Hypnose : Des neurosciences aux applications cliniques

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Pr. S. LAUREYS
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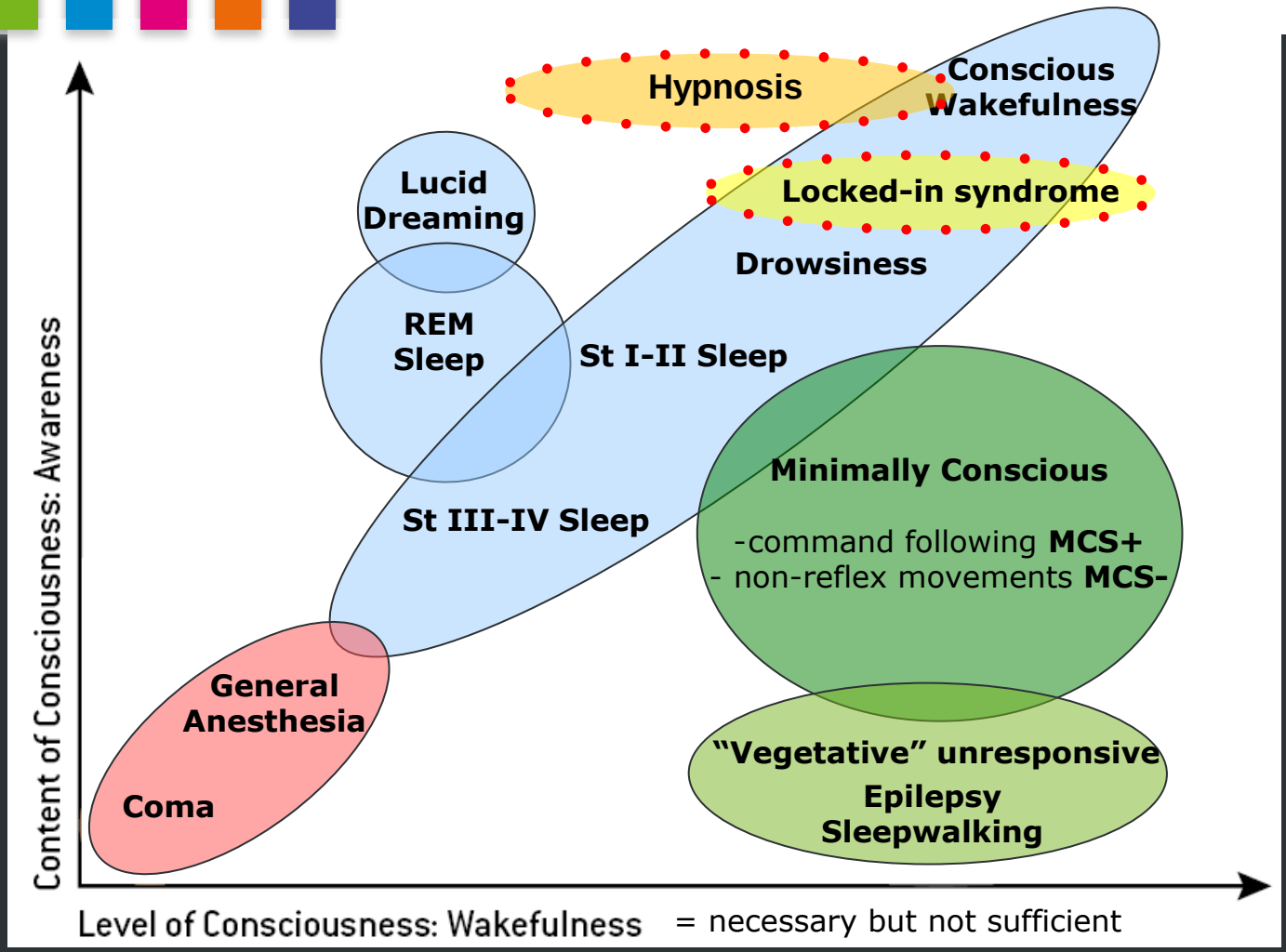
Dr. C. MARTIAL

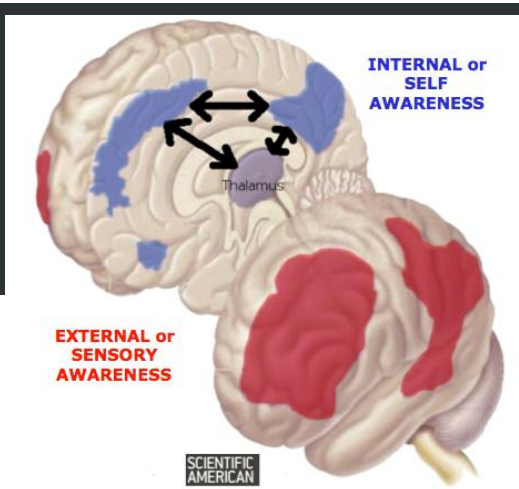
24/08/2018

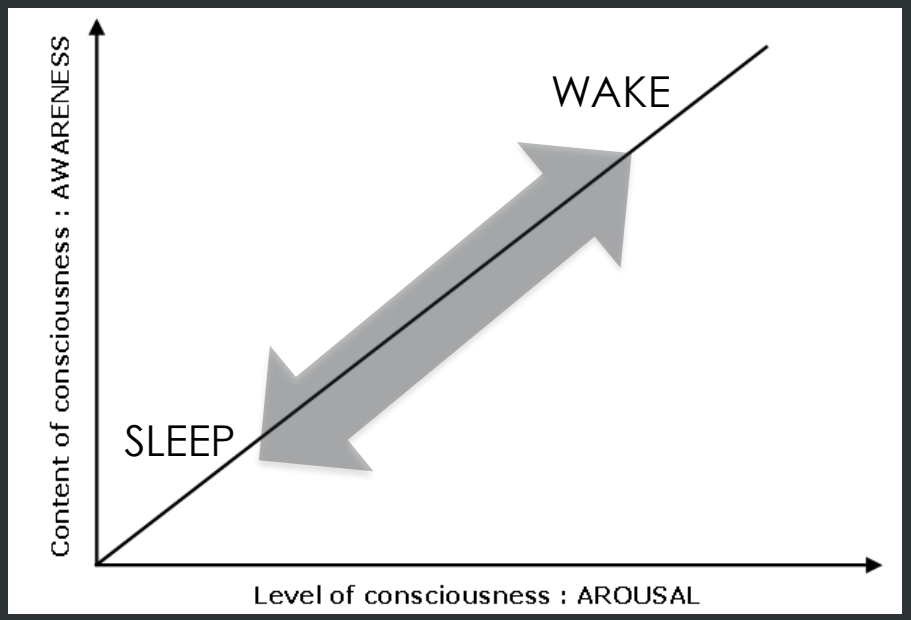
Hypnosis: altered state of consciousness?

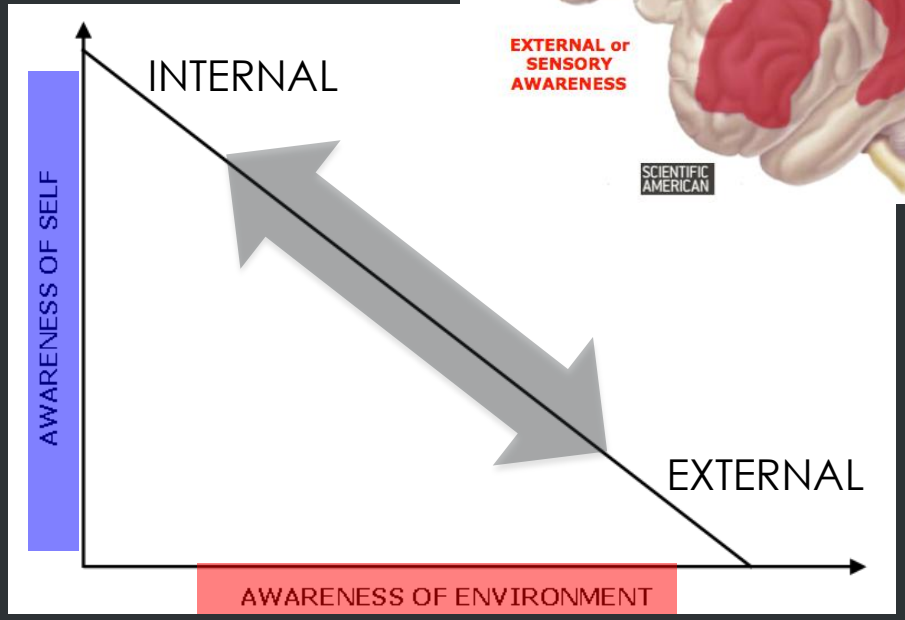


Laureys, *Trends in Cognitive Sciences*, 2005
Laureys et al, *Nature Clinical Medicine*, 2008

