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Pain Management and Psychology

VII National Conference - Psychiatry and Physical Health

America Square Centre, December 2019

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Disclosures

- Clinical investigator: Nevro Corp, USA
- Clinical investigator: Medtronic
- Speaker : Pfizer
- Bias: Neuromodulation

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Snapshot of Pain Problem

- 8 million chronic pain sufferers (U.K)
- 10% population : disabling back pain
- £12 billion: back pain burden
- $600 billion: USA

Chronic Pain Epidemiology: From Aetiology to health, Oxford University press, 2010

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Dept of Pain Medicine (n=82)

- Nurse specialists
- Physiotherapists
- Psychologists
- Pain Physicians
- Admin Staff
- Therapy Dog

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Remi
PHOTOGRAPHY BY REMI BENSON


alth Hero
Awards
In associa
Pharm
Your prescriptions
© Murray Sanders/Daily Mail

Table 1. Summary of Evidence Scores and Implications for Recommendation

Score	Description	Implication
1A+	Effectiveness demonstrated in various RCTs of good quality. The benefits clearly outweigh risk and burdens	Positive recommendation
1B+	One RCT or more RCTs with methodological weaknesses, demonstrate effectiveness. The benefits clearly outweigh risk and burdens	
2B+	One or more RCTs with methodological weaknesses, demonstrate effectiveness. Benefits closely balanced with risk and burdens	
2B±	Multiple RCTs, with methodological weaknesses, yield contradictory results better or worse than the control treatment. Benefits closely balanced with risk and burdens, or uncertainty in the estimates of benefits, risk and burdens	Considered, preferably study-related
2C+	Effectiveness only demonstrated in observational studies. Given that there is no conclusive evidence of the effect, benefits closely balanced with risk and burdens	
0	There is no literature or there are case reports available, but these are insufficient to prove effectiveness and/or safety. These treatments should only be applied in relation to studies	Only study-related
2C–	Observational studies indicate no or too short-lived effectiveness. Given that there is no positive clinical effect, risk and burdens outweigh the benefit	Negative recommendation
2B–	One or more RCTs with methodological weaknesses, or large observational studies that do not indicate any superiority to the control treatment. Given that there is no positive clinical effect, risk and burdens outweigh the benefit	
2A–	RCT of a good quality which does not exhibit any clinical effect. Given that there is no positive clinical effect, risk and burdens outweigh the benefit	

RCT, randomized controlled trial.

Nerve connecting eye to Ass : evidence

FROM WHEELCHAIR TO WORK:

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Simon : Wheel chair to work

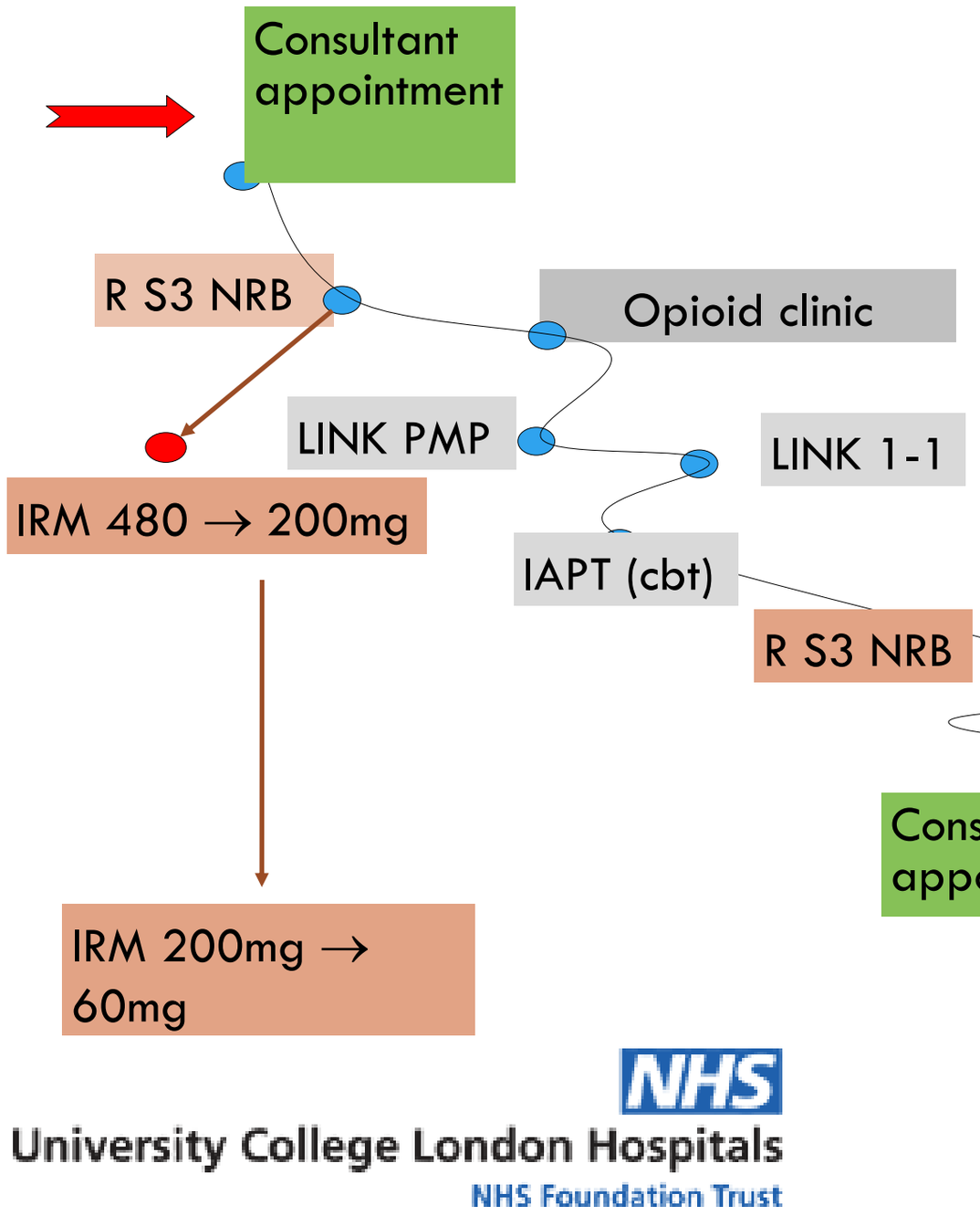
- 30 yo male.
- Orchidectomy Nov 2012. Painpost op → right testicle.
- Multiple private pain consults.
- Feb 2014 R iliolinguinal and R genitofem NB.
- April 2014 & July 2014:

♠ fentanyl 25→37 mcg/hr

Assessment : July 2015

- Morphine 480 mg/day
- Wheel chair bound
- Socially isolated
- Unemployed > 6 yr
- Not sexually active
- Low mood, anxious
- Stress and panic

PATIENT JOURNEY BEGINS…



Nov R S3 NRB Nov15: helps

Opioid reduction clinic:

Mood risk alert: IAPT referral

LINK PMP: wk 3: self-harm → 1:1 + local IAPT

Pain worse: NRB

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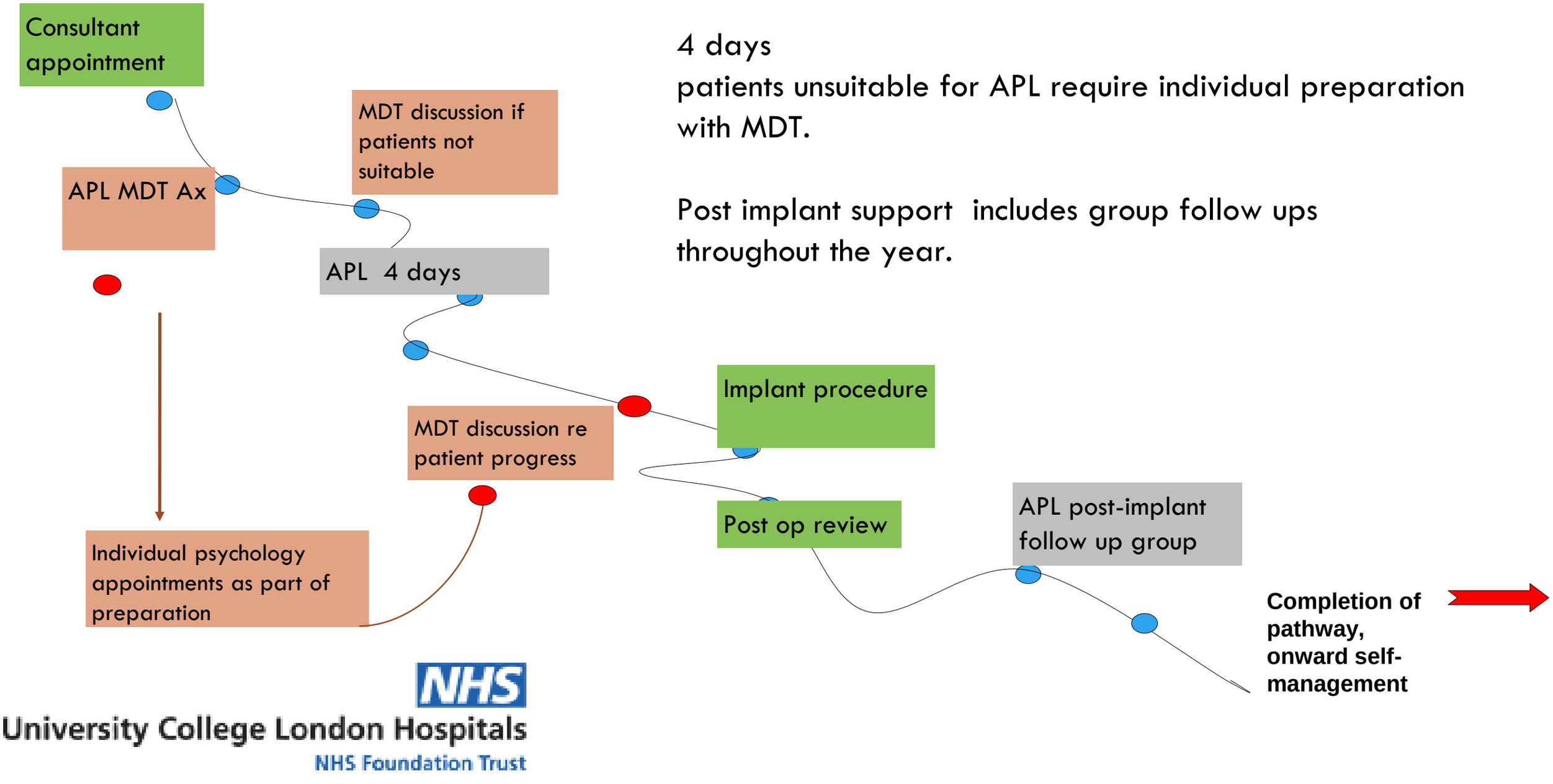

APL pathway's pre-implant pain management programme to prepare patients to live well with chronic pain and a stimulator device.

4 days
patients unsuitable for APL require individual preparation with MDT.

Post implant support includes group follow ups throughout the year.

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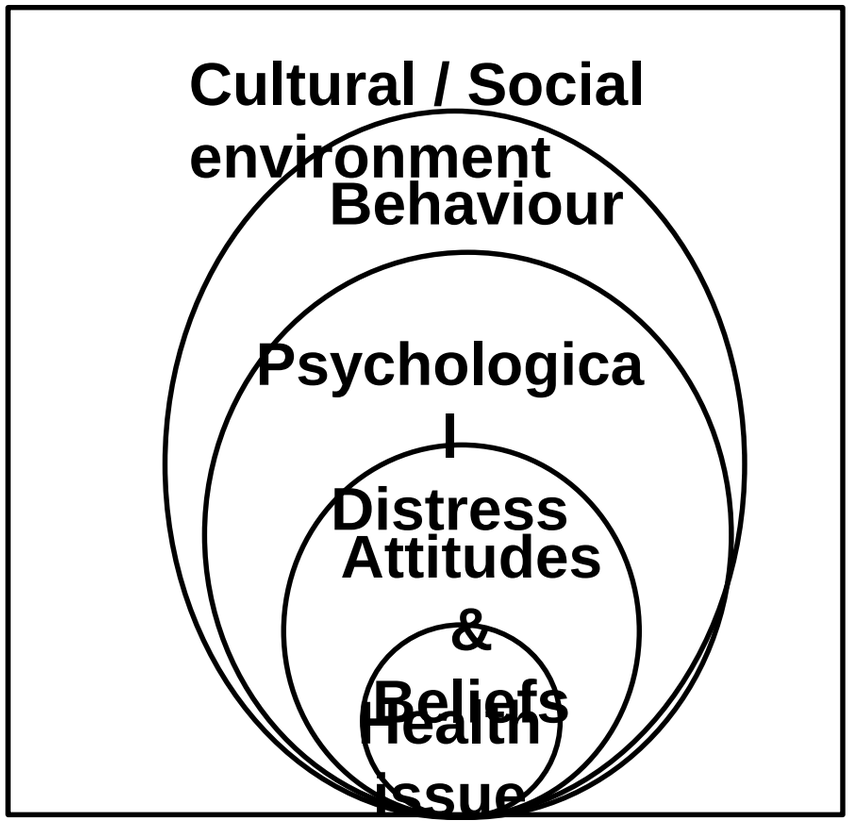
THE NEUR0MODULATION PATHWAY

APL MDT ASSESSMENT PROCESS

BIO-PSYCHO-SOCIAL APPROACH
(Waddell, Main, Morris, Di Paola & Gray, 1984)



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APL MDT ASSESSMENT

Resilience indicators

- Engages positively with help (CBT for depression, attended LINK PWP)
- ♠↓ opioids with the support of the opioid reduction team & maintained this
- Good social/family support
- Continues to try to actively apply skills
- Realistic expectations re neuromodulation ("not a cure")

Cognition

I'm worthless
I'm not contributing
I'm a burden to my family
I will never be independent
I will never be able to work

Physiology

Ongoing pain in right testicle (constant, nauseating, dull pain & sharp spiking sensations). Exacerbated by movement, insomnia, fatigue, flare-ups every 2 days

Feelings

Anxiety, low mood frustration, boredom, humiliation

Behaviours

Helpful: Distraction (X-box, movies, etc.), special cushion, medication, mindful meditation, pacing & sleep hygiene strategies, project engagement

Unhelpful: avoids physical activity, reliance on wheelchair, escalating opioid use (past), deliberate self-harm (past)

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DAY 1: WORKING TOWARDS VALUED GOALS

IDENTIFYING VALUES

What direction do you want to travel in?

What is important to you?

What do you real
care about?

MOVING FROM VALUES TO GOALS

Translating values into SMART goals?

What steps can you take this month/week/today to move in your valued direction?

What might get in the way?

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DAY 2: BREAKING THROUGH BARRIERS

