

# Introduction to Medical Hypnosis

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## Medical Hypnosis

1. Advantages of Hypnosis in Medicine
2. Scientific Evidence
3. Hypnosis in Psychotherapy and in Medicine
  - Acute Medicine and Natural Trance
4. Hypnotic Communication
  - Recognition, Avoidance, Neutralization of Negative Suggestions  
Non-traumatizing Informed Consent (risk information)
  - Basic Hypnotic Interventions for Acute Medicine
  - Applications:
    - Emergency Medicine
    - Medical Interventions, Surgery, Dentistry
    - Under Local/Regional Anesthesia (awake)
    - Under General Anesthesia
    - Intensive Care

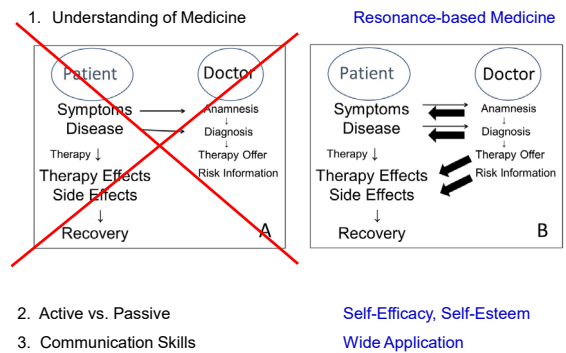


## Advantages of Hypnosis

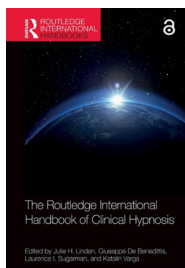
- The special state of consciousness "trance"
- The nature, effects and applications of suggestions
- Change of psychological phenomena and states (fear, stress, state of mind)
- Influencing involuntary bodily functions
- Solution orientation instead of pure problem orientation
- Focusing on the patient and his or her illness instead of symptoms and disease
- Therapeutic communication with hypno-strategies (mirroring, utilization, etc.)
- Therapeutic relationship with the patient through rapport and resonance
- Guidance for resource activation and self-help (self-hypnosis)
- Experience of self-efficacy instead of prescribed passivity
- Self-care of the therapist



## Advantages of Hypnosis



## Bridge Hypnosis and Medicine

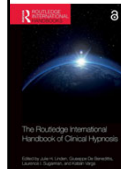


### Goal:

- Hypnosis in
  - Medical curriculum (compulsory courses)
  - Medical education and specialization
  - Medical training and refresher courses
- Medical textbooks
- Medical scientific journals (searchability, availability, review)
- Medical congresses
- Treatment guidelines (indication, legal certainty, reimbursement)
- University (chair of hypnosis)



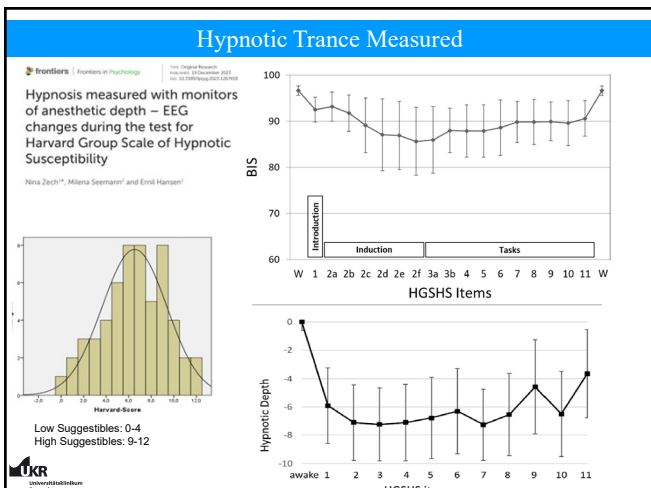
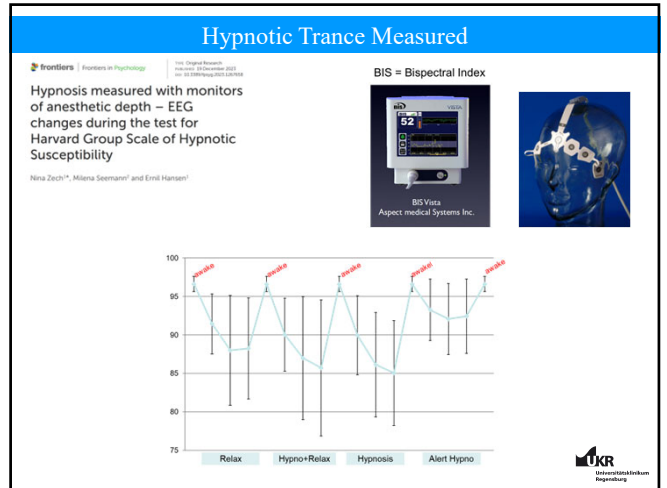
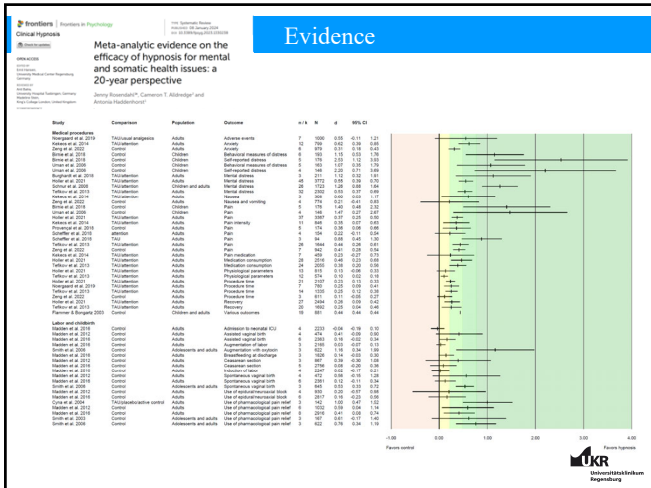
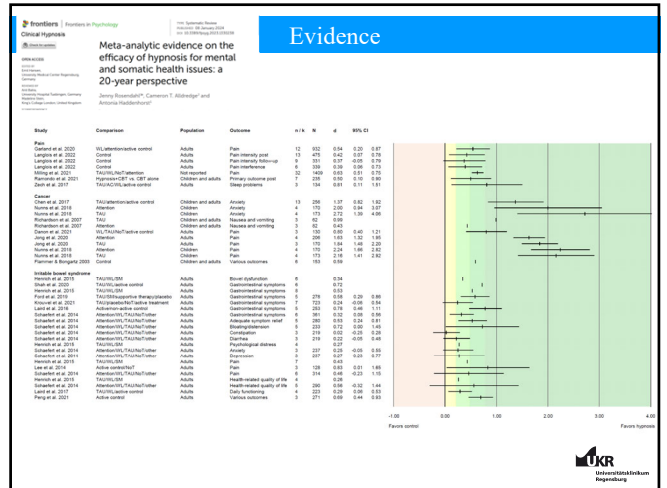
## Bridge Hypnosis and Medicine



