Research Note 85-70

Soldier Performance in Continuous Operations: Administrative Manual for a Briefing and Seminar for Platoon and Squad Personnel

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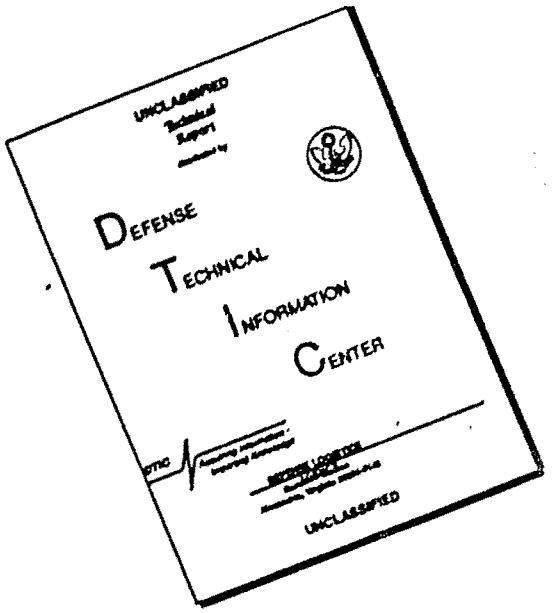

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Continuous operations	Unit effectiveness	Human resources
Training	Performance maintenance	Endurance
Organizational development	Work/rest planning	
Human factors	Stress control	

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

If any Army unit is to meet the demands of continuous operations, a systematic human resources conservation program must be planned and implemented. The details of such a program are described. Without such a program, intolerable levels of performance degradation are projected during continuous operations.

Strategies for countering the anticipated degradation during continuous operations include: leadership training, confidence building, (Continued)

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20. (Continued)

organizing for full communications, behavioral modeling, overtraining and crosstraining, developing physical fitness, and development of performance supports.

Tactics for countering performance degradation during continuous operations include task rotation, task sharing, use of performance supports, proper management of stress, and appropriate work/rest cycles.

The program for integrating these concepts into a unit developmental program includes systematic steps along a time frame. The strategies are set in place during the preparatory stage, and these provide the foundation for implementing the tactics during continuous operations.

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INTRODUCTION

This manual contains directions for presenting instruction about soldier performance in continuous operations. The manual provides a self-contained package for:

1. acquainting platoon and squad leadership with methods for maintaining effective performance during continuous operations.

2. explaining the techniques for sustaining effectiveness during continuous operations.

3. orienting this leadership to issues in developing a continuous operations capability.

The materials consist of five units:

Unit I -- a 35mm slide presentation, Staying Effective in Continuous Operations, accompanied by a recorded narration. The purpose is to introduce participants to the problem of soldier performance degradation in continuous operations, to present some techniques for dealing with it, and to suggest effective procedures for achieving a continuous operations capability.

Unit II -- an oral (classroom) presentation/discussion supported by flipcharts and hand-outs. The purpose is to elaborate on practical implementation of four types of counter degradation measure (CDM):

1. leadership

2. commitment

3. physical conditioning

4. stress management

Unit III -- an oral (classroom) presentation/discussion supported by flipcharts and hand-outs. The purpose is to elaborate on practical implementation of three types of CDM:

1. identifying and selecting talent

2. task restructuring and rotation

3. system modifications and performance supports

Unit IV -- an oral (classroom) presentation/discussion supported by flipcharts and hand-outs. The purpose is to elaborate on practical implementation of three types of CDM:

1. training

2. work/rest sleep discipline

3. resource management

Unit V -- six discussion cases dealing with various issues from the start of unit/training to application of CDMs in continuous combat. They furnish a basis for a problem solving workshop designed to provide practice with specific issues in developing and maintaining a continuous operations capability.

Directions as well as supporting guidance for the administration of each of these five units are provided successively. The appendix lists the specific platoon and squad level tasks which the five units, taken as a whole, are designed to support.

Whenever feasible, all five units should be scheduled. Units II, III, and IV rest on the foundation of Unit I, and Unit V rests on the foundation provided by all prior units. If sufficient time is not available for administering all units, the case discussions can be curtailed or omitted.

References

Discussion leaders should become familiar with, at least, the below listed references which will help the leader to provide authoritative answers to questions, and to inject relevant background information into the discussions.

1. Human performance in continuous operations:

   II. Management guide (Research Product 80-4b)

   U.S. Army Research Institute for the Behavioral and Social Sciences, 5001 Eisenhower Avenue, Alexandria, VA 22333

2. FM26-2, Management of Stress in Army Operations

3. FM26-XX, Soldier Performance in Continuous Operations

Items 2 and 3 of these references as well as the present materials were developed under supervision of the Soldier Developments Directorate, Fort Benjamin Harrison, the TRADOC element with proponency for soldier performance. Users are encouraged to comment on them, or on any issue of soldier performance to the Soldier Developments Directorate.

HANDOUTS

Some items of adjunct material appear in Appendix B to this manual. Sufficient copies of these handouts should be reproduced in advance and distributed to prospective participants. They should be asked to review them before arriving for training. If materials cannot be distributed in advance, they should be placed on a table in the meeting room and attention called to their availability.

UNIT I

Audio-Visual Presentation

UNIT I

(Approximate Duration: 30 Minutes)

General

Unit I, a slide/audio tape presentation, reviews expected conditions in potential future warfare and shows how these conditions inevitably degrade the performance of every soldier from commander to footsoldier. The presentation considers the techniques that can be used for retarding the pace of degradation and presents considerations for preparing a continuous operations capability. The purpose is to orient participants about problems and some means for dealing with them.

While this Unit is intended to be used in combination with succeeding Units, it can be used independently to brief a group of any size. When scheduled for use in combination with the other Units, it is recommended that the group be limited to no more than 18 participants.

The slide/audio tape presentation (35mm slides and audio, single track tape cassette) is available from:

U.S. Army Soldier Support Center
ATTN: ATZI-NCR-SP
Ft. Benjamin Harrison, IND 46216

Materials

35mm slide projector
slide tray of sufficient capacity
83 slides (35mm) "Staying Effective in Continuous Operations" (plus focusing slides A and B)
projection screen
tape cassette player
tape cassette: "Staying Effective in Continuous Operations"

Preparation

1. If not already loaded, load the slides into a slide tray in numerical sequence.

   a. assure correct slide orientation:

      (1) relate slide tray's geometry to projector's

      (2) in the projector, slide image must be "upside down" and matte (emulsion) side toward screen

2. Project loaded slides to assure that all are correctly oriented; after corrections, set tray back to first slide (focus sharply).

3. Insert tape cassette into cassette player

4. Preview the Unit in its entirety before presenting the Unit for the first time.

Presentation Procedure

1. Welcome audience to the briefing (and subsequent seminar) on soldier performance in continuous operations.

SAMPLE

My name is _____.
I am _____.
(State affiliation and role in parent organization)

Welcome to this orientation and workship on staying effective in continuous operations. This training was prepared by the Soldier Support Center in order to present the basic facts and issues in regard to sustaining soldier combat performance effectiveness during continuous operations.

The material you are about to see reviews the condition expected in future massive ground warfare and shows how these conditions inevitably degrade the performance of every soldier from commander to foot soldier. It presents techniques for retarding the pace of degradation. Later we will explain their implementation in training and continuous combat. As the result of this orientation, you will see the dimensions of the problem and some means for coping with it.

2. Turn off lights.

3. Start cassette player; turn on projector

4. When click is heard on tape, advance to next slide

5. At end, turn off cassette player and projector; turn on lights.

6. Announce:

> I (we) have no doubt that there are now a number of questions. I (we) will try to deal with any points on which you may want some elaboration.

Discussion Guidance

1. Respond to specific questions factually. (e.g., are there any FMs on continuous operations?--Ans. FM26-XX, Soldier Performance in Continuous Operations.

2. Elaborate on general points as requested.

3. Continue this discussion until most, if not all, questions are answered. Some questions may be answered by a statement such as "That is covered in the Unit(s) which are scheduled to follow."

4. Propose a brief break period before continuing.

5. Introduce the break with a statement such as: "Lets take a brief break. After that, we will begin to explain the Counter Degradation Measures or CDMs and how to train your men in these techniques."

UNIT II
Classroom Lecture

UNIT II

General

Unit II is intended to follow immediately after the audio-visual presentation and discussion which constitute Unit I. Along with Units III and IV, it provides an in-depth explanation of measures for countering and retarding performance degradation in continuous combat operations. Unit II tells how these CDMs ought to be introduced into the training to develop a capability for continuous operations.

Presentation Procedure

A lesson plan, followed by a suggested script for Unit II, is presented below. Unit II is a lecture presentation. The instructor may read this script, or he may deliver his own version by relying on the topical cues that accompany each paragraph (left column).

UNIT II

LESSON PLAN

TITLE:	Counter Degradation Measures 1: Leadership, Commitment, Physical Conditioning, and Stress Management
TRAINING OBJECTIVE:	Action: (1) The student will be able to implement four CDMs at the Platoon/Squad level. (2) The student will be able to devise new CDMs. (3) The student will be able to evaluate proposed and/or implemented CDMs. (4) The student will be able to instruct others in the use of CDMs. Conditions: Following authorization from the appropriate commands. Standards: The student will accurately and successfully participate in a set of case discussions which involve CDM implementation.
MEDIA AND EQUIPMENT:	Flipcharts (prepared), Handouts
METHOD OF INSTRUCTION:	Lecture
TIME:	50 minutes minimum (if possible, 2h)

UNIT II--TEXT

Importance of Counter Degradation Measures (CDM)

You have completed the first Unit of your continuous operations training, that is, the audio-visual orientation. That presentation gave you an overview of expected future warfare conditions, some adverse factors resulting from these conditions, and how these factors will progressively degrade soldiers' fighting effectiveness. A number of Counter Degradation Measures (CDMs) have been worked out. These CDMs will enable prepared troops to keep up an acceptable level of performance effectiveness even in the face of the adverse conditions of continuous operations. They were briefly explained in the orientation. Now we will look at each of the CDMs in detail. We will explain the implementation and evaluation of each of these CDMs. Four of them will be explained in this Unit.

Refer to chart

They are shown on this chart. The remaining CDMs will be covered later.

COUNTER DEGRADATION MEASURES
(CDMs)

1. Leadership
2. Commitment
3. Physical conditioning
4. Stress management

CDMs--are techniques
--must be practiced

Here are some important things to remember about all of the CDMs. They are the best available combination of techniques for resisting all of the factors that degrade performance. The CDMs do not make soldiers immune to performance degradation as a tetanus shot makes you immune to tetanus. The CDMs are techniques for delaying serious performance degradation, and for coping with or compensating for that degradation. They will keep you and your soldiers going for a longer time and at a higher level of combat performance. However, the CDMs must be worked out in advance, and they must be practiced until they have become second nature.

CDMs are a total package not a menu

You cannot pick and chose just those CDMs that look good to you. Research and experience tell us that CDMs work reliably only when they are used in combination. Notice, for instance, that some of the CDMs are dependent on some others. In other cases, a combination of two or three of them act together to resist fatigue and the other factors that pull the level of performance down. Remember, we are discussing each CDM separately here, but they are all part of the program of preparation to maintain performance effectiveness in continuous combat operations.

A. Leadership and Commitment

Refer to chart

We'll get started with two CDMs, leadership and commitment. The particular points that we will cover in this connection are shown on this chart (POINT TO CHART).

A. LEADERSHIP AND COMMITMENT

1. How to satisfy leadership needs
2. How and when to shift leadership style
3. Building morale/motivation/confidence
4. Building cohesion/esprit/commitment
5. Passing on information
6. Keeping in touch in combat

Leadership and commitment are foundations

We begin with leadership and commitment because they are really the foundation on which the entire development of a continuous operations capability is built. If these foundations are not solid, the program of preparation will be shaky, and when the real test comes--in continuous combat--the CDMs will not be very effective.

Be a 1st class model

The men you lead will look to you as a model of how to behave. In the extreme conditions of continuous operations, a strong model helps when determination begins to sag. Even in training for continuous operations, each soldier's determination may be put to

Leaders must demonstrate commitment

the test. At the very beginning, every soldier must appreciate the absolute necessity for this training and the value that the CDMs will have for him in combat. Even for effective training, soldiers must become personally committed to the objectives of that training. The first and foremost requirements are for soldiers to understand the importance of what is being asked of them and for leaders to demonstrate their own total commitment to the training.

How to Satisfy Leadership Needs

You know how to be leaders

The fact that you are here means that the Army regards you as leaders and has assigned you to leadership positions. Our purpose at this moment is not to tell you how to be leaders. You already know that, and we are not about to repeat the information contained in such publications as FM22-100 or FM22-600-20. What we are trying to explain here is how to apply leadership with respect to some special requirements of continuous operations and of the training for it.

Leaders must discipline themselves

The very first of these requirements is self-discipline. This does not mean waiting to eat or for comforts until your men are looked after. It means that you must discipline yourself to follow all of the rules for slowing down your own performance degradation.

Know strengths and weaknesses and be open about them

Continuous operations, even more so than any combat, will not let you or anyone get away with faking anything. Either you "can do," or you "can't do."

To get the peak fighting effectiveness from your team or unit at all times--and you will need the peak effectiveness--you have to know the strengths and weaknesses of everyone, including yourself. Just as a particular type of ammunition is effective against some types of targets, but not against other types, some soldiers are better at doing some things than others. As a leader you must know about every soldier under you--what he does well and what he does poorly. Also, it's no good pretending, for instance, at night in unfamiliar terrain that you know your way around, when, in fact, you are the type of person with a poor sense of direction. Be open about such things. Rely on somebody with a good sense of direction to help you out. In this sense, too, be a model to your men.

Admit mistakes and learn from them

Being open about shortcomings is a very important leadership trait: nobody is perfect. In training, mistakes are bound to be made. Some of these mistakes will likely be your own. In training, at least, a mistake is serious only if it gets covered up and nothing is learned from it. After all, training is a process of eliminating mistakes. Show by example that you learn from your own mistakes, and that this is the spirit in which you look at mistakes made by others. The objective in training is to achieve nearly perfect readiness for actual combat. It is not the objective simply to pass the next ARTEP evaluation with zero deficiencies.

Assess and record status to track

There is another leadership requirement closely connected with learning from mistakes. As a leader, you must make it a point to know what your team or unit actually can do--at all times. Don't guess and don't assume. Go only by what you observe objectively--by the performance that is actually demonstrated. Don't trust your general impressions or your memory. Keep records that let you see whether any improvement is taking place, how much improvement, and whether it is at a good enough rate. Unless every soldier in the unit and the unit as a whole steadily keep on improving their performance, there is a problem that needs to be diagnosed and solved.

Recognize achievement and effort

Further achievement feeds on earlier achievement. Hand out recognition for genuine accomplishment. Telling a soldier, unit, or team what they did right will work better in the long run than chewing them out for what they did wrong. That does not mean that you should not point out what was done wrong. You must also explain how to do it better the next time. Give the praise to the soldier, but criticize only the task performance and not the person. Also, recognize the soldier who is genuinely trying to do his best even when his best is not good enough by objective standards. Reassure him that you believe he will meet the standards, if he keeps on trying. Don't underestimate the importance of this requirement. Soldiers need recognition from their superiors, and they need it most of all when they are being asked to make a tough effort.

Establish leadership authority

Establish your personal authority. To establish the kind of personal authority that will hold your team or unit together in continuous operations and keep them going, you will have to demonstrate two things. First,

Show you know what must be done

Strictly enforce your decisions

show your men that you know what to do at all times, that is, that your decisions are the best ones under all circumstances. Second, show them that you will use the power you have to enforce your decisions. Think carefully--possibly even asking for advice--before you make a decision. However, once the decision is made, everyone must have no doubts that you mean it. In continuous operations, your men will need to have absolute faith in you.

Dedication to winning

We've saved the most important leadership requirement as the last one so that you will remember it, if you remember nothing else. To stay effective in continuous operations, there has to be a total dedication to winning. That total dedication has to begin with you. You need to make clear to your men that you are totally dedicated to winning and that you expect them to be totally dedicated to winning. You have to demonstrate this spirit without exception, and you have to establish it so thoroughly that anything else becomes unthinkable. There has to be an absolute belief that, if continuous combat ever becomes actual, the team or the unit can and will win. Remember that the ability of battalions, brigades, divisions, and even armies to win in battle depends on the performance and spirit of all of the small units that make them up.

How and When to Shift Leadership Style

No one is immune to performance degradation

The conditions of continuous combat operations will place the greatest imaginable demands on your resources as a leader. No one is immune to the performance degradation resulting from sleep loss, fatigue, stress, limited visibility, and the uncertainty of battle. In fact, scientific projections and experience show that the performance of those with decision making responsibility--like tank commanders or platoon leaders--will degrade more rapidly than the performance of soldiers with less decision making responsibility--like tank loader or artillery battery crew member. Therefore, you need techniques to: (1) cope with your own performance degradation, and (2) lead others who are in a degraded condition. We will deal with the first point when we get to stress management techniques. Here we will discuss the second point.

Decision making and thinking degrade first and most

Adverse conditions of continuous operations

Imagine the conditions of soldiers during continuous combat. Some of you may have already experienced combat conditions. But Army studies tell us that future combat operations will be unlike anything that has ever existed in the history of warfare. The key

element from a human performance point of view is that future combat will be intense and it will be non-stop, day and night. What is that going to to do to you and your soldiers?

"Mental" tasks--first to suffer

When we talk about the effects of continuous combat operations, we can make a distinction between physical activities and mental activities. The mental activities will be most severely affected by continuous operations. This means anything you do that requires alertness, thinking, memory, calculation, or even recognizing--for instance, recognizing friendly tanks or aircraft. Physical performance will also become degraded, but not very badly. This means that habitual tasks like firing your rifle or fuzing a shell will still be done reasonably well even when soldiers are half asleep on their feet.

"Physical" tasks--more resistant to degradation

Adjusting leadership style

The implications of all of this for leadership are that soldiers will have difficulty understanding, remembering, and following orders. Therefore, you will need to adjust your leadership style to maintain effectiveness with troops who are in a degraded condition. This will add to the strain on you, but it is a necessary part of your role as a leader.

Be understanding

You must understand soldiers in this degraded condition. Take their reduced mental abilities into account when giving orders. Do not become angry with soldiers who cannot seem to make sense out of what you are saying.

Some steps to remember for continuous missions

Keep your orders simple

Repeat orders

Soldiers repeat orders back to you

Write it down

Here are some of the steps you should take when dealing with soldiers of reduced capacity. First, keep your orders short and simple. Get only one thought straight in your own head, and then state it as clearly and as simple as possible. Tell the men what to do and to do it. Repeat your orders. To ensure that the men understand what you are telling them, have them repeat the order back to you. Don't simply ask "Got it,?" and don't be satisfied with a "Yes sir" answer. One final suggestion, depending on the situation--have your men write down the order. In that way their unreliable memory for recent information gets a back-up capability.

Summary

In summary, the key shifts in leadership style that are necessary when troops are extremely fatigued are of two kinds. First, anything you tell a soldier--an

order, directions, or any information--must be simple, brief, and stated very, very clearly. At this stage, they can't interpret what you mean; you have to tell them. Second, because the men will be lethargic, that is, unable to get themselves going, you will have to be patient but firm. In a sense, you have to point them in the right direction and then give them a shove to get them going. These are the key shifts that will be necessary. Do any of you have other suggestions or ideas?

(TRAINEES OFFER SUGGESTIONS)

Building Morale/Motivation/Confidence

Performance = ability x motivation

Most theories of human behavior distinguish between the potential for performance and actual performance. Actual performance depends on both the existing capability (through learning, training, practice) and the existing level of motivation. Obtained performance, that is, what people actually do, is the product of motivation and acquired (learned) capability. No matter how high the level of either factor, if the other is zero (or effectively zero) no adequate level of performance will be obtained. Individuals or teams perform best when motivation and morale are high.

Morale

Morale and motivation are not entirely synonymous. Morale is the condition in a group in which personal needs, desires, and objectives are either aligned with those of the group, or are willingly subordinated. High morale arises, for example, out of well established leadership authority which formulates group objectives. These objectives are accepted and adopted by each group member, because the leadership authority has become unquestioned and the leadership is trusted.

Using reward

When morale in a group is high, the achievement of the group's goals provides the incentives. Reinforcement, the essential ingredient for achieving a high performance capability, derives from indications that the goals are being approached--that there is progress toward these goals. A reward (which is another term for reinforcement) is the information that the individual has contributed to the achievement of the common goal.

Exploit positive, success experiences

This experience of setting and achieving goals is also important for motivation, the "drive" behind behavior. Soldiers must have positive experiences to develop a "can do/will do" attitude. These experiences should come from training, exercises, and everyday interactions with superiors. Motivation can be infectious. So, when you are motivated and let that motivation show, your men will be motivated. This motivation is essential to withstanding the conditions of continuous operations.

Buidling confidence

Confidence is an important factor which contributes to individual motivation. A soldier must have confidence in himself, his abilities, his equipment, his unit, and his leaders. Confidence cannot be ordered. It is developed through experience; and leadership must arrange the proper experiences. This chart gives some of the guidelines for developing confidence.

Refer to chart

(SHOW CHART)

(CHART)

- Set realistic goals
- Test for achievement
- Praise improvement
- Recognize individuals
- Support the soldier
- Be honest and realistic
- Consider enemy conditions

Key points

We see that the important points are:

1. Set realistic goals for progressive development of individual, team, and unit competence
2. Systematically test the achievement of these goals
3. Praise improvement and coach units toward achieving higher competence
4. Single out individuals and teams for recognition of competence, or even for genuine effort

5. Support each soldier's confidence at every opportunity

6. Present realistic and detailed expectations about future combat conditions in continuous operations

7. Point out that the enemy faces the same adverse conditions

Building Unit Cohesion/Esprit/Commitment

Importance of these factors

There is a great deal of evidence which points to the importance of factors such as unit cohesion, esprit, and individual commitment to soldier performance in combat. For example, in WW II, elite units with strong group cohesiveness, such as Airborne Divisions, suffered fewer neuropsychiatric, that is, stress casualties than other units. Also, the 442nd Regimental Combat Team, made up of Japanese-Americans, and the most decorated unit in the U.S. Army, had almost no psychiatric or stress casualties throughout the Italian campaign. We see that these factors can be extremely important.

Group identification:

1. group membership
2. group prowess
3. group uniqueness

Morale, as mentioned earlier, amounts to alignment with or willing subordination of personal goals to group goals. A precondition is identification with the group. The greater the feeling of belonging to the group, the stronger will be the operation of the factors outlined here. Therefore, anything that contributes to the cohesiveness of the group and to identification with it should be encouraged. The possibilities are too numerous and diverse for discussion here. A few can be suggested: (1) emphasize membership in the group, for example, "you're one of us, and we take care of our own," (2) emphasize group prowess, such as, "we're one helluva bunch, and we can do anything," and (3) emphasize uniqueness and superiority of the group, captured in such slogans as, "when things really get tough, they call for us, cause nobody else can..." Other themes of this type can be imagined. In any case, fixed slogans and cut-and-dried examples cannot substitute for continuing, sensitive appraisal of the extent to which group identification exists in the organization and for constant efforts to strengthen it.

Competition

Competition is another technique for enhancing group identification. Rivalry between comparable organizations at comparable levels of competence automatically

establishes performance standards. Soldiers will get caught up in the competition and will feel, "We must be good enough to beat the competition." Because the competition will act similarly, the standards need to be constantly raised, if one is to be successful or to remain successful.

Competition inherently emphasizes group membership ("our team") and, because the success experience from successful competition depends on group identification, competition strengthens group identification.

Peer pressure

Additional benefits result from competition and the development of esprit. One benefit is the peer pressure that one feels as a member of a group or team. This peer pressure serves to keep performance standards high because the soldier feels, "they won't let me down, because they expect me not to let them down."

Self esteem and commitment

Motivation and morale were discussed earlier from the external point of view. That is, the sources of control and manipulation for motivation/morale which were considered are external to the individual. The strongest, most stable, and durable motivation, however, arises internally and is based on the individual's own self esteem and commitment to the goals of the unit. No external source of control comes close in effectiveness to the control a person exercises over himself. The ultimate object in leadership and group identification development is to have the individual soldier adopt the common goals as his very own. Once the source of motivation has been transferred from external (leadership) control to internal control, self-esteem and commitment begin to motivate independently and continuously. They become, in the ideal case, an integral part of the individual's personality.

High standards of performance:

1. Leadership
2. Peer pressure
3. Commitment

In summary, we now have three coordinated forces working together. They are: (1) responding to the authority of leadership, (2) the peer pressure inherent in the demand to live up to the performance level of others in the group, and (3) meeting self-imposed standards of performance based on self-esteem and commitment.

Passing On Information

Communication

Good leadership is the glue that holds a unit together. In the same vein, we can view communication as the lubrication for the working parts of the unit. Good communication in a unit means that information flows freely and accurately through both formal and informal channels. The responsibility for achieving good communication clearly falls on established leaders.

Before we can even talk about communication we have to mention the background for it. That background is important for meaningful communication as well as providing a basis for independent judgment, when the soldier has to exercise it. At all times, make sure that every soldier understands the objectives of the unit's mission, the plan of operations, and what he and his team are expected to accomplish. This will help him and you when things no longer go according to plans.

Practice good communication

Most of your communications are not orders. During training exercises, for example, you answer questions, give instructions, give guidance, and evaluate performance. During all of these interactions, communication pattern are established. Good leadership will ensure that the patterns that are established lead to full and free exchange of information. For example, when soldiers' comments and questions are met with a "none of your business" attitude or sarcasm, those soldiers will be less likely to pass on the important information (like status of equipment or morale) that you need to lead your unit effectively. Therefore, in all communications be respectful and professional.

Feedback

Feedback is another important aspect of communication. As a soldier is learning any new task, you must guide his actions and provide feedback about the effectiveness of these actions. This feedback must be clear and direct. As a leader, you need feedback from your soldiers about the effectiveness of your actions. For example, when you set up task rotation schedules, you need feedback from the soldiers concerned so that you can devise the best possible schedule. Remember: your soldiers need feedback from you, and you need feedback from your soldiers.

Encourage free and full information exchange

I have stressed that the exchange of information should be free and full. This goal is not automatic or easy to achieve; you must work at it. One problem for you to recognize is how easily information can be distorted. You all know how easily and quickly rumors spread. A small, accurate item of information can get distorted wildly because the soldiers involved don't have enough accurate information to counteract the rumor. Also, sometimes information is distorted because of the needs, motivations, and desires of the communicator and/or receiver of the information. A commanding officer may fail to "see" some problem--like poor morale--that might be obvious to someone who doesn't have as much to lose by acknowledging the problem. This type of distortion is known as "filtering." It can be reduced by increasing the number of channels of information--for example, using both formal and informal channels and also relying on direct observation in addition to verbal reports.

Maximize information sources

Avoid rumors

At times the question is raised, "How much should I tell the soldier?" The answer, in most cases, is, "as much as possible." Recall that I mentioned earlier that rumors breed in situations where there is a shortage of information. Rumors are generally detrimental to morale. Therefore, you should curb their development whenever and wherever possible. The most effective method is to provide accurate information and as much information as possible without compromising security. This is especially true during combat operations.

Keeping in Touch in Combat

Practice good communication

We just mentioned that all security-free aspects of information should be passed on as often as possible. Information of this type is a vitally important part of building and maintaining confidence. But this procedure, as all techniques for building better communications, must be practiced to be maximally effective during both training and actual combat conditions.

Communication during combat

One final aspect of communication has to do with keeping in touch during combat. During the adverse conditions of continuous operations, soldiers must be assured that they are not alone. You must devise and practice methods for contact to be made among soldiers--by each other, by squad leaders, and by platoon leaders. This is very important in sustaining soldier performance during continuous operations because the conditions will be extremely stressful. For a soldier to know that he is in the same situation with others will help him to "tough it out." So remember,

keep in touch. If, during actual combat, you cannot maintain frequent direct contact with your men, then use any other channels available to you--radio, hand signals, or whatever--to let them know you are there.