Measuring awareness





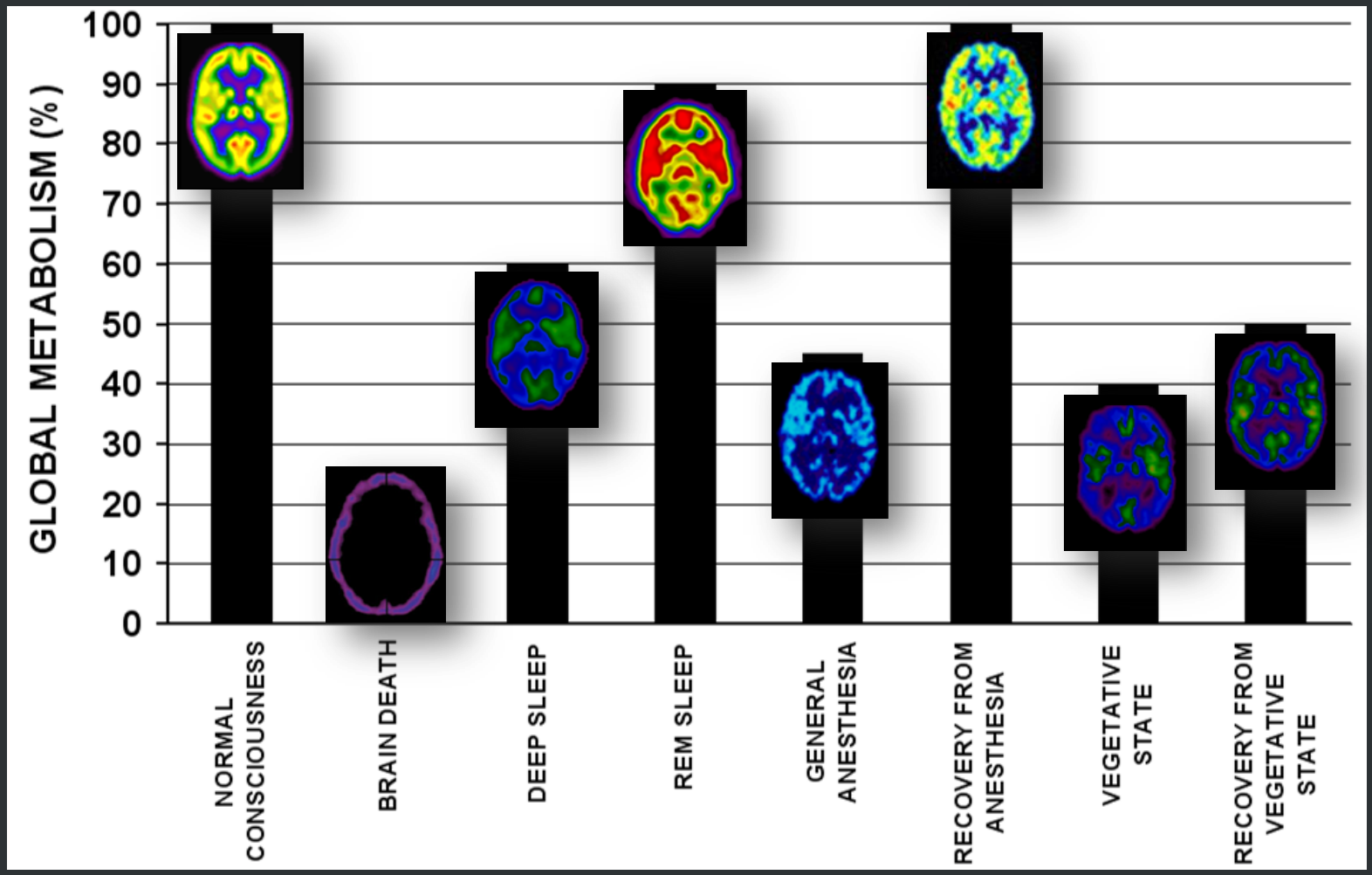


CIRCADIAN *ULTRADIAN*

Boly et al, *Ann NY Acad Sci,* 2009

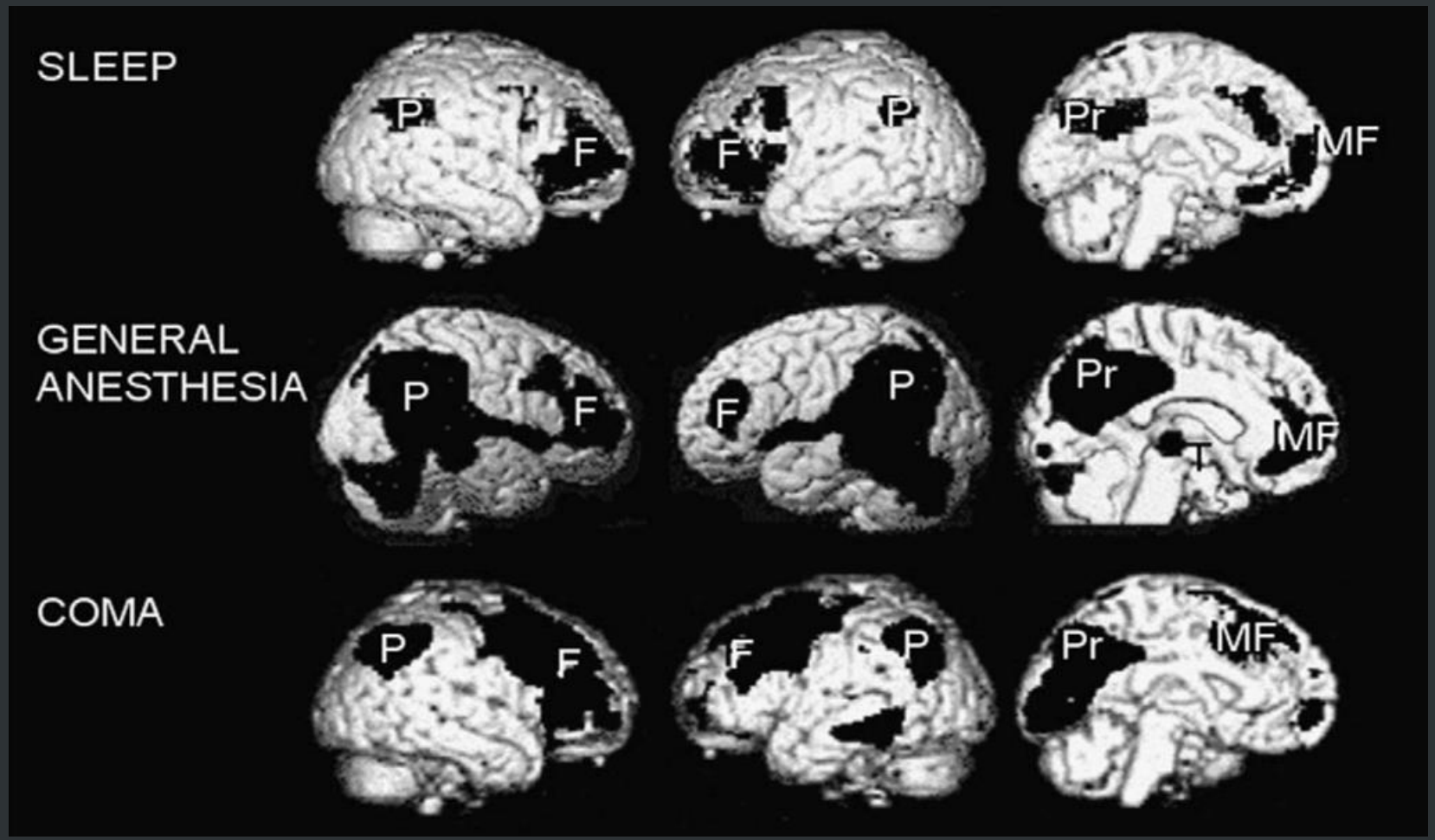
Vanhaudenhuyse & Demertzi et al, *J Cogn Neursoci,* 2011

Consciousness & global brain function



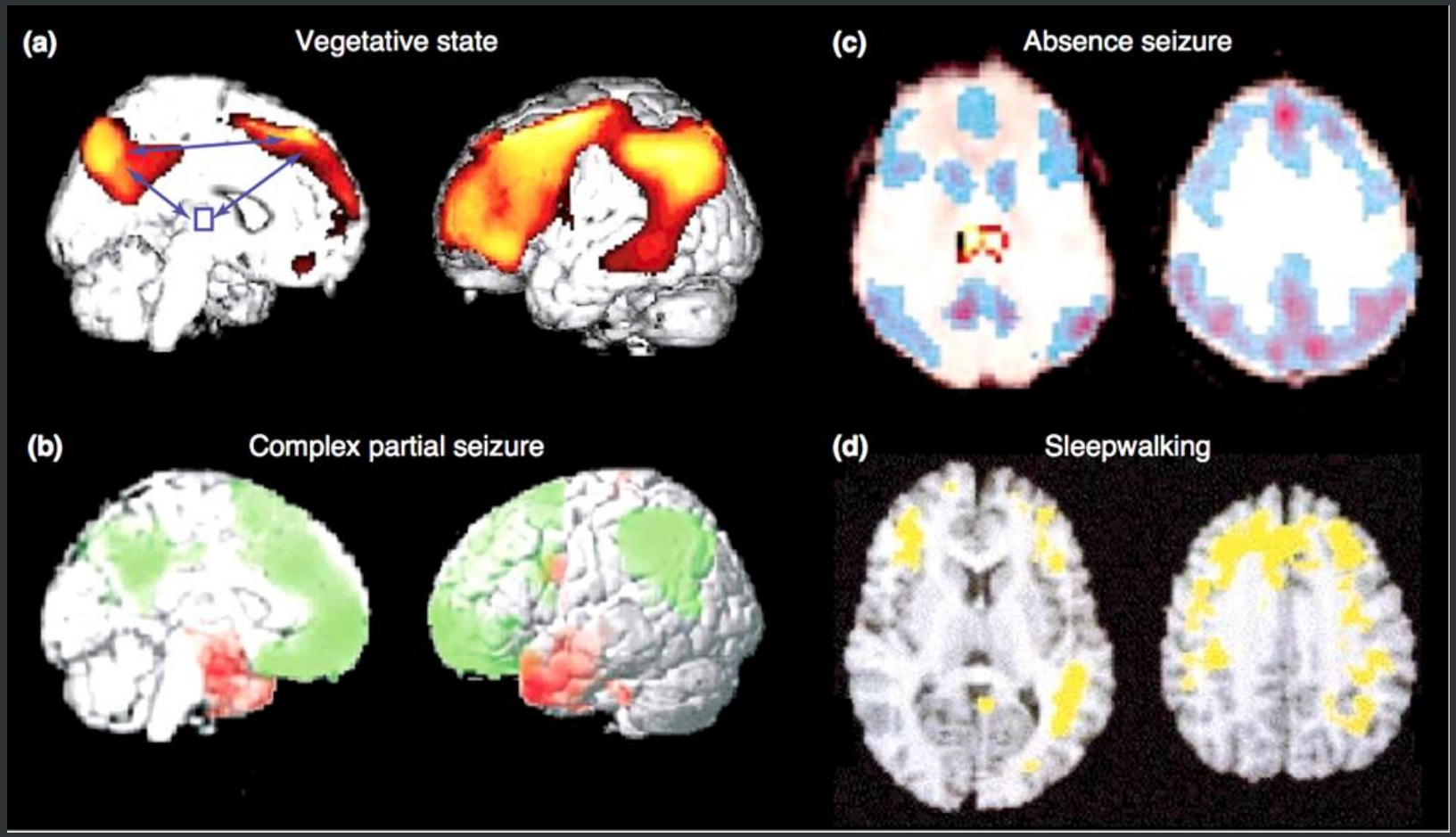
Laureys et al., *Lancet Neurology,* 2004

"Global workspace" of consciousness



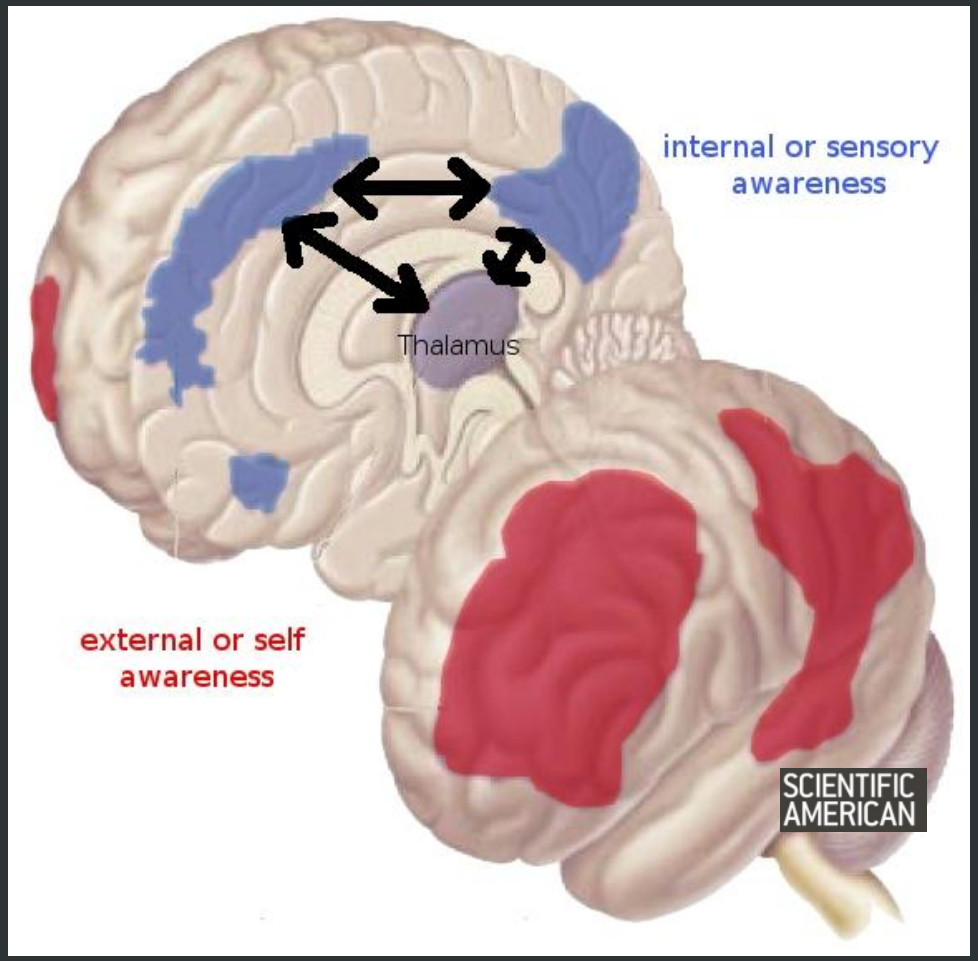
Baars, Ramsoy & Laureys, *Trends in Cognitive Sciences*, 2003