### What is needed:

|                        | Positive approach, needed  | Negative approach, not useful   |
|------------------------|--|---|
| Adaptation to the need | Complementary<br>Use of natural trance<br>Applicability to many/all patients<br>Therapist's communication skills<br>Stimulation to self-activity<br>Self-hypnosis (active, self-effective) | "alternative", "Hypnosis instead of ..."<br>Trance induction without necessity<br>Exclusive (patient and therapist)<br>Specific psychotherapy<br>Healer dependency<br>Passive consumption (CDs) |
| Compatibility          | Stay in your competence<br>Limitation of colorfulness<br>Therapeutic communication   | Negative suggestion "Hypnosis"<br>(manipulative, authoritarian, esoteric)<br>Guru   |
| Science                | Measurements of effects<br>Objective parameters when possible<br>Studies<br>Sufficient group size (multicenter)  | Only qualitative<br>Only subjective parameters<br>Only stories and case reports<br>Small test group   |
| Evidence               | Evidence based<br>Publish in recognized scientific journals<br>Discuss (scientific congresses)<br>Review and Meta-Analysis of data<br>Define treatment guidelines                          | Eminence based<br>Only books<br>Only in own workshops<br>Reviews of views<br>Arbitrary techniques ("in my experience")  |



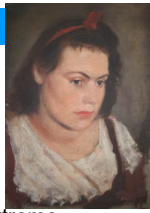


- ### Differences to Psychotherapy
- complimentary to medical treatment (not alternative)
  - no formal hypnosis induction, no contract
  - no additional effort in time and personnel
  - no special location
  - physical contact desirable
  - special training reasonable, not requested (not limited to experts)
  - prophylaxis of psychopathology, rather than therapy
  - general instead of exclusive (all health care personnel, all patients)
  - evidence, guidelines, regulations and hospital logistics

## Natural Trance

Volume 4, Issue 4, 1962

Importance of Recognizing that Surgical Patients Behave as Though Hypnotized  
 David B. Cheek M.D.\*  
 DOI: 10.1080/00029157.1962.10401905  
 pages 227-236



- Patients experience medical situations as extreme
- which induces a natural trance state
- with focussed attention and increased suggestibility.
- Suggestions are highly effective even without formal hypnotic induction.
- The adequate language in this situation is hypnotic communication.



## Suggestion

Suggestions can affect:

- anxiety, stress                      blood pressure, heart rate, arrhythmias, need for sedatives
- pain                                      blood pressure, heart rate, need for analgesics
- autonomous functions            persistalsis, micturition
- recovery                                wound healing, mobilisation, hospital stay
- complications                        blood loss, fever, infections
- side effects                            PONV, swellings, sore throat
- satisfaction
- cooperation



## Communication

Words are the most powerful tool a doctor possesses, but words, like a two-edged sword, can maim as well as heal.

Bernhard Lown: The Lost Art of Healing.  
 Houghton Mifflin Comp., New York 1996

1. Recognize, avoid, neutralize negative suggestions
2. Positive Therapeutic Communication



## Negatives and Minimizers

**Negative connotations are not effective**, strong images are

You don't need to **worry**!  
 Don't be **frightened**!  
 The worst is over!  
 Don't **forget** to ...                      Remember to ...

**Minimizing is ineffective**

This will **hurt** a little bit.  
 just a small **cut**  
 only a short burning **pain**  
 There might be a little **bleeding** now!



## Unrelated Conversation

...they didn't make it. (football team)                      Will I make it?  
 Give this to sterilize! (tracheal tube)                      No sterilization!  
 "This X-ray picture is terrible ! (quality)  
 Let's crack that bone ! (extracorporeal)  
 Let's cut this ! (suture)  
 ... she couldn't stand it. (a friend)  
 ... that just killed him !  
 A disaster ! (coming late from traffic jam)



## Ambiguities and Misunderstanding

- It's all over now.
- You're finished
- We'll put you to sleep.
- You can communicate, when you feel sick and like vomiting.
- I will be back to see you tomorrow, if you are still here. (transferred to another ward)
- You won't need these clothes anymore. (at ICU)



## Direct Negative Suggestions

- You'll hurt like hell !
- You won't be able to ...
- Do you feel **pain** ? (pain scale, pain diary)
- You must avoid lifting heavy objects  
– you don't want to end up paralyzed.
- You'll feel like run over by a truck.
- You are a high-risk patient, a walking time bomb.



## Medical Lingo

NMR - We cut you in many small slices and then ...



... HALLO ?!



Mehr Carbons unter



## Medical Lingo

- We'll **wire** you now."
- Let me get something from the **poison cabinet** so we can start." (anesthetic)
- Let's reduce the **dead space!** (ventilation tube)
- One more **shot** ! (x-ray)
- We'll bring you down to the radiation **bunker**.
- We tested for tumor markers.  
The result was **negative.**"



## Negative Suggestions

- Concealment
- Lies
- Whitewashing
  - That doesn't hurt at all.
  - It'll be over in a moment.
  - It won't take long
  - Everything will be fine!

para- and non-verbal:

A patient comes back from the radiology dept. with his X-ray. "What did the doctor say?"

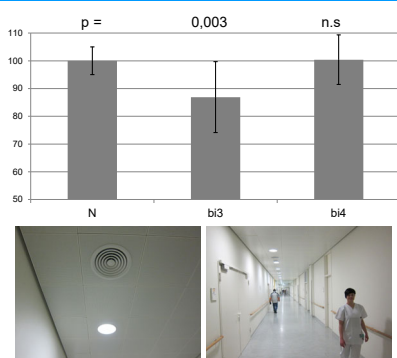
"Ouououou!"

## Suggestion Effects measured

frontiers in Psychology  
Nocicebo Effects on Muscular Performance - An Experimental Study About Clinical Situations

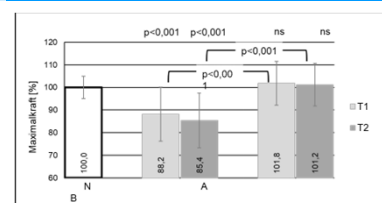
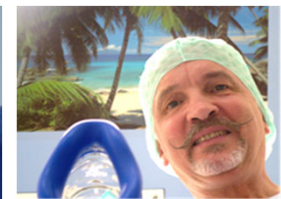


max. arm-muscle strength (Dynamometrie)



## Suggestion Effects measured

frontiers in Psychology  
Time-Dependent Negative Effects of Verbal and Non-verbal Suggestions in Surgical Patients - A Study on Arm Muscle Strength

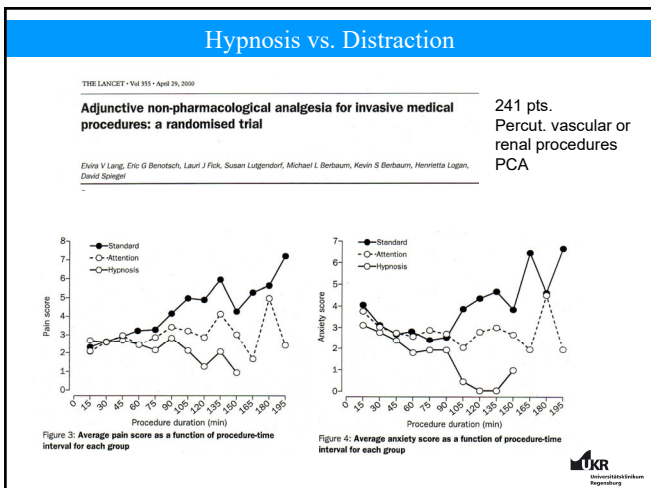




After surgery  
the recovery room:

„Do you know  
where you are ?