B. Physical Conditioning

Refer to chart

Physical fitness is extremely important for all members of the Army. In fact, a number of field manuals, such as FM21-20, Physical readiness training, and regulations, like AR 600-9, Army physical fitness and weight control program, have been published on this subject. Today we will deal only with the role physical conditioning plays in continuous operations preparedness. A high degree of fitness will help soldiers withstand the adverse conditions of continuous operations. This chart shows the topics we will deal with. (SHOW CHART)

(CHART)

B. Physical Conditioning

1. Bounce-back
2. Stamina
3. Strength
4. Pacing energy expenditure
5. Pushing the physical limits
6. Reaping the benefits of a physical conditioning program

Physical conditioning applies to everyone

Physical conditioning is a CDM which applies to everyone in the unit. The benefits of physical conditioning will greatly repay the time investment. This CDM is different from some of the others in that soldiers do not learn a new set of skills. We should not underestimate physical conditioning. As a result of a fitness program, soldiers will be better able to resist fatigue; all tasks will be performed longer and at a higher level of effectiveness.

Bounce-Back

Recovery from fatigue

One benefit of physical fitness is known as bounce-back. Physical fitness is the ability of the body to stand up under prolonged, extraordinary demands without harm. The fit soldier can call on his mind and body to perform strenuous activity for extended periods and bounceback to normal effectiveness after a relatively short interval of rest. Whether moving heavy weapons, packing bulky loads, or digging in, the fit soldier can draw on his reserves of strength or wind to bounceback with only the briefest of rest. These reserves are maintained on a daily and weekly basis through physical training and being in shape.

Stamina

Stamina or endurance

Stamina is equivalent to endurance. Fitness should be developed in all soldiers to increase their work capacity and ability to withstand the stresses of continuous operations. The best way to produce stamina is through aerobic fitness.

Aerobic fitness--oxygen to the muscles

Aerobic fitness refers primarily to a well-developed oxygen delivery system--strong heart and lungs that efficiently deliver oxygen to the working muscles. Aerobic fitness refers to the efficient conversion of food into muscle-energy by using this oxygen. The connection between aerobic fitness and fighting ability is a direct one. The soldier requires energy to fight--energy created by burning fats and carbohydrates. This process takes oxygen. The tougher the action, the more energy--and oxygen--are needed.

Aerobic activities

Perhaps the best, although certainly not the only, method of producing aerobic fitness and the accompanying stamina is running. Running (as well as swimming and bicycling) calls for a sustained expenditure of energy rather than bursts of energy. It is this type of activity which builds up energy reserves. Running a half an hour three times a week is sufficient to produce physiological benefits. Encourage activity of this type.

Mental benefits

There are also mental benefits to be gained from aerobic fitness. Feelings of depression, moodiness, and lethargy (not wanting to move) usually accompany extreme tiredness. These will affect the aerobically fit soldier far less than the unfit one. Both body and mind will stay sharp during the stress of continuous operations.

Strength

Muscular strength

Physical activity which requires bursts of energy, such as weight lifting, while not developing aerobic fitness, develops strength. Activities, such as push-ups and chin-ups, that develop strength, should be encouraged to enable the soldier to perform heavy work.

Situations requiring strength

Although today's Army is a highly mechanized and technologically sophisticated organization, the importance of physical strength should not be overlooked. As combat operations continue and adverse circumstances combine to present unusual situations, there will be some situations which require brute strength. For example, disabled vehicles may have to be off-loaded, or pulled out of mud or water. Efforts of this type require upper body strength in addition to aerobic fitness. While jogging, for instance, develops aerobic fitness, it does not build strong arm muscles. Soldiers must develop upper body strength in addition to aerobic fitness.

Tailoring physical fitness programs

How to do it and how much is enough? These are important questions but no hard-and-fast rules exist. Physical fitness programs must be tailored to the needs of your individual units. Some of the fitness training will take place during required activities and calisthenics. However, individual fitness programs including sports, running, and weight training should be pursued.

Pacing Energy Expenditure

Recovery from exhaustion

It is widely recognized that recovery following exertion will be more rapid and more complete, if a rest period is begun prior to total exhaustion. Whenever possible, soldiers should recognize their own resources and pace

themselves so as not to totally deplete these resources before attempting recovery. During combat, a pace will be forced on the soldier and he may not have the option of resting when his reserves are low. However, during training, pacing can be adjusted and soldiers should develop a knack for self-pacing.

Internal signals of enery expenditure

Proper pacing means learning to respond to signals from the body so that a sustained rate of energy expenditure is maintained. These signals (which include feelings of exhaustion and pain) tell the soldier whether or not he can keep going at the same rate. The soldier must become sensitive to these signals by practicing continued physical activity. When he can recognize them and use them to monitor his energy expenditure, he can avoid complete exhaustion.

Pushing the Physical Limits

Increasing physical limits

There are other benefits to self monitoring. By knowing the limits of his physical endurance, the soldier can set goals that are just slightly beyond these limits. As he reaches this new limit, he sets a new goal just slightly beyond the old one. In this way, he inches forward to greater strength and endurance.

Physical and mental benefits

There are really two types of benefits that follow from "pushing the limits." One is physical, as I just pointed out. The other is mental. Continuing to work at one's upper limit over extended periods of time requires considerable mental determination. In a sense, the mind can be trained to continue to direct the body although it is fatigued. The soldier will also learn that both his body and his mind are capable of effort that he previously thought would be impossible.

Reaping the Benefits of a Physical Conditioning Program

The demands of a physical fitness program

You may be thinking, "that sounds great in theory, but it's impossible in practice." Not so. Following these guidelines is difficult and challenging, but not impossible. To implement properly a complete physical fitness program will demand leadership and commitment. Lead your soldiers and convince them that physical fitness programs are necessary and important. You must also get them to make their commitment to the program. But although physical fitness programs

Increased cohesion and esprit

can be demanding, they can also provide returns in areas other than increased physical and mental stamina. Specifically, a physical conditioning program can be very useful in developing group cohesion and esprit. Whenever a group of soldiers goes through an experience together, especially a difficult experience, the members of the group are brought together more tightly. Common experiences enhance closeness.

C. Stress Management

Continuous combat produces much stress

The conditions of continuous combat are probably the most severe a soldier could possibly be subjected to. Without doubt, the response of each individual soldier will be a high level of stress--physical and mental. A small amount of stress is sometimes good for a soldier; it motivates him. But, the conditions of continuous combat may lead to higher levels of stress. Everyone must learn to recognize the symptoms of stress and to use techniques for stress management. Of course, to be maximally effective, you and your soldiers, need experience with these techniques. The specific concepts for consideration are on this chart. (SHOW CHART)

Refer to chart

(CHART)

C. Stress Management

1. The meaning of stress
2. The consequences of stress
3. The symptoms of stress
4. Controlling stress
5. Techniques for controlling stress
6. Programs of preparation

The Meaning of Stress

Stress is the soldier's response to a stressor

Stress is an adaptive process by which body and mind are trying to adjust to stressful conditions. Most people seem to think that stress means the conditions or the situation that affect them. Actually, stress is a complex response of the mind and the body, which allows the soldier to cope with extreme demands

(adverse conditions). The demands may be physical (e.g., cold, injury, disease) or mental (e.g., fear, conflict, pressure). The demand starts within the soldier, as he interprets some external event or personal need. That event or need is sometimes called a source of stress or a stressor. For example, the appearance of an aircraft is not stressful. Stress begins when shape, direction of travel, characteristic noise, attitude, and silhouette provide the tipoff about the intent of the approaching aircraft. Another example is that of continuous noise, which in itself if not very stressful. But, when noise is loud or irregular, it becomes a real source of stress.

The Consequences of Stress

Three stages of stress:

1. alarm reaction
2. resistance
3. exhaustion

Regardless of the source of stress, the overall response can be described by a set of stages. During the first stage, called the Alarm Reaction, the normal level of resistance to sources of stress actually drops slightly. The body is "getting ready to get ready." This stage is relatively brief. It is followed by a second stage, called the Stage of Resistance, during which resources are successfully mobilized. As a result, the level of resistance to sources of stress is greatly increased. When stress is very high and continues for a long time, the resources for resistance are expended faster than the body can create them. Eventually, the Stage of Exhaustion is reached. This means that the available bodily resources have been exhausted. Obviously, extreme stress can't be allowed to go on for too long.

The Symptoms of Stress

Signs of stress are warning signals

Stress due to combat--

1. duration
2. intensity

Before we go on to talk about stress control and the techniques for it, let's look at the signs of stress building up, or if you like, the warning signals. In the special context of continuous operations, as distinguished from any intense combat, we need to look at the signs of stress from two perspectives. First, there are the signs of exhaustion and the performance degradation due to sleep loss and operating at a furious pace for too long. Second, there are the signs of stress--mainly emotional stress--due to the intensity and pace of combat itself.

Refer to chart

The signs of the first type, that is, those due to continuous activity without sleep, are mainly indicators of soldiers' likely performance capability, or how degraded performance is likely to be. These signs are summarized on the chart (POINT TO CHART), and you also have a handout which is a copy of the chart.

(CHART)

Some Physical Signs

- Vacant stare--eyes seem to be fixed and unfocused
- Skin pallor--skin is pale, because blood vessels are constricted
- Postural instability--sways while standing up

Some Behavioral Signs

- Slowness of response--slow to respond to signals, directions, events
- Lapses in attention--for moments the soldier is "not there" or seems asleep
- Inability to grasp directions--has difficulty in comprehending orders, may have to repeat them to himself several times
- Difficulty with numbers--cannot keep numerical groups straight, cannot do simple arithmetic
- Difficulties in expression--has difficulty formulating verbal statements and messages
- Unclear speech--speech may be slurred
- Decision problems--has difficulty in reaching even the simplest kinds of decisions
- Message garbling--incoherently relays messages, relay contains gaps and may be partly repetitive

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The chart or your handout contains the essential information. Are there any questions? (WAIT FOR QUESTIONS) The more of these signs a soldier shows, and the more strongly he shows them, the more exhausted he is and the more his performance capability will be down.

Refer to chart

This will also be true for this second set of symptoms which are those due mainly to the intensity and lethality of the combat (POINT TO CHART) What these signs mean, or what they look like, is explained in your handout. We're not going to repeat the information in the handout. Take a quick look through it.

(CHART)

THE SIGNS OF STRESS

In Yourself		In Others
Aggression	Loneliness	Alcohol
Anxiety	Low self-esteem	Denial
Apathy	Moodiness	Drugs
Depression	Nausea	Emotional outbursts
Diarrhea	Nervousness	Excitability
Dry mouth	Nightmares	Impulsive behavior
Fatigue	Numbness/tingling	Inadequate eating or drinking
Forgetfulness	Pounding heart	One track thinking
"Freezing"	Sweating	Restlessness
Frustration	Tension	Risk taking
Guilt	Urination	Smoking
Hot and cold spells		Speech disorder
Inability to concentrate		Trembling
Irritability		

(WAIT) Are there any questions? (WAIT FOR QUESTIONS) Do get familiar with these various symptoms of stress and exhaustion so that you'll recognize them when you see them.

CAUTION!

Before we go on, let me caution you that other causes can produce the same or similar symptoms. For instance, radiation, chemical or biological agents, certain diseases, heat or cold exhaustion, concussions, and the like may produce similar symptoms.

Controlling Stress

How to control stress

It ought to be obvious from everything we've told you, that keeping stress under control and down to a moderate level will be vitally important in continuous operations. At the same time you'll wonder how that's to be done, because, if there were a way, people would surely be using it. Well, there are ways, they are being used by some people, but they take preparation and practice.

Stress control can be learned

The first thing to remember is that stress control can be learned, but it can't be taught by the numbers. Learning to gain control over the stress in your own body and mind is different from learning to field strip a rifle or learning standard hand signals.

All the same, stress control can be mastered and it does work. It works so well that the degree of control that has been attained can be startling. In a medical laboratory you can hook up people to instruments that measure their blood pressure, heart rate, and a lot of other indicators of the bodily response to stress. People who have learned to control stress can bring down their blood pressure, heart rate, and so forth at will. All of the instruments show this. They can do it in less than a minute. This is pretty convincing proof that stress control does work.

...but, it requires conscientious, dedicated practice

Stress control must be taken seriously

However, stress control can't be mastered overnight. It requires conscientious and dedicated practice. Every soldier--and that includes all of you--must take stress control seriously, because, even more than top physical conditioning, it will keep you going and may save your life. Just as you don't get into top physical condition overnight, stress control takes work.

Techniques for Controlling Stress

You must choose among available techniques

Four kinds of techniques for controlling and reducing stress are explained in the handout. We will not recommend any of these techniques over the others. You have to make that choice based on what you think will work in your unit and its particular situation. In fact, there are additional techniques that have not been mentioned, because they require special equipment or specially trained personnel. For example, the bio-feedback technique requires apparatus by which you can see when you are successful in lowering your pulse rate, your blood pressure, and so forth.

If you feel out of your depth, remember that professional help is available to you. Contact your Division Mental Health personnel for help. They are a resource you can draw on in developing and implementing the stress control training program.

The procedures for gaining control over stress are simple

The procedures for each of the four techniques that are practical in military settings are described in the handout. Notice that they are quite straightforward. Take a minute or two to look through the handout. If you see anything that raises a question, please ask and I'll try to answer it. (PAUSE AND WAIT FOR QUESTIONS)

Stress reduction capability develops slowly

As you see, the techniques really are so straightforward that anyone can follow them. Stress control capability develops gradually, but surely. Stick to the training, take it seriously, and it will get you there. We hope you never have to use this ability in actual combat, but it will help you even in everyday life.

Stress control is individual training

How do you get an effective stress control preparation program going in your unit? The first thing to remember is that you can't approach it like calisthenics. You can't just have everybody fall out for stress control training. Stress control is an individual, a personal, and--yes--a private skill. The procedures for any of the techniques described in your handout have to be followed by each soldier individually and at his own pace. Let me repeat that point: at his own pace. He is learning to get control over some things that go on in his own body and mind. How that learning progresses and it's timing can't be determined by any other person than that individual. Stress control training is individual training.

Explain to get willing cooperation

We are talking about an effective stress control program, not one that looks good. An effective program of individual training in a completely individual skill must first get the willing, dedicated cooperation of the individual involved. Every soldier has to understand very clearly what this training accomplishes and what it will do for him. Explain to the troops the combat conditions they will face in continuous operations, what they will do to the ability to keep going, and how stress control will keep the soldier from becoming a stress casualty.

Demonstrate leadership dedication

Create the right kind of a climate. The first thing to do is to let everyone know that you are implementing your own stress control training.

Allow flexibility to your men

Allow flexibility to your men, but assure that they practice stress control. Stress control practice should be part of normal, everyday duty.

D. Review and Questions

Review

This unit described three CDMs: (1) leadership and commitment, (2) physical conditioning, and (3) stress management.

Countering performance degradation

These CDMs are a part of a total package that the best information available tells us is necessary to counter the performance degradation that will occur for every soldier, regardless of rank, during continuous combat operations. We must deal with this performance degradation in a systematic manner. We can minimize it, retard it, and compensate for it. The CDMs are tools to help us accomplish this.

Questions

There is time for a few questions or suggestions before we move on to complete our discussion of CDMs.

UNIT III
Classroom Lecture

UNIT III

General

Unit III is intended to follow immediately after the lecture and discussion which constitute Unit II. Along with Units II and IV, it provides an in-depth explanation of measures for countering and retarding performance degradation in continuous combat operations. It suggests how CDMs may be introduced into the training to develop a capability for continuous operations.

Presentation Procedure

A lesson plan, followed by a suggested script for Unit III, is presented below. Unit III is a lecture presentation. The instructor may read this script, or he may deliver his own version by relying on the topical cues that accompany each paragraph (left column).

UNIT III

LESSON PLAN

TITLE: Counter Degr dation Measures 2: Special Talent, Task Allocation, System Modifications and Performance Supports

TRAINING OBJECTIVE:

Action: (1) The student will be able to implement three CDMs at the Platoon/Squad level. (2) The student will be able to devise new CDMs. (3) The student will be able to evaluate proposed and/or implemented CDMs. (4) The student will be able to instruct others in the use of CDMs.

Conditions: Following authorization from the appropriate commands.

Standards: The student will accurately and successfully participate in a set of case discussions which involve CDM implementation.

MEDIA AND EQUIPMENT: Fli, charts (prepared)

METHOD OF INSTRUCTION: Lecture

TIME: 50 minutes minimum (if possible, 2h)

Three CDMs:

1. Identifying and selecting talent
2. Task restructuring and rotation
3. System modifications and performance supports

In this lesson, we will consider three Counter Degradation Measures (CDMs). (1) identifying and selecting talent, (2) task restructuring and rotation, and (3) system modifications and performance supports. I will explain the reasons for the implementation and the evaluation of each CDM. There will also be an opportunity to ask questions at the conclusion.

A. Identifying and Selecting Talent

Identifying and selecting talent

First, consider the talent identification and selection. There are three main issues related to identifying and selecting talent. First, you must understand the concept of special talent. Second, you must be able to find this talent in your troops. And third, you must know how to use this talent. These issues are shown on this chart. (SHOW CHART)

Refer to chart

(CHART)

A. Identifying and Selecting Talent

1. Special talent and abilities
2. How to uncover special talent
3. How to use special talent

Special Talent and Abilities

Talents and abilities--examples: Targets Detection, sure orientation

Abilities especially useful in combat

We all recognize that soldiers vary widely in their talents and abilities. Some commonly recognized special abilities are mechanical ability or athletic ability. Sometimes soldiers possess abilities that are uniquely suited to some of the special demands of combat. Some examples are quick target detection, sure orientation, accuracy with numbers, and physical agility. The main concern here is to spot any special abilities that the men in your unit may have. The men with special talents should be identified so that their abilities can be used to the unit's advantage.

Additional useful abilities

What special abilities or talents are possible? Some have already been mentioned: mechanical ability, orientation ability, and so on. Other talents that might be considered are physical strength, the ability to speak a foreign language, such as Russian, Ukranian,or Polish, range estimation, and stress tolerance. What are some of the other relevant abilities that are specific for your units?

(STUDENTS SUPPLY SUGGESTIONS)

How to Identify Special Talent

Identification of talent:

1. ASVAB

The Army makes an effort to identify and use some abilities. Evidence of this is the use of the ASVAB--the ability tests given in recruiting centers--and the efforts to place personnel in duty positions that most effectively use their skills. Much of this information, like scores and foreign language ability, are available to you in personnel files. You should use these as a first step in identifying some of the special talent in your unit.

2. Interviews

Additional measures will be necessary to uncover completely and "tap" the special talent in your unit. Two possibilities are very informal interviews and "tests" set up during field exercises. Talk to your men individually and ask about each individual's orientation ability, or ability to speak a foreign language. A word of caution is in order, about ability information received, from interviews. Soldiers may overrate their ability out of modesty, or for other reasons. Rather than letting a soldier get by with a statement such as: "Yes, I'm very good at orienting in the field" ask for specific examples (what specific example(s) does he have? when? at night? unfamiliar terrain?) and weigh the evidence using your own judgment. Obviously, they may also overrate their ability.

3. Excercises

One good method of uncovering special talent is to observe performance in the field. During training and tactical exercises, plan to search for talent. For example, through coordination with OPFORCE elements, repeated infiltration attempts can be scheduled. Soldiers who are consistently among the first to spot these attempts are thereby identified as those with the "sharpest eyes and ears." You can identify soldiers with talent for orientation during night exercises. Another example is identifying those who are especially accurate at estimating range.

How to Use Special Talent

Use of talent

Examples:

Languages
Range estimation
Security

The uses of many talents are self-evident. For example, soldiers who speak a foreign language can be used as interpreters in interrogating POWs. Soldiers who accurately estimate range can be relied on when a quick response must be made to suddenly appearing targets. Soldiers with keen sight and hearing can be used for perimeter security, especially at night. Can anyone think of other examples like these?

(STUDENTS SUPPLY SUGGESTIONS)

Know your men and use them wisely

The main point of this section on special talent is: "Know your men and use them wisely." Each target calls for its own type of ammunition. Likewise, certain tasks call for special talents. If any of the men in your unit have a required special talent, learn of it and use it.

Don't overload

One final note is: "Use them wisely." "Wisely" does not mean "exclusively" or "all the time." These men have special talents, but they are not supermen. They, too, will degrade during continuous combat operations. Their talents can be used for the benefit of the entire unit. But, remember to rotate the load; don't overload any individual.

B. Task Restructuring and Rotation

Task restructuring and rotation

Refer to chart

Now we will go on to topics related to structuring and restructuring task performance. The following topics are included: (SHOW CHART)

(CHART)

B. Task Restructuring and Rotation

1. Flexibilities and task/role allocations

2. Contingencies and task/role reallocations

3. Rotation and work schedules

4. Parallel task performance

5. Shared task performance

Flexibilities and Task/Role Allocation

Example of "sharing the load"

Imagine a four legged table. It's stable and solid. The weight of the table is equally distributed over the four legs. What happens if you cut off one leg? Well, the table may not fall over, but you may be sure the table won't be as stable as before. Any weight placed on the table may cause it to fall over. Now, within limits, an Army unit is like that table. The weight of mission success is distributed over every member of that unit. The point here is not to place too much "weight" on any one soldier or team and to consider the consequences of losing people--just as we imagined losing a leg of the imaginary table. The task and/or role allocation topic deals with the issue of distributing the "weight" of mission success.

Flexibilities for task allocation

To a certain extent, task allocation is already accomplished by MOS structures, policies with respect to line of command, and traditional views on assignment of responsibilities. But, you must look for flexibilities within these guidelines. CDMs call for special planning.

Allocate duties equitably

The key to task allocation is to assign duties equitably. Don't "load up" your best man. Sure, he gets the job done initially, but with all those responsibilities, he'll be the fastest to degrade. Spread the responsibilities out. Train in such a way that during operations, you will be able to assign tasks to the least degraded soldiers.

Examples:

Obstacles
Range cards
Combat vehicle

Some examples of flexible task allocation at the squad level are:

- having a number of men responsible for placing obstacles and mines
- sharing the responsibility for preparing range cards
- having a number of men capable of performing specific tasks such as combat vehicle driving.

Share the load

Remember that tasks differ in a great many ways. For example, they differ in their relative importance or criticality to mission success. Mission success will be endangered if all critical tasks are concentrated in one duty position and the person involved is killed. Success will also be endangered if that person's performance capabilities deteriorate--for any reason--to low levels. A low level of effectiveness, it will be recalled, equates with a low reliability of performance or a small likelihood that each critical task will be carried out adequately. Therefore, it is vitally important to distribute the critical tasks.

Contingencies and Task/Role Reallocation

Changing task allocations with changing circumstances

A major benefit resulting from flexibility in task/role allocations during training is the flexibility you will have during operations. You and your troops will be better able to manage and cope with the stresses of continuous operations. It's a simple matter of not putting all your eggs in one basket. You must anticipate losses in personnel capability, and not just in the number lost for whatever reason (KIA, WIA, MIA). Keep in mind that the troops you do keep will be getting less and less effective. This performance degradation will show itself in increased errors and slowed performance. These concerns force you to be flexible in your assignments. You will need to allocate and reallocate tasks in such a way that mission success will be accomplished even in the face of the adverse conditions of continuous operations.

Rotation and Work Schedules

Flexibility in task/role rotation

Maintaining flexibility in task/role allocation will permit you, during combat operations, to order frequent task rotation among all soldiers and teams competent to perform a given task.

Performance declines with time on task

In many tasks, performance declines with prolonged execution of the task. This decline is additional to the degradation from fatigue and other adverse factors. Tracking enemy targets with a MG or an optical sight are examples of such tasks. Both time off-target and number of times off-target increase the longer these tasks are performed. Frequent rotation provides relief and, at the same time, maintains more effective performance.

Adjusting work/rest schedules

Task rotation allows work and rest schedules to be adjusted so that, with proper time management, fatigue can be held in check as long as possible. This point will again be raised later.

Parallel Task Performance

Parallel task performance

Parallel task performance means deliberate duplication or redundant performance. Redundancy is perhaps the most widely used technique for assuring adequate performance in adverse circumstances. It is, for example, the standard engineering technique for guaranteeing the performance of complex hardware systems. Simply put, in a vehicle with both hydraulic and mechanical brake linkage, one or the other can fail and yet brakes will be available. So, redundancy serves to assure performance reliability and that means mission success.

Examples of parallel task performance:

- Calculations
- Map reading

Redundancy, as applied to human performance, means that two or more persons perform the same task to assure that it is performed correctly. For example, if two persons perform a calculation independently and arrive at the same result, some confidence can be given to that result. Similarly, if these people independently determine their location on a map and agree, it is more likely that the result will be the correct, actual location than the determination of a single person.

Training required for parallel task performance

Parallel task performance is a very simple yet effective CDM. The only requirement is that more than one man is trained on the particular task. The steps for you to take are to identify especially critical tasks and to make sure that a number of men are trained on them. Then, you will be able to use these men when they are needed.

Shared Task Performance

Task sharing

One final benefit of maintaining flexibility in task assignments is that task sharing can be used. Sharing does not mean reorganizing the lines of responsibility, as specified by the TOE. Rather, sharing means a rearrangement, either partial or full, of certain task responsibilities. For some tasks, prior training may be necessary before personnel can share the task, and this should certainly be considered in training. But, for many tasks, the necessary skills are already present or incorporated into standard training and, therefore, the only required action is to "do it."

Benefits of task sharing

Task sharing can lead to major performance improvements under stressful conditions. Not only will task sharing improve performance on particular tasks but it will also help to slow the build-up of fatigue and the resulting performance degradation.

Examples:

Physical tasks

Let's begin with a simple example of task sharing. When the task at hand consists of lifting some object which exceeds the strength of all but the very strongest, load sharing is clear and obvious. That task becomes easy and its performance reliable when two or more people share the exertion. Even when the load to be lifted is such that it presents no serious problem to the fresh, rested person, it may be impossible for the extremely fatigued person.

Complex tasks

The principle of task load sharing can be extended to situations in which the load is not literally a physical weight. In a clerical task, for instance, it is often possible to share the component activities of the task between two people and to gain efficiency as well as longer endurance. In a calculation, especially of a repetitive type, it is often possible to split the activities in an analogous way. In perceptual or sensory tasks (looking, listening), such divisions of task responsibility are often possible.

Sharing with devices

Also, as discussed before, the sharing need not be between two persons. It can be a sharing with devices (in the broadest sense of that term). A rope and pulley arrangement shares the load of lifting weights. A hand held calculator shares the load of calculations, and so forth.

When to task share

The issue is not whether task load sharing should be done, but when it should be considered. Progressive deterioration of performance capabilities needs to be foreseen. Tasks that are critical in some sense (mainly to mission accomplishment) should be examined in detail, and provisions for sharing the task load with other persons or with devices preplanned. Remember that the person who can easily complete a task in normal situations may find that the task overloads him under the impact of continuous operations.

C. System Modifications and Performance Supports

Refer to chart

This is a list of the topics we will cover under this topic. (SHOW CHART)

(CHART)

C. System Modifications and Performance Supports

1. Explanation of system modifications
2. Explanation of performance supports
3. Examples of types and applications
4. Inventing the "better way"
5. Encouraging invention
6. Evaluating system modifications and performance supports
7. Adopting and implementing system modifications and performance supports

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General information

"System modification" and "performance supports" are terms used to describe a variety of tools and procedures for improving or at least sustaining soldier performance during the stressful conditions of continuous combat. They can all be classified as changes, aids, and improvements ("crutches," if you will) that result in improved soldier performance. There is no limit to the number or type of system modifications and/or performance supports. We can suggest a few today and give you some examples and ideas, but don't get the idea that we've exhausted all the possibilities. This is an area that is wide open for creative ideas. Use your imagination to find better ways of doing things.

Explanation of System Modifications

Determining where to apply the system modification

The steps involved in developing system modifications and performance supports are to first examine the process in question. Analyze it in detail so as to make every step explicit together with the factors on which success depends. Then, review for possible simplification, streamlining, or even just making one or more steps easier to accomplish.

Before we go on let me caution you. Of course, what I am telling you here does not apply to any sort of prescribed operating procedures; you always do them by the book. We are here talking about procedures in which you have some latitude. Also, do not make a change without testing to make sure it is really an improvement. It just might prove to have been a poor idea.

Types of system modification

System redesign or modification possibilities fall into three categories:

- physical
- informational
- procedural

Examples:

Storing ammunition
Working with information

An example of physical system modification is the pattern of storing various types of ammunition at a gun position. Even minor adjustments in location, stacking, type of separation, and so on, can decrease the demand on the soldier resources for fuzing and loading designated rounds. An informational modification might be an increase/decrease, or a rearrangement of information arrayed in a single display (chart, CRT, status board). Such changes reduce the mental demands when someone using the display looks for and thinks about relevant information. A procedural modification may involve moving some step (or sequence of steps) upstream or downstream. Select tasks which must be performed when the stress in high and, if possible, schedule them so that they are carried out when the stress is low.

