



SENSORA CLINICAL STUDY
MULTISENSORIAL STIMULATION SYSTEM GENERATING
AN INTEGRATIVE IMMERSIVE THERAPEUTIC EXPERIENCE



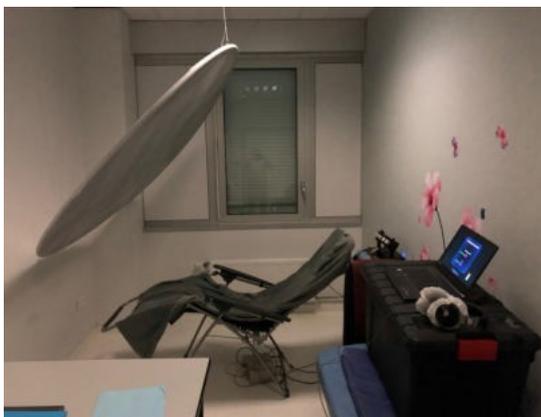
This study has as its goal an evaluation of the beneficial effect the complementary therapeutic modality known as the Sensora is capable of offering to persons suffering from chronic pain.

The objective of this study is to demonstrate the effectiveness of the Sensora system for patients with a diagnosis of chronic pain. Accordingly, to establish if there is an improvement after up to 11 treatment sessions with regard to mood, the level of energy and a reduction in problems related to sleep disruption, stress and anxiety.

The study was directed by Dr. Philippe Diaz, chief of the Avignon Hospital's unit devoted to pain, in collaboration with Christophe Desteuque, certified nurse specialist in Applied Neurosciences and assistant Director of E-de.

It takes place weekly from June 4 to November 15, 2019 in two different locations:

Centre Hospitalier d'Avignon - Pain Unit = 6 patients studied



➤ **E-de Centre - Marseille = 4 patients studied.**



THE SENSORA

MULTISENSORIAL STIMULATION SYSTEM GENERATING
AN INTEGRATIVE IMMERSIVE THERAPEUTIC EXPERIENCE



A state-of-the-art system, the Sensora is capable of bringing a patient to a state of deep relaxation, thereby acting on neurotransmitter secretion and on the autonomous nervous system balance.

The Sensora simultaneously presents three types of sensory stimulation: visual, audio and kinesthetic.

The Sensora is fully programmable

A Sensora session begins with an interview of the patient in order to find out his/her needs and to select appropriate programs. The person is seated on a recliner inside an individual cabin.

The Sensora features an advanced light projection system capable of generating complex color patterns. Light is absorbed by the person's body thanks to the relaxed state induced by the reclining chair equipped with an array of special sound transducers.



Light and Sound Modulation

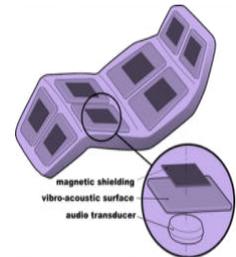
Entrains specific brainwaves rhythms to promote therapeutic results.

Promotes secretion of essential neurotransmitters (Dopamine, serotonin and oxytocin)



Subjective Light

Promotes positive emotions
Promotes homeostasis



Kinesthetic Vibrations

Creates positive anchoring in the body

Sensora is currently the most advanced multisensorial stimulation system in the world

EVALUATION METHOD

Four dimensions will be evaluated.

1) EVALUATION OF THE LEVEL OF ANXIETY AND DEPRESSION

Chronic Pain and depression are frequently associated. Among other things it is known that an increase in the intensity and number of complaints about pain is accompanied by depression. Reciprocally, the presence of pain makes both the diagnosis more complex and prognosis of depression more difficult.

To evaluate symptoms of anxiety and or depression as well as their intensity, we used the HAD standardized test (Hospital Anxiety Depression Scale, Zigmund 1983, annex 1) which provides a score over 42 points. The patient is considered anxious when his score is above or equal to 8/42.

We make three evaluations: the first before the sessions, the second at the end of the fourth session, and the third the end of clinical trials.

2) EVALUATION OF THE PAIN LEVEL

According to the *International Association for the Study of Pain (IASP)* pain is defined as "an unpleasant sensory or emotional experience associated with actual or potential tissue damage, or described in terms of such damage".

In order to evaluate this, we use a numerical scale which is one of self-evaluation by the patient, consisting of asking him/her to give the pain a score from zero to ten according to what he/she experiences.

0: no pain - 10: intense pain

We make two evaluations: one before and after each session.

