

Training for Failure:

Why some first responder
training must change

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Public Safety Laboratory
Where brain science meets public safety



#1

Contributing Factor
to casualty events:

Flawed Situational Awareness



#2

Contributing Factor to
casualty events:

Poor Decision Making



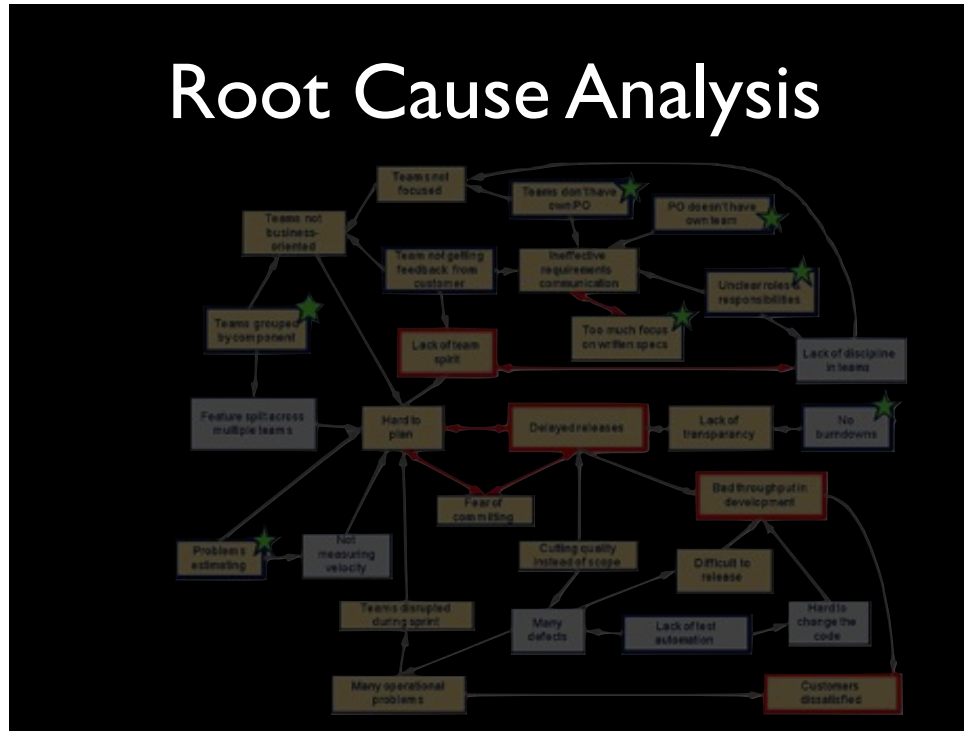
#3

Contributing Factor
to casualty events:

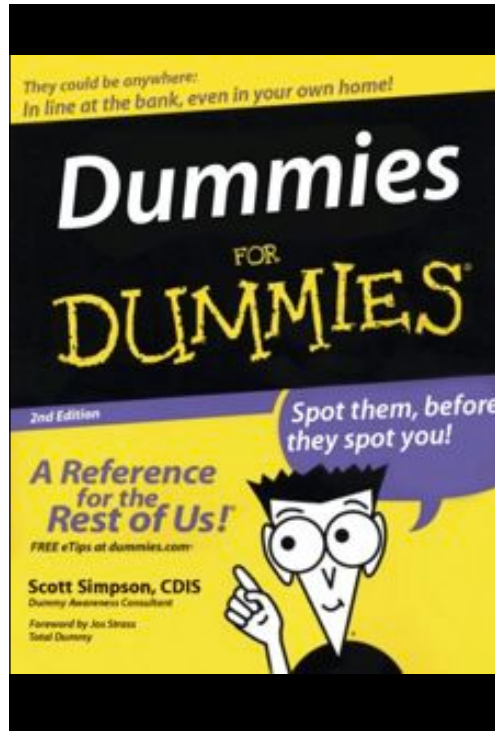
Human Error



Root Cause Analysis







Dumb:

Lacking intelligence;

Lacking the ability to reason through a situation;

Marked by acting or thinking irrational.



Momma always said:
“Stupid is _____.”

Do first responders do dumb things
at emergency scenes?

Are responders doing
dumb things on purpose?

Can a responder be
accidentally dumb?