Explanation of Performance Supports

Performance supports--aids to performance

Performance supports is an area that is wide open for development. The returns resulting from their use can

be substantial. A performance support helps the soldier accomplish his task. A tired soldier may need a lever to shift heavy equipment. The lever is a performance support.

Examples:

Binoculars
NVDs
Computers

Many kinds of performance support already exist and are in common use. Binoculars support distance vision. Telephones or radiotelephones support distance communication. Many types of night vision devices (NVDs) and laser target designators (LTDs) and rangefinders support soldiers' judgments in accurate range estimation. Computers, or merely hand held calculators, support numerical operations and thinking. And remember, thinking is especially vulnerable to degradation during continuous operations.

Use simple performance aids, too

High technology is not necessarily required for a performance support. Many types of performance supports are of a rudimentary nature: note pads, charts, plexiglass overlays, and grease pencils. Other types of support require only a moderate level of technology such as cassette recorders or optical filters for enhancing contrast or shifting colors.

Emphasize the use and development of such supports for performance so as to enable each soldier to accomplish tasks successfully when his initial performance capability is degraded.

Who can think of an example of other possible performance supports?

(STUDENTS SUPPLY SUGGESTIONS)

Examples of Types and Applications

Further examples

Once you understand the basic concept you can recognize examples all around you. Performance supports can be as simple as a sling to help carry a rifle or the hole in a dog tag which a tank commander might use to estimate distance to a target.

Inventing the "Better Way"

Finding better ways of accomplishing tasks

One major similarity among all system modifications and performance supports is that they reduce task performance difficulty. Performance of some tasks is impossible without aids (such as long distance communication and night vision devices) while performance of other tasks would be possible without aids. System modifications and performance supports function to conserve soldiers' energy and delay performance degradation in continuous operations. For these reasons, it is very important to develop the "better way" getting tasks accomplished.

Encouraging Invention

Enlisting the support of all members of the unit.

Don't be complacent about your own performance level or the performance level of your unit. Even if you have achieved high proficiency levels, don't "rest on your laurels." Look for better, easier, efficient ways of achieving the same level of performance. Finding better, easier, efficient ways of getting the job done will pay off when troops are degraded by continuous operations.

Encourage suggestions

It is everyone's job to think about system modifications and performance supports. Enlist the aid of every member of your unit and follow up on the hints provided. Those who actively perform various types of activities are in the best position to recognize ways of aiding performance and supporting the abilities involved. Encourage, recognize, reward, and disseminate suggestions on how to facilitate performance, and especially, performance while the soldier is in a degraded condition.

Examples:

- Charts
- Identifying threat equipment

Better, easier, efficient ways to accomplish important tasks in continuous operations are a leadership problem, but it is everyone's job to find them. For instance, numbers and their mental manipulation become more and more difficult with cumulative sleep loss. For many purposes, tables can be precalculated, or curves drawn, or nomographs developed to aid the soldier.

Evaluating System Modifications and Performance Supports

Searching for solutions

All of you have probably anticipated what you are going to hear next. Not all suggestions for improvement will be valid, worthwhile suggestions. Sometimes, it seems like it's basic human nature to complain about conditions--"the equipment doesn't work," "the manuals are unclear," or "it's too heavy to carry around." But what you must do is turn those complaints around. If there really is a problem what can be done in terms of system modifications and/or performance supports to remedy that problem?

Evaluating suggestions

Once system modifications and performance supports have been suggested it is up to you and your commanding officer to evaluate the suggestions for feasibility and likelihood of success. There are no hard and fast rules about what will work and what won't. However, there are general guidelines you should consider. These guidelines apply to both system modifications and performance supports. First, ask whether the proposed change is realistic and would actually serve to help the soldier rather than just be an added burden, either in terms of physical burden or of additional training requirements. For example, a wheeled cart for the Cal. 50 MG may sound like a good idea, but it would probably have problems with rough terrain or wooded areas and would be more of a nuisance than an aid. A better solution, if the machinegun must be carried, is to trade off the responsibility of carrying it so that one soldier doesn't get too fatigued. In summary, you will have to weigh proposed benefits against possible problems. But don't shortchange an idea. Suggestions deserve a thorough analysis. Procedures and equipment are constantly changing in the Army. The suggestions you evaluate will change things for the better.

Weighing benefits against costs

Take a broad perspective

A second consideration in evaluating suggested system modifications and performance supports is to consider the change from a broad perspective. The perspective could be a team, squad, platoon, or entire division and all the equipment and the procedures. The question you consider is, "How will this change impact on the functioning of the total system?" The elements of any system are interdependent--a change in one can have an influence on some or all of the other elements.

Consider the possibility of these changes and ensure that the new modification or performance support will have a beneficial effect on the total system.

Adopting and Implementing System Modifications and Performance Supports

Incorporating aids into training

After a system modification or performance support has been evaluated, found to be worth implementation, and authorized by the appropriate chain of command, it must be incorporated into the troops' preparation for combat. No change will have maximum usefulness unless it has been thoroughly practiced. Soldiers must be comfortable with the change whether it is a procedure or a physical object. For these reasons, incorporate the modifications or performance supports into training long before the acute need arises.

D. Review and Questions

Review

This unit described three CDMs: (1) using special talent, (2) task restructuring and rotation, and (3) system modifications and performance supports.

Countering performance degradation

Let me remind you, again that these CDMs are part of a total package. The best information available tells us that it is necessary to counter the performance degradation that will occur to every soldier, regardless of rank, during continuous combat operations. We must deal with this performance degradation in a systematic manner. We can minimize it, retard it, and compensate for it. The CDMs are tools to help us accomplish this.

Questions

Questions

There is time for a few questions or suggestions before we move on to complete our discussion of CDMs.

UNIT IV
Classroom Lecture

UNIT IV

General

Unit IV is intended to follow immediately after the lecture and discussion which constitute Unit III. Along with Units II and III, it provides an in-depth explanation of three additional measures for countering and retarding performance degradation in continuous combat operations. It details these three CDMs (training, work/rest/sleep discipline, resource management), and relates these to preparing for continuous operations.

Presentation Procedure

A lesson plan, followed by a suggested script for Unit IV, is presented below. Unit IV is a lecture presentation. The instructor may read the script, or he may deliver his own version of it by relying on the topical cues that accompany each paragraph (left column).

UNIT IV

LESSON PLAN

TITLE:	Counter Degradation Measures 3: Training, Sleep Discipline, and Resource Management
TRAINING REQUIREMENTS:	Action: (1) The student will be able to implement three CDMs at the Platoon/Squad level. (2) The student will be able to devise new CDMs. (3) The student will be able to evaluate proposed and/or implemented CDMs. (4) The student will be able to instruct others in the use of CDMs.
	Conditions: Following authorization from the appropriate commands.
	Standards: The student will accurately and successfully participate in a set of case discussions which involve CDM implementation
MEDIA AND EQUIPMENT:	Flipcharts (prepared)
METHOD OF INSTRUCTION:	Lecture
TIME:	50 minutes minimum (if possible, 2h)

UNIT IV--TEXT

Refer to chart

This unit covers the last three, but possibly the most important, Counter Degradation Measures (CDMs): (1) training for continuous operations, (2) work/rest/sleep discipline, and (3) resource management.

(CHART)

COUNTER DEGRADATION MEASURES
(CDMs)

1. Training
2. Work/rest/sleep discipline
3. Resource management

A. Training for Continuous Operations

Training features to be emphasized

Training for continuous operations means learning to maintain combat effectiveness under extremely adverse conditions. The training objectives, for the most part, do not relate to new technical or tactical skills. Rather the training aims at maintaining effectiveness of acquired skills in new and particularly adverse circumstances.

(CHART)

A. Training for Continuous Operations

1. Overtraining
2. Training under realistic conditions
3. Patterns of practice
4. Coaching of performance
5. Diagnosing deficiencies and feedback
6. Crosstraining
7. Training efficiency: plans and administration

Refer to chart

Each of these points (POINT TO ITEMS ON CHART SUCCESSIVELY) is a feature of major importance in training to acquire continuous operations capability. This capability is synonymous with the capability for performing mission related combat tasks even under the worst imaginable conditions.

1. Overtraining

Overtraining means training over and beyond basic mastery

Overtraining means training over and beyond showing just once--maybe in an ARTEP evaluation--that you can do some task. It means that you keep on practicing, practicing, practicing until doing that task, in the truest sense, becomes second nature.

The benefits are:

- reliable
- automatic
- rapid

performance

All kinds of research studies and common sense experience tell you that the more you practice the better you get. Getting better means that the task performance is more reliable, more automatic, and more rapid. It means the task is performed correctly every time; it means that you do it so automatically you don't have to think about "how to"; it means you'll start doing the task when the performance is called for.

Reliable, automatic, and rapid performance is resistant to degradation

The real pay-off from all this training comes in actual combat. If you've achieved reliable, automatic, and rapid performance in training, that performance will stay effective in continuous combat. More than any other technique, overtraining will keep you doing the important combat tasks and doing them effectively. There is really no substitute for practicing over and over again.

2. Training Under Realistic Conditions

Practice does not always make perfect

Practice does not always make perfect. How does this square with practicing over and over again. Both are true. Suppose that you are learning to field strip or to clear a jam in your weapon. Inside a warm classroom, it doesn't take all that long until you can do it blindfolded. Now, suppose you are called on to perform this task in a howling blizzard with temperatures down to minus 20°F. If you touch a metal part with your bare fingers, they'll freeze on to that part instantly. You must keep gloves or mittens on your hands. How well do you think you'll be able to perform under these circumstances?

Practice conditions must match expected conditions of performance

Maybe I should ask you this question after you've dropped the first small part into the snow. What you do to clear the jam hasn't changed, but how you go about it has. For instance, your finger, hand, wrist and arm motions will have to change when you have to work without any "feel," and you'll have to make some provision to catch the falling parts before you lose them. In short, while practice makes perfect, practice must take place under the same conditions under which you expect to have to perform the task.

Progress from practice in easy to practice in tough conditions

Is 0400, after three days without sleep a good time to teach somebody for the first time how to do mental arithmetic? By the same token, would you take a new recruit and teach him how to clear a jam in his weapon in a blizzard at minus 20F? Well, the answers are quite obviously "no." First, you teach your trainee the basic "how to" of some task. Then, you let him practice it until he can do it properly. Only then do you ask him to perform it under less than favorable circumstances. Gradually and progressively, you make the conditions of practice more severe--always guided by whether or not your trainee has learned to cope with a given level of difficulty and difficult circumstances. The guiding principles is: train as you expect to fight. But, build up gradually to fighting capability under the most adverse conditions.

3. Patterns of Practice

Practice tasks in context and in combination

You can train for performance of a task all by itself. But, that's not how things really happen. There is hardly any task that isn't preceded by a different task--maybe a task someone else performs--and usually some other activity follows when a task is finished. In short, most tasks require a coordinated performance, because they are part of an overall context. Often, you have to shift back and forth, because you have to do two or more things at the same time. Effective practice has to take account of the context and the combinations.

the FDC example

In an artillery Fire Direction Center (FDC), a team consisting of a Horizontal Control Operation and a Vertical Control Operator develop the firing data from information fed by a Forward Observer. At least, they do this when the computer is down. Many of the separate tasks depend on some item of information being developed elsewhere. The firing can't be completed until the necessary information is furnished. Time is very tight, and tasks have to be synchronized.

Sometimes more than one mission is being fired; some missions are interrupted or cancelled; some missions are picked up again, and so forth. Perhaps, you can now see what I mean by context and combination. Knowing how to determine, for example, range or deflection is not enough. You have to practice it in coordination with other tasks and in coordination with other team members. This is one example. Can any of you give me some others? (DRAW OUT APPROPRIATE EXAMPLES FROM STUDENTS)

4. Coaching Performance

Continuous combat is a championship contest

Comparing continuous combat to sports, especially team sports, may sound far-fetched. However, some points of similarity can be noted. In each case one side or team tries to get the better of the other; each side follows some strategy; and various tactics are used to gain the advantage.

Achieving champion level performance requires coaching

The making of champions depends on the team, but a lot of it depends on the coach. A good coach makes the most of each of the team players and the team as a whole. Getting your team or unit ready for continuous operations is a lot like getting a championship team ready. You have to realize that a major part of your responsibility is to coach the team.

Coaching:

- ° how to
- ° winning attitude

Coaching your team or unit means showing it how to improve performance, and how to achieve the required capability. It means showing the fine points of combat skills and not just under favorable conditions. Show your men how to keep their performance up--especially, when you start to practice in really tough conditions.

5. Diagnosing Deficiencies and Feedback Guidance

Improving performance:

1. Diagnosing deficiencies

Sometimes, real improvement may be forthcoming even though the winning spirit is there. The reason is that the team doesn't know what is going wrong. It's the coach's job to analyze just what keeps any individual, team, or unit from doing better. You have to pinpoint the deficiencies, and then you have to figure out the reasons for them.

Improving performance:

2. How to eliminate deficiencies

If you're the only one who knows what's wrong and why, nothing is going to change. Feed the information back to the soldiers you're training. Hold up a mirror for them so that they can see themselves as you see them. Point out the deficiency that is keeping them from getting better, and explain or demonstrate exactly how to overcome that deficiency. Show the reasons for the deficiency that is holding them back.

Improving performance:

3. Do's and don't of guidance

There are some principles of effective coaching. (POINT TO CHART)

(CHART)

Do's and Don't's of Good Coaching

Do	Don't
Point out differences in.. (e.g., weapon signature) to be observed	Tell soldier(s) to look harder, or to take a better look
Demonstrate to soldier(s) the best position for operating the weapon	Tell soldier(s) he (they) used the wrong position
Explain exact details of a report to be provided	Ask for a better report, or for more information
Specify clearly the way(s) in which the team is to act together	Tell the team to "get your act together"

Refer to chart

Explain clearly what is wrong and how to do it better. As the chart shows, be specific about what you want your trainees to do. Don't be satisfied with telling them to try again or to try harder. That doesn't tell them what you want them to do; it only tells them what you don't want. Notice that the chart follows its own advice: it is specific about how to provide good coaching guidance.

6. Crosstraining

Crosstraining = insurance

Let's talk about crosstraining. Of course, crosstraining is routine, and our purpose is not to tell you how to do it generally. We want to talk about some aspects of crosstraining that are are particularly important for a continuous operations capability. Crosstraining represents insurance. As more soldiers are crosstrained, the more likely it is that somebody will be available to carry out some important task. Crosstraining provides the insurance that somebody "can do and will do."

Insure:

1. **Most valuable assets**

When you insure, you mainly insure your most valuable assets. You crosstrain first those tasks that are most important when your team or unit must carry out its typical combat missions. You never have enough time and other resources to crosstrain every one of your soldiers with every other one. Therefore, set your priorities by asking yourself what would happen to your mission capability, if no one were available to perform certain tasks. For example, what if only the gunner knows how to correct a CAL 50 MG malfunction, and you lose him. Maybe, you haven't lost him, but he is too fatigued--his performance is too degraded--to handle that task. That's the new consideration with respect to continuous operations.

Insure:

2. **Assets most likely to be lost**

You have to insure, also, those assets that are most likely to evaporate in continuous operations. For example, in one continuous operations exercise--with very little sleep--an infantry platoon was able to maintain its speed of march across ccuntry, but the platoon leader was unable to read or interpret his map. In continuous operations, the performance of tasks that require you to think, plan, calculate, determine, make decisions, or even to recognize (for example, enemy vehicles) becomes degraded soonest and to the greatest extent. Leadership tasks are mostly of this type. But whoever normally performs them, give crosstraining priority to those tasks that are most vulnerable to performance degradation. Make sure there is somebody else to help or take over.

7. Training Efficiency: Plans and Administration

Difficult conditions are difficult to creat

Continuous operations training presents some special problems. You ought to understand these special problems so as to support training intelligently. The point is simple: the difficult conditions of continuous operations are hard to come by in training. For example, to simulate really tough conditions you need to run continuous FTXs that are three to five days long. You'll appreciate that it's difficult to get training facilities for three to five days. In any case, you can't run a continuous FTX every other week.

Opportunities for genuine continuous operations training are scarce; make the most of them

The message is really quite clear. The genuine training opportunities--training under well-simulated continuous combat conditions--are relatively few and far between. When you get the chance, make the most of the opportunity. Practice as much as possible your most important tasks. Practice them again and again, and have your men practice theirs. Especially practice the combat tasks that require judgment, calculation, or in any way using the brain. If you ever have to fight in continuous combat, the payoff will be tremendous.

B. Work/Rest/Sleep Discipline

Sleep discipline is vital in continuous operations

Sleep discipline is another CDM.

(CHART)

B. Work/Rest/Sleep Discipline

1. Counteracting sleep-loss effects
2. Setting priorities for sleep and rest
3. Developing unit work/rest/sleep schedules
4. Enforcing the discipline

Refer to chart

(POINT TO CHART) Even though you may not have to develop your unit's sleep discipline, you may have to adjust it for your particular team or unit. You need to understand the background and the reasons for it to make sleep discipline effective.

1. Counteracting Sleep-Loss Effects

No one can do without sleep indefinetely

No one, regardless of rank, age, or determination to resist, can go without sleep indefinitely. The only real cure for loss of sleep is sleep itself. Sleep has to be managed, and everyone has to get a fair share.

Sleep loss affects "brain activity"

Sleep loss hits hardest the activities which require that you use your head or your brain. You use your brain not only for thinking or decision making, but also for other things that you don't think about normally. For example, staying alert so as to spot enemy infiltration attempts, or noticing changes on some instrument read-out or on a radar screen are also dependent on an alert brain. By the same token, noticing the differences between--say--friendly and enemy tanks also requires an alert brain. While the only real cure for loss of sleep, as we mentioned, is sleep itself, there are a few techniques to help you stay alert.

Refer to chart

(POINT TO CHART) What you see here fits some situations some of the time. For instance, "mild physical exercise" makes no sense while you're moving over rough terrain and you're trying to stay alert for possible mines or booby traps. It does make sense for a GSR operation or someone manning a sentry post. Again, we can't foresee every kind of situation that you'll encounter, but adjust the system--for example, simplify procedures--to compensate. You will have to do a little thinking about how the items in the chart fit with your situation.

(CHART)

SOME TECHNIQUES FOR
COUNTERACTING SLEEP-LOSS EFFECTS

- Periodic breaks in task and mild physical exercise or recreation
- Task rotation among crosstrained crew on relatively routine jobs
- Task rotation among crew on complex tasks only when members are highly trained to shift functions
- System design to compensate for types of errors most likely to occur
- Plan for and provide naps where possible
- Provide hot food or hot beverages

Are there any questions about anything on this chart? (WAIT FOR QUESTIONS, IF ANY)

2. Setting Priorities for Sleep and Rest

Effective sleep discipline is highly specific

The chart says to plan for and provide naps where possible. You may have very little control there, because the enemy may not let you nap. Also, the general policy for sleep allocation and management will be laid down for you by your battalion headquarters. However, really effective sleep discipline has to be extremely specific. You will have to fine tune the sleep discipline for your team or unit.

Fair allotment must be adjusted for need

Loss of sleep most directly affects decision making, planning, evaluating, and so forth. For the most part, these are leadership activities. Making decisions and directing any team or unit is the main leadership responsibility. Leadership tasks must be protected as much as possible. Fair allotments of sleep have to be allowed to meet this need.

Refer to chart

Keeping this in mind, we can understand the general scheme of priorities for sleep and rest that you see on the chart (POINT TO CHART). Notice that the chart doesn't refer to soldiers, but to their activities or duty responsibilities. The responsibilities determine the priority. The first priority, for reasons already given, is assigned to those who have leadership responsibilities. The next priority is assigned to soldiers whose responsibilities require them to perform important calculations, make judgments, or evaluate information. The third order priority is assigned to soldiers who must stay vigilant or alert such as sentries and radar operators. Everyone else will have to try and make do with an even share of what is possible. Obviously, you have to determine for your specific unit how this scheme applies. To be effective, it has to be specific down to the smallest team, and sleep discipline has to be practiced extensively.

(CHART)

GENERAL PRIORITIES FOR SLEEP/REST

PRIORITY	TYPE OF ACTIVITY/RESPONSIBILITY
1	Leadership
2	Evaluations, judgments, and calculations
3	Vigilance tasks
4	Other activities

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3. Developing Unit Work/Rest/Sleep Schedules

There may be some control before, during, and after combat

Unit work/rest/sleep schedules are an "iffy" thing. If there is enemy initiated action, you obviously have no control over who sleeps and when. Sometimes, even in the middle of a continuous combat operation, there may be a break for some teams or units. Before actual combat--during the preparation period--a fair degree of control will exist. After a unit is withdrawn from combat, there will be some control over sleep schedules, but we'll consider this later. In any case, there will be times when it is possible to follow some kind of a work/rest/sleep schedule. Here are some items to remember on those occasions.

Preadapt to combat zone local time and schedule

Just about everybody knows what "jet-lag" means, and most of us know what it feels like. Traveling across meridians upsets your biological rhythms that are associated with your wake/sleep cycles. Staying awake around the clock also does that. The upset wake/sleep cycles degrade performance effectiveness considerably for at least a week, but can be felt up to three or four weeks. One very good way to deal with this problem is to adopt the new schedule as soon as you know where you're going. Start getting up in the morning and going to sleep at night according to the clock of your destination. At first this will be hard to do, but you'll be preadapted when you get there. The time change won't bother you as much, and it won't bother you as long. When you arrive at your destination, put in at least part of a work day so that you'll be tired and able to sleep. Do not go to sleep immediately on arrival.

Refer to chart

Here, we're only going to tell you about fairly short-term and very demanding schedules. (POINT TO CHART)

(CHART)

RECOMMEND
WORK/REST/SLEEP SCHEDULES

- For up to five days almost any work/rest schedule (e.g., 2 on - 2 off, 4 on - 4 off, 8 on - 8 off) will sustain performance equally well
- For up to 30 days follow a 4 on - 4 off, or a 16 on - 8 off schedule
- Avoid a 4 on - 2 off schedule, if possible

For up to five days, any of these suggested schedules will work about equally well. Beyond that, use the 4 on - 4 off or the 16 on - 8 off schedule. Avoid the 4 on - 2 off schedule, because it has adverse effects. These recommended schedules will keep your men in the best possible condition.

4. Enforcing the Discipline

Develop and enforce the unit-specific discipline in training

After you have developed a specifically tailored discipline, enforce it strictly in training. For example, during continuous FTXs, see to it that your men go to sleep immediately when their turn comes. Don't permit any fooling around. Soldiers have to practice falling asleep immediately--as strange as that may sound--and they have to learn how to wake up alert. Waking up and being alert are not always easy for everyone. Practice and enforce sleep discipline just as you enforce, for example, water discipline.

Enforce sleep discipline in combat

If you have done a good job in developing and enforcing the sleep discipline in training, it should be easy to implement in actual continuous combat. In an early period--maybe the first day or two--there might be some resistance to strict sleep discipline. Enforce it strictly so that some performance effectiveness remains for days three and four and beyond. Remember, also, that in actual continuous combat circumstances will change; adjustments in the sleep discipline will become necessary.

C. Resource Management

Soldiers' performance is a resource

Soldiers' performance and its effectiveness is one of the resources needed to accomplish your mission. Other resources are weapons, equipment, food, fuel, and so on. In continuous operations, soldiers' performance effectiveness is likely to become the scarce resource. That's why it must be managed, and managed carefully.

(CHART)

C. Resource Management

1. Implementing a counter-degradation program
2. Rest vs. effort toward mission achievement
3. Maximizing recovery opportunities

Refer to chart

(POINT TO CHART) Management of battle resources is mainly a problem for higher command levels. Your specific concerns are shown here on the chart.

1. Implementing a Counter-Degradation Program

Make the program work

When your battalion implements its counter-degradation program, your main responsibilities is to make the program work. Give it your full, intelligent support. The program and the training schedule can't foresee every detail and every contingency. You will have to fill in constructively so as to support the intention as well s the letter of the program. Inform yourself, for example, by referring to FM 26-XX, Soldier Performance in Continuous Operations. Understanding why you are asked to perform a detail will help you to do a better job.

Make your men understand

See to it that your men understand the overall continuous operations policy, the necessity for it, and its aims. Show them that the training and preparation program is very much for their own benefit. Attend to your leadership responsibilities as they were discussed earlier. Especially at the beginning, be flexible as well as firm. Continuous operations training is very demanding, and, at the beginning, all of your soldiers will not be equally in shape for it. Give them time to get in shape and to get in step, but be firm about clear progress in that direction.

Maintain communication

We've talked about the importance of open communication channels before. Continuous operations training is relatively new, and there hasn't been a great deal of experience accumulated. Observe what is and what isn't working well in the program. Feed this information back to your superior. Honest and constructive suggestions will be very important.

2. Rest vs. Effort Toward Mission Achievement

Rest vs. effort, a complex problem

Another soldier resource management problem you may have to face is the decision whether or not to let your men rest and sleep versus work such as hardening a battle position. Unfortunately, this is a very complex problem for which there are no cut and dried answers. Each situation will be different in ways that can't be foreseen.

Strong performance or strong position

You have to balance, in each case, the accomplishment against the condition of your men. For example, in the case of sleep versus preparing stronger defensive positions, the question is whether the position or the ability of the men to fight effectively will contribute most toward mission accomplishment. Even a strong position may be worthless when manned by soldiers who can't handle the important fighting tasks. In the light of what we've told you here, you should appreciate the importance of sleep in deciding this issue. It will always be a difficult decision.

Refer to chart

We can point out some of the major factors to weigh. (POINT TO CHART)

(CHART)

SLEEP/REST VS. EFFORT:
SOME FACTORS TO CONSIDER

- How vital is task accomplishment?
- Estimated available time?
- How many soldiers available?
- Time since soldiers last slept?
- Ability to rotate or work shifts?
- Kinds of expected fighting tasks?

First, what will the task accomplishment buy you in terms of supporting your mission? How much time have you to get it done, and does it allow for both work and sleep? Are there enough soldiers available so that some can sleep while others work? How long has it been since these men slept and for how long? Can you rotate the work with sleep, or can you work shifts? Also, consider the kinds of fighting tasks that will have to be performed. Soldiers can fire weapons and perform similar highly practiced, physical tasks even after much sleep loss. But, they can't stay alert for enemy infiltrations or react to a sudden shift in enemy tactics. Obviously, other considerations may enter. You'll have to decide each situation on the basis of its characteristics.

3. Maximizing Recovery Opportunities

Practice sleep discipline at all times

Your management responsibility is to enforce strict practice of sleep discipline at all times--in training and in continuous combat. Soldiers must realize that they have to conserve their own performance effectiveness as much as possible.

Refer to chart

Of course, continuous FTXs, and even combat missions come to an end, though others may follow. (POINT TO CHART) This chart tells most of that story.

(CHART)

TIME REQUIRED FOR COMPLETE RECOVERY FROM EXTENDED LOSS OF SLEEP

- As much as 120 hours following 96 or more hours of complete sleep loss
- 12 hours sleep/rest after 36-48 hours of complete sleep loss with light to moderate workload (subjective fatigue may linger for three days)
- 24 hours sleep/rest after 36-48 hours sleep loss with high workload (12-16 hours per day)
- Two to three days time off after 72 hours or more acute sleep loss
- Three to five days to initiate biological adaptation and return to normal day/night cycle from night shift work
- Three to four weeks for full adaptation or biological rhythms to atypical work/rest schedules (as in night shift work)

What we do not know is how much real physical conditioning and frequent experience with extended sleep loss modifies the information in the chart. Until you have compiled a lot of experience, keep it in mind, especially after continuous FTXs or similar exercices. You are in the most direct contact with your men and have the first line of management responsibility.

D. Review and Questions

Review

We covered three major counter degradation measures (CDMs): (1) training, (2) work/rest/sleep discipline, and (3) resource management.

Questions

Some questions you may have wanted to ask earlier may have been answered by some of the later information. I'm sure there are some that haven't been answered. Now we have time to answer them.

UNIT V
Case Discussions

UNIT V

Section 1. General

Unit V is composed of a set of cases which are designed to support a case method of instruction about issues involved in developing and implementing programs aimed at assuring sustained soldier performance in continuous operations. This Unit should be introduced only after participants have been exposed to the preceding Units.

