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TRAUMA INFORMED PAIN CARE A HOLISTIC SYSTEMS APPROACH

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BOARD CERTIFIED LIFESTYLE MEDICINE PHYSICIAN AND MUSCULOSKELETAL MEDICINE AND ANAESTHESIA

TEAM MEMBER

CLINICAL SCIENTIFIC ADVISORY BOARD



About Curable



MyPain®



REALITY

DRUGS /PAIN KILLERS WORK ONLY 30% OF THE TIME

INJECTIONS (MOST OF THEM) LAST ONLY 2-3 MONTHS

MOST SPECIALISTS ARE NOT TAUGHT ABOUT THE LATEST SCIENCE

5HRS OF HCP TIME – REMAINING 8755 HRS?

LOT OF TREATMENTS – WHICH ONE TO CHOOSE?



REALITY

- 1 out of 5 suffer from chronic pain ...1.5 billion worldwide
- 28 million adults ie 43% of UK population suffer from pain (2016)
- 1 out of 5 surgical patients end up with pain
- Our own beliefs about pain

**A NEW UNDERSTANDING AND REFRAME OF PAIN IS
NEEDED**

Feeling the Pain: Reducing Harm Caused by Opioids for Non-Cancer Pain

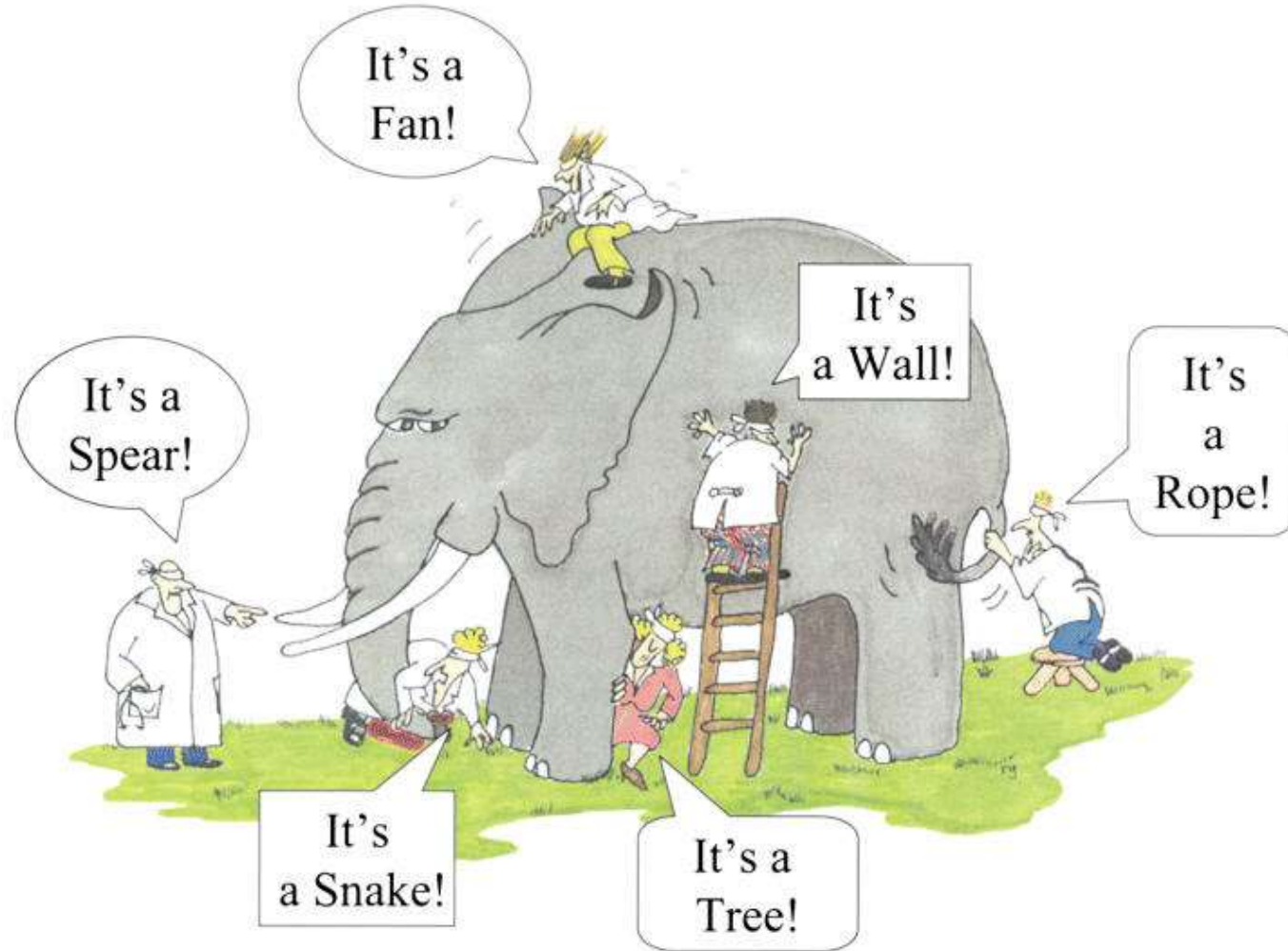


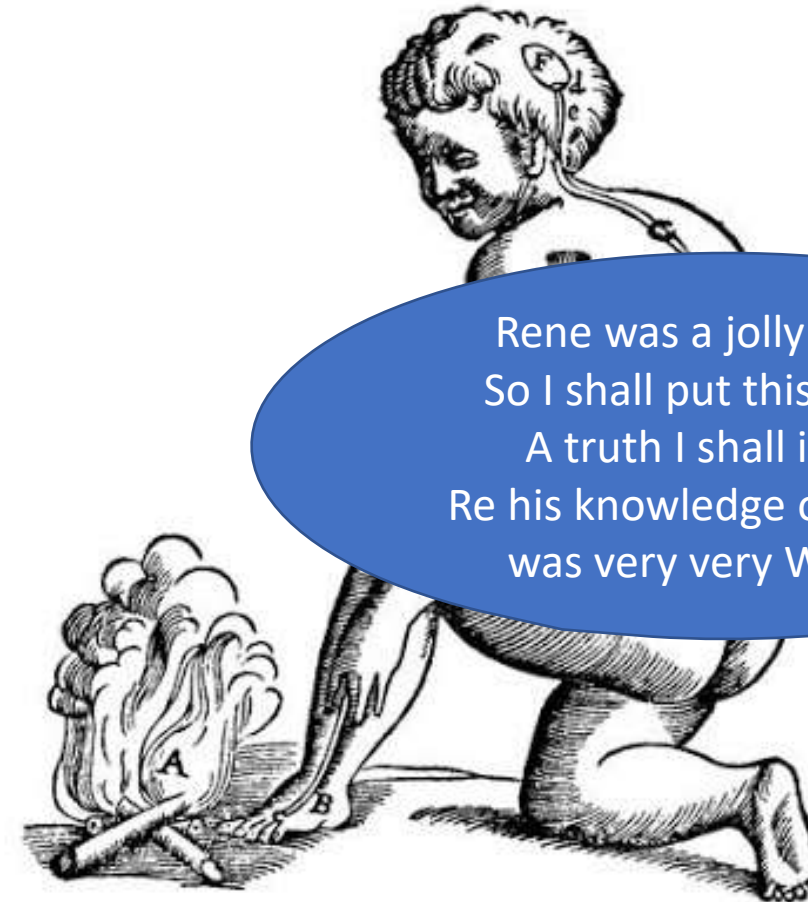
- **OUR REDUCTIONIST MODEL IS FLAWED**
- **A BIOSPSYCHOSOCIAL APPROACH IS NEEDED**
- **A TRAUMA INFORMED UPSTREAM APPROACH IS GOOD FOUNDATION**

A REDUCTIONIST PARADIGM



ANITA'S STORY





Rene was a jolly old fart
So I shall put this to song
A truth I shall impart
Re his knowledge of pain, he
was very very WRONG

