team members usually speak out when they recognize a risky departure from standard procedures or when they have a piece of information that is important to another's task execution.



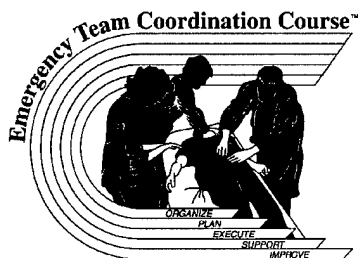
### **Very Poor Rating**

- Planning reflects an inflexible style of decision making (either deliberate or automatic) despite time urgency.
- Team members may engage in excessive deliberation, overlook the relative urgency of competing decision requirements, or act impulsively.
- Except for the team leader, team members almost never suggest a course of action.
- Team members attempting to propose a course of action may be cut off before they can propose the action or explain the rationale for that action.



# 3

## Support Team with Information



**Time:** 50 minutes

**Materials Needed:** ♦ Slides 3-1 to 3-11  
♦ Practical Exercise: *Buzzwords*

Review learning objectives before proceeding with instruction.

### Learning Objectives

*Upon completion of this module, participants will be able to:*

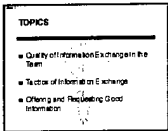
- 
- ♦ Identify common problems with information exchange.
  - ♦ Discuss the standards of effective communication.
  - ♦ Describe 3 tactics of information exchange that reduce the occurrence of communication related errors.
  - ♦ Explain the key actions associated with getting and giving good information.
-

# Introduction

Communication is a “life-line” for ED teams. Nothing is as crucial to the coordination of a team’s effort . It is imperative for all members of the team to develop skill in this essential dimension of teamwork.

Module 3 provides a practical approach to information sharing within the team. It provides strategies and key actions that improve the quality of information exchange and reduce communication-related errors.

Display Slide 3-1  
Topics



## Topics

- ◆ Quality of Information Exchange in the Team
- ◆ Tactics of Information Exchange
- ◆ Offering and Requesting Good Information

# Sample Teamwork Failure

Discuss the teamwork failure and add from personal experience.

Mr. Brown is being admitted to the hospital from the ED. He has been in the department for 12 hours and has received a battery of tests, along with several rounds of treatment and reassessments. The ED physician caring for him decides that Mr. Brown is not improving and orders his admission.

The nurse begins the admitting process. Shortly, Mr. Brown's ED physician reports off to ED Dr. #2 who is just starting his tour of duty on the night shift. After reviewing Mr. Brown's lab values Dr. # 2 decides to begin a different course of action. As he completes writing his corresponding orders he is called away to respond to an incoming trauma.

Three hours later Dr. #2 returns from the trauma room and requests the results of his ordered interventions for Mr. Brown. The nurse informs him that Mr. Brown was admitted to the floor two and a half hours ago. Unaware of the change in the plan-of-care for Mr. Brown, she had followed the original orders and admitted him to the floor.

*Information exchange is a principal form of team support.*

# Information Exchange

## Key Points

It may be necessary to re-frame the practice of requesting information in terms of benefit to the patient. For example, "We have a responsibility to ask for information that will help us provide the best care possible to our patients."

Emphasize the need to include patients and family members in the communication loop.

Make the correlation between this and event-driven decision making discussed in Module 2.

Relate the following vignette or substitute one from personal experience that provides a clinical example of information exchange.

1. Solicitation of information and information sharing dramatically improve situation awareness.
2. Information exchange is a key action between team members. It expands the information base that guides follow-on actions.

### Vignette:

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#### Information Exchange

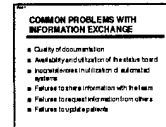
Dr. Jones has completed reviewing the lab work on Mr. Hastings. Mr. Hastings is a 92 y/o who came to the ED with a complaint of a persistent cough and low-grade fever. He is unable to give his own medical history. Stephanie is the nurse caring for him. Dr. Jones tells Stephanie that Mr. Hastings' lab shows an elevated WBC and his x-rays had a consolidation in the LLL. He orders antibiotics for Mr. Hastings and an admission to be started. Dr. Jones meets with Mr. Hastings' family to discuss the diagnosis and plan of care for the patient. Mr. Hastings' daughter mentions that her father is allergic to Penicillin. Dr. Jones states that this is new information and that he will place the patient on another appropriate drug.

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3. In emergent situations, the exchange of critical information helps provide team members with data they need to proceed to the next task, fosters team situation awareness, and serves to allow for active cross-monitoring at a time when team members may be too focused on one problem.

# Common Problems with Information Exchange

Display Slide 3-2  
*Common Problems with Information Exchange*



1. Quality of documentation

Research reveals the following common problems with documentation: It is often...

- ◆ un-timed
- ◆ non-specific
- ◆ illegible
- ◆ incomplete
- ◆ full of hidden messages

2. Availability and utilization of the status board

Some organizations refuse to use status boards. In others, the board is not used by all members or is not updated frequently enough to be useful. Invariably, high performing EDs have a well used means of providing situation awareness to a broad number of staff.

3. Inconsistencies in utilization of automated systems

The degree of utilization may vary due to insufficient input of data or limited access.

4. Failures to share information with the team

For example: a common teamwork error occurs when a team member who receives an EMS call fails to inform the rest of the team of the impending arrival of the ambulance. As a result, confusion often reigns upon ambulance arrival, especially if the ED is busy.

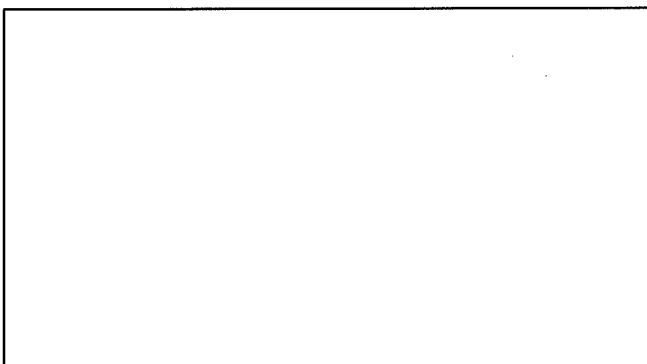
5. Failures to request information from others

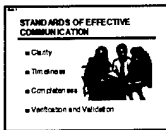
The "right" information facilitates the "right" action.

6. Failures to update patients

Informed patients are generally more compliant patients.

## Practical Exercise: Communication Barriers





# Standards of Effective Communication

Communication is a “life-line” for ED staff. It is incumbent on every team member to develop skills in effective communication.

Whether requesting or offering support, communication must meet several standards to be effective.

## 1. Clarity

The use of standard terminology in statements that are brief and to the point.

Emphasize the importance of incorporating the communication standards into documentation and communication with patients as well.

Introduce the **Buzzwords Exercise** here. Allow 20-30 minutes.

The objective of this exercise is to heighten the student's awareness that words drive action and need to be used accurately especially during the process of a medical assessment.

Certain terms or phrases can convey concern, urgency, and even a diagnostic path. At the conclusion of the exercise, point out the difference between terms that are descriptive and those that are diagnostic in nature.

## Practical Exercise: Buzzwords

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Respond to each of the following situations from your own role perspective using **only** the information provided.

A report describes the patient as being “very agitated.”  
*What is your plan?*

A report describes the patient as being “very anxious.”  
*What is your plan?*

A report describes the child's color as “very pale.”  
*How do you react?*

A report describes the child's color as “very poor.”  
*How do you react?*

A report describes the child's color as “dusky and mottled.”  
*How do you react?*

---

## 2. Timeliness

Offering statements and directives in a timely manner and avoiding delays that may compromise a patient's situation.

## 3. Completeness

The inclusion of all **relevant** information while avoiding nonessential information that may lead to overload or confusion.

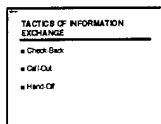
Encourage participants to note the times of their observations and interventions in the patient record.



#### 4. **Verification and Validation**

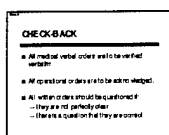
The use of feedback to acknowledge the receipt of a given message.

.Emphasize the importance of requesting clarification.



# Tactics of Information Exchange

There are a number of strategies that can be used to reduce the errors associated with mis-communication of information or a lack of information exchange. Each strategy is intended for use under certain circumstances. If utilized consistently within the team, these tactics will significantly reduce the occurrence of communication related errors and improve team performance.



**Check-back :** A tactic used to *verify* information exchange. Guiding principles are these:

1. All medical verbal orders are to be verified *verbatim*.
2. All operational orders are to be acknowledged.
3. All written orders should be questioned if:
  - a) they are not perfectly clear
  - b) there is a question that they are correct

Example:

(doctor) "Epinephrine 0.5mg 1:1000 sub-q"  
(nurse) "Verifying; Epinephrine 0.5mg 1:1000 sub-q"  
(doctor) "That's correct."

Ask participants for other examples.

A subtle form of the check-back system is employed when staff *communicate decisions and actions*. Sometimes due to the urgency of a situation, decisions must be made by an individual or small group. When this occurs, it becomes their responsibility to communicate their decisions and associated actions to others. In turn, it is important for the information being communicated to be acknowledged as an indication that it has been understood. This tactic involves the *announcement of actions* by the sender, and the *acknowledgement of actions* by the receiver.

Reinforce the need to announce and acknowledge actions.

Example:

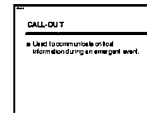
Following a radio-ambulance call, with an ETA of 5 minutes, the MD Team Leader calls the Resuscitation Team together.

(leader) "We have a 37 year old iron-worker coming in post fall from 30 feet. He's unconscious and has head injuries. I want to stabilize him quickly and move him to the OR."

[To nurse 1] "Call the Trauma Surgeon and Neurosurgery."  
 (nurse 1) "I'll place the page for the Trauma Surgeon and Neuro."  
 (leader) [To nurse 2] "Let's get room 2 ready with an ICP Monitor."  
 (nurse 2) "I'll set up the ICP monitor now."  
 (leader) [To the tech] "We need to make sure the stretcher is set up with O<sub>2</sub> and a monitor for transfer."  
 (tech) "Yes sir, I'll get the stretcher ready."

Make the correlation with Event-Driven Decision Making discussed in Module 2.

Display Slide 3-6  
 Call-Out

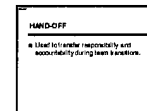


**Call - out** : A tactic used to communicate critical information during an emergent event. Critical information called - out in these situations helps the team anticipate and prepare for vital next steps in patient care. It also benefits the recorder.

Example:  
 During the initial assessment of a trauma case...

(leader) "What's his airway status?"  
 (PG 2) "Airway is clear."  
 (leader) "Breath sounds?"  
 (PG1) "Breath sounds are decreased on the right."  
 (leader) "Let's get a chest tube in."  
 (leader) "Do we have a blood pressure?"  
 (medic) "BP is 110/70."

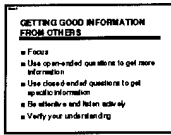
Display Slide 3-7  
 Hand-Off



**Hand - off** : A tactic used to transfer responsibility and accountability during team transitions. A hand - off is communicated verbally and acknowledged by the team.

Example:  
 Near the end of a long resuscitation...

(leader) [To PG 1] "Dr. Brown, I'm turning this case over to you so I can assist with the trauma in room 4."  
 (PG 1) "Yes sir, I'll take over here."  
 (leader) [To the team] "I'm transferring control to Dr. Brown."



Emphasize the need to **briefly** and **directly** state what information is needed from the other person.

This is a useful strategy when time is not an issue.

This is the preferred method when time is short. It is also useful when needing to fill in incomplete information, check for clarification, or check understanding. Questions typically lend themselves to "yes / no" or very specific responses.

Listening is the number one skill of an effective team member or team leader.

Emphasize the importance of restating in your own words what you understand the other person is saying.

# Getting Good Information from Others

(Source: Zenger, 1988)

These guidelines are useful when attempting to obtain good information from patients and families as well as from team members.

## 1. Focus the discussion on information needed.

### Example:

- ◆ "I need some information about what led to your decision to come to the ED."
- ◆ "I need to review the assessment parameters for pediatric patients."

## 2. Use open-ended questions to draw out information freely.

### Examples:

- ◆ "Please describe for me..."
- ◆ "What do you think might be causing the problem?"

