

FIFTY WAYS TO KILL A FIRST RESPONDER



Participant Workbook

Richard B. Gasaway, Ph.D.
President & Principal Consultant
Gasaway Consulting Group LLC
www.RichGasaway.com
RBG3100@aol.com

Fifty Ways to Kill A First Responder

Copyright © 2009
Richard B. Gasaway
Gasaway Consulting Group, LLC
All Rights Reserved.

No part of this document may be reproduced or transmitted in any form by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the author.

The contents of The Mental Management of Command and Fifty Ways to Kill A First Responder are the intellectual property of Richard B. Gasaway, Ph.D.

Gasaway Consulting Group, LLC
P.O. Box 13542
St. Paul, MN 55113-0542
Phone: 651-331-8518

If you are interested in hosting a program, please contact Dr. Gasaway at

www.RichGasaway.com or RBG3100@aol.com

No first responder ever responds to a call, telling him or herself:
“I’m going to lose my situation awareness on this call... make
some bad decisions... and jeopardize my safety or the safety of my
crew. But it happens, a lot!” -- Dr. Richard B. Gasaway

Understanding Emergency Incident Decision Making & Situation Awareness

Deep Knowledge...

The goal of this program to help you understand the _____ and the
_____ of decision making.

The physical effects of emergency incident stress.

- Heart rate: _____.
- Respirations _____.
- Pupils _____.
- Glucose released for _____.
- _____ are released.

Fifty Ways to Kill A First Responder

- Blood supply to the _____ and _____ is restricted.

- The bowels and bladder may _____.

- Rational judgment systems can _____.

- Primitive instincts _____.

The brain reacts to stress:

- Hereditary instincts engage

–(Example: _____ Syndrome)

- Decision making becomes _____.

- Attention can _____.

- Hyper vigilance means _____.

- Struggle to understand and process _____.

What is the maximum value of US coins a person can have in their possession and still be unable to make change for a dollar?

\$ _____

- You will revert back to behaviors that are _____, _____, and reflect your _____.

Repetitive training killed a police officer.

Repetitive training killed a police officer.

Under stress, your behavior reflects your training and your habits.

Repetitive SCBA training... My story from 1979.

Gary Klein's great discovery

Steps in a traditional decision making process

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Why does this not work on the fireground?

Gary Klein's Discovery:

Recognition-Primed Decision Making Process

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Recognition-primed decision making under stress requires:

1. _____
2. _____

- Stored Images

- Pattern Matching

- Information Chunking

3. _____
4. _____

Situation Awareness is about your ability to pay attention.

Two highly trained experts...

Looking at the same thing...

At the same time...

From the same angle...

With all other things being equal...

Should see the same thing. Hypothetically speaking:

A simple exercise will test this hypothesis.

How many times: _____

<http://www.viscog.com>

3 Levels of Situation Awareness (SA)

Level 1:

Level 2:

Level 3:

Commanders must be a competent subject matter expert.

Competency Progression

1. Unconscious Incompetence

2. Conscious Incompetence

3. Conscious Competence

4. Unconscious Competence

Fifty Ways to Kill A First Responder[©]

Why can it be so hard to see the bad things
that can be unfolding right in front of you?

Attention narrowly focused on staffing issues.

1. Under staffing
 2. Unpredictable staffing
 3. Response time delays
 4. Lack of experience
- Over staffing
 - Quality of staffing
 - Inadequately levels of training

Issues with poor communications.

5. Missed radio communications

6. Updates or progress reports

7. Misunderstood words or phrases

8. Incomplete communications loop

9. Too much radio traffic

- Radio equipment problems

- Non-compatible radios

- Multiple radio channels

- Crews unable/unwilling to communicate by radio

Issues with physical and/or mental stress.

10. Overloaded

11. Overwhelmed

12. Frustrated

13. Anxious

14. Angry

15. Excited

- Pressure

- Underwhelmed (bored)

- Afraid

- Physically ill

- Worried

Excessive workload or poor workload management.

16. Multitasking

17. Setting tasks aside to do something else

18. Performing non-command tasks

19. Falling behind the incident

20. Assuming multiple command roles

- Complexity of the incident

- Lost span of control

- Mental workload exceeded capacity

Impacted by human factors.

21. Lost focus

22. Poor assumptions

23. Over confident / ego

24. Perception of reality

25. Organizational culture

26. Complacency

27. Not paying attention

28. Attitude

- Personality traits
- Fatigue
- Personal biases
- Lack of command presence
- Over analyzed
- Under confident

Poor attention management.

