



# SNORING & OSAHS SURGERY

*International Workshop*



**FOLLOW UP & OUTCOMES  
EVALUATION**

< 15'

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AIMS Board  
&  
ENT-MaxilloFacial  
Joint Commission



## FOLLOW UP

★ Why ?

★ When ?

★ How ?

## ? Why Follow Up ?

- ✦ It's a mandatory step in any type of therapy in Medicine
- ✦ From the patient's point of view a complete follow up evaluation is crucial for avoiding a possible subclinical residual disease or a recurring disease
- ✦ From the surgeon's point of view the outcomes data are very useful for refining the treatment protocol in the future

## ?When? - Our Schedule for Post Op Evaluations

- ✦ Within One Month
  - ✦ Clinical evaluation of complete functional recovery
- ✦ Six Months
  - ✦ First clinical & PSG examination, first evaluation of success
- ✦ Every year
  - ✦ Clinical general evaluation , PSG if required (recurrence ?)

# ?HOW? OUTCOMES in LITERATURE

## Sher 's Criteria

### UPPP

Group I of paper	Group II of paper	Group III of paper
very large changes in AI, RDI, and minimum oxygen saturation (Min O2Sat) were all highly significant	14 defined response as a 50% decrease in AI 16 defined response as a 50% drop in RDI and five defined responses as some other definition	There were no statistically significant differences between responders and non responders

**Response was defined as a postoperative RDI of less than 20 and at least a 50% postoperative reduction in RDI**

## TONGUE OPERATION

With response defined as a reduction in RDI of at least 50%, the response rate was 41.7%

Response was defined as a postoperative RDI of less than 20 per hour and at least a 50% reduction from preoperative RDI. Seventy-seven percent of patients (17/22) were responders

**Response was defined as a postoperative RDI of less than 20 and at least a 50% postoperative reduction in RDI**

## MMA

The likelihood of response tended to diminish with increasing preoperative apnea severity as follows: i) for patients with a preoperative RDI of less than 20, the response rate was 76.9% (20/26); ii) for patients with a preoperative RDI of 20 to 40, the response rate was 77.6% (45/58); iii) for patients with a preoperative RDI of 40 to 60, the response rate was 70.6% (36/51); iv) for patients with a preoperative RDI of greater than 60, the response rate was 42.3% (44/104).

**Response was defined by a postoperative (at 6 months) RDI of less than 20, representing at least a 50% reduction from preoperative RDI, and the lowest oxygen saturation equivalent to that of a second night of CPAP titration**



# Judging Success

- ✦ Many define as 50% decrease in RDI and RDI < 20
- ✦ Objective assessment of response – post-treatment polysomnogram is crucial

## PERSONAL EVALUATION

According to Our Data

# Outcomes

*according to Sundaram & Coll., The Cochrane Collaboration, 2007,  
modif*

## PRIMARY

- ✦ AHI (Apnoea Hypopnea Index)
- ✦ ESS (Epworth Sleepiness Scale)
- ✦ Snoring (Visual Analogue Scale)

## SECONDARY

- ✦ Visual Analogue Scale-VAS (satisfaction)
- ✦ Complications (type & rate)
- ✦ Withdrawals
- ✦ Postoperative Morbidity
- ✦ Postoperative Mortality
- ✦ One Year Mortality
- ✦ Neuropsychological Functions
- ✦ QOL SF36
- ✦ Choking abolition