## 3. Use closed-ended questions to prompt for specifics.

### Examples:

- ◆ "What's the BP?"
- ◆ "Has the bleeding stopped?"
- ◆ "Have you ever experienced this symptom before?"

## 4. Encourage information through demonstration of attentiveness and active listening.

### Examples:

- ◆ Nodding when in agreement.
- ◆ "I understand what you are saying."

## 5. Verify your understanding of what you are hearing.

### Examples:

- ◆ "In other words..."
- ◆ "If I understand you correctly, you're saying..."

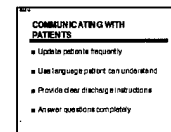
# Offering Good Information to Others

Information is useful when it is clear, timely, complete, and verified.

The general rule is to use the standards of effective communication.

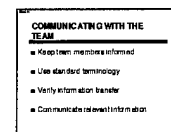
Explain the corresponding slide emphasizing the following:

**Display Slide 3-10**  
*Communicating with Patients*



It may be necessary to use lay terms to explain technical information to patients.

**Display Slide 3-11**  
*Communicating With The Team*



It is helpful to ask the question, "Do you understand?" to determine your success in this area. Give the patient enough time to answer this question. If it is critical, ask the patient to tell you what you just said.

Emphasize the importance of being sure that the patient understands what you are saying. No matter how busy you are, provide patients with the time to ask questions.

Reinforce the need to communicate all plans and decisions.

Avoid uncommon medical jargon not used routinely in your ED. Be especially wary with new staff until you are sure that they are familiar with the terminology.

Ask questions when verbal acknowledgment from the receiver is not forthcoming. Reinforce the use of the "check-back" system for all medical orders.

Reinforce the importance of providing only relevant information and to avoid communicating non-essential information that may create confusion or overload.

## 1. Key Actions when Communicating with Patients

- ◆ Update patients frequently
- ◆ Use language patients can understand
  
- ◆ Provide clear discharge instructions
- ◆ Answer questions completely

## 2. Key Actions when Communicating with the Team

- ◆ Keep team members informed
- ◆ Use standard terminology
  
  
  
  
  
  
  
  
  
  
- ◆ Verify information transfer
  
  
  
  
  
  
  
  
  
  
- ◆ Communicate relevant information

# Behavioral Criteria for Support Teams with Information and Actions

## Superior Rating

- + Team adheres to quality standards in all communication within the team and with patients. Patients are updated frequently.
- + The physician or situational leader seeks information and input from team members when making decisions. Decisions and intended actions are clearly communicated.
- + All team members seek information from others. Team members anticipate the information needs of others and offer relevant information.

## Acceptable Rating

- ◆ Quality standards of communication are usually used in communications with others. Communication with patients is brief and to the point. Updates are offered intermittently.
- ◆ The physician asks team members for essential information when making decisions. The team acknowledges the physicians decisions and intentions.
- ◆ Team members sometime seek information from others. Team members anticipate the information needs of others and offer relevant information when time permits. Urgent and emergent situations are more likely to generate information exchange than are non-urgent situations.

## Very Poor Rating

- Team members may fail to share critical information. The quality of information exchange is poor. Non-standard terminology is used, messages are inappropriately delayed, information may be incomplete and confusing. Patients' questions are answered, but often without regard for understandability. Updates are generally provided on request only.

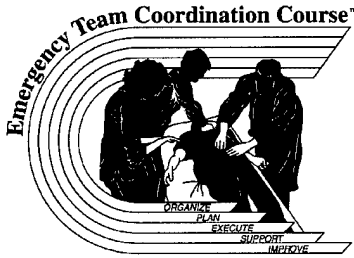
-Decision making and planning are often done by on individual. Decisions and actions of the physician or situational leader are often not passed on to the team.

-Team members infrequently ask for information even when they are at risk for making errors. The team generally does not offer support to other members. Team members may discourage others from asking questions or seeking assistance by the tone of voice they use or by failing to respond.





# 4



## *Execute Plans and Manage Workload*

**Time:** 50 minutes

**Materials Needed:** Slides 4-1 to 4-17

Review Learning objectives before proceeding with instruction.

### Learning Objectives

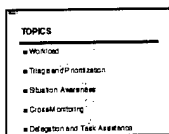
*Upon completion of this module, participants will be able to:*

- 
- ◆ List the four steps of effective delegation.
  - ◆ Discuss prioritization and triage as methods for managing workload.
  - ◆ Describe the purpose and process of situation awareness.
  - ◆ Discuss several reasons for cross-monitoring team member performance.
  - ◆ List several factors that influence workload.
-

# Introduction

Research shows that errors tend to occur during sustained periods of high workload referred to as “work overload.” This module of instruction addresses the issue of workload comfort. It describes several strategies designed to avoid errors associated with workload build-up on individual members of the team.

Display Slide 4-1  
Topics



TD 3 focuses on the management of workload through the use of a number of strategies including situation awareness, cross-monitoring, delegation, and triage.

## Topics

- ◆ Workload
- ◆ Triage and Prioritization
- ◆ Situation Awareness
- ◆ Cross-Monitoring
- ◆ Delegation and Task Assistance

# Sample Teamwork Failure

A 22 year old woman approximately 2 months pregnant was attempting to light a fire by pouring gasoline on the flame when it flashed up, causing second degree burns to her forearms, hands and body. She is transferred from a small community hospital to the closest Level I Trauma Center which is not a regional burn center. The patient arrives, is put into a room and seen by the Emergency Medicine resident who is a brand new PG1. The patient pleads for pain medication. The resident examines her and leaves the room to present the case to the attending. The staff physician is busy taking several paramedic calls so the resident decides to review an article on Burn Care while he waits for her.

Another 50 minutes pass before the resident and attending meet to discuss the case. Meanwhile, the patient continues to request medication for her pain. After the staff physician's exam, pain medication is ordered. The resident, still new to the unit, places the orders at the head of the patients' bed and leaves to see another patient.

The nurse assigned to this patient has been sitting at the station with another staff member commenting that there wasn't much going on. It suddenly occurs to him that the resident has been with the burn patient for a long time and hasn't given any orders. He decides to check on the patient and discovers the doctors' orders. An additional 90 minutes have gone by without pain medication for the patient who is now in extreme pain. Through sobs, the patient angrily asserts. " I know you're busy, but couldn't someone do something for my pain?"

# Distribution of Workload

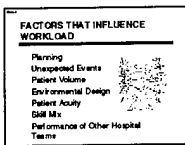
## Key Points

1. Workload distribution within the team is managed by team members.
2. Workload distribution within the department or across teams is a function of the Coordinating Team.
3. The goal of workload distribution is to prevent individual team members from becoming task overloaded, especially during emergent clinical situations.
4. Members of effective teams are consistently aware of workload buildup on others and react quickly to adjust distribution of task responsibilities with minimal verbal direction from the leader.

Discuss the role of the triage nurse in distributing workload in the department.

## Factors That Influence Workload

Display Slide 4-2  
*Factors That Influence Workload*



Advanced planning can have a major impact on workload management. Give several examples from personal experience, then challenge participants to identify additional examples of advanced planning.

Ask participants for examples from their own experience and add some of your own.

Extremes of high and low volume can impact workload in a serious way. Ask participants for examples and add your own.

The location of material resources can place demands on individual team members. Request and give examples.

1. Planning
2. Unexpected Events
3. Patient Volume
4. Environmental Design

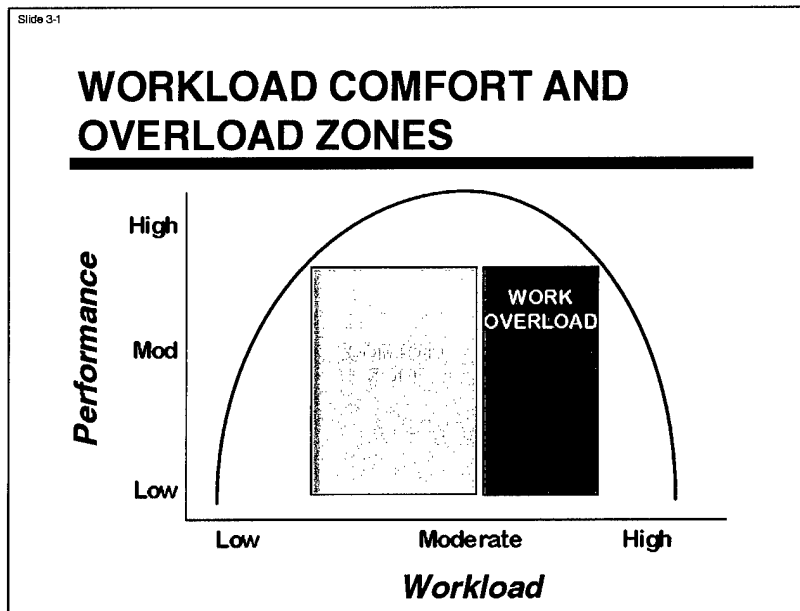
5. Patient Acuity

6. Skill Mix

7. Performance of Other Hospital Teams

## Workload Comfort and Overload Zones

ED staff work well in moderate- to high-workload situations. When it is sufficiently busy, ED personnel tend to increase their situation awareness and, in general, things frequently run more smoothly. However, sustained periods of high workload can develop into work overload situations. This state in the ED can have a damaging effect.



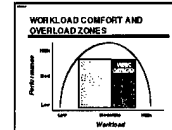
Fluctuations in patient status as well as the complexity of any single case can impact workload in the ED. Request and give examples.

The degree of overlap in team member roles will impact workload distribution.

### Example:

◆ A log jam in x-ray.

Display 4-3  
Workload Comfort and Overload Zones



We strive to obtain the comfort zone. In the comfort zone, work seems stimulating and challenging. Work overload, on the other hand, is extremely taxing over time and will become the source of teamwork errors.

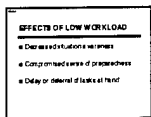
Workload is measured on the basis of six parameters:

1. Mental Demand
2. Physical Demand
3. Time Pressure
4. Effort
5. Performance Expectations
6. Frustration Level

Workload is a "subjective" experience.

Although we tend to think of work overload as problematic, low workload comes with its own set of problems.

**Display Slide 4-4**  
*Effects of Low Workload*



## Low Workload

### 1. Effects of Low Workload

Low workload can create inattention, boredom, and complacency among staff, which can affect team performance in the following ways:

- ◆ Decreased situation awareness
- ◆ Compromised sense of preparedness
- ◆ Delay or deferral of tasks at hand

### Vignette:

---

#### Low Workload

Sue is assigned to the walk-in area of the ED this evening. Having discharged all but one patient, she takes a few moments to catch up on her charting. Her patient is being admitted for abdominal pain and observation. Sue decides to allow the patient some time to talk with her family before calling report to the floor.

Several minutes later, Sue's attention is drawn to loud screaming at the Triage area where a 5 y/o is hysterical over a large bleeding cut on her foot. Sue offers to assist the Triage nurse by bringing the child and her mother directly to one of her empty treatment rooms. Sue comforts the child and leaves the room to call report on her admission.

As she picks up the phone, "Code 99" is called for the unit she is about to telephone. At the same time, a family member of the patient being admitted approaches to complain that the patient's IV has run dry and that she is anxious to move up to the floor.

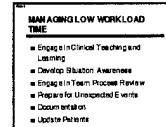
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After discussing the effects of low workload, relate the following vignette or substitute one from personal experience that provides a clinical example of low workload.

Due to her limited workload, Sue delayed calling report and then offered assistance outside her work area. As a result, the transfer was further delayed by a code, the IV ran dry, and the patient and family grew restless.

## 2. Managing Low Workload Time

Display Slide 4-4  
*Managing Low Workload Time*



Observational studies have shown that a large percentage of teamwork-related errors occur during the unexpected transition from low to moderate or high workload. During periods of low workload, complacency sets in and staff don't tend to exercise their teamwork skills, i.e., operating as individual practitioners and cutting back on team communication and group level situation awareness. Team members should use periods of low workload for preparation, planning, reviewing, and "staying ahead" of the workload.