29. Distractions

30. Interruptions

31. Selective listening

32. Tunnel Vision

33. Task fixation

- Time distortion
- Pre-occupied
- Lack of vigilance
- Hyper vigilance

Lack of help at the command level.

34. No command aide/assistant

- No command advisor
- Did not have/use/set-up a command board or worksheet

Poor data/information management.

35. Information overload

36. Incomplete size-up

37. Lost accountability

- Unable to collect useful data/information
- Inaccurate information
- Unexpected data/information
- Disoriented
- Unable to process what is observed
- Physical act of sharing data/info

Unclear or unfocused on most important goals &

Mission.

38. Goal fixation

39. Failing to continually assess goals

40. Lack of SOP/SOG

41. Did not follow SOP/SOG

42. Independent goal setting (freelancing)

43. Error creep

- Unclear goals

- Poorly communicated goals

- Lack of benchmarks

- Defiance of SOP/SOG

- Passing of command

- Conflicting goals

Flawed mental modeling.

44. Presence/absence of a gut feeling

45. Dismissing cues that “don’t fit” the mental model

46. Improper mental model formed prior to arrival

- Unexpected situation found
- Unable/unwilling to accept bizarre cues
- Having to change mental models

Poorly situated (located) commander.

47. Located too close to the incident

48. Location compelled the commander to perform fireground or firefighting tasks.

- Environmental elements
- Moving around too much
- Pumping/assisting pump operator

All personnel were not on the same page.

49. Lack of shared mental model

50. Lack of shared sense-making

Lessons from the literature.

1. A commander with _____ can still make a good decision, if only _____.
2. A decision made with good SA can still have _____.
3. Maintaining SA requires a physical, mental and emotional commitment to _____.
4. What to pay attention to is NOT always _____.
5. Your attention is drawn to things that are
 - a.
 - b.
 - c.
 - d.

6. Commanders rarely realize they are losing their SA... Until

_____.

7. You can only remember _____unrelated pieces
of information.

8. Putting the puzzle pieces together:

– What has happened _____?

– What is happening_____?

– How fast _____?

– What is _____?

9. You must be able to mentally_____

...to think _____.

10. Ask yourself: _____

_____?

5 Common Command Mistakes:

1.

2.

3.

4.

5.

Commander Best Practices

1. Prioritize incoming information.

a.

b.

c.

2. Set strategy and tactics based on _____
 - a. The size-up must be _____
 - b. Do not lock on to a strategy or tactics until _____.
 - c. Consider the _____ to the _____.
3. Stay focused on: _____
 - a. Command from: _____.
4. Do not: _____!
 - a. You cannot be _____ and _____ at the same time.
5. Never miss communications from _____
 - a. Commanders cannot effectively: _____.
 - b. The stimulus closest to the commander will: _____.
6. Control: _____ and _____
 - a. Call a: _____.
 - b. Don't be a: _____.

7. Support the _____.
 - a. Command _____, _____, _____.
 - b. Use _____ and _____.
8. Establish and maintain a strong _____.
 - a. Control your _____.
 - b. Control your _____.
 - c. Be _____ and _____ with your orders.
 - d. Keep track of your _____ and what they are doing.
 - e. Keep track of the passage of _____ and the _____ of the incident.
 - f. Develop a _____
9. Accelerate command knowledge and expertise.
 - a. Develop _____ and _____.
 - i. Training that is _____ and _____.
 - ii. Realistic _____.

b. Preload your _____.

i.

ii.

iii.

c. Learning and reinforcement

i.

ii.

25 Point Command Health Check-up

Available as free download: www.RichGasaway.com

10. Conduct a pre-incident _____ to identify
and correct _____.

Independent evaluation of your:

- _____
- _____
- _____
- _____
- _____

Fifty Ways to Kill A First Responder

- _____
- _____
- _____

Identify and correct problems **BEFORE** a catastrophic incident occurs.

**The signs and symptoms of unhealthy incident command
that may contribute to a catastrophic event.**

Communications

- 1 Verbal communications are confusing or misunderstood.
 - 2 Nonverbal communications are confusing or misunderstood.
 - 3 Progress/update reports are not clear, concise, accurate and informative.
 - 4 Words and/or phrases are misunderstood or misinterpreted.
 - 5 There is an incomplete communications loop.
 - 6 There is missed radio communications.
 - 7 There are radio equipment problems.
 - 8 There is non-compatible radio equipment.
 - 9 The incident uses multiple radio channels (including cell phones).
 - 10 There is too much radio traffic (including cell phones).
 - 11 Crews are not willing or not able to communicate by radio.
-

