

# The SONG laser protocol and fertility treatment: a preliminary study

## Abstract

This preliminary study assesses the use of modulated SONG (Strachan Ovokaitys Node Generator) laser activation of human Very Small Embryonic Like (hVSEL) stem cells in autologous Platelet Rich Plasma (PRP). Four volunteers took part in the preliminary study and samples of blood and scans were carried out before and after SONG Laser activated hVSEL stem cell administration. The results showed the procedure to be safe and key fertility parameters measured in each volunteer indicated possible efficacy. This preliminary study lays the foundation for a Phase I Clinical Trial.

**Keywords:** fertility, SONG laser, hVSEL (human very small embryonic like) stem cells

Volume 11 Issue 1 - 2026

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**Received:** July 1, 2026 | **Published:** July 31, 2026

## Introduction

The SONG Laser Protocol has been used in a variety of diseases including dementia,<sup>1</sup> radiculopathy,<sup>2</sup> osteoporosis,<sup>3</sup> multiple system atrophy,<sup>4</sup> Parkinson's disease,<sup>5</sup> advanced liver fibrosis<sup>6</sup> and degenerative disk disease.<sup>7</sup> These studies indicate the safety and possible efficacy of the SONG Laser Protocol. The effect of the SONG Laser on hVSEL stem cells in PRP has shown a significant up regulation of hVSEL key antigens, which we believe to be the start of activation of the hVSEL stem cells from their quiescent state to become active stem cells.<sup>8</sup>

The use of standard PRP in fertility treatment is becoming more common.<sup>9,10</sup> The results are variable and PRP preparations differ from author to author. Standardisation of PRP processing needs to be put in place along with Clinical Trials to assess efficacy.

## Volunteers and methods

Four volunteers with a mean age of 49 took part in the study and all of them had received previous fertility treatment but without success. Each volunteer gave informed consent to be involved in the study.

Venous blood was collected for fertility endocrinology assays and the volunteers were scanned to assess Antral Follicle Count (AFC) and endometrial thickness. This was carried out pre- and post-hVSEL treatment.

To carry out the SONG Laser Protocol venous blood was collected using 10 mL PRP tubes, 16 tubes were collected per volunteer. The PRP tubes were then centrifuged for 10 minutes in a fixed speed centrifuge to obtain the PRP as previously described.<sup>8</sup> The PRP was then carefully collected into 60 mL syringes. The PRP from 14 PRP tubes was activated by vigorous shaking for 30 seconds and further treated with the SONG Laser for 3 minutes. This PRP was then returned to the volunteers intravenously.

The PRP was removed from the remaining two PRP tubes using a 12 mL syringe. The PRP for ovarian injection was harvested from the red cell/PRP boundary as previous work has shown that this lower third of PRP contains the highest numbers of hVSEL stem cells.<sup>8</sup>

The ovarian PRP was activated with the SONG laser for 1 minute and then returned to the volunteers' ovaries using ultrasound guidance. The remaining PRP was used for endometrial and Fallopian tube washes.

This protocol was combined with SONG low-level laser therapy (LLLT; photobiomodulation), applied to key endocrine glands, including the pineal, pituitary, thyroid, thymus, and adrenal glands (1–3 minutes per gland), as well as both ovaries (3–5 minutes each).

## Results

Table 1 shows the endocrinological and ultrasound findings pre- and post-SONG Laser Protocol.

**Table 1** Pre-and post- SONG laser protocol treatment endocrinology and ultrasound assessment

| Mean Data n=4               | Pre-treatment | Post-treatment |
|-----------------------------|---------------|----------------|
| FSH (mIU/mL)                | 15.9          | 29.4           |
| AMH (ng/mL)                 | 0.15          | 0.65           |
| Oestradiol (E2) (pg/mL)     | 72            | 113            |
| LH (IU/L)                   | 8.35          | 16.7           |
| Progesterone (ng/mL)        | 0.9           | 1.42           |
| AFC (Antral follicle count) | 3.75          | 5.5            |
| Largest follicle size (mm)  | 18.5          | 13.6           |
| Endometrial lining (mm)     | 5.5           | 8.35           |

Follicle Stimulating Hormone (FSH) rose following SONG Laser Protocol treatment. This is a surprising finding which needs further investigation. Anti-Mullerian Hormone (AMH), oestradiol, Luteinizing hormone (LH) and progesterone all showed an increase in their levels following the SONG Laser Protocol. AFC and endometrial lining scans both showed an increase following the SONG Laser Protocol. The largest follicle size following the SONG Laser Protocol decreased in size.

## Discussion

Fertility treatments continue to remain poor outcomes in patients over 40 years old.<sup>11</sup> Many interventions have been tried with little or no benefit to patients.<sup>12</sup> The current study identifies the potential of the SONG Laser Protocol in fertility patients aged over 40 years.

FSH levels increased following the SONG Laser Protocol. This anomaly may be due to the small number of patients who received the SONG Laser Protocol and needs further investigation. AMH, oestradiol, LH and progesterone all increased following the SONG Laser Protocol. These parameters indicate a possible resumption of

pre-menopausal endocrinology which may be beneficial in subsequent IVF treatment cycles.

The AFC (the number of small follicles and an indication of future follicular development) increased following the SONG Laser Protocol. Future IVF treatment cycles may benefit from this increase. Equally, the endometrial lining increased following the SONG Laser Protocol indicating the development of an endometrium which is more likely to accept the embryo during embryo implantation.

The largest follicle seen following the SONG Laser Protocol decreased by 5.1 mm, this needs further research to confirm the data.

In summary the SONG Laser Protocol is a safe procedure in fertility patients and the overall increase in endocrinological parameters indicates possible efficacy in the future treatment of patients aged over 40 in fertility treatment cycles. Further work is needed to confirm efficacy and we are planning a Phase I clinical trial to fully assess the SONG Laser Protocol in fertility treatment.

## Dedication

This manuscript is dedicated to Dr Todd Ovokaitys who sadly passed away in June 2026. RIP.

## Acknowledgements

We would like to thank V. Matoshi, J. Jackson, J. Glant and S. Hristova for their participation in this preliminary study.

## Conflicts of interest

The authors declare that there are no conflicts of interest.

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