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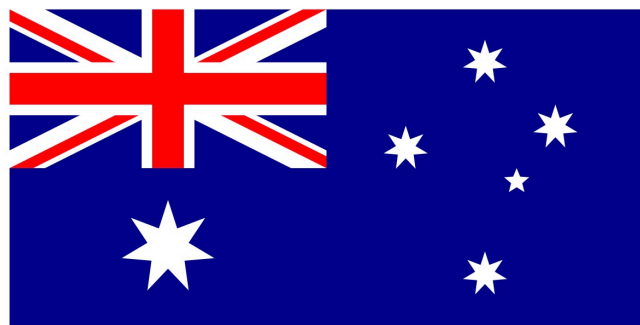
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# Flawed Situational Awareness:

## A stealth killer of first responders.

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What smart  
responders know...

# Situational Awareness

The foundation for good  
decision making.

National Institute of Occupational Safety & Health

<https://wwwn.cdc.gov/NIOSH-fire-fighter-face/Default.cshtml>

# Top 3 Contributing Factors

1. Flawed Situational Awareness
2. Poor Decision Making
3. Human Error

It's logical...

The better you  
understand a situation.

The better your  
decision making will be.

You can have **TERRIBLE**  
situational awareness.

And still make a  
**GREAT** decision.

We call that...

**Lucky**



What many  
responders don't know...

Let's program out  
some of the luck...

And replace it with a  
skillset that can improve  
your decision making.

# Situational awareness

Your ability to **PERCEIVE**

**AND UNDERSTAND**

What is happening  
around you...

while being mindful of how time is passing.

And then

Being able to accurately  
**PREDICT** future events...

In time to avoid  
bad outcomes.

**Let's build a house.**

# Perception

**Use your five senses to capture information...  
(clues and cues) about what is happening.**

- **I pay attention!**
- **I keep your head on a swivel.**
- **I look up, down, and all around.**
- **I actively listen.**
- **I size-up the situation.**

**Perception...**

**is the easiest part of the  
situational awareness  
process.**

**Conscious**

**Alert**

**Oriented**

**Scanning your  
Environment**

# Not so fast!

There's  
a  
problem.

Actually, there are  
5 problems.



It's not always  
**OBVIOUS** or **INTUITIVE**  
as to what  
you **SHOULD** be  
paying attention to.

But, sadly, it will be obvious  
to our **critics** and the  
**investigators** after the fact.

Just because something is  
**INTERESTING**, does not  
mean it is **IMPORTANT**.

Think social media.

We can go  
**HEAD'S DOWN**  
on a task  
(or technology)  
and miss the  
**BIG PICTURE.**

Two people

Can look at the same thing...

At the same time...

From the same angle...

And see things differently.

Even when you are all-in  
paying attention, you  
**WON'T** see, hear, and  
understand **EVERYTHING**.

# Understanding

**Making sense out of what you:**

**See, hear, feel, taste & smell**

**Comprehension**

**Moment of clarity**

**Be Curious**

**Ask questions.**

“What does this mean?”



**“Is this what I expected?”**

# Flawed Perception of Reality

It seems so easy...

See... and understand.

Hear... and understand.

# Barriers

Block or prevent:

Perception

Understanding

Prediction

# Sensory Conflict

Ears

A

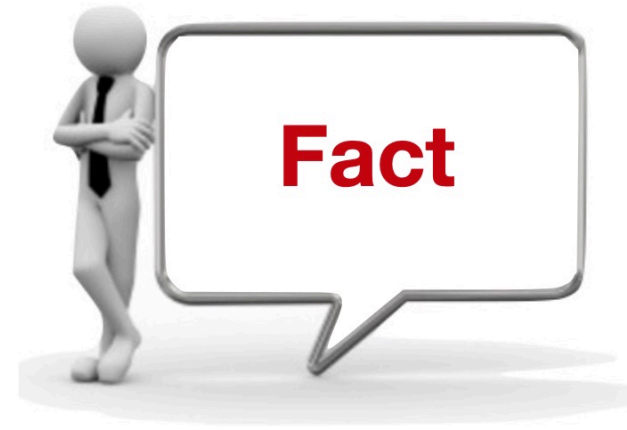
Eyes

B

What happens when the puzzle  
pieces don't fit together?