The Passengers on the bus metaphor

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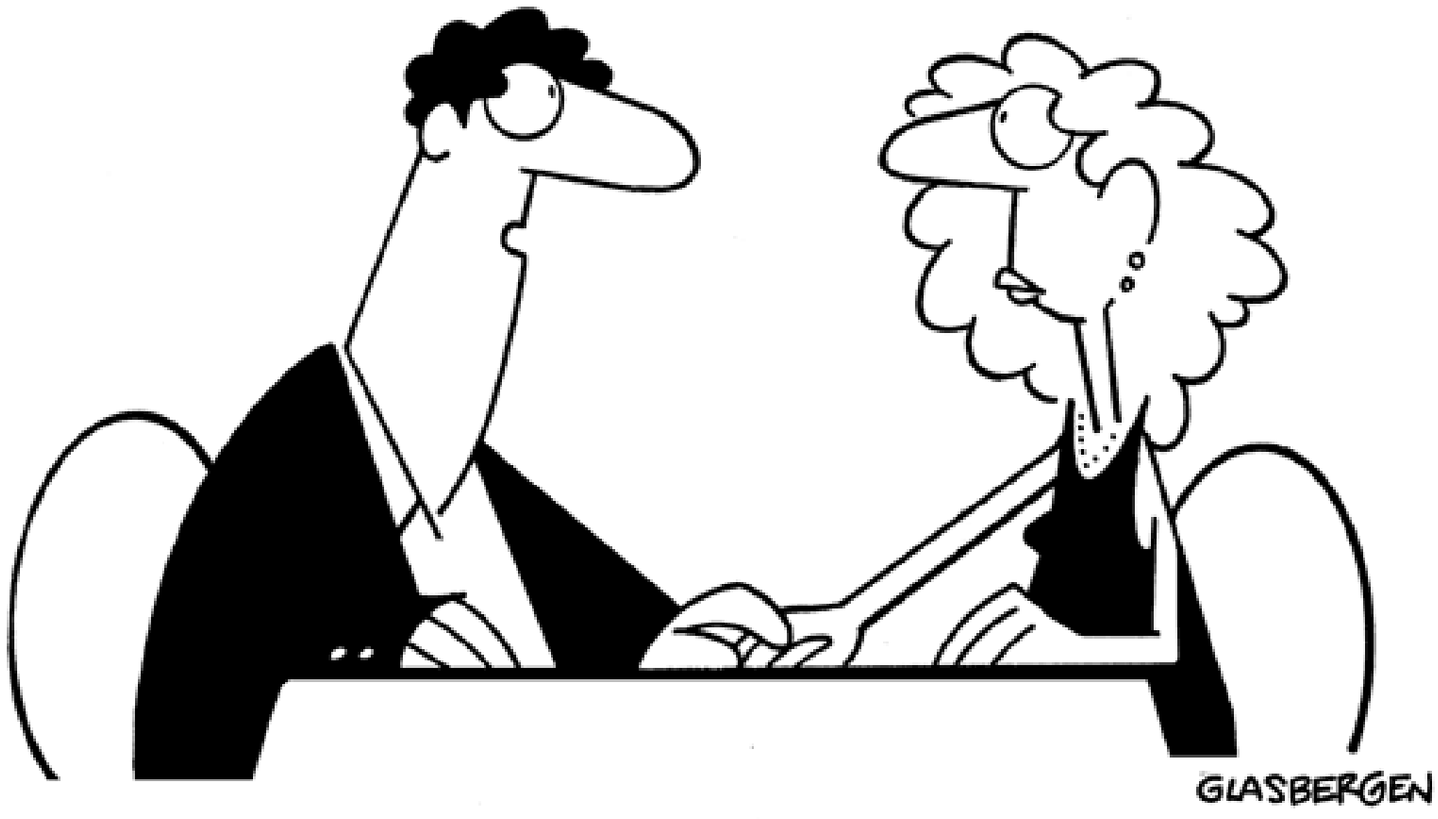
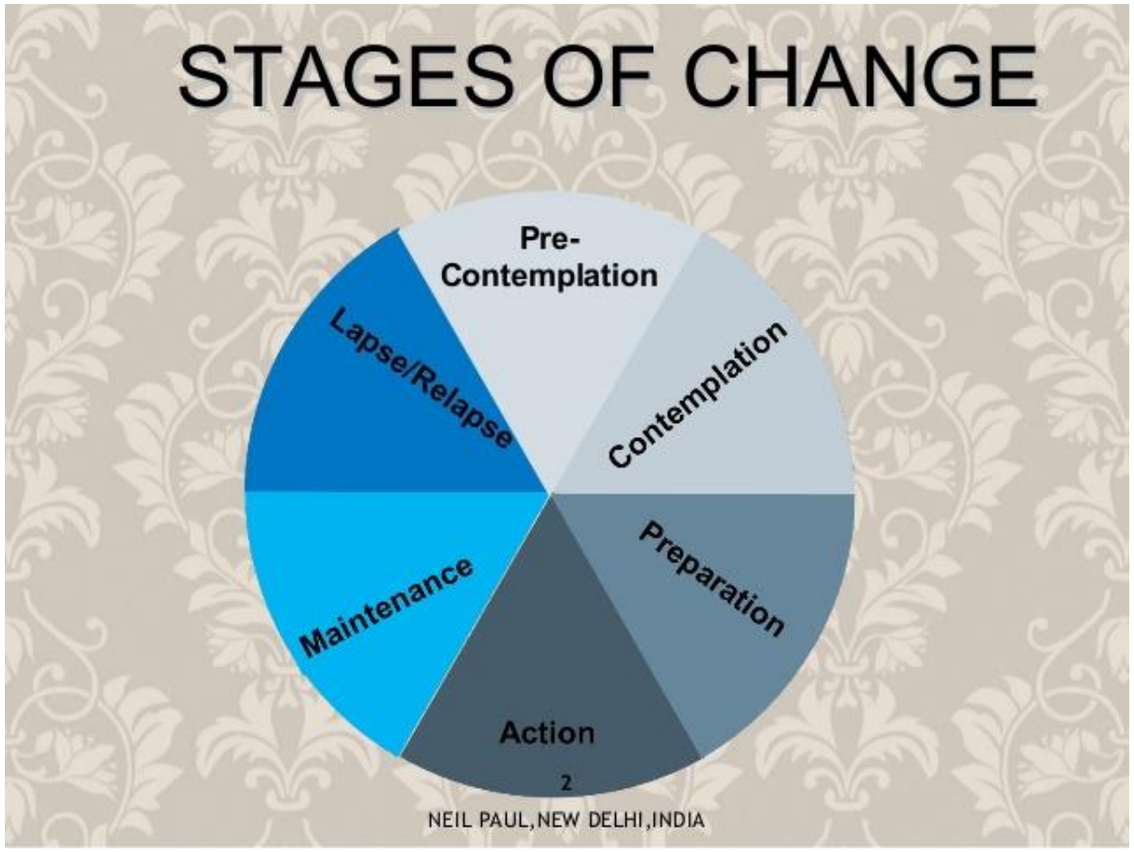
DAY 3: COMMUNICATIONS AND INTIMACY AND FLARE UP PLANNING



"I'm not afraid of intimacy, as long as it's shallow, meaningless intimacy that doesn't reveal too much about me."

DAY 4: REVIEW AND MAINTAINANCE



Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology, 51*(3), 390-395.

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STIMULATOR IMPLANTATION

APL Day 1

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- NRB: Sept 2018
- 2 wk trial: SCS anterograde /retrograde
- Implant Oct18
- Dec18 rv: Wound check, programming

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OUTCOMES (4/12 POST IMPLANT)

"*Neuromodulation has given me a new lease of life*"

- 55-60% pain ↓, activity, meds ↓
- No wheelchair: walking & driving independently
- Starting work: Domiciliary nurse (training)
- Mood . Fatigue persists & some flare ups but keeping moving
- New IPG site pain (minor)
- +ve family impact – can leave Simon home alone
- Looking forward to starting job, independence, family activity, dog-walking

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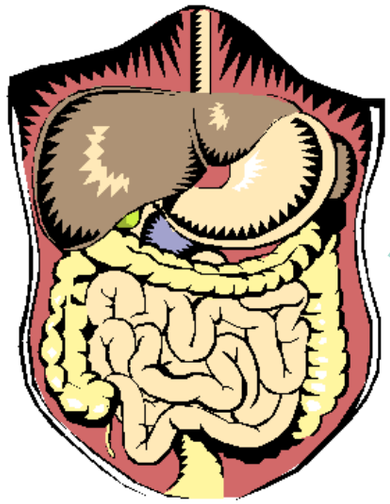
Etiology