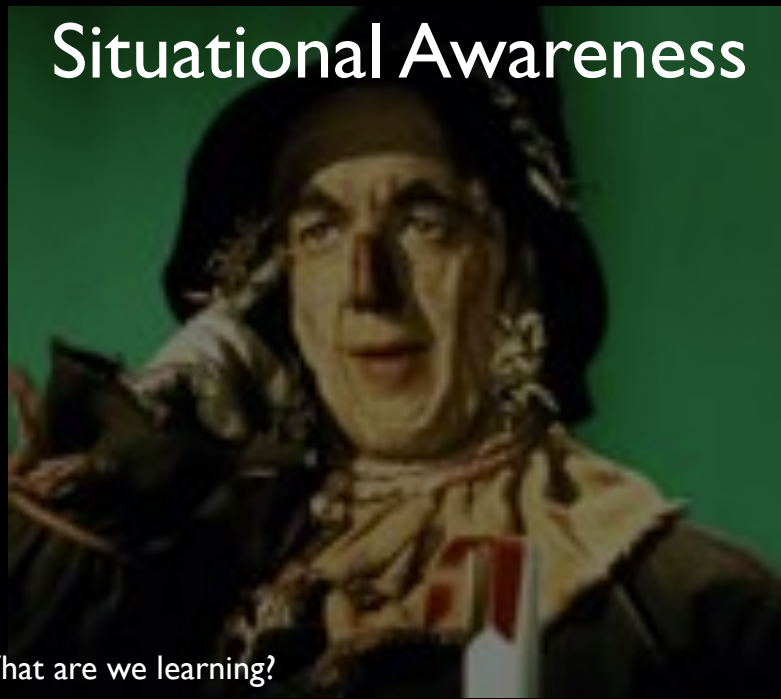
Unconscious Incompetence

The condition of being unaware of
your own shortcomings.
(Not knowing any better)

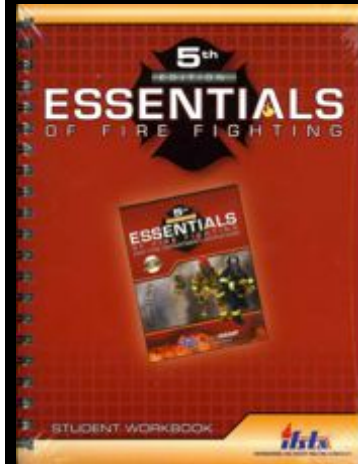


**TOTALLY
CLUELESS**

Situational Awareness



What are we learning?



... strength ladder.

Situational Awareness — Awareness of immediate surroundings.

St. M. ...



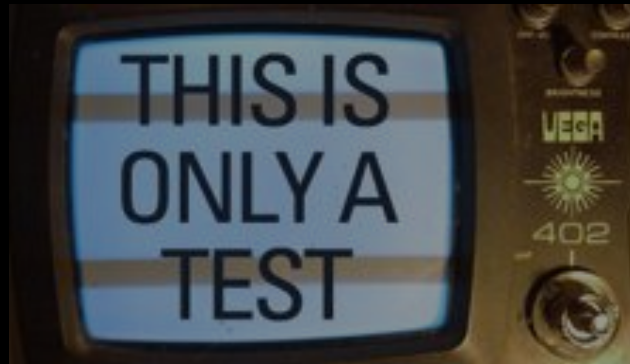
Fig. 35-8. Water rescue responders must maintain a situational awareness to prevent being caught by debris or obstacles.

Situational Awareness

“Pay attention”

“Don’t get tunnel vision!”