The case discussions which constitute Unit V provide a simulated platoon leadership environment for exploring issues associated with the development of a continuous operations capability. The objective is to provide practice with the complex of factors that must be considered in establishing and, ultimately, exploiting a continuous operations capability. The cases introduce situations representative of various stages within a time frame extending from peacetime through a transition period into actual continuous combat; in this way they also demonstrate the dependence of a genuine capability in combat on the prior, conscientious implementation of a well designed program of preparation. The issues associated with each case are not only specific to various points in the time frame, but also carry implications across that time frame.

Organization of Subsequent Text

Section 2 presents the information needed for implementing the case method. Hints which will assist the case discussion leader (instructor) in the conduct of the case discussions are also included.

Section 3 contains the actual case materials together with guidance for the case discussion leader.

Section 2. Discussion Leader's Information

Unit V is composed of six cases which provide practice in solving some of the problems in implementing a program to achieve a continuous operations capability. The Unit is based on the case method of instruction. Completion of this Unit will provide a fuller ability to meet many issues that may be encountered in the course of implementing a training program and later in actual operations. The discussion will provide an opportunity to exchange views about common problems and approaches to dealing with them.

The Case Method

The case method of instruction is widely used in the advanced study of medicine, business, public administration, international relations, and, of course, military science. Often, formal instruction seeks to present specific facts and/or procedures for achieving clearly specifiable objectives. For some purposes, however, specific facts and procedures cannot be delineated; even the objectives to be attained are highly complex, abstract, and dependent on circumstances. Their unambiguous formulation may not be possible. For this type of problem solving, also, a "standard" solution cannot be defined. For example, in a military context, the "optimal" solution will depend on the specific, local conditions (e.g., type of organization, nature, quantity, and availability of resources) and on trade-offs that cannot be precisely quantified. Solutions to such problems cannot be taught. But, concepts and considerations important to the analysis of such problems and to the synthesis of solutions can be taught. The case method is an ideal way to achieve this goal.

The case method makes it possible to deal with problems which involve complex information embedded in a realistic context. It permits the consideration not only of facts in isolation, but in relation to each other and to a host of surrounding conditions. In assessing each case, analysts are forced to deal with these relationships, to judge their relative importance, and to weigh the multiple consequences of any potential solution. This constitutes practice in dealing effectively with an entire class of problems of the given type.

In addition, during the discussion of a case by a group, the discussants stimulate each other to achieve new insights. They prompt each other, by their comments, to perceive salient problem features through each others' eyes. Often, this serves to restructure, or to reorganize each discussant's own perceptions, and, ultimately, to stabilize a definition of the best or optimal way to deal with the issues.

By nature of its goals, case discussions are informal. However, they are more than casual speculations. For the present materials, there are a number of specific points that should emerge during the discussion and each case is rooted to specific training objectives. The training objectives for each case are included with each case. Moreover, the "lead questions" which are provided serve to focus the discussion on the goals.

The Cases

There are six cases in the Unit. All pertain to preparing soldiers for continuous combat and maintaining their effective performance in continuous operations. The cases are ordered in a sequence that progresses from initial implementation of a training program to problems after extended, continuous combat. While each case can be considered quite independently of all others, a curtailed administration should include, at least, one case from the beginning, middle and end of the sequence (e.g., 1-3-5, 2-4-6).

An abstract of each case appears below:

° Case 1: Personnel Needs Vs. Unit Objectives

Content: Bravo Company is implementing the Battalion's continuous operations training program. There are complaints about the rigors of the training, and there are attempts to avoid the training.

° Case 2: Goofing-Off during FTXs

Content: During continuous FTXs certain personnel in various platoons experience communication "failure" and give various excuses.

° Case 3: Individual Stress Control Training

Content: There is resistance and skepticism as stress control training is launched. Thereafter, there are problems in monitoring progress and justifying further training.

° Case 4: Airlift to Combat Zone

Content: Hostilities break out in Europe, and Alpha Company is airlifted with little notice. Problems of time zone dislocation for an advance party and the main body are interwoven with those presented by the arrival of last minute replacements.

° Case 5. Rest Vs. Defensive Preparation

Content: The dilemma of assigning priority to work or to rest/sleep is explored in the light of uncertainties about the amount of time that will be available before a threat attack begins.

° Case 6. Unit Reconstitution

Content: A unit is reconstituted out of elements from two different units shattered in continuous combat. Issues of stress tolerance and unit cohesion are examined with respect to mission capabilities.

Organization of Cases

The organization of cases follows a consistent pattern. Each case is divided into three parts. Each part represents a self-contained, progressive stage of problem development. Following each of these parts, two (sometimes overlapping) sets of issues are sketched. The total group will be divided into halves and each half, in a "huddle session," will develop responses to one of the sets of issues. These issues called "discussion," are followed by statements about the purpose of the discussion and "key points." These purposes and key points are not to be distributed to the discussion groups but are included to assist the instructor during steps 6 and 7 below. During steps 6 and 7, each group will report its consensus back to the total group which will then critically discuss the solution(s).

"Lead questions" are provided that are relevant for the discussion of either or both steps 6 and 7. These questions represent salient points which have implications for the problem hand and may be introjected into the discussion by the leader to: (1) keep the discussion on track and continually progressing toward the objectives, and (2) stimulate discussion if the discussion is lagging. The lead questions need not be used verbatim. They may be paraphrased. Many of the points included in the lead questions will emerge spontaneously during the discussion. In this case, the corresponding lead question(s) should be ignored. Possible responses to the lead questions are also included for the instructor's convenience.

Required Materials and Facilities

All the materials necessary for presenting the cases are included within the cases themselves. However, the scenario (i.e., description of conditions) for each part of each case will need to be reproduced in as many copies as there are participants in a session. Similarly, each member of each group (A and B) will need a copy of the issues which his group is to discuss during their "huddle session."

The meeting room will need two conference tables around which the two huddle groups can meet, as well as facilities for the group to meet as a whole. Availability of a chalk board will also be helpful.

Size

The total group size should not be greater than 18 persons. This will allow nine persons per "huddle group."

Recommended Procedure

Plan well in advance which cases are to be presented and discussed. The sequence of procedures for presenting the case materials is:

1. When the group first meets, state the content of the Unit, its purposes, how the sessions will be run, and the organization of the cases. Emphasize the informal nature of the session(s). Ask the attendees to introduce themselves and to say something about their current duty assignments.

2. Introduce the first case. Use either the text below or paraphrase.

Introduction to Cases

Earlier, information was presented about continuous operations and soldiers' performance degradation. Now, let's get down to cases. (Distribute Part 1 of your first case.) Part 1 of this first problem solving case is given in this handout. Read Part 1 and trv to fix the key points clearly in your mind.

Next, we are going to divide the group into a right and a left half. If you are in the group to the right, you will be considering the"huddle questions" for Group A; those on the left will work with the question(s) for Group B. (Divide the group.) Each group is to review the issues as in a staff meeting. The objective at this point is to formulate views and positions for later discussion. Someone in each group should be appointed as group leader to record the group's consensus on the various points and to report these to the total assembly.

Before you actually start, let me point out that this is a problem solving seminar. The problem area is sustaining soldier's fighting effectiveness in continuous operations and the training to achieve such a capability. We know that certain factors must be considered in deciding what needs to be done. The earlier parts of your training discussed these factors. During your deliberations, be sure to consider them and how they apply to the specific case under discussion. The object here is to introduce you to the broad spectrum of issues pertaining to soldier performance in continuous operations, and to exchange views on what you will have to do about them.

3. Distribute, to the members of each group, the appropriate huddle questions.

4. If there are no questions, let each group designate a leader and proceed to confer for about 15 minutes.

5. Call the two groups together and write each group's question(s) on the chalk board.

6. Ask the leader of Group A to present the views developed in its huddle. Then, the entire group critically evaluates the views that have been presented. Use the lead questions, as appropriate, as topics for consideration. Next, apply a parallel procedure for Group B.

7. Encourage continuing discussion. If prompts are needed. pose one of the lead questions for each case and part of it. Do not inhibit discussion that is in full swing and proceeding naturally. Occasionally suggest factors that have not been considered (e.g., use further lead questions). Terminate the discussion of the current Case or Part when appropriate. Summarize what has taken place and the principle views that have emerged.

8. Introduce the next Case or Part.

Hints for Productive Case Discussion

Your role as the case leader is to assure productive discussions which form the basis for achieving the objectives of the Unit. The following hints may be useful for assuring the quality of the discussion:

1. If the group seems reluctant to sustain discussion, rephrase some key point that has been introduced (e.g., in Group A's or B's report), and ask for elaboration relative to some key issue or training objective. The "key points" included with each part of each case will also be helpful for assuring full consideration. Alternatively, ask one of the lead questions. Address one or two specific participants directly.

2. Emphasize the problem solving nature of session. Stress that, at this time, no one has "the answers." Rather, the search is for constructive approaches to coping with the continuous operations issues, the factors to be considered in that context, and their application. The Army needs to develop and evaluate many different views.

3. No matter how absurd or irrelevant it may be, never reject an openly stated view. Especially, if that view has been stated with some vehemence, avoid the use of the negative. Instead, use the phrase "yes, but...," and bring out the objection in this way.

4. If any participant seeks to monopolize the discussion, praise his contributions, and suggest that "we want to hear what (designate a person or persons) thinks."

5. Draw out the reluctant participant by addressing some questions (perhaps a lead question) specifically to him.

6. Bring back a discussion that has drifted off by injecting a lead question, or by asking how "all this" helps to develop a continuous operations capability.

7. If you do not know the facts pertaining to a question, admit that you do not know. Never bluff. Where appropriate, you might ask why the question is essential to the point under consideration.

8. At all times, by your tone and bearing, show your own interest in the topic and your enthusiasm for exploring the best ways of developing a continuous operations capability.

Training (Behavioral) Objectives

Platoon and Squad (P&S)

Specific Objectives

The case discussions are intended to contribute to the attainment of the following learning objectives:

1. Recall adverse conditions of continuous combat operations and their effect on performance effectiveness.

2. Recognize signs of stress in self and others.

3. Relate the appropriate counter degradation technique(s) to specific signs of stress.

4. Specify the integration of counter degradation measures into current training program.

5. Implement a program incorporating the techniques for achieving continuous operations capability within current unit-specific training programs.

6. Evaluate progress toward the achievement of a continuous operations capability.

7. Apply diagnostic procedures and leadership techniques for the purpose of achieving and maintaining effective performance under continuous combat operations conditions.

Table 1 indexes each case by the platoon and squad training objectives it is designed to meet.

Table 1

Training Objectives Met By Each Case

Case	Training Objective						
	1	2	3	4	5	6	7
1		X		X	X		
2	X			X	X	X	
3				X	X	X	
4	X	X	X				X
5	X	X	X				X
6	X	X	X				X

CASES

(Objectives: 2, 4, 5)

Case No. 1. Personnel Needs Vs. Unit Objectives

PART 1

Bravo Company of the 314th Armor Battalion was recently provided the Battalion's continuous operations training plan and ordered to begin implementing it. The plan has a fairly tight schedule and little flexibility. Its earliest segments contain a heavy schedule of physical conditioning with demanding running and weight-lifting standards for everyone to meet. Twice now, after a full and exhausting day of training, there have been night FTXs so that Bravo Company had to operate around the clock. More exercises of this type are scheduled with increasing frequency, and they are of increasing length.

The implementation of the continuous operations training plan has been something of a shock to the men of Bravo Company. There is grumbling from a substantial proportion of the enlisted men. The basic complaint seems to be that the continuous operations training program is so demanding that it absorbs all of soldiers' available time and energy. It leaves them virtually no free time, and it leaves no energy for their private lives or families. These complaints were expressed quite forcefully to LT Parker of the 2nd Platoon during a gripe session. LT Parker is not quite sure how to deal with the situation.

Case 1. Personnel Needs Vs. Unit Objectives

PART 1

Group A Discussion

Is this LT Parker's Problem? Should he adopt a "do as you're told" attitude, or sympathize with the men? Consider how LT Parker should treat the information about his men's attitudes.

Purpose:

To learn the necessity for laying the groundwork prior to initiating continuous operations training.

Key Points:

1. Continuous operations training, as well as continuous combat operations, places special demands on leadership.
2. All members of a unit must be made to understand the necessity for the training and what it will accomplish.
3. Proper preliminary orientation is a prerequisite for realistic continuous operations training.

Lead Questions:

What might be wrong with Bravo Company's implementation of the training plan?

* Advance orientation lacking
* Immediate, inflexible implementation

What can LT Parker do to rectify or compensate for these deficiencies?

* Orient and explain
* Exercise leadership; display commitment
* Objectively report problems through channels

Case 1. Personnel Needs Vs. Unit Objectives

PART 1

Group B Discussion

In what way can LT Parker's response support continuous operations policy and the Battalion's program? Is this kind of problem unexpected, or can it be anticipated? Why? Consider the constructive possibilities.

Purpose:

To learn the nature and extend of demands made on all personnel by CDM training, and to anticipate the likely resulting problems.

Key Points:

1. Soldiers must know what to expect.
2. Soldiers must understand the necessity for continuous operations training and what it will accomplish.
3. Leaders must demonstrate their commitment to the goals of this training.
4. Problems can be anticipated and solutions planned for.

Lead Questions:

Regarding this situation, is it advisable for LT Parker not to "make waves", and to keep the problem within the Platoon?

* To perfect its programs, Battalion must become aware of omissions, shortcomings, etc.

Should the problem have been allowed to develop, and when should it have been anticipated?

* Personnel needs and problems must be recognized in program planning

* Orientation and indoctrination are essential prerequisite to continuous operations training

Case 1. Personnel Needs Vs. Unit Objectives

PART 2

As a result of extensive indoctrination and explanation efforts by LT Parker, attitudes about the continuous operations training seem to have improved. As implementation of the Battalion's program is proceeding on schedule, the frequency and duration of continuous FTXs is increasing. In LT Parker's judgment, morale in his platoon is fairly good. Now, however, PSG Black comes to him with the story about two men who have approached him for help in taking care of some personal problems.

It seems PFC White, who is trying to support a wife on his Army pay, has been working as a bartender at the Officers' Club in the evening hours to earn some supplementary pay. Up to now, White has been able to trade scheduled working hours at the Club with others, but now the training schedule leaves no more flexibility. PFC White wonders whether he could be excused from some of the training, or whether anyone can help him in some other way.

SSG Blue has a wife and two young children. The wife works nights in a bakery to supplement the family income. Now, with SSG Blue gone on so many extended FTXs, the Blues cannot find enough babysitters to stay in the house while both parents are gone. SSG Blue says he doesn't know what to do.

Case 1. Personnel Needs Vs. Unit Objectives

PART 2

Group A Discussion

Put yourself in PSG Black's shoes. What recommendations should he make to LT Parker regarding PFC White's problem? Is this purely a platoon level problem? How so?

Purpose:

To provide practice in considering the relative priorities of personal problems in relationship to established objectives of a unit.

Key Points:

1. Unit objectives dominate, except in true emergencies.
2. Developing a continuous operations readiness requires commitment to goals and determination to achieve them.
3. Professionalism, esprit, morale, and unit cohesiveness all result from soldiers' making common sacrifices.

Lead Questions:

What channels and agencies exist to help the Platoon alleviate these problems?

* Higher Hq staff (G1, G5)
* Army social service support agencies

What criteria should be used to justify exceptions to the established program?

* Emergency of an urgent nature
* No delay or other solution is possible

Case 1. Personnel Needs Vs. Unit Objectives

PART 2

Group B Discussion

Put yourself in PSG Black's shoes. What recommendations should he make to LT Parker regarding SSG Blue's problems? Is this purely a platoon level problem? How so?

Purpose:

To gain an appreciation of the relative priorities of personnel needs and problems in relationship to the established objectives and needs of a unit.

Key Points:

1. Unit objectives dominate, except in emergencies.
2. Developing a continuous operations readiness requires commitment to goals and determination to achieve them.
3. Leaders must be firm, but not insensitive to their soldiers' problems.

Lead Questions:

Can a "that's your tough luck" disposition be justified?

* Display sensitivity: "No, but let me see what can be done..."
* Explain, emphasize responsibility to other unit members
* Point out that the training is in the soldiers' own personal self-interest

What policies or procedures could be implemented for the early recognition and resolution of such conflicts?

* Alert personnel to schedules well in advance
* Secure higher Hq recognition/support for problems
* Refer personnel to Army social service support

Case 1. Personnel Needs Vs. Unit Objectives

PART 3

Through Company and Battalion channels, the Army's social service support has been secured and most personal problems are being resolved. The training program is on schedule and exercises are simulating continuous operations more and more faithfully.

Now a five-day, full scale continuous FTX is scheduled for next week. A number of key enlisted men ask to be excused and request leave. At least some of the requests seem to have reasonable validity. For example, SSG Green, a tank commander, has a wife who is due to give birth during the next week. SSG Green wants to be near his wife. A number of similar problems exist.

Case 1. Personnel Needs Vs. Unit Objectives

PART 3

Group A Discussion

Consider whether a really tough policy of no excuses for anyone is justified in this situation or not. What are some of the personal needs/factors that must be weighed against the unit's training schedule and objectives? By what criteria must personnel needs be judged?

Purpose:

To provide an understanding of the relative priorities of personal problems and established objectives of a unit.

Key Points:

1. Firmness with flexibility is needed rather than unyielding rigidity.
2. Flexibility does not necessarily disrupt the training program.
3. Sensitivity to soldiers' problems is an essential leadership requirement.
4. Genuine emergencies can be accommodated even within a tightly scheduled program.

Lead Questions:

Are there instances when legitimate personal needs override unit objectives?

* Unnecessary risks to soldier's health and safety
* Legitimate family or personal emergencies which the soldier cannot otherwise control

Other things equal, would the skipping by some men of one major training exercise create a training deficiency for them or for the Platoon?

* In combat, too, some soldiers will not be available
* Crosstraining may be enhanced
* Program effectiveness does not depend on a single exercise

Case 1. Personnel Needs Vs. Unit Objectives

PART 3

Group B Discussions

What are the negative and the positive effects of excusing some soldiers' from a continuous operations FTX. Consider both the effect on the platoon's normal mission resources and the missed training issue. What opportunities does the situation offer?

Purpose:

To gain experience in considering the potential costs and benefits resulting from flexibility in continuous operations training.

Key Points:

1. Realistic continuous operations FTXs are expensive to establish and the Army wants as many persons as possible to benefit from the training.
2. Each soldier has responsibilities to his unit as well as to his personal goals.
3. Combat requires units to fight with available resources.
4. Units must learn to cope with personnel shortages.
5. Effective training does not depend on any one exercise.
6. Crosstraining and task rotation must be practiced in real contexts during FTXs.

Lead Questions:

What does "normal mission resources" really mean, especially with respect to soldiers in continuous operations?

* Continuing full personnel strength cannot be realistically expected
* Performance effectiveness will degrade progressively and severely

Might the nonavailability of some key men enhance the realism of training?

* Test crosstraining and implement task rotation
* Test the unit's ability to cope with reduced resources
* Enhance the unit's self-confidence that it can cope

(Objectives 1, 4, 5, 6)

Case 2. Goofing-Off During FTXs

PART 1

Alpha Company of the 27th Infantry Battalion (Mech) recently started to implement its Battalion's continuous operations training program. Implementation was preceded by a two hour indoctrination and explanation session for all men. Reaction to the indoctrination includes considerable skepticism; the men believe there is a great deal of exageration regarding the effects of continuous operation on their performance. They think the training is a lot of unnecessary fuss about nothing. Also, they can see no real reason to implement the program now, when a clash with Warsaw Pact forces does not seem very likely. they feel that "life's tough enough, why make it tougher." For these reasons, enthusiasm for the continuous operations training is not very high at the beginning of its implementation.

In keeping with the Battalion's program/schedule, prior to a just completed two-day continuous operations FTX, everyone was kept awake for 24 hours; also, the exercise itself was continuous with no sleep/rest scheduled. During the second night of the FTX, LT Jones (Platoon Leader of the 3rd Platoon) could not locate A-Squad, which was operating dismounted from IFV, for nearly two hours. SGT Brillig, the Squad Leader, claims a communications failure. LT Jones suspects that the Squad was holed up and sleeping somewhere. A post-exercise check of communications gear revealed no malfunctions in the equipment. Nevertheless, SGT Brillig sticks by his story. He suggests that the antenna may have shorted out, perhaps against an overhead wire that he didn't spot in the dark.

Case 2. Goofing-Off During FTXs

PART 1

Group A Discussion

Consider all the available facts, and other relevant information you have. Suggest how the initial resistance ought to be handled. What squad deficiencies are indicated?

Purpose:

To provide a knowledge about potential problems in the initial implementation of CDM training and methods for resolving resultant issues.

Key Points:

1. Indoctrination into the need for CDMs and the necessity for this training must be well planned and complete.
2. Leadership, at all levels, must be aware of its special responsibilities in developing a continuous operations capability.
3. Leadership must consider what has not yet been learned as well as what has been learned.

Lead Questions:

What would you suspect about the quality and effectiveness of the continuous operations indoctrination?

* Content of indoctrination possibly not well planned
* Value of CDM training not convincingly explained

Would you regard the lack of experience with continuous operations and the effects they produce an extenuating circumstance?

* Ability to cope (e.g., with sleep loss) does not yet exist

Does the initial resistance tell us something about the esprit of Alpha Company.

* Units with high esprit are more apt to regard difficult tasks as a challenge
* The negativism may be symptomatic of a deeper problem not related to the continuous operations problem

Case 2. Goofing-Off During FTXs

PART 1

Group B Discussion

Assuming that A-Squad may have been napping, how ought this situation be handled? Consider this prevailing attitudes and the stage of continuous operations training. Is the problem best handled within the Platoon?

Purpose:

To learn how to manage issues which might arise during the initial implementation of CDM training.

Key Points:

1. This is Alpha Company's very first experience with continuous operations training, probably best handled within the squad the first time.
2. The experience can demonstrate the value of CDM training to all personnel.
3. Commitment to unit objectives cannot be compelled, but must be patiently encouraged within every squad.
4. Leaders must appreciate the difficulties of CDM training and demonstrate patience in early stages.

Lead Questions:

Is a "learn from your mistake, but don't let it happen again" policy advisable in this case?

* There may be an underlying motivational problem
* Circumstances frequently will require flexible leadership

How could this incident be made an object lesson for all and, at the same time, serve as a kind of disciplinary action against A-Squad?

* Let the platoon know what happened and the potential consequences of such actions during combat
* In actual combat, A-Squad would have endangered the survival of the platoon

Case 2. Goofing-Off During FTXs

PART 2

The 3rd Platoon is not the only one in which problems cropped up during the two-day continuous FTX. During the second night, also, an IFV from LT Carver's 1st Platoon overheated. The breakdown was reported immediately, but was followed by a great deal of misinformation as to how quickly the IFV could be counted on to resume its mission. Its crew spent an inordinate amount of time tracing the trouble which was simply a lose V-belt on the fan drive and coolant pump. Once identified, the problem was fixed in a few minutes. However, the delay and some uncautious communication about it allowed RED force elements to overwhelm the 1st Platoon. A new communication security procedure had been given to the 1st Platoon only four hours before the violation.

Case 2. Goofing-Off During FTXs

PART 2

Group A Discussion

How is the performance degradation in the 1st and 3rd Platoons different? Consider all relevant information. Outline an after-action critique for both Platoons.

Purpose:

To provide the understanding that problem solving skills deteriorate to a greater extent than more basic skills.

Key Points:

1. Thinking and problem solving abilities deteriorate soonest and to the greatest degree.
2. Marginal basic problem solving competence "falls apart" under the impact of sleep loss and other adverse factors.

Lead Questions:

Is there a suggestion that the crew was experiencing some performance degradation?

* Degradation affects various tasks at different rates
* Thinking/problem solving tasks are the first to show degradation

Was there possibly some deficiency, also, in the platoon leadership?

* No one is immune to performance degradation
* Procedures for "back up", and contingency plans must be in place
* Clear, firm, effective directions were apparently not given by leadership

Case 2. Goofing-Off During FTXs

PART 2

Group B Discussion

Compare and contrast the type of performance decrement experienced by the 1st and 3rd Platoons. Considering, also, that communications discipline appears to have been violated, is disciplinary action for the responsible IFV crew called for?

Purpose:

To contrast deficient competence with degraded performance, and willing with unwilling cooperation.

Key Point:

1. Soldiers were evidently making a valiant, but ineffective effort quite unlike those in 3rd Platoon.
2. Platoon leadership was partly responsible for violation of communications discipline.
3. Leadership and troops still lacking experience with effects of performance degradation.
4. The incident should be an object lesson rather than being treated as a disciplinary problem; the problem solving skills of the 1st Platoon probably degraded along with their memory for recent events.

Lead Questions:

What CDM tactics might have improved the situation?

* Shift in leadership style: simple, clear directions
* Possibly, performance supports for trouble-shooting
* Written rather than oral orders

How might some sort of performance support have been helpful?

* Performance supports help to maintain performance effectiveness under degraded conditions
* Trouble shooting guide could reduce thinking/problem solving requirements

Case 2. Goofing-Off During FTXs

PART 3

The 27th Inf. Bn. (Mech) is now just into the fourth month of its continuous operations training program. Much progress has been made in developing and implementing strategies for countering performance degradation and practicing the techniques in training. Last week was devoted to a 5-day continuous FTX. On the third night of the FTX, the following incident took place.

LT Jones of the 3rd Platoon assigned SGT Brillig's A-Squad to a perimeter defense south of the BP occupied by the 3rd Platoon. The RED attack was expected to come from that direction. A-Squad's orders were to fire on infiltrators as they were initially detected, and then to withdraw speedily into the BP itself. Absolute communication silence was to be maintained until contact with RED force was made.

In keeping with a policy of frequent personal contacts, LT Jones made a quick check on A-Squad. As he approached their perimeter line from the BP he found SGT Brillig alone, propped up against a tree, and fast asleep. LT Jones roused SGT Brillig who insisted that he was merely practicing the Platoon's sleep discipline. All other Squad personnel appeared to be awake, though only moderately alert judging by their slowness in detecting LT Jones' approach.

Case 2. Goofing-Off During FTXs

PART 3

Group A Discussion

What CDM training factors make this incident different from the initial incident involving SGT Brillig. If Brillig's explanation is "true," what does this tell us about the sleep discipline policy of the unit? What disposition would you make in this case?

Purpose:

To demonstrate issues and applicable standards at different stages of continuous operations readiness preparations.

Key Points:

1. CDM training is now well advanced.
2. How well is sleep discipline policy understood and implemented by other squads?
3. Who supervised A-Squad while SGT Brillig slept?

Lead Question:

Could it be that there is some ambiguity in the established sleep discipline?

* How carefully was it formulated?
* Has practice of sleep discipline been checked and given after action review?
* Either the sleep discipline or SGT Brillig is at fault

Case 2. Goofing-Off During FTXs

PART 3

Group B Discussion

What deficiencies may be indicated by this incident? What constructive changes would you make as a result of this incident?

Purpose:

To show how mistakes can be turned into profit and how mistakes can be used beneficially.

Key Points:

1. Some four months of CDM training have taken place between the first and second incident.
2. Sleep discipline has been either inadequately developed, or inadequately explained and practiced.
3. Sleep discipline as well as discipline need to be strengthened.

Lead Questions:

Does SGT Brillig's previous suspected infraction necessarily have a bearing on the present issue?

* Previously unprepared to cope
* This cannot be claimed now

Should all other squad members have been awake?

* Not if sleep discipline is well designed
* No sign of task rotation or paralleling of personnel

(Objectives: 4, 5, 6)

Case No. 3 Individual Stress Control Training

PART 1

The 819th FA Battalion is a component of the 54th Infantry Division (Mech). In response to divisional policy, the 819th is progressively implementing a program of preparation and training to develop a capability for extended operations with sustained effectiveness. Individual stress control training is an early and prominent feature of the program's schedule. CPT Krieczek has appointed LT Valdez as the "big guru" responsible for guiding and monitoring the individual stress control training in A-Battery, or "this contemplating your bellybutton stuff" as CPT Krieczek refers to it privately. He chose LT Valdez for this role, because his college major was in "head shrinking" (psychology).

LT Valdez finds he has received a "challenging" assignment. It will demand from him considerable tact and inventiveness. In A-Battery the initial reactions to the program and to his assignment are mixed. Some of the other officers seem to share CPT Krieczek's attitude as do several of the senior NCOs. Some soldiers do accept the program as constructive and potentially useful to them, but quite a few resist the monitorship. Some do not want to be bothered at all; some do not believe that the program has any value for them, and some want to handle stress and relaxation in their own way.