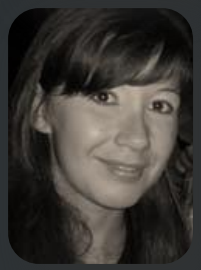
"Global workspace" of awareness

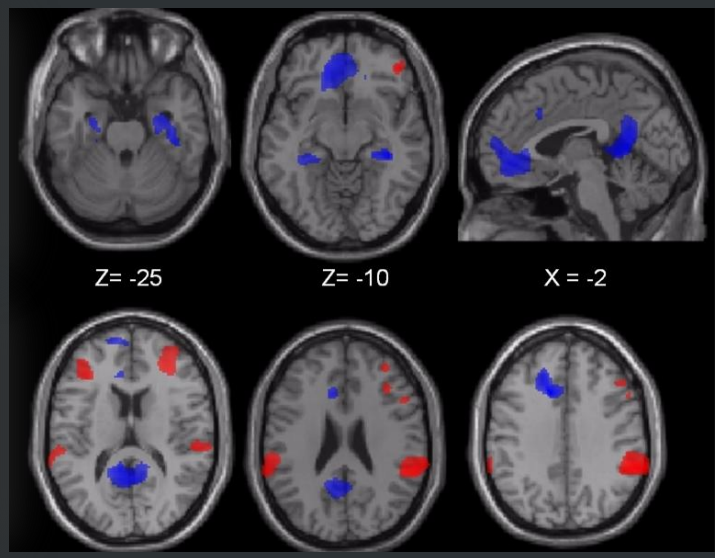


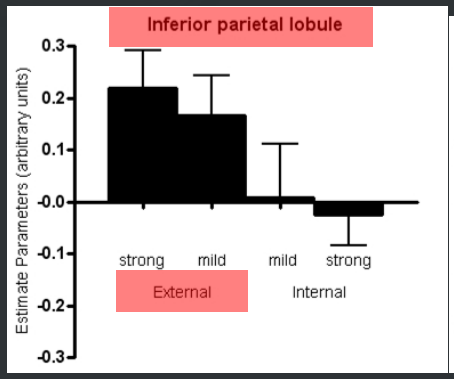
Laureys, *Trends in Cognitive Sciences*, 2005, *NeuroImage* 1999

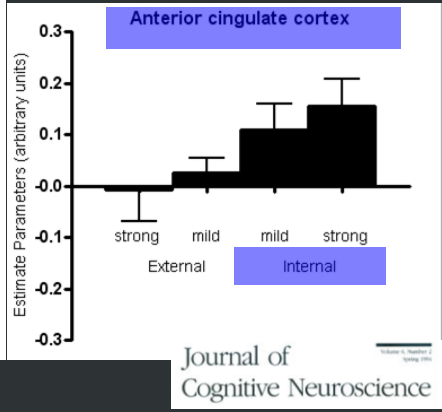
External & internal awareness





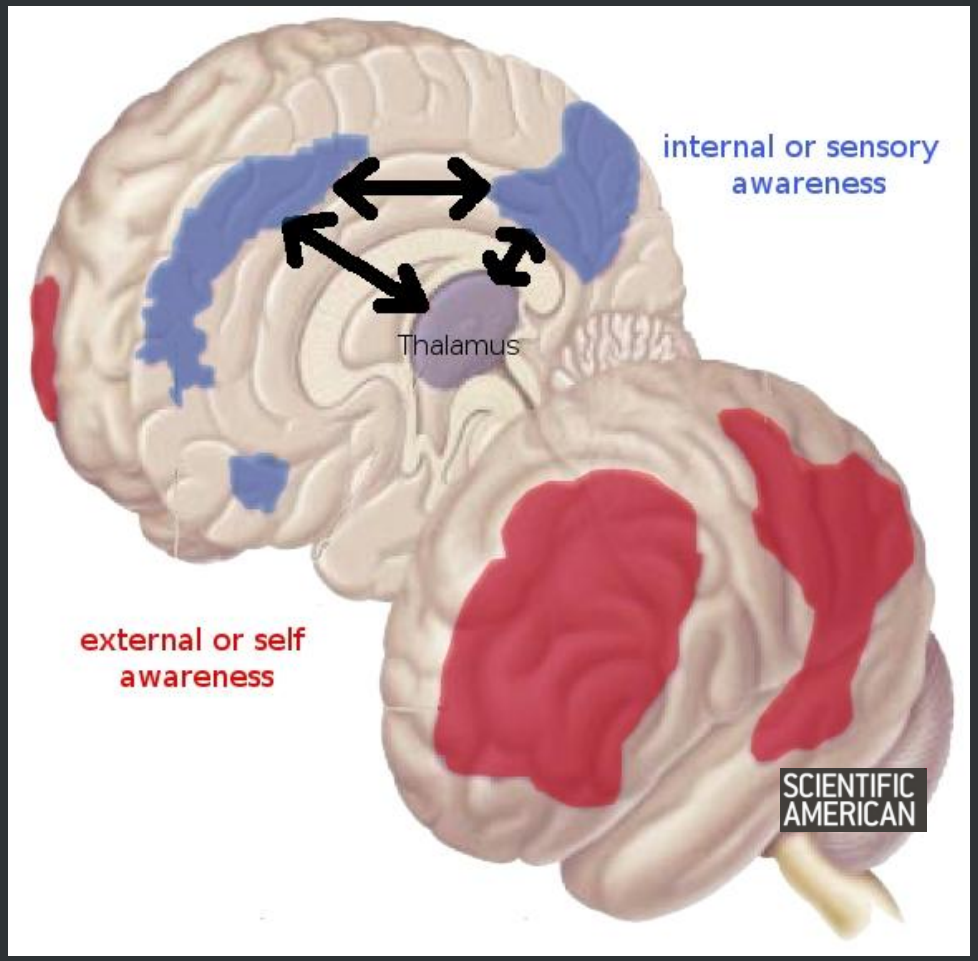


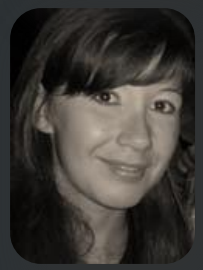


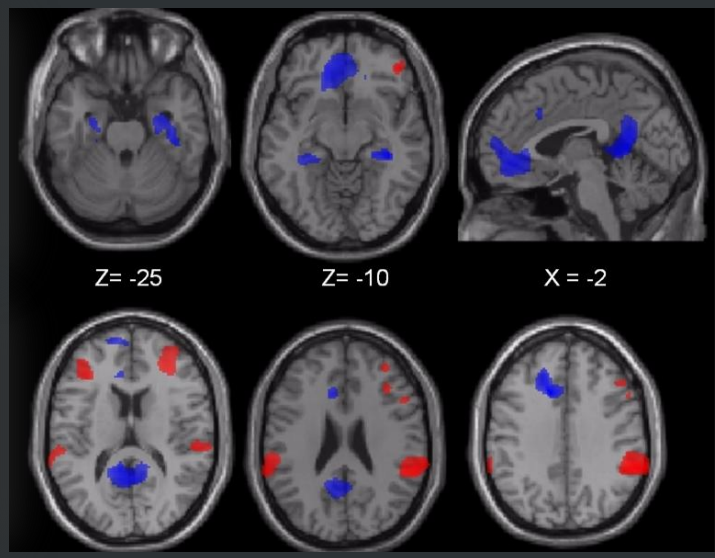


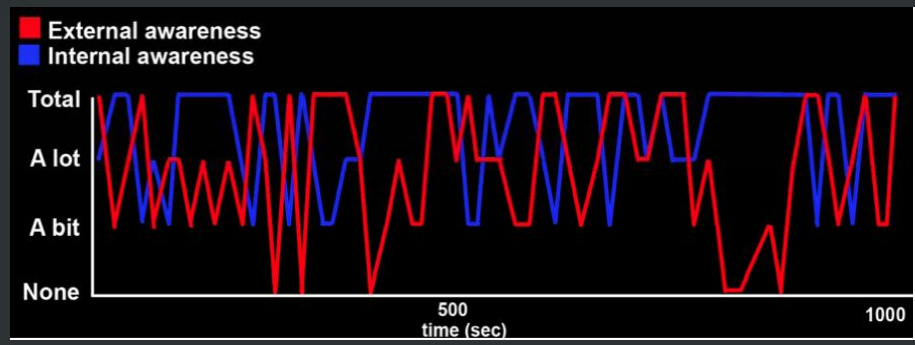
Vanhaudenhuyse, Demertzi et al, *J Cogn Neursoci* 2011

External & internal awareness





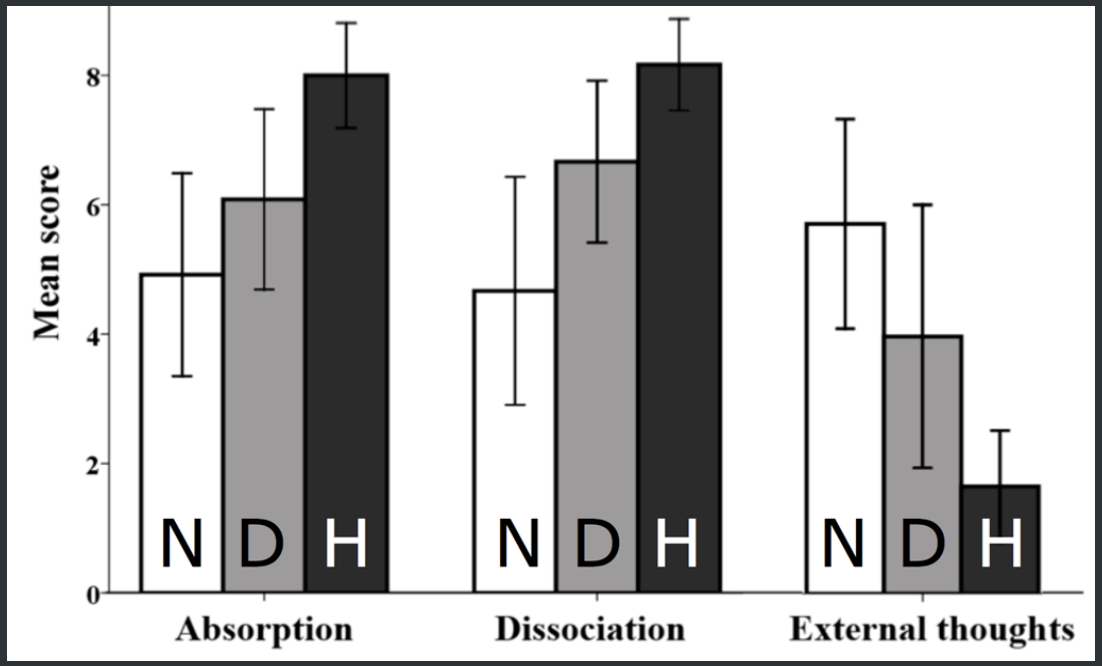




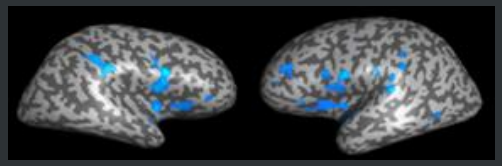
20 sec

Vanhaudenhuyse, Demertzi et al, *J Cogn Neursoci* 2011

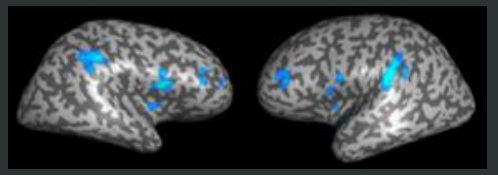
Modulation by hypnosis



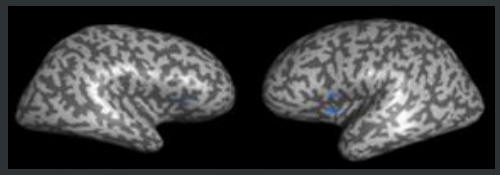
Normal wake

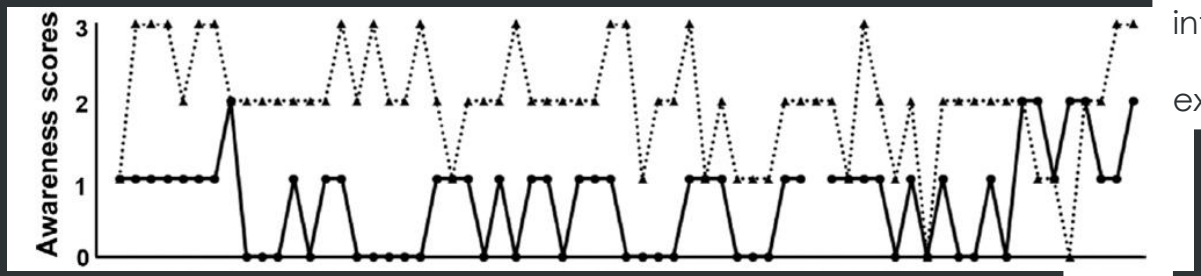


Distraction



Hypnosis





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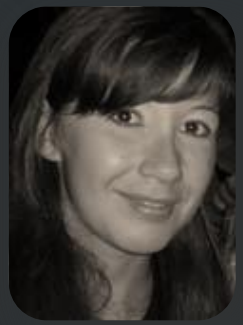

