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# Attuali indicazioni al trattamento laser in base alle evidenze scientifiche presenti in letteratura..


## Efficace contro i sintomi della sindrome genito-urinaria (atrofia vulvo-vaginale)




Climacteric - Vol. 17, No. 4, 2014. Epub 2014 Jun 5  
**A 12-week treatment with fractional CO<sub>2</sub> laser for vulvovaginal atrophy: a pilot study**  
Salvatore S<sup>1</sup>, Nappi RE<sup>2</sup>, Zerbini N<sup>3</sup>, Calligaro A<sup>4</sup>, Ferrero S<sup>5</sup>, Orizoni M<sup>3</sup>, Candiani M<sup>3</sup>, Leone Roberti Maggiore U<sup>3</sup>  
1: San Raffaele Hospital, Milan - Italy; 2: Polyclinic S. Matteo, University of Pavia, Pavia - Italy; 3: University of Insubria, Varese - Italy; 4: University of Pavia, Pavia - Italy; 5: San Maurizio Hospital, University of Genoa, Genoa - Italy



Maturitas - Vol. 80, No. 3, 2015. Epub 2014 Dec 25  
**Vulvo-vaginal atrophy: A new treatment modality using thermo-ablative fractional CO<sub>2</sub> laser**  
Perino A<sup>1</sup>, Calligaro A<sup>2</sup>, Forlani F<sup>1</sup>, Tiberio C<sup>1</sup>, Cucinella G<sup>1</sup>, Svelato A<sup>1</sup>, Saitta S<sup>1</sup>, Calagna G<sup>1</sup>  
1: University Hospital "T. Gasca", Palermo - Italy; 2: University of Pavia, Pavia - Italy; 3: University of Brescia, Brescia - Italy




Maturitas - Vol. 94, 2016. Epub 2016 Sep 16  
**Microablative fractional CO<sub>2</sub>-laser therapy and the genitourinary syndrome of menopause: An observational study**  
Pitsouni E<sup>1</sup>, Grigoriadis T<sup>1</sup>, Tsvileka A<sup>2</sup>, Zacharakis D<sup>1</sup>, Salvatore S<sup>1</sup>, Athanasiou S<sup>1</sup>  
1: National and Kapodistrian University of Athens, Athens - Greece; 2: "Alexandra Hospital", Athens - Greece; 3: San Raffaele Hospital, Milan - Italy



Menopause - Vol. 23, No. 10, 2016  
**An assessment of the safety and efficacy of a fractional CO<sub>2</sub> laser system for the treatment of vulvovaginal atrophy**  
Sokol ER<sup>1</sup>, Karram MM<sup>2</sup>  
1: Stanford University, Stanford, CA - USA; 2: The Christ Hospital, Cincinnati, OH - USA




Photomedicine and Laser Surgery. Epub 2016 Dec 30  
**Fractional CO<sub>2</sub> laser: from skin rejuvenation to vulvo-vaginal reshaping**  
Filippini M<sup>1</sup>, Del Duca E<sup>2</sup>, Negosanti F<sup>3,4</sup>, Bonciani D<sup>4</sup>, Negosanti L<sup>3</sup>, Sannino M<sup>5</sup>, Cannarozzo G<sup>5</sup>, Nistico SP<sup>2,4</sup>  
1: Hospital State of Republic of San Marino - Republic of San Marino; 2: University of Rome Tor Vergata, Rome - Italy; 3: Dermatology Center, Bologna - Italy; 4: Piero Palagi University Hospital, Florence - Italy; 5: S. Gerardo Maggiore University Hospital, Bologna - Italy; 6: Magna Grecia University of Catanzaro - Italy



Climacteric - Epub 2017 May 15  
**Fractional CO<sub>2</sub> laser therapy: a new challenge for vulvovaginal atrophy in postmenopausal women**  
Siliquini GP<sup>1</sup>, Tuninetti V<sup>2</sup>, Bounous VE<sup>3</sup>, Bert F<sup>3</sup>, Biglia N<sup>3</sup>  
1: Seder Superstition Institute, Turin - Italy; 2: Umberto I Hospital, University of Turin, Turin - Italy; 3: University of Turin, Turin - Italy

