

**We aimed at better evaluate neglect symptoms and tested a new way to attempt to reduce them.**

Participants: 12 hemineglect patients, 9 brain-injured patients and 43 healthy subjects.

## Objective 1

## Adaptation of an existing evaluation tool with more ecological stimuli/format

### Introduction

One of the current issue in hemineglect evaluation is the lack of neuropsychological ecological tools.

In an attempt to reduce the gap between traditional tests and real-life conditions, we created a new task by adaptating the format and the items of a well-known test (Line cancellation, BIT).

We tested the sensitivity and sensibility of our task.

### Methods

All participants were included. A specific neglect battery (BEN<sup>2</sup>) was used to assess neglect syndrome before using the new task.

ROC curves were calculated and are shown on figure 3.

### Results

A very good sensibility/specificity ratio was found.

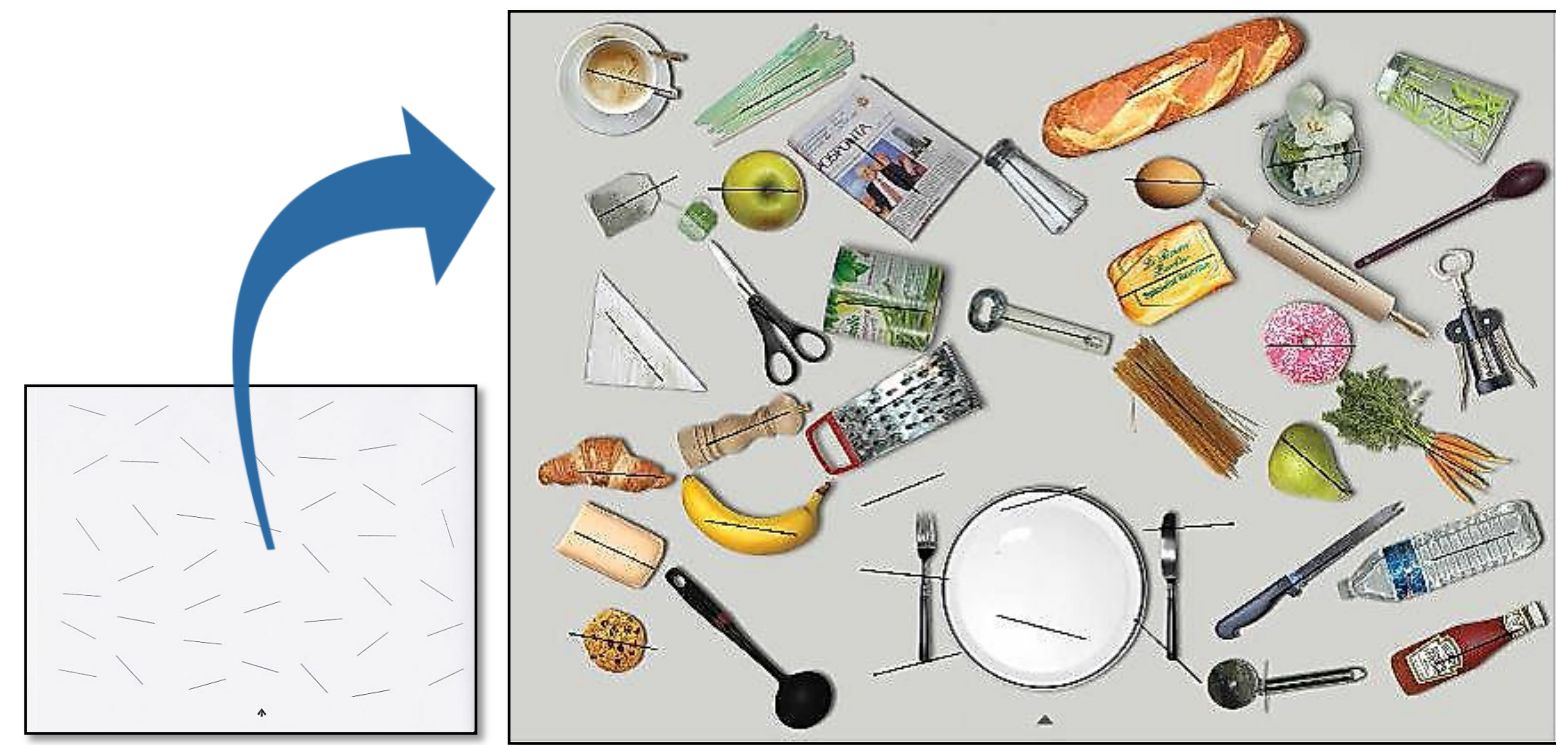


Fig 1 : Line Cancellation (A4 format)

Fig 2 : Ecological adaptation (A0 format)