Suggestions for managing time during periods of low workload:

- ◆ Engage in clinical teaching and learning
- ◆ Develop situation awareness
- ◆ Engage in team process review
- ◆ Prepare for unexpected events
- ◆ Documentation
- ◆ Update patients

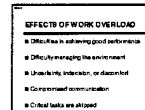
After reviewing the suggestions for managing low workload in the text, ask participants to offer other ideas in this category and give a personal example.

## Work Overload

### 1. Effects of Work Overload

- ◆ Difficulties in achieving good performance
- ◆ Difficulty managing the environment
- ◆ Uncertainty, indecision, or discomfort
- ◆ Compromised communication with the team and patients
- ◆ Critical tasks are skipped

Display Slide 4-6  
*Effects of Work Overload*



Acknowledge that workloads may vary for different members of the team caring for the same patient.

**Example:**

- ◆ The alcoholic patient.

After reviewing the potential effects of work overload, relate the following vignette, or substitute one from personal experience that provides a clinical example of work overload.

This is an example of workload shifting from high workload to work overload.

## Vignette:

---

### Work Overload

While continuing to monitor VS on a 2 y/o who has just completed a procedure under conscious sedation, Barbara begins setting up for an elective chest tube placement. The second patient, a young adult male, arrived earlier in the morning in slight distress with a spontaneous pneumothorax.

Barbara sees the Triage nurse hurrying toward her with an elderly man. The man is assisted onto the stretcher by the Triage nurse, who quickly exits the room exclaiming, "Sorry Barbara, I've got to get back to Triage! This gentleman has had chest pain for two hours...relieved with Nitro...history of MI last year!" Barbara places the patient on O2 and documents VS. Things seem fine for the moment with the 2 y/o, so Barbara moves the EKG machine closer to her elderly patient.

As she passes by the bed of the young man awaiting the chest tube, Barbara notices that his breathing is more labored. The thoracic surgeon enters the room and starts giving directives to prepare to move the patient quickly to the OR.

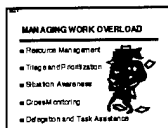
In the next bay, Dr. Williams is evaluating the cardiac patient and administers SL Nitro to ease his pain. Suddenly, the cardiac patient becomes diaphoretic and hypotensive. Dr. Williams calls to Barbara from behind the curtain to "Start some fluids." Barbara rushes to obtain IV access, as Dr. Williams asks for an EKG reading. The EKG machine has not yet been plugged in.

---

## 2. Managing Work Overload

- ◆ Resource Management
- ◆ Triage and Prioritization
- ◆ Situation Awareness
- ◆ Cross-Monitoring
- ◆ Delegation and Task Assistance

Display Slide 4-7  
*Managing Work Overload*





# Workload Management Strategies

## Resource Management

Members of the Core Team manage a multitude of resources within and outside of the organization.

Methods of resource management within the team include:

- ◆ Voluntary adjustment of individual workload and priorities
- ◆ Efficient utilization of personnel during emergencies
- ◆ Fair distribution of workload
- ◆ Cross-training skills
- ◆ Appropriate utilization of internal resources (human and material)

### Vignette:

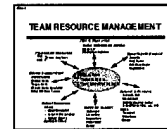
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#### Resource Management

Nancy is assigned to Fast-Track tonight with Beth. The staffing pattern for the unit is 2 nurses in Fast-Track, 4 nurses in Trauma, and 3 nurses in the Medical Area. The patient load is steady but not overwhelming in all of the areas. Triage announces the arrival of 5 new patients to the Trauma area, 3 of which are critical. Nancy and Beth discuss patient load and the acuity of the Trauma patients. They come to the decision that Nancy should shift into the Trauma area to help with the higher acuity patients. Nancy calls the Charge Person, who agrees with the new assignment. When Nancy arrives in the Trauma area, Judy, the Nursing Team Leader, gives a brief run-down of the patients in the area. She then requests Nancy to take over the patients in Rooms 7 and 8 so Carol can focus on the new trauma in Room 2.

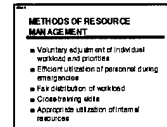
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Display Slide 4-8  
*Resources Managed By The Core Team*



We have limited control over these resources

Display Slide 4-9  
*Methods of Resource Management*



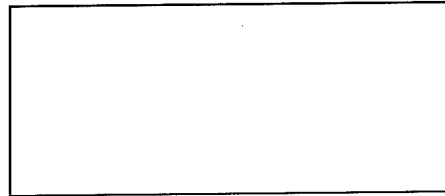
We have more control over the resources on our own team.

Discuss methods listed in the text. Relate the following vignette or substitute one from personal experience that provides a clinical example of resources management.

Teams need to be prompted to identify common problems in resource management and identify common approaches to managing them.

### Practical Exercise: Workload Re-distribution

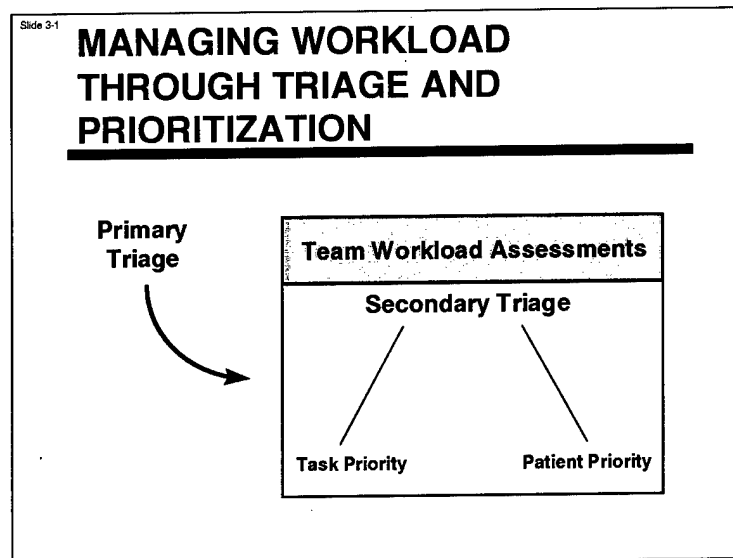
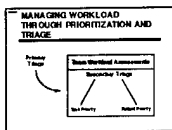
Introduce the workload re-distribution exercise here.



### Triage and Prioritization

Triage is a method of establishing patient priority and involves the classification of patients by degree of relative need or sensitivity. It occurs at two levels: Primary and Secondary.

Display Slide 4-10  
Managing Workload Through Triage and Prioritization



Primary triage is a **formal process**, which follows pre-determined standards and protocols. Primary triage will not be a focus of discussion in this course.

Secondary triage is a concern for team coordination and thus a topic for discussion in this course.

#### 1. Primary Triage

Determines the order in which patients in the **department** will be seen. Is generally performed by the triage person in the reception area.

#### 2. Secondary Triage

Determines in which order patients on a given **team** will be cared for. Is generally performed by members of the team to which the patient is assigned. This is an ongoing process which considers fluctuations in an individual patient's status and overall changes in the status of patients on the team.

Secondary triage involves **prioritization** at two levels:

### 1. Patient Priority

Considers the order in which patients on the team will be managed.

### 2. Task Priority

Considers the order in which tasks for a single patient will be managed.

In effective ED teams, members are consistently able to identify and prioritize competing clinical demands. Patient safety and other high priorities are never ignored. Lower priority activities are appropriately delayed until they no longer compete with more critical activities and thus, can be more adequately managed.

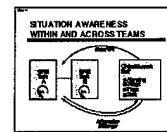
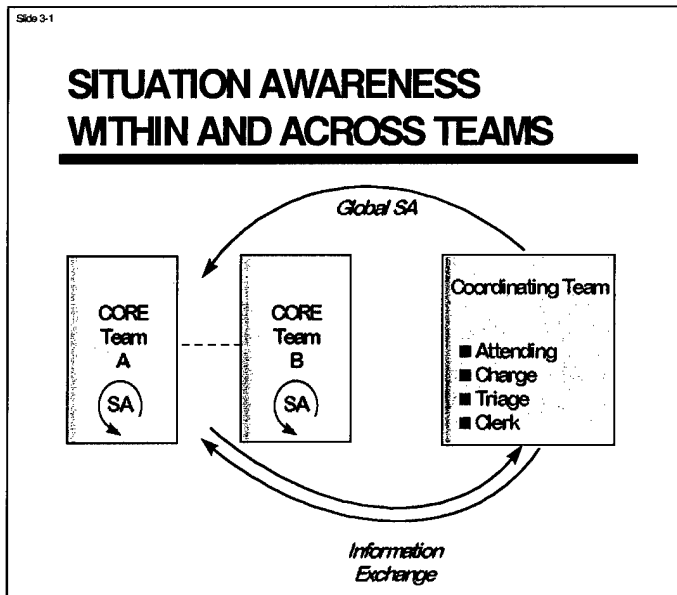
## Situation Awareness

### 1. Description

Situation awareness refers to the extent to which team members are informed about the status of a particular clinical event or the status of the team's patients or internal operational issues impacting the team (e.g., a cardiac monitor has been sent out for repair, leaving the ED with just one until a replacement can be located).

Information sharing helps develop and maintain high degrees of situation awareness among the team. In most instances, global situation awareness, that is, an awareness of the status of the ED at large, is maintained by members of the clinical support staff, particularly the Charge Person and the Unit Clerk. This information is used to assist with workload management.

Display Slide 4-11  
*Situation Awareness Within and Across Teams*



SA is only as good as your **information and communication systems** (e.g., charting system reporting methods, etc.)

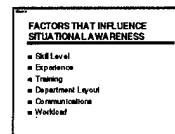
SA will be narrowed when personal workload is high. Give a personal example, then ask participants to discuss ways in which they establish SA in their ED.

In highly functioning teams, team members routinely update each other; changes are highlighted and acknowledged. Members of the clinical support staff, in particular the Charge Person and Unit Clerk, assume responsibility for maintaining global situation awareness and inform teams of changes that will impact workload. During low workload times or off line, effective teams discuss conditions and situations that compromise situation awareness (e.g., stress, boredom, fatigue).

Display Slide 4-12  
*Factors That Influence Situation Awareness*

### 2. Factors that Influence Situation Awareness

- ◆ Skill Level
- ◆ Experience
- ◆ Training
- ◆ Department Layout
- ◆ Communications
- ◆ Workload



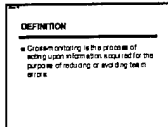
Cross-monitoring provides a safety net for the team's performance through routine monitors and checks. CM answers the question, "To what extent do members support the team by reviewing the quality of each other's task execution and alerting one another to any mistakes noted?"

**Example:**

Maintaining a sterile field in the OR is a team responsibility.

**Display Slide 4-13**

*Definition*

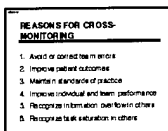


The challenge to the monitor is to accomplish this objective without taking over. Helpful statements include, "Have you considered doing...?" or "Have you tried...?"

Discuss the threatening nature of CM unless the goal is clear: mutual respect and team accountability for quality care. Emphasize that this strategy is meant to assist the team meet its collective goal: safe and efficient patient care.

**Display Slide 4-14**

*Reasons for Cross-Monitoring*



Discuss the reasons listed and emphasize the following: Team members have taken the time to develop standards of practice. CM assures they will be utilized and holds everyone accountable.

- ◆ CM provides opportunities for situational teaching/coaching.
- ◆ CM allows team members to identify overload in others so they will know when to offer assistance
- ◆ Assertion is the technique to use when one detects an error and needs to give feedback.

## Cross-Monitoring

Team errors lead to inefficiencies that impact workload and patient outcomes. Cross-monitoring is a key approach to reduce individual and team errors. Also, cross-monitoring leads to some very natural "teaching moments."

### 1. Definition

A natural extension of situation awareness, cross-monitoring is the process of monitoring other team member actions for the purpose of sharing workload, and reducing or avoiding error.

The objective of cross-monitoring is to get the individual back on track when an obvious error has been made.

### 2. Reasons for Cross-Monitoring

Effective teams practice cross-monitoring in order to:

- ◆ Avoid or correct team errors
- ◆ Improve patient outcomes
- ◆ Maintain standards of practice
- ◆ Improve individual and team performance
- ◆ Recognize information overflow in others
- ◆ Recognize task saturation in others

It is well known that medical errors often occur when standards of practice are not followed.

