INITIA



Renova & MoreNovaMen Clinical Synopsis

A Compendium of Research Articles and Conference Posters on the Integration of LISWT into Men's Health

MORENOVA Men

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Learn from Leading Practitioners

This compendium lists selected publication references, synthesizing the knowledge and experiences from leading practitioners, and documenting a range of applications and models for implementing Renova and MorenovaMen in routine practice.

- We hold ourselves to a high standard when it comes to accumulating clinical evidence
- We are committed to extending research opportunities to medical professionals worldwide
- We strive to engage the professional community to explore existing guidelines in order to reach knowledge-based consensus recommendation for change, while recognizing the valued relationship between urologists and industry

To learn more about how MorenovaMen can benefit you and your patients, please contact us at:

https://initiamedical.com

info@initiamedical.com

MorenovaMen at a Glance

MorenovaMen is a new-generation shockwave-based non-surgical penile treatment aimed at restoring penile form and function for men of any age

Application made easy

Built on the success of Renova, an optimized version was introduced to clinical practice. MorenovaMen is the next step in shockwave evolution from linear to 'large-area' shockwaves, and a true upgrade in many ways. Displaying comparable excellent clinical outcomes to its predecessor, the reconfigured model has been enhanced in design, translating into significant procedural and operative improvements, including:

- New patented Large-Area Shockwave Technology (LAST) and dual-probe energy delivery, for efficient tissue coverage of a larger surface area in less time
- Modular arm-positioning mechanism – once locked in place, no manual holding required
- Soft-locking of penile shaft for accurate positioning and stable energy coupling
- Smaller and lighter table-top housing for easy man-portable deployment





Clinical Indications for Utilizing MorenovaMen

Indications in Urology

- Erectile Dysfunction (ED)
- Peyronie's Disease (PD)
- Chronic Pelvic Pain Syndrome (CPPS)

Future treatment indications

- Benign Prostatic Hyperplasia (BPH)
- Overactive bladder (OAB)

Clinical benefits

- Low- to zero-risk, no heating, no ablation, no side effects
- High safety and efficacy across various indications/ages
- Clinically validated regenerative effect
- Non-surgical, non-pharmacological
- Multiple men's health indications
- Improved patient compliance
- Low interoperator variability
- Durable results

Features and highlights

- Proprietary Large-Area Shockwave Technology (LAST) electromagnetic technology
- Optimal comfort: outpatient setting, anesthetic-free, quick and painless
- Time efficient: no preparations, no downtime, no recovery time
- Fits in standard workflow, requires no additional equipment
- Noticeable results directly after the first few sessions
- Exclusive hands-free application
- Straight-forward procedure

Scientific Evidence

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Department of Urology, Juntendo University Urayasu Hospital; D Clinic Tokyo, Japan

AUG 2026

Clinical Effects of Low-Intensity Extracorporeal Shock Wave Therapy (Li-ESWT) on Lower Urinary Tract Symptoms

Haruhiko Wakita, Riho Kasai, Yukiko Ota, Takashi Kanda, Yuta Yasuno, Keisuke Ishikawa, Ayumu Taniguchi, Yuka Uesaka, Daiji Nozaki, Masato Shirai, Kazuhiro Kobayashi, Akira Tsujimura

ABSTRACT

Objective: To evaluate the efficacy and safety of low-intensity extracorporeal shock wave therapy (Li-ESWT) using the Morenova system in men with lower urinary tract symptoms (LUTS), including chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS), and to identify pretreatment factors associated with post-treatment symptom severity.

Methods: This retrospective single-center study included 61 men treated with Li-ESWT. The treatment was administered once weekly for six consecutive weeks. Symptom severity was assessed before and one month after treatment using the International Prostate Symptom Score (IPSS), Overactive Bladder Symptom Score (OABSS), Benign Prostatic Hyperplasia Impact Index (BII), and National Institutes of Health Chronic Prostatitis Symptom Index (NIH-CPSI). Multivariable linear regression analysis was performed to identify pretreatment factors independently associated with the post-treatment NIH-CPSI total score after adjustment for baseline NIH-CPSI.