Case 3. Individual Stress Control Training

PART 1

Group A Discussion

Suggest what LT Valdez might do to improve the attitudes toward the program. Would it be advisable to invoke the authority of the divisional policy and the battalion's program? What might be an alternative approach?

Purpose:

To learn how willing individual cooperation can be obtained for a stress control program.

Key Points:

1. Stress control training is individual, with individual practice, and dependent for success on individual cooperation.
2. Objectives, techniques to achieve them, the reasons for them, and the benefits must be clearly understood for cooperation to be given.
3. Soldiers look to their leaders as models in forming attitudes and in guiding their own behavior; leaders must provide positive models.

Lead Questions:

What is the true key to a successful program?

* Clear, full understanding of it
* Voluntary commitment to its goals

What or what actually determines whether training will be effective?

* Each individual soldier's belief and commitment

Would it make sense to specify some proficiency level that must be attained?

* Attainment could not be measured (determined) in any practical way
* The true test situation is the combat situation

Case 3. Individual Stress Control Training

PART 1

Group B Discussion

Is LT Valdez professionally equipped, has he sufficient technical knowledge to execute his assignment effectively? How/where might he find technical guidance and support? Suggest steps for LT Valdez in planning the substance of an effective program.

Purpose:

To establish the depth of professional expertise required for the ideal CDM training program, and to consider potential compromises for practical feasibility.

Key Points:

1. A full professional background is desirable, but not essential for guiding a CDM training program.
2. Technical advice and guidance can be obtained from technical book and nearby Army professionals.
3. Laying the proper groundwork is the key to an effective program; the rest is conscientious practice.

Lead Questions:

Might a library be of use to LT Valdez?

* Pertinent books and pamphlets are available
* His background should enable him to understand such material

What sort of professional assistance might LT Valdez try to secure?

* Psychiatrists
* Psychologists
* Psychiatric Social Workers
* "Graduates" of relaxation training

Case 3. Individual Stress Control Training

PART 2

In consequence of LT Valdez' quiet, but determined stress control indoctrination efforts, attitudes of officers and EM in A-Battery have become more favorable. A significant shift toward willingness to try stress control techniques came after LT Valdez arranged for an explanation by MAJ (MC) Roper, a psychiatrist at the Base Hospital. Her explanations and the details of a substantive program seemed to remove much of the mysterious or mystical aspect, and to replace it with sound reasons for the relaxation procedures. Thus an "OK, let's try it" attitude began to prevail.

LT Valdez' training plan calls for every officer and soldier to devote about 20 minutes daily to the practice of relaxation procedures. Exactly when this practice takes place is left to each individual, and it can be accomplished at any convenient time of the day. The problem for LT Valdez is to monitor the program. He cannot observe/check directly whether practice is regular and daily. Therefore, he depends on everyone's verbal assurances that they do practice regularly. He is beginning to hear doubts that all this practice is doing anything. Both, soldiers and officers, are unable to tell whether, in fact, they are learning to relax, and whether they have gotten better at it than they were at the beginning. Even LT Valdez, himself, cannot feel sure that his own efforts are producing any effect.

Case 3. Individual Stress Control Training

PART 2

Group A Discussion

How can LT Valdez meet his monitoring responsibilities? Should he be concerned with monitoring adherence to the practice schedule? Consider how you might advise him to act.

Purpose:

To show the alternatives available for the implementation and monitoring of a stress control training program.

Key Points:

1. A high degree of flexibility is required.
2. A strong commitment and genuine belief in its value are more important for the success of a program of this type than monitorship by superior authority.
3. The relaxation training must be incorporated into each soldier's daily routine.

Lead Questions:

Realistically, can a daily practice schedule be enforced?

* Some sort of daily practice is required
* Encouragement is more beneficial than strict monitorship

Could maintenance of a cooperative attitude (willingness to try and continue trying) be monitored? How?

* Establish an atmosphere of "look, how good I'm getting"
* Casually report anecdotes about successes
* Ask: "any luck in lowering your pulse rate yet?"

Case 3. Individual Stress Control Training

PART 2

Group B Discussion

Is there a reason to worry about trainee's inability to notice any progress? How could progress be demonstrated? Consider how you might advise LT Valdez in this matter.

Purpose:

To learn about the elusive nature of the success criterion for stress control training and the degree of success to be expected at intermediate stages of his type of training.

Key Points:

1. Overt indications of training success are subtle and difficult to objectify.
1. Especially, during early stages of training, progress is a matter of faith rather than demonstration.
3. Maintenance of belief in the program, and commitment to it are indications of progress.

Lead Questions:

Would any significant, noticeable results be expected during early stages of training?

* Effects are subtle, not easily noticed
* It takes a while before <u>any</u> effects appear

How could a beginning achievement of some stress control capability be established?

* Very difficult to establish
* Ability to slow pulse rate even very slightly

Case 3. Individual Stress Control Training

PART 3

LT Valdez succeeds in reassuring himself and other members of A-Battery that the stress control training practice is meeting with some success. He raised the question of uncertainty about progress in a phone call to MAJ (MC) Roper. At her invitation, LT Valdez comes to a laboratory at the Base Hospital where it is established, by means of some laboratory apparatus, that he has acquired a slight capability for reducing bloodpressure and pulse rate at will. LT Valdez loses no time in spreading the word about his accomplishment throughout A-Battery. Soldiers begin to check their own pulse rates before and after relaxation exercises.

Now several months have passed. LTC Conn, commander of the 819th, requests an accounting of progress in stress control capabilities from each of the Batteries. He believes that enough time has been spent on this training, and that no more time should be expended on it. He wants proof that all this time has produced tangible benefits. CPT Krieczek turns to LT Valdez for recommendations on how to respond to LTC Conn's inquiry.

PART 3

Group A Discussion

Consider what LT Valdez should recommend. How should he advise CPT Krieczek? Be specific.

Purpose:

To learn methods for demonstrating the effects of stress control training.

Key Points:

1. Stress control techniques allow one to cope with one's own stress; this is not easily observable for someone else.
2. Some aspects of physical conditioning (e.g., resiliency, endurance) might be enhanced by stress control training.
3. Except in a biomedical laboratory, effects are difficult to demonstrate; if there are some benefits, soldiers will be aware of them and will so testify.
4. Individuals will vary greatly in the effects they obtain as a result of training, and even more than they do for physical training or marksmanship.
5. Continued practice is essential and requires no significant time and effort.

Lead Questions:

What sort of evidence might LTC Conn accept as proof?

* Subjective evidence (soldier's reports) may have to be accepted

Can a conclusive test be made in a lenghty continuous FTX simulating intense and adverse combat conditions?

* Not a conclusive answer, but an indication; the dangers and stresses of real combat cannot be simulated in FTXs.
* In real continuous combat, the pay-off is great (on a very modest investment)
* Some indications (e.g., pulse, breathing rate, stamina) may be obtainable

Case 3. Individual Stress Control Training

PART 3

Group B Discussion

Can an unambiguous and convincing "proof" be provided? Consider that the 819th is not in actual combat operations, but does occasionally participate in simulated continuous FTXs.

Purpose:

To demonstrate methods of evaluating the effectiveness of stress control training.

Key Points:

1. Flexibility must be maintained for, both, implementation and evaluation.
2. Continuous FTXs come closest to producing the same types of stresses as actual combat, but the dangers of combat cannot be simulated.
3. A variety of methods should be used to assess the variety of effects that stress control training produces, including soldiers' reports.

Lead Questions:

How significant is the amount of time being spent on stress control training?

* Practice should be daily
* Required time is no greater than for coffee break

Might there be benefits from constant and never-ending practice?

* Maintains ability at a high level
* Extends or deepens degree of control

(Objectives: 1, 2, 3, 7)

Case 4. Airlift to Combat Zone

PART 1

The 54th Infantry Division (Mech) is stationed at Ft. X-ray, Texas. There, it is perfecting its combat capabilities. The 54th is at about 70% of authorized personnel strength and, with very little variation, this holds for its component units. In response to a divisional policy, these components implemented a continuous operations training program which has been under way for about three months. This is the situation when hostilities errupt in central Europe.

Alpha Company is one of the components of the 54th. Today, its commanding officer is informed that in six days a sizable advance party will be deployed to Europe. The advance party will consist of several officers, mostly senior NCOs, and some lower grade EMs. Their task is to prepare facilities and make arrangements for those to follow. Heavy equipment is to be left behind and replaced from European POMCUS stocks. Since other components of the 54th and many other units are similarly being airlifted, the situation at the destination promises to be one of confusion and intense, activity.

Case 4. Airlift to Combat Zone

PART 1

Group A Discussion

What performance decrement factor could affect the performance of the advance party? Suggest measures designed to keep them performing effectively in the near as well as the distant future. (Consider logistics only incidentally!)

Purpose:

To learn how to meet the problems of performance decrements which arise during the early phases of translocation.

Key Points:

1. After arrival in Europe the advance party will have continuous demands made on them
2. The destination work/rest/sleep time frame must be adopted immediately.
3. A rotating work/rest/sleep schedule that assures adequate sleep for everyone, but especially senior leaders must be designed immediately.
4. Responsibilities must be delegated on a rotating basis.

Lead Questions:

What provisions are likely to minimize "jet-lag" effects?

* Immediately adopt destination time zone schedule
* Sleep/rest during flight
* Work immediately after arrival

In the advance party, how can delegation of responsibilities be integrated with an effective work/rest schedule?

* Rotate responsibilities and tasks

Case 4. Airlift to Combat Zone

PART 1

Group B Discussion

Consider the problems and prospects of the main body of Alpha Company. Suggest measures designed to keep them performing effectively in the near as well as the distant future.

Purpose:

To learn the likely course of events preceding actual departure to the combat zone and the initial steps to be taken to ensure continuing performance effectiveness on and after arrival.

Key Points:

1. The destination work/rest/sleep time frame must be adopted immediately.
2. Applicable aspects of the unit's sleep discipline must be implemented immediately.
3. Responsibilities must be delegated on a rotating basis within an efficient work/rest/sleep schedule.
4. Begin strict soldier resource management.

Lead Question:

Will there be opportunity for rest/sleep during the flight to Europe?

* Yes, and this opportunity must be exploited to the maximum

Case 4. Airlift to Combat Zone

PART 2

Alpha Company at Ft. X-ray immediately resets its clock to central European time. While this created some conflicts with other Ft. X-ray organizations and some housekeeping issues in clearing this home base, they are minor and are resolved.

Beginning some 70 hours before scheduled departure, a variety of new personnel begin to arrive. This new personnel will bring the Company up to about 90% of its authorized strength. Soldiers arrive singly and in small groups at all hours. While they appear to be qualified combat infantrymen, none seems to have been exposed to continuous operations training. A few of these men were already stationed at Ft. X-ray, but many have travelled from various distant locations.

Case 4. Airlift to Combat Zone

PART 2

Group A Discussion

Under the circumstances, what assignments and CDM preparation would you suggest for the arriving personnel in the various platoons? Consider, also, their eventual activity after arrival in Europe.

Purpose:

To establish some issues in integrating new personnel into CDM trained unit during a brief predeparture period.

Key Points:

1. New personnel must be integrated into established units.
2. Immediately orient new men to their unit CDM policies and procedures, and to CDMs.
3. Rely as much as possibly on soldier-to-soldier indoctrination.

Lead Questions:

Can new personnel be indoctrinated into sleep discipline practices to, at least, some good effect?

* Some comprehension better than none
* Practice until combat starts accumulates some benefits

How might soldier-to-soldier instruction be integrated into a duty rotation schedule?

* Pair old and new personnel with parallel MOS
* Implement overlapping duty/sleep cycles

Case 4. Airlift to Combat Zone

PART 2

Group B Discussion

In view of the necessity for receiving and integrating arriving personnel, how can Alpha Company continue with its CDM training and preparation while simultaneously bringing the new personnel to the desired level of CDM proficiency. Consider all relevant factors.

Purpose:

To illustrate realistic challenges to a smooth implementation of predeparture work/sleep/rest schedules.

Key Points:

1. Reception and integration of new personnel must be handled by each unit's leadership on a rotating basis.
2. Hours since arriving personnel last slept must be considered in integrating them into work/rest/sleep schedules.
3. New personnel are untrained in sleep discipline, but must be adapted immediately to the destination time frame.
4. New personnel must be made aware of all CDM practices including task sharing, task rotation, job aids, stress control, cross training.

Lead Questions:

How can leadership actions integrate new personnel, and does this necessarily conflict with an effective work/rest schedule?

* Rotate these responsibilities
* Also, delegate some responsibility for integration

When will the priority for sleep be highest?

* In-flight, during airlift

Case 4. Airlift to Combat Zone

PART 3

Alpha Company is now emplaning to be airlifted to Europe. They will arrive in Germany in about eight hours. There, additional personnel will join Alpha Company so as to bring it to 100% of authorized strength. Nothing is known about the backgrounds of the new personnel.

The advance party advises that heavy equipment to be received will require considerable check-out and preventive maintenance before it can be counted on to perform reliably in combat. Facilities for this purpose and for quartering and feeding personnel are at a premium. Because of the sudden developments, and the massive airlifts from CONUS there is much competition for all available resources, attendant unpredictable delays, and inescapable confusion. The massive thrust of the threat attack has heightened the urgency for all arriving units to complete their provisioning and to move into assigned combat areas.

Case 4. Airlift to Combat Zone

PART 3

Group A Discussion

In view of the prospective confusion and unpredictability, how can Alpha Company personnel maintain its CDM Program while accomplishing its get-ready tasks as quickly as possible? Suggest the possible problems and their solution in relation to the work/rest/sleep program, rotation, paralleling, job aids, and stress control.

Purpose:

To appreciate advance measures for maintaining CDM effectiveness in a unit along with obstacles and ways to overcome them.

Key Points:

1. On a rotating basis, delegate responsibilities to the maximum extent feasible after providing clear, precise guidelines.
2. Consider the pros and cons of three overlapping 16 hour duty shifts (8 hours sleep) per 24 hour day.
3. Have CDM contingency plans in place for new personnel
4. Allocate some specific time for indoctrinating new personnel in CDMs.
5. Learn skills of new personnel and parallel them with old personnel.
6. Allow for as much rotation and cross training as possible in time available, even at the expense of other tasks.

Lead Question:

How can advance contingency planning and delegation of responsibilities for executing the broad plan(s) help to maintain a reasonable work/rest/sleep schedule?

* Such plans, in general form, are part of unit readiness
* Refine plans as specific information becomes available
* Unit readiness includes ability to handle such situations

Case 4. Airlift to Combat Zone

PART 3

Group B Discussion

How might the advance party and the new Europe-based personnel be best integrated into Alpha Company's work/rest/sleep schedule? Suggest an overall solution that would allow Alpha Company to enter combat in a rested condition.

Purpose:

To consider differences in personnel time frames (wake/sleep cycles), and how they can be integrated with schedules.

Key Points:

1. Europe-based personnel are adapted, and advance party are partly adapted to local time zone.
2. Differences in soldiers' wake/sleep cycles (high and low periods) can be exploited in synchronizing them with work/rest/sleep schedules.
3. Earlier, US-based, replacements are least able to cope with displacement and sleep loss.

Lead Question:

After arrival in Europe, should US-based/replacements be given more opportunity for sleep/rest than others?

* Wake/sleep cycles may have been most disrupted
* Personnel untrained in CDMs

(Objectives 1, 2, 3, 7)

Case 5. Rest Vs. Defensive Preparation

PART 1

You are the Platoon Leader (PL) of a mechanized infantry platoon which is part of TF-4-78. This TF, has been in near continuous combat for the past 40 hours. Except for very brief, occasional cat naps no one in your platoon has had any sleep during this time. About two-thirds of your platoon have undergone CDM training. The remainder are newly assigned replacements without CDM training. The TF is fighting in the vicinity of Coburg along the Itz river in terrain characterized by rolling forested hills with steep slopes in some areas. The weather has been rainy, overcast, and temperatures have ranged between 25° F and 45° F. In the fighting your platoon sustained some personnel losses (including the PSG), but 10 fresh rested replacements, who just arrived, brought you back up to 100% of personnel strength.

Now elements of the TF are ordered to occupy and strengthen a battle position (BP) on the slopes above the Fullbach creek against a threat forces attack that is expected to come in about 12 to 18 hours. Your platoon is ordered to occupy and hold a BP on the northeast third of BP 41. You decide to place the support element in reverse slope hiding position and the maneuver element in the woods oriented to the southeastern infantry approach through the woods.

On arrival you recon the area and discover the BP is covered by dense woods. It will require extensive preparation to yield acceptable fields of fire. Just then you receive the news that no engineer assistance will be available to prepare the BP. The terrain is very rocky and difficult to dig by hand. Defensive positions will require overhead protection from artillery and tree splintering effects.

Case 5. Rest Vs. Defensive Preparation

PART 1

Group A Discussion

Consider the basic issue of work versus rest/sleep under the circumstances. Suggest relative priorities for the beginning, middle, and end of the period from now till the expected start of the threat attack.

Purpose:

To provide practice in analyzing allocations of time to work and to rest.

Key Points:

1. A strong BP will be easier to hold against attacks.
2. Sleep deprived, extremely fatigued soldiers will fight ineffectively
3. Ideally, soldiers should come awake as the attack begins.

Lead Questions*:

What average degree of performance degradation do you expect after 40 hours, and for what sort(s) of activities?

* Beginning of slight to moderate degradation
* In mental tasks, but none in physical tasks

Is rest/sleep more essential for fighting or for the BP strengthening tasks?

* BP strengthening tasks are essentially physical
* Combat requires constant, serious decisions
* Leaders make most and the most important decisions.

*All lead questions in all Parts are pertinent to all other Parts of this Case.

Case 5. Rest Vs. Defensive Preparation

PART 1

Group B Discussion

Security must be maintained at all times along with defensive preparations. Consider security vs. defensive preparations vs. rest/sleep, and in relation to assignment of old (continuous operations trained) and new (replacement) personnel.

Purpose:

To provide the ability to meet issues and apply techniques for allocating burdens so as to sustain prolonged unit effectiveness.

Key Points:

1. Paired posting of personnel/(old/new, old/old) can serve security and rest objectives.
2. Immediate rest requirements for most recent replacements are minimal, but they may not be trained to cope with sleep loss in combat.
3. Available time seems to offer opportunity for a balanced, effective work/rest/sleep schedule.

Lead Questions*:

Which tasks require maximal alertness, and who is likely to be maximally alert?

* Security duties require vigilance (alertness)
* New arrivals more rested, but their reliability is unknown -- they are "strangers"

What use can be made of the task sharing principle at this time?

* Task sharing will decrease fatigue level; assign two soldiers to heavy jobs.

*All lead questions in all Parts are pertinent to all other Parts of this Case.

Case 5. Rest Vs. Defensive Preparation

PART 2

You have barely begun to lay your plans when S2 confirms previous estimates. It is exceedingly unlikely that the threat attack will come in less than 12 hours, but it is also virtually certain that it will come no later than 18 hours from now.

Case 5. Rest Vs. Defensive Preparation

PART 2

Group A Discussion

Delineate a work/rest schedule for the platoon and its members that is most appropriate for these circumstances.

Purpose:

To consider some specific factors in developing an optimal work/rest schedule.

Key Points:

1. Work 6 hours; then sleep for as many as possible.
2. Rest is desirable for "old" personnel early in the projected period, especially those not trained to cope.
3. Sleep is imperative for all personnel late in the projected period.

Lead Questions*:

When should everyone in the platoon be most rested and alert?

* Just prior to start of attack
* But, attack may come earlier than expected

* All lead questions in all Parts are pertinent to all other Parts of this Case.

Case 5. Rest Vs. Defensive Preparation

PART 2

Group B Discussion

How should defensive preparations and security duties be rotated among squads or squad members? Consider this in relation to CDM trained and new personnel.

Purpose:

To provide practice in considering pertinent and interrelated factors in making duty and rest assignments.

Key Points:

1. CDM trained personnel are just beginning to tire, but can cope.
2. The replacements are not trained to cope; rest them first.
3. The most recent arrivals are rested, but their reliability is unknown and they are not yet integrated into their squads.
4. Squad leaders "wear out" fast in combat and should be alloted extra sleep.
5. Security duties demand vigilance; this ability is highly subject to degradation.

Lead Questions*:

Can rest and security duties be integrated? How?

* Sentry duty is not physically demanding
* Paired sentries permit one soldier to rest, while other stays alert; then they rotate

*All lead questions in all Parts are pertinent to all other Parts of this Case.

Case 5. Rest Vs. Defensive Preparation

PART 3

About six hours have elapsed. Work, so far, has produced a number of bunkers, a substantial number of fox holes, a few connecting trenches, and has cleared some fields of fire, but not much progress has been made with overhead protection. Now S2 provides a revised estimate which shortens the time remaining of the expected attack to three (from six) hours.

To meet the situation, leadership decides to man all positions redundantly (in parellel). They believe this to be sound CDM practice.

Case 5. Rest Vs. Defensive Preparation

PART 3

Group A Discussion

Reconsider the work vs. rest issue in the light of the new circumstances.

Purpose:

To provide additional practice in considering physical vs. human resources trade-offs.

Key Points:

1. Sleep must have top priority for the remaining time.
2. Complete only the most essential work.
3. Consider makeshift preparations and trade-offs.

Lead Question*:

When might the platoon next have an opportunity for rest/sleep, and how does that weigh in the scale against incomplete preparations?

* Any further opportunity is highly uncertain
* Prolonged unit effectiveness may be more important than any one BP

*All lead questions in all Parts are pertinent to all other Parts of this Case.

Case 5. Rest Vs. Defensive Preparation

PART 3

Group B Discussion

Comment on the decision to man positions redundantly. Was this the time to institute this procedure. What, if any, other CDMs should be considered at this time? How so?

Purpose:

To review the CDMs and their applicability to the immediate precombat situation.

Key Points:

1. Sleep and security must now assume top priority.
2. Trade-offs for sleep against other resources are possible and can be considered but no other CDMs seem appropriate at this time.
3. Rest, especially, leaders and personnel without CDM training.

Lead Question*:

Need the newest arrivals be rested at all?

* Probably untrained to cope with sleep loss
* How long now since they last slept?
* How long till next opportunity for sleep?

Could other resources (e.g., ammunition, equipment) be traded for effort and time in accomplishing the preparation and to secure sleep; would it be justified?

* Is effectiveness or ammunition more important?
* Use ammunition to blast out protection?
* Sacrifice equipment for personnel or fighting effectiveness?

*All lead questions in all Parts are pertinent to all other Parts of this Case.

(Objectives 1, 2, 3, 7)

Case 6. Unit Reconstitution

PART 1

You are the platoon leader of a mechanized infantry platoon that is part of TF 4-78. You and your platoon have been in continuous combat for the past 68 hours. Fighting is in the general area of Coburg along the Itz river in terrain characterized by rolling, forested hills with steep slopes in some areas. The weather is rainy, overcast, and temperatures have ranged between 25° F and 45° F. There is some morning fog and haziness.

While the core of your platoon is continuous operations trained, it was brought up to strength by replacements who are not so trained. Most recently heavy losses in personnel and equipment have been sustained. The 3rd Squad was lost in its entirety; though its IFV and driver survived, the 1st Squad lost its IFV along with its driver and the Gunner/Carrier Team Leader. Another IFV was hit. Its driver was injured, but he is able to keep the moderately damaged vehicle going.

Now elements of the TF including your platoon, are strengthening BP 45, as best possible, against an imminent threat attack. Most of your men have been able to snatch about 20 minutes of sleep. You, yourself, are awakened when nine replacements arrive. They are personnel from the 16th Armored Division which was shattered entirely in previously fighting. All are armor specialists with no infantry experience. For example, four of the men were tank loaders, and it is not clear what else they know how to do. Two tank commanders, one tank gunner, and one tank driver in the group had two tanks shot out from under them (generally the stress limit anyone can endure).

Case 6. Unit Reconstitution

PART 1

Group A Discussion

Propose a scheme that the best integrates the replacements into your own considerably attrited platoon. Consider all relevant factors, and the pros and cons in suggesting their respective assignments and responsibilities.

Purpose:

To learn some of the important issues for reconstituting an effective unit in combat.

Key Points:

1. Replacements should be integrated individually
2. Even though all replacements may have come from the same platoon, their leadership is not intact.
3. Some armor and mechanized infantry equipments are similar; tank drivers can probably drive an IFV, gunners probably make good riflemen, etc.
4. Roughly half of the armor replacements are now at or near their (mental) stress limits; use them redundantly; provide aids.
5. Unit integration needs to be complete and rapid

Lead Questions:

Apart from issues of combat skills and competence, how far can you trust the new men, especially those with two prior traumatic experiences?

* Soldiers are at or near their (mental) stress limits
* Reliance on their continuing performance is inadvisable
* Consider employing these men in noncombat roles.

How will your old platoon members respond to the assignments of the new soldiers?

* Low trust in non-integrated "strangers"

Case 6. Unit Reconstitution

PART 1

Group B Discussion

What leadership actions are especially important under the circumstances? Consider, both, your platoon's and the replacements' recent history. Suggest what and how it should be done?

Purpose:

To review leadership considerations and actions that are of special importance for reconstituting units in combat.

Key Points:

1. Armor replacements have recently experienced extreme stress.
2. A strong leadership style must be exhibited.
3. Leadership action aimed at integrating old and new personnel into a cohesive unit is extremely important.
4. Spell out orders clearly and directly for stressed personnel.
5. Plan for as much redundancy and task sharing as possible.
6. Provide performance supports

Lead Questions:

Is it likely that cohesiveness in your platoon increased sharply in consequence of recent experiences?

* Tough combat especially welds unit cohesiveness
* Concern of unit members for each other, but not for "outsiders," becomes very high
* Specifically acquaint old/new personnel with each other

Are the new men likely to be regarded as outsiders by the old men of your platoon, and vice versa?

* Yes, but...
* ... they have undergone similar experiences
* Explain respective experiences to old/new personnel

Case 6. Unit Reconstitution

PART 2

Three hour pass. It is 0500, and BP 45 is under attack by a combined arms force estimated to be at least two regiments. The TF elements successfully repel and initial tank and infantry attacks launched against the BP from different directions. This action buys enough time for another team to occupy a blocking position to the rear of BP45. Now the Task Force Commander orders you to disengage and withdraw to another BP before becoming overrun. The withdrawal requires crossing the Itz river, which is fordable with difficulty.

In your platoon, there are no recent serious/casualties, but the previously injured IFV driver has lost consciousness. Also, one of the former tank loaders has been shot in the arm. It is a flesh wound, but the outward appearance is that of an injury far more serious than the true extent suggested by careful examination. You replace the unconscious IFV driver with the former tank driver. Also, you assign one of the former tank commanders as Gunner/Carrier Team Leader for the IFV that used to carry 3rd Squad. The Commander designated your platoon to overwatch the withdrawal of other elements, and to keep dismounted threat infantry from damaging IFVs as they ford the Itz.

Case 6. Unit Reconstitution

PART 2

Group A Discussion

Assume that MEDEVAC is not available and that chances of getting effective medical help for the wounded IFV driver and the former tank loader are quite slim. Their presence (one is seriously and one is grotesquely wounded) might substantially heighten the mental stress of your platoon members, and that stress is already very high; abandoning them may shatter unit cohesiveness and morale. Consider the advisability of carrying the wounded on the IFV in the light of all relevant factors. Suggest a disposition and justify it.

Purpose:

To demonstrate how a difficult situation can be turned to long run advantage in stress relief.

Key Points:

1. Wounded must be carried with unit even though the presence of wounded soldiers may add to already extremely high (mental) stress level.
2. Abandoning wounded will weaken the trust and bonds that hold the unit together. Such bonds sustain endurance.

Lead Questions:

Could abandoning one or both wounded to be picked up by threat attackers be justified?

* No

What is the likely effect of the wounded men on the highly stressed squad that has to carry them?

* Increase in stress level possible if situation not managed correctly
* Not a conscious reaction, but more of an unconscious, emotional response
* Increase in unit cohesion

PART 2

Group B Discussion

Formulate a CDM plan for the platoon to overwatch other TF elements, and for overwatching during its own fording of the Itz. Remember that certain IFV crew members are probably near their stress endurance limits and that their reliability is questionable. Consider all relevant factors.

Purpose:

To provide practice in considering the uncertainties associated with reconstituting units in association with the uncertainties contributed by very high stress levels.

Key Points:

1. Consider all possible CDMs.
2. Consider likely stages of performance degradation.
3. Consider coping capabilities of CDM trained and untrained personnel.
4. Consider stress levels and performance reliability of extremely stressed armor personnel.