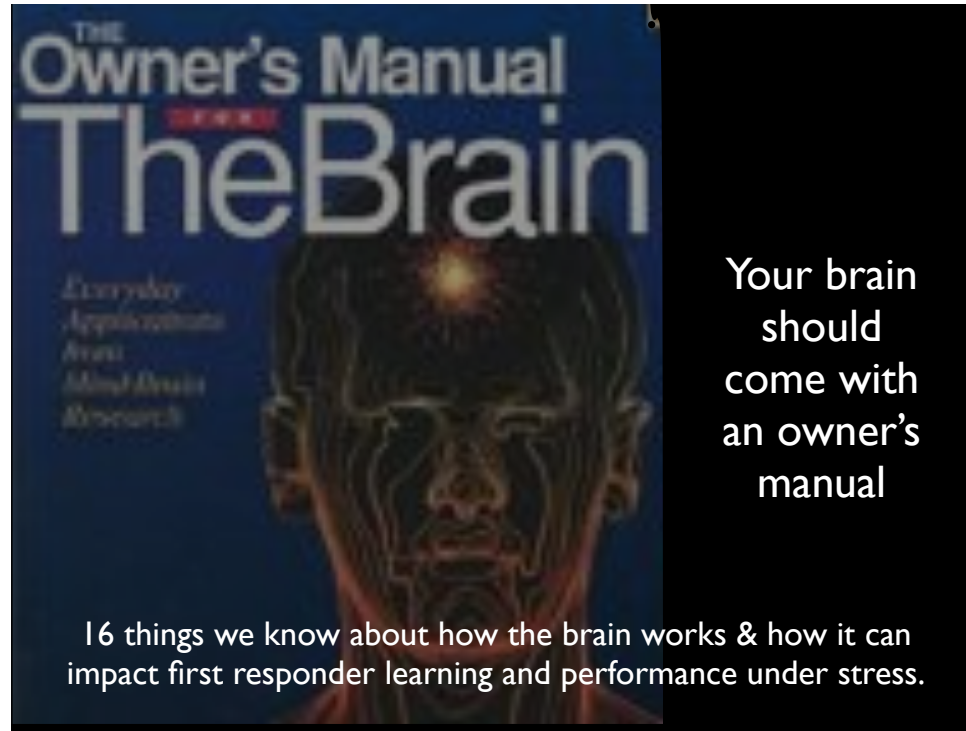
Testing your situational awareness



Stress changes everything!

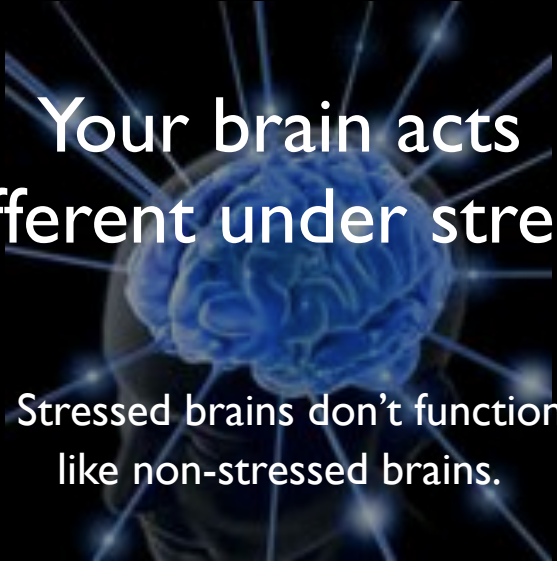
- Your brain goes on drugs
- Hereditary instincts kick in.
- Rational judgement becomes impaired
- Intuitive judgment dominates
- Attention narrows
- Hyper vigilant
- Struggle to understand and process complex information
- Revert to behaviors that reflect routines and habits





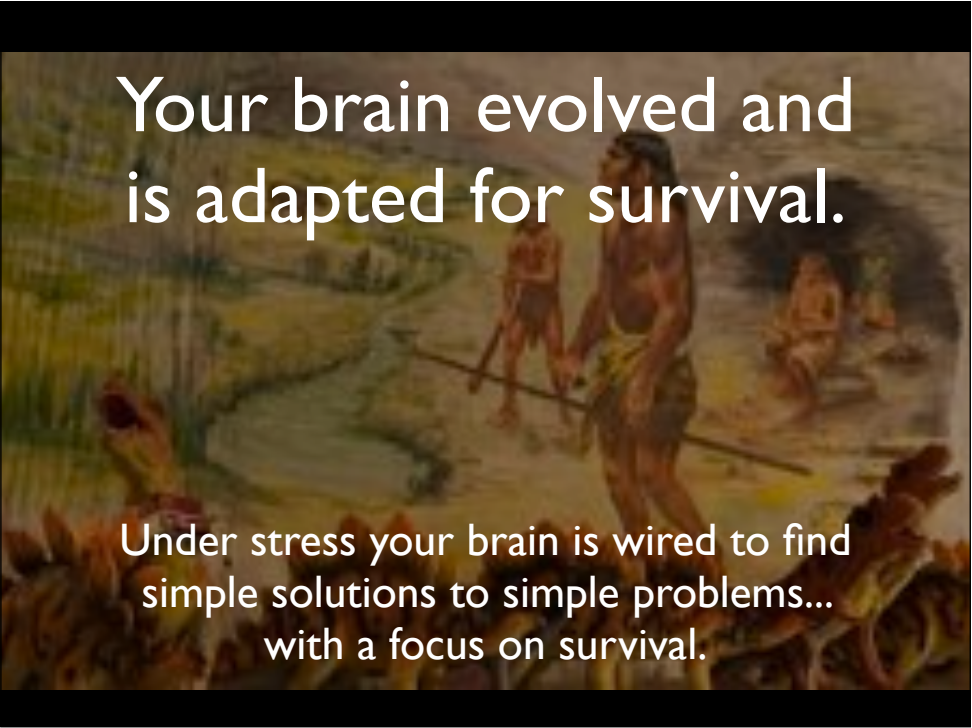
Your brain
should
come with
an owner's
manual