# *Efficace contro i sintomi della sindrome genito-urinaria (atrofia vulvo-vaginale)*




Journal of Endometriosis and Pelvic Pain Disorders - Vol. 6, No. 3, 2014

**Microablative fractional CO<sub>2</sub> laser improves dyspareunia related to vulvovaginal atrophy: a pilot study**

Salvatore S<sup>1</sup>, Leone Roberti Maggiore U<sup>1</sup>, Orignoli M<sup>1</sup>, Parma M<sup>1</sup>, Quaranta L<sup>1</sup>, Sileo F<sup>1</sup>, Cola A<sup>1</sup>, Baini U<sup>1</sup>, Ferrero S<sup>2</sup>, Candiani M<sup>1</sup>, Zerbini N<sup>3</sup>

<sup>1</sup> San Raffaele Hospital, Milan - Italy; <sup>2</sup> San Martino Hospital, University of Genoa, Genoa - Italy; <sup>3</sup> University of Insubria, Varese - Italy



Maturitas - Epub 2017 June 27

**Laser therapy for the genitourinary syndrome of menopause. A systematic review and meta-analysis**

Pitsouni E<sup>1</sup>, Grigoriadis T<sup>1</sup>, Falagas M<sup>1,2</sup>, Salvatore S<sup>1</sup>, Athanasiou S<sup>1</sup>

<sup>1</sup> Alexandra Hospital, National and Kapodistrian University of Athens, Greece; <sup>2</sup> Alfa Institute of Biomedical Sciences (AIBS), Athens - Greece; Henry Dunant Hospital Centre, Athens - Greece; <sup>3</sup> Tufts University School of Medicine, Boston, MA - USA; <sup>4</sup> San Raffaele Hospital, Milan - Italy




Archives of Gynecology and Obstetrics - Epub 2017 Sep 2

**Long-term reliability of fractioned CO<sub>2</sub> laser as a treatment for vulvovaginal atrophy (VVA) symptoms**

Pieralli A<sup>1</sup>, Bianchi C<sup>1</sup>, Longinotti M<sup>1</sup>, Corioni S<sup>1</sup>, Auzzi N<sup>1</sup>, Becorpi A<sup>1</sup>, Fallani MG<sup>1</sup>, Cariti G<sup>1</sup>, Petraglia F<sup>1</sup>

<sup>1</sup> Careggi University Hospital, Florence - Italy




Current Opinion in Obstetrics and Gynecology - Vol. 27, No. 6, 2015

**The use of pulsed CO<sub>2</sub> lasers for the treatment of vulvovaginal atrophy**

Salvatore S<sup>1</sup>, Athanasiou S<sup>1</sup>, Candiani M<sup>1</sup>

<sup>1</sup> San Raffaele Hospital, Milan - Italy; <sup>2</sup> National and Kapodistrian University of Athens, Athens - Greece



Chinese Journal of Clinical Obstetrics and Gynecology - Vol. 17, No. 4, 2016

**The curative effect and feasibility analysis of fractional CO<sub>2</sub> laser in the treatment of vulvovaginal in postmenopausal women**

Miao Y<sup>1</sup>, Li J<sup>1</sup>, Wang J<sup>1</sup>

<sup>1</sup> Peking University People's Hospital, Beijing - China



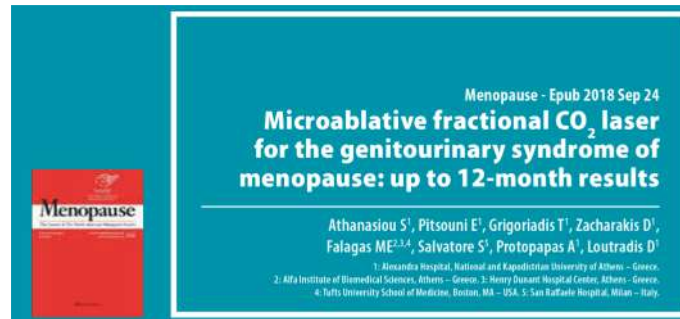
Menopause - Epub 2017 Feb 6

**Use of a novel fractional CO<sub>2</sub> laser for the treatment of genitourinary syndrome of menopause: 1-year outcomes**