## Example: Teamwork Failure

The well publicized death of Betsy Lehman, a 39-year-old Boston Globe health columnist who died following a lethal dose of chemotherapy administered at the Dana-Farber Hospital in Boston in December 1994. In this case, a standard protocol requiring that a written order for chemotherapy drugs be verified by two staff pharmacists who are to recalculate the dose themselves was not followed. Ultimately all of the "required checks" failed to catch the fatal dosing error that claimed Lehman's life. This is a classic example of a chain of errors involving several members of the healthcare team.

In this example, a chain of errors occurs and results in the death of a patient. This outcome could have been avoided if cross-monitoring had been applied.

## Vignette:

### Cross-Monitoring

A patient has arrived from the field with CPR in progress. The Resuscitation Team is busy working on the patient making sure IVs are patent and the ET tube is inserted correctly. Dr. Matthews, the Team Leader, is calling out orders for drugs, x-rays, and labs. Judy, a nurse, is at the bedside inserting an IV. Nancy is the nurse at the cart drawing up the meds. Judy can tell by Nancy's expression that she didn't get the last order that Dr. Matthews gave. "Nancy, he wants the High-dose Epi. from the vial in the top drawer," calls out Judy as she continues with her IV.

Relate the following vignette, or substitute one from personal experience that provides a clinical example of cross-monitoring.

Relate the following vignette, or substitute one from personal experience that provides a clinical example of cross-monitoring.

## Delegation

### 1. Key Points

- ◆ Delegation can occur within and between teams.
- ◆ Effective delegation requires situation awareness.
- ◆ Tasks or whole patient assignments may be delegated.

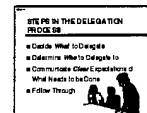
### 2. Steps in the Delegation Process

- Analyze your work and decide **what** to delegate.

*Consider:*

- ◆ priorities
- ◆ work requirements
- ◆ availability of resources
- ◆ transfer of accountability

Display Slide 4-15  
*Steps in the Delegation Process*



Delegation is not always a top down activity; it can also be a lateral activity (peer to peer).

**Example:**

Joan is managing two patients. One is complaining of chest pain with no significant cardiac history and will need an EKG and other tasks completed for a diagnostic workup. The other enters the ED in status asthmaticus and requires immediate IV medication. Joan decides to delegate the EKG to a colleague.

Members of the ED team should be able to expect a certain level of competence from all members of the team..

b. Determine who to delegate to.

*Consider:*

- ◆ skill
- ◆ availability
- ◆ scope of practice

**Example:**

Two team members aware of Joan's sudden shift in workload offer to assist. One is the only other RN on the team who is also managing a patient receiving IV medication. The other is an EMT caring for a patient with a fracture. Both team members have stabilized their own patients and have the skills to do the EKG. Joan decides to delegate to the EMT to keep the RN free in the event another patient requires medication.

Emphasize the importance of being explicit and clear. Stress the importance of communicating the plan as well as the tasks to be completed.

c. Communicate clear expectations of what needs to be done.

*Communicate:*

- ◆ work requirements
- ◆ expected outcomes
- ◆ relevant information
- ◆ resource requirements

**Example:**

Joan provides the EMT with the following information:  
"Mr. Jones is complaining of chest pain and needs an EKG done within the next ten minutes. Dr. Smith would like to view the strip before he goes off shift to determine a course of action. Please do a 12-lead EKG and leave the patient monitored while you review the strip with Dr. Smith."

#### d. Follow Through

Do:

- ◆ follow up
- ◆ recognize achievement
- ◆ provide feedback

This step is especially important as a Team Leader activity since the TL is accountable for team outcomes. Others may be less involved with follow up if they delegate whole assignments and accountability along with them. Do follow up with delegated tasks.

---

#### Example:

After starting the IV medication on her patient with Asthma and determining that the patient is beginning to stabilize, Joan returns to the cardiac room to check on the EMT's progress with the EKG.

---

#### Vignette:

---

##### Delegation

Carol is experiencing a sudden shift in workload in the four-bed ambulatory care area of the ED where she is working the evening shift. In Room 1 is a 46 y/o female with a chief complaint of epigastric burning for 24 hours. A 22 y/o female with abdominal pain is waiting a pelvic exam in Room 2, and a 12 y/o with a dog bite is in Room 3.

As Carol enters Room 2 to set up for the exam, the pediatrician stops her to request an IV and antibiotics for the child in Room 3. Carol decides to finish setting up for the pelvic before she initiates action on the 12 y/o. As she is preparing for the exam, the patient tells her that she is feeling "very anxious" and admits to regular use of crack cocaine. The patient states that she wants to kill herself because she "can't stand living like this anymore."

Just then, Dr. Morgan enters the room and urgently requests an EKG on the patient in Room 1. At this point, Carol decides to summon the Charge Person for assistance in resourcing. The Charge Person responds by re-assigning Joe, the tech., to work with Carol. Carol asks Joe to get the EKG on the patient in Room 1 and then start the IV for antibiotics on the child in Room 3. Turning to the Charge Person, Carol states, "I will be assisting with the exam in Room 2. The patient will need an attendant for suicide observation; will you take care of that for me now?"

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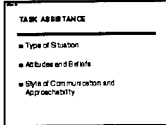
Relate the following vignette, or substitute one from personal experience that provides a clinical example of delegation.

In this scenario, it becomes necessary for Carol to request assistance in order to manage her escalating workload. She does this by clearly delegating tasks to the available resources. The Charge Person, who has global SA, is able to re-allocate resources by assigning the tech and also availing herself to assist Carol.

## **Task Assistance**

Mutual support is the essence of teamness. Task assistance is a form of team support.

Display Slide 4-16  
*Factors Influencing Ability to Offer or Request Support*



### **1. Factors Influencing Ability to Offer or Request Task Assistance**

#### **a. Type of Situation**

Team members tend to request and offer assistance more often in emergent situations than in routine situations.

#### **Examples:**

- ◆ In emergent situations, there is often a sense of camaraderie; "All for one and one for all." The team's mission and commitment seem clear. In these instances, members are more likely to offer and request assistance without hesitation.
- ◆ In routine situations, on the other hand, the question of legitimacy is sometimes raised. Members may question each other's motives for requesting assistance (e.g., laziness or incompetence) and may, therefore, be more reluctant to provide it.

#### **b. Attitudes and Beliefs**

Some attitudes restrict high team performance.

#### **Examples:**

- ◆ Nobody does it or understands it better than I do.
- ◆ It takes too much time to explain things to others.
- ◆ Others will think I'm incompetent if I ask for help.
- ◆ I'll lose control if I allow others' input.
- ◆ It's not my job.

#### **c. Style of Communication and Approachability**

One's tone of voice or use of avoidance behavior (e.g., being inaccessible or elusive) may inhibit others from approaching for help.

Ask participants if they can think of other attitudes and beliefs.



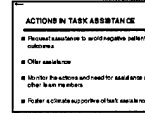
## 2. Key Actions in Task Assistance

- a. Request assistance to avoid negative patient outcomes associated with work overload. Use common courtesy and effective delegation technique when requesting assistance.
- b. Offer assistance when you see that a team member needs help even when assistance has not been solicited. Be clear about limitations of time or skill when offering assistance.

Style can often have the greatest influence on support behaviors.

### Display Slide 4-17

#### *Actions in Task Assistance*



### Examples:

- ◆ "I have ten minutes before my patient returns from x-ray. "How can I help?"
  - ◆ "I can do the EKG on your patient in room 2 if that will help."
- c. Monitor the actions and need for assistance of other team members. Monitor situation awareness to cross-monitor team performance.
  - d. Foster a climate supportive of task assistance between team members.

# Behavioral Criteria for Execute Plans and Manage Workload

## Superior Rating

- + Each member of the team handles his or her own responsibilities and seeks to support the team member with the greatest workload. Team members are aware of workload build up on others and readjust workload by assuming emerging, unassigned tasks.
- + Each team member is concerned that all tasks are properly executed and checks own tasks and those of others. When mistakes are noted, the team member making the error is quickly informed in a concise manner. The person in error accepts this feedback as a normal part of team operations.
- + Team members maintain situation awareness of the progress of their patients in the emergency department process and of possible operational impediments to that progress.

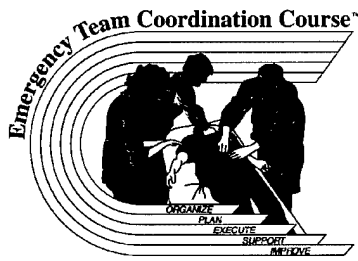
## Acceptable Rating

- ◆ The team generally takes actions to reduce each other's task load. When an individual team member appears to be overloaded, other team members may notice and take on part of the workload. Workload sometimes appears poorly distributed and may require the team leader to delegate responsibilities.
- ◆ Team members often check each other's task performance for errors. An individual making an error is informed and makes the needed corrections. Only occasionally are persons in error annoyed at being checked and corrected.
- ◆ Team members usually provide situation updates on patients and department operations.

### **Very Poor Rating**

- There is little prioritizing of duties or actions. Neither the overloaded party nor other team members take voluntary actions to eliminate an overload condition. The team makes little or no effort to redistribute task responsibilities as situational changes occur and new tasks arise.
- Team members seldom, if ever, check each other's task execution. Team members are insulted if they are corrected by another team member.
- Team members do not routinely provide updates on patient or departmental status.





# 5

## *Improve Team Skills*

**Time:** 50 Minutes

**Materials Needed:** ♦ Slides 5-1 to 5-6  
♦ Team Review Guide  
♦ Communication Style Inventory

### Learning Objectives

*Upon completion of this module, participants will be able to:*

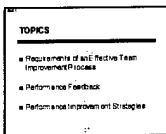
- 
- ♦ List the requirements of an effective team improvement process.
  - ♦ List the seven characteristics of effective feedback.
  - ♦ Describe one strategy for reviewing team performance.
-

# Introduction

Harvard researcher Lucian Leape has estimated a 10% error rate in the delivery of medical treatment in this country. This degree of error is unacceptable.

Effective teams strive to reduce the incidence of error and to improve overall quality. Team members assume responsibility for continuous improvement through the acquisition of new knowledge and the mastery of technical and team skills. This process is the focus of Module 5.

Display Slide 5-1  
*Topics*



## Topics

- ◆ Requirements of an Effective Team Improvement Process
- ◆ Performance Feedback
- ◆ Performance Improvement Strategies

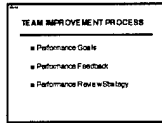
# Sample Teamwork Failure

Discuss the teamwork failure and add from personal experience.

A 55 year old female presents to the ED complaining of a painful left leg with 4 day duration. She states that her pain is so bad she is having trouble walking. The patient mentions that she came to the ED two days ago with the same complaint and was given antibiotics for "cellulitis." The patient is examined by an Emergency Medicine resident and is found to have a red, swollen, painful leg--especially in the calf area. The physician pulls the ED chart from two days ago and sees that Gary, his best friend, saw the patient at that time. While at the desk, the Emergency Medicine Attending asks the resident if there are any patients he needs to review with the attending. The resident answers, "No, all I have is a patient with cellulitis of her lower leg. Gary saw her 2 days ago and gave her antibiotics, but it looks like they just haven't kicked in yet. I'm just going to send her home." After the resident leaves to discharge the patient, the Attending wonders whether either of the residents had worked the patient up for a DVT, but gets distracted by an incoming trauma and doesn't question the resident.

Two days later the Emergency Medicine Attending is evaluating a patient complaining of pain in her left leg. The patient explains that this is her third visit to the ED in the past 5 days with the same complaint and no significant improvement in her condition. An exam shows a painful, red, swollen leg. Measurement of the leg shows the left leg to be 5 cm larger in circumference than the right at several levels. A doppler study is ordered and reveals a DVT of the left calf, extending up the entire posterior thigh. The patient is admitted for heparin therapy. The Attending remembers that he hadn't followed up with the resident about assessing patients with calf pain for DVTs.