**How we describe the outcomes**

Success Area of Snoring Reduction

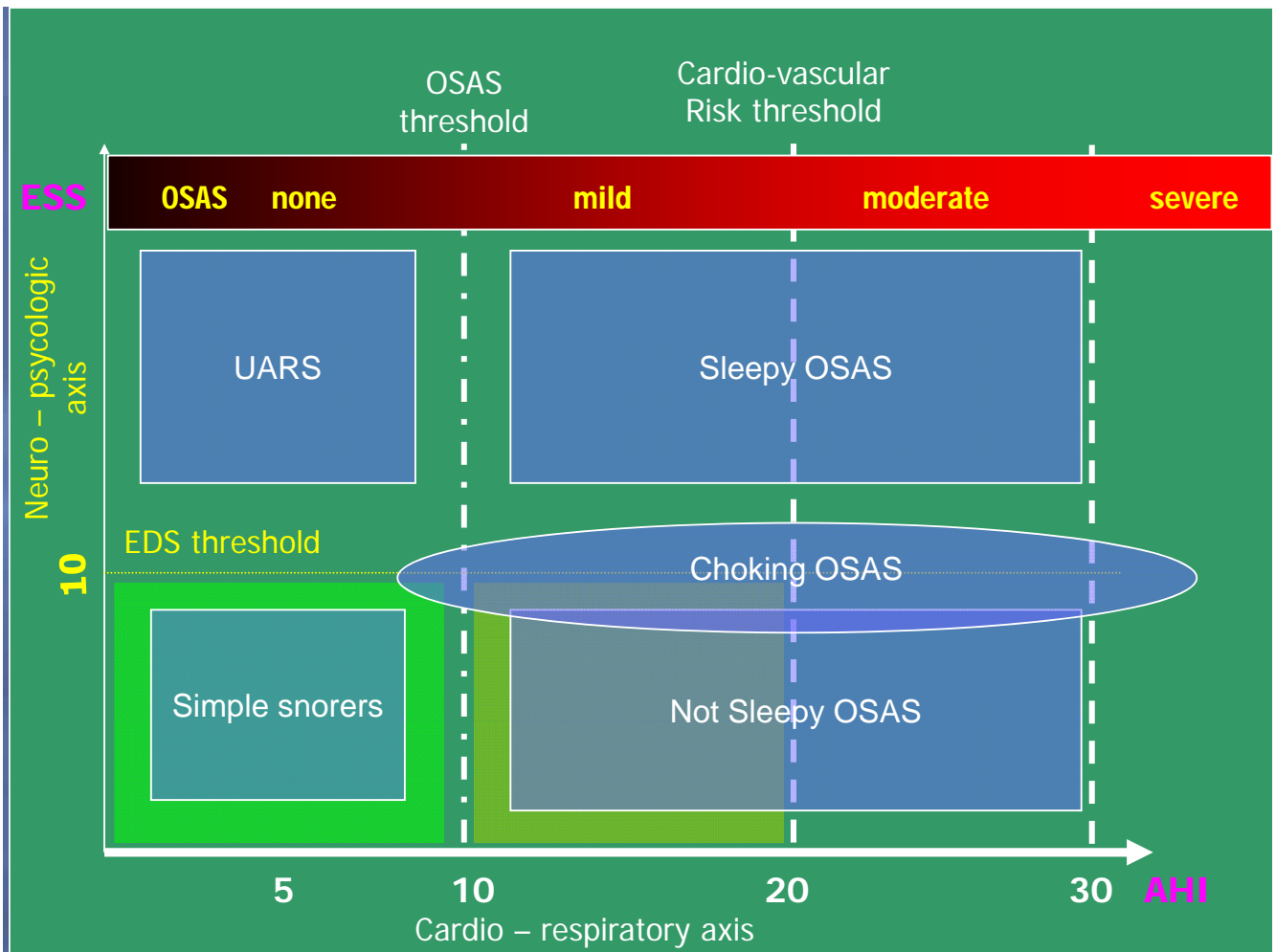


Visual Analogue Scale  
of Snoring Reduction