Results: Significant improvements were observed in total IPSS (from 11.1 to 7.3), OABSS (from 3.8 to 2.8), BII (from 4.9 to 2.7), and NIH-CPSI (from 11.8 to 7.0) (all $p<0.001$). Notably, pain improved significantly in patients with baseline pain (from 4.1 to 1.8, $p<0.001$). Post-micturition dribbling improved in approximately one-third of patients. Higher PSA and lower baseline OABSS were independently associated with lower post-treatment NIH-CPSI scores after adjustment for baseline NIH-CPSI. No adverse events were observed.

Conclusions: Li-ESWT was associated with improvements across voiding, storage, pain, and QOL domains, with no adverse events observed. These findings suggest that Li-ESWT may have potential as a treatment option for male LUTS, although prospective controlled studies are needed to confirm its efficacy.

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Nicolae Testemițanu State University of Medicine and Pharmacy, Chișinău, Republic of Moldova

JAN 2026

Condensed sequential multi-zonal low-intensity extracorporeal shockwave therapy for vasculogenic erectile dysfunction

Arian, Iurii; Dumbrăveanu, Ion; Ghenciu, Victoria; Dumbrăveanu, Ion Ion; Bogdanov, Alan; Curmoiartev, Ilona; Karabacak, Ozcan Yasin; Ceban, Emil

Conclusions: Multi-zonal LiESWT protocol, incorporating focused treatment at the penile root, shaft, and dorsal neurovascular bundle, achieved significant improvements in erectile function, rigidity, and penile hemodynamics in men with vasculogenic ED. The integration of daily treatment and anatomically targeted energy delivery resulted in enhanced functional recovery and improved PDE5i response. The procedure demonstrated excellent safety, tolerability, and clinical efficiency, supporting its role as an effective alternative to conventional spaced regimens.

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JAN 2026

Nicolae Testemițanu State University of Medicine and Pharmacy,
Chișinău, Republic of Moldova

Low-intensity shockwave therapy + multimodal treatment in Peyronie's disease with erectile dysfunction

Arian, Iurii; Dumbrăveanu, Ion; Ghenciu, Victoria; Dumbrăveanu, Ion Ion; Bogdanov, Alan; Curmoiartev, Ilona; Karabacak, Ozcan Yasin; Ceban, Emil

Conclusions: Sequential LiESWTalternating linear and focal applicators, integrated with multimodal medical therapy, produced significant structural and functional benefits in stable PD with ED. Combining shockwave-induced vascular regeneration with antifibrotic and hormonal modulation enhanced erectile performance, plaque remodeling, and satisfaction. The observation that over one-third of participants discontinued PDE5i due to spontaneous erectile recovery highlights the restorative potential of this approach. The method proved safe, well tolerated, and clinically effective, warranting further evaluation in larger controlled trials.

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JAN 2026

Nicolae Testemițanu State University of Medicine and Pharmacy,
Chișinău, Republic of Moldova

Micro-dose intracavernosal alprostadil priming enhances LiESWT outcomes in vasculogenic erectile dysfunction

Arian, Iurii; Dumbrăveanu, Ion; Ghenciu, Victoria; Dumbrăveanu, Ion Ion; Bogdanov, Alan; Curmoiartev, Ilona; Karabacak, Ozcan Yasin; Ceban, Emil

Conclusions:

- Micro-dose intracavernosal alprostadil priming is safe and well tolerated
- Induces controlled tumescence and improves cavernosal perfusion
- Enhances functional outcomes (IIEF-EF,EHS)
- Improves penile hemodynamics (↑PSV,↓EDV)
- May optimize energy delivery and increase the effectiveness of LiESWT

Department of Urology, Juntendo University Urayasu Hospital,
D Clinic Toky

Clinical Application of Low-Intensity Extracorporeal Shock Wave Therapy for Lower Urinary Tract Symptoms (LUTS)

Keisuke Ishikawa, Riho Kasai, Yukiko Ota, Naoshi Kanda, Yuta Yasuno, Haruhiko Wakita, Taniguchi, Yuka Uesaka, Taiji Nozaki, Masato Shirai, Kazuhiro Kobayashi, Tsujimura

Methods
From August 2024 to August 2025, 52 male patients with LUTS who received Li-ESWT were included, regardless of whether they were also taking medications. Treatment was performed using the MORENOVA® device: 2000 shocks per session, once per week, for 6 sessions, applied to the perineum. Effectiveness was evaluated before and after treatment using:
· IPSS (International Prostate Symptom Score)
· OABSS (Overactive Bladder Symptom Score)
· NIH-CPSI (NIH Chronic Prostatitis Symptom Index)

