



The Neuroscience of High Performance

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### Dr Terri Hunter

Phd in Organisational Psychology

Cert in Neuroscience of Leadership

Cert in brain based Executive Coaching

Individual effectiveness

Brain optimisation

Psychometrics for development

Leadership and team development

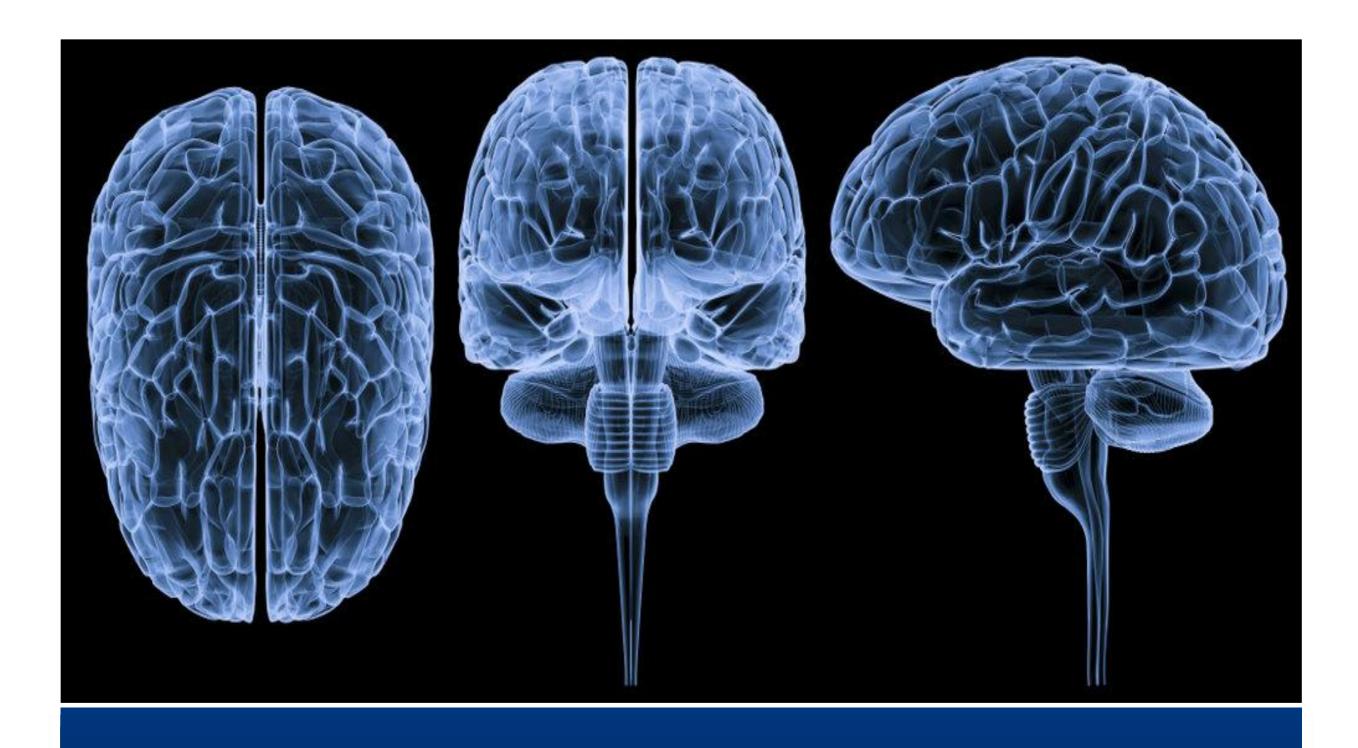
Organisational Change & Culture development



### Things we will explore today

- My brain's brilliance & caring for its needs
- Self Care as Resilience where is mine strong
- 3. Build the 4 blocks of self care to keep my brain at optimum
- 4. 2 min self care for 5 hours benefit





What do you know about caring for your brain?

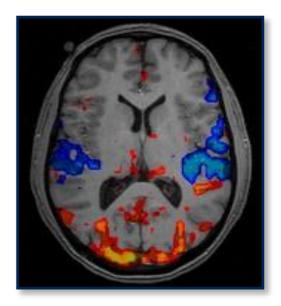
### "Hard" science backs "Soft" skills

- New technologies better understanding
- Real time real function
- Blood flow
- Brain Waves / Electrical Impulses
- Neurochemicals

