

## CLINICAL STUDY

### Effects of AURORA laser for personal use on vaginal structure in patients with regular menses

#### PREMISE

##### The dysfunctions of the vaginal mucosa

The dysfunctions of the vaginal mucosa are related in part to age and partly to altered physiology of the constitutional vaginal structure.

Such alterations tend to increase with aging and menopause due to the effect of natural "internal" variations (especially hormonal), either because of external factors which influence the equilibrium (the use of oral contraceptives or antibiotics, hygiene, sexual habits).

Dysfunctions of the vaginal mucosa can generate the following disorders:

- Decreased vaginal lubrication
- Vaginal dryness
- Lower sensitivity at clitoral level
- Increased vaso-congestion of the vaginal walls
- Alteration of the quality of orgasm

These symptoms are treated with drug therapy replacement: estrogen administration, substances no more produced by the ovary, which is accompanied usually by a progestin, a hormone that tends to prevent and eliminate any side effects in the endometrium (tissue inside the uterus which can be stimulated in the pathological sense from a long estrogen treatment).

##### The effects of low level laser

The LLLT, or low level laser therapy, is based on the combination of the normal photochemical and photo biological effects in cells and tissues to the development of heat. The laser radiation penetrating the tissues causes biochemical reactions on the cell membrane and into the mitochondria which induce several effects among which:

Vasodilation: an increased inflow of blood resulting in an increase of the local heat, metabolic demands of phones and

related neuro vegetative stimulation.

Increase lymphatic drainage: greater absorption of excess interstitial fluids with diminishing effect for edema. This effect is caused by the change of the intracapillary hydrostatic pressure.

Metabolic stimulation: the stimulus for the activation of cellular metabolism speeds up the process of transformation of ADP to ATP and electrolytic exchange between the intra- and extra-cellular environment resulting in increased concentration of nucleic acids and amino acids;

The different therapeutic effects which can be determined on the basis of the energy delivered are:

Bio stimulating, anti-edema, eutrophic and stimulating effect on to the cellular tissue given by the increased blood flow due to the capillary vasodilation.

Analgesic effect: pain therapy is feasible thanks to the action induced by the perception threshold of the nerve endings algotrope and the release of endorphins.

It is conceivable, therefore, that the biostimulation by laser - which promotes vasodilation and tissue regeneration - translates on the female genital organ in increasing thickness of the vaginal mucosa, and acts on the improvement of intra-vaginal capillary circulation, allowing an adequate vaginal lubrication - is able to prevent and mitigate the effects caused by the dysfunction of the vaginal mucosa mentioned above.

#### STRUCTURE OF THE STUDY

The device for laser therapy for personal use AURORA allows to prevent and mitigate the problems that may result from dysfunction of the vaginal mucosa.

The effects on vaginal level of AURORA refer to the general effects of low level lasers proven by many clinical studies indexed and cited in the introduction.

Since, as above remembered:

- Dysfunctions of vaginal mucosa tend to increase with age and menopause;
- The bio-stimulation by laser promotes vasodilation, tissue regeneration and circulation improvement, thus allowing adequate vaginal lubrication;
- The clitoris works as a nervous receptor, so if it is stimulated increases lubrication (vaginal secretion) and congestion of the whole area, and consequently the quality of orgasm, obtaining what is called vaginal orgasm;

They were treated 24 female patients with regular menses in order to assess the effectiveness of the prevention of AURORA, as regards to two aspects in particular: improving lubrication and improving the sensitivity of the clitoris (improving the quality of orgasm).

Of the 24 patients in total, 6 patients were treated with placebo.

It points out how, treating very delicate aspects, the predisposition of the patient to undergo treatment is one of the factors that should be taken into consideration when analyzing the results.

## METHODOLOGY

**Objective of the study:** to study the effectiveness of the two Aurora laser functions.

**Sample size:** 24 women with normal menstrual cycles, 18 of whom used an Aurora laser and 6 a placebo.

**Session frequency:** 2 sessions per week for 2 months, for a total 16 sessions.

**Final questionnaire:** Each woman was given a self-assessment questionnaire at the end of the cycle of sessions.

## RESULTS

The women who used the AURORA laser:

- **66,7% achieved a significant improvement in the quality of their orgasms, either in couples or alone. 55.6% of women reported that they reached orgasm faster from the sixteenth session on**
- **88,9% reported increased lubrication during sessions. 66.7% of women noticed a significant increase; 22.2% noticed a slight increase**
- **77,8% judged their first session with AURORA as gratifying**

The group who used the placebo:

- 66,7% did not report any improvement in the quality of their orgasms
- 33,3% did not know if they reached orgasm any faster
- 33,3% did not notice an increase in lubrication, 33.3% did not experience increased lubrication and 33.3% did not know

## CONCLUSIONS

A comparison between the two sets of results show that the women who used the AURORA device achieved better results than those who used the placebo. The improvement was rated between satisfactory and good for the women who used the AURORA.

Dottor Marco RICCI  
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Rimini, 8<sup>th</sup> April 2011

## Attachment 1

### Self-Assessment Questionnaire

1. What do you think about the first session with AURORA?

No feeling  
I do not know  
Satisfactory

2. After the sixteenth treatment the quality of orgasm in both couple and alone is changed?

Same feeling  
Little bit improved  
Completely improved

3. Did you realize to feel anticipated orgasms from the sixteenth treatment on?

No  
I do not know  
Yes

4. Did you note a lubrication increase during treatment with the device?

No  
A little bit  
Yes

**Table 1**

**I question                      What do you think about the first session with AURORA?**

	<b>AURORA group 29/45</b>	<b>Placebo group 29/45</b>
<b>a) No feeling</b>	0	0
<b>b) I do not know</b>	4	2
<b>c) Satisfactory</b>	14	4
	<b>18</b>	<b>6</b>

**II question                      After the sixteenth treatment the quality of orgasm in both couple and alone is changed?**

	<b>AURORA group 29/45</b>	<b>Placebo group 29/45</b>
<b>a) Same feeling</b>	6	4
<b>b) Little bit improved</b>	0	0
<b>c) Completely improved</b>	12	2
	<b>18</b>	<b>6</b>

**III question                      Did you realize to feel anticipated orgasms from the sixteenth treatment on?**

	<b>AURORA group 29/45</b>	<b>Placebo group 29/45</b>
<b>a) No</b>	0	0
<b>b) I do not know</b>	8	6
<b>c) Yes</b>	10	0
	<b>18</b>	<b>6</b>

**IV question                      Did you note a lubrication increase during treatment with the device?**

	<b>AURORA group 29/45</b>	<b>Placebo group 29/45</b>
<b>a) No</b>	2	2
<b>b) A little bit</b>	4	2
<b>c) Yes</b>	12	2
	<b>18</b>	<b>6</b>