Results
Li-ESWT significantly improved symptoms:
· IPSS total score: 10.9 ± 5.5 → 7.6 ± 5.6
· Storage subscore: 4.9 ± 2.6 → 3.8 ± 2.7
· Voiding subscore: 6.0 ± 4.6 → 3.9 ± 3.8
· Quality of Life (QOL) index: 4.2 ± 1.4 → 2.8 ± 1.7
· OABSS: 3.9 ± 2.3 → 2.7 ± 1.9
· NIH-CPSI: 11.6 ± 5.1 → 7.4 ± 4.8 No adverse events occurred during treatment.

Conclusions
Li-ESWT was effective for LUTS and may represent a new therapeutic option.

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Ji et al. Stem Cell Research & Therapy

2025

High-activity placenta-derived mesenchymal stem cells combined with low-intensity extracorporeal shock wave therapy for diabetic erectile dysfunction: prospective randomized controlled trial

Yun-Hua Ji, Yi-Fan Zhang, Xiao Tan, Hao-Zhong Hou1Zhen Yao, and Bo Zhang

Conclusions: The combination of high-activity hPMSCs and LI-ESWT appears to be a safe and effective strategy for improving erectile function in patients with diabetic ED, demonstrating a synergistic effect in prolonging erection

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Cureus – Open Access Journal of Medical Science

MAY 2025

Efficacy, Satisfaction, and Safety of Low-Intensity, Large-Area Shockwave Therapy With Dual-Probe Energy Delivery for Erectile Dysfunction (Morenova System)

Jun Kato, Masato Shirai, Keisuke Ishikawa, Akira Tsujimura

Conclusions: Treatment with the Morenova® low-intensity shockwave system demonstrated meaningful improvements in erectile function, with SHIM and EHS scores improving at one and three months while maintaining an excellent safety profile and zero adverse events. Its dual probe, large-area energy delivery ensured efficient tissue coverage and a shorter treatment course, resulting in 70% patient satisfaction and consistent efficacy across all age groups, supporting Morenova® as a safe and versatile option for vasculogenic ED erectile dysfunction of ED.

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The 111Th Annual Meeting of the Japanese Urological Association

APRIL 2025

Clinical Evaluation of Erectile Dysfunction Treatment Using Low-Intensity Shock Wave Therapy MORENOVA®

Jun Kato, Hajime Nakano, Akira Tsujimura

Conclusions: MORENOVA® shows promise as a new option in the treatment of erectile dysfunction (ED). It may offer an alternative for patients who experience a reduction in efficacy with ED medications, as well as for those who cannot continue ED medication due to side effects or contraindications. Long-term clinical trials and comparative studies with other ED treatment methods are crucial and are expected to clarify MORENOVA®'s positioning in the treatment of ED.

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Sex Med, 17(1):s118-s119

JAN 2020

The Journal of Sexual Medicine

Effect of Low-Dose PDE5i and Low-Energy Shock Wave on Acute Phase of Peyronie's Disease

Lu M

Conclusions: Both the low-dose PDE5i and low-energy shock waves can improve the symptoms of acute PD patients, mainly to relieve pain and improve erectile function in some patients. However, the above two methods did not significantly reduce PD plaque size and penile curvature. Both methods have good safety in the treatment of acute phase PD.

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Int Urol Nephrol. 51(5):773-781 MAY 2019

International Urology and Nephrology

A Systematic Review of the Long-Term Efficacy of Low-Intensity Shockwave Therapy for Vasculogenic Erectile Dysfunction

Brunckhorst O, Wells L, Teeling F, Muir G, Muneer A, Ahmed K

Conclusions: LISWT may be a safe and acceptable potential ED treatment with demonstrated benefits at 6 months. There is some question regarding efficacy deterioration beyond this, but there is still a demonstrated benefit seen even at 12 months post treatment. However, quality of evidence remains low with larger multiinstitutional studies required, standardising confounders such as shockwave administration and oral medication use.