Demertzi et al, *Prog Brain Res,* 2011
Demertzi et al, *J Physiol,* 2015

Hypnotic analgesia

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COGNITIVE BRAIN RESEARCH
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Research report

Increased cerebral functional connectivity underlying the antinociceptive effects of hypnosis

Marie-Elisabeth Faymonville[a], Laurence Roediger[a], Guy Del Fiore[b], Christian Delgueldre[b], Christophe Phillips[b], Maurice Lamy[a], Andre Luxen[a], Pierre Maquet[b,c], Steven Laureys[b,c,*]

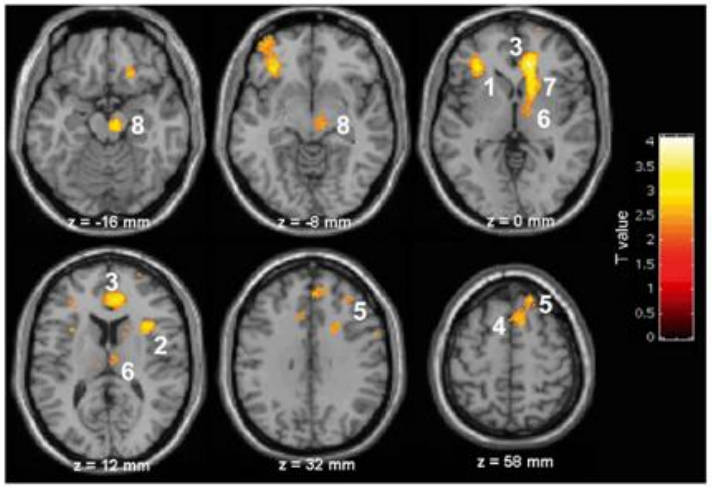
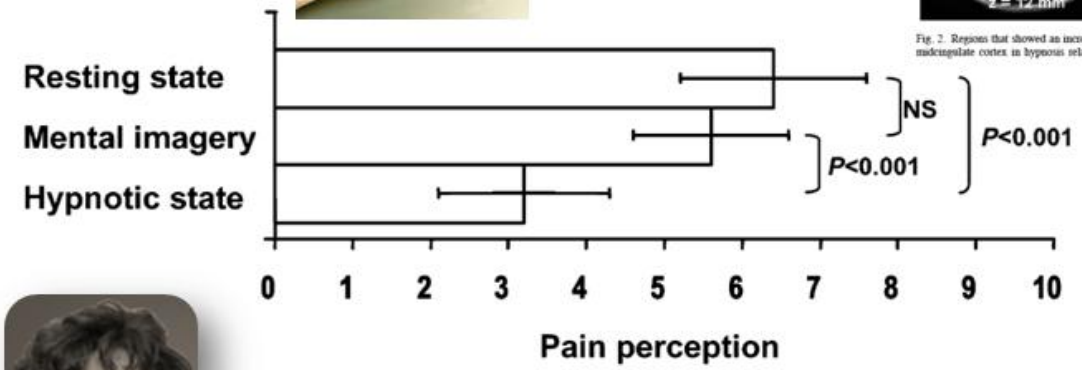
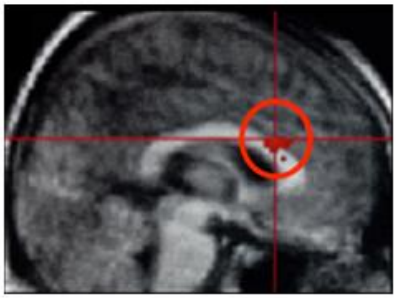
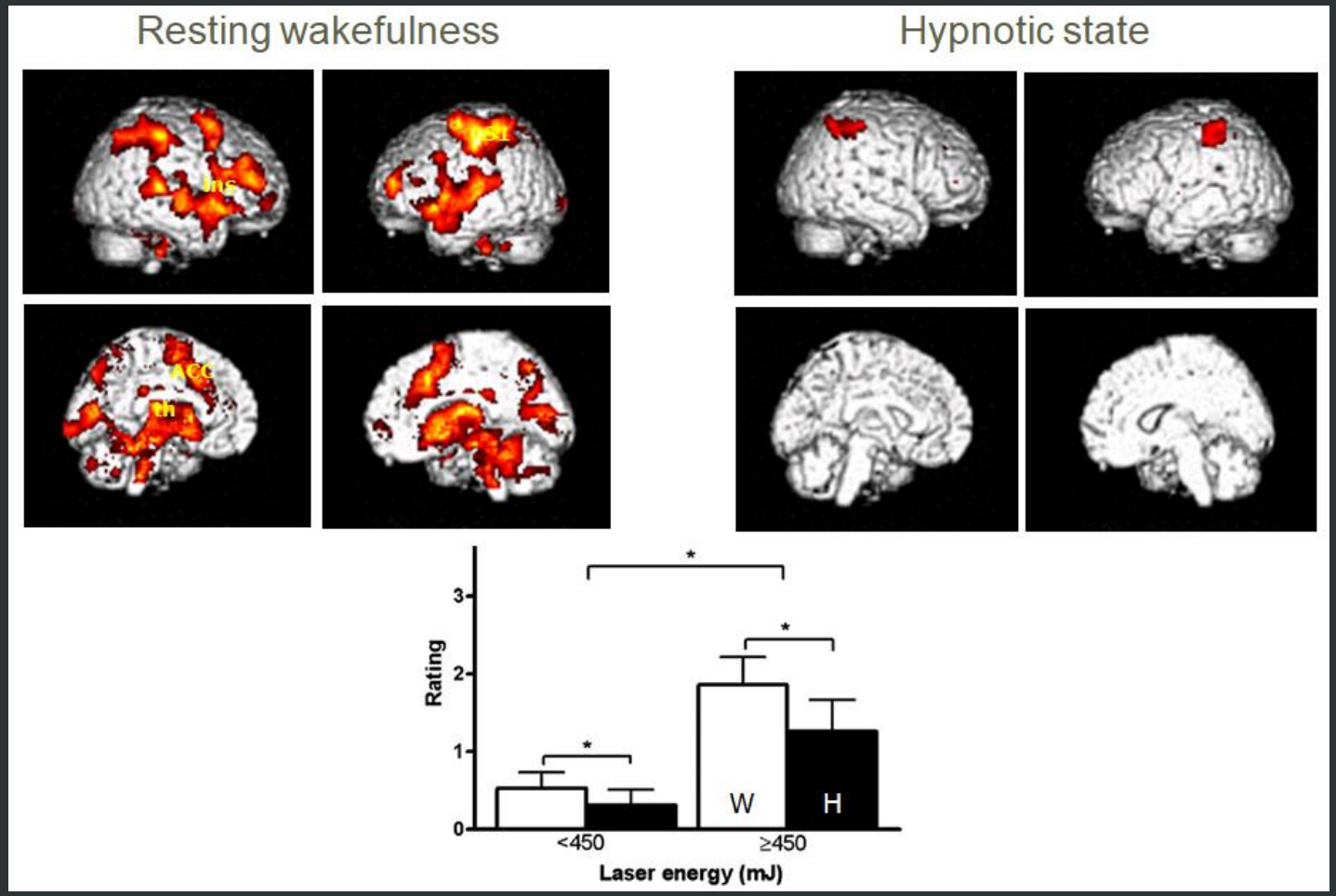


Fig. 2. Regions that showed an increased functional connectivity (i.e., differences in regression slopes of rCBF correlations, thresholded at $P<0.001$) with midcingulate cortex in hypnosis relative to normal alertness (rest and mental imagery). Numbers correspond to the numbering used in Table 1.