**Display Slide 5-2**  
*Team Improvement Process*

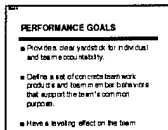


# Requirements of an Effective Team Improvement Process

An effective team improvement process requires:

- ◆ Performance Goals
- ◆ Performance Feedback
- ◆ Performance Improvement Strategies

**Display Slide 5-3**  
*Performance Goals*



## Performance Goals

Performance goals are an integral part of the team's purpose. Successful teams measure a member's contribution in terms of the team objective rather than in terms of status or personality.

Performance goals:

- ◆ Provide a clear yardstick for individual and team accountability.
- ◆ Define a set of concrete teamwork products and team member behaviors that support the team's common purpose.
- ◆ Have a leveling effect on the team.

Performance goals are the standards against which performance is measured.

Performance goals are both clinical and teamwork goals.

Performance goals lend a sense of "we-weakness" to the team.



# Performance Feedback

The goal of performance feedback is to provide information for the purpose of improving performance.

## Characteristics of Effective Feedback

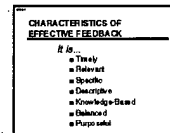
1. It is **timely**.
2. It is **relevant**.
3. It is **specific**.
4. It is **descriptive** rather than judgmental.
5. It is **knowledge-based**.
6. It is **balanced**.
7. It is **purposeful**.

## Considerations

There are two components of performance feedback.

1. **Method**  
This refers to the strategy or tool used for providing feedback content.
2. **Manner**  
This refers to the personal style of the communicator. In some instances this aspect of performance feedback can have a more significant impact than the content.

### Display Slide 5-4 *Characteristics of Effective Feedback*



Feedback is most useful when given soon after an event when details are clear.

Emphasize the need to reference only those things within the team or individual's control.

Behaviors and events should be described concretely; general feedback is not useful. Example: "I'm never quite sure how to read your silence." versus "I find you difficult to work with."

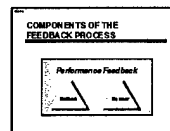
Explain the importance of describing behavior in an objective way. Caution participants not to label or evaluate the individual or team. Example: "You contaminated the sterile field when you touched the ..." versus "You're incompetent."

Emphasize the need to be aware of standards of performance (e.g., protocols, clinical pathways).

Encourage participants to provide both positive and constructive feedback and to avoid critical or negative feedback.

The goal is to improve performance not to demonstrate superiority or to be hurtful to others.

### Display Slide 5-5 *Components of the Feedback Process*



Review the Team Review Guide which appears in the Appendix. Describe the Team Review process as a teamwork practicum option.

Refer to the Communication Style Inventory which appears in the Appendix.

Strategy	Description	Example
Formal Case Review	Retrospective review of a clinical case to identify areas for improvement.	Review of a patient's medical history and treatment plan.
Teamwork Review	Review of team performance during a clinical event to identify areas for improvement.	Review of a team's communication and coordination during a simulation.
Situational Learning and Coaching	Learning and coaching that occurs during a clinical event.	Coaching a team member during a simulation.
Shift and Event Reviews	Review of team performance during a work shift or a particular event.	Review of a team's performance during a shift or a simulation.

# Performance Improvement Strategies

## Formal Strategies

- ◆ Can occur as retrospective audits or case conferences.
- ◆ Are usually scheduled in advance and away from the immediate clinical area.
- ◆ Provide an opportunity for greater team participation.
- ◆ Are an ongoing and integral part of team development.

### Examples:

- ◆ Clinical case review (Focuses on clinical management skills)
- ◆ Teamwork review (Focuses on teamwork skills)

High performance teams integrate clinical and teamwork reviews.

## Informal Strategies

- ◆ Occur close to the time of the performance event.
- ◆ Take place within the team itself.
- ◆ Include opportunities for acquiring new knowledge and skills.
- ◆ Are an ongoing and integral part of team development.

### Examples:

- ◆ Situational Learning and Coaching  
(The acquisition of new knowledge and skills in real time)
- ◆ Shift and Event Reviews  
(Evaluation of team effectiveness during or at the end of a work shift or a particular event).

Relate the vignettes, or substitute from personal experience vignettes that provide clinical examples of situational learning and coaching.

In this vignette, the transfer of new information has occurred through the processes of situational teaching (Charge Person role) and situational learning (staff nurse role).

## Vignettes:

---

### Situational Learning

The resuscitation team remains in the room after transferring a critical patient post MVA who has developed DIC as a complication. The physician team leader initiates the Team Review process that occurs after each major resuscitation. A discussion of the patient's care and coordination ensues. A new ED nurse says, "I didn't understand why we were giving Heparin when the patient was bleeding so badly from the DIC." The physician responds, "Administering an anticoagulant does seem contradictory, but there are good reasons why we do this. Who would like to explain the rationale for giving Heparin for DIC?" An explanation is provided by one of the senior residents.

---

Any team member with the experience, skill, and knowledge to manage the situation at hand assumes responsibility for teaching and coaching others. There is mutual acceptance of coach and learner roles.

---

### Coaching

A 45 year old patient is lying quietly on the stretcher while a Medic is attempting to start her IV. The patient's vein starts to "roll" and the Medic is becoming frustrated with his inability to complete his assigned task. A Sergeant enters and observes the difficulty the Medic is experiencing. She moves closer and says "Private, I've found that it's helpful to pull down just a little on the skin to help stabilize the vein while you insert the IV." The Medic follows her instruction and is able to successfully place the IV.

---

Describe **coaching** as a post-training option. Refer to Appendix C.

# Behavioral Criteria for Improve Team Skills

## Superior Rating

- + The team demonstrates exceptional attention to critiquing and improving task and process skills. Instruction and case review occur whenever opportunities arise and circumstances allow. Reviews equally address task issues (i.e., quality of clinical interventions) and process issues (i.e., team effectiveness). The team dimensions are integrated into all critiques of team performance.
- + Expert coaching and teaching are provided by team members. Formal reviews are conducted at regularly scheduled intervals. The team reviews clinical outcomes and also the effectiveness with which team processes such as decision making, communication, and workload distribution were managed during the case. Reviews are conducted in a professional manner with an emphasis on education and improvement of task performance.
- + Members are comfortable giving and receiving feedback; they freely discuss how the team is functioning and make recommendations for improvement. Recommended improvements are implemented and outcomes re-evaluated as part of a continuous process.

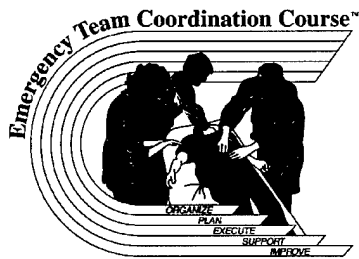
## Acceptable Rating

- ◆ Situational teaching and learning occurs on occasion, usually in response to a direct inquiry from another team member. At times, team members approach individuals on the team for assistance with their learning needs. Formal reviews occur on an intermittent basis.
- ◆ Performance reviews address clinical issues more than team issues. Reviews focus on obvious errors and identification of methods for avoiding errors in the future.
- ◆ The team is less systematic about using the team dimensions as a reference for performance review. Reviews are aimed at correcting the immediate problem rather than on improving general team performance.

### **Very Poor Rating**

- Team effectiveness is rarely reviewed.
- There is little effort to learn from previous actions. Virtually no teaching occurs even when opportunities to do so arise.
- Obvious errors are corrected with little or no concern about improving future performance. Members are uncomfortable giving or receiving feedback. When case reviews do occur (which is rare) they usually involve finger-pointing and blaming.





# 6

## *Clinical Integration*

**Time:** 50 Minutes

**Materials Needed:** Slides 6-1 to 6-4

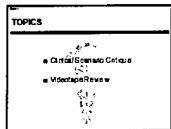
Review learning objectives before proceeding with instruction.

### Learning Objectives

*Upon completion of this module, participants will be able to:*

- 
- ◆ Make the association between Teamwork and Taskwork.
  - ◆ Identify specific team behaviors as presented in a series of scripted clinical scenarios.
  - ◆ Conduct a team performance review using a videotaped resuscitation
-

Display Slide 6-1  
*Teamwork Applied to Taskwork*



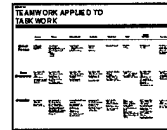
# Topics

- ◆ Teamwork Applied to Taskwork
- ◆ Clinical Scenario Critique
- ◆ Videotape Review



# Teamwork Applied to Taskwork

Display Slide 6-2  
Teamwork Applied to Taskwork



Slide 6-1

## TEAMWORK APPLIED TO TASKWORK

	Access	Triage	Collect Data	Evaluate
<b>Clinical Process</b>	EMS Report MD's Referral Walk-In	Assess Patient Determine Priority Determine Bed Placement Communicate Information to Team - Written - Verbal	Assess Patient Primary/Secondary Survey Decide Plan of Care	Re-Assess Patient  Re-Planning
<b>Team Dimensions</b>	Support Team With Information and Actions Maintain Team Structure and Climate Apply Problem-Solving Strategies	Support Team With Information and Actions Execute Plans and Manage Workload Apply Problem-Solving Strategies Support Team With Information and Actions	Support Team With Information and Actions Apply Problem-Solving Strategies Execute Plans and Manage Workload	Support Team With Information and Actions Execute Plans and Manage Workload Improve Team Skills
<b>Strategies</b>	Request/Offer Information Team Formation Situational Planning	Request Information Use Active Listening Get Good Information Statement and Directives Clear, Timely, Relevant, Complete and Verified. Patient and Task Prioritization Use Established Protocols Document	Call-Out Critical/Significant Information Request Information Share Information with the Team Decision-Making Task Prioritization Resource Management Use Status Board	Request Information Cross-Monitoring Team Member Actions Maintenance of Situational Awareness Situational Learning and Teaching

## TEAMWORK APPLIED TO TASKWORK (Cont.)

	<b>Diagnose</b>	<b>Treat</b>	<b>Refer/Consults</b>	<b>Disposition</b>
<b>Clinical Process</b>	Determine Diagnosis	Initiate Plan of Care	Initiate Referral/ Consults	Give Discharge Instructions Inform Patient of Diagnosis Provide Follow-Up Care Plan
<b>Team Dimensions</b>	Apply Problem-Solving Strategies Execute Plans and Manage Workload Support Team With Information and Actions	Execute Plans and Manage Workload Support Team With Information and Actions	Support Team With Information and Actions Execute Plans and Manage Workload Apply Problem-Solving Strategies Maintain Team Structure and Climate	Support Team With Information and Actions Apply Problem-Solving Strategies
<b>Strategies</b>	Decision-Making Techniques Workload Distribution Re-planning Decisions and Actions Communicated and Acknowledged	Triage Task Prioritization Workload Distribution Maintain Situation Awareness Use Verbal "Call-Back" System Statements and Directives Clear, Timely, Relevant, Complete, and Verified	Decisions and Actions Communicated and Acknowledged Supporting Information and Actions Offered by Team Resource Management Workload Distribution Decision-Making Techniques Long-Term Planning Hospital Support Staff	Decision and Actions Communicated and Acknowledged Situational Planning

# Clinical Scenario Critique

Guide discussion using the information contained below.

## Example 1:

The shift begins with a paramedic on-line requesting Medical Control. The MD responds, taking the report. Medic 11 is on scene with a 21 year old female involved in a high speed MVA, car versus bridge abutment. The patient is responsive with B/P 110/60, P 92, R28. The paramedic requests permission for IV's to be started with LR. The MD responds with a question about obvious injuries and clearance for the IV's. The paramedic replies that the patient has contusions to the chest and a right femur fracture. They have a 4 minute ETA.

The MD signs off the radio and says to the clerk, "Call the Trauma Team STAT for a 21 y/o MVA, ETA 3 minutes". He then turns to the nurses in the Acute Area and gives a brief report on the patient. The nurse identifies that all of the Resuscitation Rooms are full. A shifting of bed placements is identified and the nurse is also instructed to make sure that the Cat Scan is cleared in preparation for this patient.

On arrival to the ED, the paramedics report that the patient is in C-spine precautions, responsive with 2 large-bore IV's infusing and a HARE Traction splint on the right leg. The monitor shows a sinus rhythm 114 bpm, BP 98/76, and R 32. As the patient is transferred to the ED stretcher, the MD moves to the head of the bed. He begins to call-out to the Recording Nurse the primary assessment findings. The nurse at the bedside has just connected the patient to the Pulse oximeter and reports "Pulse ox. is 84%" The MD continues his assessment and states that the right breath sounds are diminished. He then directs the other MD on the team to insert a chest tube. "Make sure you use a 36Fr tube in case there's some blood."