NOTHING IN BIOLOGY MAKES SENSE EXCEPT IN THE LIGHT OF EVOLUTION

Dobshansky 1973

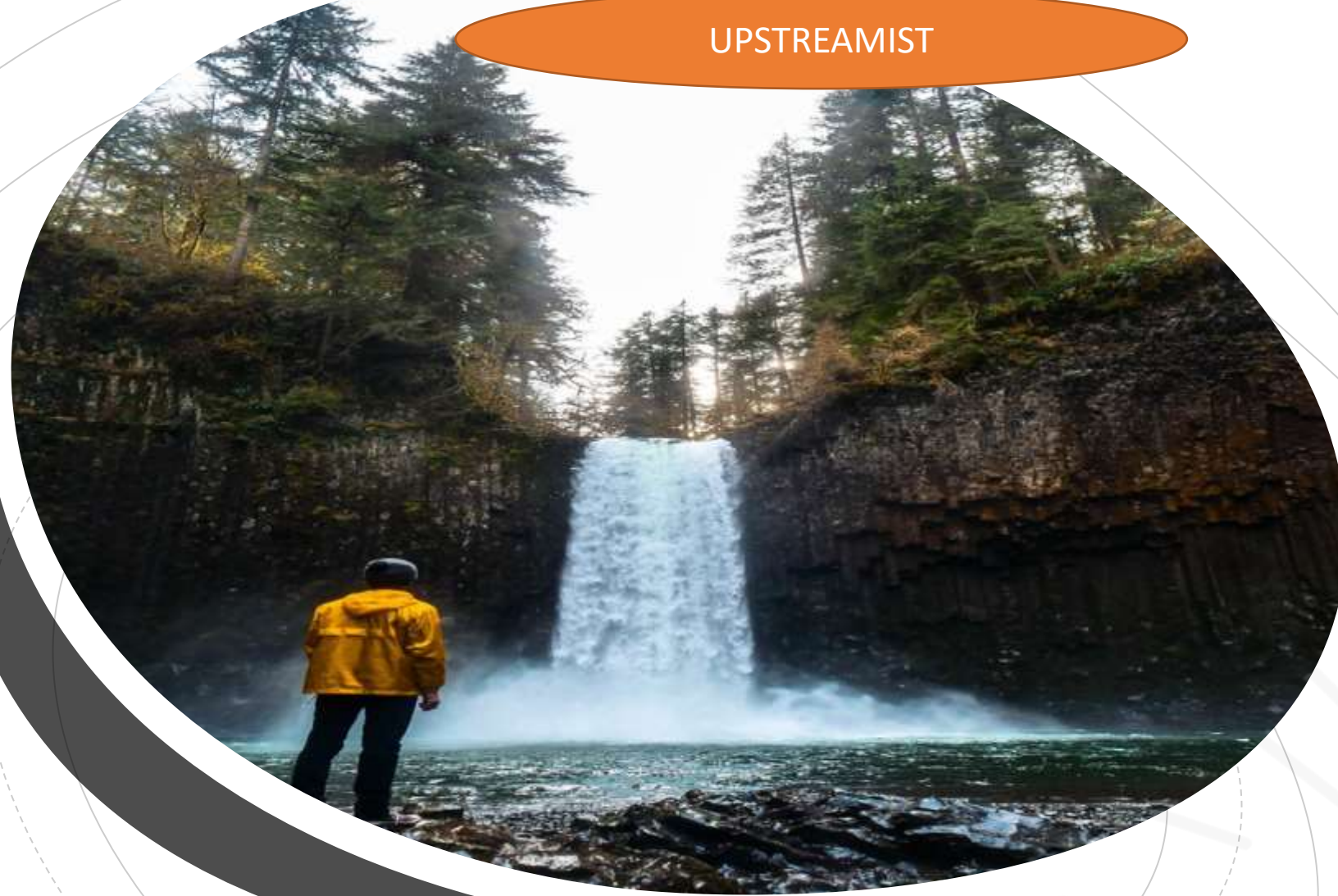
UPSTREAMIST

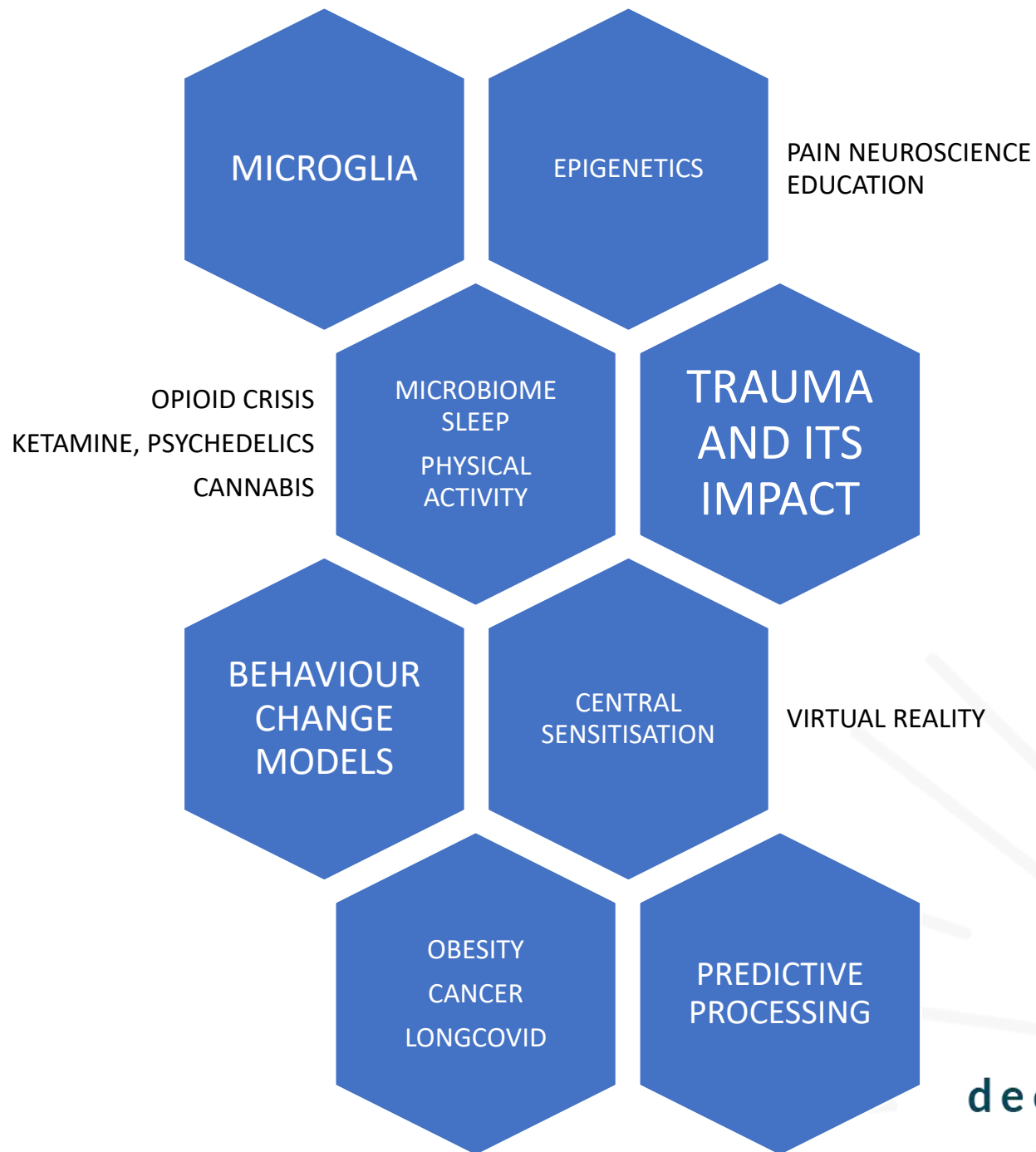


CYNEFIN

COMPLEXITY

BOUNDARY SPANNER





THE COMPLEXITY OF
PAIN

CYNEFIN IN PAIN – SENSE MAKING OF COMPLEXITY

COMPLEX

PROBE-SENSE-RESPOND
ENABLING CONSTRAINTS
EXAPTIVE/EMERGENT
PRACTICE

COMPLICATED

SENSE-ANALYSE-RESPOND
GOVERNING CONSTRAINTS
GOOD PRACTICE

CONFUSED

CLEAR

SENSE-CATEGORISE-RESPOND
FIXED CONSTRAINTS
BEST PRACTICE

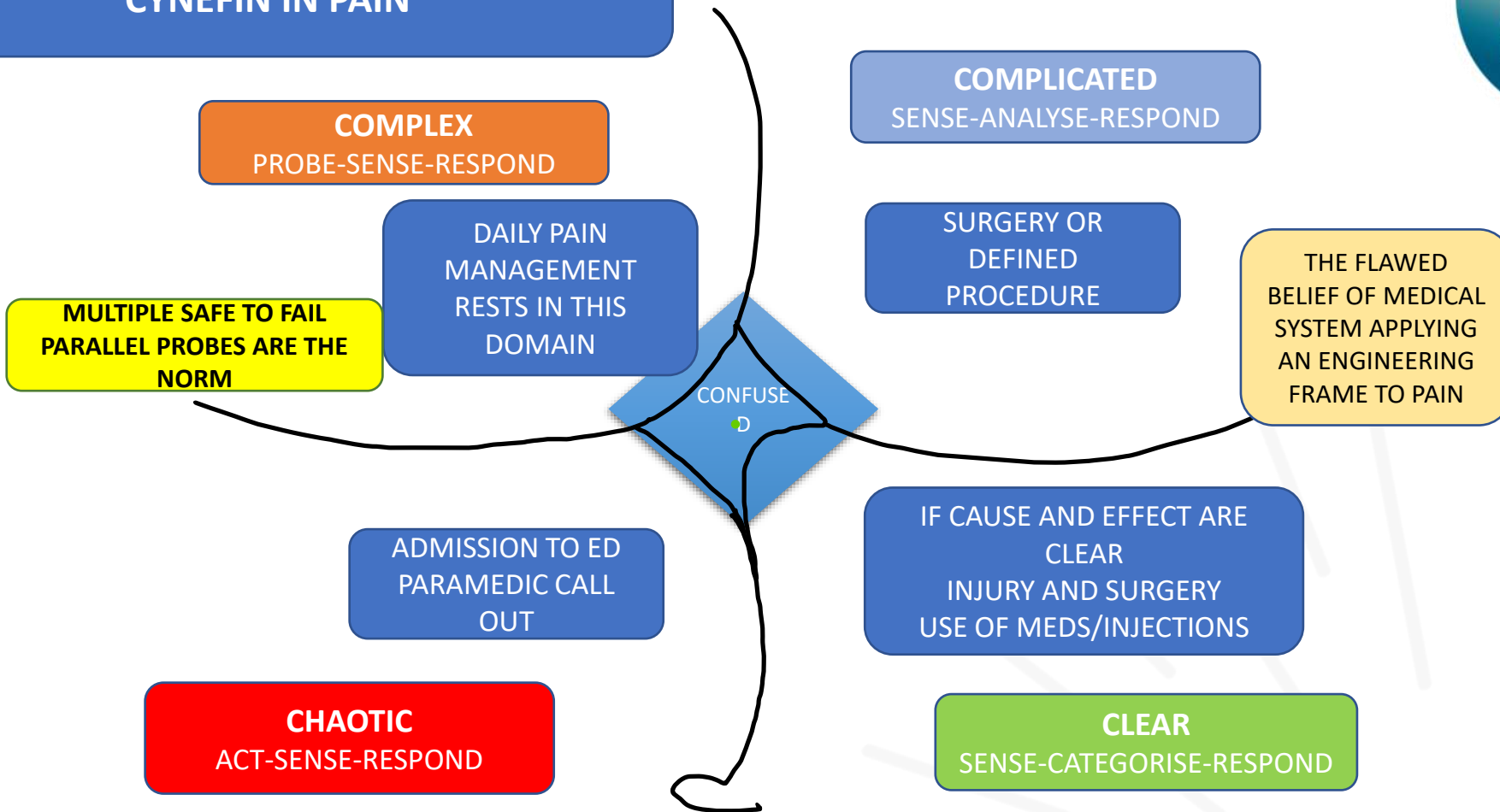
CHAOTIC

ACT-SENSE-RESPOND
NO CONSTRAINTS
NOVEL PRACTICES





PAIN AS A COMPLEX ADAPTIVE SYSTEM CYNEFIN IN PAIN



WHEN WORKING WITH COMPLEXITY



CONTROL AS WE KNOW IT MAY BE DIFFICULT

MASTERY IS POSSIBLE – ABILITY TO LIVE WELL WITH RESILIENCE, CONTINUOUS PROGRESS

SUCCESS – MAKING MISTAKES, PATTERN RECOGNITION

DISCOVER THE SYSTEMS OUR PATIENTS INHABIT – THEIR CYNEFIN

AVOID JUDGING LANGUAGE/USE OF SDM TOOLS

ADOPT A TRAUMA INFORMED APPROACH

ALWAYS WONDER - “WHAT HAPPENED TO YOU?”

TRAUMA INFORMED PAIN



WHY

TRAUMA INFORMED CARE



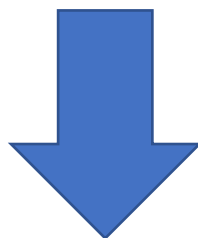
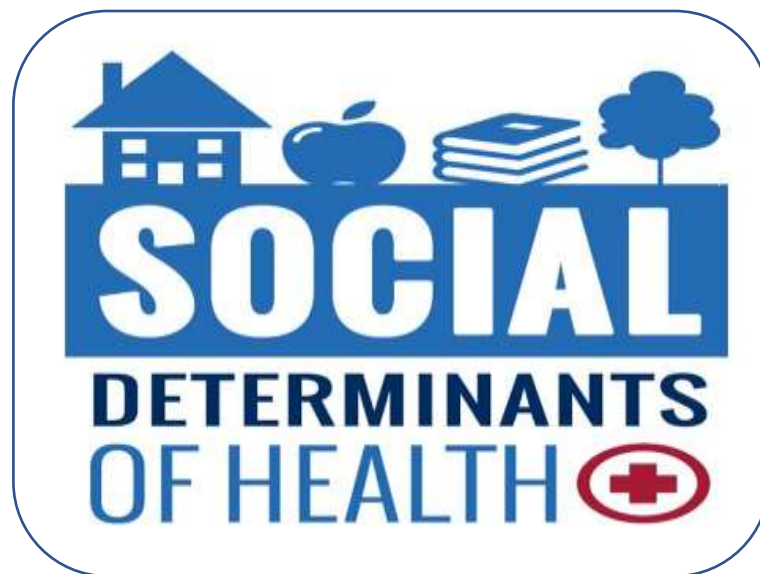
WHAT