16 things we know about how the brain works & how it can impact first responder learning and performance under stress.



Your brain acts
different under stress.

Stressed brains don't function
like non-stressed brains.

A painting depicting a prehistoric scene. In the center, a man stands holding a spear. To his left, another man is visible. In the background, a woman is seated. The foreground is filled with a large group of people, possibly a tribe, gathered around a central point. The setting appears to be a natural, outdoor environment with some vegetation and a body of water or a clearing in the distance.

Your brain evolved and
is adapted for survival.


Under stress your brain is wired to find
simple solutions to simple problems...
with a focus on survival.

Your training develops two types of memory.

Cognitive (information)

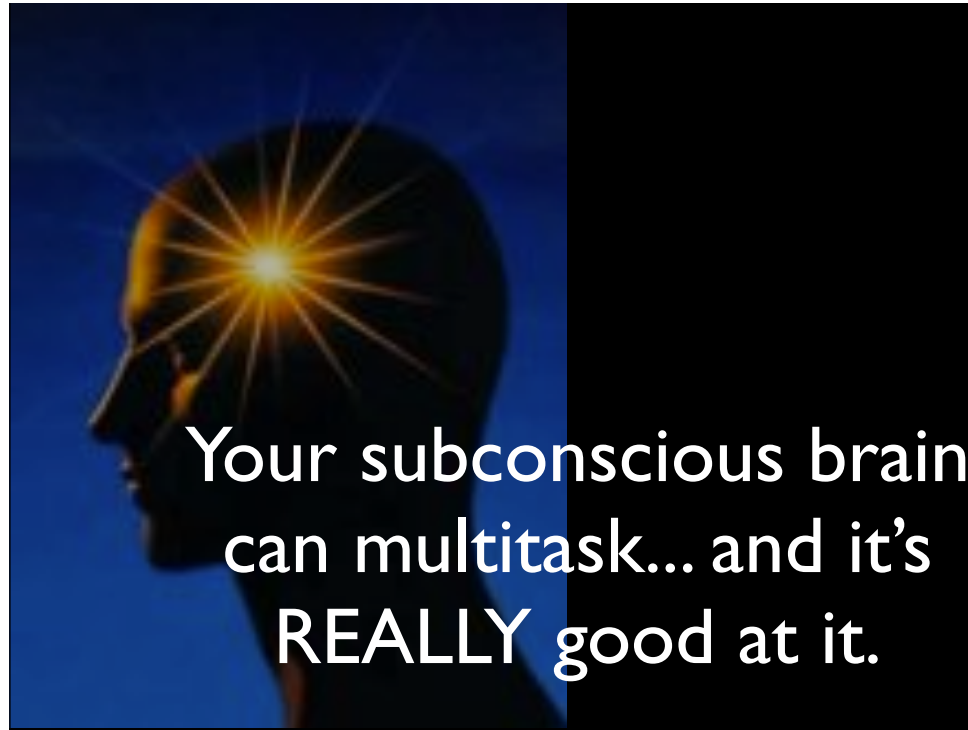
Kinesthetic (muscle movement)



A person is sitting at a desk in a room that is completely covered with yellow sticky notes. The person is wearing a white shirt and dark pants, and is looking towards the wall. The sticky notes are scattered all over the wall and desk, creating a dense, chaotic environment. The text "You cannot consciously multitask." is overlaid on the image in white font.

You cannot
consciously multitask.

This includes paying attention in a
dynamically changing environment.



Your subconscious brain
can multitask... and it's
REALLY good at it.

You are a...



Stress induces automatic habitual performance.