3) EVALUATION OF THE PATIENT'S GENERAL WELL-BEING

That is, the evaluation of the physical state as well as the moral state of being of the individual. In order to make this evaluation we use a numerical scale which is one of self-evaluation consisting of asking the patient to give a score between 1 to 10 with regard to his/her current subjective state.

0: sad - 10: joyful

We make two evaluations: one before and after each session.

4) EVALUATION OF THE RELAXATION LEVEL

For this evaluation a numerical scale was used once again asking patient to use self-evaluation on a scale from 0 to 10 denoting the state of relaxation that was being experienced.

0: tense (not relaxed) - 10: very relaxed

We make two evaluations: one before and after each session.

GENERAL CONCLUSIONS OF THE STUDY

The results presented here concern the 10 patients treated at the E-de center (Marseille) and the Centre Hospitalier d'Avignon.

Decrease in pain felt by the patient at the end of the sessions was on average 68.50%, or a decrease of two thirds. Session results obtained were very consistent: 9 patients out of 10 felt an average reduction of 75% of their pain. **All patients stated to have created a distance with regard to their painful sensations as well as a greater capacity to manage the pain on a daily basis.**

The evaluation of the emotional state of the patients at the end of the sessions showed on average an improvement of 52.4%. For 50% of these patients the improvement was above 50% and for the other 50% it was between 29.3 and 48.5%. We could note an improvement reaching stable levels, between 8 and 10 over 10 at the end of the session. This was the case for 8 out of 10 patients, regardless of their emotional state before the beginning of the session. **This enables us to establish the stabilizing effect of the Sensora sessions on the emotional state of the patients.**

The improvement in the state of relaxation was significant with average improvement of 65.6% at the end of the sessions. For 50% of these patients their state of being improved by more than 67%, and for the other 50%, the improvement rate was between 41.5 and 59.5%.

The decrease in the level of anxiety and depression (HAD test) was on average 39.8%, also pointing to results which were quite consistent with a decrease of between 25 and 57.1%. **This result is to be correlated with the decrease in pain and the improvement in the emotional state and state of relaxation of the patient.**

The results obtained as well as the analysis of the interviews conducted with each patient after each session, permit us to conclude that the Sensora can be considered as an effective system in its capacity as a supplementary therapeutic modality for the treatment of patients presenting chronic pain.



GENERAL SUMMARY OF DR. DIAZ

The study took place at the Avignon hospital complex from 11 June to 22 October 2019, and it included six patients who were offered from 6 to 9 sessions each.

These sessions took place with an average interval of two weeks, except during vacation time when an interruption of 4 weeks took place. The intervals therefore varied from 1 to 5 weeks if one considers the availability of the patients and vacation time.

The general consensus is that an improvement in the quality of life took place, as much in the managing of the emotional field as well as in the perception of pain.

It was observed that changes in behaviour occurred during daily routine.

The general request concerned the possibility of being able to continue the sessions.

The following questions can now be asked:

- The optimum interval to be respected between two sessions.
- The number of sessions deemed necessary to effect behavioural changes.
- The interest in offering supplementary sessions, and at what rhythm.

PATIENT RECORD SAMPLE

(Summary and graphs for Patient N°1 over 9 sessions)

* Note: complete records of the 10 study patients are available on request.

Patient N°1	Initials: BC
Birth Date : 24/08/1975 (44)	Sex : M

Summary of the Results:

The patient was in an ongoing state of negative worrying. He was depressed, felt as though he was the invalid of the family, and that nothing was happening of value in his life.

The sessions gave him a chance to rest and relax for the time of their duration. They offered him the possibility of spending a moment which was agreeable, enabling him to connect with positive sensations to begin with, and then bit by bit also offering him the understanding that he could now participate more actively in taking charge of Improving his health.

The following average results were obtained through the sessions :

A decrease of 67.2% of the pain at the end of the session

An improvement of 70.5% of the emotional state at the end of the session

An improvement of 67.6% of the state of relaxation

The **HAD test** showed a decrease of 50% of symptoms of anxiety and/or of depression.