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J Urol, 201(4S):e953-e254 MAY 2019

The Journal of Urology

Effect of Low-Dose PDE5i and Low-Energy Shock Wave on Acute Phase of Peyronie's Disease

Lu M

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EUROPEAN UROLOGY FOCUS

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Eur Urol Focus, 4(3):336-337 APR 2018

European Urology Focus

A Phase 2 Randomized Trial To Evaluate Different Dose Regimens of Low-intensity Extracorporeal Shockwave Therapy for Erectile Dysfunction: Clinical Trial Update

Katz JE, Molina ML, Clavijo R, Prakash NS, Ramasamy R

Conclusions: Preliminary results from our study provide further evidence that low-intensity extracorporeal shockwave therapy is a safe and effective treatment modality for erectile dysfunction. Our treatment protocol with shockwaves given to men over 2 wk had the most robust effect.

ISSM ESSM World Meeting on Sexual Medicine February 28 - March 3, 2018 Lisbon, Portugal

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World Meeting on Sexual Medicine LISBON, MAR 2018

International Society of Sexual Medicine (ESSM) & European Society of Sexual Medicine (ESSM)

Doppler Test in Penis Flaccid State to Asses Erectile Dysfunction Severity and Shockwave Treatment Outcomes

Gatkin M, Sopotov A

Conclusions: Our experience shows the potential of using DPS and RI in flaccid penis for diagnosis and treatment assessment of results of LIST with Renova. This is an initial Pilot and additional studies have to be performed to assess the potential of this method.

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Sex Med, 4(4):e225-e232 DEC 2016

The Journal of Sexual Medicine

Twelve-Month Efficacy and Safety of Low-Intensity Shockwave Therapy for Erectile Dysfunction in Patients Who Do Not Respond to Phosphodiesterase Type 5 Inhibitors

Bechara A, Casabé A, De Bonis W, Ciciclia PG

Conclusions: Extracorporeal LISWT in patients with ED unresponsive to PDE5i treatment was effective and safe in 60% of patients. The efficacy response was maintained for 12 months in most patients. Large-scale, multicentric, long-term, randomized, sham- controlled studies are needed to determine the benefits of this new line of treatment for ED.

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31st Annual Congress of the European Association of Urology MUNICH, MAR 2016

European Association of Urology (EAU)

Low-intensity Extracorporeal Shock Wave Treatment Improves Erectile Function: A Systematic Review and Meta-analysis

Lu Z, Lin G, Reed-Maldonado A, Wang C, Lee YC, Lue TF

Conclusions: In recent years, LI-ESWT as a therapy for ED has attracted extensive attention. Studies of this topic have increased sharply, and most of these studies reveal encouraging results, such as improved IIEF and EHS and an effect that lasts up to 3 mo. The setup parameters and the treatment protocols are important for the therapeutic effects of LI-ESWT for patients with ED. The mechanism of LI-ESWT is to improve or even reverse the pathologic damage of tissue that causes ED. Additional studies are needed to explore the influences of age and comorbidities on response to LI-ESWT and to define the effects of LI-ESWT in combination with PDE5-Is. From our review, it is clear that LI-ESWT may have the potential to be the first-choice noninvasive treatment for patients with ED.

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Int Braz J Urol, 41(5):967-74 SEP 2015

International Brazilian Journal of Urology

Safety and Efficacy of Low Intensity Shockwave (LISW) Treatment in Patients with Erectile Dysfunction

Ruffo A, Capece M, Prezioso D, Romeo G, Illiano E, Romis L, Di Lauro G, Iacono F

Conclusions: LISW has a well- documented positive clinical and physiological effect on erectile function. The preliminary data at 1 and 3 months follow- up are very encouraging and indicate a therapeutic success of this second generation technology for treating ED with linear low- intensity shockwaves. We also noticed that this treatment is feasible and easy to administer and with no side effects reported. Clearly, we cannot assure the long- term efficacy of LISW, so further studies are needed in order to strengthen these results and to assess whether is possible to repeat cyclically the treatment.

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Actas Urol Esp, 39(7):456-9 SEP 2015

Actas Urológicas Españolas

Linear Shock Wave Therapy in the Treatment of Erectile Dysfunction

Pelayo-Nieto M, Linden-Castro E, Alias-Melgar A, Espinosa-Pérez Grovas D, Carreño-de la Rosa F, Bertrand-Noriega F, Cortez-Betancourt R

Conclusions: Our short term results are encouraging, but they demand a long-term evaluation. Based on our results, LSWT can be effective and safe for the treatment of vasculogenic ED. The feasibility and tolerability of this treatment make it an attractive new treatment option for patients with vasculogenic ED.