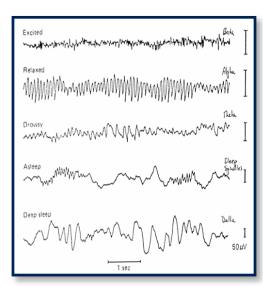


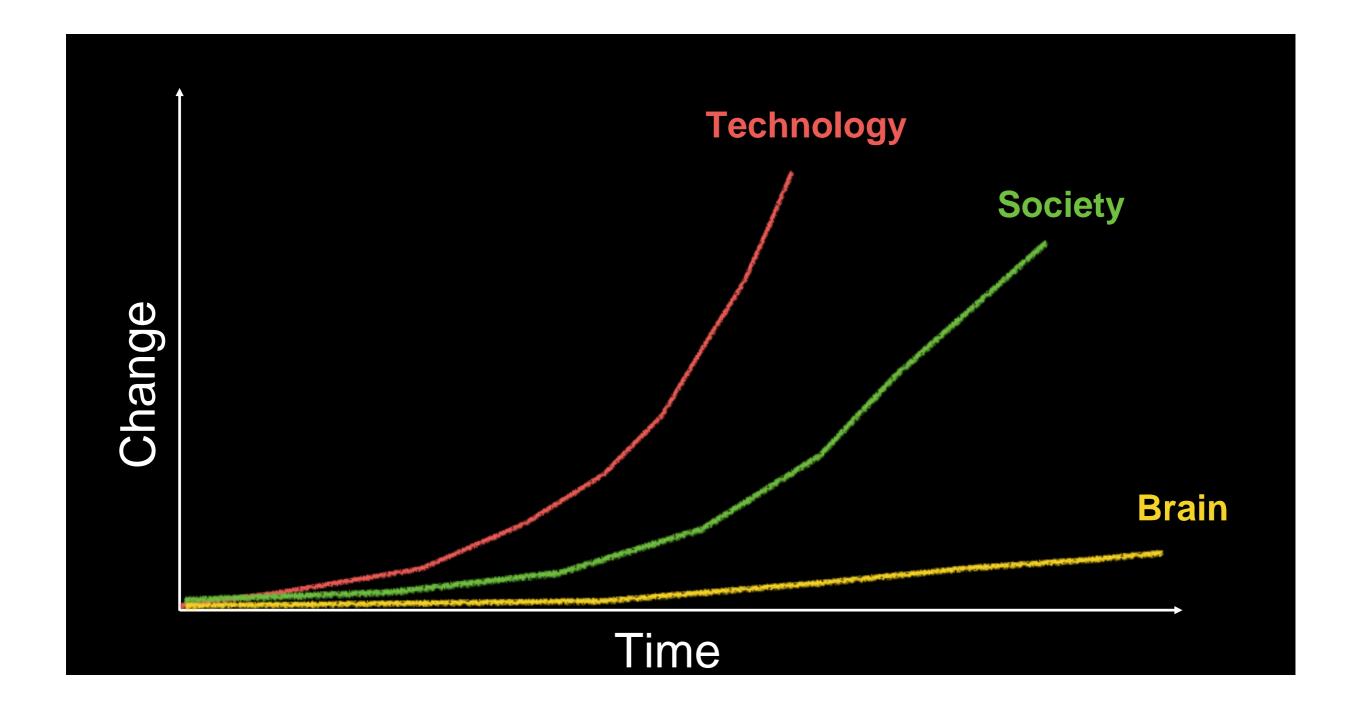












Brain is under increasing stress.....

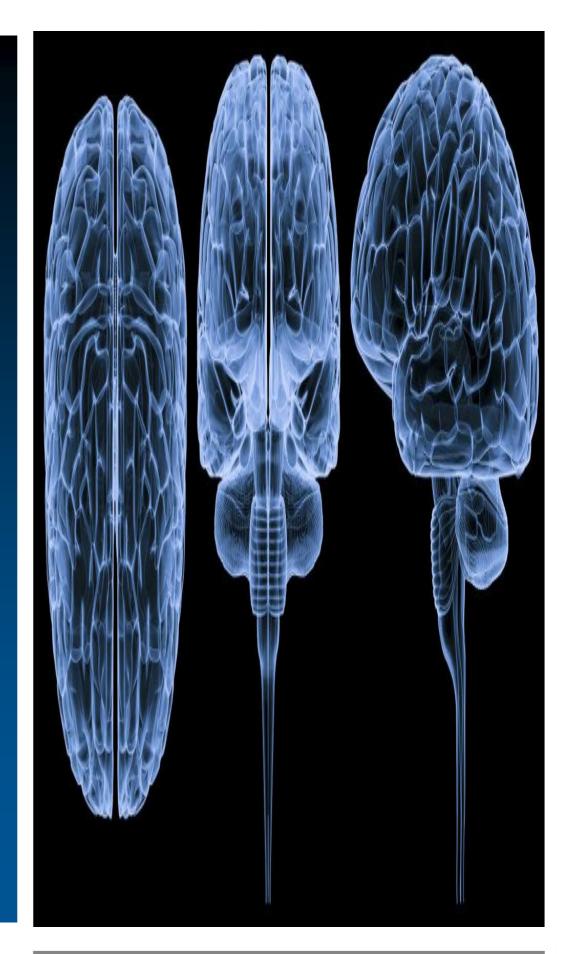
# ...and is not designed to cope with modern times

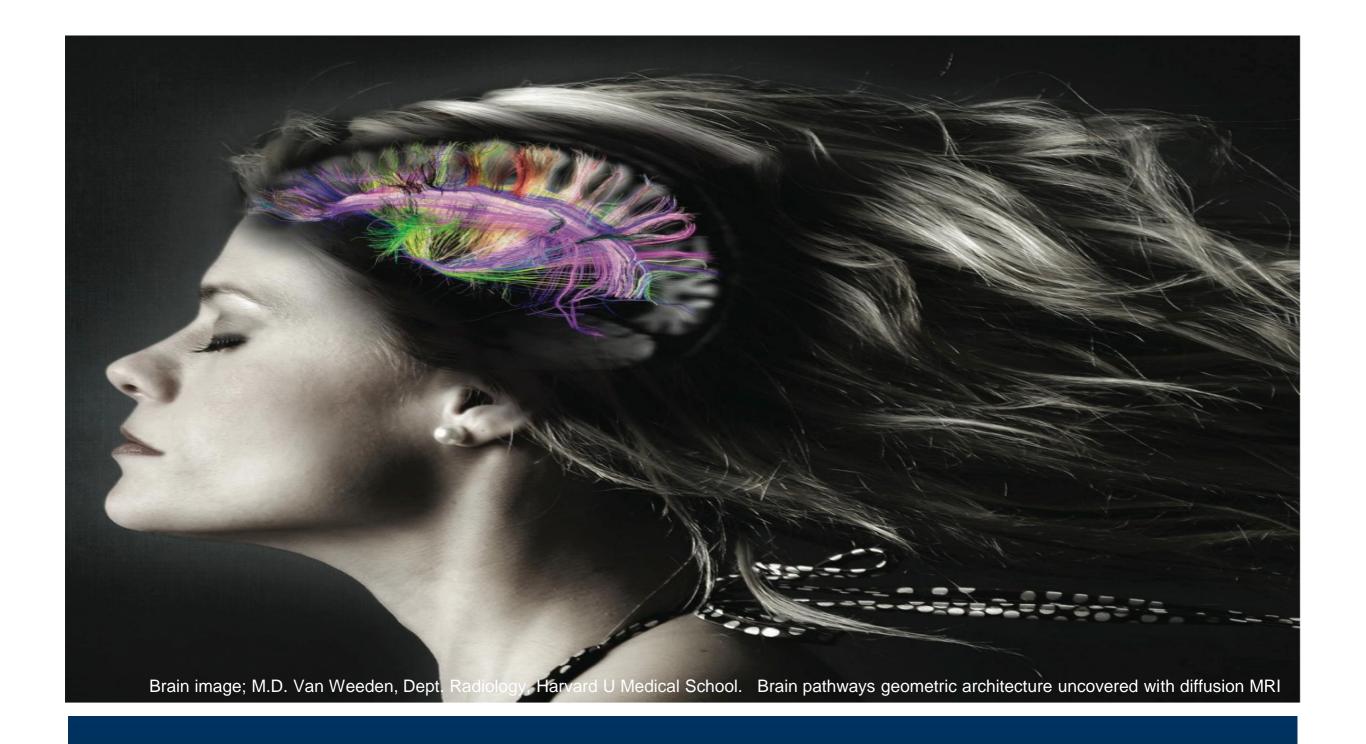
- It started with the need for survival.....and then:
  - new brain mass and functions evolved
  - old original brain remained
  - causing complexity, interference and redundancy