PAIN FREE MINDSET

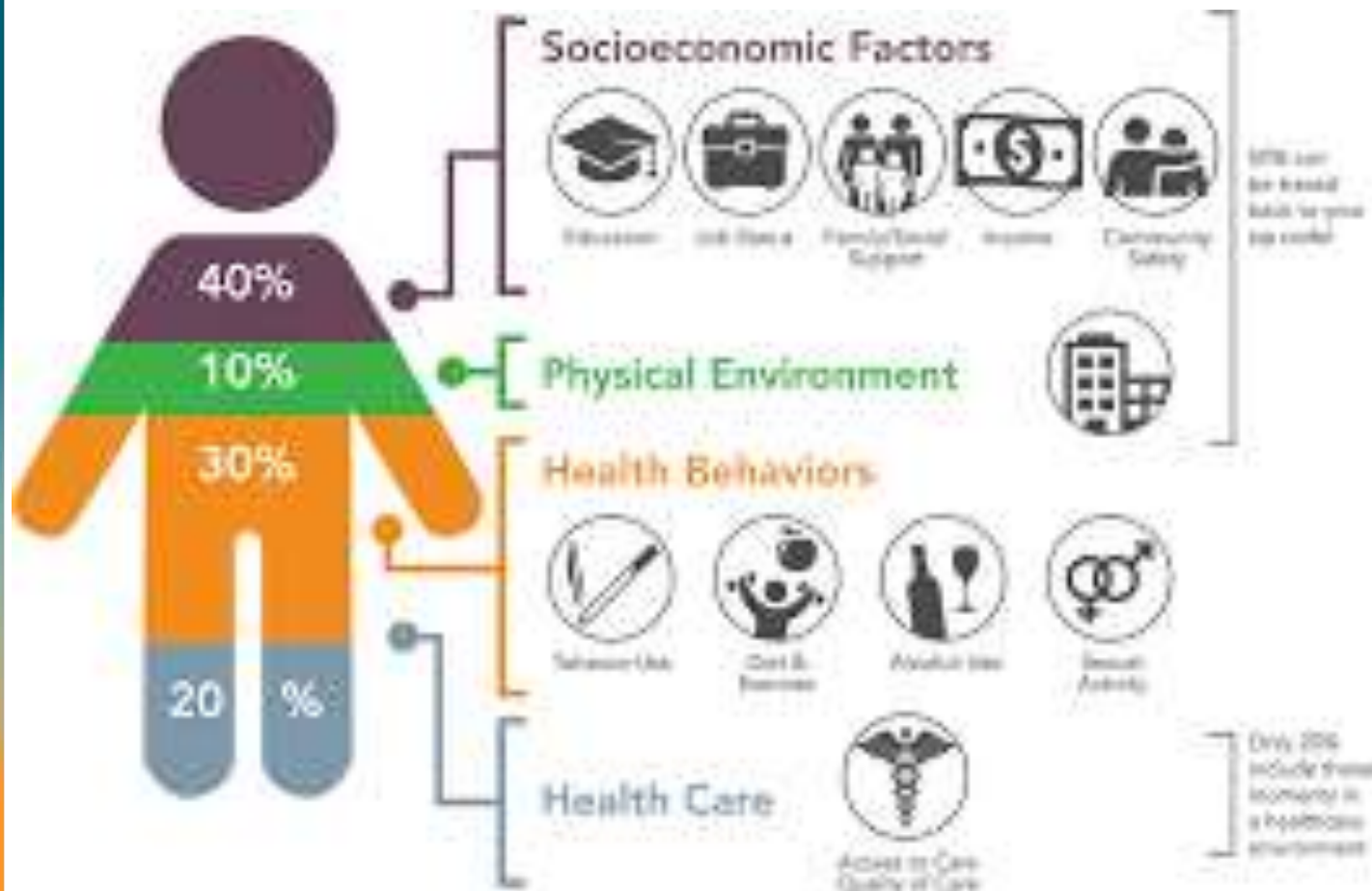


HOW

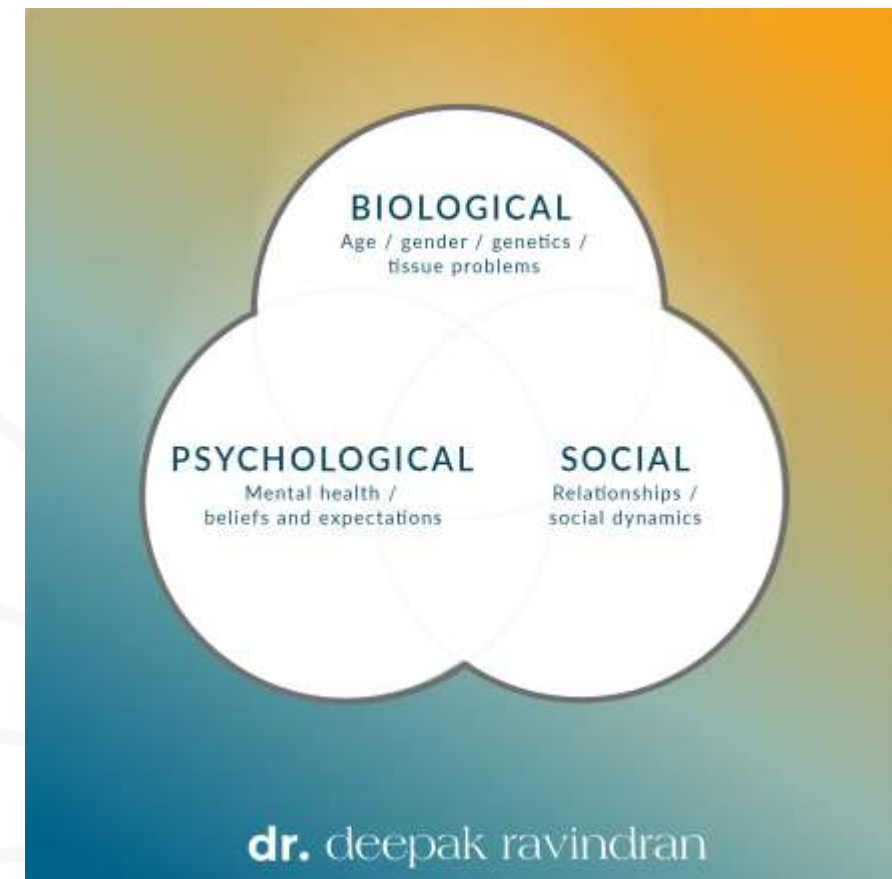
PAIN MANAGEMENT PROGRAMS
or GROUP CONSULTS 4 PAIN



TRAUMA INFORMED PAIN CARE



Source: Institute of Medicine (IOM). (2002). *Building the Future: A Strategic Plan for the Institute of Medicine*. Washington, DC: National Academies Press.

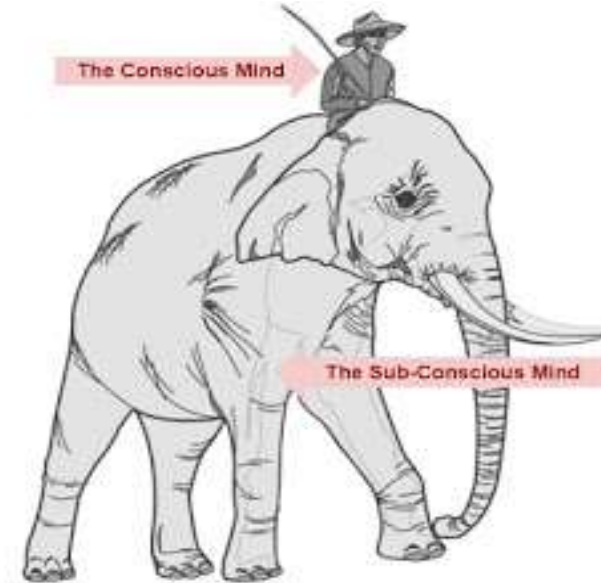


The elephant in the room

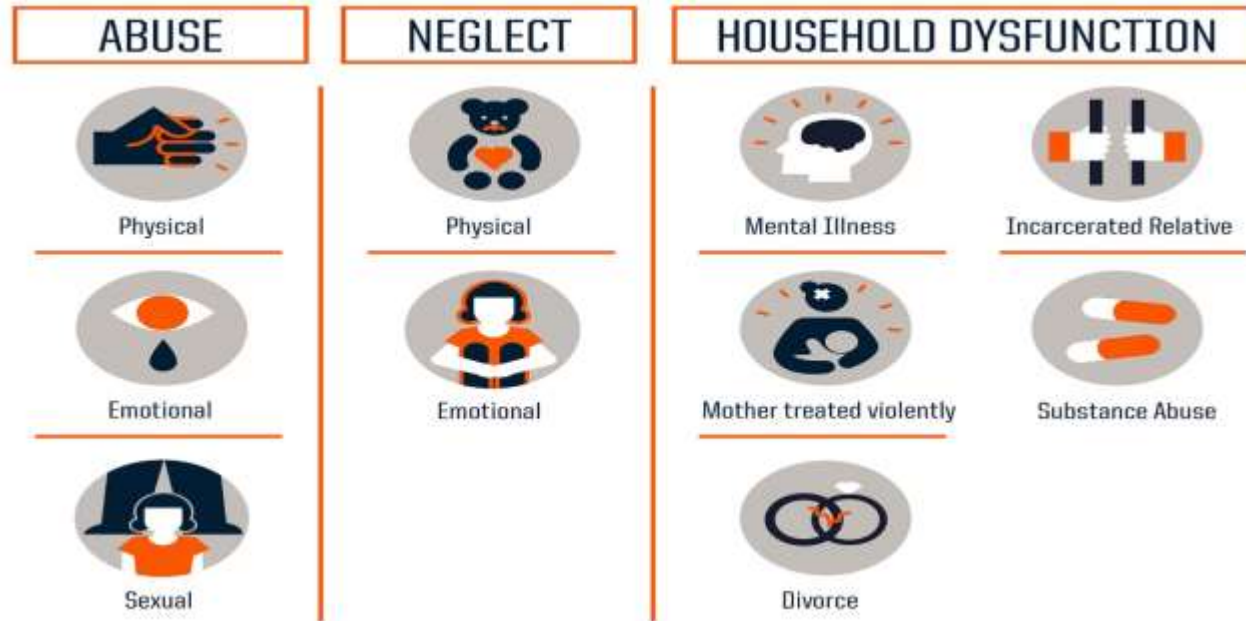
The role of Trauma
Big and Small trauma
The influence of the immune and nervous system as they develop
Adverse childhood experiences

TRAUMA : A normal response to abnormal events
3 common themes

- Person was unprepared
- Trauma was unexpected
- Nothing could be done to prevent it



ACEs study 1996



WELL REPLICATED IN MANY
COUNTRIES INCLUDING UK
>4 ACEs CLINICALLY SIGNIFICANT

RACER SURVEY



9/10

ANITA AND HER ACES

Adult victims of childhood maltreatment report

- greater pain and headaches,
- gastrointestinal and respiratory symptoms,
- gynecological problems,
- neurological symptoms and
- overall physical problems and
- visits to health professionals.