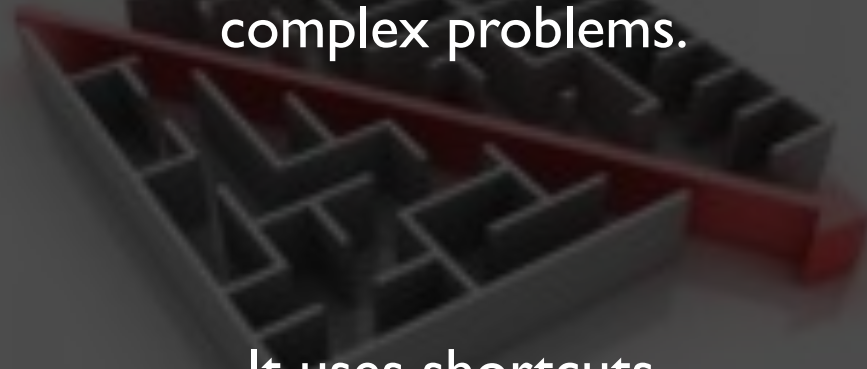
Under stress, behavior may
not appear rational.

That's because it's not!

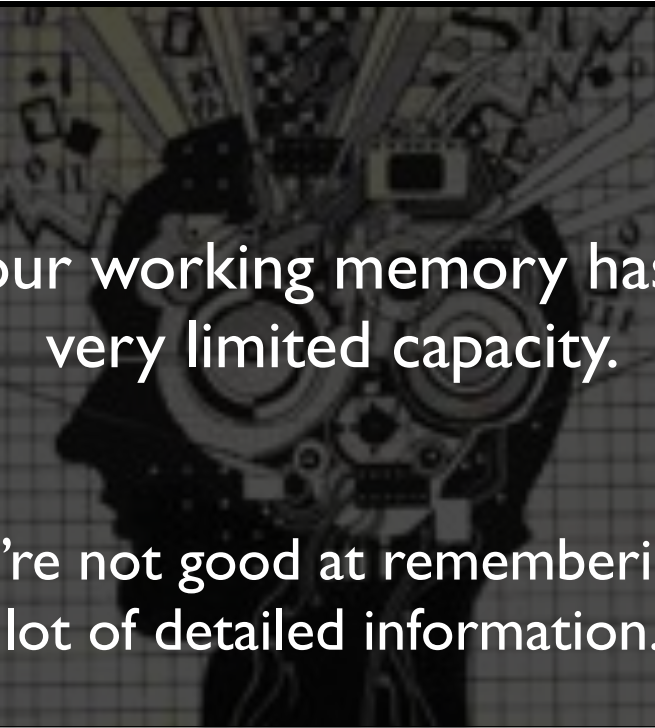


IRRATIONAL

Your stressed brain is NOT very good at figuring out solutions to complex problems.



It uses shortcuts,
rules of thumb & estimates.



Your working memory has a
very limited capacity.

We're not good at remembering a
lot of detailed information.

Your brain prioritizes
incoming information.

And for the most part,
you cannot control what it
keeps and what it dumps.

HIGH PRIORITY

You can fool your
brain into learning.

FACT FICTION

Your brain can have a very difficult
time distinguishing cognitive FACTS
from vividly imagined FICTION.

Your brain... is a stubborn brain.



Once you lock on to doing something (like an action plan), it can very difficult to change your mind or see an alternate solution.