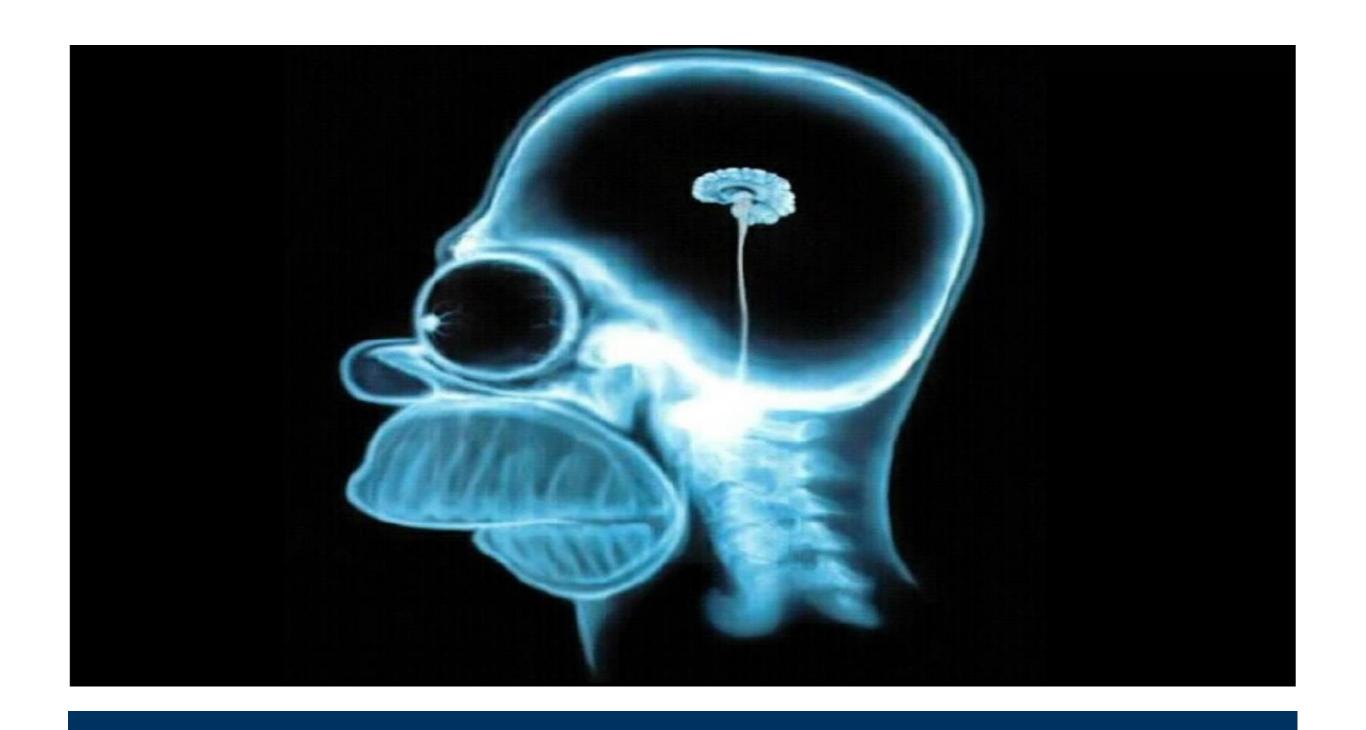
# Amazing structure -only starting to understand

- 85-100 billion neurons
- Each neuron connected to 5000 - 50, 000 others (100 trillion connections)
- Uses 20% of body's energy even though is 2% its size
- During deep thought can be as much as 50% or our energy