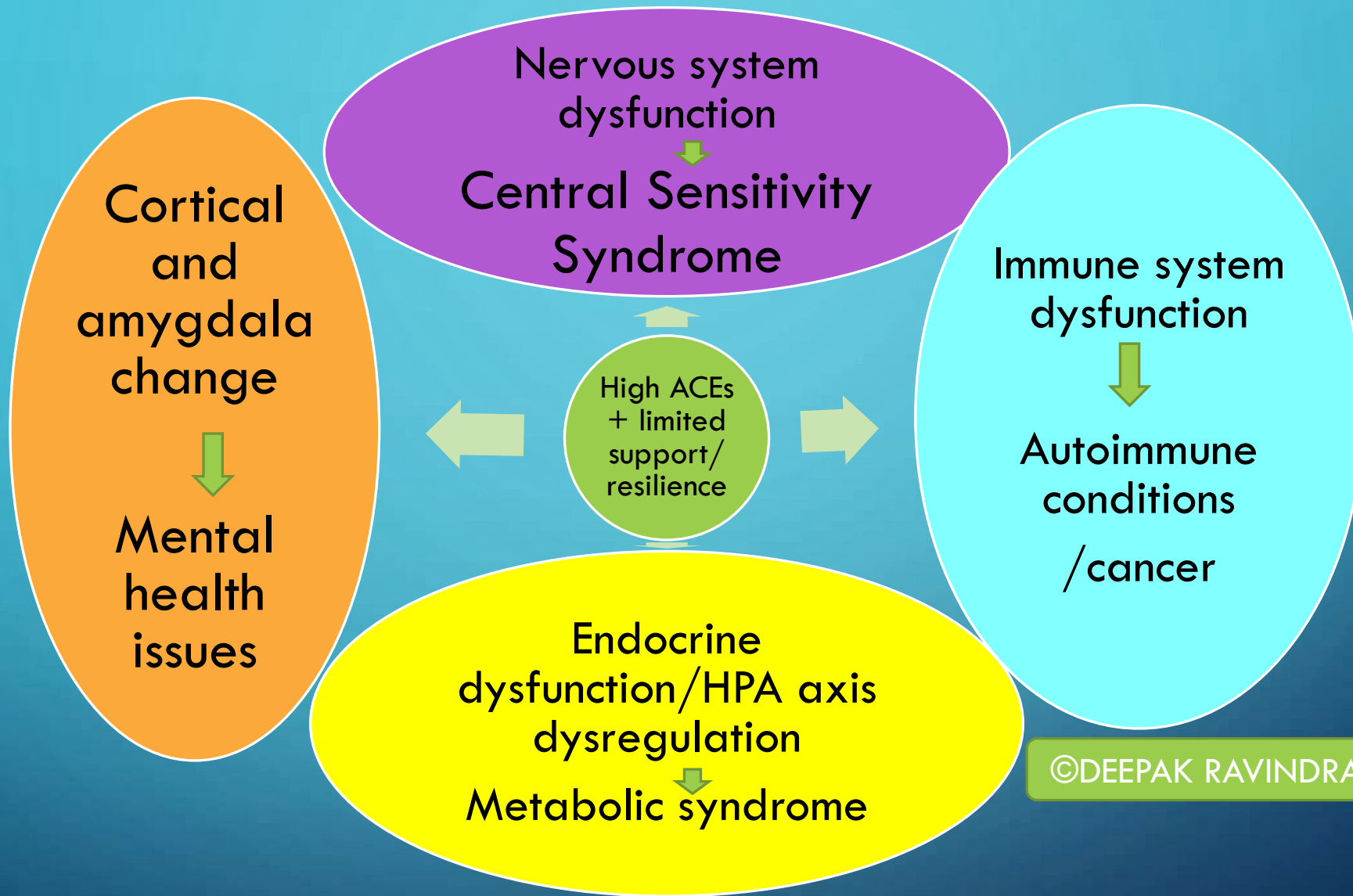
In general, individuals who report a history of abuse also report greater symptom severity and medical utilization, including increased use of surgical procedures.

- **2.7 TIMES HIGHER INCIDENCE OF CHRONIC PAIN AS COMPARED TO SOMEONE WITH NO ACES**

Table 2 Changes in risk of disease development with increased history of ACE using Cox regression survival analysis.

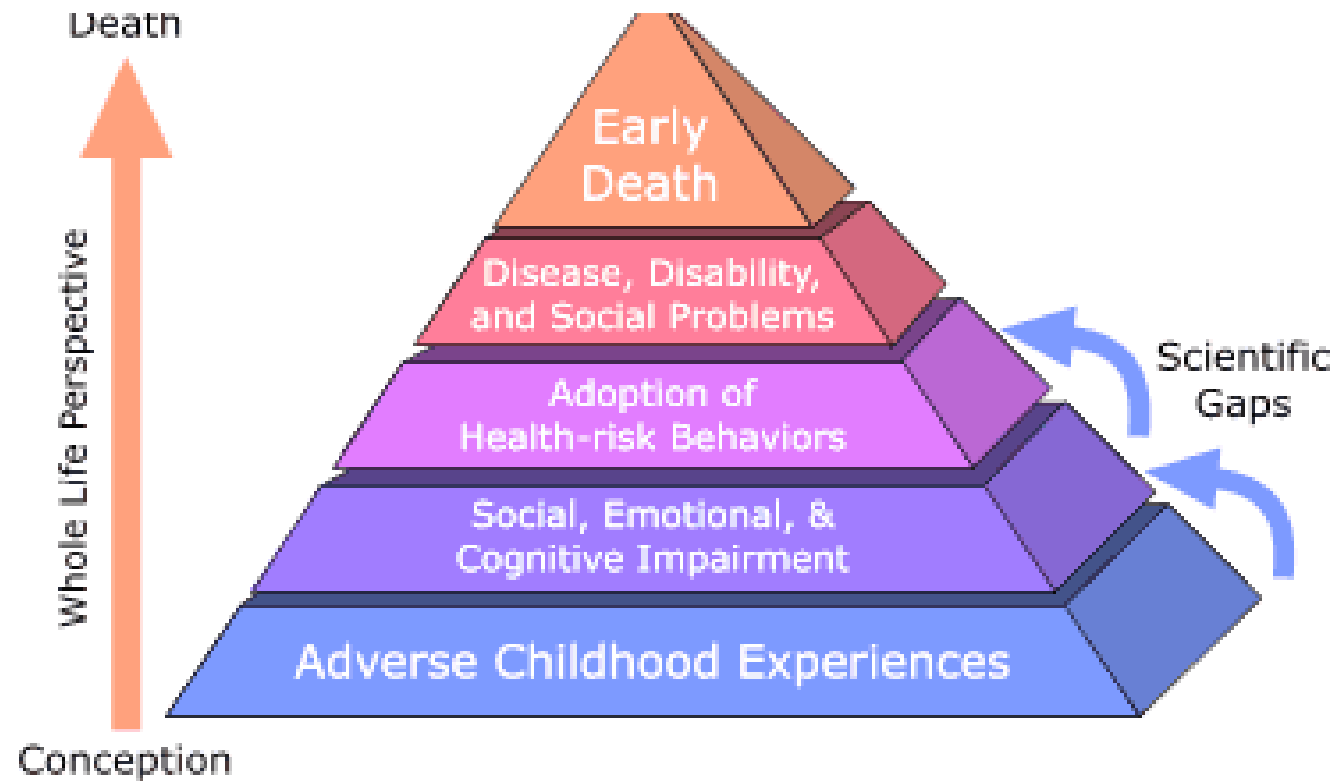
	0 ACEs (ref.)			1 ACE			2-3 ACEs			4+ ACEs		
	n	P	HR	95% CIs	P	HR	95% CIs	P	HR	95% CIs	P	
Cancer	3881	<0.001	0.75	0.49-1.14	0.171	1.02	0.66-1.59	0.925	2.38	1.48-3.83	<0.001	
CVD	3882	0.020	1.24	0.73-2.12	0.424	1.68	0.95-2.94	0.073	3.11	1.56-6.24	0.001	
Diabetes type 2	3876	<0.001	1.13	0.80-1.87	0.524	1.22	0.80-1.87	0.346	2.99	1.90-4.72	<0.001	
Stroke	3882	0.005	1.63	0.74-3.60	0.229	1.91	0.81-4.48	0.139	5.79	2.43-13.80	<0.001	
Respiratory disease	3879	<0.001	1.22	0.77-1.94	0.394	1.83	1.15-2.91	0.010	3.50	2.07-5.91	<0.001	
Liver/digestive disease	3879	0.004	1.44	0.99-2.10	0.059	1.45	0.94-2.23	0.093	2.50	1.53-4.08	<0.001	
Any disease	3866	<0.001	1.17	0.95-1.42	0.134	1.38	1.11-1.73	0.004	2.76	2.13-3.58	<0.001	

ACE, adverse childhood experience (see Supplementary data, Box for definitions); CVD, cardiovascular disease; ref, reference category for Cox regression; HR, adjusted hazard ratio; 95% CI, 95% confidence intervals). See text for additional analytical details.



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The ACE pyramid



- **THEY DIE ON AVERAGE 20 YEARS EARLIER**



WHY DOES IT HAPPEN?

Psychological mechanisms - Increased neuroticism –somatization

Attachment theory – insecure/disorganised attachment

Physiological - Significant developmental trauma affects developing nervous system and HPA axis and amygdala development

Impact on nervous system function and immune and endocrine responses leading to “wear and tear” - early onset physical health and autoimmune issues

NEUROINFLAMMATION DRIVEN BY GLIAL CELLS



PSYCHONEUROIMMUNOLOGY

- sympathetic arousal - HYPERVIGILANCE
- Altered pain processing
- Impaired stress tolerance and dysregulated HPA axis – IMMUNE DYSFUNCTION
- Epigenetic changes



Dr Jekyll and Mr Hyde



▼ Becoming trauma informed

- **REALISE:** ASK NOT “WHY ARE YOU LIKE THIS” but “WHAT HAPPENED TO YOU?”
- **RECOGNISE:** Validating the trauma and listening – reduced tests, procedures and harm
- **RESPOND:** Engage surgical colleagues/spouses/partners and HCP
- **RESIST** Retraumatization: communication in a compassionate/avoid fearful statements

- **FUTURE OF HOSPITAL PRACTICE – PREOPERATIVE AND PERIOPERATIVE CARE**
- **>90% of CHRONIC PAIN - mix of Big TRAUMA and Small trauma**



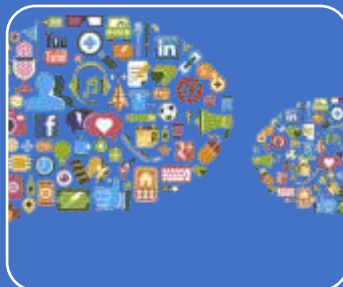
RECOGNISE

- EMPATHY/NO NEED TO TREAT
- MOTIVATIONAL INTERVIEWING



RESPOND

- INTEGRATED ACROSS SYSTEMS
- SAME MESSAGE FROM HCPs

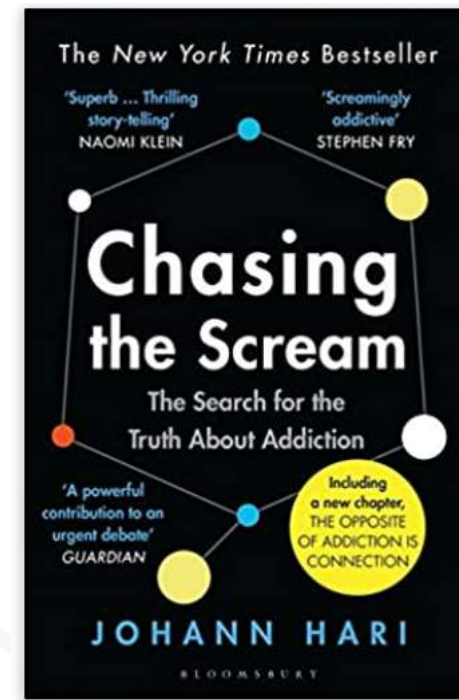
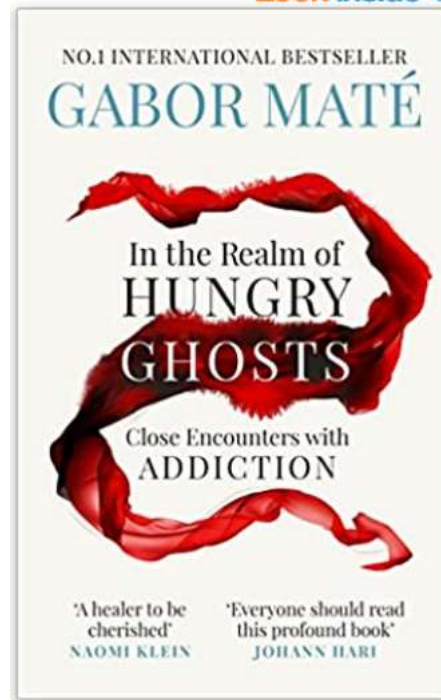
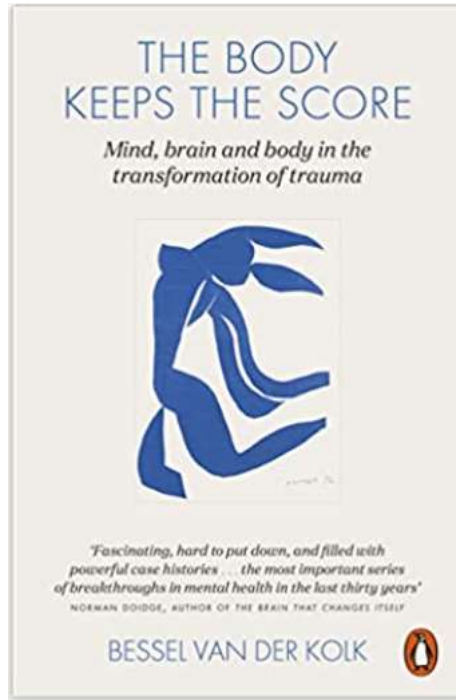