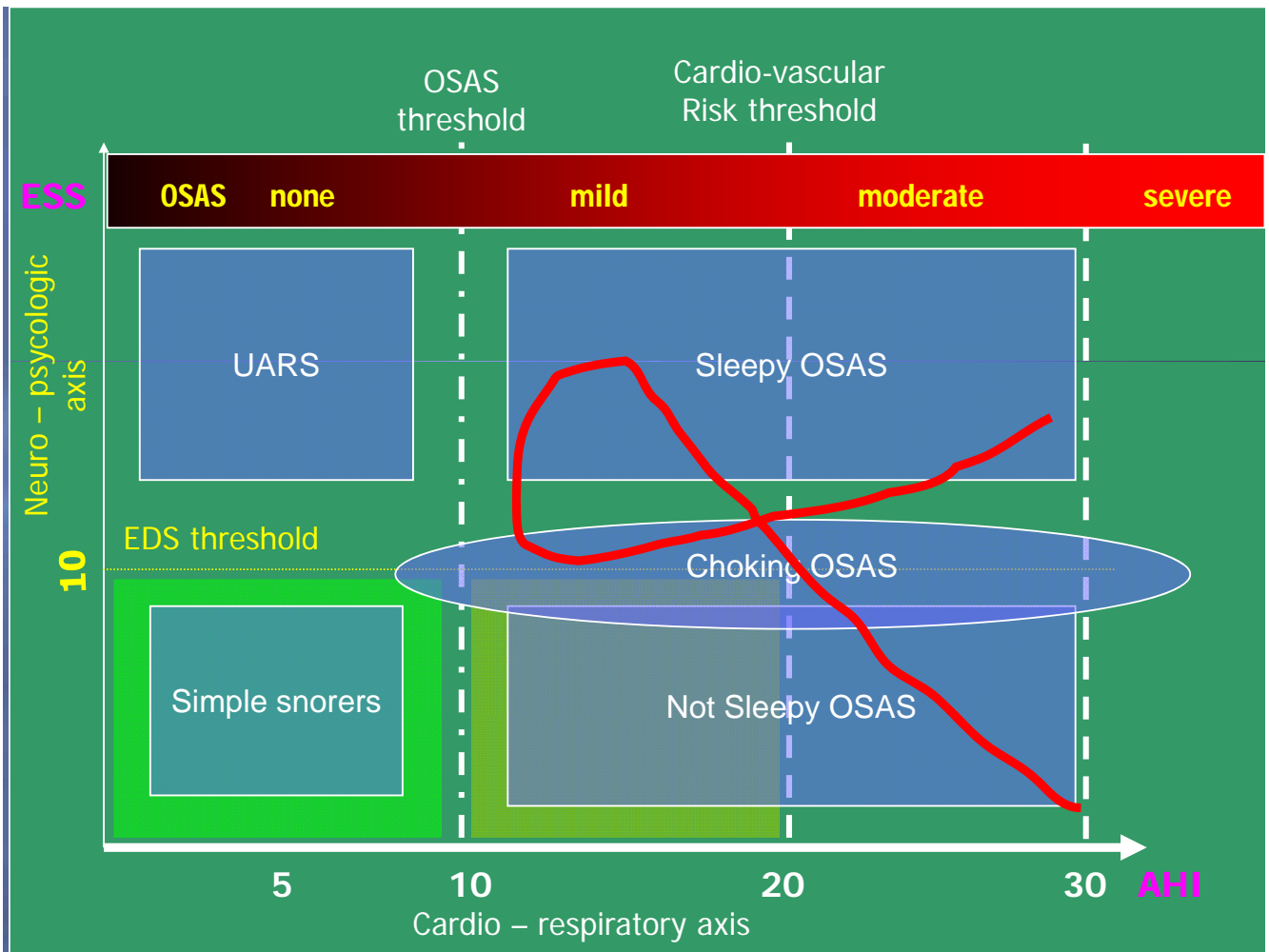
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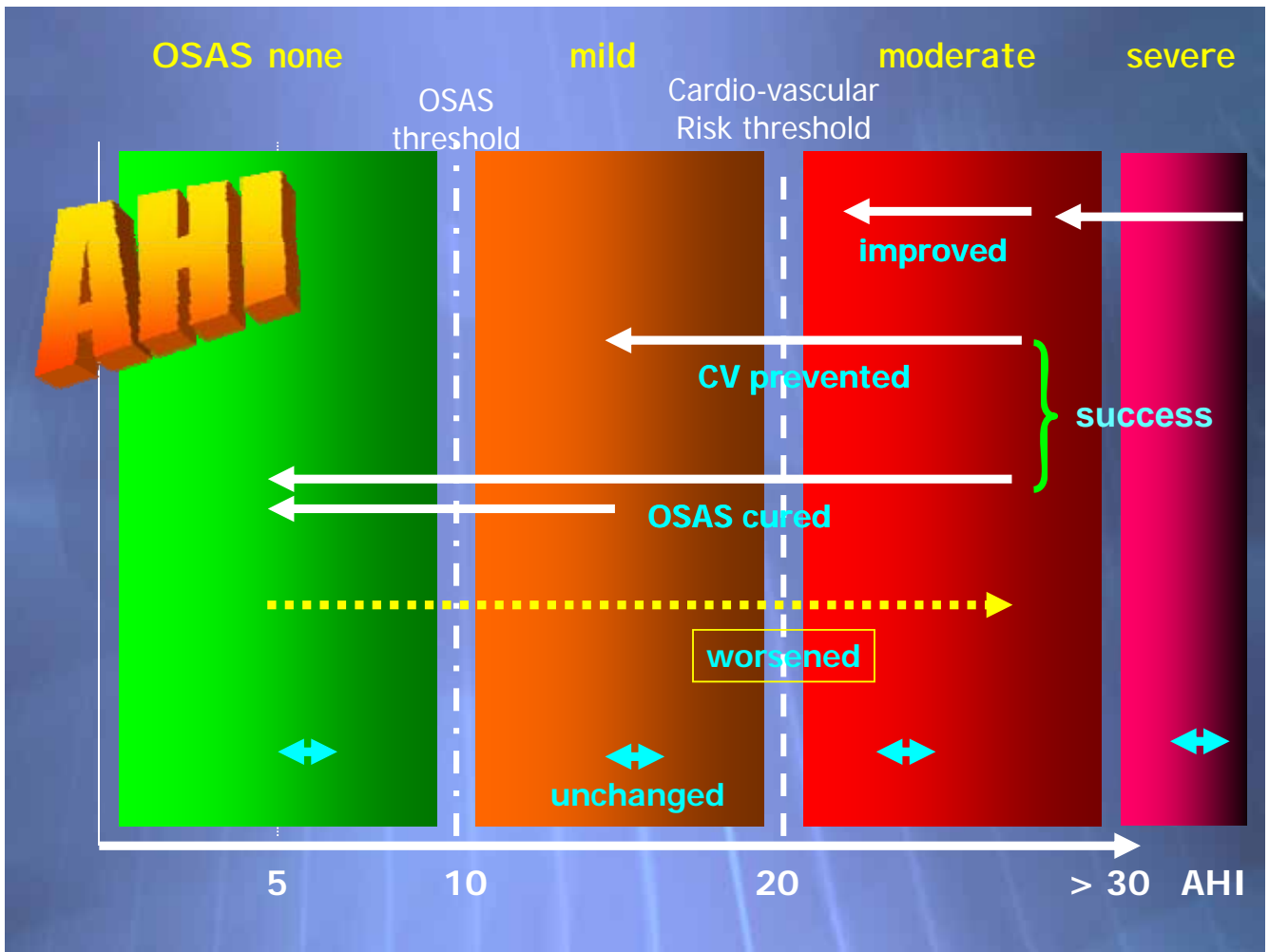