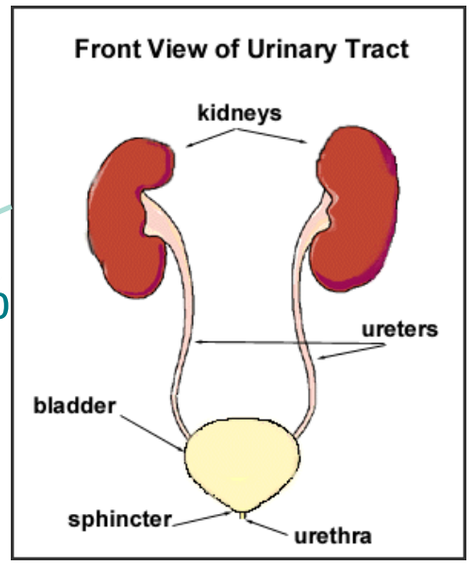
Gastrointestinal



37.7%

Urological

30.8%



Psychological

Gynecological

20.2%

Musculoskeletal

UK primary care database

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Acute v/s Chronic Pain

- Symptom v/s Disease
- Protective v/s Prohibitive
- Mechanisms
- Nervous system

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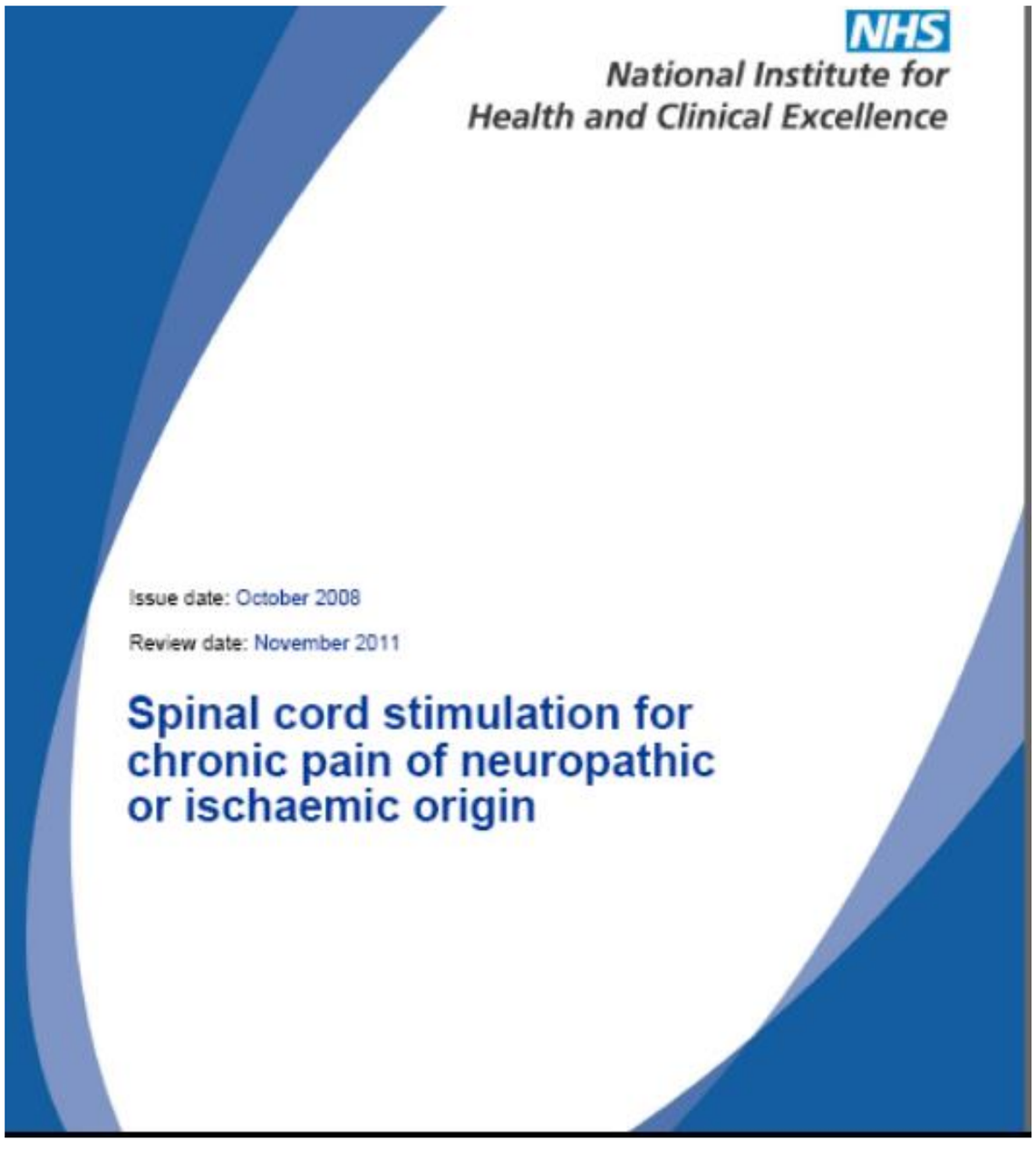
Current Practice

- One pill fits all
- FDA : 100 commonly used drug that doesn't work as desired
- Clopidogrel : 25% have defective enzyme to activate
- Deadly ?

NICE (TA – 159)


NHS
National Institute for
Health and Clinical Excellence
Issue date: October 2008
Review date: November 2011
Spinal cord stimulation for chronic pain of neuropathic or ischaemic origin

Effect of SCS related to stimulation site along neuro-axis

SCS

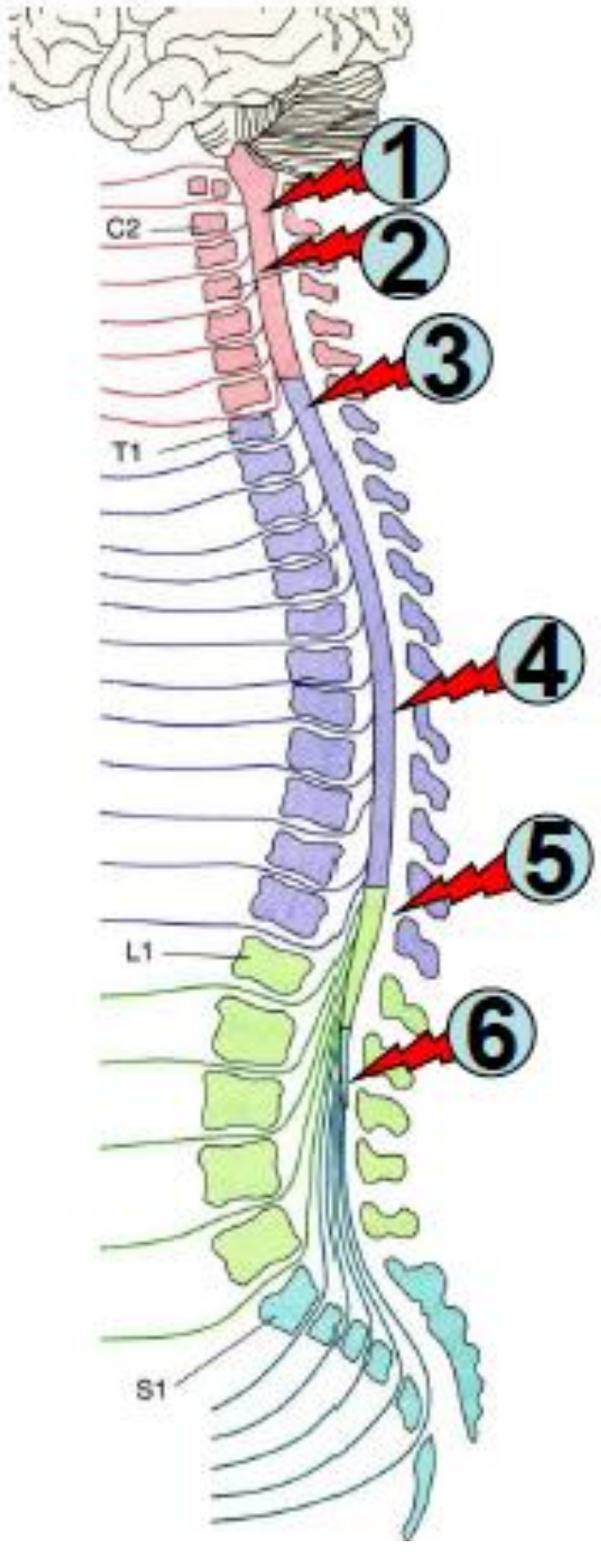
Cervical

High Thoracic

Middle Thoracic

Low Thoracic

Sacral



Target Organ

Organ Response

1. Bronchodilation
2. Peripheral vasodilation
3. Stabilization of ICNS
   Reduction of Ischemia and Pain
   Decreased Infarct Size
4. Decreased Colonic Spasms
   Pain Reduction
5. Peripheral vasodilation
6. Decreased Bladder Spasticity
   Increased volume tolerance