„In the underground  
garage.“



### Words

**PAIN**

Pain 114 (2005) 303-309  
www.elsevier.com/locate/pain

Clinical note

Can words hurt? Patient-provider interactions during invasive procedures

Elvira V. Lang\*, Olga Hatsiopoulou, Timo Koch, Kevin Berbaum, Susan Lutgendorf, Eva Kettenmann, Henrietta Logan, Ted J. Kaptchuk

Department of Radiology, Beth Israel Deaconess Medical Center, 330 Brookline Ave, West CC Room 308F, 02215 Boston, MA, USA  
Received 21 July 2004; received in revised form 20 November 2004; accepted 20 December 2004

(n=159)

Warning prior to painful manipulation using negative words\*

Empathic comments after painful manipulation using negative words\*\*

➡

➡

Pain increased  
Anxiety increased

Pain unchanged  
Anxiety increased

\*„little stich“, „it’s gonna hurt“  
\*\*„did it hurt?“, „was it very awful?“, „have you noticed the sting?“

### Words can hurt

An Everyday Phrase May Harm Your Patients  
The Influence of negative Words on Pain During Venous Blood Sampling  
J. Ott, S. Aust, K. Nouri, R. Promberger  
Clin J Pain 2012; 28(4): 324-328

frontiers in Psychology ORIGINAL RESEARCH published: 28 July 2012 doi: 10.3389/fpsyg.2012.00027

Time-Dependent Negative Effects of Verbal and Non-verbal Suggestions in Surgical Patients—A Study on Arm Muscle Strength  
Max Gierl, Johannes Schilling\*, Ulrike Steinhilber, Florian Zeman\*, Thoralf Rapphart\* and Gerd Hasenauer\*

Version A Tell us when you feel **pain**. Do you feel **nauseous**?

Version B Tell us when we can **help** you. Do you feel **well**?

### Pain Scale

BJA  
OBSTETRICS  
Pain vs comfort scores after Caesarean section: a randomized trial  
C. S. L. Chao<sup>1,2</sup>, A. M. White<sup>1</sup>, S. G. M. Tan<sup>1</sup>, K. Dowling<sup>3</sup> and A. M. Cyna<sup>1,2\*</sup>

| Question  | Group P (n=150) | Group C (n=150)                       | RR (95% CI)        | P-value |
|---|-----------------|---------------------------------------|--------------------|---------|
| Do you have pain? yes [n (%)]                         | 111 (74)        | 119 (79)                              |                    | 0.275   |
| Are you comfortable? yes [n (%)]                      | 118 (79)        | 141 (94)                              |                    | <0.001  |
| Rest  |                 |                                       |                    |         |
| VNRS (median [IQR])                                   | 2 (1, 4)        | IS: 2 (0.5, 3)<br>AS: 8 (7, 9.5)      |                    | 0.001   |
| VAS (median [IQR])                                    | 23 (10, 40)     | IS: 12.5 (2, 29)<br>AS: 87.5 (71, 98) |                    | <0.001  |
| Movement  |                 |                                       |                    |         |
| VNRS (median [IQR])                                   | 6 (4, 7)        | IS: 4 (3, 5)<br>AS: 6 (5, 7)          |                    | <0.001  |
| VAS (median [IQR])                                    | 58 (40, 72)     | IS: 46 (30, 59)<br>AS: 54 (41, 70)    |                    | <0.001  |
| Are you bothered? yes [n (%)]                         | 61 (40)         | 18 (12)                               | 3.39 (2.11, 5.49)  | <0.001  |
| VNRS Bother score (median [IQR])                      | 4 (2, 6)        | 1 (0, 3)                              |                    | <0.001  |
| Reported sensations as 'unpleasant' [n (%)]           | 104 (69.3)      | 31 (20.7)                             | 3.05 (2.20, 4.23)  | <0.001  |
| Reported sensations as 'tissue damage' [n (%)]        | 44 (29.3)       | 22 (14.7)                             | 2.0 (1.30, 3.18)   | <0.001  |
| Reported sensations as 'healing and recovery' [n (%)] | 81 (54)         | 105 (70)                              | 0.77 (0.64, 0.92)  | <0.01   |
| More analgesia needed? yes [n (%)]                    | 26 (17)         | 6 (4)                                 | 4.33 (1.84, 10.22) | <0.001  |

### Informed Consent

Folgende besondere Probleme kamen ausführlich zur Sprache:  
Blutung, Nachblutung, Transfusion, Thrombose, Embolie, Wundinfektion, Narbenbildung sowie speziell

hemorrhage  
pulmonary embolism  
thrombosis  
death  
meningitis  
apoplexia  
myocardial infarction  
pneumonia  
deafness  
dysphagia  
nosocomial infection  
blindness  
cardiac arrest  
sepsis  
paraplegia  
hemiplegia

### Side Effects of Informed Consent

Case:

1. patient waiting for his heart pacemaker, on monitor
2. risk information for informed consent
3. arrhythmia, heart failure, cardiac arrest
4. cardiopulmonary resuscitation

(B. Lown 1996)

Pain  
Anxiety  
Hemodynamic instability  
Specific symptoms (e.g. PONV)  
Delay of therapy  
Refusal of therapy  
and many more

### Negative Expectations

always ... → most of the time ... → often ... → sometimes

Past Presence Future

always ... → in the past ... , so far ...

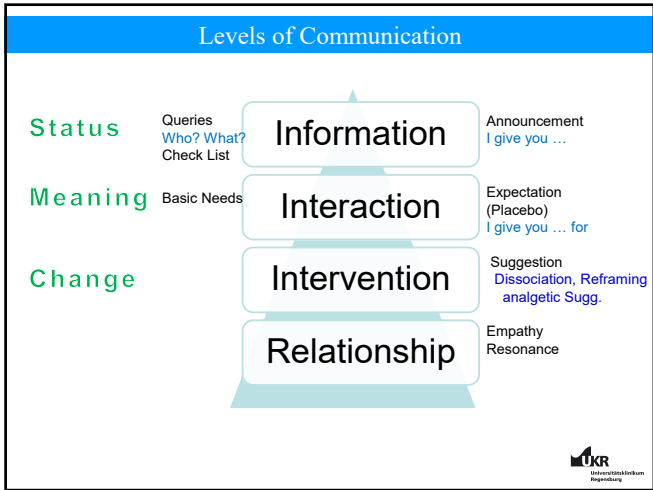
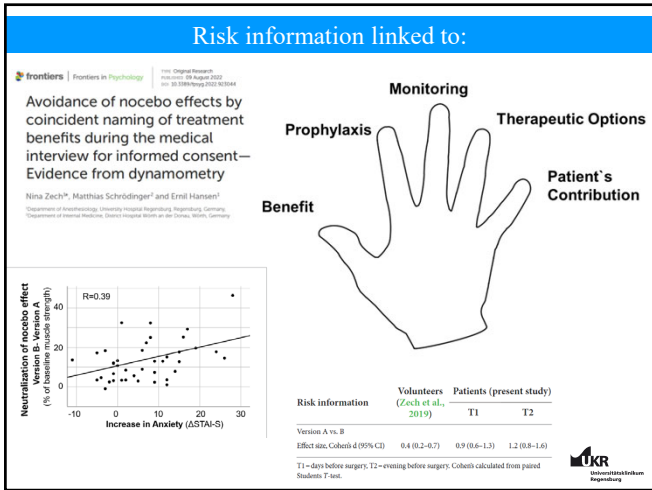
Past Presence Future