RESIST

- COMPASSIONATE COMMUNICATION
- MORE RAPPORT/LESS FEAR BASED

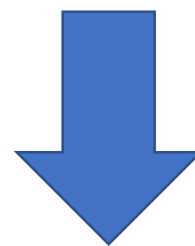


3 must read books

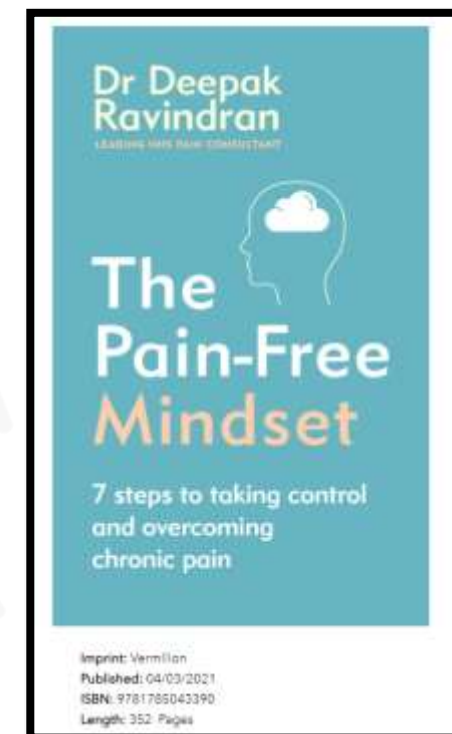
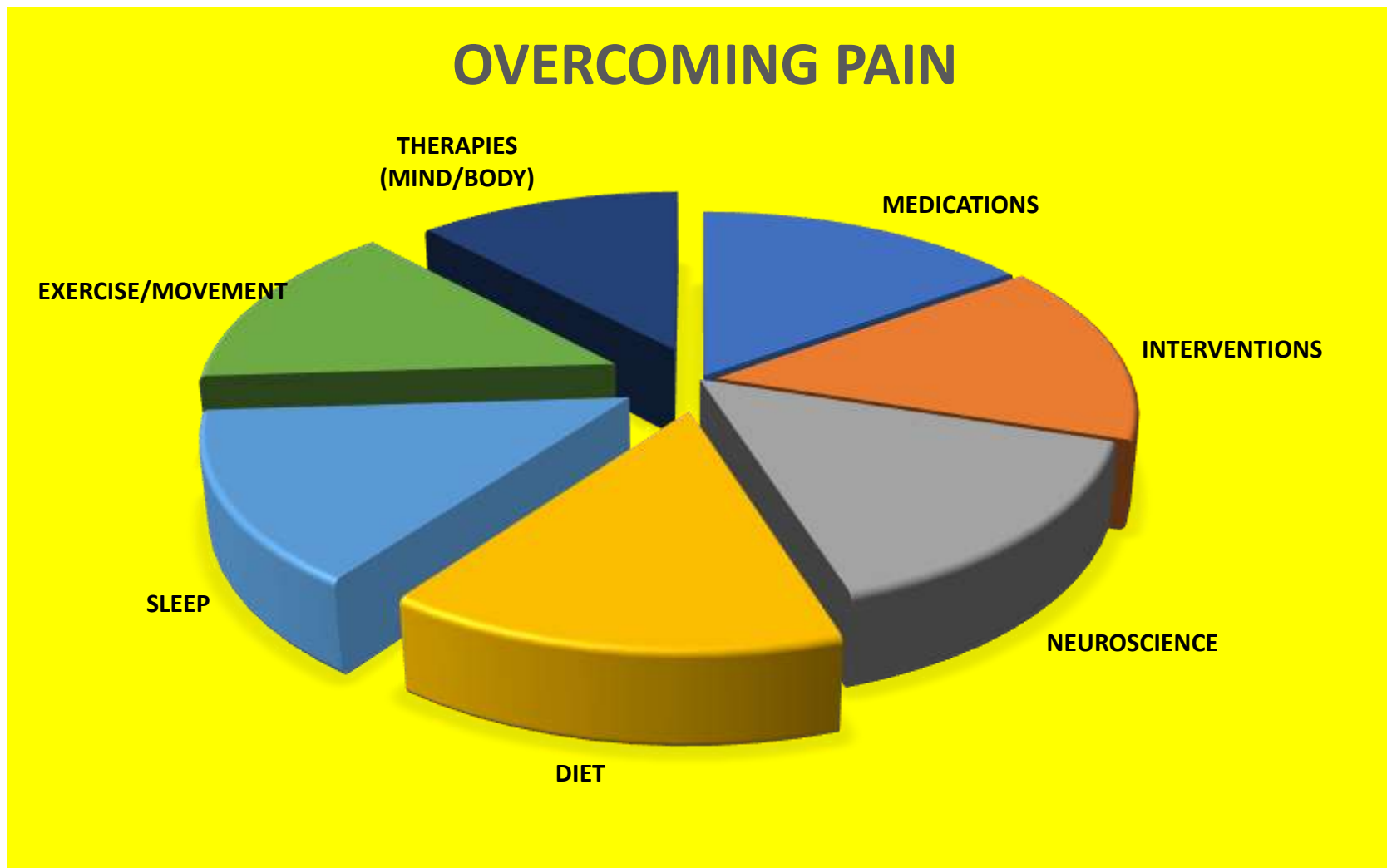




MY CYNEFIN TOOLKIT
MULTIPLE PROBES
ENHANCE THE ATTRACTORS



PAIN FREE MINDSET



OPIOIDS TO ANOTHER DRUG?



Figure 2. Neuropathic pain: Pharmacotherapy treatment



Credit: samer narouze



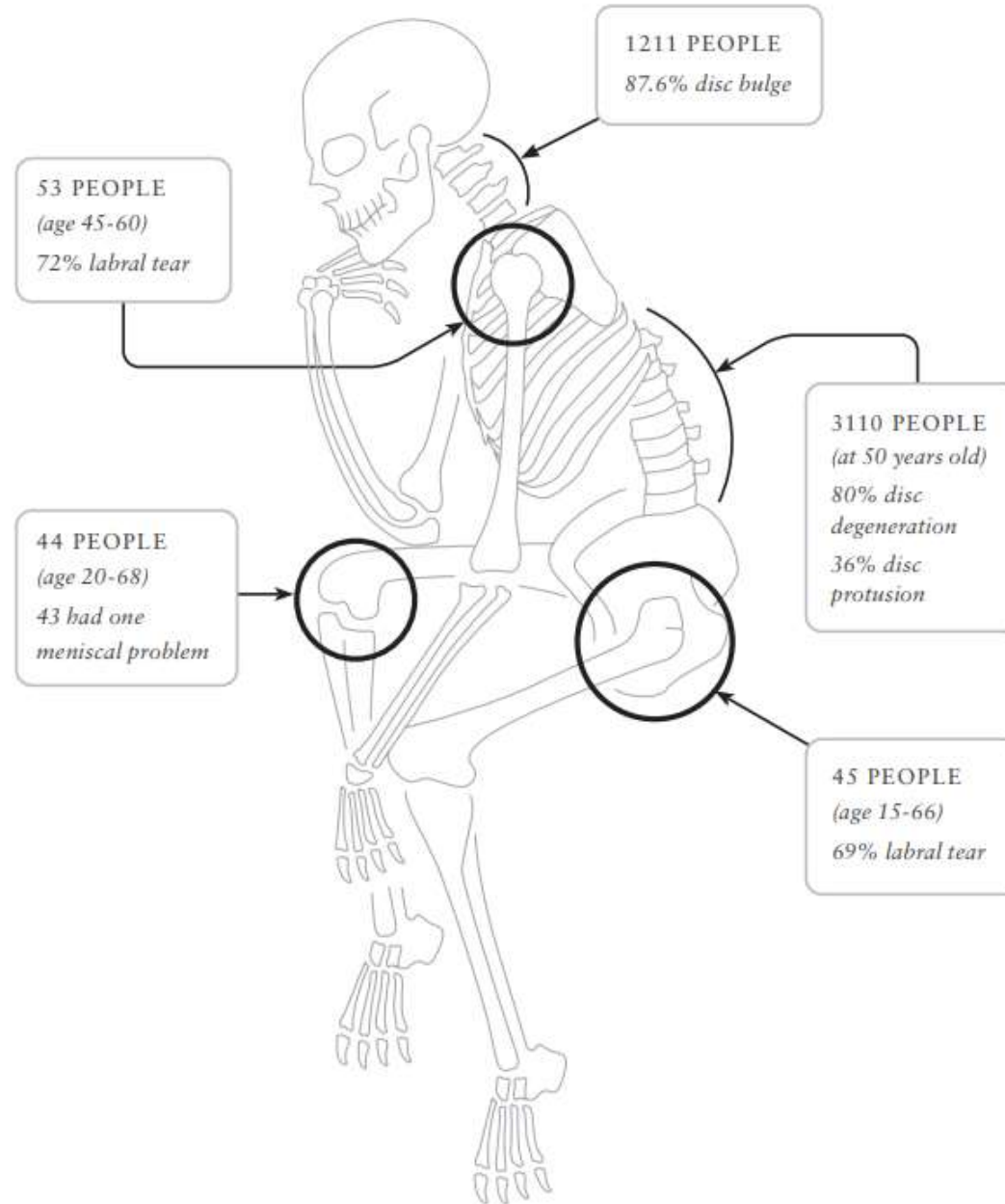
- OPIOIDS – £10 BILLION /PA POLICING/HEALTHCARE/CRIME
- OPIOID PRESCRIBING NENC – 1/3 HIGHER THAN NEXT ICS
- TOP 7 PRESCRIBING CCGS – NENC
- STRONGLY ASSO WITH DEPRIVATION
- CLINICIAN BEHAVIOUR/ACCESS TO SUPPORT SERVICES
IMPLICATED
- CHALLENGE WITH REGULATION OF GABAPENTINOIDS