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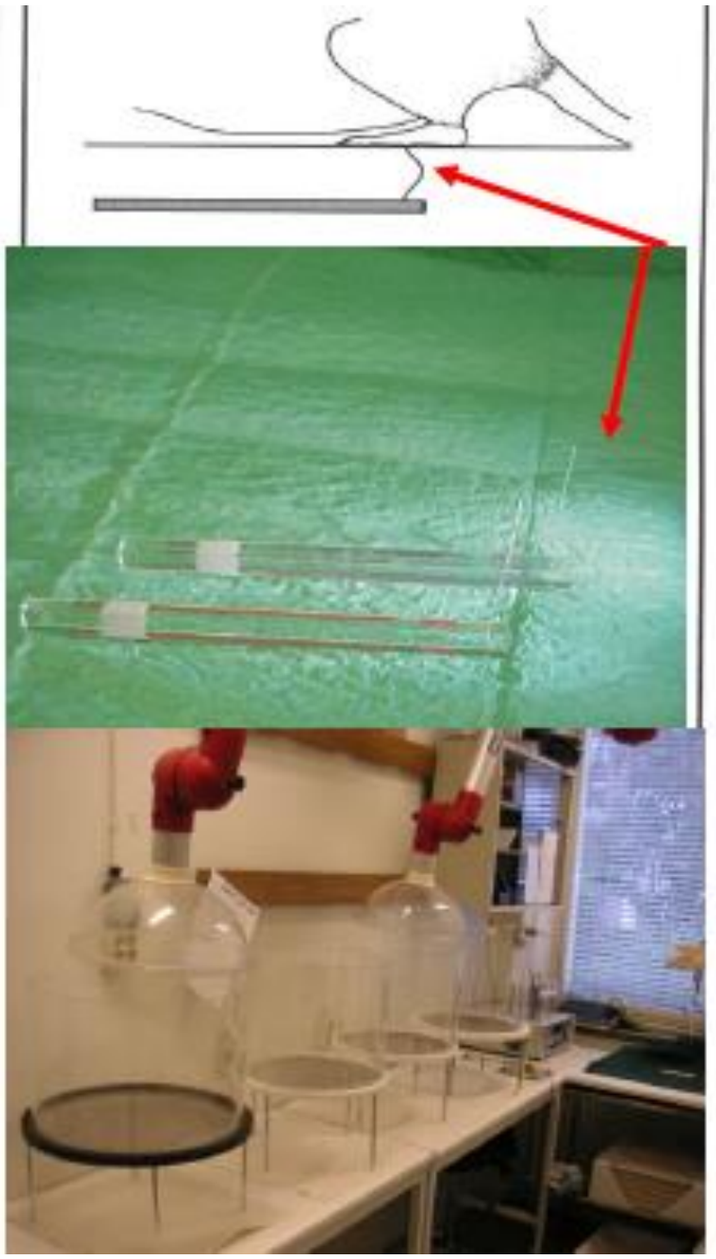
Testing ….



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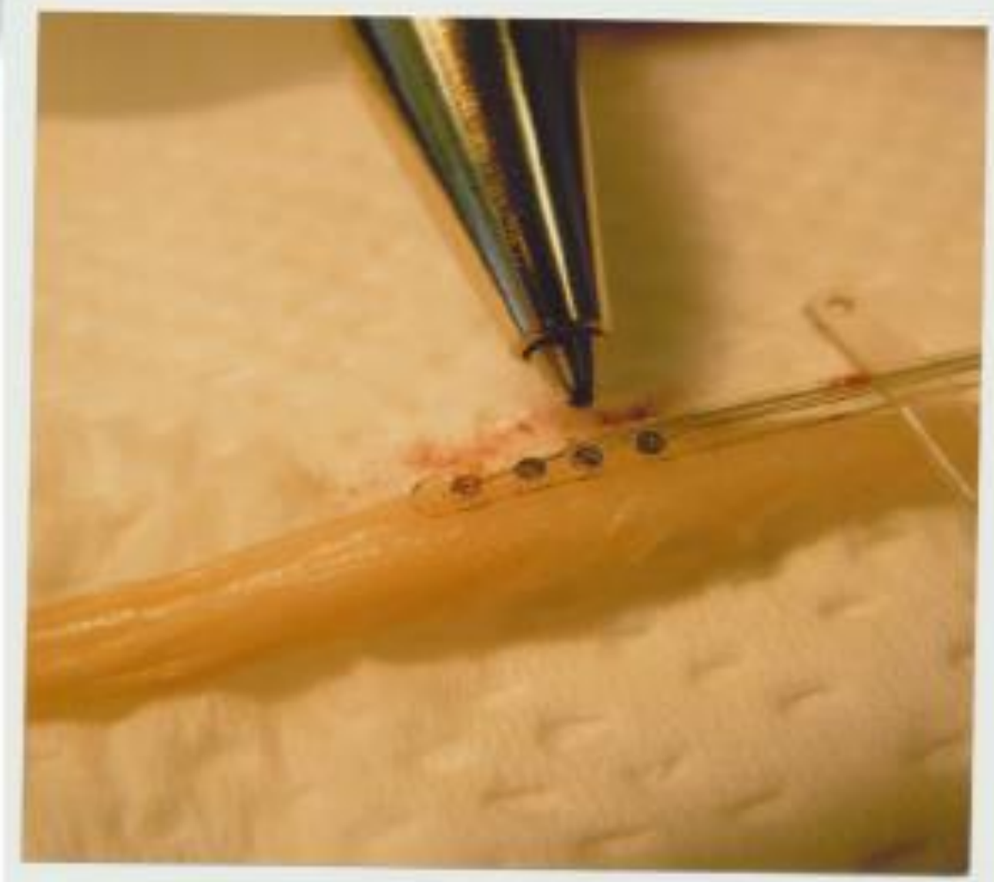
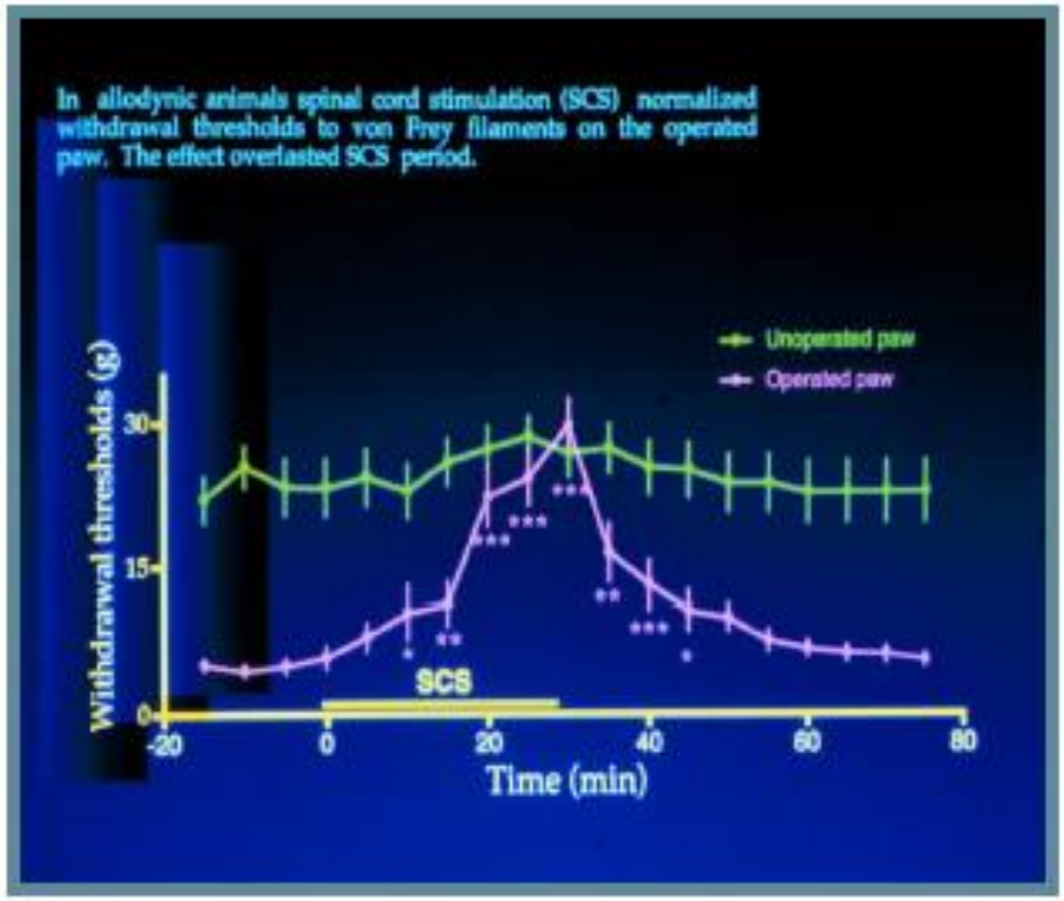
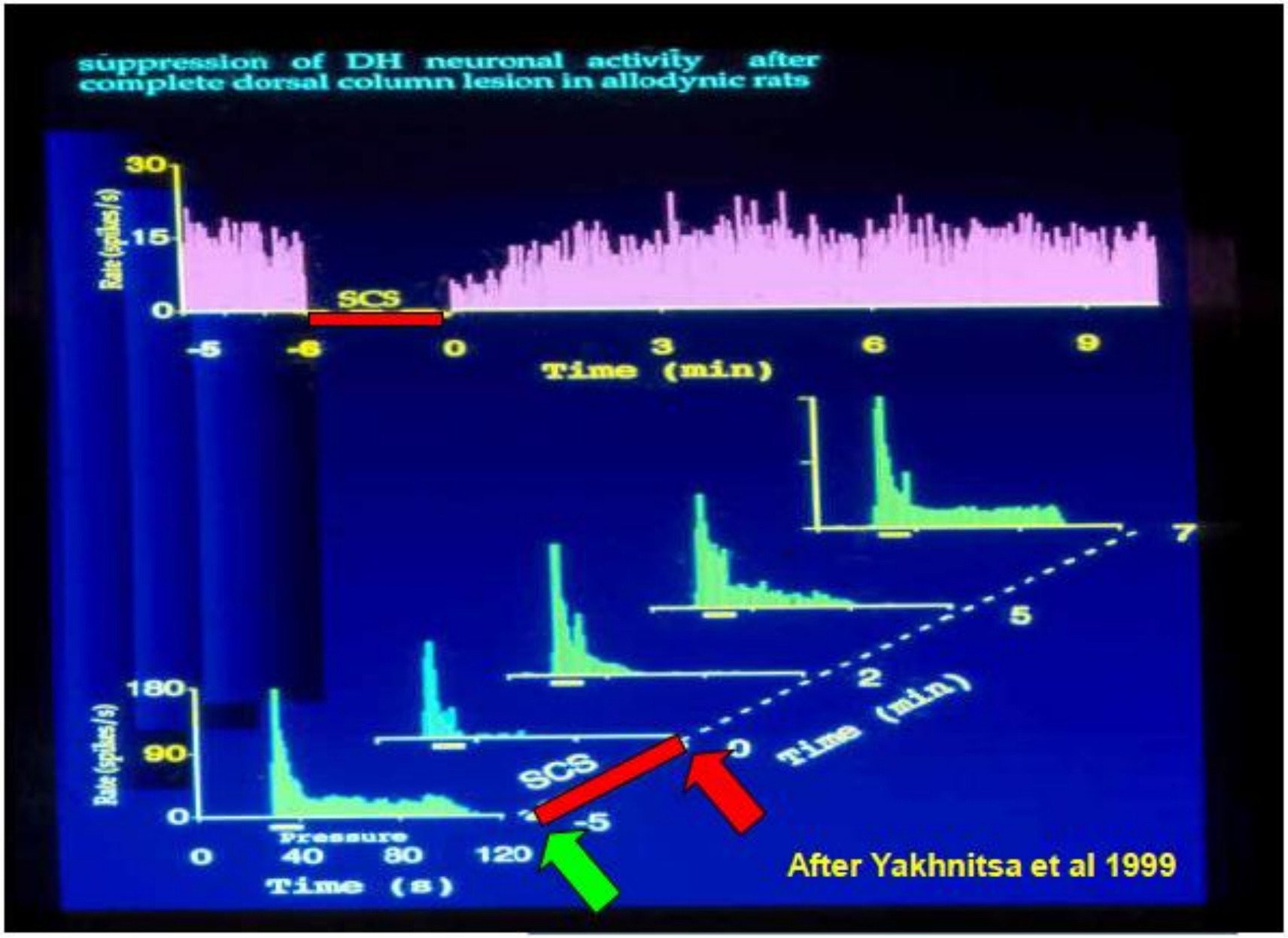
Miniature SCS system ⇨ Test of SCS response





