

# The song laser protocol and osteoporosis: a preliminary case report

## Abstract

**Background:** This case study describes the potential benefits seen in a patient suffering from osteoporosis. Our hypothesis is that the SONG Laser Protocol may have benefits in a patient suffering from osteoporosis.

**Methods:** This was a preliminary case report focusing on a single patient suffering from osteoporosis. The SONG Laser Protocol was delivered in a clinic setting and the primary outcome measures were pre- and post-treatment DEXA scans, physical benefits and clinical observations.

**Results:** The patient showed marked improvement following the SONG Laser Protocols with a significant increase in bone density. These results need further confirmation by clinical trial.

**Conclusion:** The SONG Laser Protocol may have a beneficial effect on osteoporosis. A clinical trial is needed to confirm safety and efficacy.

**Keywords:** Osteoporosis, bone density, SONG Laser activation, human Very Small Embryonic Like (hVSEL) Stem Cells

Volume 10 Issue 1 - 2025

Greenberg S,<sup>1</sup> Ovokaitys T,<sup>2</sup> Hollands P<sup>2</sup><sup>1</sup>Greenberg Regenerative Medicine, USA<sup>2</sup>Qigenix, 6125 Paseo Del Norte, USA**Correspondence:** P Hollands, Qigenix, 6125 Paseo Del Norte, Suite 140, Carlsbad, CA 92008, USA**Received:** October 06, 2025 | **Published:** October 23, 2025

## Introduction

Osteoporosis is a disabling condition which has significant negative impacts on fracture rate, mental health, physical functioning and social participation with an incidence of 1 in 5 men and 1 in 3 women over the age of 50. The current treatment of osteoporosis includes treatment with bisphosphonates, denosumab, or teriparatide, along with lifestyle changes like exercise and a calcium and vitamin D-rich diet.<sup>1</sup>

The SONG Laser Protocol offers a novel approach by activating autologous human very small embryonic like (hVSEL) stem cells in Platelet Rich Plasma (PRP) using a modulated red laser.<sup>2,3</sup> This protocol has shown promise in various conditions such as anti-aging,<sup>4</sup> dementia,<sup>5</sup> radiculopathy,<sup>6</sup> Parkinson's disease<sup>7</sup> and Multiple System Atrophy-Parkinsonian Trait (MSA-P)<sup>8</sup> but remains under investigation for its mechanism of action

## Methods

This was collaborative work between Greenberg Regenerative Medicine, Bryn Mawr, Pennsylvania, USA and Qigenix, Carlsbad, California, USA. The patient provided informed consent prior to receiving the SONG Laser Protocol. The SONG Laser Protocol is a modified autologous Platelet Rich Plasma (PRP) procedure with minimal manipulation, and it is a closed procedure. As such it is a low-risk procedure and does not require Ethical Committee approval.

This patient in this case study was a 60year old female with a progressive onset of osteoporosis. She had previously undergone hysterectomy and a bilateral salpingo-oophrectomy. She was not taking and form of HRT. The patient underwent DEXA bone density scans pre- and post-treatment.

The patient was evaluated and treated. The SONG Laser Protocol was performed by direct intravenous injection of 42 mL of hVSEL laser activated stem cells in PRP (approximately  $8.4 \times 10^7$  hVSEL stem cells). A general anti-aging/ biological age reversal treatment (application of the SONG laser to the body) that focused on the CNS

and endocrine system was applied for a total SONG laser application time of 16 minutes.

## Outcome

The treatment resulted in an increase in bone density from the pre-treatment DEXA scan.

The pre-treatment DEXA scans showed the following:

- Total bone mineral density of the lumbar spine from L1 to L4 was 0.797 g/cm<sup>2</sup>.
- T score of -2.3 indicative of osteopenia.
- Since the last scan there was an interval increase of 3.2% which is not statistically significant
- Total bone mineral density of the left hip was 0.709 g/cm<sup>2</sup>
- T score of -1.9 indicative of osteopenia
- Since the last scan there was an interval decrease of 0.6% which is not statistically significant
- Total bone mineral density of the left femoral neck was 0.551 g/cm<sup>2</sup>
- T score of -2.7 indicative of osteoporosis
- Since the last scan there was an interval decrease of 2% which is not statistically significant.