Data and Information Management

- 12 The IC is unable to collect useful data/information.
 - 13 Information is inaccurate.
 - 14 The IC loses accountability of personnel.
 - 15 The IC does not complete a size-up.
 - 16 The IC becomes disoriented to surroundings.
 - 17 The IC is unable to process the data/information observed.
 - 18 The IC is surprised by unexpected data/information
-

Fifty Ways to Kill A First Responder

Data and information management (continued)

- 19 The IC is unable to determine the importance of data/information.
 - 20 The IC is hampered by the physical act of sharing data/information.
 - 21 The IC and crews interpret data/information differently.
 - 22 There is too much information (including information overload).
-

Physical and Mental Stress

- 23 The IC is feeling stress.
 - 24 The IC is feeling pressured to take action.
 - 25 The IC has conflicting feelings.
 - 26 The IC is feeling overloaded.
 - 27 The IS is feeling overwhelmed.
 - 28 The IC is feeling underwhelmed (including feeling bored).
 - 29 The IC feels afraid.
 - 30 The IC is feeling worried.
 - 31 The IC is feeling anxious.
 - 32 The IC is feeling ill.
 - 33 The IC is feeling angry.
 - 34 The IC is feeling frustrated.
 - 35 The IC is feeling excited.
-

Fifty Ways to Kill A First Responder

Workload management

- 36 The IC has to multitask.
 - 37 The IC has to set tasks aside to take care of something unexpected.
 - 38 The IC performs non-command tasks.
 - 39 The IC has a mental workload that exceeds his/her abilities.
 - 40 The IC falls behind and has to play catch-up.
 - 41 The IC has to assume multiple command roles.
 - 42 The IC is impacted by the complexity of the incident.
 - 43 The IC loses his or her span of control.
-

Attention management

- 44 The IC is distracted.
 - 45 The IC is interrupted.
 - 46 The IC is preoccupied.
 - 47 The IC has tunnel vision.
 - 48 The IC is fixated on one task or concern.
 - 49 The IC lacks vigilance (not being watchful).
 - 50 The IC is hyper vigilance (being overly watchful).
 - 51 The IC is practicing selective listening.
 - 52 The IC loses track of time.
-

Fifty Ways to Kill A First Responder

Staffing

- 53 The incident is understaffed to accomplish the strategy and tactics.
- 54 The incident is overstaffed to accomplish the strategy and tactics.
- 55 The incident staffing levels are unpredictable.
- 56 The quality of the staffing is a concern.
- 57 Response time delays impact the incident.
- 58 There is a lack of experience among the staffing.
- 59 The staffing are not adequately trained.

Mission and goal

- 60 There is a lack of clarity in the mission/goals.
 - 61 The mission/goals are poorly communicated.
 - 62 There is a lack of benchmarks for mission/goal success.
 - 63 The IC is not continually assessing the changing conditions.
 - 63 There is a lack of pre-scripted SOPs/SOGs.
 - 65 There is a failure to follow pre-scripted SOPs/SOGs.
 - 66 There is purposeful defiance of SOPs/SOGs or the direct orders of a superior officer.
 - 67 The pre-scripted SOPs/SOGs are misunderstood.
 - 68 The IC misses critical cues.
 - 69 Personnel are practicing independent goal setting (freelancing).
 - 70 Command is passed during the incident.
 - 71 There are conflicting and/or multiple goals.
-

Fifty Ways to Kill A First Responder

Mental models

- 72 The IC forms an incorrect mental model prior to arrival.
- 73 The IC's findings do not fit his or her mental model.
- 74 There is the presence or absence of a gut feeling from the IC.
- 75 The IC has to change his or her mental model after arrival.
- 76 The IC arrives to find unexpected or unpredicted conditions.
- 77 The IC is confused.
- 78 The IC is surprised.
- 79 The IC is influenced by past incidents that are too similar to this one.

Human factors

- 80 The IC is influenced by his or her personality traits (including ego).
 - 81 The IC has a distorted perception of reality.
 - 82 The IC is suffering from fatigue.
 - 83 The IC is impacted by his or her own attitude.
 - 84 The organizational culture influences the IC.
 - 85 The IC is impacted by his or her own personal awareness.
 - 86 The IC feels out of the loop (including out of touch with what is going on).
 - 87 The IC is complacent.
 - 88 The IC feels invulnerability (including excessive risk taking).
 - 89 The IC is not paying attention.
 - 90 The IC loses his or her focus.
-

Fifty Ways to Kill A First Responder

Human factors (continued)

- 91 The IC is influenced by personal biases (including personality conflicts).
 - 92 The IC makes poor assumptions.
 - 93 The IC lacks a command presence.
 - 94 The IC over analyzes.
 - 95 The IC is over confident.
 - 96 The IC is under confident.
-