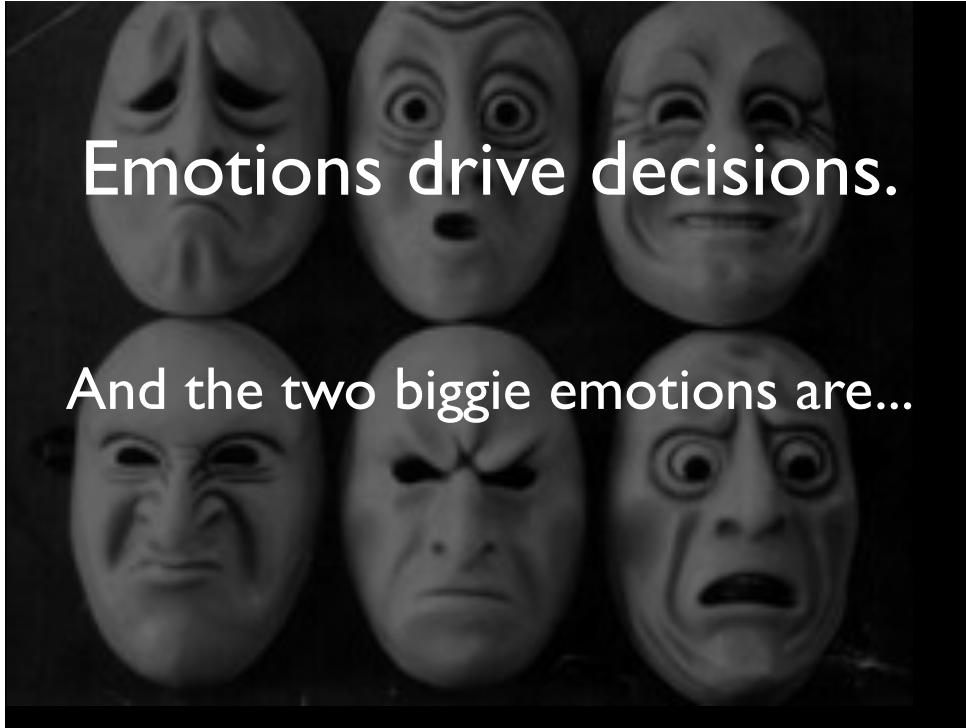


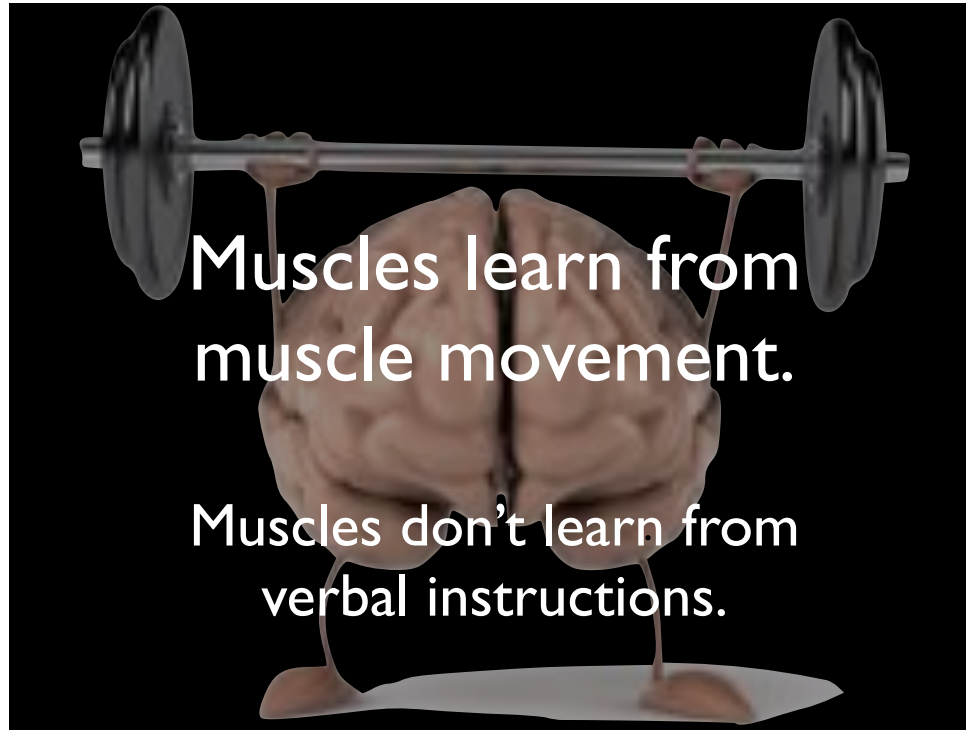
When you're judging,
you cannot learn.

And we are sometimes quick to
judge the performance of others.

Emotions drive decisions.