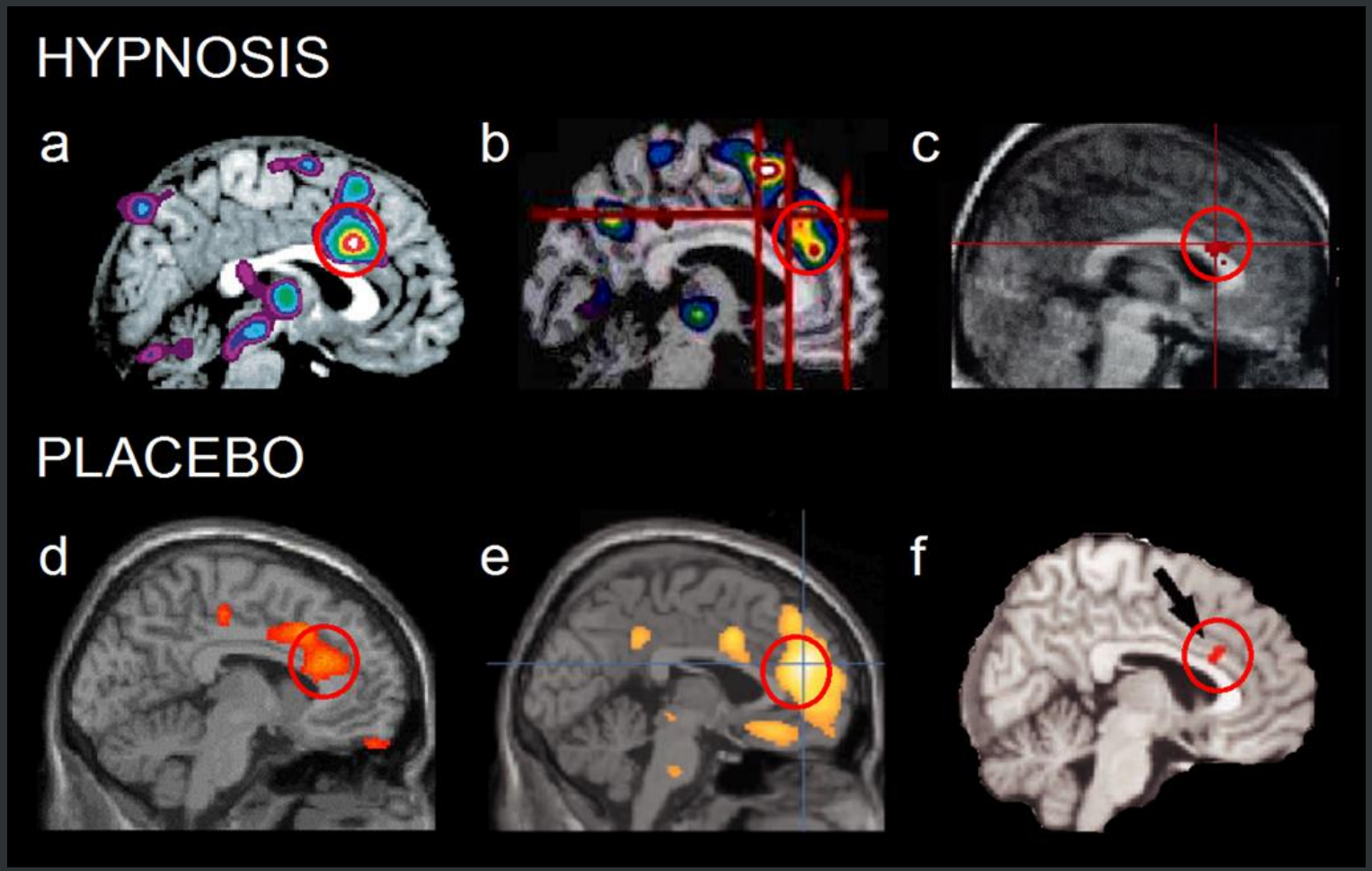


Hypnotic analgesia



Vanhaudenhuyse et al, *NeuroImage* 2009

Hypnotic analgesia

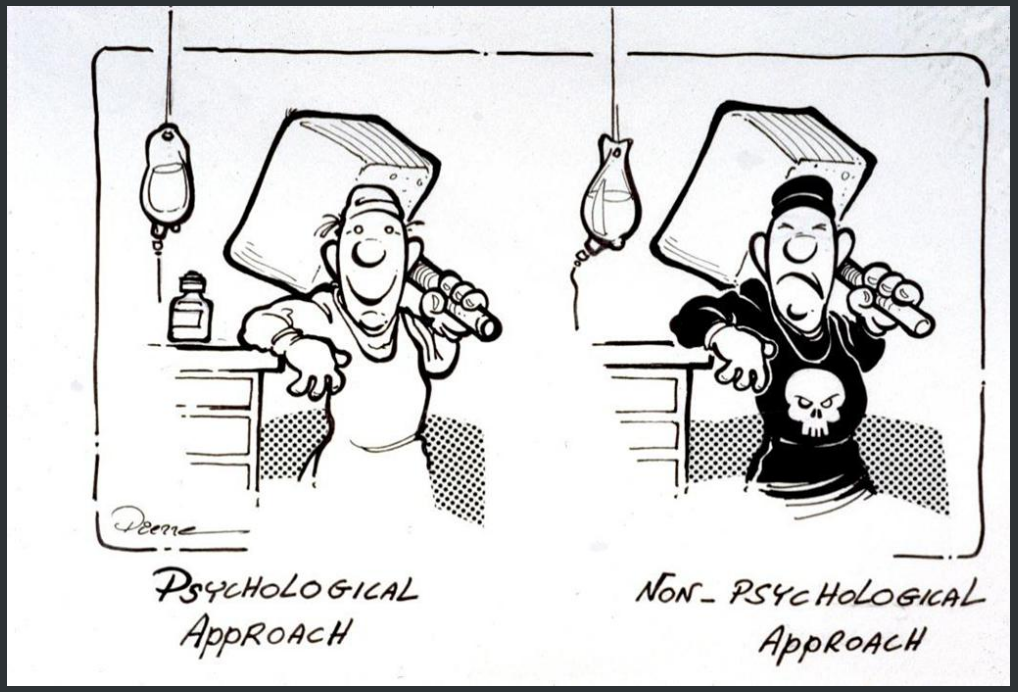


Kupers, Faymonville, Laureys *Prog Brain Res* 2005

Consciousness & Anesthesia

Acute pain management

Hypnosis



General anesthesia =
pharmacological coma

Since 1992 : hypnosedation

Hypnosis

used in surgery since 1821

J. Esdaile (1846) - 345 cases of surgery
- ↘ mortality 40 % ⇒ 5 %

W. Morton performed first chemical GA : 1846

Hypnosis = υπνοζ = sleep

⚠ EEG ⇒ no sleep waves (*Psychiatr 1949; 23:317-343)*

Difficulties : - defining human consciousness
- modified conscious states

Hypnosis = subjective reported experience

Hypnosis

Hypnosedation

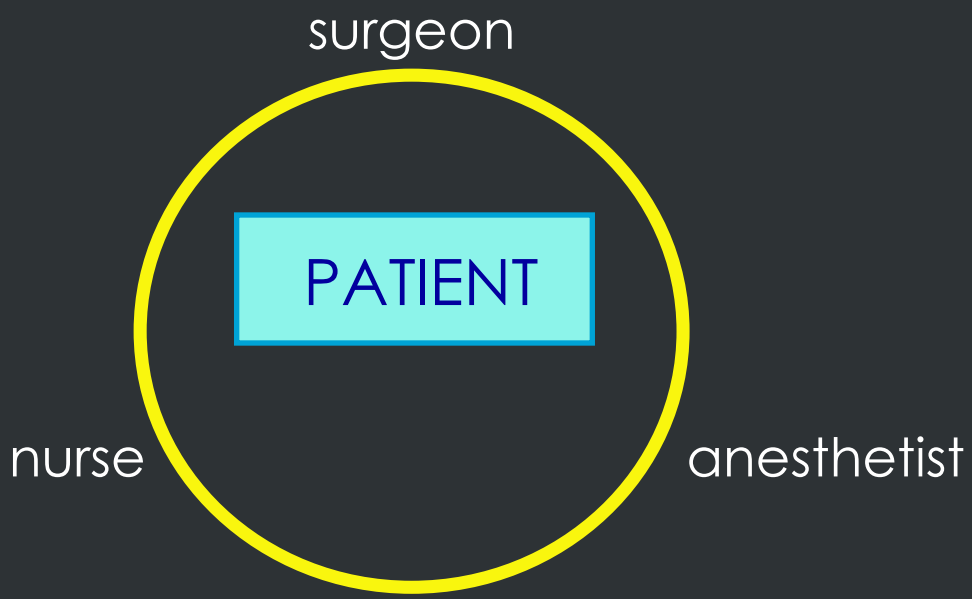
⇒ hypnosis

⇒ conscious IV sedation

⇒ injection of LA

CHU Liege > 9500 patients (1992 ⇒ 2018)

Team work



Hypnosedation – Team work

- Surgical decision to operate under local anesthesia

  (anesthetic indication / surgical experience)

- Anesthesiologist decision to accept patient

  (psychological or medical problems)

- Patient decision to maintain consciousness during surgery (team confidence / collaboration)

Preoperative consultation

Medical / surgical history

Physical examination

Motivation for choosing hypnosedation

Brief description of

- conscious IV sedation
- hypnotic state

No "dry run"

Motivation / Collaboration / Confidence

Hypnotic induction

- Invite the patient to focus attention on a pleasant life experience
- Induction of a hypnotic state (+/- 10') by eye fixation, progressive muscle relaxation and permissive indirect suggestions
- Moderate degree of sensory isolation in the operating room
- Patient places himself in this state characterized by
  - complete immobility
  - increased pain threshold
  - high degree of acceptance suggestions
  - intense personal well-being

Surgery

± 10' after induction

⇒ careful titration of anxiolytic / analgesic drugs :

anxiolytic : midazolam : 0.25-0.5 mg during surgery

analgesic : remifentanil perfusion : 3 to 7 ml/hour
50 γ/ml

- skin disinfections / draping
- local anesthesia by surgeon

Close observation of the patient and monitors

Patient can signal discomfort (grimace, hand grip)

Close surgeon - anesthetist collaboration

End of surgery = end of hypnosedation

Hypnosedation

- Benefits over conscious sedation (Pain 1997; 73: 361-7)
  - patient's comfort ↗↗ et surgeons ↗
  - hemodynamic stability
  - ↘↘ drugs, ↘↘ nausea / vomiting
  - ↗↗ satisfaction
- Benefits over GA (Ann. Chir. 2000; 125:539-46)
  - less pain, anxiety, fatigue after surgery
  - inflammatory reaction ↘↘
  - faster social and professional reinsertion
  - earlier home readiness ⇒ ↘ costs of medical care

2000-2018

	Procedure	Study characteristics	N
Defechereux et al. 2000	Thyroid surgery	Prospective – Randomized (hypnosedation, general anesthesia)	40
Lang et al. 2000	Percutaneous vascular and renal procedures	Prospective – Randomized (standard care, structured attention, hypnosis)	241
Schupp et al. 2005	Vascular and renal procedures	Prospective – Randomized (standard care, empathic attention, hypnosis)	120
Lang et al. 2006	Breast biopsy	Prospective – Randomized (standard care, empathic attention, hypnosis)	236
Colombani et al. 2008	Colectomy in ASA 3 patient	Case report	1
Musellec et al. 2010	Implant sterilization placement	Prospective (hypnosedation, general anesthesia)	24
Abdeshahi et al. 2013	Third molars extraction	Prospective (one-molar extracted under hypnosis, the other under local anesthesia)	24
Facco et al. 2013	Skin tumor removal	Case report	1
Shenefelt et al. 2013	Dermatology surgery	Prospective - Randomized (live hypnosis, CD recorded hypnosis, control group (no hypnosis))	39
Tefikow et al. 2013	Surgical and medical procedures	Meta-analysis	2597
Werner et al. 2013	Birth delivery	Prospective – Randomized (hypnosis, relaxation, control)	1217
Hizli et al. 2015	Prostate needle biopsy	Prospective – Randomized (hypnosis, control)	64
Zemmoura et al. 2016	Low-grade glioma surgery	Retrospective	37
Tellez et al. 2016	Breast biopsy	Prospective – Randomized	75
Fuziet et al. 2017	Cancer breast surgery	Case report	1
Berlière et al. 2018	Breast cancer surgery	Retrospective	300

Not only one definition

Hypnosis as a State

Modified state of consciousness

→ Special state of receptive concentration, allowing to:

- filter sensations or thoughts
- to modify the content of conscious awareness

Hypnosis as a Trait

Normal state of consciousness

→ Psycho-social factors modify:

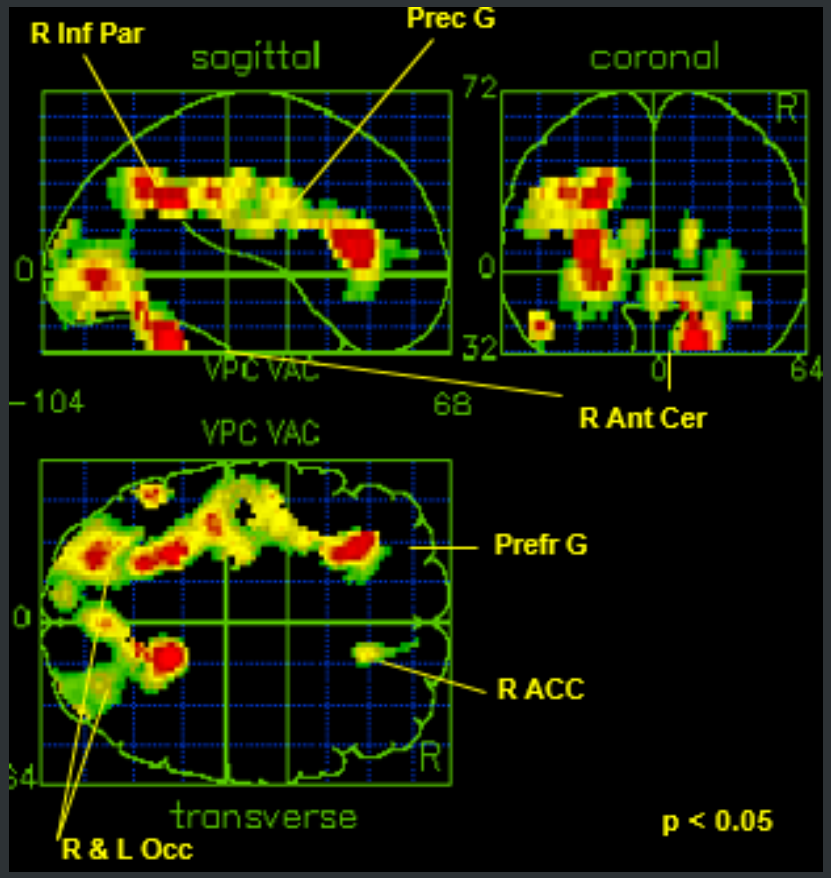
- attitudes
- expectation
- motivation

State & Trait

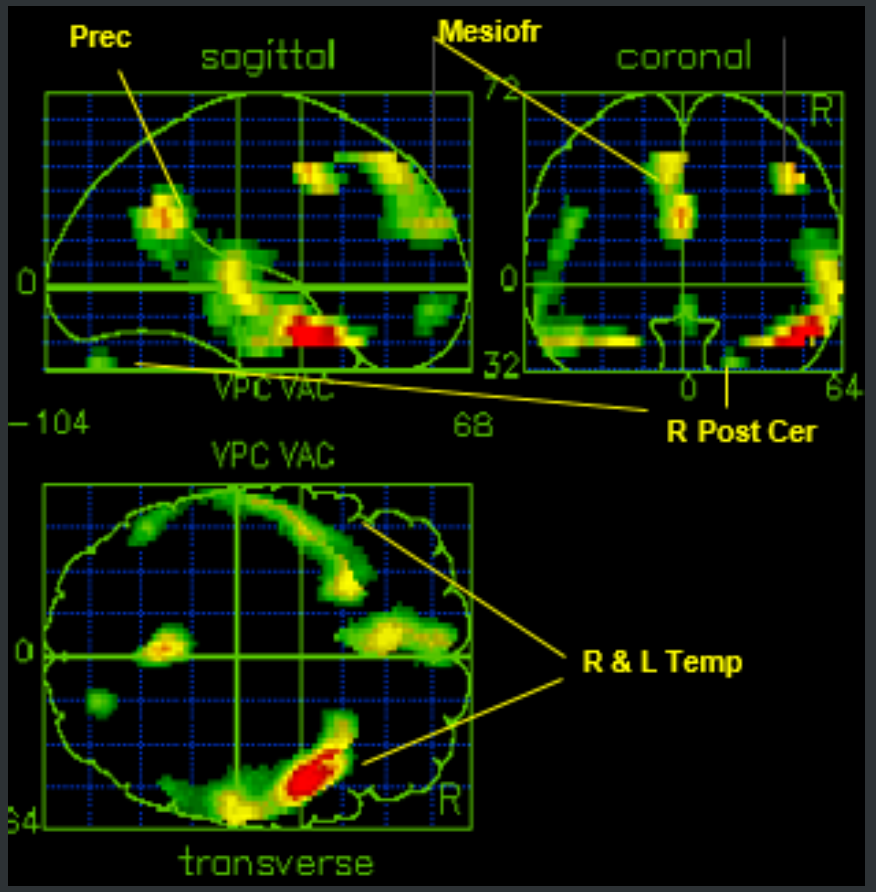
Study of particular neuropsychological processes of brain functions characterising hypnosis