### Neutralization

Maximal arm muscle strength Dynamometry

A: If you wish, we can place a pain catheter, with the **risk of infection, allergic reaction, and damage to blood vessels or nerves.**

B: We have the option of a catheter to prevent discomfort. Even though there is a **risk of infection, allergic reaction, or damage to blood vessels or nerves** you will have to take fewer pills, are more mobile, feel and recover better, and perhaps can go home sooner.



### Text Generation

| Basic Psychological Needs                            | Traumatic Stressors                         | Topics for "Essential Communication"   |
|--|---|--|
| Relationship and belonging                           | Abandonment<br>Inability to express oneself | Accompaniment<br>Contact               |
| Pleasure gain and Avoidance of displeasure           | Pain, suffering<br>Hopelessness             | Comfort<br>Confidence                  |
| Orientation and control                              | Chaos<br>Dependence<br>Helplessness         | Information<br>Control<br>Instructions |
| Self-esteem and self-protection (Physical integrity) | Degradation<br>Fear, threat<br>Injury       | Respect<br>Safety<br>Healing           |

- ### Methods of Hypnotherapy Applicable
- indirect, permissive, open suggestions
  - utilisation
  - dissociation (place, time, body part)
  - reframing
  - specific suggestions (cold = analgesia, vasoconstriction)
  - pacing and leading
  - double bind
  - metaphors
  - posthypnotic suggestion
  - nonverbal communication

### Therapeutic Communication

PSYCHOTERAPIA 3 (170) 2014  
strony: 79–92  
\* Emil Hansen

#### KOMUNIKACJA HIPNOTYCZNA. JAK WZBOGACIĆ KONTAKT Z PACJENTAMI\*\*

#### HYPNOTIC COMMUNICATION. HOW TO ENRICH THE CONTACT WITH THE PATIENTS

Klinik für Anästhesiologie der Universität Regensburg

*Artykuł Emila Hansena zwraca uwagę na stan transu pojawiającego się w sytuacjach ekstremalnych, np. przed operacją, w trakcie wypadku komunikacyjnego, charakteryzującego się specyficznymi cechami. Jedną z nich jest wysoka podatność na sugestie. Z tego powodu autor proponuje wzbogacenie komunikacji z pacjentem oraz w jego otoczeniu sugestiami pozytywnymi przy jednoczesnym unikaniu sugestii negatywnych cechujących język medyczny.*

**communication awake hypnosis anesthesia**

- ### Trance-Phenomena
- focussed attention, self referred „window for orientation“
  - images vs. Rational, abstract conception „unrational/unreasonable“
  - literal, concrete understanding
  - authorities, loss of critical judgement
  - catalepsy „under shock“, „freeze“, feigning death reflex
  - dissociation age regression, analgesia, disorientation  
(predisposition for PTSD)
  - altered perception, sensory and time distortion
  - selective amnesia „can't remember the accident“
  - negative hallucinations „not seeing what is“
  - strong somatic and mental reactions
  - high suggestibility

### The “Kansas-Experiment”

M.E. Wright  
Emergency Hospital Kansas

ambulance attendants (paramedics): 3 groups instructed, others not 1977, for 6 months

Instruction:

- 1) Remove patients from crowd noise.
- 2) Recite calm the „Statement“ (patient conscious or not)
- 3) No negative or unrelated conversation.

Results:

- more patients reached the hospital alive
- more patients survived
- quicker recovery rates
- shorter hospital stay

In: Jacobs. Communication for first responders. Brady 1991

### The “Kansas-Experiment”

The „Statement“:

„The worst is over. We are taking you to the hospital. Everything is being made ready. Let your body concentrate on repairing itself and feeling secure. Let your heart, your blood vessels, everything, bring themselves into a state of preserving your life. Bleed just enough so as to cleanse the wound, and let the blood vessels close down so that your life is preserved. Your body weight, your body heat, everything, is being maintained. Things are being made ready at the hospital for you. We're getting there as quickly and safely as possible. You are now in a safe position. The worst is over.“

### The “Kansas-Experiment”

The „Statement“:

„The worst is over. We are taking you to the hospital. Everything is being made ready. Let your body concentrate on repairing itself and feeling **secure**. Let your heart, your blood vessels, everything, bring themselves into a state of **preserving your life**. Bleed just enough so as to cleanse the wound, and let the blood vessels close down so that your **life is preserved**. Your body weight, your body heat, everything, is being **maintained**. Things are being made ready at the hospital for you. We're getting there as quickly and **safely** as possible. You are now in a safe position. The worst is over.“

positive suggestions

### Case I

- **A child falls, her hand is bleeding**      Mother:

A) “Oh, my God, oh my God! What are we gonna do? She`s gonna need stitches. Oh my poor baby! How could this happen? Haven`t I told you ...! I knew it. Bob, come, hurry up! Something terrible happened. Just do something ! I`m sure, we have to give her stitches. Isn`t there anything else we can do? Hold her down !“

Acosta J and Prager JS: The worst is over – what to say when every moment counts. Jodere Group, San Diego 2002

### Case I

rapport
reframing
pacing honesty

B) Lily, Mommy`s here – and I`m going to take good care of you. Well, it looks like you cut yourself. I`ll bet that really hurts. And look at all that blood. Look at that good red, strong, healthy blood. I`ll bet that has bled just enough now to clean out the wound. You can go ahead and stop that bleeding now while I get you a bandage. OK. And you can help me by holding the end of the bandage. Good job!

affirmation
bring to activity
positive suggestions

### Indirect Suggestions

- I know a guy, who ...
- Most patients do not believe me when I say:  
(after a break and then looking directly into the eyes)  
“You can do it !”

For selective amnesia:  
“It`s such a common experience to forget the bad dreams in the morning.“



## Dissociation

### Car accident, a man heavily traumatized, fractured leg

A) Tim, come here. This looks terrible. You better do not move before you end up paraplegic! Everything's fine. Just relax! I'll give you something so you don't feel anything anymore. This doesn't hurt. What have you done that this could happen?

B) I'm Dr. ..., we are here to help you. The worst is over. The ambulance is on the way. I can see that your leg needs attention. Why don't you just scan the rest of your body for me now to see that everything else is all right. How's your other leg? How do your arms feel? I'm sure there's some other place you'd rather be right now. Where is that? The beach? Okay, while your body is tending to the healing, you can allow your mind to go to your favorite beach, and you can begin to feel comfortable being in that place – right now.