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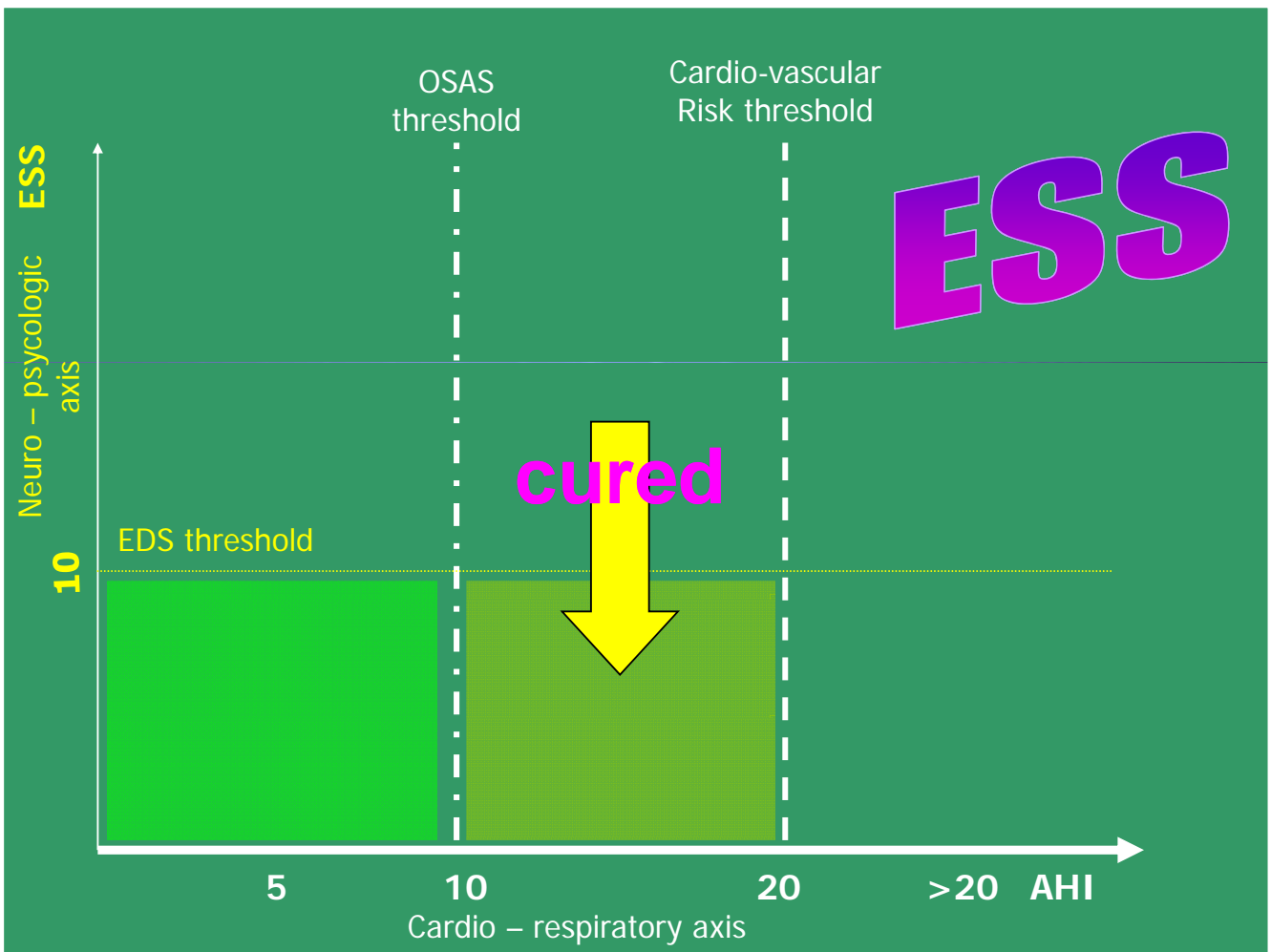