Sokol ER<sup>1</sup>, Karram MM<sup>2</sup>

<sup>1</sup> Stanford University, Stanford, CA - USA; <sup>2</sup> The Christ Hospital, Cincinnati, OH - USA

# *Efficace contro i sintomi della sindrome genito-urinaria (atrofia vulvo-vaginale)*



# Efficacia del laser dimostrata istologicamente




Lasers in Medical Science - Vol. 30, No. 1, 2015. Epub 2014 Nov 20

**Microscopic and ultrastructural modifications of postmenopausal atrophic vaginal mucosa after fractional carbon dioxide laser treatment**

Zerbinati N<sup>1</sup>, Serati M<sup>1</sup>, Origoni M<sup>1</sup>, Candiani M<sup>1</sup>, Iannitti T<sup>1</sup>, Salvatore S<sup>1</sup>, Marotta F<sup>1</sup>, Calligaro A<sup>1</sup>

1: University of Insubria, Varese - Italy; 2: San Raffaele Hospital, Milan - Italy; 3: University of Leeds, Leeds - United Kingdom; 4: Refinano Research Group for Aging Interventions, Milan - Italy; 5: University of Pavia, Pavia - Italy



Menopause - Vol. 22, No. 8, 2015

**Histological study on the effects of microablative fractional CO<sub>2</sub> laser on atrophic vaginal tissue: an ex vivo study**

Salvatore S<sup>1</sup>, Leone Roberti Maggiore U<sup>1</sup>, Athanasiou S<sup>1</sup>, Origoni M<sup>1</sup>, Candiani M<sup>1</sup>, Calligaro A<sup>1</sup>, Zerbinati N<sup>1</sup>

1: San Raffaele Hospital - Milan - Italy; 2: National and Kapodistrian University of Athens, Athens - Greece; 3: University of Pavia, Pavia - Italy; 4: University of Insubria, Varese - Italy



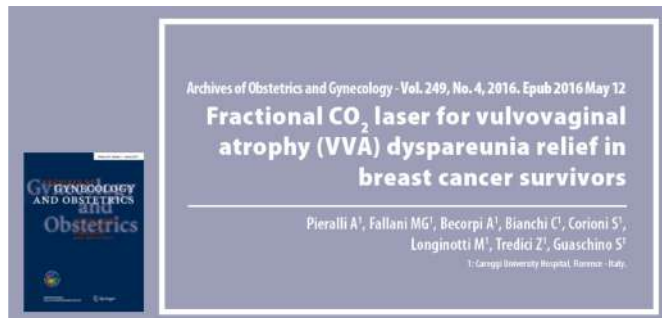
Open Access Maced J Med Sci - Epub 2018 Jan 19

**Early regenerative modifications of human postmenopausal atrophic vaginal mucosa following fractional CO<sub>2</sub> laser treatment**

Salvatore S<sup>1</sup>, Franca K<sup>2</sup>, Lotti T<sup>1</sup>, Parma M<sup>1</sup>, Palmieri S<sup>1</sup>, Candiani M<sup>1</sup>, D'Este E<sup>1</sup>, Viglio S<sup>1</sup>, Icaro Cornaglia A<sup>3</sup>, Farina A<sup>4</sup>, Riva F<sup>4</sup>, Calligaro A<sup>1</sup>, Lotti J<sup>1</sup>, Wollina U<sup>5</sup>, Tchernev G<sup>6</sup>, Zerbinati N<sup>1</sup>

1: San Raffaele Hospital, Milan - Italy; 2: University of Miami School of Medicine, FL - USA; 3: University of Marconi of Rome, Italy; 4: University of Pavia, Italy; 5: Städtisches Klinikum Dresden, Germany; 6: Medical Institute of Ministry of Interior Department of General, Vascular and Abdominal Surgery, Sofia - Bulgaria; 7: University of Insubria, Varese - Italy

# Efficace per migliorare la sintomatologia nelle pazienti oncologiche



SOCIAL SECURITY INSTITUTE

NOVEMBER 2014

## Use of the *MonaLisa Touch*<sup>®</sup> Treatment on Cancer Patients

Maurizio Filippini, M.D. - Miriam Farinelli, M.D.