The pre-treatment diagnosis based on these data was osteoporosis based on the total bone mineral density of the left femoral neck and there was no significant interval change based on the previous scan.

The post-treatment DEXA scan showed the following:

- Total bone mineral density of the lumbar spine from L1 to L4 was 0.837 g/cm<sup>2</sup>
- T score of -1.9 indicating osteopenia.

- Since the pre-treatment scan there was an interval change of 5% which is statistically significant.
- Total bone mineral density of the left hip was 0.741 g/cm<sup>2</sup>
- T score of -1.6 indicative of osteopenia
- Since the pre-treatment scan there was an interval change of 4.5% which is not statistically significant
- Total bone mineral density of the left femoral neck was 0.598 g/cm<sup>2</sup>
- T score of -2.3 indicative of osteopenia
- Since the pre-treatment scan there was an interval change of 8.5% which is statistically significant

The patient remains stable.

## Discussion

These data appear to show the potential beneficial effects of the SONG Laser Protocol in the treatment of osteoporosis. This is the first description of this observation and it needs further confirmation. The patient's lumbar spine made a significant increased bone density from 0.797 g/cm<sup>2</sup> to 0.837 g/cm<sup>2</sup>. The bone density of the left hip increased from 0.709 g/cm<sup>2</sup> to 0.741 g/cm<sup>2</sup> and the bone density of the left femoral neck increased from 0.551 g/cm<sup>2</sup> to 0.598 g/cm<sup>2</sup>. This is a marked bone density improvement in this patient and it appears to be a general systemic regenerative effect. More data is required to confirm these findings.

The mechanism of action of the SONG Laser Protocol in this case could be by a paracrine stabilisation and differentiation of existing osteoblasts/osteoclasts or by the generation of new osteoblasts/osteoclasts from SONG Laser activated hVSEL stem cells. The production of bone protein matrix may also have been improved by the SONG Laser Protocol. Other factors yet unknown may also be contributing to the overall benefits seen.

These benefits arose in the days and weeks following the SONG Laser Protocol indicating possible cellular mechanisms of these long-term benefits. This use of the SONG Laser Protocol in osteoporosis

has potential in future therapeutics and is a safe and cost-effective procedure when compared to current standard treatments.

The patient did not have any adverse events following the SONG Laser Protocol. Further basic research work is needed on the attribution of these benefits and a double-blind placebo controlled clinical trial will be planned to confirm the preliminary data in this preliminary case report.

## Acknowledgements

None.

## Conflicts of interest

The authors declare that there are no conflicts of interest.

## References

1. Subarajan P, Arceo-Mendoza RM, Camacho PM. Postmenopausal osteoporosis: a review of latest guidelines. *Endocrinol Metab Clin North Am.* 2024;53(4):497–512.
2. Hollands P, Aboyeji DR, Ovokaitys T. The action of modulated laser light on human very small embryonic like (hVSEL) stem cells in platelet rich plasma (PRP). *CellR4.* 2020;8:e2990.
3. Hollands P, Ovokaitys T. Human very small embryonic like (hVSEL) stem cells: little miracles. *CellR4.* 2022;10:e3304.
4. Hollands P, Ovokaitys T. New concepts in the manipulation of the aging process. *Curr Stem Cell Res Ther.* 2024;19(2):178–184.
5. Schroeder T, Ovokaitys T, Hollands P. Dementia and the SONG laser protocol: a clinical case study. *CellR4.* 2023;11:e3425.
6. Greenberg S, Ovokaitys T, Hollands P. The SONG laser protocol and radiculopathy. *Int J Stem Cells Med.* 2024;3(1).
7. Eckel G, Dart G, Wojciechowski L, et al. The SONG laser and the Eckel protocol™ in Parkinson's disease: a case study. *J Stem Cell Res Ther.* 2025;10(1):1–3.
8. Greenberg S, Ovokaitys T, Hollands P. The SONG laser protocol and multiple system atrophy-parkinsonian (MSA-P). *J Stem Cell Res Ther.* 2025;10(1):49–51.