## Dissociation

### Place

"I'll bet you can imagine someplace you'd rather be than here!"

### Time

"After you leave the hospital all that happened today is a story to tell to friends - relieved perhaps, since everything you had worried about - worked out much better."

### Body part

"Leave us your arm like giving your car to a garage, and meanwhile go shopping or take a walk to pick it up after it has been fixed."



## Reframing in Children

Parents watch their children playing and running.

A little girl falls down and bruises her knee.

Her Mother: "Oh no, now she will start screaming like hell!"

A man turns to the kid and says: „Let me see. What's the colour of your blood?"

The girl with tears in her eyes: "Red!"

„Red is good, this is the colour of strong, healthy blood. So this can heal fast."

The girl comes running to her mother and proudly presents her bleeding knee.



## Specific Suggestions

To a patient with second degree burns:

"Now, while we are preparing for the transport to the hospital, I want you to close your eyes and imagine that – while I place some sterile gauze on your body – I am really packing the entire area in soft, clean snow. Remember what it is like to put your arm into a wall of very soft, very fresh, fallen snow? Notice how cool and comfortable each area is becoming as you see the snow being applied. Good."



## Indirect Suggestions to Stop Bleeding

"You probably know that in extraordinary situations we humans develop extraordinary skills, so do you. These skills you can use now to stabilize your circulation. Your body can adjust the size of your blood vessels just as needed.

From a garden hose with a small volume of water running through it water only drips out slowly. But if you narrow the size of the opening, water comes out faster. Go ahead now and allow your body to make those adjustments so that oxygenated blood can be carried to all the parts of your body that need it, especially your brain."



## Direct Suggestions

The more traumatic, the more live-threatening the situation

The more direct the instructions.

**Stop bleeding, now !**

Indirect:

When your wound stops bleeding in just a few moments, I'd like you to hold this cold pack close to it.



### Double bind

- “Is it more comfortable for you with your arm on the side or on your body ?“
- “I wonder, if the bleeding will stop in 2, 3 or 4 minutes.“
- “Let`s find out how much relief this procedure will give you.“
- “I don`t know which way this feels better ...“



### Pacing and Leading

#### Asthma-attack

To join in with a patient in respiratory distress, begin mimicking his breathing rate and rhythm while saying:

"I know . . . how difficult . . . it is . . . for you to get an easy . . . full breath . . .

But notice ... how much easier . . . it is becoming to take a nice, ... easy, full, relaxing breath. .... That's good."



### Symptom (Focus) Shift

10 year old boy needs some stiches on his forehead

„This could hurt - quite a bit - almost as much as when you fall down and hurt your knee – and then you stand up again and go on playing. I have no idea how much of what you feel you could feel in your big toe – and that`s pretty far away from your head. The other day we had here that girl that managed to feel 70% in her right big toe – and that was good to handle, you know.“



### Basic Rule

**This communication with patients in emergencies never should stop, substitute or interfere with the necessary medical intervention.**

It is an adjunctive aid to support and enhance the effects of medical treatment.



### Communication during Resuscitation (CPR)

„Take a deep breath. Let`s get your heart beating regularly again. The pressure on your chest helps your heart. We are with you to support you, but we need you to help us.“

To the other first responder:

“It looks like this fellow is going to be all right, doesn`t it.“

“Yes it looks like he is going to make it !“

(⇒ ECG jumped into a normal heart rhythm pattern)

Jacobs DT 1991: Patient Communication



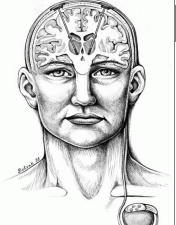
### Surgery under Local/Regional Anesthesia

Oral Surgery  
(wisdom tooth extraction,  
dental implants)

Awake Craniotomy (brain surgery)



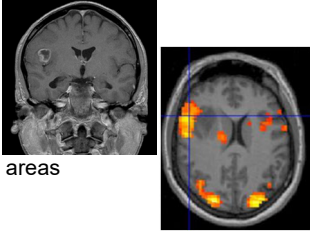
### Indications for Awake Craniotomy




**Brain Tumor**  
mainly glioma  
in eloquent and motoric areas

under intraoperative testing


**Deep Brain Stimulation (DBS)**  
in M. Parkinson, essential tremor  
N. subthalamicus bilateral,





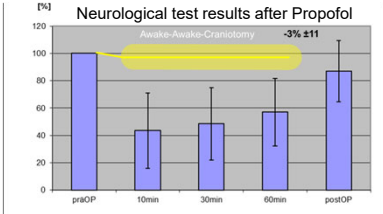
### Awake Craniotomy: Asleep-Awake-Technique


| Patient's Stress   | Therapy              |
|--|----------------------|
| • Surgical Pain  | LA, Analgesics       |
| • Back Pain (5-6 h surgery)  | Analgesics           |
| • Noises (drilling, suction)   | Sedatives            |
| • Stress (anxiety, unfam. surrounding, talks)                                    | Sedatives            |
| • Unpleasant Feelings<br>(manipulations in my head,<br>feeling left alone, etc.) | Sedatives (?)        |
| • Complications  | Monitoring + spec.Th |



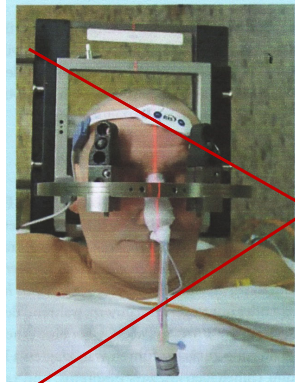
### Side Effects of Anesia/Sedation

- Hemodynamic instability (hypotension, arrhythmia)
- Respiratory depression
- Airway obstruction
- Desorientation, Confusion
- Overhang (cooperativity, performance, test conditions impaired)

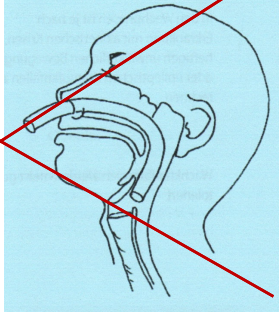





### Standards for Awake Craniotomy



therapist's anxieties

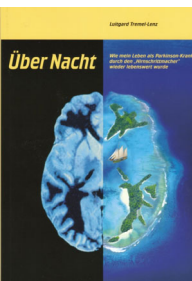





### Report of a DBS Patient

My skull was locally anaesthetised and everything that was happening around me during the operation, the suctioning of my blood from my brain, the clinking of the surgical instruments, the call for swabs, the nervous tension of the surgeons and nurses and their speeches and their silence - I was aware of everything with alert perception. And again this merciless drill, which made my head and my whole body tremble so loudly and vibrantly, turned into the top of my skull.

**I was completely alone.** In this oppressive hustle and bustle of my surroundings, I didn't feel anyone with me. What was happening to me? What are they doing in my head? I was floundering in fear and helplessness.




Do sedatives help against feeling left alone  
or being at someone's mercy ?