HIGH DEPRIVATION

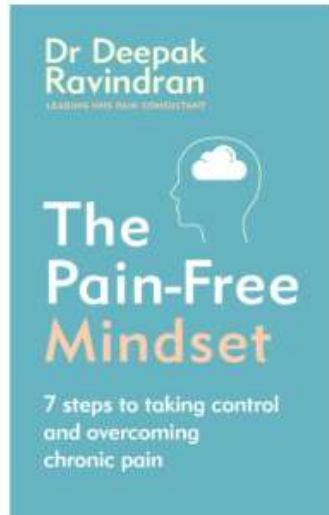
- A NERVOUS SYSTEM AND IMMUNE SYSTEM UNDER THREAT
- HIGHER POVERTY
- COGNITIVE BANDWIDTH REDUCED
- LIKELY CRIME AND SOCIAL ISSUES AS WELL
- IMPACT OF TRAUMA

NEED FOR A TRAUMA INFORMED APPROACH MORE THAN EVER



**EVEN WHEN SCANS SHOW
SIGNS OF AGING, THERE IS
NO PAIN**

Pic from



Imprint: Vermilion
Published: 04/03/2021
ISBN: 9781785043390
Length: 352 Pages

OPIOIDS TO INTERVENTIONS

SHOULDER
ARTHROSCOPY
313 patients

LOW BACK PAIN
VERTEBROPLASTY
For collapsed discs
180 patients

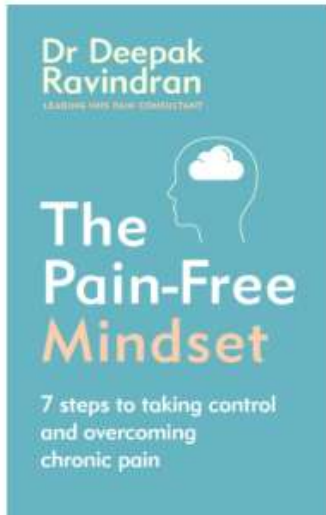
TENNIS ELBOW
22 patients

KNEE
ARTHROSCOPY
(key-hole surgery)
180 patients

PLACEBO
SURGERIES RELIEVE
PAIN JUST AS
EFFECTIVELY



Pic from



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WHAT DOES NEW PAIN SCIENCE TELL US?

**PREDICTION
PROCESSING
PROTECTION**

A PAINFUL TOE NAIL



Fisher JP et al. *BMJ* 1995;310:70



PAIN IS THE BODY'S ALARM SYSTEM

A PROTECTION SYSTEM PAR EXCELLENCE
BUT SOMETIMES NOT PERFECT

CYBERBALL EXPERIMENT



AREAS OF BRAIN OVERLAP IN TERMS
OF FUNCTION
THE BRAIN CANT DISTINGUISH
BETWEEN EMOTIONAL AND
PHYSICAL PAIN

on
ical

SCIENCE 2003

BULLYING, WORK PRESSURES,
LOSS/DIMINISHING SOCIAL
SUPPORT/LIFE CONTEXT AS AGING
OCCURS

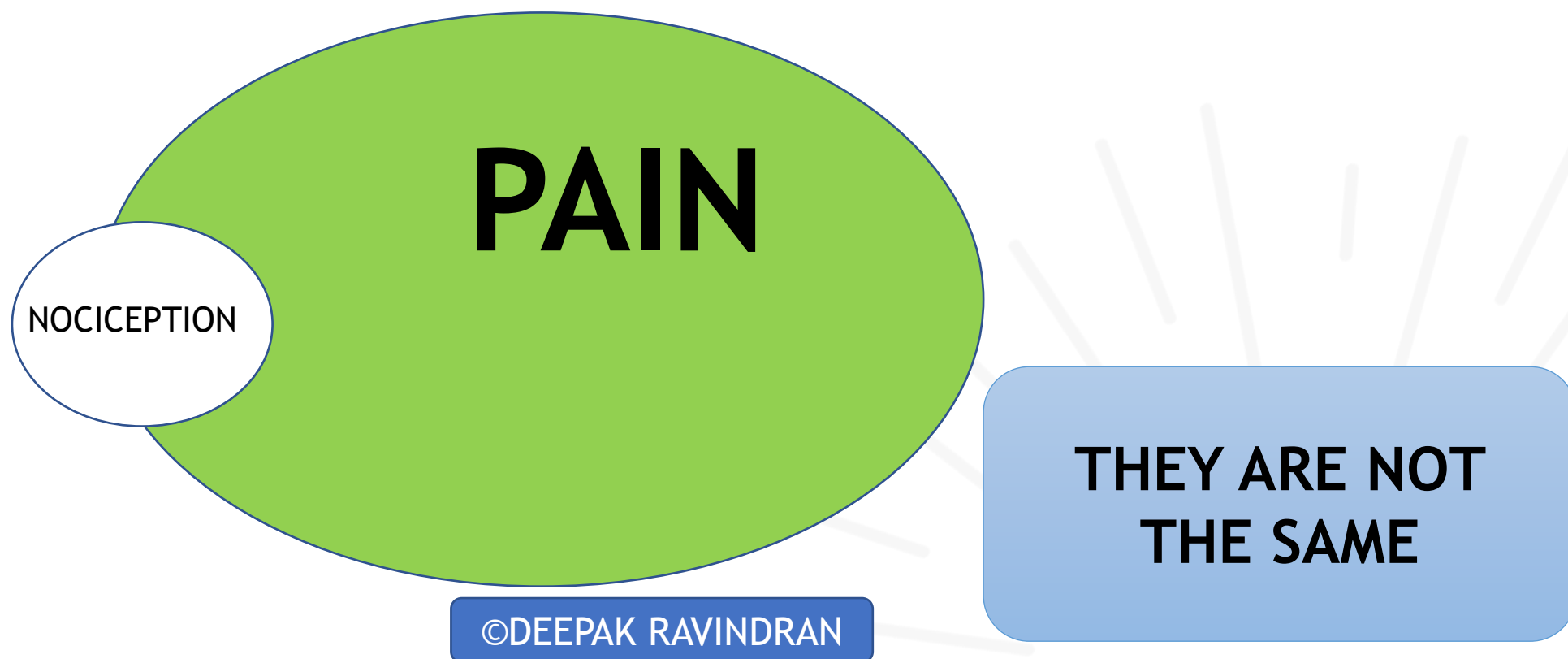


An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage. (IASP 2020)

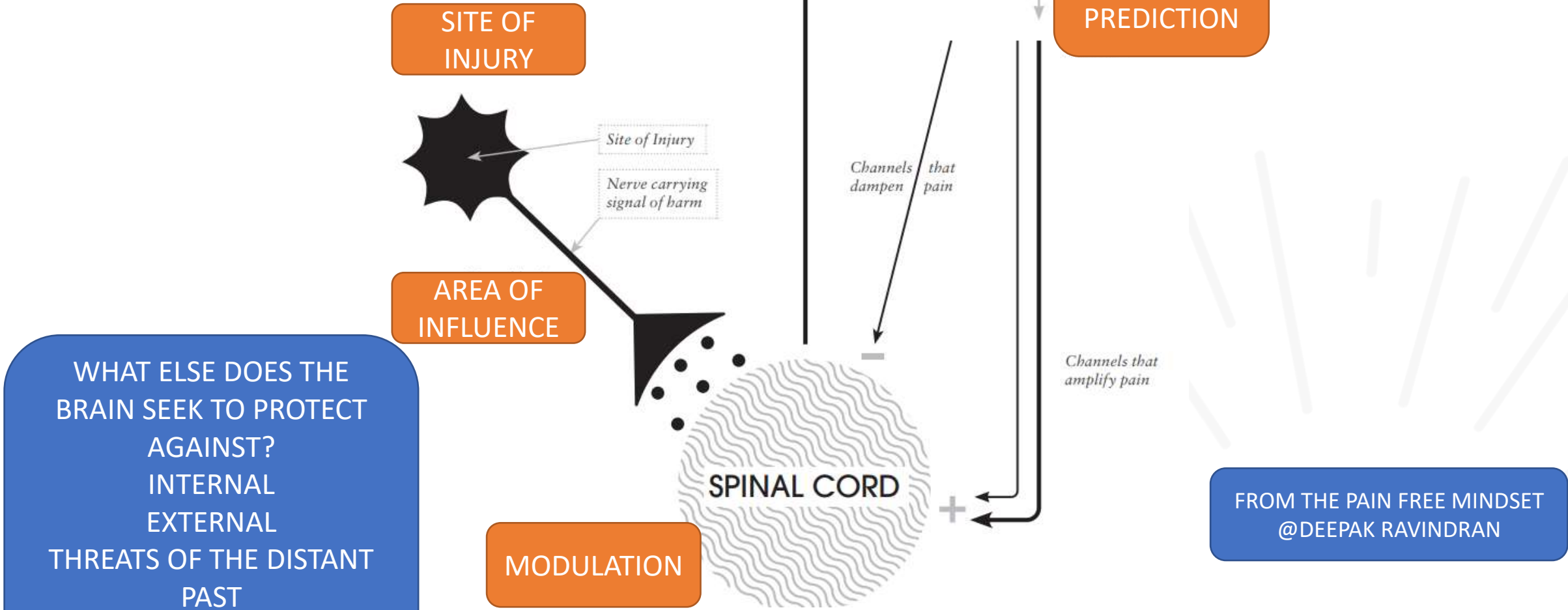
1. Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors.
2. **Pain and nociception are different phenomena.** Pain cannot be inferred solely from activity in sensory neurons.
3. **Through their life experiences, individuals learn the concept of pain.**
4. A person's report of an experience as pain should be respected.
5. Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being.
6. Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain



PAIN AND NOCICEPTION



PREDICTION AND PROTECTION MACHINE

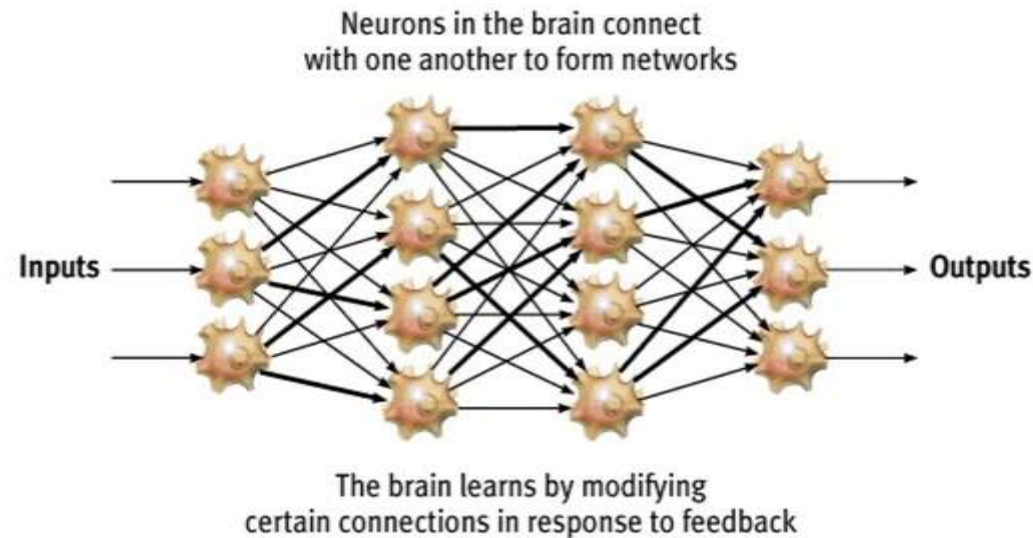


WHAT ELSE DOES THE BRAIN SEEK TO PROTECT AGAINST?
INTERNAL
EXTERNAL
THREATS OF THE DISTANT PAST

FROM THE PAIN FREE MINDSET
@DEEPAK RAVINDRAN

A Simplified Neural Network

Neurons learn to work together as a team.
Neurons that fire together, wire together
=