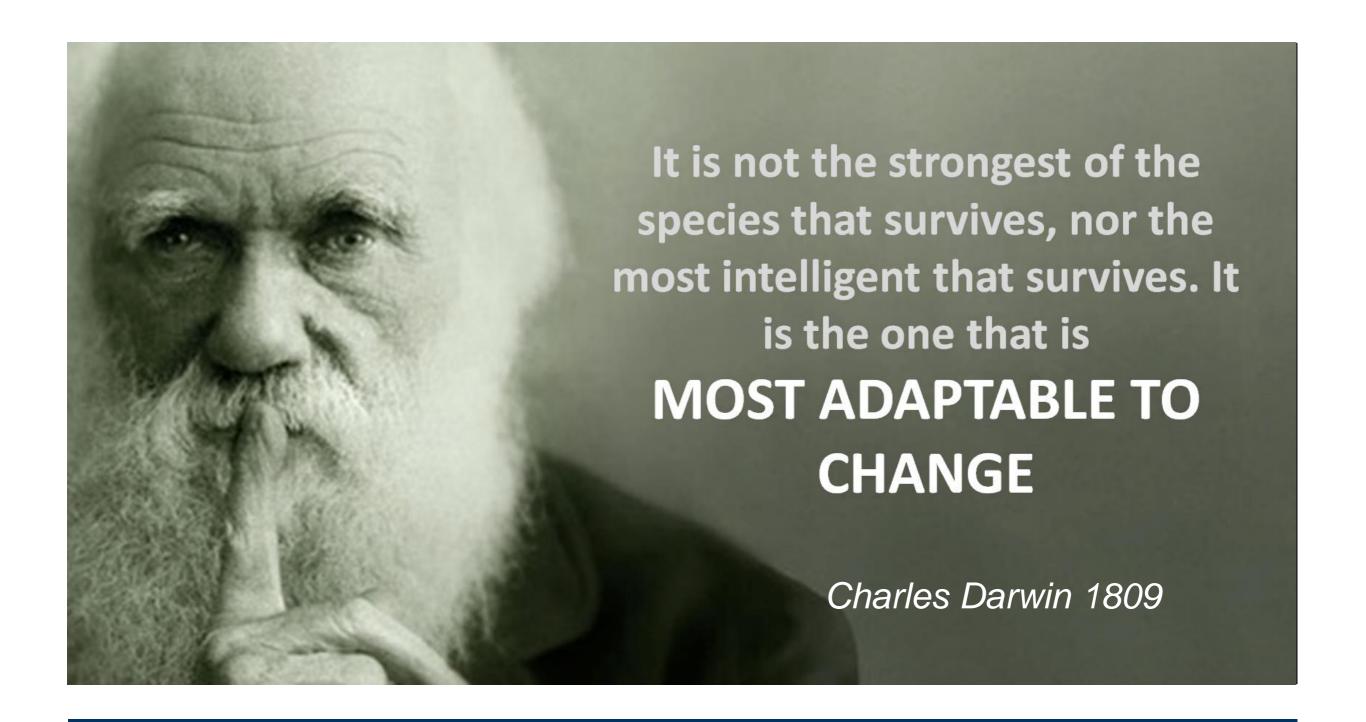




## Our brain in all its glory

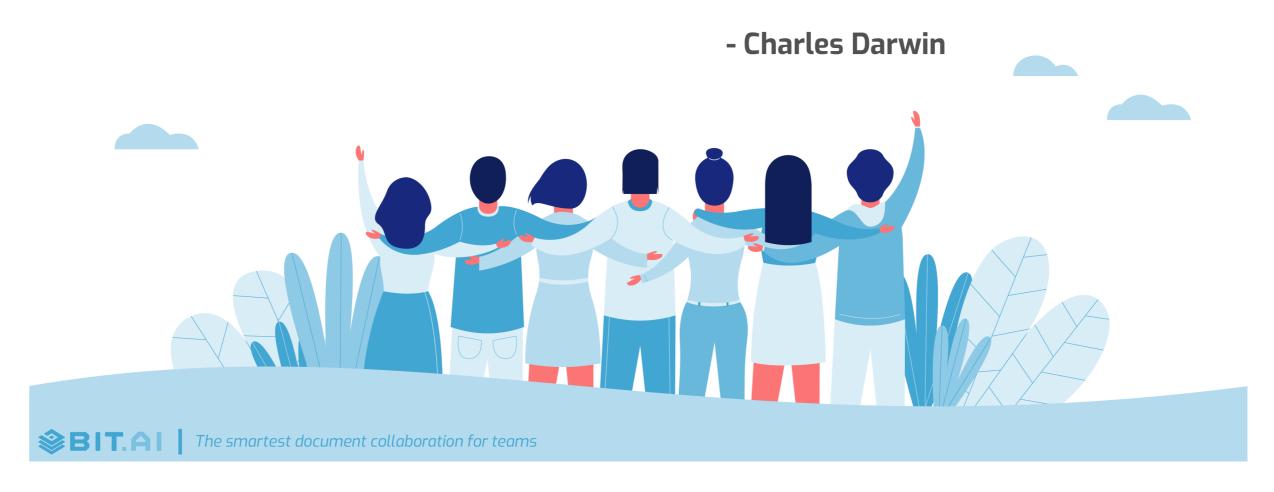


When we don't self care



Resilience is self care in action....

"It is the long history of humankind (and animal kind, too) that those who learned to collaborate and improvise most effectively have prevailed."



### ...and what we need to survive is

#### 1. Self Awareness

Aware what is going on for you - your mind / brain, your body, your environment

#### 2. Thinking (Mindset)

Interpreting situations in useful and constructive way Internal beliefs about your ability to cope /adapt to situations

### 3.Mental & Physical Fitness

Able to *cope* with challenges & stay healthy

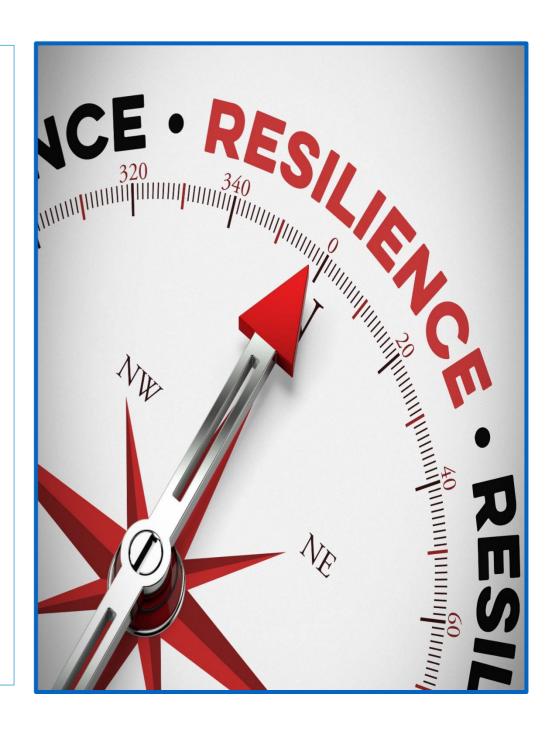
#### 4. Support

Knowing when and where to get support Key relationships

### 4 Building Blocks of Resilience

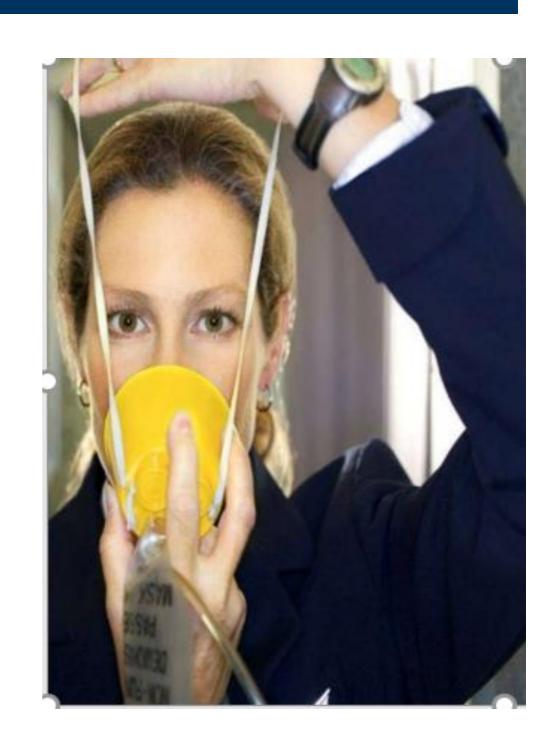
### Ex: Where's my Resilience? 1-5?