### Regensburg Awake Craniotomy: Awake-Awake-Technique

| Patient's Stress  | Therapy              |
|---|----------------------|
| • Surgical Pain   | Cranial Nerve Blocks |
| • Back Pain   | Communication        |
| • Noises (drilling, suction)  | Communication        |
| • Stress (anxiety, unfam. surrounding, talks)                                     | Communication        |
| • Unpleasant Feelings<br>(manipulations in the head,<br>feeling left alone, etc.) | Communication        |
| • Complications   | Monitoring + spec.Th |



### Awake Craniotomy (Milling)



### Awake Craniotomy (Accompany)



### Awake Craniotomy (Closure)



### Communication in Awake Craniotomy

- Avoidance of Negative Suggestions  
no unnecessary noises and talks, comfortable atmosphere  
medical/technical surrounding interpreted as for safety
- Positive Suggestions  
accompany, support, safety, comfort, control, respect,  
encouragement, motivation
- Hypnotic interventions  
dissociation, reframing, images of relaxation, metaphors,  
utilization, specific suggestions (e.g. ice)

The patient is already in trance !

Volume 4, Issue 4, 1962

Importance of Recognizing that Surgical Patients  
Behave as Though Hypnotized

DOI: 10.1080/0020717196210401905  
David B. Clark, M.D.  
pages 227-236

### Communication in Awake Craniotomy

- Dissociation to "safe place"  
garden, vacation, hiking,  
time dissociation
- Reframing of noises  
motorcycle  
lawnmower  
chainsaw



### Care for Awake Craniotomy

- Physical contact

holding hand  
symbol of company and care  
stress sensor



hand on shoulder  
symbol of company and care  
(„hand of medicine“)  
respiration sensor and control



## Nonverbal Communication for Awake Craniotomy





... It is a miracle to me how much strength I received from your hands and how such a flow of energy can happen between two persons that don't even know each other.....  
 ... I felt such a warm and friendly communication that anytime told me with how much decidedness and sensibility you went along with me. You cannot estimate your impact on the success of that operation !



## Communication in Awake Craniotomy

- Individual Relaxation Techniques and Coping Strategies
- Utilization of Inner Resources
- Active Participation instead of Passivity

|                                      |
|--------------------------------------|
| Topics for "Essential Communication" |
| Accompaniment                        |
| Contact                              |
| Comfort                              |
| Confidence                           |
| Information                          |
| Control                              |
| Instructions                         |
| Respect                              |
| Safety                               |
| Healing                              |


## Advantages

**for the patient:**

- Reduction of anxiety, stress, pain, side effects
- Re-gaining self-competence and -control
- Utilization of patient's own resources for coping, homeostasis, healing
- Self-affirmation

**for the doctor:**

- creative, communicative work
- positive patients' responses, improved patient/doctor relation
- special training not prerequisite, but resasonable



Acta Neurochir (2015) 157:1417–1424  
DOI 10.1007/s00701-015-2401-2

**CLINICAL ARTICLE - BRAIN TUMORS**

**Awake craniotomies without any sedation: the awake-awake-awake technique**

Ernst Hansen · Milena Semann · Nina Zech · Christian Dornitz · Ralf Landring · Alexander Brawanski

“Awake-awake” or “conscious sedation” for awake craniotomies?

Ernst Hansen · Alexander Brawanski

Journal of the Neurological Sciences  
Contents lists available at ScienceDirect  
Journal of the Neurological Sciences  
www.elsevier.com/locate/jns

Anesthesiologic regimen and intraoperative delirium in deep brain stimulation surgery for Parkinson's disease<sup>a</sup>

M. Lange<sup>a,b</sup>, N. Zech<sup>a,b</sup>, M. Semann<sup>a,b</sup>, A. Jansen<sup>a,b</sup>, D. Halbig<sup>a</sup>, F. Zeman<sup>a</sup>, C. Dornitz<sup>a</sup>, E. Botheffer<sup>a,b</sup>, E. Hansen<sup>a,b</sup>, A. Brawanski<sup>a</sup>, J. Schlaier<sup>a,b</sup>

Letter: Hypnosis for Awake Surgery of Low-Grade Gliomas: Description of the Method and Psychological Assessment

Ernst Hansen, MD, PhD<sup>a</sup>  
Nina Zech, MD<sup>a</sup>  
Christian Dornitz, MD<sup>a</sup>

NEUROLOGY CLINICAL NEUROLOGY  
VOLUME 80 | NUMBER 2 | FEBRUARY 2015 | 284F

**Results Regensburg, Germany: > 400 cases**

**Sedation: 0% of patients**

**Opioids: 22% of patients, amount reduced to 15%**

**Less delirium, faster recovery, increased self-confidence**




## Hypnosis

Hypnosis = communication with the unconscious


- induction of a trance state bypassing the critical mind
- use of suggestions

in the unconscious ?!



## Indications for perception under general anesthesia

- D. Cheek, Am J Proctol 1962: The anesthetized patient can hear and can remember.
- A. Kaiser, Anesthesiology 1994: Robinson-Story >> 50/10/10 (=23%) implicate memory
- „Intraoperative Awareness“: explicate memory 0,2%  
implicate memory 2%
- Levinson 1965: intraoperative simulation of ventilation incident >>>> 80% implicate memory
- J. Rosendahl, BMC Anesth 2016: Meta-analysis of studies on intraoperative suggestions



## Meta-Analysis of Intraoperative Suggestions

Rosendahl et al. *BMC Anesthesiology* (2016) 16:125  
DOI 10.1186/s12871-016-0292-9

**BMC Anesthesiology**

**RESEARCH ARTICLE** Open Access

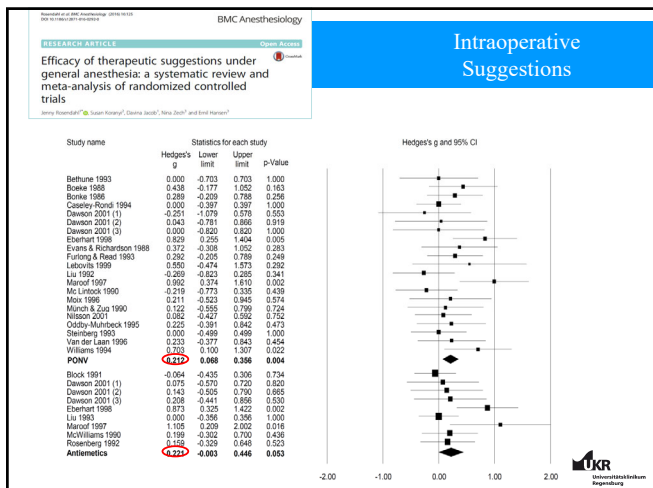
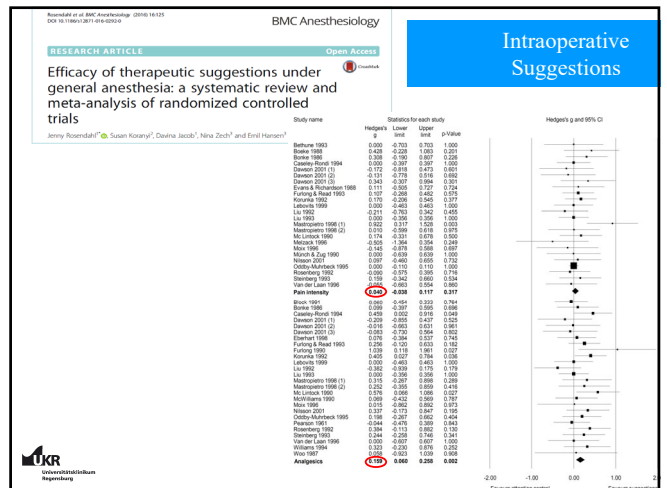
**Efficacy of therapeutic suggestions under general anesthesia: a systematic review and meta-analysis of randomized controlled trials**