Lead Questions:

How degraded are performance capabilities likely to be at this stage?

* Stage of progressive performance degradation: moderate to serious
* Intense combat suggests high stress and accelerated performance degradation
* Early morning suggests low point in wake/sleep cycles

How are issues of performance degradation confounded with those of basic competence (in infantry skills) in the case of the armor replacements?

* Replacements have come through very intense combat
* Coping skills, if any, adapted to armor operations

How far will 2nd Squad likely trust the 3rd Squad IFV to overwatch its river fording operation? How effectively can they collaborate?

* Doubts, mistrust likely to be high
* Experience of working together is lacking
* All soldiers' performance now seriously degraded

Case 6. Unit Reconstitution

PART 3

The IFV led by the former tank commander is hit as it prepared to cross the Itz. There is no significant damage to the IFV and its occupants. However, the effect on the team leader (former tank commander) is drastic. He has "gone over the line", and stands "frozen" in the hatch with eyes tightly closed. He does not respond to commands and resists attempts to dislodge him.

Case 6. Unit Reconstitution

PART 3

Group A Discussion

What leadership action is indicated. How will the stress tolerance of other crew members be affected by the presence of the stress casualty? Suggest the best, justifiable disposition under the circumstances. Consider all factors.

Purpose:

To consider further the antagonistic objectives of stress relief and of unit cohesion and morale.

Key Points:

1. Stress casualties present the same issues as physical casualties (WIAs), but in even more intense form.
2. Stress casualities are entitled to the same consideration as any wounded, disabled soldier.
3. Keep with unit but reassign.
4. Leadership authority must be firm and orders must be short and direct.
5. Mild sedation for stress casualty
6. Reinforce confidence of group.
7. Fully structure each persons role
8. Don't strike stress casualty, douse with water, etc.
9. Try kindly firmness with stress casualty

Lead Questions:

What is the likely effect on others in the IFV of the the team leader's behavior?

* Intensifies stress levels at a critical moment

Is the stress casualty likely to interfere with the river fording operation?

* Not if managed correctly

What long/range effect is the stress casualty's presence likely to have on this squad?

* If managed correctly can lead to an increase in cohesion and expectation of "one for all and all for one"

Case 6. Unit Reconstitution

PART 3

Group B Discussion

Suggest what leadership should do and how it should act. Consider all relevant factors, especially the effect on crew/squad members of the stress casualty.

Purpose:

To provide practice in considering stress management under "high stress" conditions.

Key Points:

1. Direct contact with all individuals reduces stress.
2. Specify the threat directly and how it is to be dealt with.
3. Try to identify any highly stressed soldiers and pair them with less stressed persons.
4. Provide reassurance.
5. Don't argue with subordinates, don't call attention to stress casualty.
6. Communicate as much status information as possible.
7. Support operations by providing highly specific directions on what to do, who should do it, and how to go about it.

Lead Questions:

What long range effect might a decision to abandon him have on the stress casualty's fellow replacements and former buddies?

* Loss of trust, hope, and endurance
* Antagonism to your leadership

Should rank or another factor decide who will get the IFV and its soldiers across the river?

* The deciding factor is who is in the "best shape" and "can do"

APPENDIX A

Platoon and Squad Tasks Supported by Orientation/Workshop

DETAILED TASK LIST

PLATOON AND SQUAD LEADERS' TRAINING

A. Recall the potential conditions of future continuous combat operations and the impact of these conditions of soldiers' fighting performance.

1. Enumerate the adverse conditions associated with continuous combat operations.

2. Describe how these adverse factors progressively degrade the effectiveness of soldiers' performance.

3. Recognize the signs of stress in self and others.

B. Consider the available techniques for counteracting performance degradation.

1. Recall the major categories of counter degradation measures.

2. Relate the various counter degradation techniques or measures to unit training programs and schedules.

3. Specify interrelationships of counter degradation measures in achieving sustained effective performance.

C. Apply the methods and techniques for efficient development of a continuous operations capability within unit training/preparation programs.

1. Implement an orderly approach to developing the CDM capability.

2. Implement effective procedures for achieving training objectives.

3. Assess programs toward the CDM capability within the unit.

4. Apply diagnostic procedures and consequent corrective actions to maintain an adequate rate of CDMs capability acquisition.

5. Effectively guide unit to the timely achievement of a reliable continuous operations capability.

D. Implement features and techniques for prolonging performance in continuous combat operations.

1. Base planning of unit's tactical maneuvers, in part, on true retained performance capability.

2. Implement procedures and techniques for sustaining and prolonging effective performance.

3. Practice shifts in leadership style appropriate to the stress endurance stage reached by unit personnel.

SUMMARY OF PLATOON AND SQUAD LEADERS' TASKS MET BY CASES

Case Type	Case No.	Part	TASK A			TASK B			TASK C					TASK D		
			1	2	3	1	2	3	1	2	3	4	5	1	2	3
A Resolving conflicts of needs	1	1					X					X	X			
		2			X		X	X				X	X			
		3			X		X	X				X	X			
B Securing dedicated cooperation	2	1	X	X			X	X	X	X	X	X	X			
		2	X	X			X	X	X	X	X	X	X			
		3	X	X			X	X	X	X	X	X	X			
	3	1					X		X	X	X	X	X			
		2					X		X	X	X	X	X			
		3					X		X	X	X	X	X			
C Transition period applications	4	1	X	X		X		X						X	X	
		2	X	X		X		X						X	X	
		3	X	X		X		X						X	X	
D Combat applications	5	1	X	X	X	X		X						X	X	
		2	X	X	X	X		X						X	X	
		3	X	X	X	X		X						X	X	
	6	1	X	X	X	X		X						X	X	X
		2	X	X	X	X		X						X	X	X
		3	X	X	X	X		X						X	X	X

APPENDIX B

Adjunct Reading Material (Handouts)

1. Reprints of Articles:

    a. Continuous Operations
    b. A Debt That Must Be paid: Sleep Loss
    c. Who Melts, When, and Why?
    d. The Human Dimension

2. Effects of Continuous Operations on Soldiers' Performance

3. Flow of Counter Degradation Measures Preparation

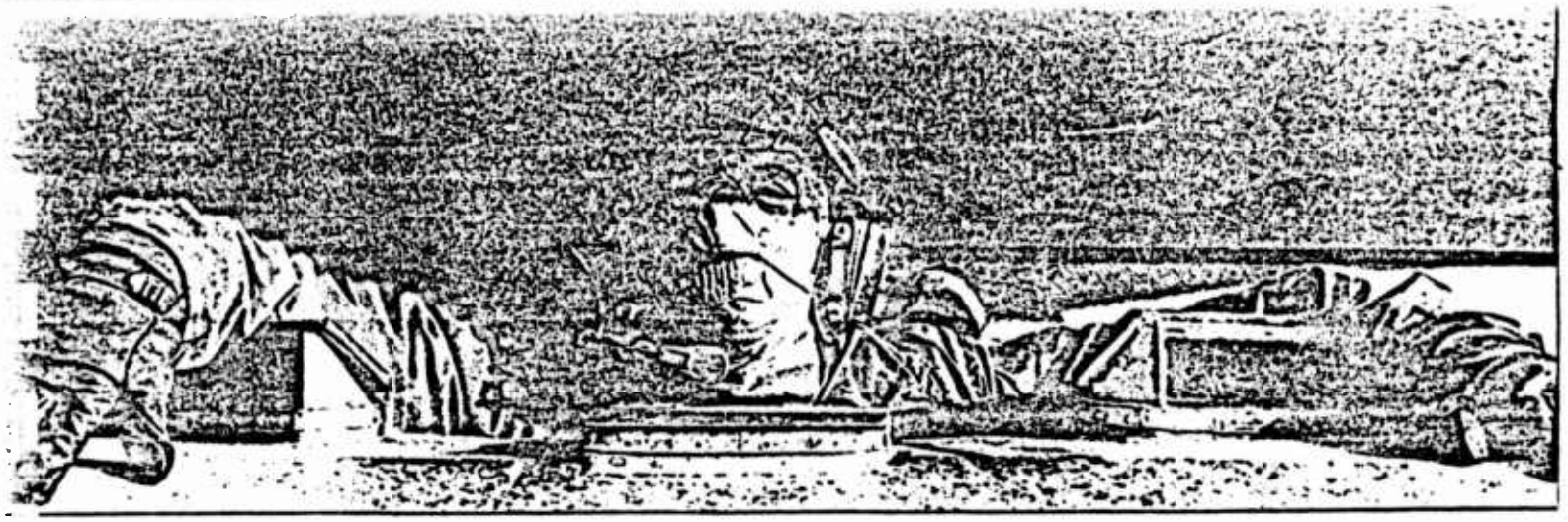
4. Sleep/rest priorities

5. Rules for Sleep Management

6. Advisable Work-Rest Schedules Under Stressful Battlefield Conditions

7. Stress Reactions and Helpful Measures

8. Techniques for Coping with Stress in Self



Continuous Operations

By Captain George R. Frank

"My men had been moving and fighting for 39 hours since leaving Ein-Hotsev. Before we could enter the perimeter, the dropped battalion had to lift mines and roadblocks. These jokers had posted a sign over the entrance: "International Boundary, Show Your Passports." I noticed that no one with me laughed and I took it as a sign that we were wearing fine. Some of my officers had gone 3 nights without sleep—I hadn't closed my eyes in 70 hours.

"At 2300 hours, after getting a full report on the local situation, I called all commanders together to issue orders for the organization of the expanded camp and for completing the capture of Mitla Pass. I still felt fairly good—maybe that was because I had ridden near the front of the column where the dust, and consequently, the fatique had been less. What I planned to do was tell them that we would again carry on at about 0400. That would get us to the Pass by first light, and I figured that 5 hours sleep would be enough.

"But I didn't get the words out. As I started speaking, I looked at the men facing me. Every man was sleeping. At that, my words blurred and I toppled over. Nature simply took over. I slept for 4 hours and 15 minutes. I could have used more, but an air drop came in and one 600-pound bundle landed 3 feet from my head. That wakened me and reconvened the conference."

Decision in Sinai, by Lieutenant Colonel Moshe Rose as told to Brigadier General S. L. A. Marshall.

While advanced technology has developed weapons systems that are able to operate with little "down time," man, on the other hand, remains the same fragile organism he has been since the beginning of time. Man then is the "weak link,"—the most vulnerable, but also the most vital component of any of our weapons systems.

When discussing the factors that degrade crew performance it is desirable, for the sake of simplicity, to categorize these factors into two broad areas; physiological and psychological.

Physiological Performance Degraders

Fatigue is probably the foremost degrader of performance. It can be easily understood that in a modern battlefield environment, with the capabilities of advanced weapons systems, man will be the only part of the system unable to sustain long periods of operation. Very little research has been done in this area and nearly all the studies that have been done are based primarily on noncombat situations, usually involving aircraft or naval crews performing technical tasks. There are however, several recent studies on which the recommendations of this article are based.

A recent experiment in England (Exercise Early Call) tested the effects of fatigue due to sleep-loss.[1] In this study, three platoons of infantrymen were tested. One platoon was given 3 hours sleep per night. A second platoon was given 1½ hours of sleep each night, and the last platoon was deprived of all sleep.[2] Over a period of 9 days the platoons were required to develop and improve several battle positions, go on ambush and reconnaissance patrols, and defend their battle positions. The platoon that received 3 hours of sleep each night remained an effective combat force throughout the entire 9-day exercise with only unrelated medical problems causing the loss of personnel.[3]

The platoon that had received only 1½ hours of sleep each night progressively lost energy, personal initiative, group coherance, and organization, until after 4 days they were able to rally only to immediate challenges. On the fifth day, they lost 50 percent of their personnel due to extreme fatigue and exposure.

No one from the third platoon, which was deprived of all sleep, completed the test. From the end of the fourth day until the middle of the fifth (after a period of 90 to 104 hours of continuous wakefulness) the entire platoon was gradually withdrawn from the test because of extreme fatigue and the inability to stay awake. Even after three days, or 72 straight hours of wakefulness, most of the platoon had ceased to be an effective combat force.[4]

Another significant result of the test showed that about 9 percent of the "sleep-deprived" and "1½ hour-sleep" groups reported unusual visual experiences or hallucinations after 3 days, they were unable to communicate verbally, their sight was restricted, and their auditory senses virtually unstimulated.

Studies indicate that performance and efficiency begin to deteriorate after 14 to 18 hours of continuous work and reach a low point after 22 to 24 hours. Performance improves somewhat during the next 8 to 10 hours but begins to decrease again thereafter.[5] After 24 hours of continuous duty at a new or a monotonous task, degradation of performance becomes evident. Most tasks involving cognitive or perceptual skills, such as planning or interpreting complex data, begin to show a performance degradation after 36 to 48 hours of continuous wakefulness. Seventy-two hours of wakefulness is about the limit of endurance, after which personnel cease to be effective.

Schedules of sleep/work are also important factors in determining the amount of sleep loss that will impair performance.

Twenty-four hours of wakefulness will impair performance if it is imposed on a crew that has completed a week on a

4-hour work—2-hour rest schedule.[6] The same 24-hour period of wakefulness will cause impairment to performance of crew on a 4-hour work—4 hour rest schedule, after 2 weeks on the schedule.[7] This indicates that crews on a "4-off-4-on" schedule are less affected by sleep loss than those on a 4-on—2-off schedule.

The jobs that sleep loss affects most seem to be jobs that require monotonous tasks, jobs requiring continuous attention, tasks performed on a time-shared basis with other tasks that are relatively unlearned.[8]

In order to minimize the effects of sleep loss, the commander must be able to recognize the signs of sleep loss on performance. These effects are noticeable as: slower reaction time; increased time to perform a known task; short-term memory decrement; impairment in learning speed, reasoning, and complex decision chain; errors of omission; lapses of attention; irritability; depression, and erratic performance.[9]

It has been demonstrated that the diurnal cycle (day/night cycle) has a significant effect on performance.[10] When personnel become used to a set pattern of work/rest periods, where rest periods occur at the same time each day, they become adapted to this schedule. Any deviation to this schedule that changes the rest period will result in performance decrements. Biological adaptation to work/rest schedules may take from 20 to 30 days.[11]

To employ a work/rest schedule during the heat of battle is out of the question; however, a strictly-enforced sleep plan is vital when possible, for example when occupying and preparing a battle position before enemy contact or during assembly area operations. A work/rest schedule of 4 hours work and 2 hours rest will not degrade performance over a period of a few days but will be less effective than a 4-hour work and 4-hour rest schedule in the long run.[12]

A recommended sleep plan would furnish each soldier with a minimum of 4 hours rest each 24 hour period. This would not, in all probability, be as effective over long periods of time as a sleep plan where personnel would receive 6 or more hours. Four hours rest for each 24-hour period would probably sustain personnel for several weeks if they did not have jobs that require complex decision making, but they would probably begin to show signs of exhaustion after 2 weeks. For periods of 1 to 2 weeks, a unit could possibly maintain combat effectiveness on 3 hours of sleep per 24-hours. This appears to be about the limit, however.

For personnel in highly-technical jobs that require constant monitoring or vigilance, a rest plan of 4 hours on and 4 hours off would be best. Anything less than 4 hours would result in a decrease in vigilance and perceptive abilities.

Another aspect of sleep loss that must be considered is the time required for recovery from the effects of sleep loss. If a commander knows his unit will be undertaking a long period of combat or prolonged work, it is recommended he give his personnel 12 hours of sleep or rest before the operation and awaken them no more than 2 hours before the operation begins.

After an operation of 36 to 48 hours of continuous wakefulness, 12 hours of sleep or rest is required to return personnel to normal functioning: however, subjective fatigue may linger for 3 days.[13] If a high level of activity, such as combat, is undertaken during this period, personnel may need two 12-hour rest periods to attain complete recover.[14] After 72 or more hours of continuous wakefulness, personnel may need as much as 2 or 3 days of rest for recovery of normal performance.

To minimize the effects of sleep loss, the commander has several options. Possibly the best solution for staff personnel is periodic breaks and mild exercise. Some of the exercises recommended are "Range of Motion" and "Strength and Stamina" exercises involving stretching and tensing muscles without requiring a lot of space.[15] Examples of these can be found in, *Biotonics, Stamina Through Six-Second Exercises That Really Work*. Among combat crews, the commander may rotate tasks if the crews are cross-trained. It must be noted, however, that varying tasks through job rotation works only if the jobs include tasks with different human requirements, (gunner to loader or driver).[17] Job rotation also requires a highly-trained crew if the jobs are complex. Prior to combat, effective training and experience will reduce the effects of fatigue.[18]

The two categories of personnel who can be expected to show signs of fatigue first are: the young immature soldier who is unsure of himself and the seasoned old soldier upon whom others have relied and who has sustained them at the cost of his own fatigue.[19] Commanders (leaders) often regard themselves as being the least vulnerable to fatigue, but in fact, tasks requiring the quick reaction, complex reasoning, and detailed planning, that they perform, make leaders the most vulnerable to sleep deprivation.[20] "The display of sleep self-denial as an example of self-control by leaders is extremely counterproductive."[21]

Once the battle has started and there is contact with the enemy, sleep plans, job rotation, and rest periods may become impossible. However, under the "Division '86" concept with four maneuver companies in each battalion, the commander may be able to rotate companies out of contact, enabling them to get at least a temporary break in which rest will be equally as important as maintenance and resupply. Currently, this could possibly be done at brigade level, pulling battalions out of contact for rest, rearming, and reconstitution. Care needs to be taken not to rely exclusively on the performance of certain individuals, teams, or units so that each are rested in turn.

Medicines provide another means for increasing performance during periods of fatigue, but the use of medicines to improve performance has largely been condemned in our society. It also must be realized, that no performance improving drug is without side effects and that frequent repetition can lead to

serious consequences.

Caffeine from coffee, theophylline from tea, and theobromine from cocoa are purine derivatives. These substances, especially caffeine, excite the central nervous system. "Consciousness is brightened, thought association takes place faster and clearer, reaction time is shortened, motor actions are increased and feelings of tiredness and sleepiness disappear."[13] Muscular performance capability is increased most by caffeine and least by theobromine. "In cases where requirements exist for intensified performance capability for *short-term* operations several large mocca cups of coffee, direct caffeine, caffeine drinks, or cola preparations can achieve the desired goal although not without limitation. In cases where longer endurance periods are required, they show no improved results."[14]

Temperature is another performance degrader that has a profound physiological effect and a somewhat lesser psychological effect on soldiers during continuous operations.

Even though the human body is less adaptable to cold than to heat, cold has less of an impact when considering an armored vehicle crew's performance. Exposed infantrymen are more susceptable to cold injuries than tank crews because body heat and equipment-generated heat within the vehicle raise the ambient temperatures. Exposure to cold for 2 to 3 hours reduces hand strength 20 to 30 percent. If gloves are worn, manual dexterity is diminished, and the combat effectiveness of the armored vehicle is reduced. For leaders, continuous operations in cold weather require extensive logistical planning. Soldiers will need to be resupplied with additional clothing, fuel, and food, and, in extreme cold, they may require special equipment such as arctic parkas and mittens. For well-protected, well-fed soldiers, cold is probably more of a psychological stressor than a physiological hazard.[15]

Heat, however, is of much more concern than cold, and personnel in tanks or other armored vehicles suffer most from intense heat. As a general rule, any temperature above 90° F will degrade crew performance, and a wet-bulb-globe temperature (WBGT) of 85° is the maximum for effective crew performance. A WBGT of 81.3° is considered ideal, 85° is the maximum acceptable temperature for working conditions, and 90° to 95° will cause casualties.

Surface temperatures of areas with which the crew may come in contact can cause extreme discomfort or even blister the skin. For instance, during tests in the Yuma desert, surface temperatures reached as high as 155°, while WBGT measured 106°.[16]

When anticipating operations in hot climates, commanders and staff should plan for a 3- to 12-day period for troops to become acclimated.[17] Acclimation is faster if soldiers perform work or mild exercise rather than rest during the acclimation period. Physically fit troops acclimatize at a dramatically quicker rate than the unfit.

When a unit must operate "buttoned up" in mission-oriented, protective posture (MOPP) the problems of heat casualties are multiplied. Infantrymen are able to operate efficiently for only about 20 minutes in temperatures of 75° to 90°F where high energy expenditure levels are required.[18] This creates an even greater problem for armor crewmen, operating in an environment where engine, radios, and weapons are producing heat.

During a test of the *M-1* at Yuma Proving Ground, Arizona in September 1980, crewmen were exposed to an inside WBGT of 89°F and an outside (dry-bulb) temperature of 102°F.[19] They were clothed in full MOPP IV ensemble (protective mask with hood, chemical protective overgarments, gloves and boots) and conducted crew duties with blowers off and hatches closed. The crew simulated firing the main gun by loading and unloading a "dummy" round and traversing and elevating the turret. After 1 hour the crew lost effectiveness, and 20 minutes later the test was terminated for safety considerations. The test demonstrated that a tank crew, fighting "buttoned up" in a full MOPP ensemble, on a 100°F day will begin to show heat stress in less than 1 hour and experience heat casualties in less than 2 hours.[20]

To lessen the effects of heat stress, leaders should closely monitor NBC hazards and impose high MOPP levels only when necessary. In some situations it might be appropriate to wear NBC protective clothing over underwear, remove hoods, open hatches and turn on blower motors.

Dehydration creates the most ugrent problem in operating in a hot climate. At daily mean temperatures of 90°F, soldiers resting in the shade need 6 quarts of water per day.[21] Moderate work at this temperature raises the requirement to 8 quarts per day, while soldiers doing heavy work for 8 hours at this temperature need 12 quarts of water per day. At a daily mean temperature of 120°F, personnel resting in the shade need 17 quarts of water per day, while personnel working moderately hard will need 20 quarts, and soldiers working hard in the sun will need at least 25 quarts of water per day.[14]

The Israeli system of overdrinking is successful in combating dehydration. Each leader constantly insures that his personnel drink water. Water is consumed once an hour for temperatures below 100°F and twice an hour for temperatures above 100°F.[22] To insure proper water consumption a urine color check is made. Dark urine color indicates a water deficiency.[16] Soldiers should not be allowed to consume cold beverages that could reduce sweating and cause overheating. Alcohol consumption should be strictly forbidden as it requires extra water for the body to process.[23] Water loss can be reduced by the conserving sweat. This is done by wearing the complete uniform with the sleeves rolled down and the head covered. Clothing helps ration sweat by absorbing it and through

evaporation cools the body. Salt is also lost in sweat, but salt should be given only when recommended by medical personnel.

When operating in hot climates, soldiers require a minimum of 6 hours rest per day and 15 to 20 minutes of rest per hour when performing hard work.[38] It may be necessary to schedule periods of heavy physical activities during the night or early morning hours when temperatures are lowest.

Other factors that physically degrade crew performance during continuous operations are noise and overpressure. These factors are significant degraders of performance. There is little that commanders can do to lessen the effects of either of these factors, however it is important to know the causes and effects of each.

Noise is an occupational hazard that especially affects armor crewmen. Not only is noise an annoyance but it interferes with communication, and if the noise is experienced for long periods it may cause temporary hearing loss.[39] Therefore, commanders should enforce the wearing of protective devices even though these devices restrict and inhibit communication.

Overpressure caused by large explosions nearby is similar to noise and results from the pressure waves in the atmosphere. Overpressure may cause lung hemorrhage, eardrum rupture, and air bubbles in the blood stream.[40] Personnel in armored vehicles are somewhat protected. In foxholes personnel may receive greater overpressure than in the open due to the reduction in square area at the bottom as compared with the opening, creating a funnel effect. Nuclear bursts will likely cause large numbers of casualties by overpressure. Conventional munitions create mainly an annoyance but may burst eardrums.

Psychological Performance Degraders

Psychological Stress is an important area of discussion when considering factors which degrade performance. What causes stress? Simply put, stress is caused by a situation in which adjustment is difficult or impossible to overcome but the motivation to overcome the situation is strong.[41]

The primary stress of the battlefield is the fear of disfigurement, mutilation, intense pain, death, or even fear of loosing face within a peer group. Fear is universal in combat and it is accepted that everyone will experience fear. It becomes a problem, however, when it seriously degrades performance or leads to bizarre behavior.

In the next war commanders must be prepared to deal with large numbers of psychological casualties within the first few hours, due to the vast destructive potential of modern weapons systems and the extreme violence and speed of the modern battlefield.

There seems to be a close association between neuropsychiatric casualties and "wounding rates." Studies have also indicated that the intensity of the conflict as well as the time spent in combat are big factors. Lastly, the relative activity or inactivity of the soldier is closely related to neuropsychiatric casualty rates.[42] Stalemate, inability to retaliate, and idleness cause a marked increase in the number of neuropsychiatric cases.

A. J. Glass has stated that fear and exhaustion during intense combat will surface eventually and almost everyone has a breaking point.[43] A breakdown of pyschological defenses against fear is evident in over 50 percent of nonbattle casualties. He divides these casualties into five groups.

In *Group I* individuals report to the aid station with minor organic disease or injury that would result in little if any incapacitation. Their medical condition thinly disguises a pyschological breakdown.[44]

In *Group II* individuals have subjective complaints but negative findings—backache, headache, diarrhea, or weakness. Such symptoms represent an unconscious attempt to withdraw from an intolerable situation.[45]

In *Group III* individuals appear with self-inflicted wounds or other nonbattle injuries that could have been avoided, indicating either a conscious or unconscious attempt to flee the battlefield.[46]

Group IV contains the soldiers who have lost or broken eyeglasses or dentures, which will keep the men out of combat only temporarily.[47]

Group V soldiers are those suffering complete psychiatric breakdowns, who have lost their ability to cope with the situation of combat.[48] This group of casualties is completely ineffective.

Israeli experiences during the 1973 war have shown that elite units have fewer neuropsychiatric casualties.[49] This would seem to indicate the importance of unit cohesiveness, interpersonal relationships and esprit-de-corps.

There are many ways in which positive leadership may also play an important part in reducing the number of neuropsychiatric casualties. The spirit of the offense is a practical technique to reduce the impact of fatigue and fear. Purposeful, aggressive action brings relief from combat tension.[50]

Furthermore, a soldier's attitude and performance in training is related to his performance in combat. Realism in training improves a soldier's ability to withstand combat stress. Training should emphasize the sights and sounds of the battlefield. It should produce fear provoking situations that develop the soldier's knowledge of himself, his enemy, and his weapons.

Confinement is a potential stressor that may affect the behavior of the crew members when "buttoned up" for long periods of time.

Confinement may cause "status leveling." Because of the lack of privacy and the inability to maintain social distance between superiors and subordinates, authority may be undermined.[51] Anger, scorn, and ridicule may be directed at superiors. "Status leveling" reduces authority and the leader becomes only another member of the crew. Confinement may

also foster territorial behavior, with possessive feelings toward certain locations or items within the vehicle."[32] The tank commander should allocate space with very explicit rules and use of resources.

Confinement in a "buttoned up" tank also causes problems of crew performance due not only to psychological stress but also to the physical limitations imposed on vision. Crowding causes stress through a disruption of individual "personal space."[33] In a hostile or stressful environment such as combat, the need for interpersonal distance between individuals increases. During daylight, target detection is degraded from 8 to 25 percent during closed hatch operation.[34] Navigation is degraded 8 to 26 percent and takes 11 to 40 percent more time," while obstacle neogtiation takes from 21 to 99 percent more time.[35]

At night target detection is degraded 8 to 46 percent.[36] Navigation is degraded 14 to 39 percent and takes 19 to 54 percent more time."[37]

MOPP also increases the effects of confinement. A "buttoned-up" *M-60A1* allows only two crew members to don protective clothing at a time, one at the commanders station, one at the loaders station, and it requires 16 minutes even with practice."[38] The *M-1* Abrams has a smaller crew compartment, and thus, will require even more time, suggesting that crew members should wear protective clothing if there is a possibility of chemical warfare.

Infantrymen are also affected by long confinement in armored personnel carriers and fighting vehicles by temperatures, vibration, blast effects, acceleration and deceleration, high noise level, air pollution, sleep deprivation, and body restriction."[39] The effects of body restriction impairs movement for only short intervals after dismounting.

It is essential that we begin training to combat physiological and psychological stressors by realistic, stressful training. Leaders at every level of command must realize that a viable work/rest plan that includes commanders and staff must be implemented. Additionally, simulated neuropyschiatric battle casualties should be incorporated into every field training exercise and ARTEP to adequately train our personnel for continuous operations.