Command location

- 97 The IC is located too close to the incident.
 - 98 The IC is located too far away from the incident.
 - 99 The IC is commanding on the street or in the yard.
 - 100 The IC is in a command vehicle and cannot see the incident.
 - 101 The IC is moving around the fireground too much.
 - 102 The IC is performing fireground tasks.
 - 103 The IC is impacted by environmental elements (weather, wind, lighting, noise, vibration, etc).
 - 104 The IC is engaged in the firefight.
 - 105 The IC is pumping the fire engine or assisting the pump operator.
-

Fifty Ways to Kill A First Responder

Command support

- 106 The IC is impacted from using a command worksheet/checklist.
 - 107 The IC impacted from not using a command worksheet/checklist.
 - 108 The IC is impacted from using automated command support (computers).
 - 109 The IC is impacted from not using automated command support (computers).
 - 110 The IC is impacted by the presence of command support.
 - 111 The IC is impacted by the absence of command support.
-

Team/crew performance SA barriers

- 112 The IC and firefighters lack a shared mental model.
 - 113 The IC and firefighters lack shared sense-making.
-

Helpful Web Resources

Gasaway Consulting Group, LLC
www.RichGasaway.com

National Firefighter Near-Miss Reporting System
www.firefighternearmss.com/fire.do

National Institute for Occupational Safety and Health
www.cdc.gov/niosh/firehome.html

National Institute of Standards and Technology
www.bfrl.nist.gov/866/frd.htm

National Interagency Fire Center
www.nifc.gov

National Safety Council
www.nsc.org/index.htm

Navy Safety Center
www.safetycenter.navy.mil/wess/default.htm

The CRM Advocate
<http://s92270093.onlinehome.us/CRM-Devel/resources/crmadvocate/>

University of Texas Human Factors Research Project
<http://homepage.psy.utexas.edu/homepage/group/HelmreichLAB/>

Additional reading on the topic of decision making and human factors

- Bogner, M. S. (1997). Naturalistic decision making in health care. In G. A. Klein & C. E. Zsombok (Eds.), *Naturalistic decision making* (pp. 61-69). Mahwah, NJ: Erlbaum.
- Cannon-Bowers, J. A., & Bell, H. H. (1997). Training decision makers for complex environments: Implications of the naturalistic decision making perspective. In G. A. Klein & C. E. Zsombok (Eds.), *Naturalistic decision making* (pp. 99-110). Mahwah, NJ: Erlbaum.
- Cannon-Bowers, J. A., Salas, E., & Converse, S. (1992). Shared mental models in expert team decision making. In N. J. Castellan (Ed.), *Current issues in individual and group decision making*. Mahwah, NJ: Erlbaum.
- Damasio, A. R. (1994). *Descartes' error: Emotion, reason and the human brain*. New York: Putnam.
- Driskell, J. E., & Salas, E. (1991). Overcoming the effects of stress on military performance: Human factors design, training and selection strategies. In R. Gal & A. D. Mangelsdorff (Eds.), *Handbook of military psychology* (pp. 183-193). London: Wiley.
- Driskell, J. E., Salas, E., & Hall, J. K. (1994). The effect of vigilant and hyper vigilant decision training on performance. Paper presented at the annual meeting of the Society of Industrial and Organizational Psychology, Nashville, TN.
- Drillings, M., & Serfaty, D. (1997). Naturalistic decision making in command and control. In G. A. Klein & C. E. Zsombok (Eds.), *Naturalistic decision making* (pp. 71-80). Mahwah, NJ: Erlbaum.
- Dyer, J. L. (1984). Team research and team training: A state of the art review. In T. Wallsten (Ed.), *Cognitive processes in choice and decision behavior*. Hillsdale, NJ: Erlbaum.
- Elstein, A. S., Shulman, L. S., & Sprafka, S. A. (1978). *Medical problem solving: An analysis of clinical reasoning*. Cambridge, MA: Harvard University Press.
- Ford, C. M., & Gioia, D. A. (2000). Factors influencing creativity in the domain of managerial decision-making. *Journal of Management*, 26(4), 705-732.
- Gaba, D. M., Howard, S. K., & Jump, B. (1994). Production pressure in the work environment. *Anesthesiology*, 81(2), 488-500.
- Gasaway, R. B. (2003). Ready! Fire! Aim!, *Fire Engineering*, 156 (8), 16-18.