Jenny Rosendahl<sup>1\*</sup>, Susan Koranyi<sup>2</sup>, Davina Jacob<sup>3</sup>, Nina Zech<sup>4</sup> and Emil Hansen<sup>5</sup>

32 RCTs (1986-2001) out of 7427 articles N = 2102 patients

Control group: Distraction (white noise, music, text)  
Taped suggestions (50% with music)  
Anesthesia: 24 balanced anesthesia (volatile anesthetic)  
2 Total Intravenous Anesthesia TIVA (Propofol)  
6 Neuroleptanesthesia (formerly, inadequate depth)

**UKR**  
Universitätsklinikum  
Regensburg



### Comparison awake/under general anesthesia

**Effect Size**

|             | Periop<br>Keceks<br>2014 | Hyp<br>live | Hyp<br>tape | Sugg<br>live | Sugg<br>tape | Intraop<br>Rosendahl<br>2016 |
|-------------|--------------------------|-------------|-------------|--------------|--------------|------------------------------|
| Anxiety     | 0.40                     | 0.60        | 0.70        | 0.23         | 0.14         | <b>0.03</b>                  |
| Pain        | 0.25                     | 0.50        | 0.35        | 0.18         | 0.09         | <b>0.04</b>                  |
| Analgesics  | 0.16                     | 0.12        | 0.70        | 0.15         | 0.16         | <b>0.16</b>                  |
| Nausea      | 0.38                     | 0.89        | 0.42        | 0.25         | 0.07         | <b>0.21</b>                  |
| Antiemetics |                          |             |             |              |              | <b>0.22</b>                  |

**Limitations in previous studies:**

- old (1986-2001)
- small size
- heterogenous design
- low quality
- unklare depth of anesthesia
- negations in the suggestions

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Universitätsklinikum  
Regensburg

## Intraoperative Suggestions

the *bmj* | *BMJ* 2020;371:m4284 | doi: 10.1136/bmj.m4284

**ORIGINAL RESEARCH** **EDITORIALS**

Multicentre randomised controlled trial

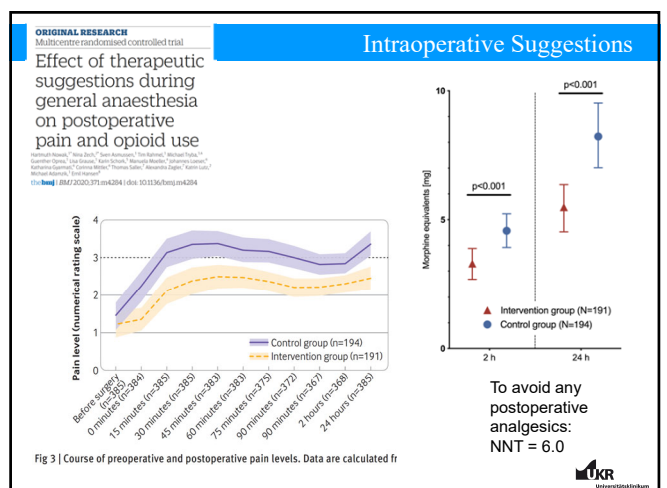
Can we soothe the subconscious during general anaesthesia?  
Carefully chosen words and music might reduce postoperative pain

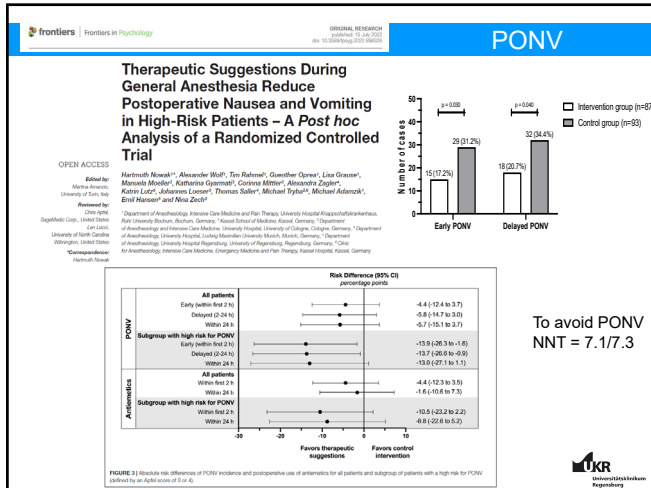
Daniel I Mchaieq,<sup>1,2</sup> Sylvain Boet<sup>1,3,4</sup>

BMJ Impact factor = 107

5 centres, 385 patients, 18-70y  
1-3 h surgeries  
defined, controlled depth of anesthesia  
ear-phones after intubation until extubation  
20 min text, 10 min break, repeated  
defined pain therapy: PCA, NRS>3,  
periodic evaluation

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Regensburg





## Comparison awake/anesthesia and old/new

### Effect Size

|             | Periop Kekecs 2014 | Hyp live | Hyp tape | Sugg live | Sugg tape | Intraop Rosendahl 2016 | Intraop Nowak 2020 |
|-------------|--------------------|----------|----------|-----------|-----------|------------------------|--------------------|
| Anxiety     | 0.62               | 0.60     | 0.70     | 0.23      | 0.14      | 0.03                   |                    |
| Pain        | 0.35               | 0.50     | 0.00     | 0.18      | 0.09      | 0.04                   | <b>0.45</b>        |
| Analgesics  | 0.23               | -0.12    | 0.70     | -0.15     | 0.16      | 0.16                   | <b>0.36</b>        |
| Nausea      | 0.60               | 0.89     | 0.42     | 0.25      | 0.07      | 0.21                   | <b>0.34*</b>       |
| Antiemetics |                    |          |          |           |           | 0.22                   | <b>0.30*</b>       |

\* with PONV prophylaxis

Link to audio file:  
<https://www.frontiersin.org/articles/10.3389/fpsyg.2022.898326/full#supplementary-material>

## Intraoperative Suggestions

Part A (19 min, followed by a 10 min break, repeated several times. Start after induction of anaesthesia and ends with stop of volatile anaesthetic):

You are sleeping sound and deep.  
And you can relax and rest, **recover** and draw strength, because you are **safe** now, **well-protected**.  
Everything that you hear and see and feel contributes to your **best care**.  
And that's why you can completely concentrate on your body's own way to **heal itself**.

And we are right **by your side**.  
My voice will go with you, and you can focus on it, because what I say to you is important for you, is important for your **well-being** and your **healing**.