- 1. Self Awareness
- 2. Thinking / Mindset
- 3. Mental / Physical Health
- 4. Support

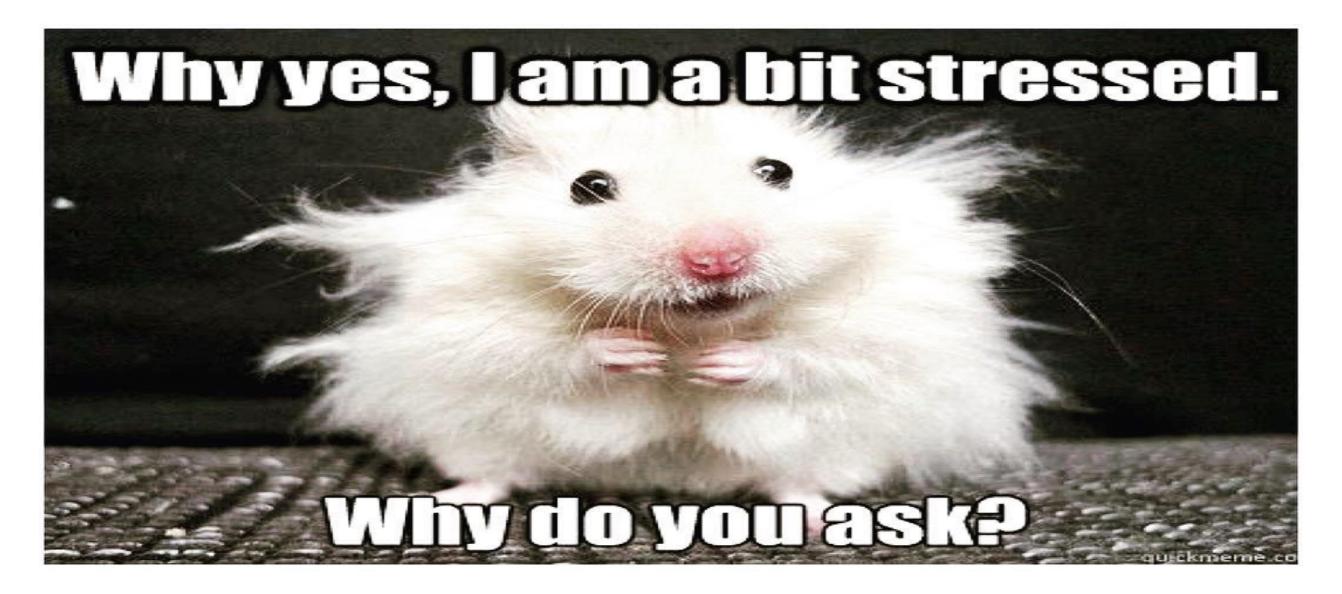


### 4 steps to self care for brain and body

- 1. What does stress look like to me & what's my strategy?
- 2. How do I think and talk to myself?
- 3. How can I stay healthy in brain and body?
- 4. Where / how can I access support?



### ENDING A 14 HOUR WORK DAY LIKE THIS ...

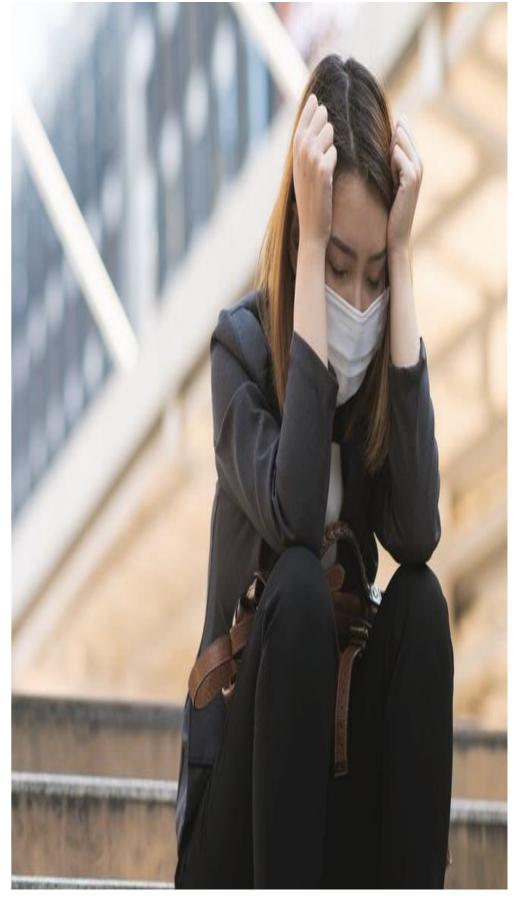


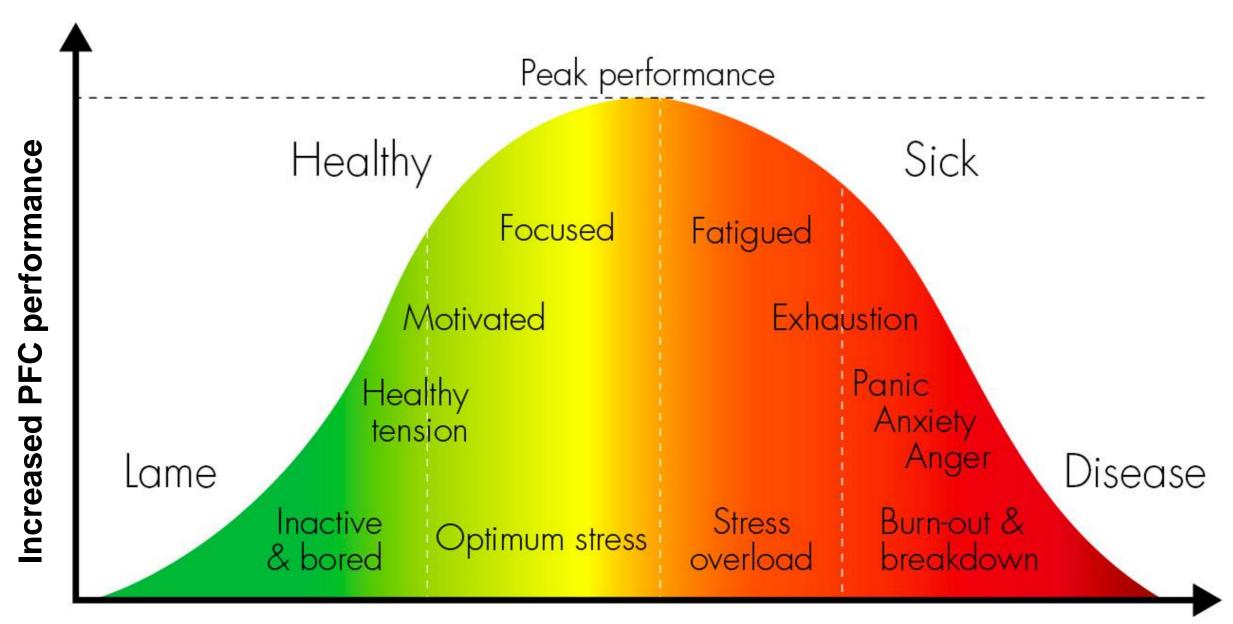
1. Self Awareness - what's going on?