Fifty Ways to Kill A First Responder

- Gersick, C. J. G., & Hackman, J. R. (1990). Habitual routines in task-performing groups. *Organizational Behavior and Human Decision Processes*, 47, 65-97.
- Harrison, E. F. (1999). *The Managerial Decision-Making Process*, 5th ed., Boston, MA: Houghton Mifflin, 75-102.
- Isenberg, D. J. (1984, November-December). How senior managers think. *Harvard Business Review*, 81-90.
- Kaempf, G. L., Klein, G. A., Thordsen, M. L., & Wolf, S. (1996). Decision making in complex command-and-control environments. *Human Factors*, 38(2), 220-231.
- Kaempf, G. L., & Orasanu, J. (1997). Current and future applications of naturalistic decision making in aviation. In G. A. Klein & C. E. Zsombok (Eds.), *Naturalistic decision making* (pp. 81-90). Mahwah, NJ: Erlbaum.
- Klein, G. A. (1988). Naturalistic models of C³ decisionmaking. In S. Johnson & A. Levis (Eds.) *Science of command and control: Coping with uncertainty* (pp. 86-92). Washington, DC: AFCEA International Press.
- Klein, G. A. (1993). A recognition-primed decision (RPM) model of rapid decision making. In G. A. Klein, J. Orasanu, R. Calderwood, & C. E. Zsombok (Eds.), *Decision making in action: Models and methods* (pp. 138-147). Norwood, NJ: Ablex.
- Klein, G. A. (1997a). *Making decisions in natural environments*. Alexandria, VA: Research and Advanced Concepts Office, U.S. Army Research Institute for the Behavioral Social Sciences.
- Klein, G. A. (1997b). An overview of naturalistic decision making applications. In G. A. Klein & C. E. Zsombok (Eds.), *Naturalistic decision making* (pp. 49-59). Mahwah, NJ: Erlbaum.
- Lazar, A. (1999). Deceiving oneself or self-deceived? On the formulation of beliefs under the influence. *Mind*, 108 (430), 265-290.
- Levis, A. H., & Athans, M. (1988). The quest for a C3 theory: Dreams and reality. In S. Johnson & A. Levis (Eds.) *Science of command and control: Coping with uncertainty* (pp. 4-9). Washington, DC: AFCEA International Press.
- Lipshitz, R. (1993). Converging themes in the study of decision making in realistic settings. In G. A. Klein, J. Orasanu, R. Calderwood, & C. E. Zsombok (Eds.), *Decision making in action: Models and methods* (pp. 103-137). Norwood, NJ: Ablex.

Fifty Ways to Kill A First Responder

- Mackenzie, C. F., Craig, G. R., Parr, M. J., Horst, R. L., & Level One Trauma Anesthesia Simulation Group (1994). Video analysis of two emergency tracheal intubations identifies flawed decision-making. *Anesthesiology*, 81(3), 763-771.
- March, J. G. (1978). Bounded rationality, ambiguity, and the engineering of choice. *Bell Journal of Economics*, 9 (2), 587-608.
- March, J. G. (1994). *A Primer on Decision Making*. New York, NY: Free Press, 2-7.
- Means, B., Crandall, B., Salas, E., & Jacobs, T. O. (1993). Training decision makers for the real world. In G. A. Klein, J. Orasanu, R. Calderwood, & C. E. Zsombok (Eds.), *Decision making in action: Models and methods* (pp. 306-326). Norwood, NJ: Ablex.
- Mintzberg, H. (1975, July-August). The manager's job: Folklore and fact. *Harvard Business Review*, 49-61.
- Morgan, B. B., Glickman, A. S., Woodard, E. A., Blaiwes, A. S., & Salas, E. (1986). Measurement of team behaviors in a Navy environment (Tech. Rep. No. NTSC TR-86-014). Orlando, FL: Naval Training Systems Center.
- Noble, D. (1993). A model to support development of situation assessment aids. In G. A. Klein, J. Orasanu, R. Calderwood, & C. E. Zsombok (Eds.), *Decision making in action: Models and methods* (pp. 287-305). Norwood, NJ: Ablex.
- Orasanu, J. M. (1990). Shared mental models and crew decision making (CSL Report 46). East Rutherford, NJ: Ablex.
- Orasanu, J. (1993). Decision-making in the cockpit. In E. L. Weiner, B. G. Kanki, & R. L. Helmreich (Eds.) *Cockpit resource management* (pp. 137-168). San Diego: Academic Press.
- Orasanu, J., & Connolly, T. (1993). The reinvention of decision making. In G. A. Klein, J. Orasanu, R. Calderwood, & C. E. Zsombok (Eds.) *Decision making in action: Models and methods* (pp. 3-20). Norwood, NJ: Ablex.
- Orasanu, J., & Salas, E. (1993). Team decision making in complex environments. In G. A. Klein, J. Orasanu, R. Calderwood, & C. E. Zsombok (Eds.), *Decision making in action: Models and methods* (pp. 327-345). Norwood, NJ: Ablex.
- Overell, S. (2001). Trust your gut. *Director*, 54 (12), 28-36.
- Pollock, T. (2004). Problem Solvers. *Supervision*. 65 (3), 13-16.
- Rogers, C. T. (1994). Intuition: An imperative command. *Military Review*, 74 (3), 38-51.