Hypnosis ≠ mental imagery

Hypnosis > Mental Imagery



Hypnosis < Mental Imagery

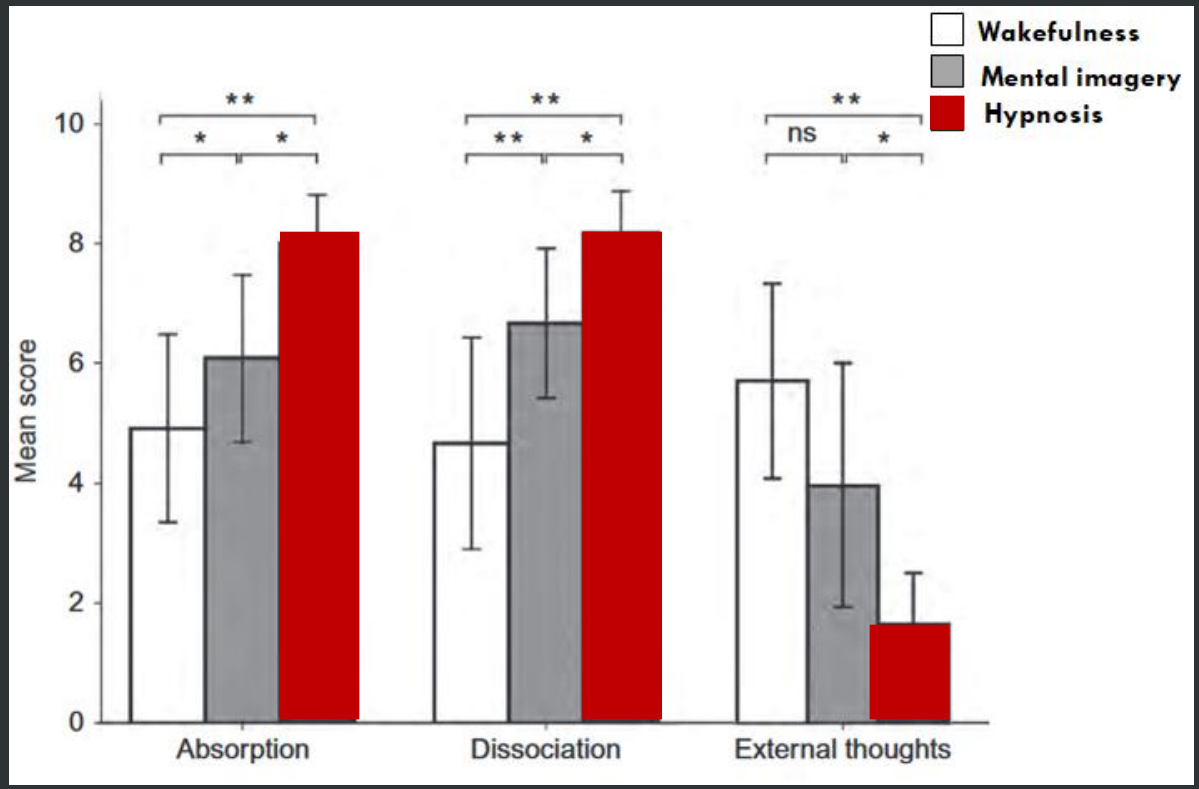


Maquet et al., 1999

Hypnosis ≠ mental imagery

Recall of pleasant memories under hypnotic induction:

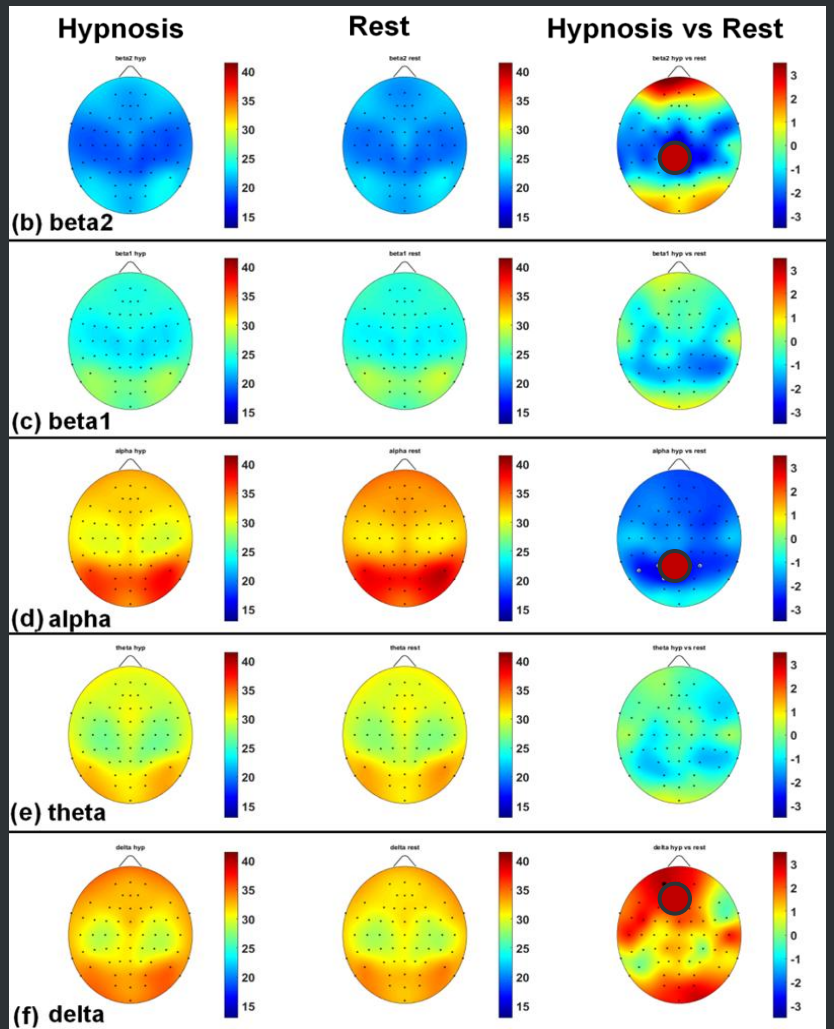
specific phenomenology, different from mental imagery

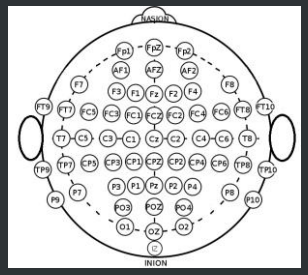


Demertzi et al., 2011

Objectively measurable brain correlates associated with hypnosis

Spectral power representation





High-density EEG

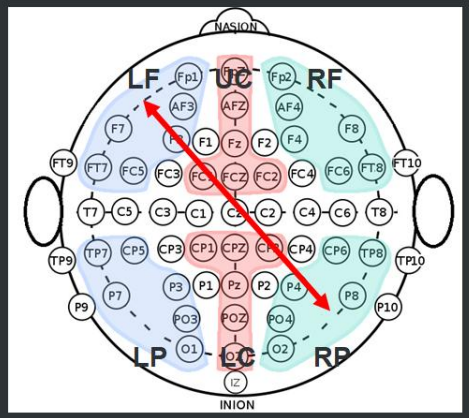
Panda et al., in preparation

Objectively measurable brain correlates associated with hypnosis

Functional connectivity differences

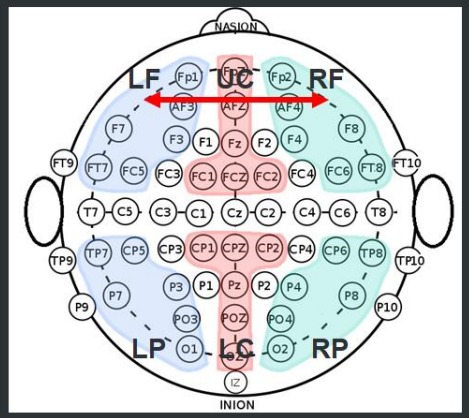
Hypnosis > baseline

Increased



Theta

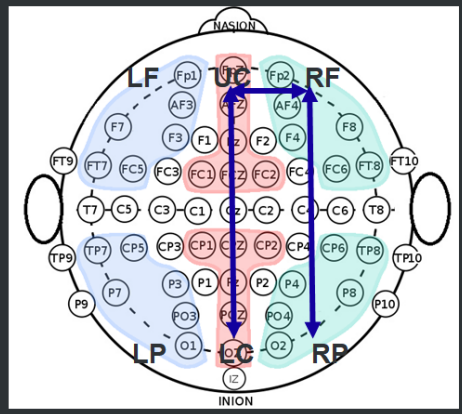
LF ⇔ RP , p= 0.004



Delta

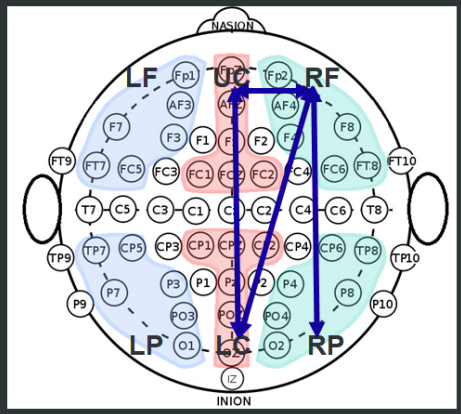
LF ⇔ RF , p= 0.002

Decreased



Beta-2

UC ⇔ LC , p= 0.002
RF ⇔ RP , p= 0.011
RF ⇔ UC , p= 0.004



Alpha

UC ⇔ LC , p= 0.004
RF ⇔ RP , p= 0.002
RF ⇔ UC , p= 0.011
RF ⇔ LC , p= 0.015

Panda et al., in preparation

Recall of pleasant memory

Neurophenomenology of near-death experience (NDE) memory in hypnotic recall

- **Hypothesis:** employing hypnosis to explore the NDE phenomenon, permitting to experimentally "reproduce" NDE features in controlled laboratory settings

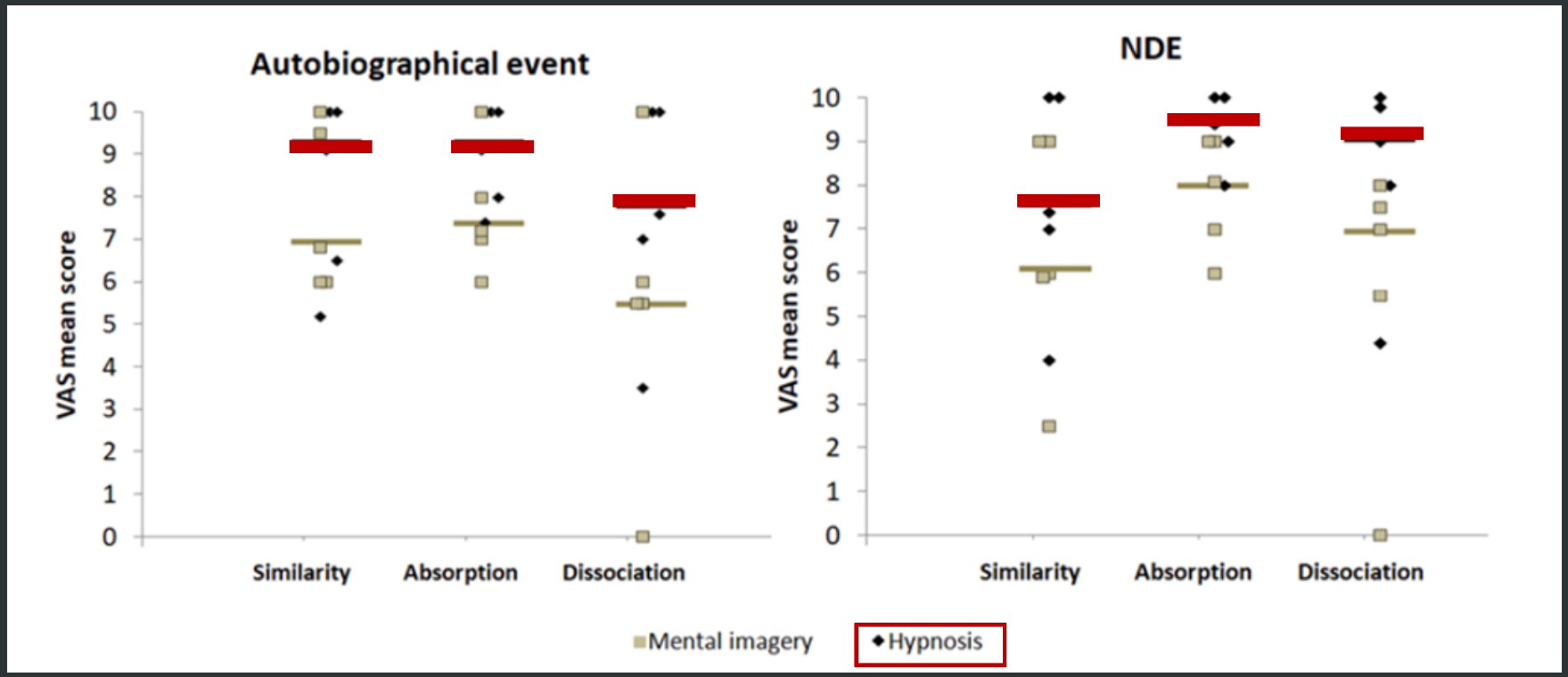
- **Participants:** 5 volunteers who have already experienced a 'guenuine' NDE