# We are vulnerable to a particular type of stress reaction

# Compassion Fatigue is prevalent in health & social care, first responders, empathetic people

- The physical, emotional, and psychological impact of helping others
- Often called secondary trauma or secondhand shock
- Can build or sudden onset
- Interesting debate in neuroscience and social psychology – diff areas of brain and diff neurochemicals

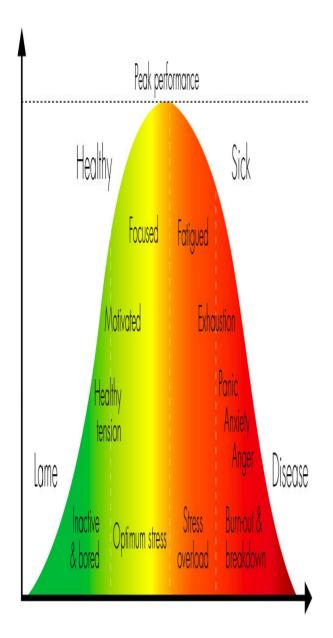




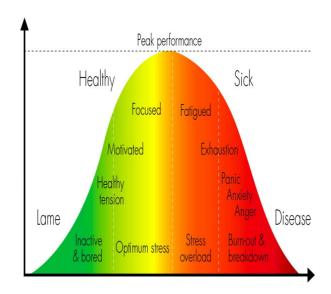
**Stress level** 

Increase in catecholamine release (cortisol, dopamine)

### Not all stress is bad.....





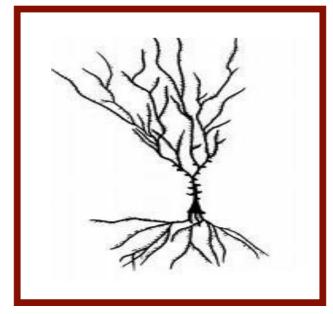


# Ex: Plot different activities / people on MY curve

#### **Normal**

**Stress** 

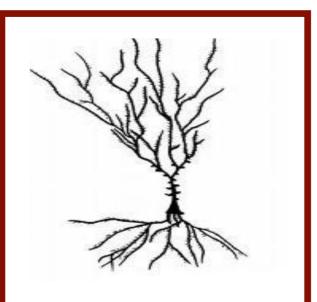
Hippocampus (memory)





Amygdala (fear response)





### ...but bad stress affects brain & body

# Slows PFC (new part brain)

- Decision making poor
- Cognitive flexibility poor
- Memory poor
- Attention poor



Changes in neurotransmitters

- Mood lower
- Motivation lower
- Network integrity lower

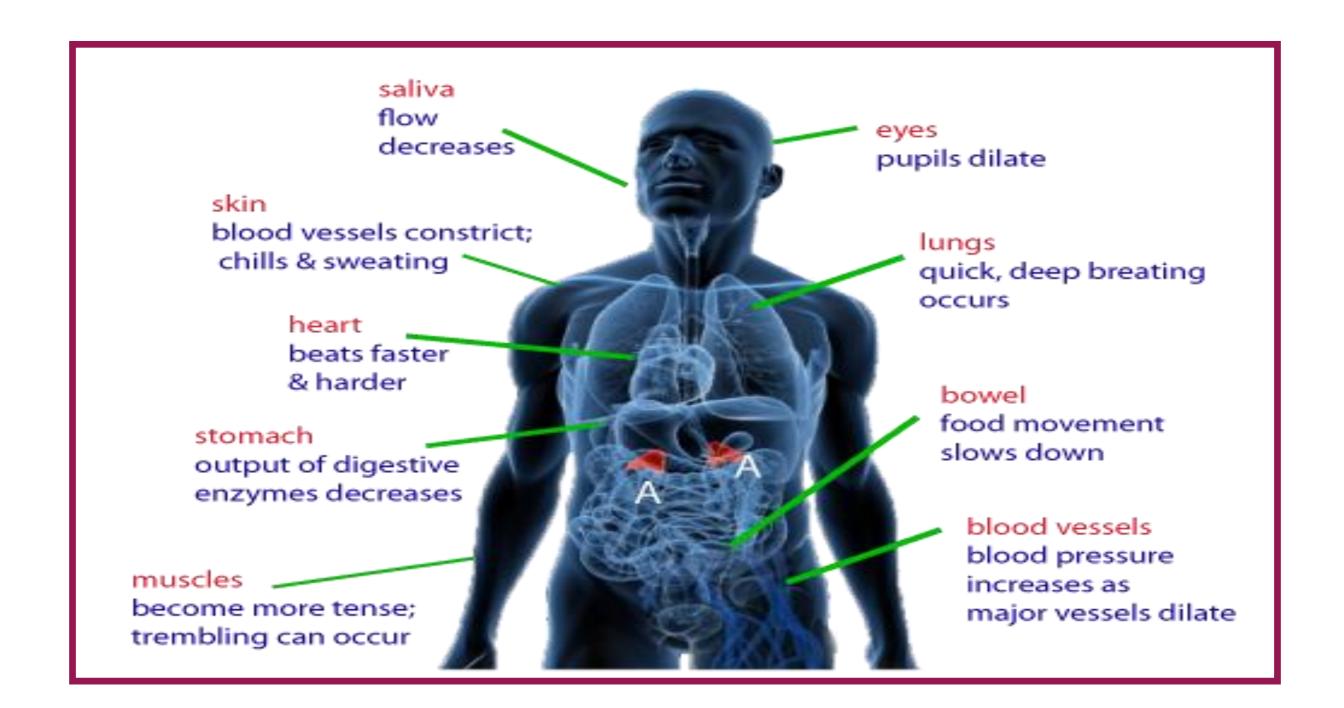


Strengthens amygdala (old part brain)