<https://www.slideshare.net/luv2hoop/brain-plasticity>

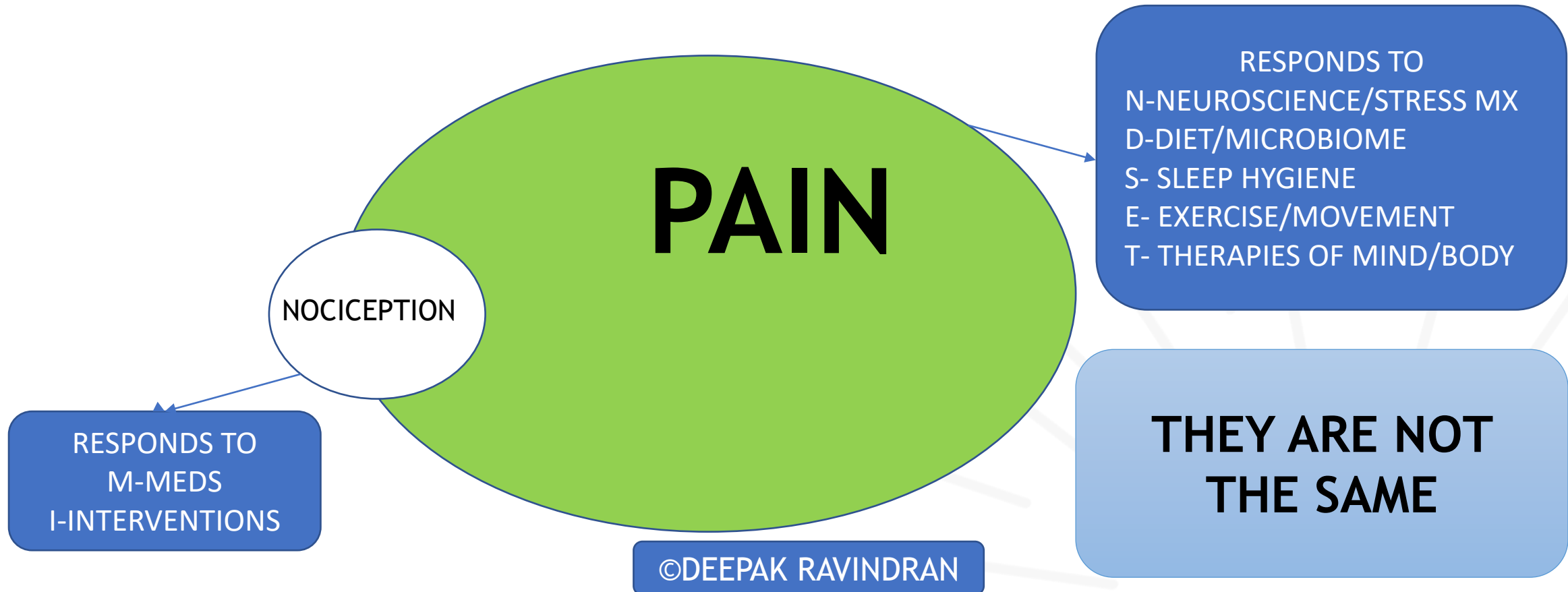
NEUROPLASTICITY



<https://rheum.med.ufl.edu/2013/08/08/can-chronic-pain-changes-be-reversed/>

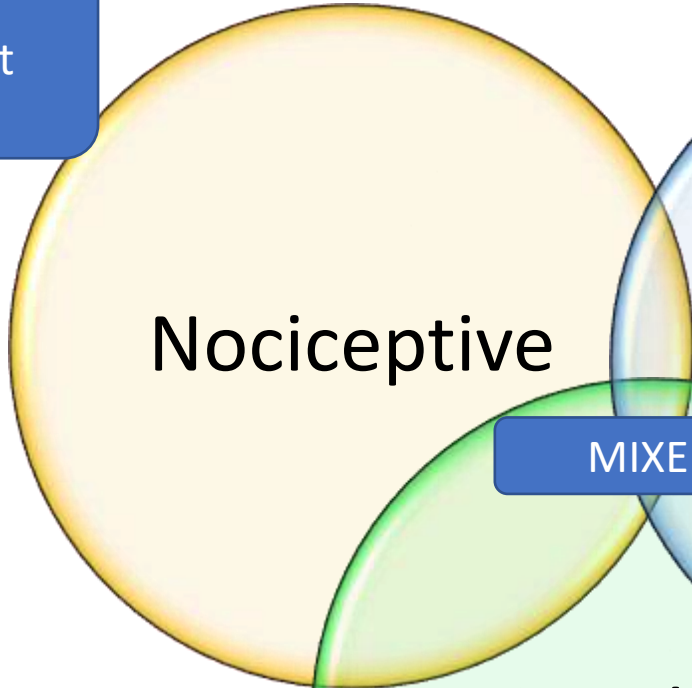


PAIN AND NOCICEPTION

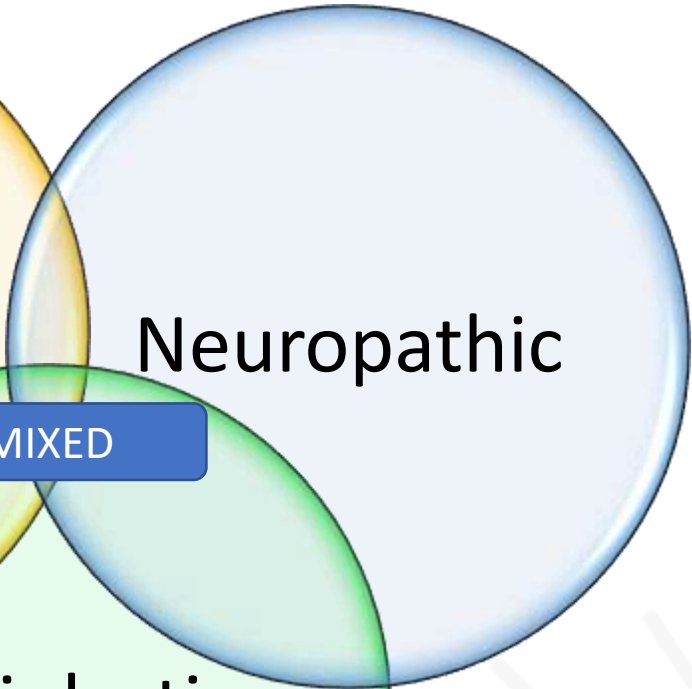




ACUTE
Inflammatory, post surgery, infection

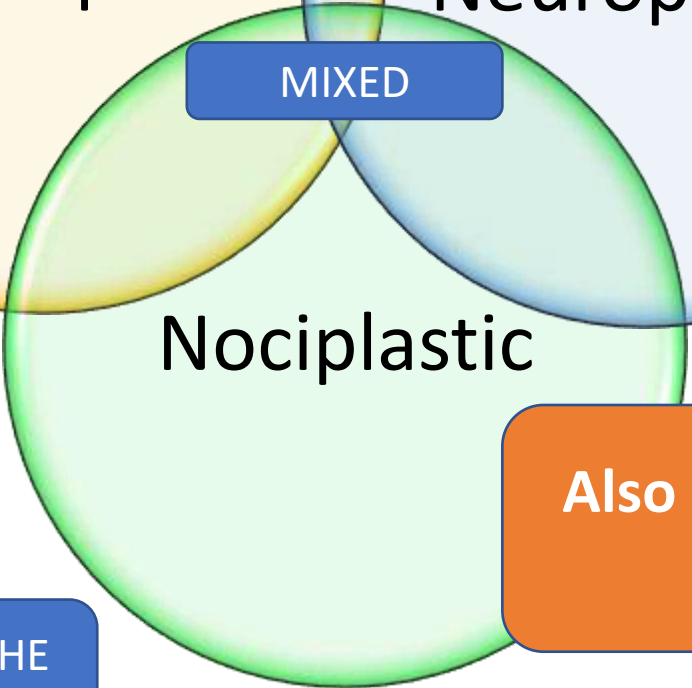


Nociceptive



Neuropathic

MIXED



Nociplastic

NERVE DAMAGE
Any other nerve injury conditions

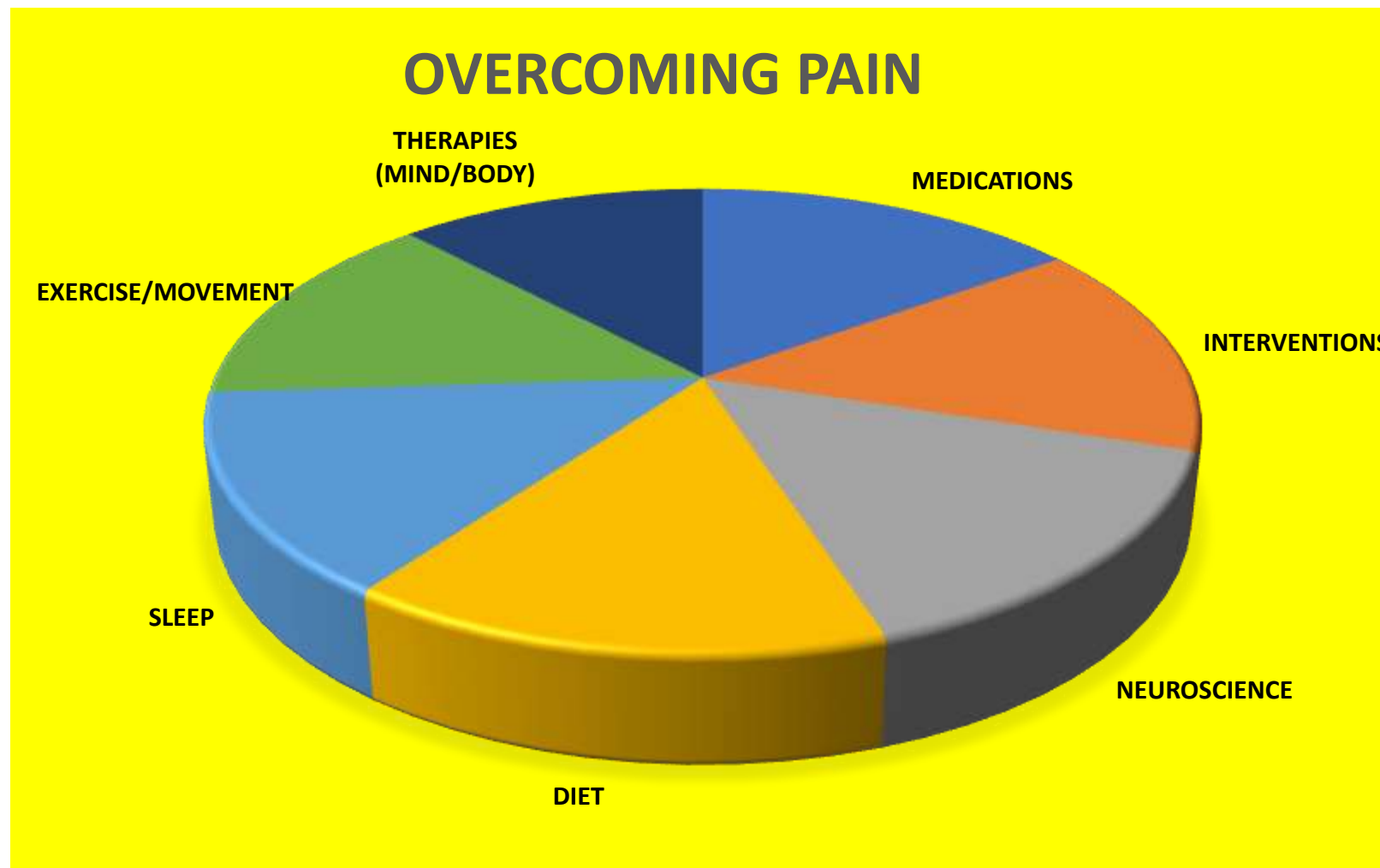
Also called chronic primary pain

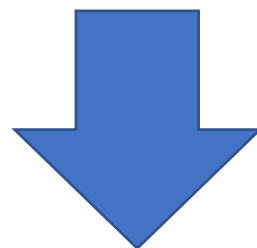
SENSITISATION OF THE NERVOUS SYSTEM



Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain

NICE guideline [NG193] Published: 07 April 2021





**PAIN MANAGEMENT PROGRAMS –
PRIMARY/SECONDARY CARE
FACE TO FACE OR VIRTUAL
GROUP OR SINGLE**



PRE/CONTEMPLATION

- GIVE INFORMATION
- ONLINE/OFFLINE

PREPARATION

- GROUPS/121
- PEER SUPPORT/PMP

MAINTENANCE

- IDEALLY PEER SUPPORT/SOCIAL PRESCRIBING
- FUNDING?