22nd National Congress of the Italian Urological Association BOLOGNA, MAY 2015
Italian Urological Association (AURO.it)

Long Term Efficacy of Low Intensity Linear Focused Shockwave Therapy for Vascular Erectile Dysfunction Patients: 20 months follow-up

Casarico A, Puppo P

Conclusions: A growing number of men develop vascular erectile dysfunction because of multiple comorbidities such as diabetes, hypertension, heart disease, dyslipidemia or smoke. PDE5i, alprostadil injections, vacuum constriction devices and surgical treatment are symptomatic therapies and do not help patients to achieve spontaneous erections. Moreover medications are contraindicated in some conditions and may have side effects. LISWT, is a promising, minimally invasive therapy without side-effects that induce the release of endothelial nitric oxide synthase, vascular endothelial growth factors and proliferating cell nuclear antigen and thus enhance neovascularization of the penis.The long-term follow up shows that the vast majority of patients who achieved a positive result from treatment with 20000 low intensity linear shock waves, delivered in 4 weekly sessions, continues to maintain the advantage gained after 19.8 months.The effect of treatment wanes gradually only in 21.4% of the patients. There is a need for further research to determine if modifications in the treatment protocol (number and intensity) of low-intensity linear focused shockwave could make the positive effect last longer and if an additional treatment could be useful for patients who did not have or lost a successful result from the treatment.

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Arch Esp Urol, 68(2):152-60 MAR 2015

Archivos Españoles de Urología

Effectiveness of Low -Intensity Extracorporeal Shock Wave Therapy on Patients with Erectile Dysfunction (ED) Who Have Failed to Respond to PDE5i Therapy. A Pilot Study

Bechara A, Casabé A, De Bonis W, Nazar J

Conclusions: According to our results, low-intensity extracorporeal shock wave therapy for patients with ED and vascular risk associated who are poor PDE5i responders, was safe and effective. This approach will thus enable the optimization and restoration of PDE5i response in more than 50% of patients. A large-scale multicentric study is required to determine the benefits of this new line of treatment for ED.

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Int J Impot Res, 27(3):108-12 OCT 2014

International Journal of Impotence Research

Initial Experience with Linear Focused Shockwave Treatment for Erectile Dysfunction: a 6-Months Follow-Up Pilot Study

Reisman Y, Hind A, Varaneckas A, Motil I

Conclusions: The initial results of this pilot study suggest positive outcome of this second generation technology for treating ED with linear low-intensity shockwaves. This study with 6 months follow-up from almost 60 patients is suggestive of a positive therapeutic efficiency in the majority of the patients. Pain is tolerated by 100% of the treated patients and no side effects have been recorded, demonstrating the potential of this technology, as a treatment option for men who are not satisfied by the currently available solutions.

Safety and Efficient Duration of Linear Focused Shockwave Treatment for Erectile Dysfunction – a 12 months Follow-Up Pilot Study

Reisman Y

Conclusions: With a success rate of 90% after 6 months, and an 83.3% sustainable positive effect after 1 year, the results of this pilot study suggest that this treatment is probably effective for at least 1 year. No anaesthesia or analgesia was needed, and no adverse effects were recorded, making it a potential good alternative for current available treatments.

Initial Clinical Experience of Linear Focused, Low Intensity Shockwave for Treatment of ED Patients with Different Severity Symptoms

Cruz N, Morales A

Conclusions: The results of both series at 3 months show a consistent and global improvement in IIEF-EF, SEP 2 and SEP 3 parameters. Since the baseline symptoms severity of patients in series B was much higher compared to series A, the end results obtained in series B are consistently lower compared to series A. This would imply that the outcome of the treatment is related to the baseline symptoms severity, meaning that in average, patients with more severe ED symptoms will improve, but will not reach the final level of improvement that can be obtained by mild to moderate patients. In our experience the Linear-Focused Low Intensity Shockwave treatment is a valid alternative or complement to current available treatments.