With every deep breath that the respirator **takes care** of, so that you can save your strength for later,  
You can take in fresh air, oxygen, and whatever else is good for you and is of **help to you**.  
And with every exhale you can **get rid** of all the used air and can let go all that is disturbing or a burden to you.  
Breathe out and let go.  
And with every breath you take you can take in ease, **confidence** and strength for **healing**, on and on.

## Intraoperative Suggestions

The surgery is going well. Surgeon and anesthetist are very satisfied.  
Everything is going according to plan, very professional, organized, and smooth.  
They sure know their trait. They know how to optimize your **care**.  
Your surgeons are very experienced in this type of surgery.  
They are highly focused and work with **thorough care**.  
Everything is ready and set for an **optimal treatment**.  
Those are the best conditions for a **safe** and **successful surgery**.

The anaesthetist and the nurse are responsible for nothing else but your **comfort** and your **safety**.  
They are not departing **from your side**, until you have successfully and **safely** weathered this challenge.  
They are trained and experienced to look after you and take **good care** of you.  
You are well **sheltered**.  
All medication and equipment are ready to serve you well, to do the right and necessary things in all situations.  
We can always provide something **good for you**.  
All your essential bodily functions are continuously monitored and assessed.

This consisting beeping sounds of the monitor shows your smooth, rhythmic heartbeat.  
Your blood pressure is strong and steady.  
The most essential tasks **you are performing yourself**.  
We healthcare guides just pay attention and **care** so that you and your body find optimal conditions.

## Intraoperative Suggestions

As your mind is resting your body can concentrate fully on **self-healing** and **self-protection**.  
All of your organs, your heart and your blood vessels, are **working together** to ensure **wellbeing**, **safety** and **healing**.

(indirect suggestion using another speaker):  
Perfect! Your patient looks like he is really doing well.  
So calm and **stable**. He is doing a good job.  
So, this surely will result in quick and full **healing**.  
And he will soon be on his feet again, and can enjoy a **successful surgery**.  
Are you satisfied?  
Completely! This has been going perfectly.  
Great!

Listen to what I am saying! You already know that this **surgery is good for you**, and will continue to **help you**.  
And while your treatment here proceeds steady and thoroughly well, everything is getting prepared for your optimal further **care** in the recovery room and at the nurse's station.

| Topics for "Essential Communication" |
|--------------------------------------|
| Accompaniment                        |
| Contact                              |
| Comfort                              |
| Confidence                           |
| Information                          |
| Control                              |
| Instructions                         |
| Respect                              |
| Safety                               |
| Healing                              |

that, and she remembers a podcast she listened to yesterday about a German professor of medicine who'd tried playing people reassuring words while they were under general anaesthetic to see what would happen. They needed fewer opioids afterwards, that was what happened, turns out you can measure the **painkilling properties of kindness**, of the human voice, and when she heard the professor translating his recording she nearly cried. *You are sleeping sound and deep*, he said, *you can relax and rest, because you are safe now, and well-protected. We are right by your side, and my voice will go with you.* Oh God, she thought, **don't we all need that, surgery or not**, don't we all need someone to murmur to us as we fall asleep that he is watching over us and so we are safe, though surely **you need a real person not a recording**, surely there's a better use for all this new technology than pacifying ourselves with a simulacrum of the relationships we can no longer have, electric blankets and recorded words of reassurance, cloth monkeys, that's what it is, because no-one knows how to unlock the cage and we're all forgetting how to go back to the group. **What if the surgeon himself said those words** while operating, what if it were a true litany in the visceral real life of the operating theatre rather than wires in the patient's ears as well as on her chest and wrists and legs? Sleeping with that voice must be what it's like to believe in God, to be able to imagine - not imagine, to know - that this fucked up world in which maddened baby monkeys are among the least signs of human inhumanity is **still somehow secure in the hands of an omnipotent and benevolent father**.  
Though I walk in the valley of the shadow of death, still thou art with me. All shall be well and all manner of thing. Nice idea. If only.

## Conclusion

### Perception in the unconscious

- exceeding „intraoperative awareness“ (0.2%, implicit memory 2%)
- more careful behavior in OR (noise reduction)
- avoid careless talks (pathology results, discussion of other patients)
- avoid negative talks (remarks about patient or operation course)
- use earphones

### Suggestions effective under general anesthesia

- at least as effective as with hypnosis
- significantly less effort
- combine pre-, intra-, and post-operative hypnotic communication



## Conclusions for medicine

### 1. Perception under general anaesthesia ≠ « intraoperative Awareness” (0,2-2%)

→ Reduction of noises and careless conversations in the OR

THE LANCET JOURNAL OF CLINICAL MEDICINE  
Volume VIII, Number 4, April 1866  
Printed in U.S.A.

#### THE MEANING OF CONTINUED HEARING SENSE UNDER GENERAL CHEMO-ANESTHESIA: A PROGRESS REPORT AND REPORT OF A CASE!

*David Bradley Cheek, M.D.<sup>2,3</sup>*

“Perfect conduct is a relation between three terms; the actor, the objects for which he acts and the recipient of the action.—The best intention will fail if it either work by false means or address itself to the wrong recipient.” — **William James**

“BE CAREFUL, THE PATIENT IS LISTENING” should be engraved over the door of every operating room, every recovery room, every intensive care unit in every hospital. Always there are two re-

who can recognize their capacity for acting upon these suggestions. Unconscious people are terribly vulnerable to pessimistic thoughts and such thoughts are present in abundance on the eve of surgery. The dangers of positivism and prospective anxiety can be mitigated, and this is usually done by thoughtful anesthesiologists while the patient is awake but the seldom continue their good work after the patient is anesthetized.

PROGRESS OF INVESTIGATION OF



## Communication with Unconscious Patients

frontiers | Frontiers in Psychology  
Clinical Hypnosis

This Conceptual Analysis published on 04/20/2016 doi: 10.3389/fpsyg.2016.01094

### Touching the unconscious in the unconscious – hypnotic communication with unconscious patients

Ernil Hansen\*

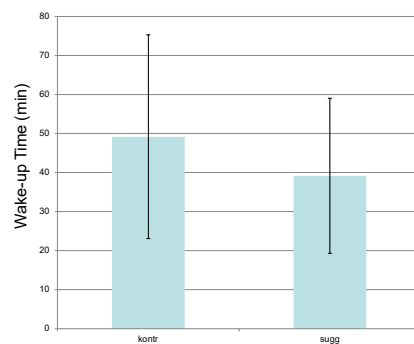
„The adequate language for talking to unconscious patients is hypnotic communication.“

- emergency
- resuscitation
- general anesthesia
- sedation
- coma
- intensive care
- palliative care
- terminal care



## Recovery from Anaesthesia

prospective study with 2 x 13 neurosurgical patients



## Communication for Weaning

Varga K, Dioszeghy C, Frituz G:  
Suggestive communication with the ventilated patient  
Eur J Mental Health 2007; 2: 137-147

- prospective study with 33 vs. 27 patients

### Results:

- Weaning shortened by 3.6 days
- Hospital stay -40%
- One contact person better than many



## What your patient needs

- Avoidance and neutralization of negative suggestions
- Recognition and consideration of natural trance state
- Careful wording
- Therapeutic Communication
- Therapeutic Relationship
- Self-care of the therapist



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