Fifty Ways to Kill A First Responder

- Sayegha, L., Anthony, W. P., & Perrewe, P. L. (2004). Managerial decision-making under crisis: The role of emotion in an intuitive decision process. *Human Resource Management*, 14 (2), 179-201.
- Simon, C. J. (1986). The intuitionist argument: a reexamination of the case for ethical intuitionism (Doctoral dissertation, University of Washington, 1986). *Dissertation Abstracts International*, 47, 1357.
- Simon, H. A. (1976). *Administrative Behavior*. New York: Macmillan.
- Van Creveld, M. (1985). *Command in war*. Cambridge, MA: Harvard University Press.
- Van Trees, H. L. (1989). C³ systems research: A decade of progress. In S. Johnson & A. Levis (Eds.) *Science of command and control: Part II. Coping with complexity* (pp. 24-44). Washington, DC: AFCEA International Press.
- Wiener, E. L., Kanki, B. G., & Helmreich, R. L. (Eds.). (1993) *Cockpit resource management*. San Diego: Academic Press.
- Zakey, D., & Wooler, S. (1984). Time pressure, training and decision effectiveness. *Ergonomics*, 27, 273-284.
- Zsombok, C. E. (1997). Naturalistic decision making research and improving team decision making. In G. A. Klein & C. E. Zsombok (Eds.), *Naturalistic decision making* (pp. 111-120). Mahwah, NJ: Erlbaum.

Fifty Ways to Kill A First Responder

Notes:

Fifty Ways to Kill A First Responder

Notes:

Fifty Ways to Kill A First Responder

Notes:

Workbook Answer Key

No first responder ever goes to a call thinking to him or herself...

“I’m going to lose my situation awareness on this call... make some bad decisions... and jeopardize my safety or the safety of my crew. But it happens, a lot!” ~ Dr. Richard B. Gasaway

Deep Knowledge

The goal of this program to help you understand the how and the why of decision making.

The physical effects of emergency incident stress.

Heart rate increases.

Respirations increase.

Pupils dilate.

Glucose released for instant energy.

Endorphins are released.

Blood supply to the kidneys and digestive track is restricted.

The bowels and bladder may release their content.

Rational judgment systems can shut down.

Primitive instincts take over.

The brain reacts to stress:

Hereditary instincts engage

-(Example: Fight or Flight Syndrome)

Attention can narrow.

Hyper vigilance.

Struggle to understand and process complex information and details.

You will revert back to behaviors that are comfortable, routine, or reflect your habits.

Repetitive training killed a police officer.

Under stress, your behavior reflects your training and your habits.

Repetitive SCBA training...My story from 1979.

Fifty Ways to Kill A First Responder

Steps in a traditional decision making process

1. Define the problem
2. Identify decision criteria
3. Allocate weights to the criteria
4. Develop the alternatives
5. Evaluate the alternatives
6. Select the best alternative (the decision)
7. Evaluate effectiveness of the decision

Recognition-Primed Decision Making Process

1. Size-up situation quickly
2. Focus on most relevant information
3. Recognize “typical” ways of reacting
4. Run mental models of options
5. Forming expectations of outcomes
6. Detect unusual things and problems and seek explanations
7. Make a decision and a plan of action

Recognition-primed decision making under stress requires:

- Situation Awareness
(Paying attention)
- Tacit Knowledge
(Unconscious knowledge)
- Ability to conduct mental simulations
(Predicting future events through modeling)
- Self-Confidence
(Be able to trust your gut... your intuition)

Stored images...

Pattern matching...

Information chunking...

Recognition-primed decision making under stress requires:

3 Levels of Situation Awareness (SA)

Level 1:

Capturing the cues and clues in the current situation

- Paying Attention
- “Perception”
- “What’s happening right now?”

Level 2:

Comprehending the current situation

- Making sense of it
- “Comprehension”
- “What does this mean?”

Facts are the clues and cues that prime your recognition. Without facts (points of reference) your brain struggles to form a pattern match.

Level 3:

Predicting the future situation

- Mental models of future events
- “Projection”
- “Where is this going?”
-

Commanders must be a competent subject matter expert.