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21st National Congress of the Italian Urological Association ROME, JUN 2014

Italian Urological Association (AURO.it)

Low Intensity Linear Focused Shockwave Therapy: a New Treatment to Improve the Quality of Life of Vascular Erectile Dysfunction Patients

Puppo P, Casarico A

Conclusions: This pilot study was designed for assessing the efficacy of a novel device dedicated for the treatment of erectile dysfunction and based on an original technology that enables the delivery of low-intensity shockwaves onto a long focal area. The subjects in this study included also patients with multiple co-morbidities, different degrees of response to PDE5 inhibitors and wide range of ED severities. The results of this study demonstrate a possible alternative treatment for some of the patients who did not respond to first-line oral pharmacotherapy and thanks to this treatment may avoid turning to other therapy options which are less convenient to use. In parallel, these data imply on a potential mean to eliminate the need for PDE5 inhibitors which may significantly improve patients' quality of life. In order to establish the overall effect of this treatment on the quality of life of ED patients, a larger study with longer follow-up duration is required.



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30th Italian Society of Andrology Congress MARATEA, MAY 2014

Italian Society of Andrology (SIA)

The Effect of Low Intensity Shockwave Therapy on the Erectile Function of Smokers and Non-Smokers – Initial Report with a Dedicated System

Puppo P, Casarico A

Conclusions: This pilot study shows that eventually this new treatment for vascular ED could be suitable to smoking patients and patients with vascular risk factors. More research is required for confirming the efficacy of this treatment on different populations.

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102nd Annual Meeting of the Japanese Urological Association — KOBE, APR 2014

Japanese Urological Association (JUA)

Linear Low Intensity Shockwaves Treatment of Vasculogenic ED – First Results

Motil I, Šramkova T

Conclusions: We have been able to prove that Linear SWT is an effective therapeutic option for men with erectile dysfunction of vasculogenic origin. Moreover the efficacy of linear application of low-intensity extracorporeal shock waves is superior to former non-linear methods.



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16th Congress of the European Society for Sexual Medicine — ISTANBUL, FEB 2014

European Society for Sexual Medicine (ESSM) & European Federation of Sexology (EFS)

Low Intensity Shock Wave (LISW) Treatment (Renova) In Order to Improve Male Sexual Function: a Preliminary Data on 42 Patients

Iacono F, Ruffo A, Prezioso D, Romeo G, Illiano E, Romis L, Di Lauro G

Conclusions: (LI) ESWT improves male sexual function inducing neovascularization in the treated tissues by stimulating the expression of angiogenesis-related growth factors, such as endothelial nitric oxide synthase, vascular endothelial growth factor, and endothelial cell proliferation factors, such as proliferating cell nuclear antigen. This therapy shows a statistically significant clinical improvement of erectile function without any side effect or contraindication. In our opinion further studies are needed even to assess the possibility to repeat the treatment cyclically or in association with PDE5-i or with nutraceutical composite.



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2nd Biennial Meeting of the Middle East Society for Sexual Medicine — DUBAI, NOV 2013

Middle East Society for Sexual Medicine (MESSM)

Efficacy and Safety of Linear Focused Shockwaves for Erectile Dysfunction (RENOVA) – A Second Generation Technology

Reisman Y, Hind A, Varaneckas A, Motil I

Conclusions: The results of this study indicate success of the second generation technology for treating ED with linear low-intensity shockwaves. Initial follow up data from almost 60 patients demonstrate a clear therapeutic success in 82% of patients.



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12th Congress of Latin American Society for Sexual Medicine — CANCUN, AUG 2013

Latin American Society for Sexual Medicine (SLAMS)

Efficacy and Safety of Linear Focused Shockwaves for Erectile Dysfunction (RENOVA) – a Second Generation Technology

Y. Reisman, A. Hind, A. Varaneckas, I. Motil

Conclusions: The results of this study indicate success of the second generation technology for treating ED with linear low-intensity shockwaves. Initial follow up data demonstrate a therapeutic success in almost 80% of patients. No side effects have been recorded, demonstrating the suitability of this treatment in an office setting.