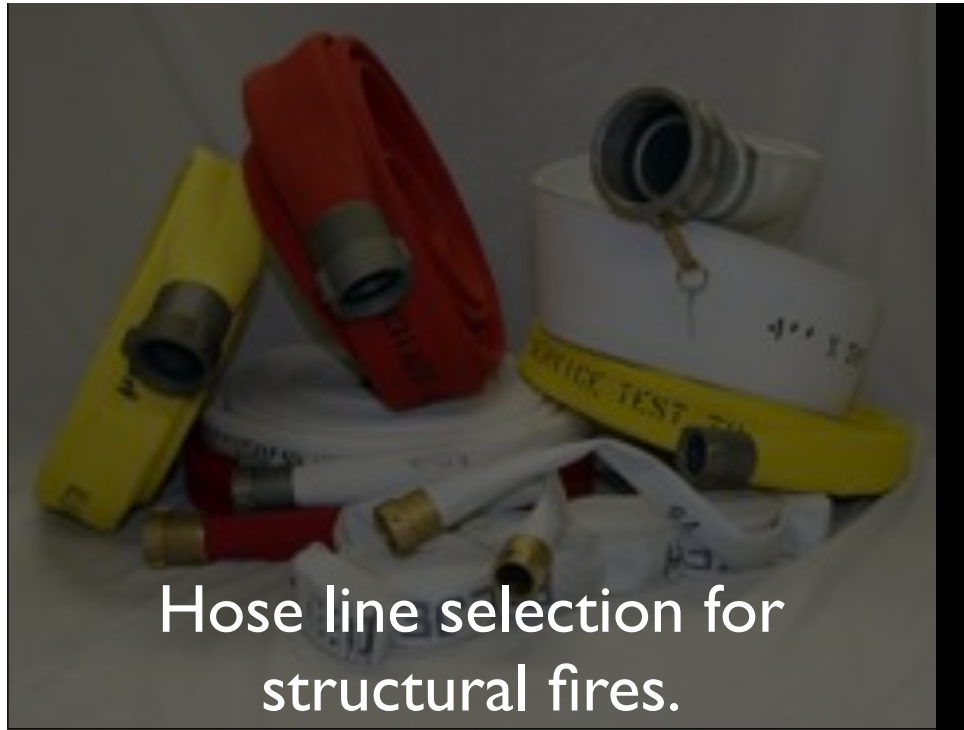
And the two biggie emotions are...





Muscles learn from
muscle movement.

Muscles don't learn from
verbal instructions.



Hose line selection for
structural fires.



The aggressive interior fire
attack drill

Every building on fire is in the
process of falling down.

Is this building?





The Interior Fire Attack Drill

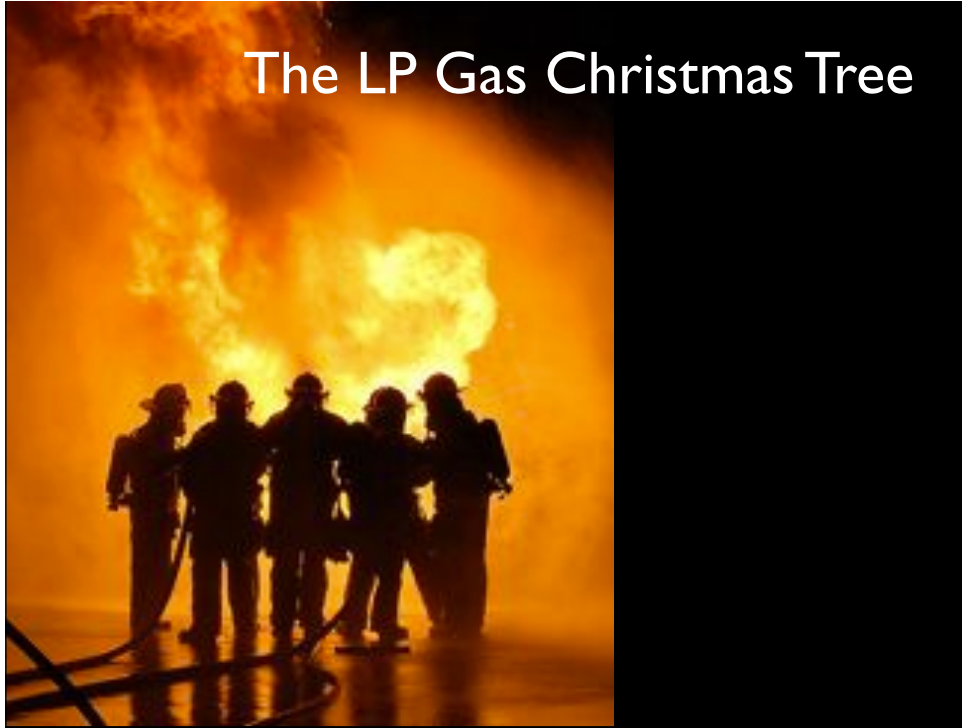


The Patient Care Drill



The Nance Drill

The LP Gas Christmas Tree





The Blind Search Drill



Safety dance

We need to learn a new way to dance.



Helping you see the bad things coming...
in time to change the outcome.

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