Hyper-excitability of WDR neurons reduced by SCS



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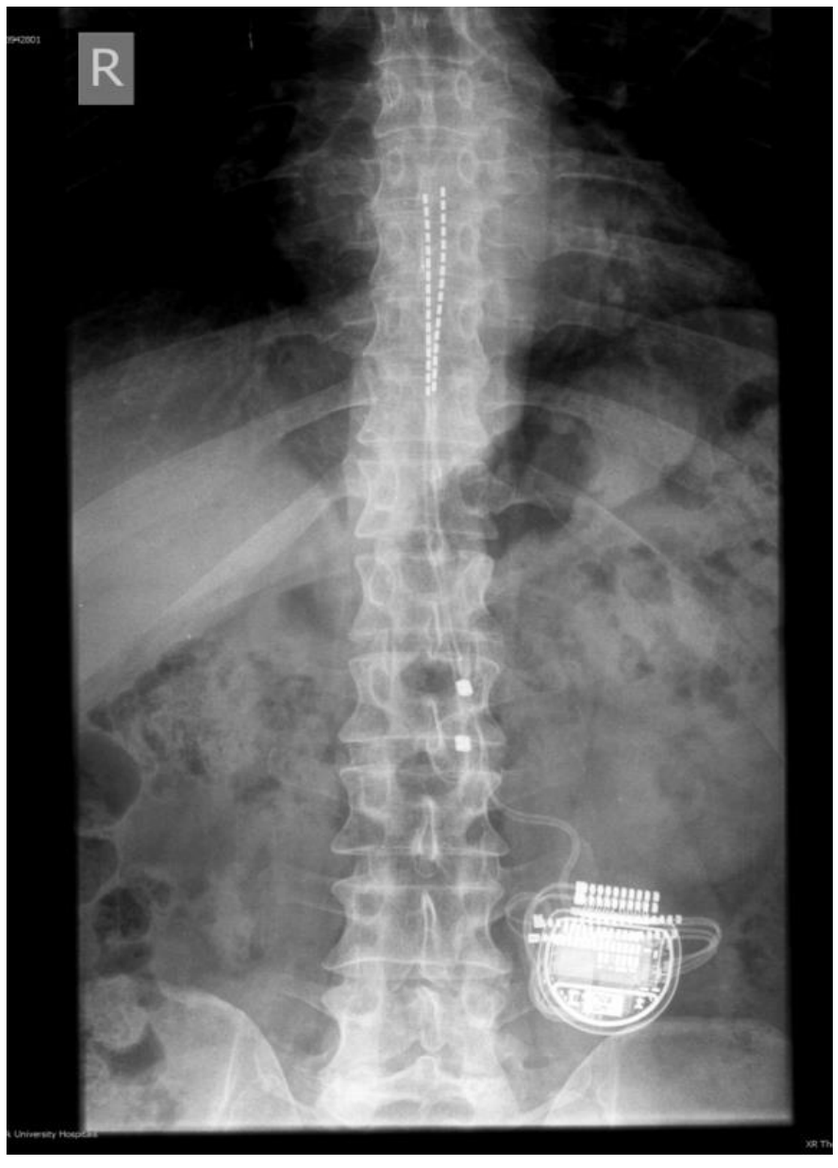
Neuromodulation : Indications

- Neuropathic pain
- FBSS/Back pain
- Radicular pain
- CRPS
- Cranial pain /Facial
- Pelvic Pain /Visceral pain
- Angina
- Peripheral ischemic pain



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RCT in Neuropathic pain

Author	Journal	Pop	Intervent	Comparison	Outcome
Kemler 2000	NEJM	CRPS – 36pt 2:1	SCS – MDT 4 contact	Physio	6/12 + (p<0.001)
Kemler 2004	Ann Neurol	CRPS – 36pt 2:1 (35)	SCS – MDT 4 contact	Physio	2 year + (p=0.001)
North 2005	Neurosurg	FBSS – 50pt 1:1	SCS – MDT 4 contact	Surgery	+ (p< 0.01)
Kumar 2007	Pain	FBSS– 100pt 1:1	SCS – MDT 4,8 contact	CMM	6/12 +
Kemler 2008	J.Neurosug	CRPS – 36pt 2:1 (31)	SCS – MDT 4 contact	Physio	5 year - (p=0.24) + 95% SCS
De Vos 2014	Pain	PDPN -60pt 2:1	SCS	BMT	6/12 + (p<0.001)
Slangen 2014	Diabetes Care	PDPN– 36pt 2:1 (36)	SCS	BMT	6/12 + (p<0.001)