THE GENERAL CONCLUSION OF DR. DIAZ:

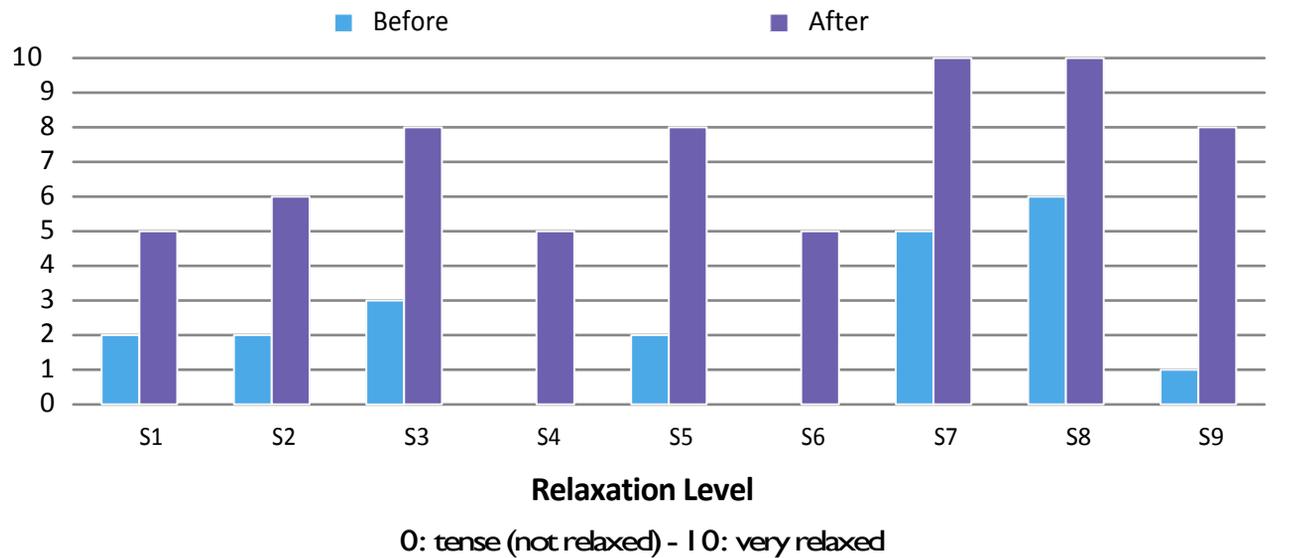
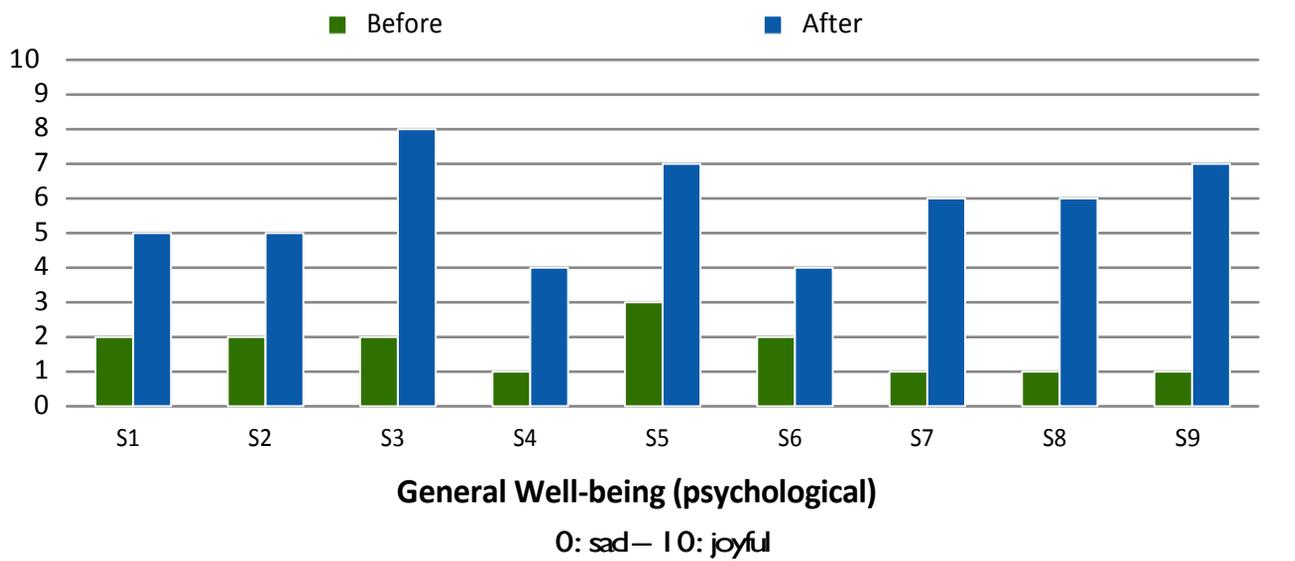
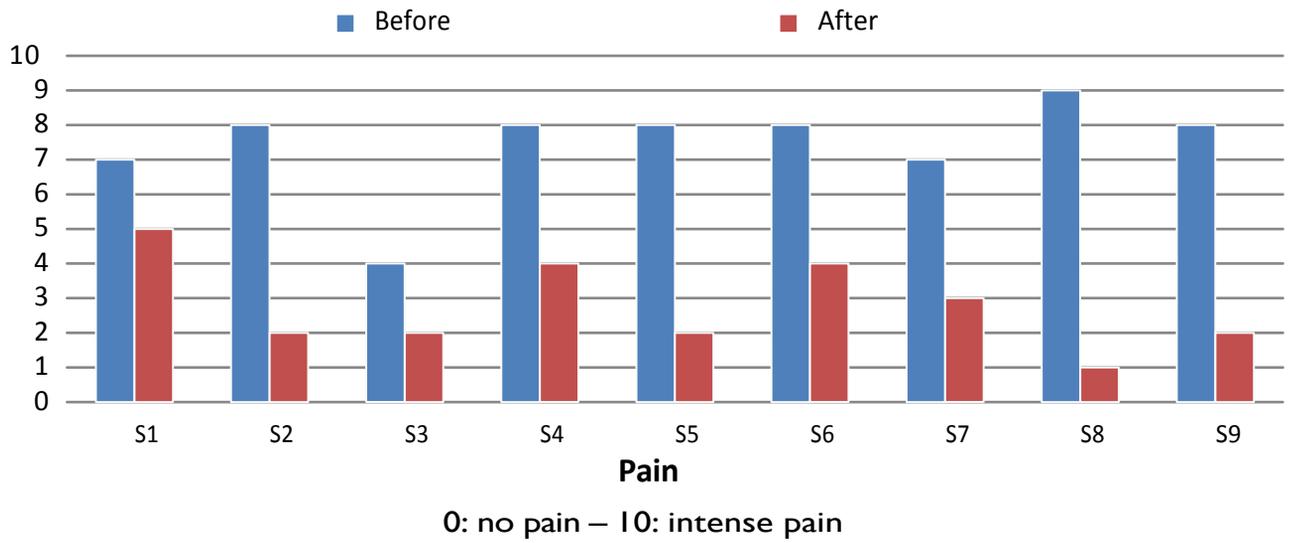
According to a reevaluation after two months, the patient was capable of :