- **Method:** a within-subject comparison of subjective phenomenology & neural activity responses (using high-density EEG)

Martial et al., in preparation

Recall of pleasant memory

- Phenomenological experience



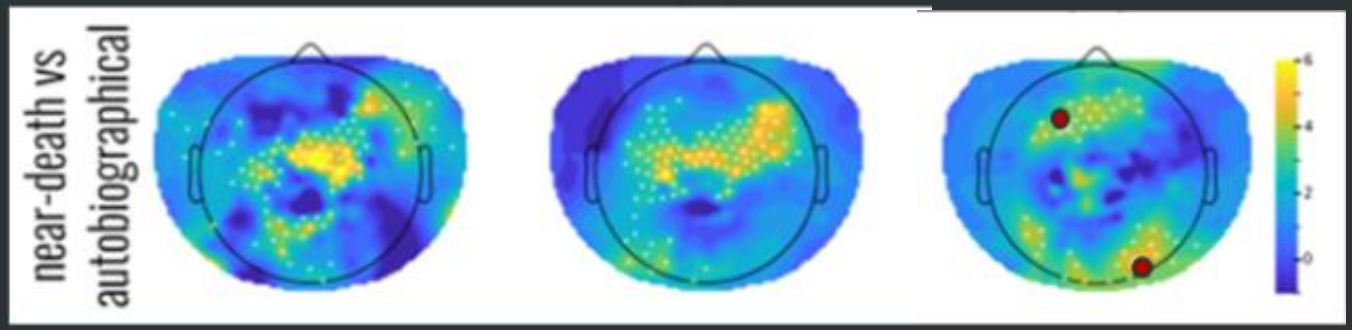
Participants' VAS scores (& median) relating to level of similarity, absorption, & dissociation in mental imagery & hypnotic state

Martial et al., in preparation

Recall of pleasant memory

EEG results: effect of NDE on spectral power

delta *theta* *alpha*



The contrast between the EEG activity when participants described their NDE vs. their other autobiographical experience as T-values (i.e. mean difference normalized by variance)

Martial et al., in preparation

Hypnosis – Chronic pain

Chronic pain

- ~~alarm~~, ~~protection~~

- Pain = illness

- Multifactorial mechanisms - biological
  - psychological
  - socio-economic

- Therapeutic tool: better coping

bio-psycho-social model

Vicious cycle of pain

Professional disability
Financial problems

Resignation
Discouragement
Disappointment
Depression

Physical inactivity

Decreased musculo-skeletal flexibility

Physical condition decrease

Chronic pain

Sleep disorders
Irritability
Anger
Frustration

Body hyperfocalisation
Catastrophising
Anxiety – stress – fear

Global approach

- **Biological**
  - Pharmacological treatments must be adapted to the type of pain and the needs of the patient
  - Invasive treatments need careful multidisciplinary assessment
- **Psychological**
  - Assess disability, coping, pain beliefs, maladjustment
  - Explore physical and temporal dimensions
  - Explore pain interference, health related behaviors
  - Explore patients resources
- **Socio-economics**
  - Professional difficulties
  - Work satisfaction
  - Professional projects

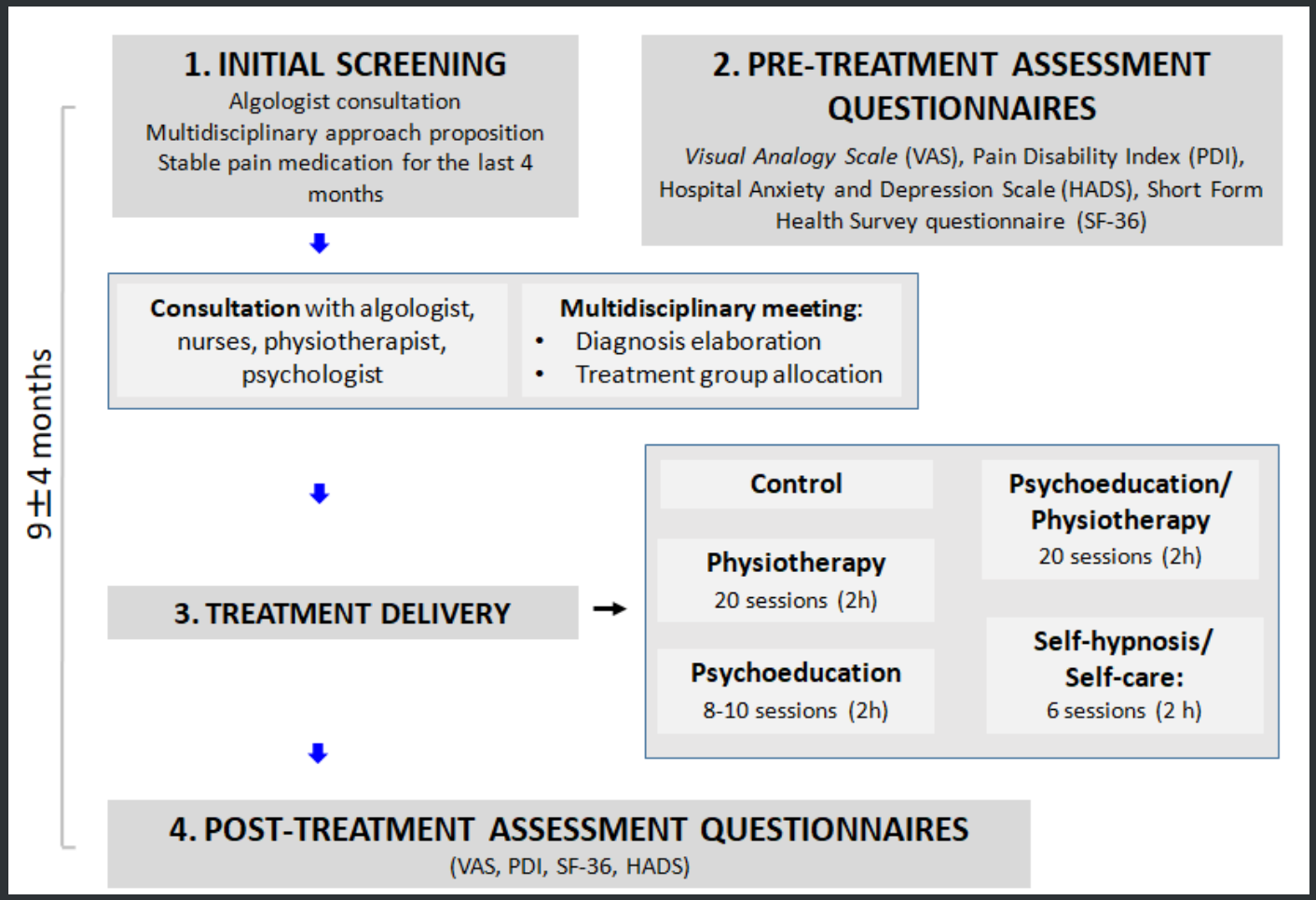
Global approach

- It needs:
- enough time
- knowledge and competence in chronic pain management
- « tend towards non-judgment »

- Patient must feel understood and respected

Patient :
- ➢ cooperative partnership
- ➢ must be implicated actively
- ➢ give his consent for introducing changes

Hypnosis – Chronic pain



Vanhaudenhuyse et al. 2015, 2018

Selfhypnosis – Selfcare learning

Groups : ± 8 patients

8 sessions – 2 hours

6 sessions → 5 weeks interval

1 session → 3 months later

1 session → 6 months later

Negotiating approach that fosters shared decision – making through tasks on general well-being rather than the health problem itself

Efficacy and cost-effectiveness: A study of different treatment approaches in a tertiary pain centre

A. Vanhaudenhuyse[1], A. Gillet[2], N. Malaise[1], I. Salamun[1], C. Barsics[2], S. Grosdent[3], D. Maquet[3], A-S. Nyssen[2], M-E. Faymonville[1]

EJP European Journal of Pain 2015,19:1437-46

Selfhypnosis – Selfcare intervention

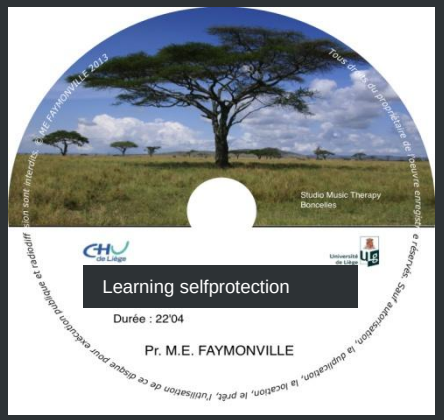
Patients received strategies (+- 6 per session) as homework assignments between sessions

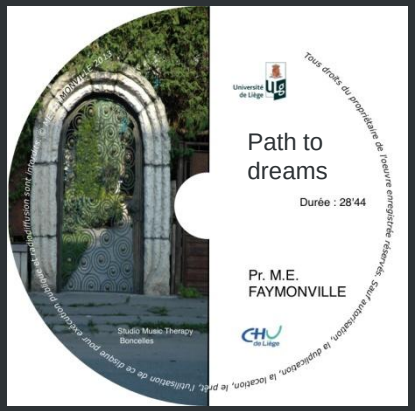
At the end of the session, a 15-20 minutes hypnosis exercise was conducted

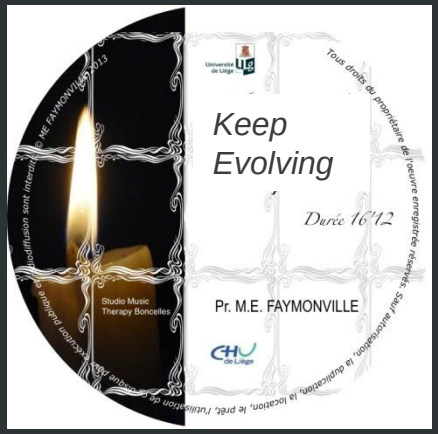
Patients received CDs with the same hypnosis session

Patients were invited to use strategies and hypnosis session every day

Selfhypnosis – Selfcare intervention







Treatments comparison

	Control (SD)		Physiotherapy (SD)		Psycho-education (SD)		Psycho-education and physiotherapy (SD)		Self-hypnosis and self-care learning (SD)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
VAS	5.5 (1.6)	5.7 (2.3)	5.8 (1.7)	5.3 (2.2)	6.1 (1.8)	5.5 (2.3)	6.1 (1.7)	5.8 (2.2)	5.3 (1.8)	4.6* (2)
PDI	40.84 (15.3)	38.8 (16.8)	39.6 (13.2)	35.2 (16.2)	42 (14.5)	36.8 (17.5)	44.1 (12.4)	39.7* (14.2)	38.5 (12.7)	32.8* (14)
HADS										
Anxiety	11.4 (4.6)	11 (4.4)	12.7 (4.4)	11.4 (4.2)	12.6 (4.4)	11.5 (4.2)	12.4 (4.5)	11.5* (4.6)	9.4 (4.1)	7.8* (4.1)
Depression	9.2 (4.1)	8.8 (4.2)	9.5 (4.4)	8.9 (4.3)	11.4 (4.3)	9.8 (5)	9.9 (4.1)	9.9 (4.5)	11.9 (4.5)	10.2* (4.2)
SF-36										
PCS	29.3 (9.3)	30.8 (9.5)	31.2 (7.5)	33.4 (8.7)	30.5 (6.4)	31.9 (10)	30.1 (7.7)	31.5 (8.4)	33 (7.9)	34.5 (7.9)
MCS	27.1 (12.2)	28.4 (12.8)	27.6 (13.5)	30.6 (13.3)	22.5 (10.7)	28.9* (13.9)	25.9 (11.3)	28.4 (13.2)	27.9 (12.5)	33.2* (13)

*Comparison pre- versus post-assessment, $p < 0.05$;

Vanhaudenhuyse et al. 2015

Hypnosis

STUDY 2 :
How Psychological interventions influence patients' attitudes and beliefs about their chronic pain?