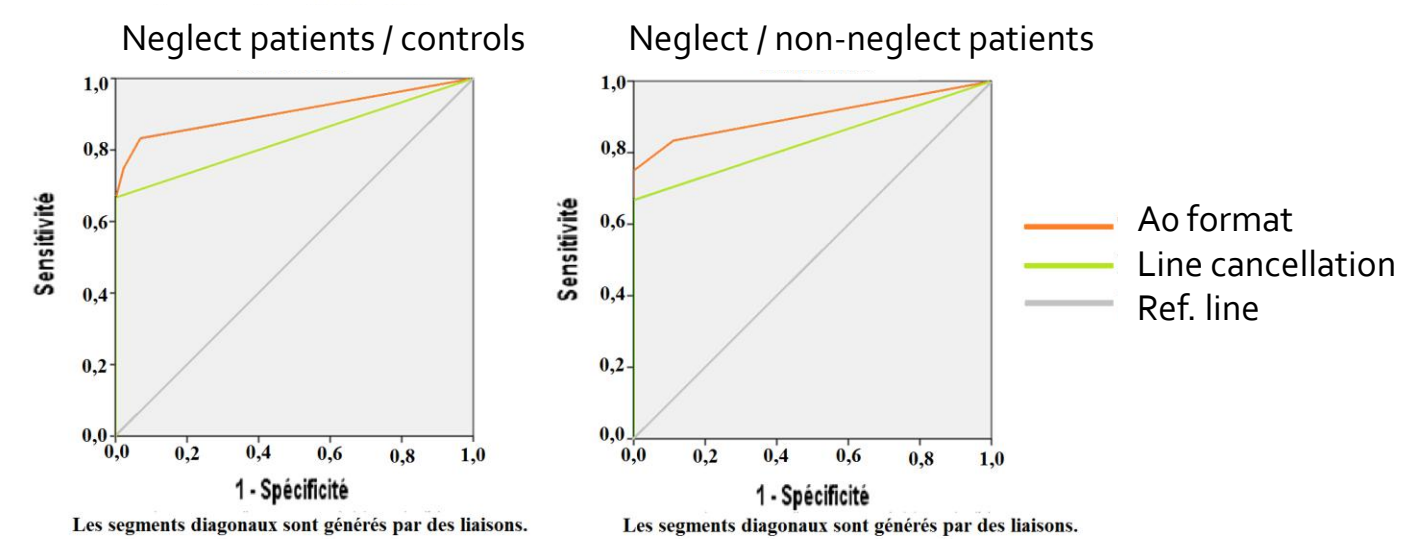


Fig 3 : ROC curves

## Objective 2

## Use of a specific lighting condition to improve neglect syndrome



Fig 4 : Light corridor

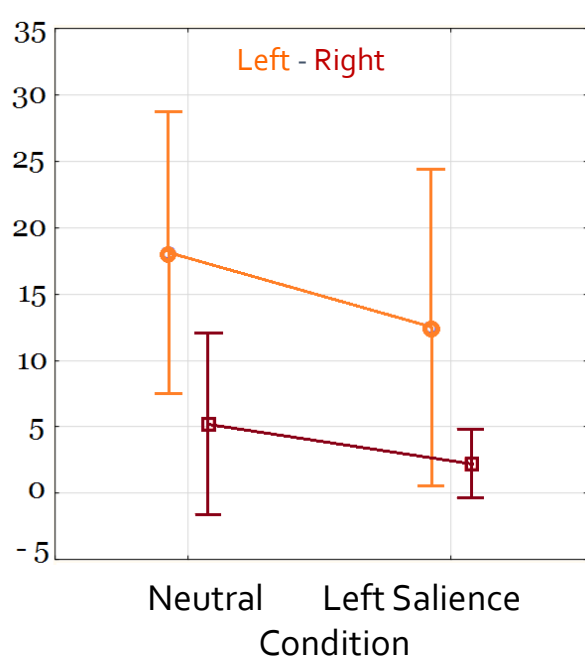


Fig 5 :  $F(1,7) = .15, p = .71$

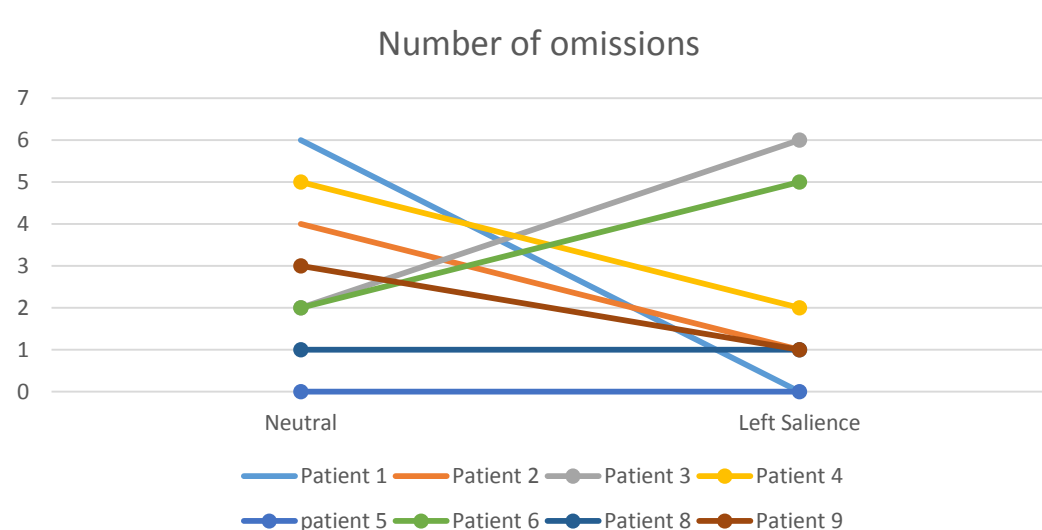


Fig 6 : Omissions among patients

### Introduction

We decided to administer our ecological task in a specific 'light corridor' allowing modulation of ambient light by varying different sources of dimmable lights (Fig 4).

We used specific lighting conditions to enhance perceived salience of left-sided presented stimuli. In so doing, we aimed at modifying attentional prioritization in our neglect patients.

### Methods

Only brain injured patients with and without signs of spatial neglect underwent this evaluation with specifically lighting conditions versus neutral lighting conditions.

### Results

Among neglect patients, although we found an expected effect of the side, salience effect and interaction effect did not reach significance, probably due to our poor number of patients included (Fig 5).

Nevertheless, at a clinical level, four patients improved their performance following lighting salience, two remained stable and two worsened.

Combined with previous preliminary data (unpublished), this lead us to be confident in the possibility to act on attentional prioritization by manipulating lighting environnement.

**Our ecological adaptation shows a good sensitivity/specificity ratio**

**Acting on attentional prioritization by manipulating lighting environnement seems possible**

**More data are needed to better quantify these effects**