A distancing with regard to the pain. He changed his description from “I have pain” to “there is a pain,” accompanied by a certain sensation of control relative to the symptoms;

Recovering the ability to tend to small daily activities: to get up and stand, go see a film, take care of small household tasks.

Expressing the sensation of “being alive”

Follow-up treatment consisting of iterative **E-de PSIO** sessions.



ANNEX 1 - Hospital Anxiety and Depression Scale (HADS)

**Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over you replies: your immediate is best.**

D	A		D	A	
		I feel tense or 'wound up':			I feel as if I am slowed down:
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			I get a sort of frightened feeling like 'butterflies' in the stomach:
0		Definitely as much		0	Not at all
1		Not quite so much		1	Occasionally
2		Only a little		2	Quite Often
3		Hardly at all		3	Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			I have lost interest in my appearance:
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			I feel restless as I have to be on the move:
0		As much as I always could		3	Very much indeed
1		Not quite so much now		2	Quite a lot
2		Definitely not so much now		1	Not very much
3		Not at all		0	Not at all
		Worrying thoughts go through my mind:			I look forward with enjoyment to things:
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		I feel cheerful:			I get sudden feelings of panic:
3		Not at all		3	Very often indeed
2		Not often		2	Quite often
1		Sometimes		1	Not very often
0		Most of the time		0	Not at all
		I can sit at ease and feel relaxed:			I can enjoy a good book or radio or TV program:
	0	Definitely	0		Often
	1	Usually	1		Sometimes
	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions

Scoring:

Total score: Depression (D) _____ Anxiety (A) _____

0-7 = Normal

8-10 = Borderline abnormal (borderline case)

11-21 = Abnormal (case)

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E-DE

As a training institute for new groundbreaking approaches to healing, we support healthcare institutions everywhere in France by offering **specialized trainings** designed and presented by health professionals on active duty.

Thanks to the implementation of **exclusive advanced non-pharmaceutical therapies** based on Light Therapy we are able to contribute to improving the quality of the treatment offered and to the well-being of the teams.

The Centre E-de which is based in Marseille is a **training center** dedicated to professionals working in health care. It is also a **treatment center** specializing in Hypnotherapy and in Light Therapy, open to all.

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