PARADIGMS OF TREATMENT



DFY

DWY

DIY



BEHAVIOUR CHANGE SKILLS

SUSTAINING LIFESTYLE CHANGES

The MSK + lifestyle medicine specialist

A GUIDE

A COACH

VALIDATION AND
ACCOUNTABILITY

MENTORING

LEADING A TEAM



SIX PILLARS OF LIFESTYLE MEDICINE



Mental Wellbeing



Healthy Relationships



Physical Activity



Healthy Eating



Sleep



Minimising Harmful
Substances

NEUROPLASTICITY MODULATION

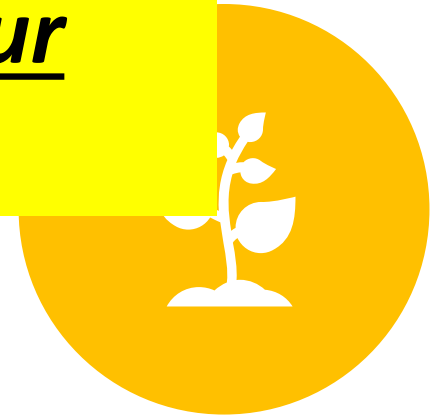
“You don’t raise to the level of your goals, you fall to the level of your systems” – James Clear



HARNESSING
NEUROPLASTICITY



GROUP OR INDIVIDUAL LEVEL



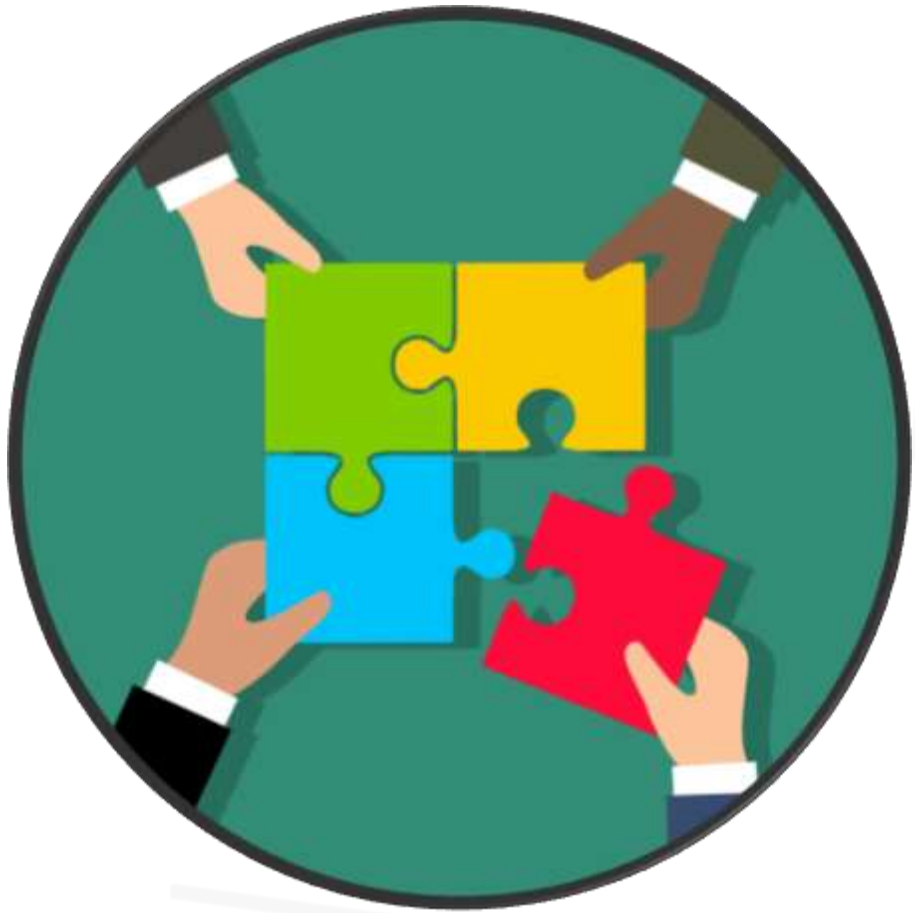
SUSTAINABILITY/CONSTRAINTS



THE EFFECTIVE TREATMENT



HOW CAN WE CONTRIBUTE TO WELLNESS?



BENCH TO BEDSIDE COMPLEXITY RESEARCH



- MORE FOCUS ON IMPLEMENTATION SCIENCE – BARRIERS
- SUSTAINABLE WAYS TO ACHIEVE AND MAINTAIN BEHAVIOUR CHANGE – DESIGN THINKING PRINCIPLES
- THE MOVE FROM DFY TO DWY TO DIY – WHATS WORKING AND WHATS NEEDED TO EFFECT SMOOTHER TRANSITION
- EMERGING NEUROSCIENCE (BIOLOGY/VR/AR/TECH) AND HOW TO INTEGRATE IT?
- ROLE OF HEALTH AND PAIN LITERACY AND PUBLIC HEALTH CAMPAIGNS

PAIN MATTERS

THE MAGAZINE OF PAIN CONCERN | painconcern.org.uk

ISSUE 01

Long COVID and pain

Early-start
pain education

Pain after
surgery

Pacing and
the importance
of rest

Mindfulness:
a life changing
choice



TRAUMA INFORMED PAIN CARE – IMPLEMENTATION



- RAISE AWARENESS FROM 2018
- MI TRAINED TEAM AND COACHING COURSES
- SAFEGUARDING AND LOCAL COUNCIL/JUSTICE – TI CARE
- ACE QUESTIONNAIRE AS SCREENING TOOL FOR PAIN CLINIC REFERRAL
- SCHOOLS EDUCATION – REFRAME PAIN CHALLENGE
- Tidmarsh LV, Harrison R, Ravindran D, Matthews SL, Finlay KA. **The Influence of Adverse Childhood Experiences in Pain Management: Mechanisms, Processes, and Trauma-Informed Care.** Front Pain Res (Lausanne). 2022 Jun 10;3:923866. doi: 10.3389/fpain.2022.923866.



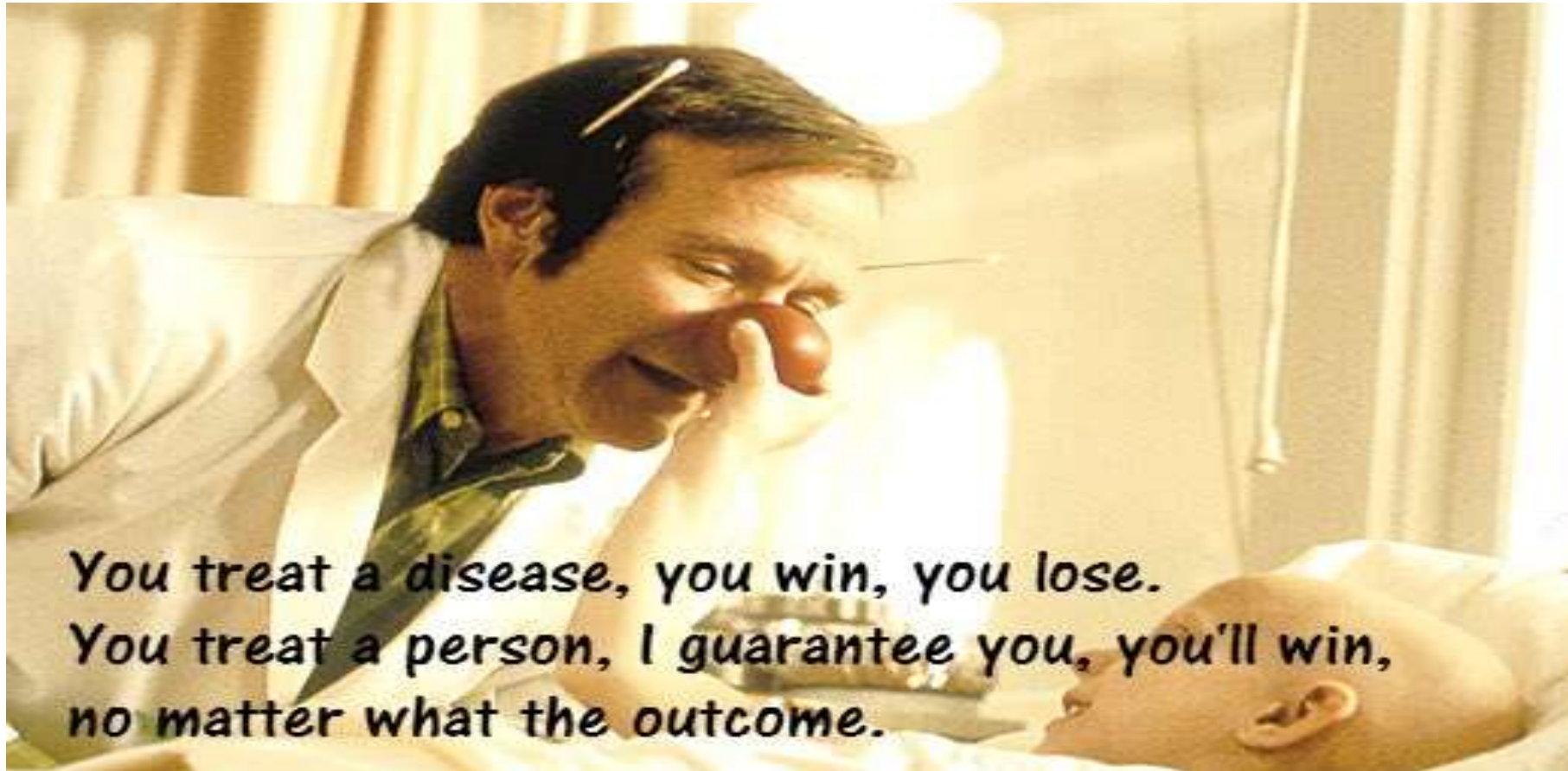
TRAUMA INFORMED CARE IN ACTION



INCREASED BMI/HIGH OPIOIDS
HIP AND KNEE PAIN
SPINAL PAIN
RA/PELVIC PAIN

DYING FATHER/STRESSORS
ACE 8/10
MI TECHNIQUES
LIFESTYLE/DIETARY ADVICE
SOCIAL PRESCRIBER/PEER SUPPORT
SUPPORTIVE PARTNER
READY TO THINK ABOUT DEPRESCRIBING

An integrated holistic systems approach



*You treat a disease, you win, you lose.
You treat a person, I guarantee you, you'll win,
no matter what the outcome.*

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