Gynaecological Endoscopy Functional Unit of the Republic of San Marino State Hospital

**Objectives:** This pilot study aimed to assess the efficacy in treating atrophic vaginitis symptoms in those women who cannot receive local or systemic hormone-based therapies, since they have had a hormone-sensitive tumour.

**Materials and methods:** 46 treatments with the *MonaLisa Touch*<sup>®</sup> were performed from 01/23/2013 to 10/31/2014 at the Republic of San Marino State Hospital involved patients with neoplasias. The intensity of atrophic vaginitis symptoms was recorded for each patient.

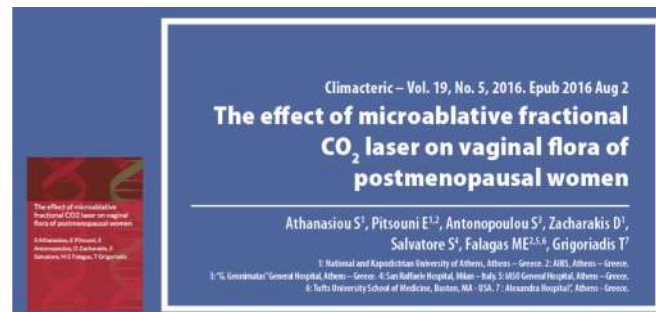
**Results:** About two months after the first treatment the percent reduction of the individual symptoms was very significant, not unlike that obtained from patients who received the treatment but without neoplastic pathologies. Furthermore, after the treatment, a significant improvement in quality of life was shown.

**Conclusions:** Considering the absence of complications and especially the absence of contraindications, the *MonaLisa Touch*<sup>®</sup> laser treatment is a valuable and irreplaceable aid for all patients who cannot and prefer not to receive hormone replacement therapy.

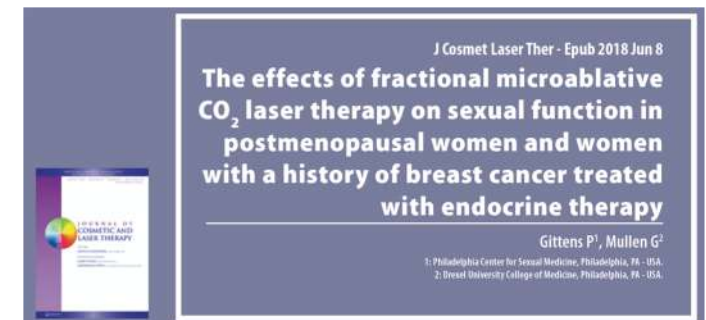
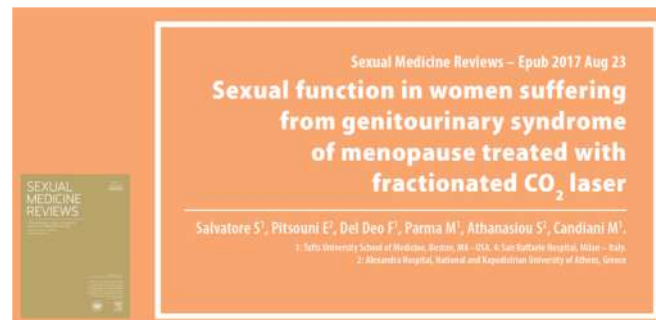
**Key words:** vaginal atrophy, oestrogen-sensitive tumour, induced menopause, laser