**ESS**



## OVERALL PSICOLOGICAL APPROACH

*Additional Data for Follow Up*

THE PSYCHOLOGICAL BATTERY WERE PERFORMED AT PT (Pre Treatment) AND AT (After Treatment), THAT CONSIST OF:

- ✦ 1) EPWORTH SLEEPINESS SCALE (E.S.S.): a self report scale to evaluate the subjective daytime somnolence
- ✦ 2) CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION SCALE (CES-D): a self report scale (16 items), to evaluated depressive symptoms
- ✦ 3) PERCEIVED STRESS QUESTIONNAIRE (PSQ): a self report scale (30 items) to evaluated the perceived stress level

- ✦ SF-36 ITEM SHORT FORM MENTAL HEALTH SURVEY (quality of life questionnaire; a self-reported scale to evaluated 8 domains: physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional, mental health)
- ✦ POST-OPERATIVE PAIN: VERBAL NUMERIC SCALE (VNS) (only at)  
a standard 0 (no pain) to 10 (severe pain) scale used to subjective evaluate pain and suffering after surgery This scale is compiled every day during the hospitalization
- ✦ A QUESTIONNAIRE CONCERNING SELF-PERCEIVED OF SYMPTOMS (sleepiness, work performances, attention, concentration, manual dexterity, social problems, family's problems, sexual difficulties), stimulants' consumption (cigarettes, coffee, the, coca cola), accidents in the last six months.