**It causes confusion in your brain.**

Confusion makes  
linemen vulnerable for:



Mistakes

Bad Decisions

Near-Misses

Injury

Death





When confused...  
your awareness can “shift”

From “External” awareness

To “Internal” awareness

# Mind Drift

# Robotic Action



Acting  
without  
thinking.

# Example: Officer-Involved Shooting

Where in your brain does your  
puzzle of understanding  
get assembled?

# Consciousness

Conscious  
awareness

Situational  
awareness

There are two kinds of  
puzzle pieces:

Positive = can see/hear

Negative = cannot see/hear

Only experts can  
comprehend the  
meaning of the  
missing information.

How long does  
it take to acquire  
expert job knowledge?



10 years. 10,000 hours.

Some can take more time.

Some can take less time.



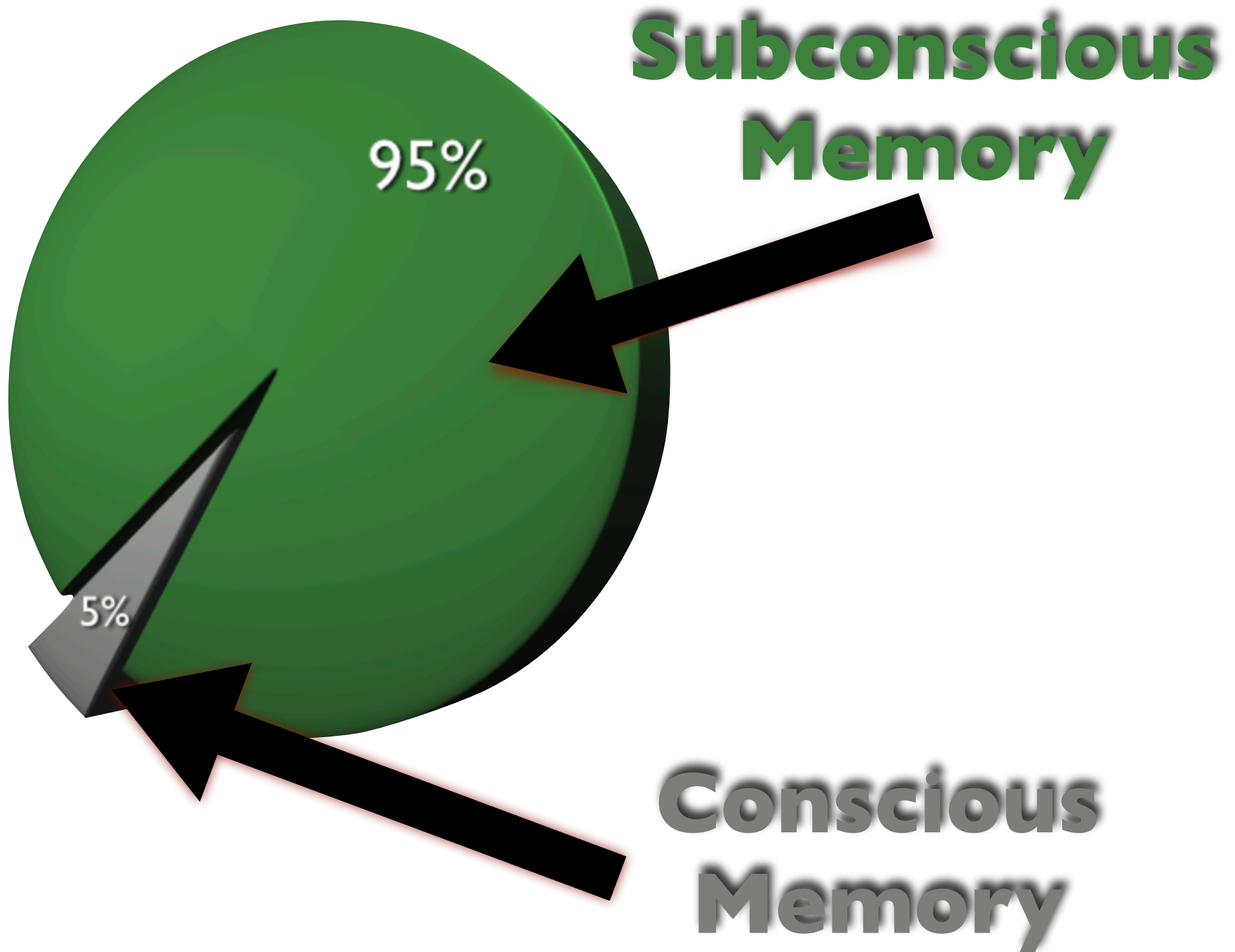
# Memory Recall

# Long Term Memory

The capacity of your  
long-term memory:

10 times all the information  
stored on the Internet.