Vital signs are currently B/P 80/60, HR 100, and pulse oximetry is at 88% on 100% Non-rebreather mask. The Trauma Surgeon has arrived and is getting a report on the patient from the ED MD. They both agree that the patient is getting too unstable to be placed in the Cat Scan. The Charge Nurse arrives at the same time that the RN is directed to set up for a peritoneal lavage and to hang more fluids. The Charge Nurse says "I'm here to help. What would you like me to do to assist you?" The Charge Nurse is given the task of setting up the lavage tray while the bedside RN increases the fluids. "Do we need to send for blood?" she asks.

The lavage return is bloody. The CXR shows a left pneumothorax with multiple rib fractures. The pelvic

### Team Dimensions Support Team with Information and Actions (IV)

- ◆ Requesting Information (IV)
- ◆ Offering Information (IV)

### Maintain Team Structure and Climate (I)

- ◆ Team Formation (I)
- ◆ Establish Leadership (I)
- ◆ Situational Planning (II)

### Apply Problem Solving Strategies

- ◆ Situational Planning (II)

- ◆ Share Information with Team (SIT)

- ◆ Establish Leadership (I)
- ◆ Critical Incident Call-Out (IV)

- ◆ Information-Driven Decision Making
- ◆ Share Information with Team (IV)

### Execute Plans and Manage Workload (IV)

- ◆ Situational Teaching (V)

### Share Information with Team (IV)

- Resource Management (IV)
- Execute Plans And Manage Workload (IV)
- Communicate Decisions and Actions (IV)
- Situational Planning (II)

- ◆ Shared Mental Models (II)
- ◆ Share Information with Team (IV)

**Executive Plans and Manage Workload (IV)**

- ◆ Offering Assistance (IV)
- ◆ Delegation (III)

**Cross-Monitoring (III)**

- ◆ Share Information with Team (IV)
- ◆ Resource Management (IV)

**Execute Plans and Manage Workload (III)**

- ◆ Communicate Decisions and Actions (IV)
- ◆ Situational Planning (III)

**Team Dimensions**

- ◆ Information Exchange (IV)

**Execute Plans and Manage Workload (III)  
Support Team with Information and Actions (IV)**

- ◆ Clinical Incident (Call-Out) IV
- ◆ Cross-Monitoring (III)
- ◆ Situational Awareness (III)

plate shows a displaced pelvic fracture. Cross-table C-spine is cleared but the other spinal films still need to be done. The patient is being readied for transfer to the CAT Scan and then the OR. Her vital signs have stabilized after the blood. The Charge Nurse returns to alert the MD that a cardiac patient in "arrest" is "5 minutes out". She adds that an ICU nurse is here to help. The ED MD and the ED Nurse both give report on the MVA patient to the team taking over and turn to prepare for the next patient.

**Example 2:**

The Triage Nurse is approached by a young adult female at the triage desk. She is ambulatory, but states that she feels very weak... "Like I am about to pass out." She also states that her heart feels like it's "racing". Assessment findings are:

Pulse is too fast to count.

B/P is 100/52

NKA

No previous history

She appears pale

The patient is taken to the patient care area and placed on a stretcher. The Triage Nurse gives report to the MD and the RN at the bedside.

The MD and RN begin assessing the patient. The patient is placed on 100% non-rebreather mask. IV access is obtained.

The cardiac monitor shows SVT at a rate of 180bpm. B/P is 98/50. The RN calls-out the rhythm and blood pressure to the MD. Both continue with their assessment.

An RN in the next curtained area asks, "Do you want the Crash Cart brought over?"

The patient voices that she feels like she cannot breath and is experiencing some chest pain. She appears more anxious. B/P is 98/56.

The MD says "Why don't you get the Crash Cart and we'll give her some Adenosine."

The Crash Cart is brought in and the Adenosine given. The patient is assessed, but no changes in rhythm are noted. The RN says "You really have to give the bolus fast in order for it to work."

- ◆ Delegation (III)
- ◆ Communicate Decisions and Actions (IV)
- ◆ Situational Teaching (V)

The Adenosine is repeated at a faster rate. Cardiac monitor shows sinus rhythm at a rate of 88. The patient states "No chest pain". Her breathing is non-labored and no distress noted.

---

# Videotape Review

Discuss the objectives for this exercise and run the resuscitation tape.

Evaluate a Resuscitation tape for the behaviors listed in the Team Review Guide (Appendix )

Discuss slide 6-3 and 6-4. Lead discussion about the videotape using the team review guide.

Team Review  
Guide  
page 1

Team Review  
Guide  
page 2

Highlight examples of teamwork strategies and areas of need demonstrated on the tape.

## Optional Exercises

# **APPENDICES**

# Appendix A

## TEAM REVIEW GUIDE

Today's date:	Date of clinical event being presented:
Number in attendance:	Case presenter(s):

[Brief summary of clinical case under review]

### Instructions for team review:

*Answer the following questions using the legend below.*

**S** = Area of Strength      **N** = Area of Need

	S	N
<b>TD 1: Was team structure and climate maintained?</b>		
A. Was a leader established?		
B. Was the team defined?		
C. Were roles and responsibilities adequately partitioned?		
D. Was a climate of professional respect and helpfulness maintained?		
E. Were disagreements confronted and acceptable solutions reached?		
<b>TD 2: Were team problem-solving strategies applied?</b>		
A. Was input sought by the team leader or situational leader from members of the team?		
B. Were effective assertion skills utilized?		
C. Was advocacy effectively demonstrated?		



<b>TD 3: Was workload managed effectively?</b>		
A. Was workload distributed to avoid or correct overloads on single individuals?		
B. Was cross-monitoring properly executed to avoid or correct errors?		
C. Was situation awareness maintained at an acceptable level within the team?		
D. Were patient priorities effectively managed within the team?		
<b>TD4: Was the team supported with information and task assistance?</b>		
A. Was critical information shared in a timely and useful manner?		
B. Was communication clear, timely, complete and verified?		
C. Were decisions and action plans communicated and acknowledged?		
D. Was task assistance offered within the team?		
<b>TD 5: Were team skills improved?</b>		
A. Were opportunities for teaching and learning actively sought by team members?		
B. Were performance goals clear?		
C. Were performance goals achieved?		
D. Were team process skills reviewed?		
<b>Lessons Learned:</b>		

# Glossary of Terms

Assertion and Advocacy	A technique for intervening when your viewpoint does not match that of the decision maker.
BARS	(Behaviorally Anchored Rating Scale) A tool used to measure a team's effectiveness in each of the five dimensions of teamwork. It consists of a multipoint rating scale with descriptions of the quality of behaviors defining the endpoints and midpoint of the scale.
Buzzwords	Terms that fall outside the boundaries of what would be considered <i>standard terminology</i> .
Call-Out	A tactic used to communicate critical information during an emergent event.
Check-Back	A tactic used to <i>verify</i> information exchange by repeating the message verbatim.
Conflict Management	The process of resolving professional disagreements in a constructive manner.
Coordinating Team	Members of the ED responsible for managing the operational environment that supports the Core Team.
Core Team	A group of emergency care providers who work interdependently to manage a set of assigned patients from point of initial assessment to disposition.
Cross-Monitoring	The process of monitoring other team member actions for the purpose of sharing workload and reducing or avoiding errors.
Hand-Off	A tactic used to transfer responsibility and accountability during team transitions.
Behavioral Criteria	An observable and scoreable set of behaviors associated with a team dimension.
Secondary Triage	An assessment conducted by the Core Team that determines the order in which patients assigned to the team will be managed.

Shift Review	An evaluation of team effectiveness conducted during or at the end of a work shift.
Situation Awareness	The degree to which team members are aware of the status of a particular clinical event, the status of the team's patients and operational issues impacting the team.
Situational Learning	The acquisition of new knowledge or job skills in real time, usually by one person mentoring another regarding the case at hand.
Situational Planning	Modifying a protocol or creating a plan for a developing event.
Subjective Workload	Assessment of an individual's perception of the amount of effort required to complete a task.
Team	Two or more people who interact, dynamically, interdependently, and adaptively toward a common and valued goal, who have each been assigned specific roles or functions, and who have a limited life-span of membership.
Team Climate	The quality of interpersonal relationships supporting teamwork.
Team Culture	A normative support structure of protocols, policies, standards, management, and training systems that enable teams to succeed.
Team Dimension	A related set of behaviors associated with one of the five basic attributes of team effectiveness.
Teamwork Review	A retrospective audit of teamwork conduct during a specified clinical event. This critique examines teamwork skills in addition to clinical skills.
Two-Challenge Rule	A means for a team member to be heard and to take responsibility when a patient is put at risk.

# Team Review Guide

Today's date:	Date of clinical event being presented:
Number in attendance:	Case presenter(s):

[Brief summary of clinical case under review]

## Instructions for team review:

Answer the following questions using the legend below.

**S** = Area of Strength      **N** = Area of Need

	<b>S</b>	<b>N</b>
<b>TD 1: Was team structure and climate maintained?</b>		
A. Was a leader established?		
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C. Were roles and responsibilities adequately partitioned?		
D. Was a climate of professional respect and helpfulness maintained?		
E. Were disagreements confronted and acceptable solutions reached?		
<b>TD 2: Were team problem-solving strategies applied?</b>		
A. Was input sought by the team leader or situational leader from members of the team?		
B. Were effective assertion skills utilized?		
C. Was advocacy effectively demonstrated?		

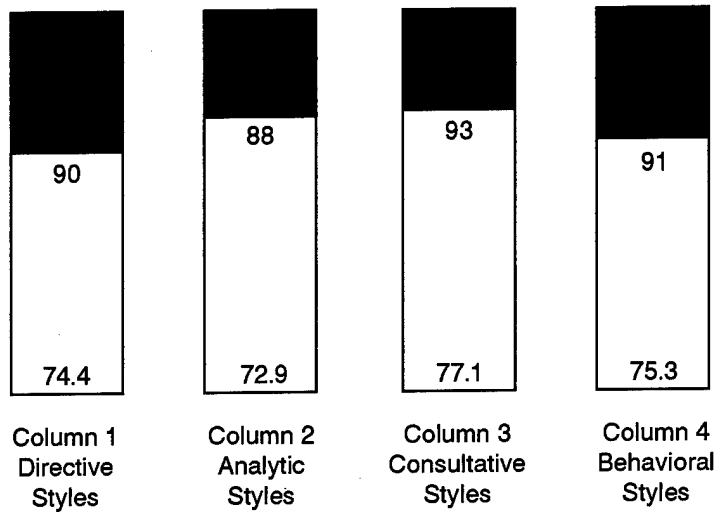
<b>TD 3: Was the team supported with information</b>		
A. Was critical information shared in a timely and useful manner?		
B. Was communication clear, timely, complete and verified?		
C. Were decisions and action plans communicated and acknowledged?		
<b>TD4: Was workload managed effectively?</b>		
A. Was workload distributed to avoid or correct overloads on single individuals?		
B. Was cross-monitoring properly executed to avoid or correct errors?		
C. Was situation awareness maintained at an acceptable level within the team?		
D. Were patient priorities effectively managed within the team?		
<b>TD 5: Were team skills improved?</b>		
A. Were opportunities for teaching and learning actively sought by team members?		
B. Were performance goals clear?		
C. Were performance goals achieved?		
D. Were team process skills reviewed?		
<b>Lessons Learned:</b>		

# Communication Style Inventory

## Instructions

Place an 8, 4, 2, or 1 after each response to the 20 questions. The number *cannot* be repeated. 8 is used for the response that is most like you. 4 is one that is somewhat less. 2 is for the response that is a little like you, and 1 is for the response that is least like you. There is no time limit, so please respond carefully.