- ✦ Computer-assisted neuropsychological testing for vigilance, visual and auditory alertness, selective attention



### NEUROPSYCHOLOGICAL CHANGES AFTER SLEEP DISORDERED BREATHING SURGERY IN OSHAS





100 OSAHS PATIENTS (MEAN RDI 32,4; SAO2 79,2)  
Phase I or Phase II

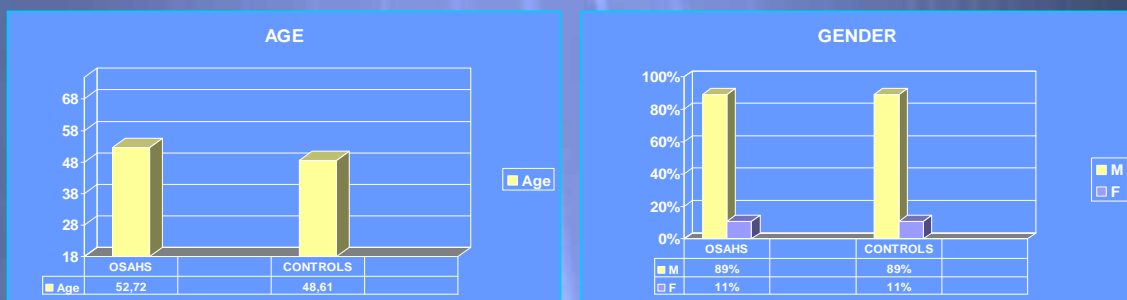
*compared to*

100 AGE-MATCHED NORMAL CONTROLS\*  
Not SDB Surgery

BEFORE AND 6 MONTHS AFTER SURGERY

\*Not OSAHS surgical patients admitted to Department for not SDB surgical procedures

## Sample Characteristics

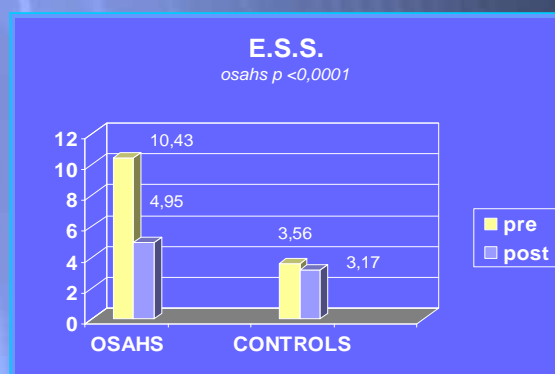
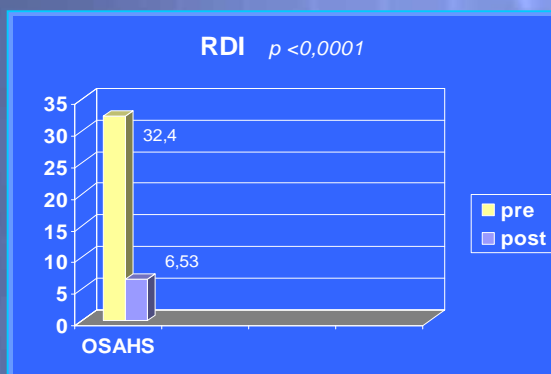


# MEASUREMENTS

*The Psychological Battery were performed at PT (Pre-Treatment) and PO (Post-Operation):*

1. Epworth Sleepiness Scale (E.S.S.)
2. Center for Epidemiological Studies Depression Scale (CES-D)
3. Perceived Stress Questionnaire (PSQ)
4. Illness Behaviour Questionnaire (IBQ)
5. PC Assisted Neuropsychological Testing for vigilance, visual and uditive alertness, selective attention
6. Questionnaire for self-perception of symptoms (sleepiness, work performances, attention, concentration, manual dexterity, social problems, family's problems, sexual difficulties), stimulants' consumption (cigarettes, coffee, the, coca cola), number of accidents in the last 6 months.