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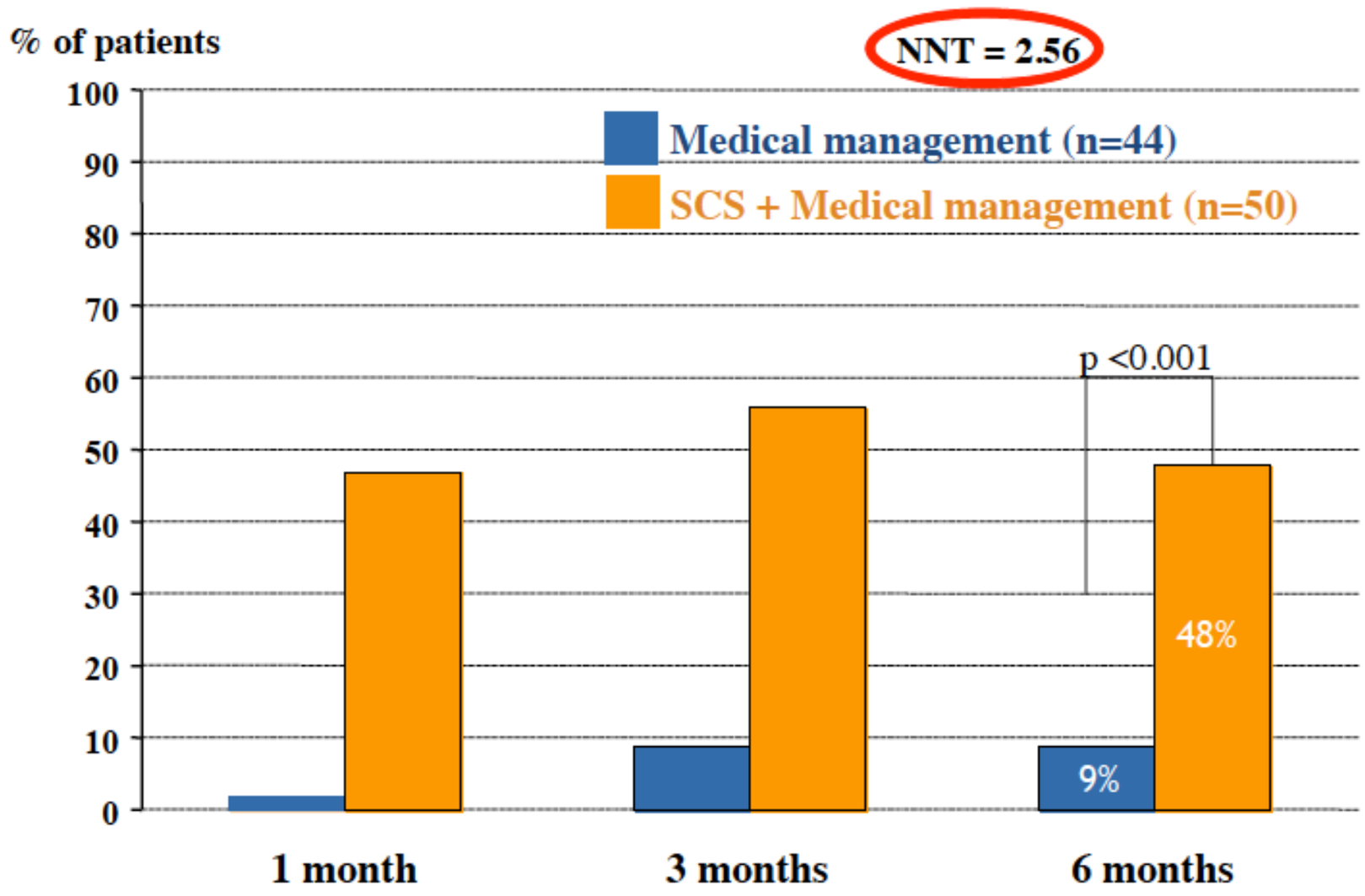
6 months primary outcome



Kumar et al. Pain 132; 179-188, 2007

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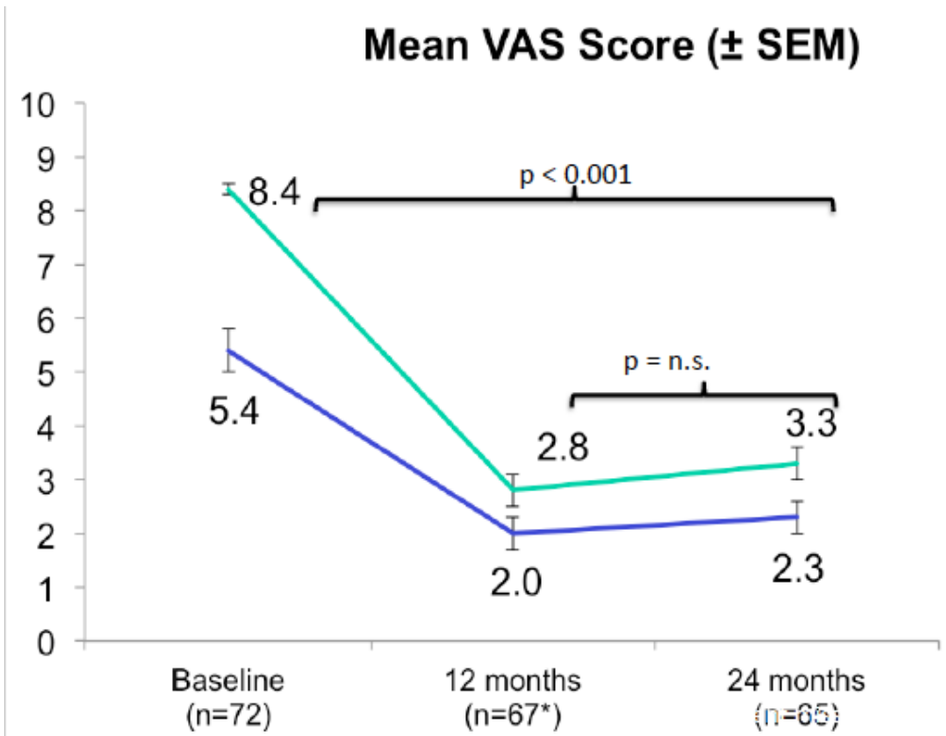
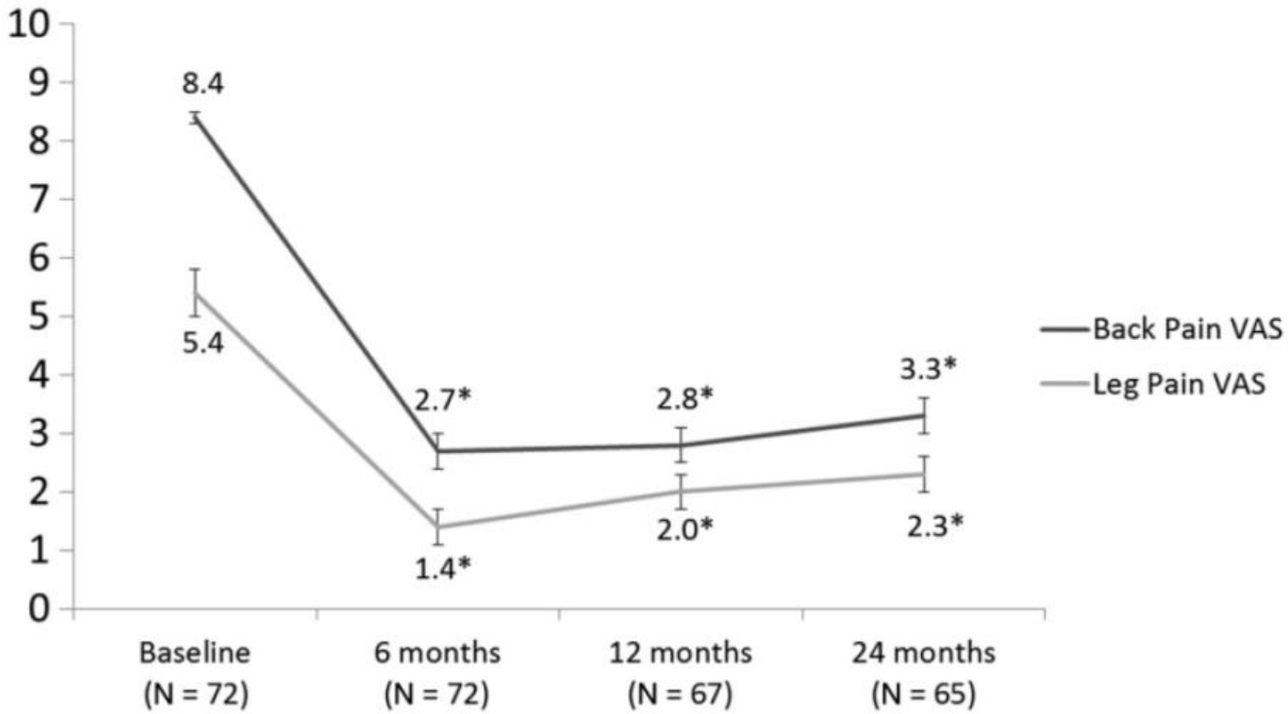
HF-10 Chronic Low Back Pain

Europe SENZA RCT



USA SENZA RCT



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1.1 Spinal cord stimulation is recommended as a treatment option for adults with chronic pain of neuropathic origin who:

- continue to experience chronic pain (measuring at least 50 mm on a 0–100 mm visual analogue scale) for at least 6 months despite appropriate conventional medical management, and
- who have had a successful trial of stimulation as part of the assessment specified in recommendation 1.3.