Competency Progression

- Unconscious Incompetence
 - “I didn’t even see that.”
- Conscious Incompetence
 - “I saw it, but I didn’t know what it meant.”
- Conscious Competence
 - “I saw it, and I knew what it meant.”
- Unconscious Competence
 - “Something inside told me that was important.”

Fifty Ways to Kill A First Responder

The goal of the study was to understand the barriers that challenge commanders SA

- Existing research on SA
- List of SA barriers
- Card sorting exercise
- Interviews

The Blame Game: An easy traps for observers/evaluators:

- They should not have...
- They could have...
- They didn't...
- They failed to...
- If only they had...

We must look at a near-miss or a catastrophic event in context:

- How did the situation look to the commander at the time?
- How did the situation unfold around them?
- What cues and clues did they receive... and understand (in context).
- What goals were they pursuing at the time?
- Why did their actions/decisions make sense to them at that time?

There is almost no human action or decision that cannot be made to look flawed and less sensible in the misleading light of hindsight.

~ James Reason

Commanders said their SA was challenged by staffing issues.

1. Under staffing
 2. Unpredictable staffing
 3. Response time delays
 4. Lack of experience
- Over staffing
 - Quality of staffing
 - Inadequately levels of training

Commanders said their SA was challenged by poor communications.

5. Missed radio communications
6. Updates or progress reports
(passing command)
7. Misunderstood words or phrases
8. Incomplete communications loop
9. Too much radio traffic
(sterile flight deck)

Fifty Ways to Kill A First Responder

- Radio equipment problems
- Non-compatible radios
- Multiple radio channels
- Crews unable/unwilling to communicate by radio

The problem with passing command

Last night at 2115 hours a firefighter was playing volleyball and broke his jaw. He got on his motorcycle to drive himself to the hospital. While enroute to the hospital he took a wrong turn and ended up in the chief's neighborhood. As he drove by the chief's house, the chief's cat ran in front of him and as he swerved to miss the cat he almost hit the chief's daughter, Rose. He then drove his motorcycle through the chief's wife's favorite bed of daisies. It appears as though the daisies are not going to make it. The firefighter was admitted to the hospital. The chief's daughter is in bed recovering from the near-miss and the chief's wife is very upset about her daisies.

Commanders said their SA was challenged by poor communications.

5. Missed radio communications
6. Updates or progress reports
(passing command)
7. Too much radio traffic
(sterile flight deck)
8. Incomplete communications loop
9. Misunderstood words or phrases
(snowflakes)

- Radio equipment problems
- Non-compatible radios
- Multiple radio channels
- Crews unable/unwilling to communicate by radio

Commanders said their SA was challenged by issues with physical and/or mental stress.

10. Overloaded
11. Overwhelmed
12. Frustrated
13. Anxious
14. Angry
15. Excited

Fifty Ways to Kill A First Responder

- Pressure
- Underwhelmed (bored)
- Afraid
- Physically ill
- Worried

Commanders stated their SA was challenged by excessive workload or poor workload management.

16. Multitasking
(Mouse balls)
 17. Setting tasks aside to do something else
 18. Performing non-command tasks
 19. Falling behind the incident
 20. Assuming multiple command roles
- Complexity of the incident
 - Lost span of control
 - Mental workload exceeded capacity

Commanders stated their SA was challenged by human factors.

21. Lost focus
 22. Poor assumptions
 23. Over confident / Ego
 24. Perception of reality
(Is perception reality)
 25. Organizational Culture
 26. Complacency
 27. Not paying attention
 28. Attitude
- Personality traits
 - Fatigue
 - Personal biases
 - Lack of command presence
 - Over analyzed
 - Under confident

Commanders stated their SA was challenged from poor attention management.

29. Distractions
30. Interruptions

Fifty Ways to Kill A First Responder

- 31. Selective listening
 - (selecting observation)
- 32. Tunnel Vision
- 33. Task fixation
 - (Eastern Airlines Flight 401)
- Time distortion
- Pre-occupied
- Lack of vigilance
- Hyper vigilance

Lack of help at the command level.

- 34. No command aide/assistant
- No command advisor
- Did not have, use, or set-up a command board or worksheet
- Did not have or use a checklist

Commanders stated their SA was challenged from poor data/information management.

- 35. Information overload
 - (The brain starts to shut down... NO MORE!)
- 36. Incomplete size-up
- 37. Lost Accountability
- Unable to collect useful data/info
- Inaccurate information
- Unexpected data/info
- Unable to determine importance of data/info
- Disoriented
- Unable to process what is observed
- Physical act of sharing data/info

Commanders stated their SA was challenged from lack of focus on the most important goals & Mission.