# RESULTS



# RESULTS

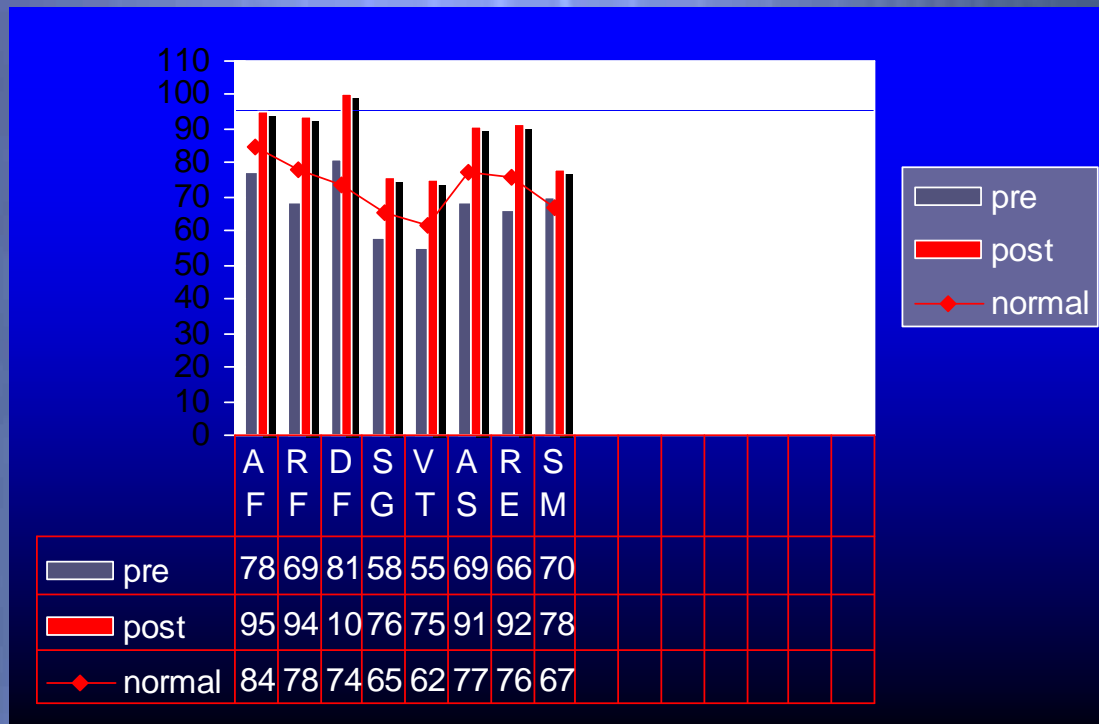
*Significant improvements for OSAHS patients, in:*

- ★ EDS (ESS:  $p < 0,0001$ )
- ★ Depression ( $p < 0,0001$ ) (CES-D:)
- ★ Perceived Stress (PSQ:  $p = 0,0111$ )
- ★ Vigilance ( $p = 0,0023$ )
- ★ Selective attention ( $p < 0,0001$ )
- ★ Number of daily cigarettes and coffee ( $p < 0,0001$ ) ( $p = 0,0014$ ;
- ★ Self-perceived manual dexterity ( $p < 0,0001$ )
- ★ Social problems ( $p > 0,0001$ )
- ★ Family's problems ( $p < 0,0001$ )
- ★ Sexual difficulties ( $p < 0,0001$ )

## QUALITY OF LIFE

SF36

# TORS QoL SF36 evaluation



Thank You for your invitation and  
for your incredible attention !



**THANK YOU FOR  
YOUR ATTENTION and ...**