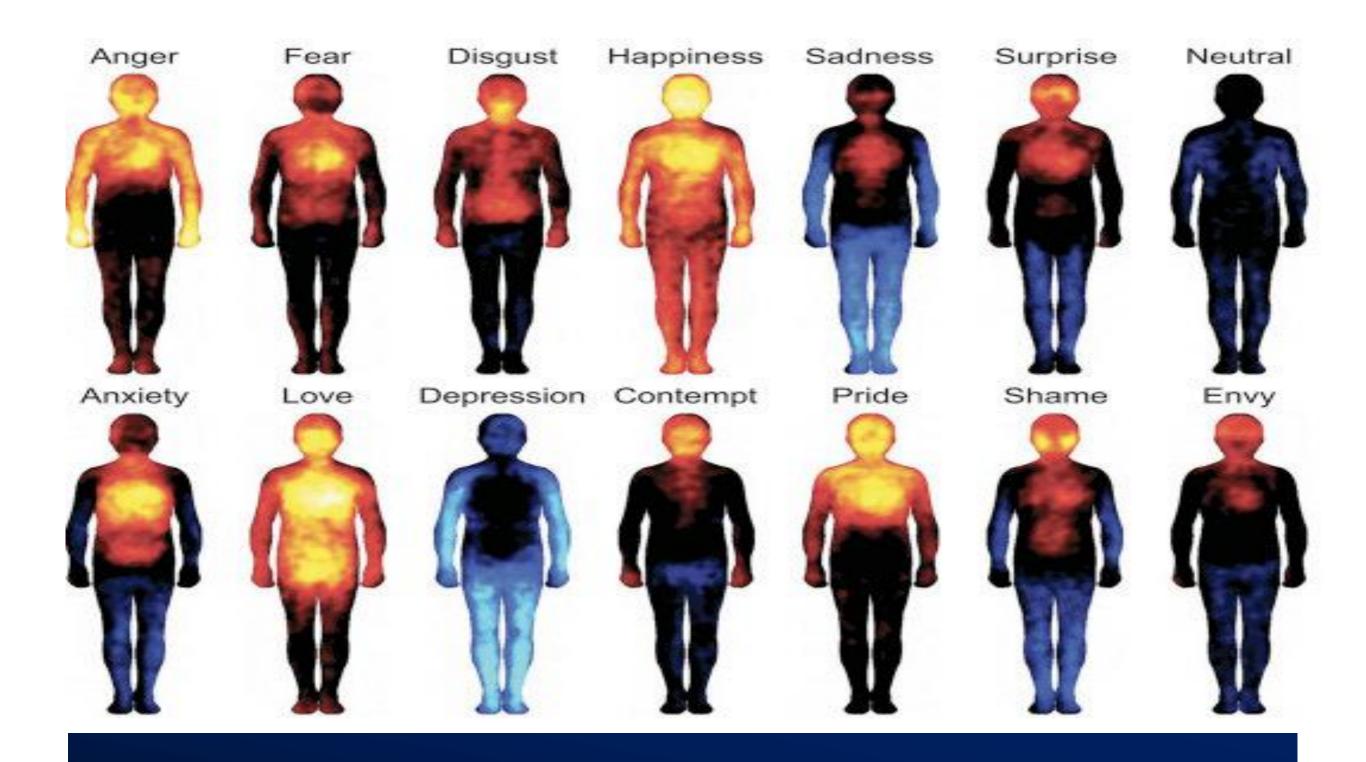
- Fear response higher
- Emotional reactivity higher



### What happens in the brain?

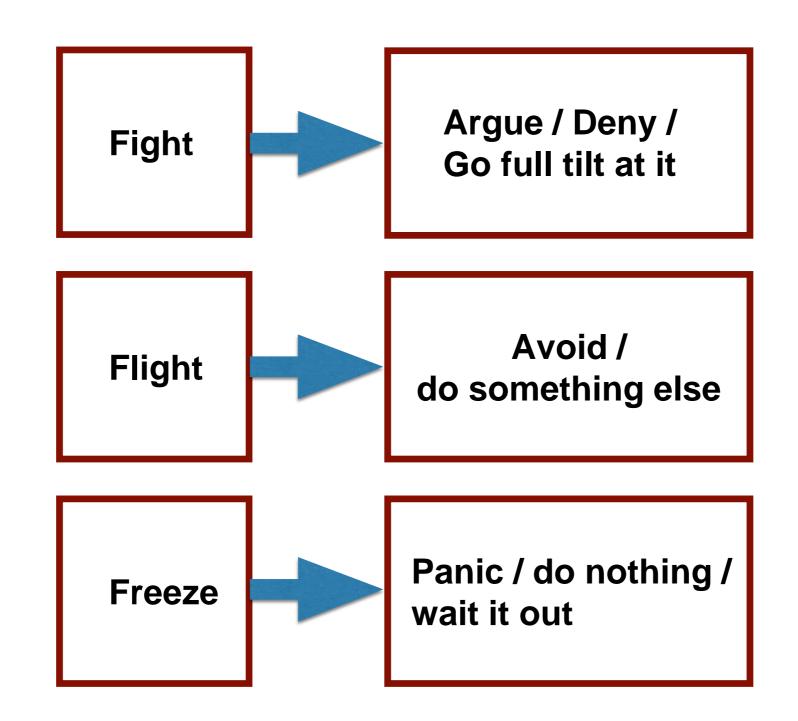


## What happens in the body?



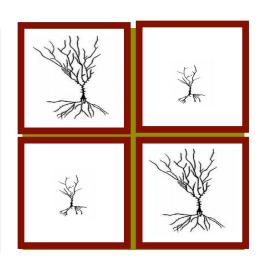
## Ex: Where do I feel my stress?

Nummenmaa 2013



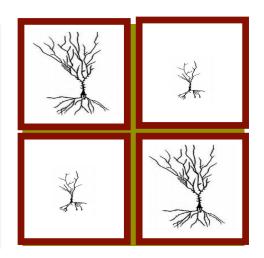
### How stress affects us? 3 Fs

## Ex: What's my stress strategy?



	What can I do differently?
Fight	
Flight	
Freeze	

### What can I do to work it better?



	What can I do differently?
Fight	Ask critical friend if reasonable
Flight	Bound it with time – 30mins do distraction
Freeze	Chunk into 10 minute tasks

Helpful	√/X	Unhelpful	<b>√/X</b>
Rest & Relaxation built in		Watching distressing news	
Nutrition improvements		Looking for someone / something to blame	
Exercise & Sleep regular		Giving up previous simple pleasures	
Finding Humour		Getting angry or frustrated	
Practice Gratitude and Tolerance		Over / under eating / eating the wrong things	
Focus on one thing at a time		Doing everything at once or nothing at all	
Talk to or meet friends and family		Withdraw from social interactions	
Get into nature - greenery		Alcohol or other substances	
Reconnect to joy in hobbies		Risky behaviours e.g. gambling, shopping	
Do things to increase sense of control		Ruminating or going over things again & again	

## Ex: What are my coping behaviours?



I can learn anything I want to.
When I'm frustrated, I persevere.
I want to challenge myself.
When I fail, I learn.
Tell me I try hard.
If you succeed, I'm inspired.
My effort and attitude determine everything.



I'm either good at it, or I'm not.
When I'm frustrated, I give up.
I don't like to be challenged.
When I fail, I'm no good.
Tell me I'm smart.
If you succeed, I feel threatened.
My abilities determine everything.