Journal of Traditional and Complementary Medicine 8 (2018) 296–302

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Original Article

Psychological interventions influence patients' attitudes and beliefs about their chronic pain

Audrey Vanhaudenhuyse [a, d, *], Aline Gillet [b], Nicole Malaise [a], Irène Salamun [a], Stéphanie Grosdent [c], Didier Maquet [c], Anne-Sophie Nyssen [b, d], Marie-Elisabeth Faymonville [a, d]

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Hypnosis & patients' attitudes & beliefs

	Control Mean (SD)		Psycho-education & physiotherapy Mean (SD) (20 sessions)		Self-hypnosis & self-care Mean (SD) (6 sessions)	
	Pre	Post	Pre	Post	Pre	Post
Visual analogy scale						
	5.5 (1.6)	5.7 (2.3)	6.1 (1.7)	5.8 (2.2)	5.3 (1.8)	4.6 (2)[a]
Patients' global impression of change						
	n/a	3.7 (1.6)	n/a	3.4 (1.5)	n/a	2.7 (1)
Survey of pain attitudes – 35						
Control	6.01 (3.89)	7.36 (4.81)	5.67 (3.78)	7.72 (4.43)[a]	8.57 (3.36)	11.99 (3.51)[a]
Disability	14.4 (4.02)	14.27 (4.56)	13.99 (3.81)	13.49 (3.84)	13.06 (3.7)	11.71 (4.16)[a]
Harm	10.56 (4.43)	10.21 (4.23)	8.79 (3.9)	7.36 (4.3)[a]	8.51 (3.95)	7.84 (3.95)
Emotion	11.71 (5.44)	11.75 (5.73)	12.27 (5.31)	13.2 (4.3)	15.01 (3.96)	14.94 (4.18)
Medication	13.58 (4.49)	14.22 (4.57)	13.46 (4)	13.78 (4.18)	13.1 (4.32)	12.09 (4.39)
Solicitude	8.57 (5.63)	8.07 (5.5)	9.46 (5.02)	9.07 (5.12)	8.9 (5.21)	8.49 (4.95)
Medical cure	11.81 (3.65)	10.78 (3.57)	11.7 (3.46)	9.41 (3.32)[a]	10.35 (3.44)	9.22 (3.33)[a]

[a] Pre and post assessment results were significantly different with a $p < 0.008$, corrected for multiple comparisons.

Vanhaudenhuyse et al. 2018

Patients satisfaction

Patient global impression of changes	Control n=89	Psycho-education & Physiotherapy n=169	Self-hypnosis & Self-care n=158
Improvement	45%	54%	84%
No change	25%	19%	9%
Aggravation	25%	18%	4%
Missing data	5%	9%	3%

Vanhaudenhuyse et al. 2016

Hypnosis in oncology






Self-hypnosis/Self-care training

- Patients received strategies (± 6 per session) as homework assignments between sessions
- At the end of the session, a 15-20 minutes hypnosis exercise was conducted
- Patients received CDs with the same hypnosis session
- Patients were invited to use strategies and hypnosis session every day

Emotional distress breast cancer

	Yoga (n=21)		Self-hypnosis (n=68)		CBT (n=10)	
Questionnaires, means (SD)	Pre	Post	Pre	Post	Pre	Post
HADS						
Anxiety	10.1 (4.6)	7.4* (3.4)	8.9 (3.8)	7.1* (3.3)	9 (4.2)	7.7 (3.4)
Depression	5.2 (3.7)	3.9* (3)	5 (3.2)	3.8* (3)	5.7 (3.9)	5 (3.6)
EORTC QLQ C30						
Global health status/QoL	60.3 (16.8)	62.7 (17.6)	59.2 (16.2)	65.4* (15.8)	62.5 (16.8)	68.3 (12.9)
Functional scales						
Emotional functioning	55.6 (25.6)	75* (23.6)	62.6 (24.9)	73.3*(21.4)	72.5 (17.1)	80.8 (11.1)
Symptom scales/items						
Fatigue	48.1 (24.7)	46 (29.9)	52.9 (26.1)	44.8*(21.7)	40 (21.7)	35.6 (16.4)
Insomnia	52.4 (37.4)	49.2 (38.9)	50.5 (37.5)	39.7*(32.7)	36.7 (29.2)	46.7 (32.2)
MAC						
Anxious preoccupation	24.3 (4.1)	23.6 (5)	23.2 (4.1)	22.3* (4.3)	22.7 (4.2)	22 (3.2)
Total negative adjustment	33.2 (6.6)	31.3 (6.2)	32.5 (6.9)	30.8* (6.6)	31.4 (9.4)	31 (7.8)
ISI						
Severity of sleep difficulties	7.3 (4.3)	6.7 (3.9)	7.7 (3.7)	6.5* (3.4)	8 (3.8)	7.4 (3.3)
Impact of sleep difficulties	5.5 (3.1)	4.4* (2.8)	5 (3.2)	4.1* (3.1)	4.3 (2.7)	4.1 (2.6)
Total score	12.8 (6.9)	11 (6.3)	12.6 (6.5)	10.6* (6.2)	12.3 (5.7)	11.5 (5.4)

Bragard *et al.*, *IJCEH* 2017

Emotional distress breast cancer

Table 2. Mean baseline and follow-up scores in different outcomes by group

	T0	T1	Evolution T0–T1	T3	Evolution T0–T3
	Mean (s.d.)	Mean (s.d.)	*P*	Mean (s.d.)	*P*
Self-hypnosis (*N* = 68)					
HADS					
Anxiety	8.68 (4.12)	6.70 (3.58)	**0.000**	6.39 (3.49)	**0.000**
Depression	5.06 (3.17)	3.84 (3.01)	**0.004**	3.15 (2.87)	**0.000**
EORTC QLQ C30					
Fatigue	2.59 (0.78)	2.34 (0.65)	**0.045**	2.18 (0.67)	**0.002**
ISI	12.65 (6.49)	10.60 (6.15)	0.052	10.18 (6.47)	0.064
Yoga (*N* = 21)					
HADS					
Anxiety	9.76 (4.62)	7.05 (3.35)	**0.010**	6.67 (2.48)	**0.024**
Depression	5.24 (3.74)	3.90 (3.03)	0.260	3.14 (2.90)	0.063
EORTC QLQ C30					
Fatigue	2.44 (0.74)	2.38 (0.90)	0.999	2.00 (0.63)	0.442
ISI	12.76 (6.91)	11.05 (6.26)	0.868	8.45 (5.15)	0.089
CBT (*N* = 10)					
HADS					
Anxiety	8.60 (3.78)	6.70 (4.24)	0.654	5.50 (3.34)	0.193
Depression	5.70 (3.89)	5.00 (3.59)	0.989	3.80 (3.61)	0.475
EORTC QLQ C30					
Fatigue	2.20 (0.65)	2.07 (0.49)	0.999	2.07 (0.52)	0.999
ISI	12.30 (5.74)	11.50 (5.44)	0.999	11.70 (6.07)	0.999
Control (*N* = 24)					
HADS					
Anxiety	7.17 (2.96)	7.58 (3.40)	0.999	8.17 (4.03)	0.910
Depression	4.13 (3.72)	4.04 (3.00)	1.00	3.96 (3.76)	0.999
EORTC QLQ C30					
Fatigue	2.56 (0.92)	2.36 (0.74)	0.844	2.36 (0.74)	0.923
ISI	10.54 (6.73)	12.00 (5.54)	0.916	10.96 (5.82)	0.999

Gregoire et al., *Br J Cancer* 2017

Emotional distress breast & prostate cancer

Table 2 Evolution of the data after the intervention in each population

	Breast cancer group							
	Treatment group (N = 68)				Control group (N = 24)			
	T0	T1	Evolution (T0-T1)	Effect size	T0	T1	Evolution (T0-T1)	Effect size
	Mean (SD)	Mean (SD)	*p*	Cohen's d	Mean (SD)	Mean (SD)	*p*	Cohen's d
HADS – Anxiety	8.76 (4.14)	6.70 (3.58)	**.000**	0.66	7.17 (2.96)	7.58 (3.40)	.916	−0.13
HADS - Depression	5.02 (3.16)	3.84 (3.01)	**.001**	0.47	4.13 (3.72)	4.04 (3.00)	.999	0.04
EORTC – Global Health Status	59.19 (16.23)	65.40 (15.83	**.020**	−0.38	56.94 (20.21)	58.33 (19.19)	.980	−0.07
EORTC – Fatigue	52.94 (26.05)	44.77 (21.72	**.003**	0.41	51.85 (30.68)	46.30 (25.94)	.537	0.27
Insomnia Severity Index	12.65 (6.50)	10.60 (6.15)	**.018**	0.40	10.54 (6.73)	12.00 (5.54)	.618	−0.20
	Prostate cancer group							
	Treatment group (N = 25)				Control group (N = 21)			
	T0	T1	Evolution (T0-T1)	Effect size	T0	T1	Evolution (T0-T1)	Effect size
	Mean (SD)	Mean (SD)	*p*	Cohen's d	Mean (SD)	Mean (SD)	*p*	Cohen's d
HADS – Anxiety	6.50 (3.06)	4.88 (2.98)	.085	0.50	4.76 (3.59)	5.71 (3.81)	.545	−0.30
HADS - Depression	3.46 (2.47)	3.44 (2.89)	.992	0.01	4.19 (3.28)	5.05 (4.85)	.516	−0.29
EORTC – Global Health Status	67.67 (14.30)	69.33 (15.54)	.969	−0.15	64.29 (20.94)	65.48 (25.45)	.983	−0.07
EORTC – Fatigue	32.44 (12.39)	34.22 (16.01)	.876	−0.11	32.27 (27.87)	29.63 (29.47)	.908	0.14
Insomnia Severity Index	8.04 (5.98)	6.92 (5.87)	.704	0.23	6.95 (5.13)	5.86 (4.29)	.688	0.28

Gregoire *et al.*, *BMC Cancer* 2018

Hypnosis in pediatric oncology

- Pilot study combining self-hypnosis & self-care groups for children with cancer and for their parents.
- Positive results: further work needed. Children reported improved QoL, well-being, less fatigue and more coping strategies.
- Parents appreciated that they could share their burden, fears, sadness with other parents.

Hypnosis in oncology

- Self-hypnosis & self-care to empower; reach inner strengths; strategies of coping.
- Active role in treatment and in recovery.
- Medical doctors → expand their skills beyond traditional biomedical methods and communication.

Learning hypnosis

- Facilitate observational cues
- Patient's emotional state – non verbal communication
- Actively listening : open ear-non judgmental attitude
- Facilitate an effective therapeutic alliance enhancing factual & emotional understanding
- Help to promote patient's selfdetermination & independence, empowerment to be envolved in their own recovery
- Western medicine has traditionally ignored the role of the mind in medicine and has focused on pharmacological treatments
- There is now a growing emphasis on mind-body techniques

Words have to be chosen carefully, as does the manner in which the words are spoken

Dr. Audrey Vanhaudenhuyse is an active researcher in our team !
Ana is born on 22nd of August 2018

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