Line Focused Shock Wave for Erectile Dysfunction – a Different Technological Approach

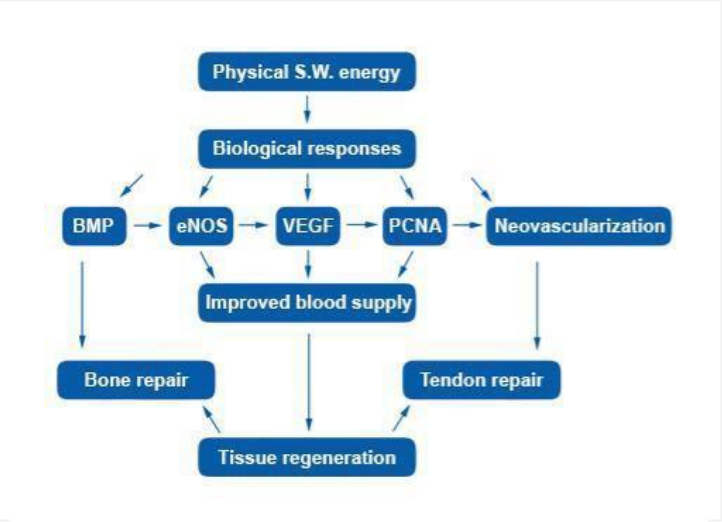
Hind A, Saleh O, Abu Asbeh Y

Conclusions: Initial results at 1 and 3 months show great progress in erectile function. Average IIEF-EF increased from 13.25 to 20.92 (57.86 % improvement). 84% Success according to success criteria. All mild to moderate cases have succeeded. One severe case has improved while 2 severe cases failed. SEP and GAQ results have improved. No pain and no complications were reported.

Molecular Mechanism of Action

Shockwaves are characterized by jump change in pressure, high energy peak, high amplitude and non-periodicity. The energy is transferred to the transmitter at the end of the applicator and further into the tissue.

Our bodies have a remarkable capacity to heal themselves. Low Intensity Shockwave Therapy (LISWT) augments the body's natural cellular repair mechanisms, using acoustic pressure waves which carry low-intensity energy to tissues. The cascade of biological actions that follows LISWT leads to accelerated tissue regeneration and cell growth, and is able to restore, improve, and even normalize tissue form and function.



Wang CJ, Wang FS, Yang KD,
Biological mechanism of musculoskeletal shockwaves
ISMST Newsletter 2006, 1 (I), 5-11

During and after treatment, LISWT delivers pulse waves to the vagina and pelvic region, stimulating the following regenerative and reparative processes simultaneously:

- ## Angiogenesis & Neovascularization

  Nutrient blood supply and tissue oxygenation are vital to initiate and maintain the healing processes of damaged tissue structures. By causing capillary microruptures in the tissue, LISWT stimulates the recruitment of platelets and the subsequent increased expression of growth factors, which in turn activate the propagation and formation of new blood vessels.

- ## Decalcification of Plaques & Arterial Remodelling

  Vascular and fibrocellular tissue calcification commonly result from repetitive stress, microtrauma and aging. Calcium build-up can lead to histologic and structural changes, reduce tissue elasticity and impact vessel hemodynamics. LISWT-induced shear stress breaks up fibrosis and existing calcifications, leading to fragmentation of calcium deposits into granular particles, which are then removed by the lymphatic system.

♦ Stimulation of Collagen Production & Restructuring

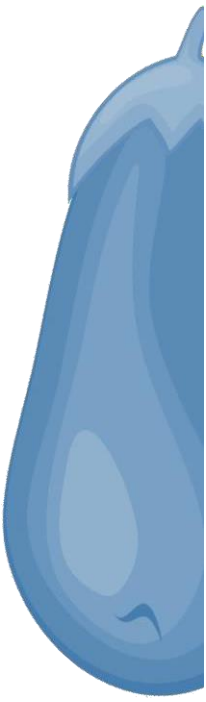
Collagen plays an important role in maintaining the integrity of myoskeletal and ligamentous structures. LISWT accelerates collagen synthesis and deposition, forming denser and stiffer fibers, and creating a firmer structure.

♦ Reversal of Chronic Inflammation

Mast cells are the foundation of inflammatory response, wound healing and defence against pathogens. LISWT increases Mast cell activation, followed by the production of chemokines and cytokines. initially enhancing the inflammatory process, these pro-inflammatory compounds ultimately allow for halting of chronic inflammation conditions and associated pain.

References

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