1. I prefer to communicate:	by phone		in writing		to a group		one-on-one	
2. In social gatherings, I:	talk to others		listen to what is said		discuss many things		enjoy the conversation	
3. I explain things:	very quickly		based on factual data		based on my knowledge		based on my feelings	
4. I express my ideas best:	orally		on paper		telling stories		talking about my experiences	
5. To convince others I'm right, I:	speak forcefully		use logical arguments		explain my reasoning		speak gently	
6. When confronted by others, I:	become defensive		answer them back		try to smooth things out		avoid arguing	
7. I describe others:	Objectively		factually		using generalities		favorably	
8. People say I speak:	assertively		carefully		thoughtfully		in patient manner	
9. When making a suggestion, I:	tell others what I think		am very specific		point out consequences		try to be helpful	
10. When making a suggestion, I:	rely on my experience		search for information		consider what's best		ask for advice	
11. When I reject a request, I:	am firm		rely on policies		show concern		try to be pleasant	
12. I always try to:	get results		solve problems		explore new ideas		talk with others	
13. When under stress, I:	talk rapidly		become cautious		speak anxiously		ask for help	
14. If I am late, I:	say what comes to mind		look for an excuse		apologize		avoid the subject	
15. When talking to others, I:	speak first		cover many details		discuss ideas		make them feel good	
16. When I write, I:	am brief		am factual		am descriptive		mention people	
17. I enjoy reading:	adventure stories		technical books		historic novels		about people	
18. In business meetings, I:	speak my mind		observe what's happening		think about what is said		listen to others	
19. I learn best when given:	basic facts		supporting theory		explanations		examples of what to do	
20. When questioning others, I:	come directly to the point		ask them for backup data		want complete answers		consider their feelings	



### Average Communication Style Scores

Your characteristic communication style is represented by the column or columns where your score is above the average. Scorers well above the averages (in the black zones on each bar) represent dominant communication styles. Most people have one dominant style that represents their most common approach to communication. In addition, most people have one and occasionally two backup communication styles. Backup styles are represented by scores slightly above average (in the white zones on each bar). Backup styles are approaches to communication that are used when a person chooses not to use their dominant style.

Source: Alan J. Rowe, Tom J. Housel, Eric Skopec © 2/22/88, Rev. 10/20/88

# Coaching Guide

Goals	Skills
Clear Expectations	Establish objectives for the coaching session.
Trust	Indicate respect by avoiding behaviors that ridicule, generalize or judge.
Learning	Be specific and objective in communicating information and expectations.
	Provide information and instruction.  Confirm that information has been received and learning has occurred.
Closure	Review key points to ensure common understanding.
	Agree on next steps for ongoing learning.

Adapted from: D. Kinlaw. (1993). *Coaching for Commitment*. San Diego: Pfeiffer and Company, 44-45.





# Teamwork Practicum Options

**Coaching** Coaching is a one-to-one interaction focused on performance (Kinlaw, 1993). In this activity, a coach (member of the department who is skilled in team behavior) is assigned to an individual team member for a specified period in real time. During this period, the coach offers feedback to improve the individual's teamwork skills. It is important for the coach to focus on the Team Dimensions taught in the ETCC™ and, likewise, to frame all feedback in this context. Appendix C in this guide includes a guide sheet for coaches. Team members will be credited for time involved as *coach* or *coaching participant* in this activity.

**Resuscitation  
Tape Review** In departments that have this capability, video recordings of trauma teams in real time can provide a wealth of information and an opportunity to improve team performance. In this activity, a Team Leader convenes a meeting to review the videotaped recording of a recent trauma event. The objective of the activity is to examine the team's performance during an actual event and to determine where improvements can be made. The Team Leader will use the After Action Review Guide provided in Appendix A of this guide. Team members will be credited toward practice requirements for *leading* or *participating* in a post-trauma tape review.

**Shift and Event  
Review** This activity can be initiated by any team member and should be conducted before the close of shift or immediately following a specific event. Using the Team Review Guide provided in the Appendix of this guide, convene a team meeting to assess the team's adherence to the 5 Team Dimensions throughout the work shift (or following a work shift). Credit toward practice requirements will be given *only* for time involved as the *facilitator* of an After Action Review.

**Teamwork  
Review** In this planned critique, the facilitator presents an actual critical incident from the participant ED. The objective of the activity is to determine sources of team error through the process of retrospective audit. The review is aimed at improving team performance rather than blaming individuals for perceived errors. Use the Team Review Guide provided in the Appendix. Credit toward practice requirements will be given *only* for involvement as a *facilitator* in this process.

# Teamwork Practicum Options (Cont.)

## **Completion of Team Challenge**

Credit toward practice requirements will be given to all members who participate in completing Team Challenges provided in the Appendix. Credit will be pro-rated according

to the level of complexity of the Team Challenge completed as follows:

- ◆ Level A - 1/2-hour credit
- ◆ Level B - 1-hour credit
- ◆ Level C - 2-hour credit

# Team Challenges

## Team Challenges: Maintain Team Structure and Climate

---

### ***Team Challenge A***

1. Select a model for team formation.
  2. Designate clinical team leaders and corresponding teams at the start of each shift.
  3. Communicate team information in a clearly visible place on the status board in the ED.
- 

### ***Team Challenge B***

1. Initiate interactive team reports at the beginning of each shift.
  2. Communicate the following information during team reports:
    - a. Team membership.
    - b. The clinical status of the team's patients.
    - c. Operational issues that may affect the team's work.
- 

### ***Team Challenge C***

1. Form a departmental team to examine the issue of team climate in your ED.
  2. Discuss the variables that affect team climate listed on pages 1-13 to 1-15 of your text.
  3. Identify areas of strength and those needing improvement.
  4. Devise a plan for improvement and implement the plan.
  5. Evaluate progress on goals within one month and thereafter at regular intervals.
-

# Team Challenges: Apply Problem Solving Strategies

---

## ***Team Challenge A***

1. Choose an event that requires some planning and preparation, such as the arrival of a patient by ambulance.
  2. Designate the team members who will deal with that situation.
  3. Engage in a brief planning and mental rehearsal exercise to prepare for the patient's arrival.
- 

## ***Team Challenge B***

1. Develop a written protocol for managing all EMS calls.
  2. Communicate the protocol to all members of the department along with a start date.
  3. Implement your plan.
  4. Re-evaluate the plan in one month to determine the need for revisions, then repeat steps 2 and 3.
- 

## ***Team Challenge C***

1. Form an interdisciplinary team to examine the current method for handling "The Two-Challenge Rule" in your department.
  2. Develop a written standard of practice for handling these situations that delineates accountability at the team and administrative levels.
  3. Communicate the plan to all members of the department and implement.
  4. Monitor compliance with the standard at regular intervals.
-

# Team Challenges: Support Team With Information

---

## ***Team Challenge A***

1. Offer assistance to another team member at least once during your shift.
  2. Request assistance from another team member at least once during your shift.
- 

## ***Team Challenge B***

1. Solicit team agreement on using the standards of effective communication in all documentation this shift.
  2. Be sure your documentation is clear, timely, complete, and verified.
  3. Before the end of shift, collectively review a few samples of documentation from within the team citing specific areas of strength and those needing improvement.
- 

## ***Team Challenge C***

1. Form a team to determine the best use of a verbal "check-back" system for the department.
  2. Develop a written protocol for the verbal "check-back" system.
  3. Communicate the protocol and plan for implementation to all members of the department.
  4. Implement the system.
  5. Re-evaluate the plan in one month to determine the need for revisions and repeat steps 3 and 4.
-

# Team Challenges: Execute Plans and Manage Workload

---

## ***Team Challenge A***

1. Identify obstacles to situation awareness within your team.
  2. Discuss several strategies for improving inter-team SA.
  3. Develop an SA improvement plan and implement the plan on your shift.
- 

## ***Team Challenge B***

1. Evaluate workload distribution within your team at least once during the shift.
  2. Identify problems in resource allocation.
  3. Take appropriate measures to balance the workload within the team.
- 

## ***Team Challenge C***

1. Form a team to examine the issue of long patient wait times in the department.
  2. Determine the sources of long wait times for each shift.
  3. Examine the availability of human and material resources within the department and develop a resource management strategy to reduce wait times.
  4. Implement the plan and re-evaluate at scheduled intervals.
-

# Team Challenges: Improve Team Skills

---

## ***Team Challenge A***

1. Schedule a team audit within the next month.
  2. Review a recent case that exemplifies outstanding team performance.
  3. Conduct the audit following the recommended guidelines for "Team Review" provided in Appendix A.
- 

## ***Team Challenge B***

1. Schedule a team audit within the next month.
  2. Review a recent case example of a teamwork error.
  3. Conduct the audit following the recommended guidelines for "Team Review" provided in Appendix A.
  4. Complete the audit with a discussion of lessons learned and specific measures that will be taken to improve team performance in the areas cited.
- 

## ***Team Challenge C***

1. Form a team to devise a formal system for team performance reviews within the department.
  2. Develop written guidelines for use of the review system.
  3. Communicate information regarding the review system to all members of the department.
  4. Implement the system.
-





# REPRODUCIBLES

This appendix includes three estimation exercises that need to be reproduced before the start of the ETCC™ so that they can be distributed to class members at the start of Module 2, “Apply Problem Solving Strategies”. The exercises are as follows:

1. **Multiplication Exercise** -- this is a timed exercise that gives respondents 5 seconds to answer a multiplication problem. It has two forms: an ascending form and a descending form. You must differentiate the forms and give half the class the ascending form and half the class the descending form.

2. **Letter K Exercise**

appear on one sheet together.

3. **Tube and Ball Exercise**

When you distribute the exercises at the start of Module 2, explain that these data are being collected for use later in the module. The students then complete the exercises and retain the sheets.



# Multiplication Exercise

(Ascending Series)

Estimate the number that results when you multiply the following digits together:

$$1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 =$$

*(only 5 seconds allowed for this problem)*



## ***Multiplication Exercise***

***(Descending Series)***

*Estimate the number that results when you multiply the following digits together:*

$$8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = \underline{\hspace{2cm}}$$

(only 5 seconds allowed for this problem)



## Letter K Exercise

Are there more words that begin with the letter *k* or more words with *k* in the middle?

More that begin with *k* \_\_\_\_\_

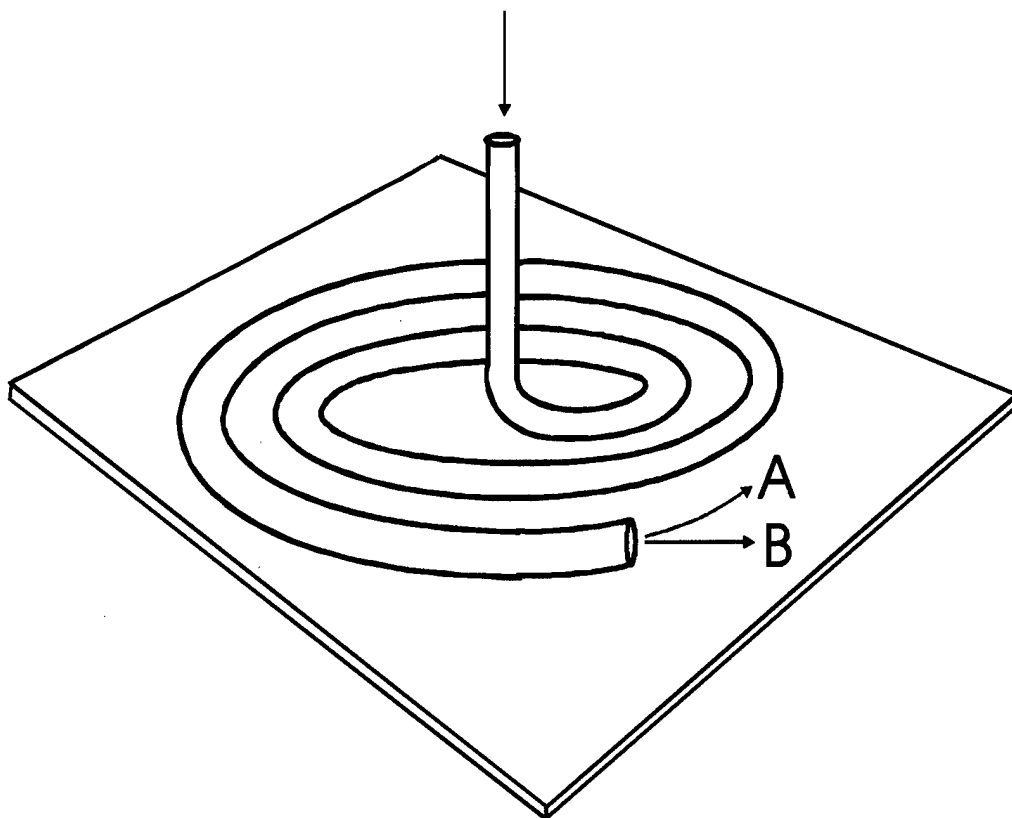
More with *k* in the middle \_\_\_\_\_

---

## Tube and Ball Exercise

Imagine that a curved tube is on a table top, and a steel ball or marble is dropped in the top (see arrow). Which path will the ball follow when it exits the tube?