- 38. Goal fixation
- 39. Failing to continually assess goals
- 40. Lack of SOP/SOG
- 41. Did not follow SOP/SOG
- 42. Independent goal setting (freelancing)
- 43. Error creep
 - (Christmas ham)

Fifty Ways to Kill A First Responder

- Unclear goals
- Poorly communicated goals
- Lack of benchmarks
- Defiance of SOP/SOG
- Passing of command
- Conflicting goals

Commanders stated their SA has been challenged from flawed mental modeling.

- 44. Presence/absence of a gut feeling
- 45. Dismissing cues that “don’t fit” the mental model
- 46. Improper mental model formed prior to arrival
- Unexpected situation found
- Unable/unwilling to accept bizarre cues
- Having to change mental models

Commanders stated their SA has been challenged from being poorly situated (located) as a commander.

- 47. Located too close to the incident
 - 48. Location compelled the commander to performing fireground or firefighting tasks
 - Environmental elements (heat, cold, rain, snow, wind, loud noises)
 - Moving around too much
 - Pumping/assisting pump operator
- Who are these coaches talking to?

Commanders stated their SA has been challenged when all personnel were not on the same page.

- 49. Lack of shared mental model
- 50. Lack of shared sense-making

Fireground Command Lessons

- A commander with poor SA can still make a good decision, if only by luck.
- A decision made with good SA can still have a bad outcome.
- Maintaining SA requires a physical, mental and emotional commitment to pay attention.
- What to pay attention to... is NOT always intuitive or obvious.
- Your attention is drawn to things that are loud, bright, moving, or in close proximity to you.

Fifty Ways to Kill A First Responder

- Commanders rarely realize they are losing their SA... Until it's too late.
- You can only remember 7 (+/- 2) unrelated pieces of information.

Put the puzzle pieces together

- What has happened prior to my arrival?
- What is happening right **NOW**?
 - How fast are things changing?
- What is going to happen next?
 - You must be able to mentally get out ahead of the fire... to think beyond the current situation.
 - Ask yourself: Can I accomplish my goals with the resources I have to work with?

5 common command mistakes:

- Did not read the smoke properly.
- Underestimated the speed of the incident.
- Overestimated the abilities of their crews.
- Felt pressured to take “heroic” actions without conducting a risk-benefit assessment.
- Focused on the wrong things or tried to process too much information.

Commander Best Practices

1. Prioritize incoming information.
 - Smoke (fire) condition.
 - Construction / decomposition of structure.
 - Speed the incident is moving.
 - Realistic assessment of savable lives.
2. Set strategy and tactics based on the quality and quantity of staffing.
 - The size-up must be constant.
 - Do not lock on to a strategy or tactics until adequate help arrives.
 - Consider the risk to your personnel versus the benefit of their actions.

3. Stay focused on the big picture incident.
 - Command from a vehicle or a remote location but maintain a visual fix on the incident.
4. Do not perform firefighter duties.
 - You cannot be in command and hands-on at the same time.
5. Never miss communications from your most at-risk companies.
 - Commanders cannot effectively listen to, and comprehend, multiple conversations simultaneously.
 - The stimulus closest to the commander will occupy his or her attention.
6. Control distractions and interruptions.
 - Call a personal time out
 - Don't be a high-profile target
7. Support the commander.
 1. Command Advisors, teams, aides.
 2. Use worksheets and checklists
8. Establish and maintain a strong command presence.
 - Control your emotions (excitement, frustration, anger, ego).
 - Control your people.
 - Be clear and concise with your orders.
 - Keep track of your people and what they are doing.
 - Keep track of the passage of time and the speed of the incident.
 - Develop "meta-awareness."
9. Accelerate command knowledge and expertise.
 - Develop habits and routines:
 - Training that is realistic and repetitive.
 - Realistic incident simulations.
 - Pre-load your slides:
 - Near-Miss Reports.
 - Case Studies.
 - LODD Reports.

Fifty Ways to Kill A First Responder

- Learning and reinforcement:
 - Mentorship program.
 - Post-incident evaluations.
 - 25 Point Fireground Command Health Check-up[©]
 - A free download on my website.
 - www.RichGasaway.com

10. Conduct a pre-incident safety audit to identify and correct error creep.

Independent evaluation of your:

- Operations
- Training program
- Policies and procedures
- Equipment
- Communications
- Inspections program
- Hiring and promotional practices
- Organizational culture

Identify and correct problems BEFORE a catastrophic incident occurs.

Gasaway Consulting Group, LLC
P.O. Box 13542
St. Paul, MN 55113-0542
Phone: 651-331-8518

If you are interested in hosting a program, please contact Dr. Gasaway at:

www.RichGasaway.com

RBG3100@aol.com