Whenever planning is being done by commanders and staff, emphasis must be placed on the human factor of every weapons system. Although training, proper planning, and other techniques may extend the amount of time a crew may remain combat effective, the human being is still the most vulnerable and valuable asset in the Army inventory.

Footnotes

[1]MAJ Gregory Lucas Belenky, "Unusual Visual Experiences Reported by Subjects in the British Army Study of Sustained Operations, Early Call", (US Army Medical Research and Development Command, Fort Detrick, Frederick, MD October 1979) p. 695.
[2]Ibid.
[3]Ibid.
[4]Ibid.
[5]Albert L. Kubala and William L. Warnick, "A Review of Selected Literature on Stresses Affecting Soldiers in Combat" (Human Resources Research Organization, Alexandria, VA, May 1979), p. 3-13.
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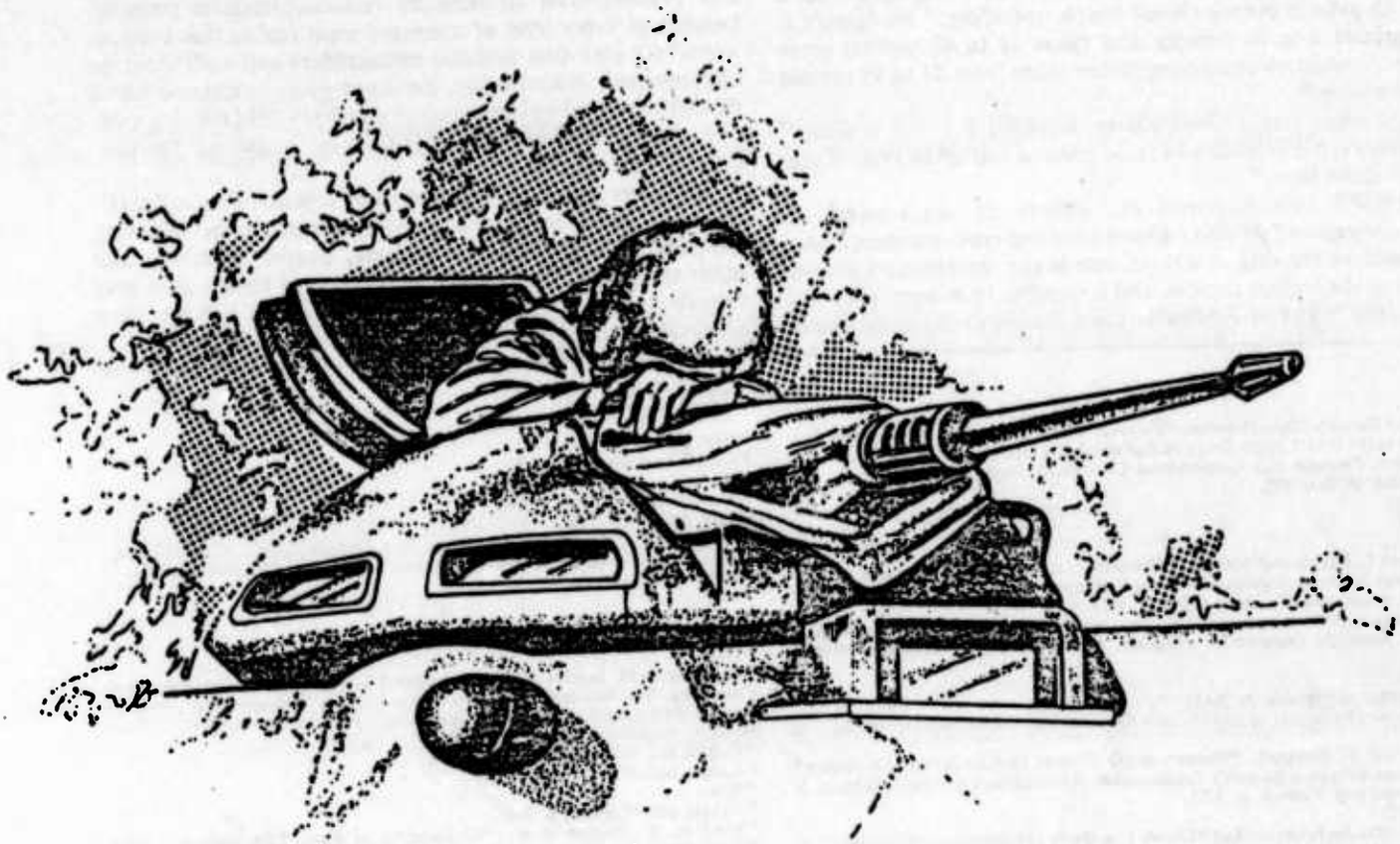
CAPTAIN GEORGE R. FRANK enlisted in the Army in 1971, and served as an NCO in the 7th Special Forces Group. He later received a bachelor degree in business administration from Campbell College. He was commissioned in Infantry through OCS in 1976. Captain Frank has served as platoon leader, scout platoon leader, and executive officer in the 82d Airborne Division. He is a graduate of the Armor Officers' Advanced Course and is attending the Supply Management Officers' Course, Fort Lee, VA enroute to Panama.

A Debt That Must Be Paid

SLEEP LOSS



by Captain Richard P. Geier

It is 0230 hours, the team is deployed in a night defensive position on the third night of a joint training excercise. The team commander is in his tank slumped over the M-36 sight box. The radios are turned up. A report from the scout platoon blasts over the radio. A company-sized force is moving toward the team's position. The commander attempts to alert his platoon leaders. One answers immediately, but the others do not respond. Frantically, the commander sends his loader to alert the platoons while he curses himself for dozing, the company CP for not keeping the platoons on the net, and the platoon leaders for not monitoring the radio. Fortunately, the team commander is able to awaken his unit, maneuver, and destroy the enemy force. After the exercise is terminated, the commander wonders what happened to the sleep discipline that had been stressed during the previous month's training and ARTEP. Because of safety constraints, night operations were limited to static defense. The company's SOP called for 50 percent alert during a night defense, which would require two people asleep in each tank at all times. So why were the troops so exhausted? What condition would the unit be in after 4 days and 3 nights conducting an active defense against the Threat in Europe? Could sleep loss lose the first battle of the next war?

Few studies are available on the effects of continuous operations on soldiers. Research conducted by the Navy reveals that sleep loss is the most detrimental factor to extended operations. The emphasis of their research is on the effects of sleep loss on sailor's work efficiency. The results indicate the following:

- The mean duration of sleep under normal conditions is 7.5-8 hours.
- Younger individuals (20-39) require an average of 1 hour more sleep than the older group (40-59).
- The human body is not equipped to anticipate shortened sleep cycles and to adapt accordingly.
- Failure to receive the required sleep results in a backlog or sleep debt. The only way to eliminate this debt is to allow an individual 1 hour of sleep in addition to his normal required amount.
- Performance degradation as pertains to vigilance does not disappear with less than 3 hours of sleep.
- A minimum of 5 hours of sleep is required to enable an individual to maintain an acceptable level of consistent and reliable performance.
- The physical and psychological recovery from the effects of sleep loss is accomplished by the acquisition of the normal, uninterrupted sleep period.
- High stimulus or motivation will readily override the detrimental effects of sleep loss on performance for a short period of time.

Many studies on continuous work have been done by civilian universities under Army contract. These studies

were conducted in a laboratory using college students as test personnel and because of this the results are not totally valid for Army use. However, some data can be of use to the Army in predicting effectiveness and perhaps lessening the effects of sleep loss. These effects are:

- The first work performance decrements occurred after approximately 18 hours of work. During the early morning hours of the first night, average performance decreased to approximately 82 percent of the baseline performance. During the first half of the second day, performance improved to about 90 percent of baseline, but decreased again during the second night to approximately 67 percent of baseline. Recovery of performance baseline was complete after a 24-hour period of rest and recovery.
- Following 36 hours of continuous work, 2, 3, and 4 hours of sleep yielded an immediate recovery in performance of about 76 percent, 56 percent, and 75 percent, respectively, whereas 4 hours of sleep following 44 hours of continuous work produced only a 39-percent recovery.

"Commanders must cope with the effects of sleep loss on their own performance as well as their troops. They must train and trust subordinates to command their unit while they sleep."

- A temporary improvement in job performance, speed,and accuracy after sleep loss is common. However, this improvement requires nearly three times the expenditure of energy and over a period of time, work output drops alarmingly.
- Physical strength remains unimpaired until extreme levels of sleep starvation are realized.
- Moderate exercise, especially of the large muscles of the body, tends to increase alertness and helps sustain good performance.
- The most difficult jobs for the sleep-deprived individual are ones which require sustained attention to brief, intermediate signals and those that require complex, swift decisions or planning.
- Sleep loss typically causes errors of omission, not commission.
- Continuous operations can increase an individual's caloric needs to as much as 10,000 calories a day. There is some data to suggest that sleep loss leads to iron deficiency, vitamin B deficiency, dehydration, and an impaired capability to fully utilize glucose as an energy source.
- Prolonged thermal exposure, confinement, noise and vibration stress (all present in armored vehicles) degrade performance and ability to cope with sleep loss.
- The degree of job training may affect continuous work performance. Studies indicate that highly-trained individuals can be expected to work continuously at 50 percent of their maximum for a period of 8 hours, whereas untrained individuals cannot be expected to work at much more than 25 percent of their maximum over the same period.

To minimize the effects of sleep loss, commanders should consider the following action:

- Insure that troops are motivated, trained, and properly led.
- Provide increased rations, water, vitamin B, and iron supplements to sustain troop effectiveness under the stress of sleep loss.
- Increase supervision during the hours of 0100 to daybreak to offset the reduced vigilance during these hours.
- Insure that troops receive some sort of exercise. If possible get them away from confinement, noise, vibration, and excessive heat or cold stress for a period of time. Even stopping the tank, and walking around it to check the track and suspension may help.
- In a lull in the battle, give half of the unit 7 to 8 hours of uninterrupted sleep rather than split the watch and give each half 4 hours.
- Realize that the younger the soldier, the more sleep he requires.
- Accept as a natural law that the human body cannot anticipate shortened sleep cycles or sleep loss. Neither through practice nor any other means can soldiers perform effectively with a sleep debt for an extended period of time.

Most importantly, commanders must cope with the effects of sleep loss on their own performance as well as their troops. They must train and trust their immediate subordinate to command their unit while they sleep. Command decisions in future battles cannot be degraded by sleep loss. We can no longer afford to let our executive officers dedicate themselves to maintenance problems and run themselves into exhaustion doing a motor sergeant's job. They must be aware of the tactical situation, receive adequate rest, and be trained and capable of conducting tactical operations while the commander sleeps.

These "tips" may help reduce the effects of sleep loss for 48 hours or less, but what can be done if troops are required to function for over 48 continuous hours? Drugs to prevent sleep are not the answer, since harmful side effects and individual variation of dose rates seem to be an insurmountable problem. Drugs or devices to induce sleep and give an individual an equivalent 8 hours of sleep in 1 hour or less do not appear to be available in the near future because of harmful side effects.

Will units conducting the active defense against the Threat in Europe have lulls in the battle that will allow sleep recovery? It is not likely. Since 1954 the Threat has made continuous combat operations the main principle of their combat doctrine. Their doctrine states, "the offensive...will be conducted night and day...without letup until the enemy is defeated."

Four days after the battle begins the Threat will have rotated units into the battle. Will we be able to defeat these units or will the Threat forces find American soldiers asleep in tanks, trucks, and foxholes?

Unless our need for sleep is overcome or our force structure is redesigned to rotate units in and out of the battle, sleep loss could lose the first battle of the next war.

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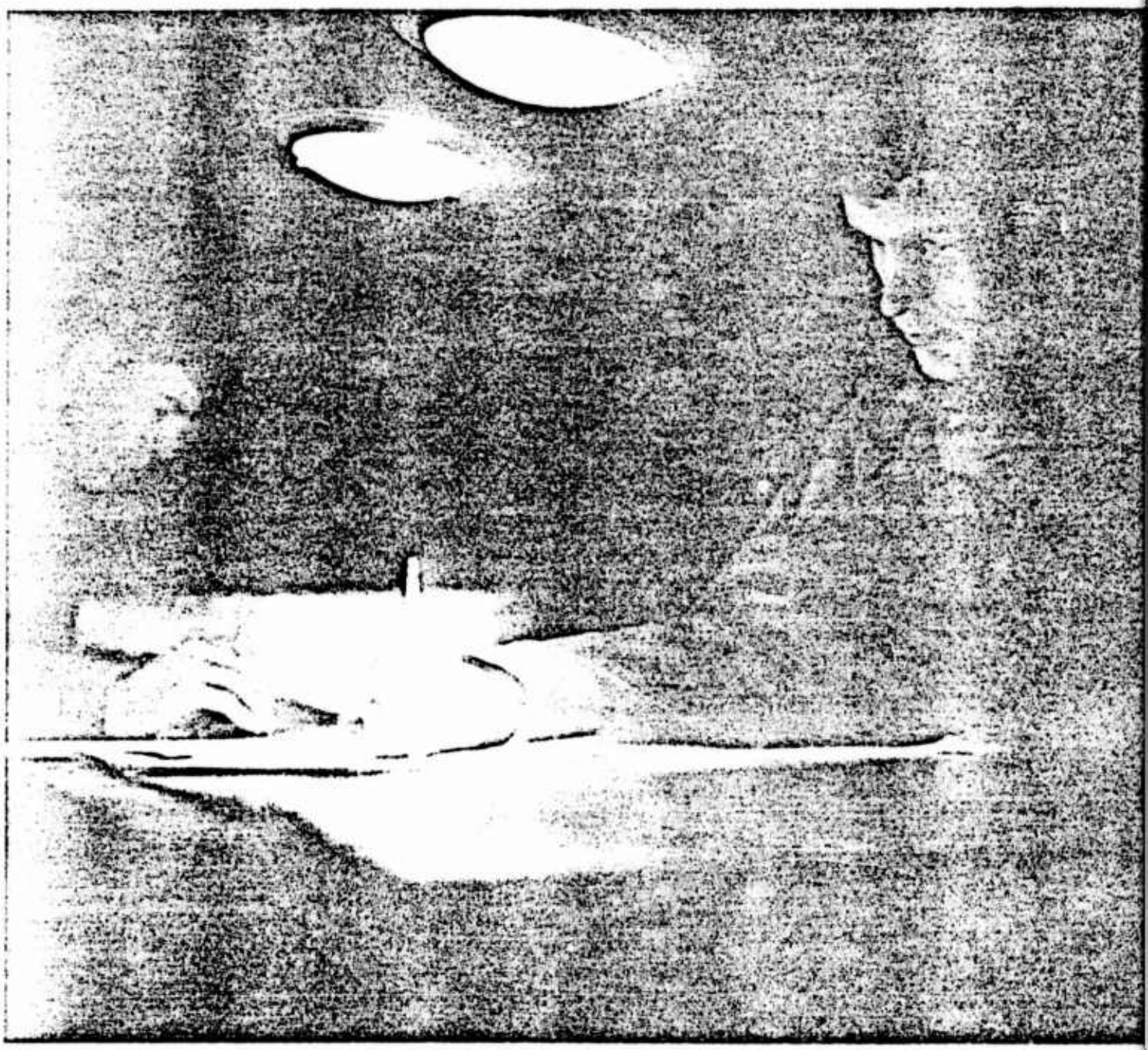
Who Melts, When, and Why?

by Doctors Frederick J. Manning and Larry H. Ingraham

In late 1977, the authors of this article arrived in Heidelberg, West Germany, to set up what was indeed to *be* a Special Foreign Activity of the Walter Reed Army Institute of Research. Hardly had the lettering on our office door dried when a distressed looking major wearing crossed cannons brought us a field artilleryman's version of that old tongue twister, "How much wood could a woodchuck chuck if a woodchuck could chuck wood?" He wanted to know, "How much ammo can an ammo humper hump if an ammo humper hadda hump ammo?" That is to say, he explained that the corps headquarters where he worked had recently begun a major evaluation of what would be required of whom should their present war plans have to be executed.

His field artillery section was naturally concerned with the enormous number of rounds likely to be required of the corps artillery. They had a good idea, from maintenance data and test firings, of how many hours the self-propelled howitzers could propel themselves before a serious deficiency showed up and of how many rounds could be fired at varying rates of fire. He had come to us, he explained, to find out how long they could expect to operate on a round-the-clock basis before the men "melted." As guidance, he went on, we would probably be most interested in one member of the gun crews in particular: the soldier charged with wrestling the 200-pound projectiles from their storage place in the ammunition vehicle to the howitzer's hydraulic loader and lifting it into place. The major calculated that this individual would be lifting on the order of 16 tons a day if the Warsaw Pact behaved as they were supposed to. The major stated that, if we could simply tell him how many days an individual could continue this, the study could move on to other areas.

It was not easy to tell a man who had figured vehicle and barrel lives out to two decimal places that we thought *continuous* operations were viable from a human standpoint for approximately 36 hours, plus or minus 26 hours. It was even more difficult to tell him that the laboratory studies of sleep deprivation (on which we based this estimate), though totally unrelated to field artillery operations, also led us to believe it was the leaders, not the ammo humpers, who were most likely to be the weak link in the conduct of continuous high intensity combat operations as described in the Army's new now-to-fight manual, FM 100-5. However, we did voice our opinion, and, as a result, the



The quality of work performed by mental laborers is affected by sleep deprivation.

authors and three enlisted members of our unit spent the next six months watching the day-to-day operations and training of a field artillery battalion in Europe. Here it was clearly not within our resources to stage a 30-day, round-the-clock field exercise. Instead, we observed the applicability of well-controlled laboratory findings to this specific real-world situation to discover possible "fault lines" along which such a unit might crack under the stress of continuous operations.

Direct observation and informal interviews of soldiers and their families, in garrison and during field training, both during and after duty hours, were the primary means of data collection. As such, 1,000 pages of field notes were gathered. Additional sources of data were formal interviews, questionnaires, personnel and medical record screens, and third party evaluations such as the Annual General Inspection (AGI) and the unit Nuclear Surety Evalution. In this article, we shall emphasize some of the more general issues of leadership and performance. Additionally, now being blessed with the gift of hindsight, we shall confine

ourselves to observations whose generality we have subsequently noted as we visited other units on other projects.

Our original focus was on sleep deprivation, and it quickly became apparent that, in the field as in the laboratory, it was psychological rather than physiological exhaustion that is the critical problem with sleep deprivation. In a sentence, it is not a question of muscle, but of *judgment* and *will*. Further, though the fit is not perfect, we found it useful to think about the effects of sleep deprivation on judgment when considering *leadership* in continuous operations, as well as the will to continue when we turn to the *junior enlisted*.

Leaders and judgment

There have been a number of well-conducted experiments in the field, as well as in the lab, which indicated that cognitive tasks such as map reading, encoding and decoding, logical reasoning, and short-term memory are affected much sooner and more severely by sleep loss and other stressors than purely physical tasks such as marching or even marksmanship. Perhaps even more disturbing from the viewpoint of unit survival (unlike physical laborers whose work quantity is decreased by fatigue), decision makers and other mental laborers have the quality of their work reduced. The latter, particularly when unrecognized or unacknowledged, is clearly the greater of two evils. That it is unrecognized and unacknowledged, at least by its primary victims, became obvious to us on our first trip to the live-fire training area with the battalion. This three-week event, which takes place twice a year, features a 36-hour continuous operations scenario for each of the batteries and constitutues a kind of final exam. Although we, as observers, personally found the pace of events painfully slow (in large measure because of elaborate safety measures imposed by range officials), we were immediately struck by the reluctance (nay, refusal) of the officers and senior NCOs to get any sleep. Tasks were delegated to junior officers and NCOs, but then senior officers and NCOs would remain awake, often with little actual work to do, until all delegated tasks were completed. Staying awake was more than a point of pride for these men who appeared to subscribe fully to the view that sleep is only for the weak, for they expended a fair amount of energy on anyone in the unit whom they chanced upon napping between moving and shooting. This was nowhere more firmly entrenched than among the men for whom sleep was most important, commanders themselves, who acted as if they were the least vulnerable, if not completely immune. Confronted with the disparity between their behavior and their previous enthusiastic agreement about the necessity for sleep, some appeared mildly disturbed, but only one would admit, after 30 hours, that he "wasn't worth a damn," but felt he simply couldn't go to sleep while his men were still up.

In practice, this means that the performance of decision makers, such as commanders and battery executive officers, and those whose jobs involve primarily cognitive skills, such as battalion staff, FDC (fire direction center) members, survey sections, chiefs of firing battery, and communications equipment operators, will very likely be more susceptible to the stress of continuous high intensity combat than those with more labor-intensive jobs. Further, these same battery "exams," enhanced by a two-week stint with the battalion in REFORGER 78, gave us some idea of the kinds of problems likely to beset us if the Soviets ever carry out their published strategy of constant attack, 24 hours a day. Exactly as we saw in the sterile conditions of a US lab, a striking division of effort developed as time wore on. Forced-paced activities, e.g. requests for fire from forward observers and higher headquarters, continued to produce well-trained, timely responses; however, it soon became apparent that the "cost" of this performance was "increasing neglect" of self-paced activities such as updating meteorological corrections, plotting potential targets, preplanned fire and no-fire zones, setting up camouflage nets, running telephone wire to perimeter guards, etc. Though none of us knew enough about field artillery to document it, it seems unlikely that battalion and brigade headquarters were unaffected, since good planning ought to be self-paced rather than mere reaction to outside forces.

Junior enlisted and will

Now, let us turn to the other half of the answer to the question of who melts and why: the followers and the will to continue. We focus on will rather than ability here because it became obvious very quickly during field exercises that the majority of the troops in our artillery battalion could and did manage short periods of sleep in spite of the noisy and uncomfortable conditions. Though the addition of incoming artillery rounds may change our views, at present we

think it safe to assume that most of the junior enlisted ranks will snatch the three hours of sleep necessary to support the largely physical and forced-paced work demanded of them. The "will and drive to continue," however, may be worth some consideration. We don't mean for a moment to conjure up images of cowardice, desertion, mutiny, or giving up without a fight by this phrase "will to continue." More experienced and perceptive observers than we have asked this question of why men fight; however, the answer seems to be at least in this half of the world in this century, best described by the words of S.L.A. Marshall: "The same things that induce him to face life bravely—friendship, loyalty to responsibility, and knowledge that he is a repository of the faith and confidence of others." Certainly we in the Army Medical Department have come to regard what has been variously called bonding, cohesiveness, or esprit-de-corps as the most important variables in the prevention and recovery of neuropsychiatric casualties in combat. Talks with Israeli medical authorities and others have led us to conclude that such casualties will be generated far more quickly and in even larger quantities in any future conventional war than in World War II. As a result, we were more than a little dismayed at how easy it was for a stranger to the unit, a major at that, to elicit disparaging remarks about the unit and its members from the very people whose lives depended on it.

The reason for this may be partly due to the high turnover rate (one-third of the battalion in the six months we studied it), which made shared experiences and lasting friendships difficult. Another factor was surely the very pronounced vertical segregation we were in good position to observe, since our team included officers, a senior NCO, and two junior enlisted soldiers. The division of junior enlisted, NCOs, and officers was absolute and all-encompassing, characterized at each level by lack of respect for, and confidence in, members of the other two levels. Laziness or ignorance, or both, were the characteristics offered most in describing the other two groups. Though some might argue that this was an inevitable result of grafting a Prussian military system to a society which has as its founding principle, "All men are created equal," we feel the results of our most recent research give cause for hope.

For the past year, the VII Corps Inspector General and his team have included a standardized series of interviews as they conducted week-long unannounced inspections of corps combat battalions. Designed by us in an attempt to assess cohesiveness and esprit in these units, results have shown considerable variation among units, and these variations in turn are closely correlated with differences among these units on traditional measures of battalion functioning. More important to the present discussion are the five questions which most reliably differentiate the high-esprit, high-preformance units from the low-esprit, low-performance units:

- How often, aside from meetings, does your platoon leader talk to you personally?
- How often, aside from meetings, does your CO talk to you personally?
- Is your squad (section) leader ever included in after-duty activities?
- Who would you go to first if you had a personal problem?
- If we went to war tomorrow, would you feel confident about going away with this unit, or would you rather go with another?

These questions were directed toward the junior enlisted personnel, and four of the five questions dealt directly with the frequency of non-duty interaction with leadership. Today's troops, it seems, want to know their leaders and, in turn, be known by them as individuals rather than mere cogs in the "green machine" and are willing to pay for that interaction with better performance, even in garrison. One might even speculate that just the sort of interaction these troops seem to crave would go a long way toward releasing their leaders from the apparent dilemma described above, wherein the leader knows that fatigue and stress will soon degrade his judgment but believes that a good leader should never sleep while his men are asked to work. As long as leaders and followers alike are only allowed to role-play, troops will seldom have the courage (or desire) to tell the old man to "Get some sleep, sir! You need it more than we do, and we can handle this by ourselves." Nor will the "old man" have the knowledge of and confidence in the troops to do it on his own.

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The Human Dimension

By Lieutenant Colonel Wm. Edward Slifer

Ten years ago the United States anticipated that in the 1980s it would have force readiness equal to, or superior to, that of the Soviet Union. National policies, resource constraints, shifting priorities and Soviet technological improvements appear to have created a negative gap between our respective force readiness capabilities. As a result, the Army has initiated a large scale modernization program to close the gap and bring the Army to its maximum effectiveness in order to assure victory on the battlefield.

Many factors determine the outcome of battle; one of the major factors is the human dimension. The modernization program is giving increased emphasis on the need to maximize the human capability of our soldiers (i.e., the human dimension). In line with this need, for over a year, the Human Dimension Division, Doctrine and Combat Developments Directorate, Soldier Support Center, has been engaged in developing comprehensive "people" doctrine. The Human Dimension Division is studying some of the more important variables which affect human capability -- unit cohesion, combat stress, and human performance in continuous operations. Test doctrinal literature is being developed in each area.

Unit cohesion is a critical element of readiness, because it acts as a positive motivator in peacetime and as a force multiplier in combat. Data from previous wars validate that cohesive units perform

better than units with less cohesion. For example, battle casualty data from World War II shows that combat stress (neuropsychiatric) casualties in units which were not very cohesive had a devastating effect on the ability of the units to sustain themselves in combat. In 44 days of heavy fighting on the Gothic line, the newly committed 88th and 91st Divisions received approximately 3,600 and 2,700 wounded in action respectively. In addition, they lost 817 and 919, respectively, as a result of combat stress. The percentages of combat stress to wounded in action casualties were 22.7 percent and 34 percent respectively.

The above figures can be compared with even heavier fighting encountered by two very cohesive units. In 38 days of combat at Normandy, the 82d Airborne Division lost 4,197 wounded in action and 238 (only 5.7 percent) as a result of combat stress. The 101st Airborne Division at the Battle of the Bulge, in 43 days, lost 4,992 wounded in action and 102 (only 2.0 percent) to combat stress. These historical examples show that cohesive units withstand the stress of combat much better than units which are not as cohesive.

The Human Dimension Division has a two-pronged effort underway in the area of cohesion. One is to produce a Department of Army Pamphlet, *"Leadership Guide to Assessing and Managing Unit Cohesion."* The other is to produce a follow-on comprehensive doctrinal test field manual on unit cohesion.

The leadership guide is geared to help leaders at company level and below to make their units more cohesive. It is also intended to be of assistance to all leaders. Throughout the guide, the relevance of leadership to the entire process of building cohesion is emphasized.

Contents of the guide include: (a) a general introduction to group characteristics with emphasis on the need for cohesion; (b) differences between formed and interest groups and their implications for influencing individual behavior; (c) stages of unit development and general leadership roles for each stage; (d) knowing personnel, not only as individuals, but also as members of a group (i.e., the unit); (e) understanding the unit socialization process and the significance of values and standards; (f) implications of divergent unit and individual objectives and the necessity for congruence; and (g) the importance of identifying with one's unit and the need to know the positive aspects of the unit's history.