You can only consciously access  
about 5% of your  
long-term memory  
database.



# Memory Recall

Can trigger the 6th sense.

# Intuition

Knowing...

Without knowing...

How you  
know.

How do you know?

If you don't know...

How you  
know?



Hair stands up on the  
back of your neck.

Voices in your  
head talk to you.

Impending feeling  
of doom.

You get a gut feeling.

# **Your Red Flag Warning System**

*Intuition*

**There are a couple of  
problems with intuition:**

**It is easier to trust  
your conscious memory  
than your intuition.**

# The Keith Smith Story

**Your intuition  
can be wrong!**

**Should you trust... or not trust your intuition?**

**Bad feeling = Trust your intuition.**

**Blissful feeling = Don't trust  
your intuition**



# Prediction

**Being able to Anticipate  
future events  
before they happen.**

# Prediction

**Begin... with the end in mind.**

Target

Goal

Objective

Benchmark

# Example:

Looking at the picture of  
a completed jigsaw  
puzzle before you start  
assembling it.

# Situational Awareness Barriers

**Distractions**

**Interruptions**

# Distractions

- Not intentional
- Short duration
- Low complexity.

# Interruptions

- Often involve human interaction
- Intentional
- Longer duration
- High complexity.

# Prediction

**Where is this event headed?**

**If...**

**We do nothing but watch.**



# **Example:**

**Where is this  
house fire headed?**

**If...**

**We do nothing but watch.**

**This question forces you to  
think about the future.**

# Flashover

# Collapse

# Prediction

**How long is it going to  
take for an undesirable  
outcome to occur?**

# Window of Opportunity

**Civilian  
Survivability**

Once the window closes...



# Window of Opportunity

**Firefighter  
Survivability**



Once the window closes...



# Prediction

**Every event unfolds at a certain pace (speed).**

**Be mindful of the passage of time.**

The ability to perceive AND  
understand what is happening in  
your environment

**(while being mindful of how time is passing)**

and then, in turn, be able to  
accurately predict future events...  
in time to avoid bad outcomes.

# Tracking time means...

**Tracking how  
fast the  
windows  
are closing.**

# Prediction

## Setting Expectations

# Prediction

**Can we change the outcome?**

Don't get in the way of  
outcomes you cannot change.

If you do...

You will become a  
victim of the outcome.

# Prediction

**Are the conditions right?**



**If conditions are right...**

**Be aggressive.**

**If conditions are not right...**

**Be conservative.**

**(To start with)**

**Be SMART aggressive.**

# Prediction

**Do we have the  
right resources?**

**Do all members possess  
equal amounts of:**

**Knowledge**

**Skills**

**Abilities**

**Fitness**

**Stamina**

If not...

Then don't hold  
the same expectations  
as if they are.

# Five situational awarenesses

1. Personal Awareness
2. Team Awareness
3. Resource Awareness
4. Incident Awareness
5. Shared Awareness

# Prediction

**Can we operate faster than  
conditions are changing?**

Can we operate faster than...

**the windows  
are closing?**



# Prediction

**How much time do we have?**

**Set your bingo time.  
And track the passage of time.**

# Situational Awareness Development Process

# Perception

Gather puzzle pieces  
(information)

Look + listen + smell  
+ feel + taste

# Understanding

Assemble the puzzle.

Search your memory  
database for solutions.

You may get some help  
from intuition.

# Make a decision

A decision is a choice from  
at least TWO options.

Plan A

Plan B

After you  
Make a decision



After you make your decision...

**Pause** (momentarily)

**Make a prediction**

Visualize the outcomes of  
your decision option  
prior to implementation.



# Use predictions to drive actions

If your predicted outcome of **Plan A** is good:

Implement Plan A.

# Use predictions to drive actions

If your predicted outcome of Plan A is not good:

Consider implementing **Plan B** (or Plan C or Plan D).

# Situational Awareness Barriers

Anything that blocks:

Perception  
Understanding  
Prediction

Pre-arrival lens

Say to yourself...  
“Maybe!”

Just because you're told something,  
it doesn't mean it's true.

**Avoid pre-mature  
decision making.**

Conduct an original  
size-up.

Have dispatch prompt  
the first arriving  
to provide a 360 degree  
size-up report.