Path marked: A B Circle One







# Suggested Readings

## Suggested Readings for Team Dimension 1

Katzenbach, J. R. and Smith, D. K. (1993). "The Discipline of Teams." *Harvard Business Review*, 111-120.

This article is based on the research results from the authors' bestselling book *The Wisdom of Teams* for which data was collected from hundreds of people on more than 50 different teams in 30 companies and beyond. In *Discipline*, Katzenbach and Smith begin by defining *teams* and what differentiates them from work groups. The article continues with a full discussion of the behaviors common to highly successful teams and concludes with suggestions for what top management can do to enhance their effectiveness.

Kelley, R. (1988). "In Praise of Followers." *Harvard Business Review*, 142-148.

In this article the author makes the case that the success of an organization is not based only on how well leaders lead, but also on how well followers follow. Kelley defines the role and qualities of good followers and describes the four steps that organizations can take to cultivate effective followers in their work force.

## Suggested Readings for Team Dimension 2

Dawson, N.V., and Arkes, H.R. (1987). "Systematic Errors in Medical Decision Making: Judgment Limitations." *Journal of General Internal Medicine*, 2, 183-187.

This paper gives a brief sketch of cognitive biases associated with rules of thumb and errors in synthesizing information. Medical examples are used to illustrate biases and other judgmental errors. The reference section at the end of the article lists additional sources, some written by leaders in this field of research.

Gilovich, T. (1991). *How We Know What Isn't So. The Fallability of Human Reason in Everyday Life*. New York: The Free Press. Chapters 2 and 4.

This book differentiates between questionable beliefs arising from cognitive sources, and questionable beliefs based on social and motivational sources. While only touching on the specific biases and errors discussed in this course, this book offers an engaging introduction to the sources and variety of erroneous beliefs in everyday life.

Halpern, D.F. (1989). *Thought and Knowledge. An Introduction to Critical Thinking*. Hillsdale, NJ: Lawrence Erlbaum Associates. Chapter 8.

This widely-used textbook on critical thinking discusses some decision making errors and the analytical decision making method. A glossary at the end of the chapter is helpful. The suggested readings list, however, emphasizes research on analytical decision making and "how-to" guidance from within that framework.

Klein, G.A., Orasanu, J., Calderwood, R., and Zsombok, C.E. (Eds.). 1993. *Decision Making in Action: Models and Methods*. Norwood, NJ: Ablex Publishing Company. Chapters 1, 6, and 19.

Gary Klein and his associates have made a significant contribution to knowledge about decision making as practiced by working professionals facing real-life situations. This book describes a variety of models of naturalistic decision making, but Klein has made a point of building his model by observing teams operating in environments similar to emergency departments. One chapter is devoted to shared mental models and team decision making.

Reason, J.T. (1990). *Human Error*. New York: Cambridge University Press. Chapter 1.

The basic differentiation of slips, lapses, and mistakes is provided early in this book and touched on in later discussions. Unfortunately, the subsequent discussions revolve around concepts for designing systems to reduce operator error. An earlier work by Reason (J. T. Reason and K. Mycielska, *Absent Minded? The Psychology of Mental Lapses and Everyday Errors*, published in 1982) examines the question of everyday errors in engaging detail. This earlier work may be difficult to locate, but it is well worth the effort.

## Suggested Readings for Team Dimension 3

Gerteis, M. et al. (1993). *Through the Patient's Eyes*. San Francisco: Jossey-Bass Publishers. Chapters 3 and 4.

This book offers a comprehensive, research-based look at the experiences and needs of over 6,000 patients and 2,000 care partners from 62 hospitals across the country. In Chapter 3, author Margaret Gerteis provides insights into problems and solutions to: (a) the coordination of clinical care, across specialty and professional lines; (b) coordination of ancillary and clinical support services; and (c) coordination of the various, sometimes specialized tasks that make-up care at the bedside. In Chapter 4, Jennifer Daley discusses the significance of communication and provides recommendations for overcoming the "barrier of words."

Merritt, A. (1995). "Facing the Issue." *The CRM Advocate*. Issue 95.4 1-6.

The author discusses the concept of "face" (one's public self image) and its relevance to crew (team) interaction. Merritt discusses three elements that impact crewmember interface: social distance, level of imposition, and power distance, and shares strategies for minimizing face threat and improving communication. In addition, the author makes the distinction between "open" and "direct" communication and raises the controversial question, "Is there a place for indirect communication in aviation?" Merritt's views are strikingly relevant to those who practice in emergency medical environments.

Skopec, E. (1990). *Communicate for Success*. Reading, MA: Addison-Wesley Publishing Co., Inc. Chapters 2, 3, and 4.

Though written as a resource for managers, the content of this book can be easily utilized by all team members. Skopec provides the latest tips on subjects such as knowing when and how to delegate, dealing with performance, and learning to negotiate. A Communication Style Inventory is included to help the learner understand his/her natural communication style and how it can work best under certain circumstances.

## Suggested Readings for Team Dimension 4

Cook, R.I., and Woods, D. D. (1994). "Operating at the Sharp End: The Complexity of Human Error." *Human Error in Medicine*. Hillsdale, NJ: Lawrence Erlbaum Associates. Chapter 13.

The authors explore factors that affect the performance of practitioners in complex settings; in particular, knowledge factors, attention dynamics, and strategic factors. Recent work on human error recognizes the importance of organizational context in system failures. In kind, Cook and Woods propose that system failures are a form of information about the system in which individuals and groups are embedded and which provides resources or constraints. They argue that what is often called "human error" is actually the result of a large number of factors coming to bear on practice in complex systems.

Hummel, T. (1995). "Lack of CRM Could Happen to You." *The CRM Advocate*. Issue 95.3. 5-6.

The author succinctly describes the seven generally accepted facts associated with Crew Resource (Teamwork) Errors. Although written primarily for the airforce community, this article nicely highlights the sources of teamwork errors commonly found in a variety of work settings in which teams function.

## Suggested Readings for Team Dimension 5

Kinlaw, D. (1993). *Coaching for Commitment*. San Diego: Pfeiffer and Company. Chapters 2 and 4.

This book is reputed to present "the most comprehensive and well tested approach to coaching available today." The strength of Dr. Kinlaw's approach is that it has been validated by use, not merely by theory. Dr. Kinlaw has tested his approach to coaching in a wide variety of professional arenas including medical services. In Chapter 2, the author provides a definition of coaching and highlights the key functions and characteristics of this process along with a list of criteria for successful coaching. In Chapter 3, Dr. Kinlaw focuses on the outcome of performance improvement through coaching. He outlines the various stages and goals of the coaching process used for this purpose.

Tagliere, D. (1992). *How to Meet, Think, and Work to Concensus*. San Diego: Pfeiffer and Company. Chapters 3 and 6.

This book offers a process for improving small group meetings. Although the main goal of the book is to improve team problem solving, many techniques are described that have more general applicability, for instance the process of clear communication (Chapter 3) and the process of team performance evaluation (Chapter 6).

# Videoscript

# To the Instructor

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This Instructor Guide has been prepared in a step-by-step format to facilitate delivery of the Emergency Team Coordination Course™. The course is organized into five main modules, each of which address one of the five dimensions of team behavior. Modules include selected vignettes and exercises to enhance participants' understanding of the content. A complete set of slides is provided for each module, as are reproducible materials, which are included in Appendix F. Each module also includes process notes in the margin, which serve as a procedural and informational guide for you.

# Course Description

The ETCC™ trains emergency personnel to function as a team in the Emergency Department setting. It is not the purpose of this course to provide clinical guidelines for emergency treatment.

The course introduces five dimensions of team behavior and their implications for clinical practice. These "Team Dimensions" are observable and measurable and can be used as a framework for rating team performance and evaluating course effectiveness.

## Course Data

### Target Audience

The target audience of the ETCC™ are members of the Core Team (direct care providers) and clinical support staff (operations personnel) in the participant ED. Other ED personnel are encouraged to attend, but their participation is not required.

### Class Frequency

It is strongly recommended that this course be mandatory for all Core Team providers and clinical support staff in the ED. All new employees should receive this training as part of orientation. Reinforcement should be provided routinely and frequently to all ED staff on a daily basis to maximize team functioning. Refresher training should be taken every two years.

### Class Size and Composition

To maximize learning and teaching effectiveness, limit classes to 16. All groups should be interdisciplinary and cross-functional in nature and must include at least one physician and one nurse.

### Classroom Arrangement

Horse shoe (U-shaped) seating to maximize interaction.

### Instructor Requirements

It is recommended that instructors be selected who are respected leaders within the ED. A physician and nurse should team teach the course. It is not a requirement for instructors to hold a formal educational role within the organization, but they should be in positions that allow them the flexibility to assume an active teaching role during periods when the course is to be delivered.





## **Course Requirements**

Participants are required to complete a 1-day, 8-hour academic session in addition to a 4-hour "on-the-job" teamwork practicum. (Refer to Appendix D for Post-Training Options.)

## **Scheduling**

Classroom instruction should be conducted in one 8-hour block. To preclude disruptions and scheduling problems, participants should be excused from all duties during class attendance. Post-training requirements should be scheduled within two weeks after classroom instruction to ensure that course objectives are still fresh in the staff members' minds.

# Recommended Class Schedule

7:30 - 8:00	.....	CONTINENTAL BREAKFAST 
8:00 - 8:30	.....	INSTRUCTION BEGINS ABOUT THE ETCC™ INTRODUCTION TO TEAMS
8:30 - 9:30	.....	MODULE 1
9:30 - 10:00	.....	MODULE 2
10:00 - 10:15	.....	BREAK
10:15 - 11:00	.....	MODULE 2 (CONT.)
11:00 - 12:00	.....	MODULE 3
12:00 - 1:00	.....	LUNCH 
1:00 - 2:00	.....	MODULE 4
2:00 - 3:00	.....	MODULE 5
3:00 - 3:15	.....	BREAK
3:15 - 4:15	.....	MODULE 6
4:15 - 4:30	.....	PROGRAM EVALUATION

# ETCC™ Structure

## Team Dimensions

1. Maintain Team Structure and Climate
2. Apply Problem Solving Strategies
3. Support Team with Information
4. Execute Plans and Manage Workload
5. Improve Team Skills

## Curriculum Design

The ETCC™ curriculum includes an introduction, six learning modules, and nine supporting appendices.

### ◆ Introduction to Teams

#### ◆ Modules

1. Maintain Team Structure and Climate
2. Apply Problem Solving Strategies
3. Support Team with Information
4. Execute Plans and Manage Workload
5. Improve Team Skills
6. Clinical Integration Module

Modules 1 through 5 contain:

- Learning Objectives
- Topics
- Sample Teamwork Failure
- Content including vignettes and practical exercises
- Behavioral Criteria for the Team Dimension

#### ◆ Appendices

Glossary of Terms  
Team Review Guide  
Communication Style Inventory  
Coaching Guide  
Teamwork Practicum  
Team Challenges  
Reproducibles  
Suggested Reading

# Preliminary to Classroom Instruction

## Administrative Announcements

- ◆ Instructor Introductions
- ◆ Name Plates
- ◆ Schedule
- ◆ Bathrooms
- ◆ Telephone/Pages
- ◆ Food and Drink Arrangements
- ◆ CEUs/CMEs
- ◆ Practicum
- ◆ Instructional Materials

Address the following issues prior to introducing course content.

Introduce all instructors by name and qualifications.

Nurses must complete an evaluation to receive CEU's.

There is a four hour teamwork practicum requirement in addition to the eight-hour classroom instruction.