A unique feature of the leadership guide is a summary of questions for leaders to ask which will assist them in assessing unit cohesion. The following is a sample of the questions:

LTC Wm. Edward Slifer has been developing comprehensive "people" doctrine at the Soldier Support Center. (Photo by Shirley K. Stortzman)

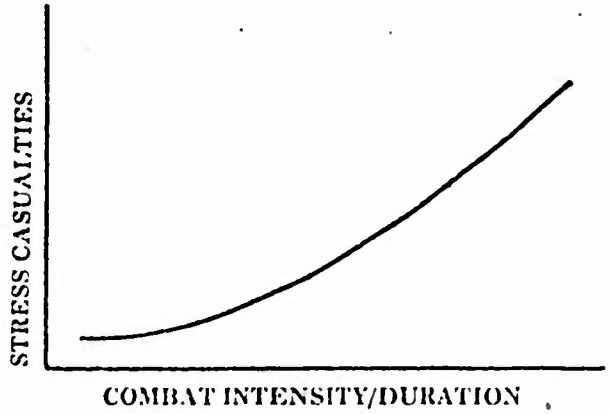
* *Does the unit provide for satisfaction of member needs?*
* *Do unit members know who cares about them?*
* *Do unit members have yardsticks to measure their performance?*
* *Are unit members confident?*
* *Does each sub-unit have sufficient members and other resources to accomplish its mission?*
* *Is unit communication effective?*
* *Do unit members belong to prominent interest sub-groups which support or detract from unit cohesion?*
* *Is each soldier's family made to feel a part of unit life?*

In March, 1980, a Human Dimension Working Group Conference was sponsored by the Soldier Support Center and was attended by sixteen military and civilian behavioral science experts. The conference participants decided that sufficient information and research was available to produce a field manual on unit cohesion. Production of a test field manual is now underway as a joint undertaking by the Walter Reed Army Institute of Research, the Army

Research Institute, ODCSPER and the Soldier Support Center's.

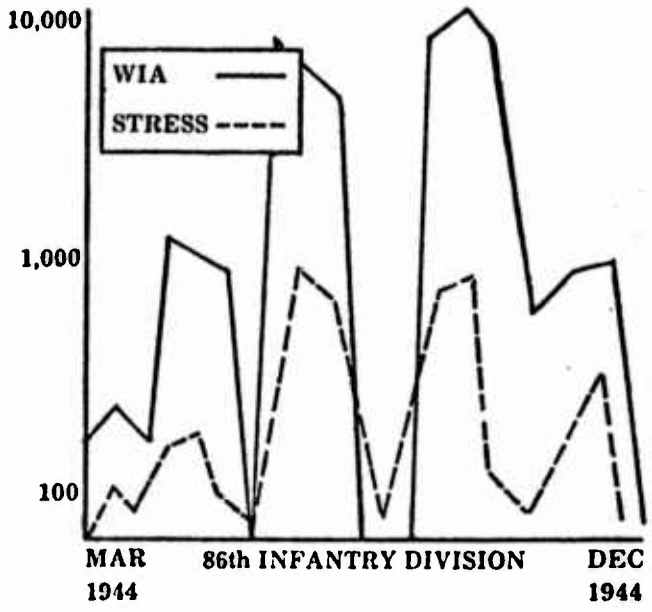
The field manual is being developed from a total systems perspective. It will demonstrate why cohesion is important, what happens if you don't have cohesion, actions that can be taken to get cohesion, and why certain actions work to obtain cohesion. The manual will include a chapter on diagnosis and assessment as well as a list of markers (e.g., sick call rates, Article 15's/courts-martial) to use in order to identify whether a unit is cohesive or in trouble. The manual will also contain a list of cohesion builders for the battalion commander down to the squad leader. Each leadership level is discussed in terms of the types of behavior that will enhance cohesion or operate against it. Emphasis is placed on the idea that cohesion stems from meaningful mission oriented experiences within the unit where the quality of unit performance is fed back to the group, is meaningful to the group, and is a primary means to instill cohesion.

The two most important ingredients of combat stress are physical fatigue and mental stress. Combat stress is a result of prolonged exposure to battle conditions, just as injury and physical disease are results of battle conditions. Both intensity and duration determine how much stress builds up in the soldier. Stress casualties increase when combat intensity increases. Stress casualties also increase the longer troops stay in active combat. The greatest stress results from very intense combat that continues for an extended period.



Combat intensity, duration, and stress casualties.

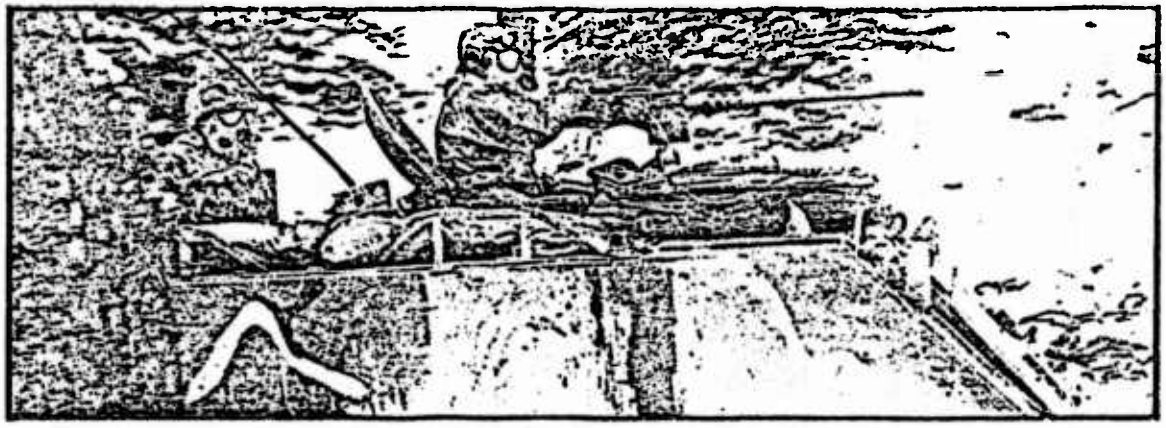
Experience from WW II and Korea demonstrated a clear and reliable relationship between battle intensity and stress casualties. When battle intensity is expressed in terms of the number of persons Wounded In Action (WIA), the relationship may be graphically illustrated as follows:



Combat stress casualties constitute a substantial part of the medical workload. In past wars, it was revealed that there was one combat stress casualty for every four wounded in action -- one for every three wounded during lengthy periods of intense combat. In a war characterized by continuous operations on a high-intensity, integrated battlefield, the relationship of stress casualties to wounded in action is expected to be at least one to three and conceivably even greater. Combat stress is not solely a medical problem. It is also a command problem -- both in terms of numbers lost from duty and reduced performance of duty. It is a command responsibility to take actions to increase the individual soldier's resistance to combat stress and to manage stress in units.

Test Field Manual

The Army Research Institute (ARI), is producing a test field manual, "*Management of Stress in Army Operations*," in a joint ARI-HDD cooperative venture. In the past, leaders have not paid sufficient attention to mental stress. The field manual informs leaders that appropriate methods of coping with and managing stress will reap dividends during combat. Areas of emphasis are on what the individual soldier can do, what the "buddy" can do, and what the leader can do in order



People doctrine emphasizes what the individual soldier can do and what the "buddy" can do to recognize, prevent and cope with combat stress. (Photo by David M. Ryder)

to recognize, prevent, and cope with combat stress.

Victory on the battlefield is the ultimate goal of the Army. To achieve victory with the lowest cost of health and lives, soldiers must be well trained for battle. A significant part of such training must be learning to cope with stress. It cannot be overemphasized that leaders, too, must learn to cope with stress and additionally to manage stress in their units. Utilization of stress coping and managing techniques in combat will help to conserve the fighting strength.

Human Performance in Continuous Operations

The prospects of continuous combat operations in future, intensive warfare, introduce significant changes in Army operations. Unless carefully managed, performance on successive days of continuous operations will be degraded. The degradation becomes more severe as more and more sleep is lost. For any mission involving extended operations without sleep, leaders must know the performance level which can be realistically expected, what aspects of performance are most vulnerable to degradation, and how to manage and control performance degradation.

The March, 1980 Human Dimension Working Group Conference determined that a three-volume research study entitled, *"Human Performance in Continuous Operations,"* was capable of being translated into a test field manual. The Army Research Institute and the Human Dimension Division are engaged in a first-try attempt to translate the research study directly into test doctrine.

The test field manual will serve several needs. Factors governing rates and degrees of progressive performance degradation are explained. Differences in expected effectiveness for various types of combat activity over 120 continuous mission hours are illustrated. Principles for countering and slowing the erosion of human resources are outlined. Suggestions are given for programs to condition units for continuous operations, and for preserving their fighting capabilities during continuous combat. Such information will profit those possessing leadership responsibilities for the planning and management of human performance in combat missions.

The Soldier Support Center efforts represent a modern day approach to modern warfare. The modern Army must integrate technological knowledge of soldier capability and potential. The human dimension force multiplier is to enable the soldier to deal successfully with the stressors of the NBC battlefield and fight effectively.

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Effects of Prolonged Continuous Operations on Soldiers' Performance

Decreased Vigilance. The soldier is less and less alert. For example, he fails to detect the appearance of targets.

Reduced Attention. The soldier is slow to notice changes of conditions or in the overall environment. For example, he is slow to notice hand signals or moving "bushes."

Slowed Perception. The soldier is slow in making sense out of things seen or heard, and especially of patterns. For example, he is slow to interpret the significance of changes in enemy fire patterns.

Inability to Concentrate. The soldier cannot keep his mind on momentary activity. For example, he cannot follow complex directions or perform numerical calculations. He is confused.

Faulty Memory. The soldier's short-term memory (for recent events) is faulty. For example, recent target data elements cannot be recalled or are recalled incorrectly.

Slowed Comprehension. The soldier takes longer and longer to understand oral, written or coded information. For example, he may take a long time to find a location on a map.

Slowed Responding. The soldier is slow to respond to events. For example, there is a delay in translating a simple order into action.

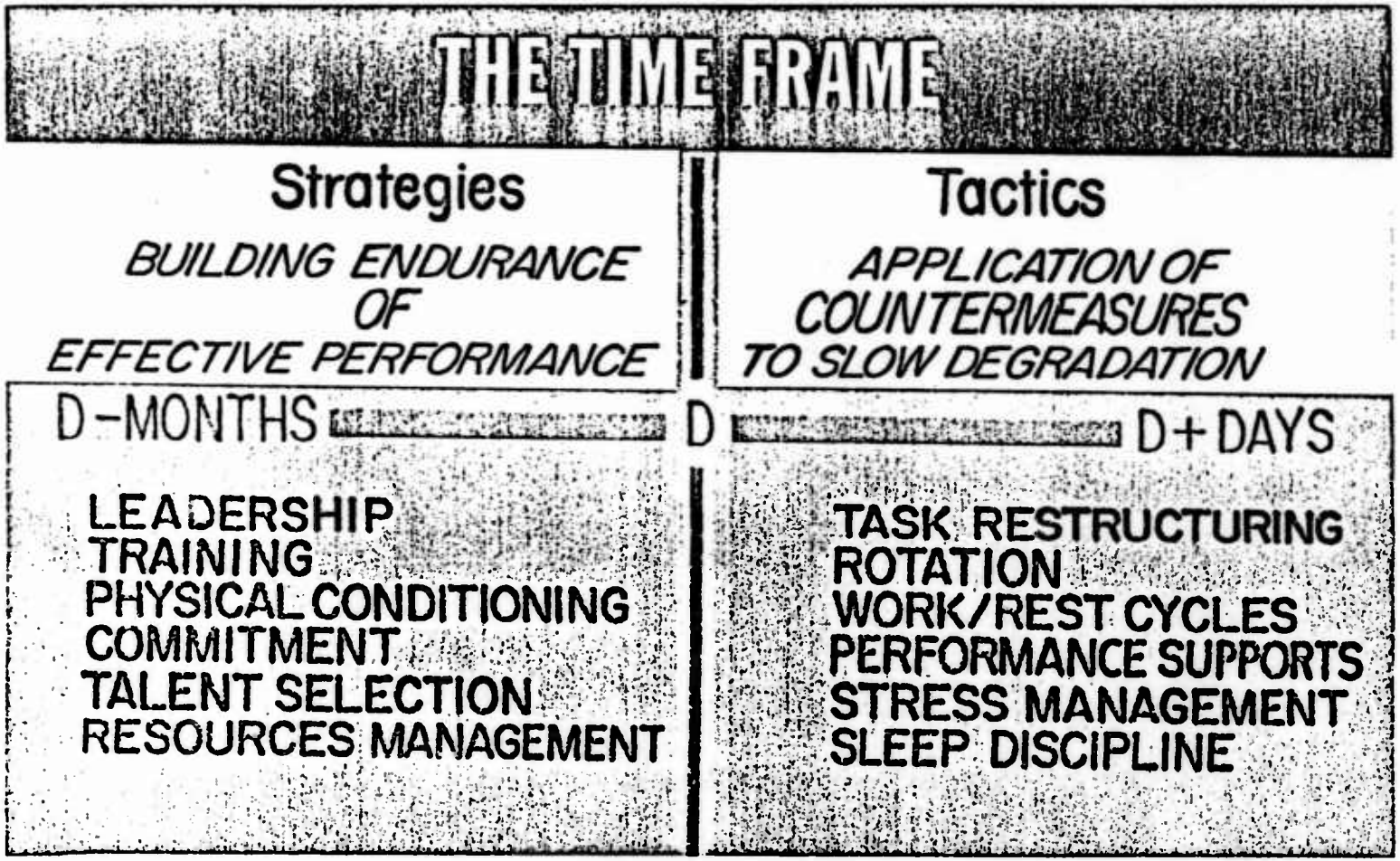
Increasing Omissions. The soldier begins to skip tasks. For example, he fails to perform weapons checks.

Encoding/Decoding Difficulties. The soldier finds it difficult to transform data or to process information. For example, map/chart coordinates are encoded/decoded slowly, and mistakes are made.

Fuzzy Reasoning. The soldier's thinking or reasoning becomes slow and confused. For example, even simple tactical situations cannot be assessed.

Communication Difficulties. Increasingly, the soldier has difficulty in deciding what needs to be said, how to say it, or what was said by someone else. For example, the soldier cannot formulate a coherent message and omits important information in inssuing spot, status, or damage reports.

Mood Changes. Significant changes in mood normally accompany performance degradation. These may include increased irritability, but will be mainly in the direction of depression and apathy.


THE TIME FRAME
Strategies
BUILDING ENDURANCE
OF
EFFECTIVE PERFORMANCE
Tactics
APPLICATION OF
COUNTERMEASURES
TO SLOW DEGRADATION
D-MONTHS
D
D+DAYS
LEADERSHIP
TRAINING
PHYSICAL CONDITIONING
COMMITMENT
TALENT SELECTION
RESOURCES MANAGEMENT
TASK RESTRUCTURING
ROTATION
WORK/REST CYCLES
PERFORMANCE SUPPORTS
STRESS MANAGEMENT
SLEEP DISCIPLINE

SLEEP/REST PRIORITIES

PRIORITY	TO SOLDIERS WHO MUST
1st	Lead/Make Decisions
2nd	Calculate, Judge, Evaluate
3rd	Be Vigilant
4th	Do Other Tasks

Rules For Sleep Management

- Begin the work phase immediately after eastbound flights to assure that the soldier will be sufficiently tired to sleep during off-duty phase.
- Before starting continuous operations, allow 12 hours for rest and sleep.
- Provide 12 hours of sleep after 36 to 48 hours of continuous operations, if a normal or light work load of eight or less hours per day preceded the period of continuous operations.
- Allow soldiers at least 15 minutes after being awakened before involving them in assignments.
- When extended sleep is not possible, "cat naps" will be beneficial.

Advisable Work-Rest Schedule Under Stressful Battlefield Conditions

Hours On	Hours Off	
8	8	Up to 5 days continuous operation
8	4	
6	6	
4	4	
16	8	Up to 30 days continuous operation
4	4	

STRESS REACTIONS AND HELPFUL MEASURES

TYPE	SYMPTOMS	DO'S	DON'T'S
Normal reaction	Trembling--muscular tension Perspiration Nausea Mild diarrhea Urinary frequency Pounding heart--rapid breathing Anxiety	Good individual support 1. Good leadership 2. Group identification 3. Morale and motivation 4. Communication 5. Good training Take appropriate action	Don't overreact Don't suggest that this is a problem Don't ridicule Don't be insensitive
Underactive/Depressed (slowed down, numbed) NOTE: Most common	Stand or sit without moving or talking Vacant expression Seem to be without emotion	Establish contact gently Try to get them to tell you what happened Show empathy Recognize feelings of resentment Find simple, routine job Give warm food, drink, and smoke	Don't overwhelm with pity Don't administer sedatives, except as last resort Don't act out feelings of resentment
Individual panic (blind flight) NOTE: Not common	Unreasoning attempt to flee Loss of judgment Uncontrolled weeping Wild running about	Try kindly firmness first Give something warm to eat or drink or a smoke Get help, if necessary, to isolate Show empathy Be aware of own feelings	Don't use brutal restraint Don't strike Don't douse with water Don't administer sedatives, except as last resort

TYPE	SYMPTOMS	DO'S	DON'T'S
Overactive/Manic	Argumentative Talk rapidly Job inappropriately done Make endless suggestions Jump from job to job	Let them talk about it Find them jobs which require physical activity Give something warm to eat or drink or a smoke Supervision is necessary Be aware of own feelings	Don't tell them they should not feel the way they do Don't administer sedatives Don't argue with them
Physical	Severe nausea and vomiting Inability to use some parts of the body	Show them you are interested Try to find them some small job to make them forget Make comfortable to await medical help Be aware of own feelings	Don't tell them there is nothing wrong with them Don't blame or ridicule Don't call attention to disability

TECHNIQUES FOR COPING WITH STRESS IN SELF

Relaxation

The relaxation technqiue should be practiced every day for about 20 minutes until it is learned. After it is learned, relaxation can be brought about very quickly. At first, practice in a quiet place where you will not be interrupted. As you master the technique, you will no longer need a quiet place. You will be able to make the technique work in noisy, crowded environments, and even in combat.

Do not expect success right away. The first time you tried pitching, shooting baskets, typing, firing a weapon, or close order drill you did not do well either. As you know, with conscientious practice you improved. It is important to remember the sequence in the exercise. At the beginning, team up with another soldier. Let him/her coach you through the exercise. Very soon, you will remember each step of the exercise so that you will be able to do the exercise by yourself. Don't get too concerned about doing the exercise perfectly. The idea is to relax.

Breathing Exercise

When you are under stress, your body needs a lot of oxygen. Breathing brings air, and the oxygen in it, to your body. Oxygen helps the brain and the rest of the cells in your heart, muscles, and body organs. When you are under stress your breathing is rapid and shallow, but when you are relaxed your breathing is slow and deep. Rapid and shallow breathing does not take in a lot of air. The purpose of the breathing exercise is to change the breathing when you are under stress from rapid and shallow to slow and deep. The breathing exercise, described below, can be done alone, at any time.

1. Sit comfortably.
2. Close your eyes and think about your breathing. After initial practice, perform the exercise with your eyes open.
3. Think only about your breath flowing in and out. Use only your nose to breathe.

4. Think these words to yourself several times while you are breathing: "I am relaxing. I am breathing smoothly and evenly. Fresh air is flowing in and out of my lungs. I feel calm and refreshed."

5. Keep thinking of your breath as it flows in and out; think only of breathing evenly.

6. After 5 minutes stand up slowly, stretch, and resume what you were doing.

Relaxation Exercise

1. Get into a comfortable position, which you will maintain throughout the exercise.

   - Sit in a chair with your head and body slumped forward and arms on your thighs.

   or

   - Lie on your back with legs and arms slightly apart from your body.

   or

   - Sit on the floor with your legs crossed under you and your arms on your thighs.

2. Stretch your body all over.

3. Close your eyes (after a while try it with your eyes open) and think about your favorite, most quiet place. Perhaps you like the beach, or a lake, or the woods. Hear the waves on the beach. Feel the warm sand and the sun. Smell the breeze. Listen to the birds. Be there!

4. Feel the peace all around you, and notice how calm and relaxed you are.

5. If your mind wanders, say to yourself: "I am calm. I am safe. I am relaxed." Or, concentrate on your breathing and repeat the word "one" after each exhalation.

6. Breathe slowly and deeply through your nose. Let out each breath as slowly as you can through your nose.

7. Relax all tense muscles from head to toes. Start with the toes.

   Toes. Curl your toes toward the soles of your feet and tense them for about five seconds. Take a deep breath, then let it out slowly and let up on your toes. Then say "relax" to yourself three times.

   Calves. Point your toes up toward your face and tighten your calves. Hold it for about five seconds. Take a deep breath, then let it out slowly, and let the tension go at the same time. Again, say "relax" to yourself three times.

   Thighs. With your legs out straight, point your toes up toward your face and tense up your thighs. Hold it for about five seconds. As before, take a deep breath, release it, and let up on the tension, and say "relax" to yourself three times.

   Buttocks. Tense your buttocks by pushing them down. Hold for about five seconds, and say "relax" to yourself three times.

   Stomach. Tense it as you would for a punch. Hold for about five seconds, and say "relax" to yourself three times.

   Chest. Press the palm of one hand against the other. This will tighten your chest. Hold for about five seconds, and say "relax" to yourself three times.

shrugging them and bringing your head down as far as it will go. Hold for about five seconds, and say "relax" to yourself three times.

Arms. With your arms out in front of you, tighten your fists, forearms, and upper arms. Hold for about five seconds, and say "relax" to yourself three times.

Throat. Tense your throat by pressing your chin down against your chest. Hold for about five seconds, and say "relax" to yourself three times.

Neck and Head. Press your head back and down against your shoulders. Hold for about five seconds, and say "relax" to yourself three times.

Face. This includes your forehead, eyes, nose, cheeks, mouth, and chin. Make a "funny face" by wrinkling your forehead, closing your eyes tightly, and gritting your teeth, all at the same time. Hold for about five seconds, and say "relax" to yourself three times. Next, stretch your face: pull eyebrows up, chin down, ears back. Hold for about five seconds and say "relax" to yourself three times.

8. Stay in your relaxed position for a few more minutes. Feel the relaxation in your body. Your body will feel heavier, and you may feel a tingling all throughout.

9. Stretch, and go on to the next exercise.

Body Parts Exercise

1. Stay in the same position. You will go back over each body part, but instead of tensing and relaxing it, you will just relax it. As you think about each body part, you will say "relax" three times.

2. Relax all muscles from head to toes. Start with your toes.

Toes. Wiggle your toes and ankles. Let go of all tension in your feet. Let them hang limp and heavy. Think about your feet and say to yourself "relax, relax, relax."

Calves. Imagine your calves to be heavy and limp. Think about your calves and say to yourself "relax, relax, relax."

Thighs. Imagine your thighs to be so heavy they are sinking into the floor. Think about your thighs and tell them to "relax, relax, relax."

Buttocks. Think about letting all the tension out of your buttocks. Tell them to "relax, relax, relax."

Stomach. Breathe slowly and evenly while you think about your stomach. Tell it to "relax, relax, relax."

Chest. Think about your chest. Breathe deeply. Tell it to "relax, relax, relax."

Shoulders. Wriggle your shoulders while you think about them. Tell them to "relax, relax, relax."

Arms. Wriggle your fingers and move your wrists. Think about the tension going out of your arms. Tell them to "relax, relax, relax."

Throat. Think about your throat feeling relaxed. Tell it to "relax, relax, relax."

Neck and Head. As you think about your neck and head, slowly move your head from side to side. Tell them to "relax, relax, relax."

Face. Think about your forehead, eyes, nose, cheeks, mouth, and chin. Let your lower jaw drop. Tell them to "relax, relax, relax."

3. Is there any tension anywhere in your body? Think about the tense part of your body and make it relax. Think about your entire body and tell it to "relax, relax, relax."

4. Stay relaxed for five minutes. Either think of pleasant things (your favorite place), or let your mind go blank.

5. After the five minutes, say to yourself: "I am deeply relaxed. I am ready to wake up refreshed and relaxed."

6. Arouse yourself slowly! Wiggle the toes, flex the ankles, wrists, and fingers. Bend the right arm, then the left; bend the right knee, then the left.

7. Stretch your arms over your head. Slowly sit up, stand, and stretch again.

Self-Suggestion

The self-suggestion technique combines self-suggestion and exercise to reach deep mental and physical relaxation. For self-suggestion to work, you have to:

- apply the procedure as presented
- stay in position for some time
- keep distractions out
- concentrate on bodily processes

The exercises produce feelings of heaviness and warmth, a slow and regular heart beat, and slow and regular breathin Each complete set of exercises takes about 10 minutes. Taking more time will be helpful. Two separate, daily ses sions, at any time of the day, are recommended until results begin to show. Results cannot be forced; they will come gradually. After the technique begins to work, a single daily session should be enough. As one sign that the technique is beginning to work, you will notice that your hands warm up; also, you will feel tensions going down.

For each session, find a quiet place where you will not be disturbed. Either lie or sit comfortably. The exact words are not important. It is most important to concentrate on the meaning of the words and feeling what is said. The phrases must be spoken very slowly. Speak each phrase three times, and allow three seconds between phrases.

1. Relaxation Phrases (3 minutes). Try to see and feel the relaxation in each part of your body as you say the phrase. Say them slowly to yourself, and repeat each one three times.

   - "I feel quiet."
   - "I am beginning to feel relaxed."
   - "My feet feel heavy and relaxed."
   - "My ankles and my knees feel heavy and relaxed."
   - "My hips feel heavy and relaxed."
   - "My stomach and my chest feel heavy and relaxed."
   - "My hands and arms feel heavy and relaxed."
   - "My shoulders feel heavy and relaxed."
   - "My neck, jaw, and forehead feel heavy and relaxed."
   - "Everything feels comfortable and smooth."
   - "My whole body feels quiet, heavy, relaxed, and comfortable."

2. Warmth Phrases (2 minutes). Stay in the same position. Again, concentrate on what you are saying, and try to feel it. Repeat each phrase three times.

   - "I am quiet and relaxed."
   - "My feet and legs are heavy and warm."
   - "My arms and hands are heavy and warm."
   - "I feel quite quiet and relaxed."
   - "My whole body is relaxed and warm."
   - "My hands are relaxed and warm."
   - "Warmth is flowing into my hands; they are warm, warm, warm..."

3. Imagery Phrases (3 minutes). Stay in the same position. Keep the eyes closed, concentrate, and feel each phrase as you say it. Repeat each phrase three times.

   - "My whole body feels quiet, comfortable, and at ease."
   - "My mind is quiet."
   - "My thoughts are quiet and I am at ease."
   - "I am shutting out the world, and I am at ease."
   - "Deep in my mind I feel myself quiet and at ease."
   - "I am alert, but in an easy, quiet, inward way."
   - "My mind is calm and quiet."
   - "I feel all quiet inside."

4. Activation Phrases (2 minutes). After practice, try to attain the same effect with your eyes open. End the session with a stretch. Take three deep breaths. Repeat each phrase three times.

   - "I feel life and energy flowing through my feet and legs."
   - "I feel life and energy flowing through my hips, stomach, and chest."
   - "I feel life and energy flowing through my hands and arms."
   - "I feel life and energy flowing through my shoulders, neck, head, and face."
   - "The life and energy makes me feel light and alive."

Meditation

Meditation must be practiced, at least, once daily, at any time of the day for about 20 minutes. To practice meditation you must:

- take a very comfortable position
- stay passive (do not try, but let it happen)
- shut out all distracting thoughts and cares
- shift your attention inward and keep your mind from wandering outward (it helps to keep saying "Ommm..." to yourself, and/or to stare at something fixed)

At first, find a quiet place without distractions. Later this will not matter. Recommended positions are sitting cross-legged, kneeling, or lying down.

1. Stay in the comfortable position.
2. Close your eyes, if necessary to avoid distractions.
3. Deeply relax all your muscles. Begin at your feet and go up to your face. Stay relaxed.
4. Breathe through your nose. Breathe easily and notice your breathing, concentrate on your breathing. Keep taking deep breaths. Keep your thoughts turned inward.
5. After about 20 minutes, end the mediation. Stay in your position for another minute or two. Very slowly arouse yourself. After awhile, begin to stand up slowly.

Inoculation

There are two phases in the inoculation technique.

Phase 1. Education. This phase is meant to provide you with a better understanding of your stress reactions. Recall stressful events or situations. Then try to remember your exact reactions to them. For example, recall a time when you felt great fear. Most likely, your reactions included sweaty palms, dry

dry mouth, fast heartbeat, fast breathing, "butterflies" in the stomach, or tense muscles.

Phase 2. Rehearsal. Work out positive, self coping methods. Tailor the methods when you face stress. For example, if you have poor night vision and have a fear of not being able to find your way in the dark, you would mentally rehearse ways in which you would go about finding your way in the dark. These might include memorizing various paths in daylight, or noticing familiar objects that you could feel in the dark and which would serve as cues in determining a particular path.