Announce over the radio  
the 360 size-up was  
(or was not) completed.

Have more than one  
person complete  
the 360 size-up.

# Urgency

What causes a sense of urgency?

The faster conditions  
are changing...

The more likely you are to  
feel a sense of urgency to  
do something quickly  
(take shortcuts).

# Pressures

Deadlines

Supervisors

Peers

Community

Politics

Self-imposed

# Consequences of urgency:

- Impatience
- Frustration
- Miscommunications
- Hyper focus
- Conflicting priorities
- Shortcuts.

Avoid...

Shortcutting  
best practices.

# #1 SA Shortcut

Not completing  
a proper size-up.

Throwing around a  
solution before  
understanding the problem.





CONSIDER

Avoid the...

“No time to waste!”  
mindset.



CONSIDER

Be concerned when your  
internal voice says:

“There’s no time to do it right.”

“There’s only time to do it fast.”

# Consequences of urgency:

- Impatience
- Frustration
- Miscommunications
- Hyper focus
- Conflicting priorities
- Shortcuts
- Stress.

**Stress changes  
brain function.**

# Impact of stress on brain function:

- Rational judgment decline
- Intuitive judgment enhanced
- Attention narrows
- Hyper vigilance
- Struggle with complex/detailed information.
- Revert to behaviors that are comfortable, routine and habitual.

# Over Confidence

What causes  
over confidence?

Doing things...

That are NOT best practices...

And being rewarded...

With successful outcomes.

# Complacency



# Complacent Mindset

When you become  
complacent...

You let your  
guard down.



CONSIDER

Assumed risk = unavoidable.

Created risk = avoidable.

# Inexperience...

may increase risk taking.

## Ignorance

You don't know what you don't know.

# Experience...

may increase risk taking.

Desensitized to risk.

CONSIDER

When are you most  
likely to be complacent?

# A Recipe for Tragedy

Complacency = Guard Down

Guard Down = Not Paying Attention

Not Paying Attention = Flawed SA

Flawed SA = Poor Decisions

Poor Decisions = Mistakes

# Mental Rehearsal

Visualize yourself in  
high-risk scenarios  
(before they happen).

**Be a student  
of near-miss and  
casualty events.**



# Confabulation

# Confabulation

What does it mean?

It means your brain  
is lying to you.

**In the absence of facts  
we can assume.**

**(An assumption is a made-up reality.)**

Your perception of reality  
can be flawed...

And you won't even know it.

# Short-Term Memory Overload

# Capacity:

The average person's  
short-term memory capacity is:

5-7 pieces of  
unrelated information.

Focus on the 4-5 most  
important pieces of  
information.

Respect your  
short-term  
memory limits.



Use memory aids:

Worksheet  
Checklist

# Auditory Exclusion

# Auditory Exclusion

means...

You're going deaf.

Noise

Heart Rate

Tunneled Hearing

Too Much Radio Traffic

Radio traffic audit

DIMWIT

Does it matter what I transmit?

Use standardized  
terms, phrases &  
cadence.

Use full-loop  
communications.

# Sterile Communications

What does it mean?

Limit all communications  
to issues related to  
the work being performed.



**FEAR**

The #1 thing people  
fear doing the most?



CONSIDER

What do people fear about public speaking?

Being wrong

Consequence

Ridicule

Embarrassment

Judgment

Firefighters may fear  
speaking up...

even though they've  
been told it's ok to do.



CONSIDER

Don't just say: "Speak up!"

Teach: What to say.

Teach: How to say it.

And practice speaking up!

# Task Fixation

# Task Fixation

Extremely common in  
jobs that require  
hand-eye coordination.

**Maintain big picture  
awareness.**



# Parting thoughts

# Situational Awareness:

- Is a mindset, not a “program.”
- Requires ongoing meta awareness.
- Requires a level of vigilance to surroundings.
- Requires understanding how barriers flaw awareness.
- Is rooted in understanding human error.

## Parting thoughts

# Situational Awareness:

- Should not be left up to someone else.
- Is impacted by volumes & complexity of data.
- Requires continuous practice.
- Is correlated with experience, not intellect.
- Technology does not create situational awareness.
- Cannot be mastered by attending a one day class.

# SAMatters.COM

**S**ITUATIONAL **A**WARENESS **M**ATTERS!

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**Helping you see the bad things coming...  
in time to prevent a bad outcome.**