2.2 Neuropathic pain is initiated or caused by nervous system damage or dysfunction. Neuropathic pain is difficult to manage because affected people often have a complex history with unclear or diverse causes and comorbidities. Neuropathic conditions include failed back surgery syndrome (FBSS) and complex regional pain syndrome (CRPS). People with FBSS continue to have back and/or leg pain despite anatomically successful lumbar spine surgery. It is not easy to identify a specific cause of neuropathic pain and people with FBSS may experience mixed back and leg pain. CRPS may happen after a harmful

Summary

chronic pain is complex.

Pain has bio-psycho-social factors e.g. chronic pain can cause anger, hopelessness, sadness and anxiety; and lead to unhelpful behaviours. Pain psychology addresses the impact on these factors..

Medical treatments e.g. medication, surgery, injections and physical therapy may help in the management of chronic pain and pain psychology treatments contribute to these approaches.

Understanding moods, thoughts and behaviours associated with chronic pain can support our ability to cope more effectively.

Gatchel, R., McGeary, D., McGeary, C., & Lippe, B. (2014)

Pain Management Psychology

Wide lens view of the patient

Ax of moods, thinking, socialising, sleep, routine, risks, culture/language, relationships, beliefs about of pain (self-awareness)

Current self-management e.g. medication, helpful strategies, support, stress management (skills building)

Unhelpful patterns e.g. isolation, thinking traps, communication style, medication over-use, activity avoidance (self-awareness)

Goal e.g. work, socialising, hobbies. (skills building)

Expectations e.g. cure-seeking (self-awareness)

Self-awareness + skills building improves wellbeing

Pain management psychology treatment

- Psychological Flexibility

- Self-management

- Navigating healthcare

- Valued goals

McCracken, L., & Vowles, K. (2014)

Jensen, M., & Turk, D. (2014)

Why involve a specialist pain psychologist?

- Identifying + making recommendations for patients with high-risk factors e.g. suicide/self harm, opiate use, PTSD
- Contribute to MDT assessments for pain interventions e.g. stimulators
- Collaborate with patients to practice behavioural-psych strategies e.g. graded desensitisation towards activity goals/ planning for procedures / opioid reduction
- Identify + refer e.g. psychiatric care, sleep specialist, cognitive assessments, trauma therapy
- Individualise MDT treatment plans sensitively respecting diversity e.g. addressing cultural/spiritual beliefs, working with interpreters, adapting communications for learning needs
- Attend + participate in interdisciplinary team meetings
- Provide regular supervision / reflective practice meetings to professionals in the MDT e.g. pain doctors, clinical specialist nurses, physiotherapists

References

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Jensen, M., & Turk, D. (2014).Contributions of psychology to the understanding and treatment of people with chronic pain. *American Psychologist*, *69*(2), 105-118.

McCracken, L., & Vowles, K. (2014). Acceptance and Commitment Therapy and Chronic Pain. *American Psychologist*, *69*(2), 178-187.

Polenick, Brooks, Berditt (2017). Own and partner pain intensity in older couples: longitudinal effects on depressive symptoms. Pain;158(8):1546-1553. doi: 10.1097/j.pain.0000000000000949.

Rayner, L., Hotopf, M., Petkova, H., Matcham, F., Simpson, A., & McCracken, L. M. (2016). Depression in patients with chronic pain attending a specialised pain treatment centre: prevalence and impact on health care costs. Pain, 157(7), 1472–1479. doi:10.1097/j.pain.0000000000000542


FALCO

Biopsychosocial experience

- Chronic pain affects between 1/3 and ½ of the population of the UK, corresponding to just under 28 million adults (Fayaz et al. 2016)
- Pain patients face obstacles returning to work (Grant et al. 2019)
- High prevalence of depression in chronic pain patients (Rayner et al., 2016)
- Chronic pain impedes activities of daily living (Andrew et al., 2014)
- Possibility of both individual + spousal associations between pain intensity and depressive symptoms in later life (Polenick 2017)

7 Million years ago

Are we ready to jump?

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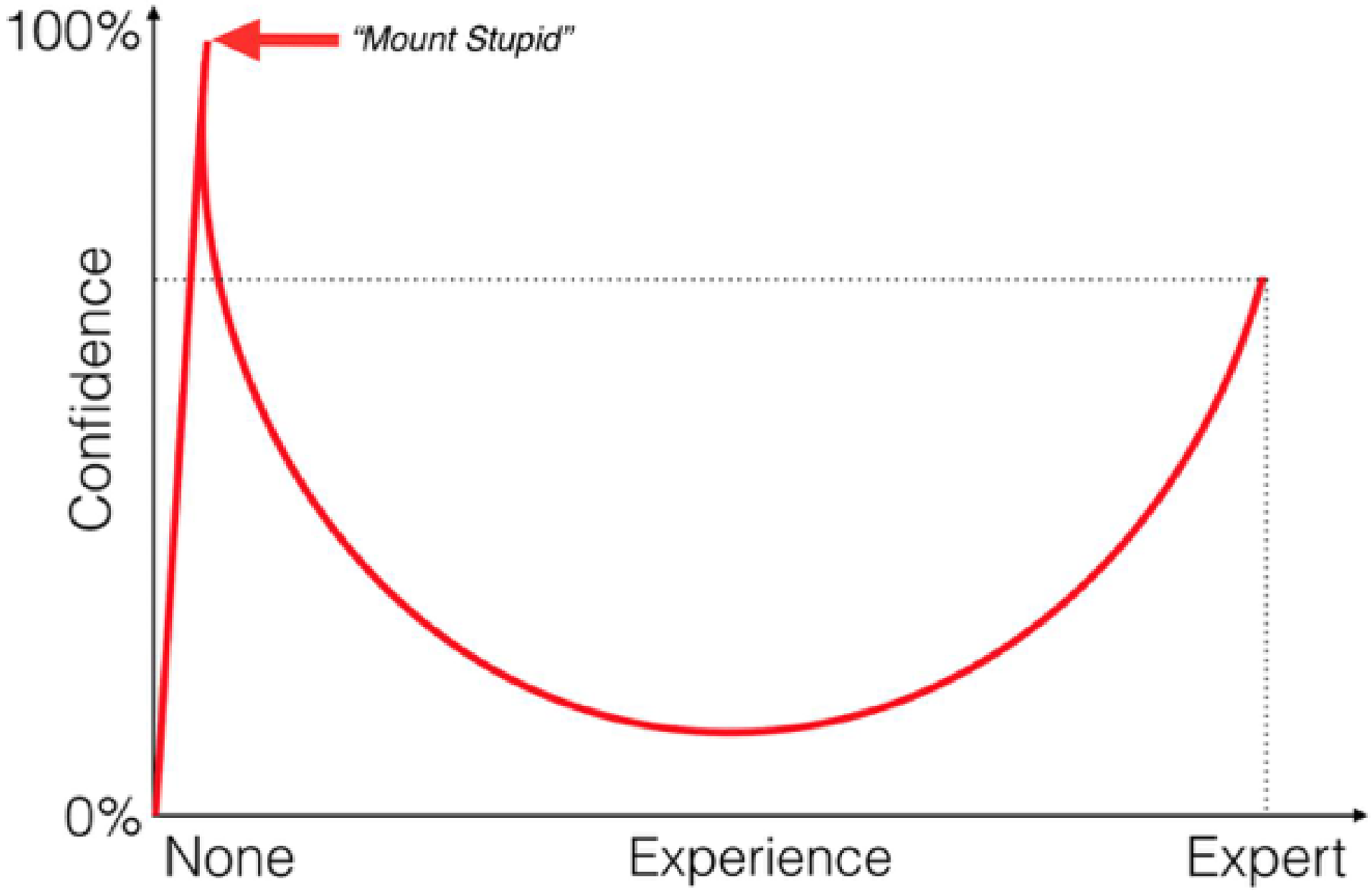
Dunning-Kruger Effect

Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments
Kruger, J., & Dunning, D. (1999)



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