### 2. What's my thinking around things?

Dweck2006

GROWTH	<b>√/X</b>	APPROACH TO	FIXED	<b>√/X</b>
Intelligence can be developed		IQ	Intelligence is static	
Leads to a desire to learn		LEARNING	Leads to desire to look smart	
Embrace challenges		CHALLENGES	Avoid challenges	
Persist in the face of setbacks		OBSTACLES	Give up easily	
See effort is the path to mastery		EFFORT	See effort as fruitless or worthless	
Learn from criticism		CRITICISM	Ignore useful negative feedback	
Find lessons and inspiration in the success of others		SUCCESS OF OTHERS	Threatened by success of others	
Reach higher levels of achievement		ACHIEVEMENT	Plateau early and achieve less than full potential	
Greater sense of free will		AFFECT CHANGE	Confirms view that world is deterministic	

### Ex: How do I approach things?



# 2. How do I talk to myself - be kind

#### Inner Critic

- Thank them
- Name them
- Visualise them in their glory
- Make them amusing

### Mantra to replace the inner critic

- I am good enough
- I am doing my best
- I am a good person
- I am trying to do the right thing



### Neurotransmitters: need to be in balance

Dopamine – create interest by novelty, humour, insight,

deeper understanding

Noradrenaline – generate alertness (urgency, beating your best,

set stretching goals)

Emotions: big effect on energy

Happy - good for creativity & letting go

Sad - good for slowing down / thinking critically

Anxiety - good for ready to act - reframe as alert, curious, excited

### 3. Mental & physical health

NETS		<b>√/X</b>
Nutrition	Drink continually – water preferably	
	Eat strategically - slowly (10 chews) and half now and half later	
	Less sugar & carbs (although these have good immediate effect do have a "come down"	
Exercise	Regular – habit and routine even 10 mins a day	
	Game it and switch it up – goals and rewards - different types of exercise for different benefits eg. dance	
	Immediate boost - when feel sluggish march on the spot, go up and down one set of stairs	
Time	Label tasks into categories and complete important tasks first before brain depleted by lots of little decisions	
	Set aside 1 hour for emails - usually not first thing - afternoon best	
	Your 'to do' list should only include big decisions - make some the night before to free up morning PFC	
Sleep	Bed hygiene – routine, schedule, duration, check out / gratitude journal	
	Cool room 23C, avoid blue light, alcohol, caffeine, exercise	
	Short naps when needed – 20mins max	

# 3. Ex: Physical health care– safety NETS



Dixon & Hunter 2015

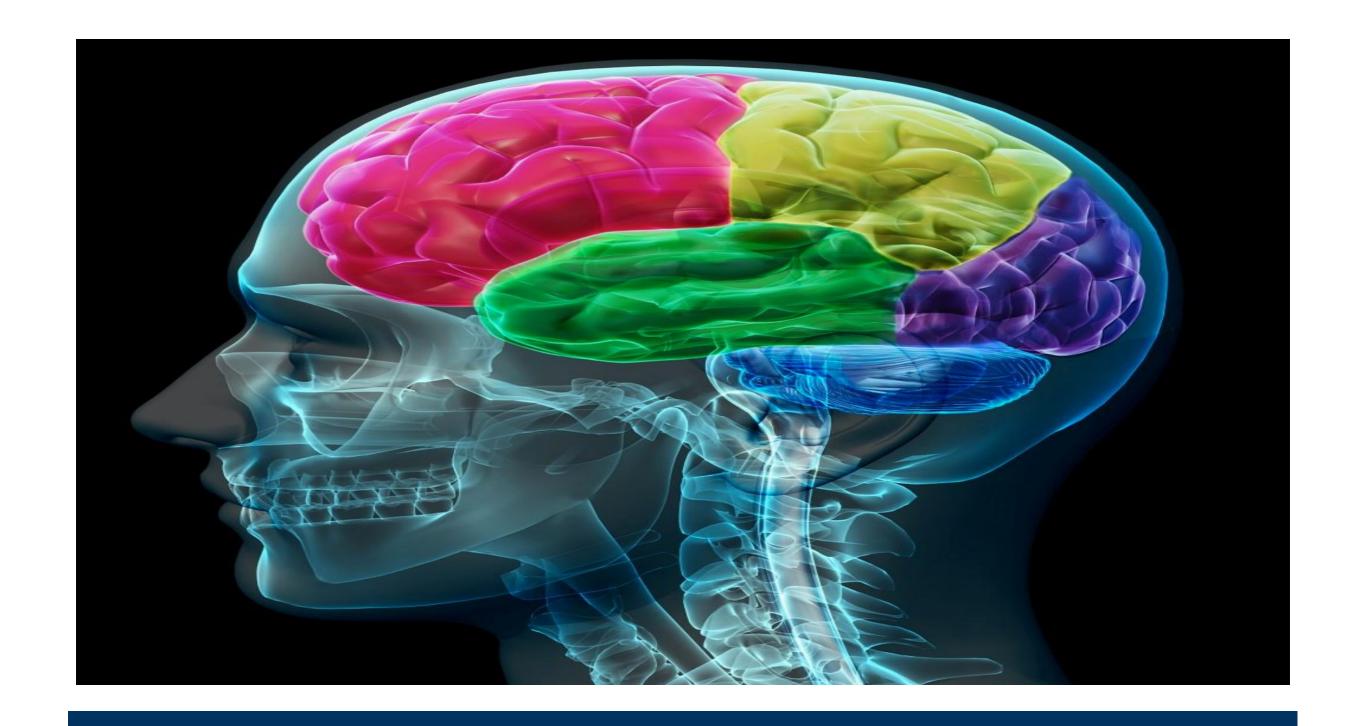
### 4. Reaching out

- Listening ear -peers or colleagues who understand
- Support options in work? national wellbeing hub, psychological /chaplaincy services
- Trusted friends or family



A – Ask your self what you need	N – Name 3 positive things
B – Breathe deeply & slowly	O - Organise 1 thing that bothers you
C – Compliment yourself	P – Problem solve 1 thing
D – draw a feeling or thought	Q – Question 1 of your thoughts or feelings
E - Establish a health boundary	R – Rest for 5 minutes
F – Feel 1 positive feeling	S – Stretch for 3 minutes
G – Guided mediation for 5 mins	T – Think of someone or something you love
H - Hug someone or something	U – Use a podcast to learn 1 thing
I - Incorporate a positive "I" statement	V – Visualise 1 positive moment in your life
J – Journal your thought / feeling	W – Write a list of 5 things you are proud of
K – Keep in touch with 1 friend	X – Xcite yourself about dinner/lunch
L – Listen to 1 song	Y- Yoga for 10 mins
M – Mindfulness for 5 mins	Z – Zero in on 1 coping skill

# Ex: Self Care – Spell my name or 3 letter word



## Questions??