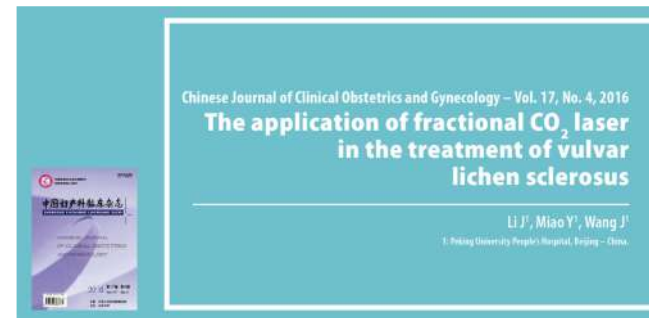
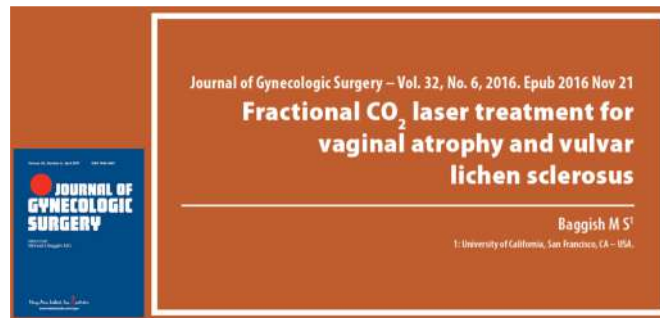
# Efficace permigliorare il Ph vaginale



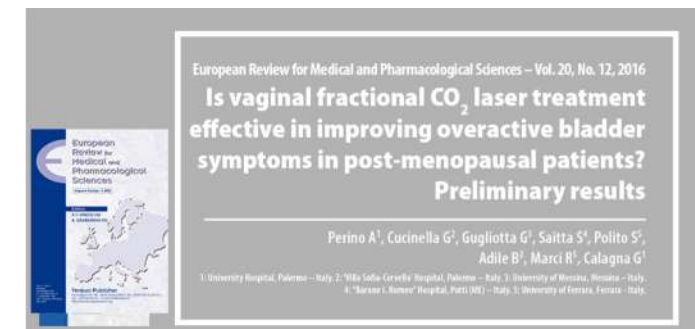
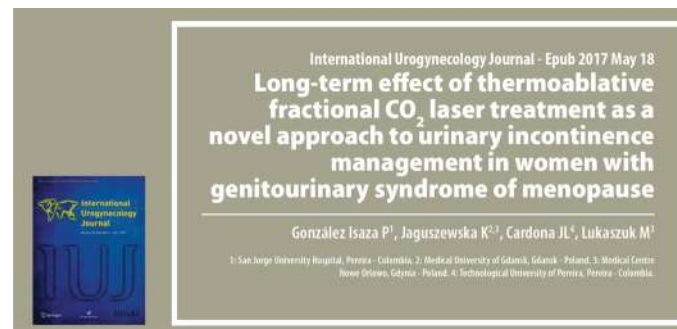
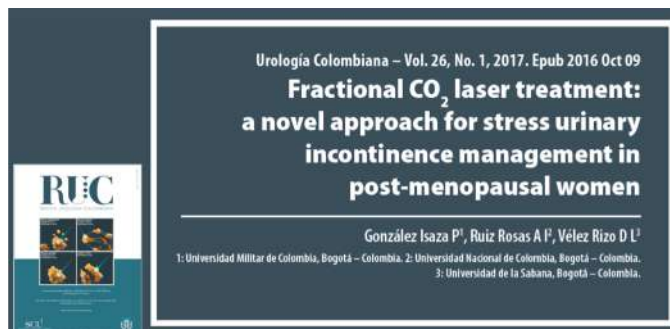
# Efficace per migliorare la funzione sessuale



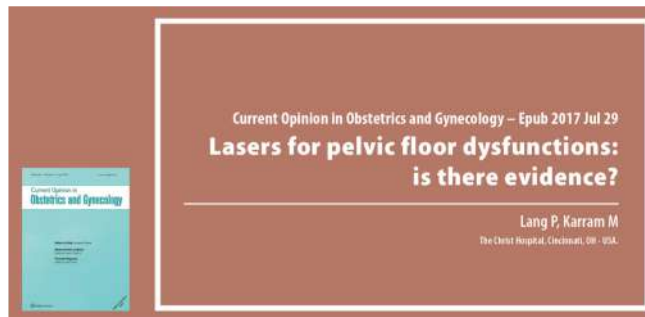
## *Efficace per migliorare i sintomi del lichen sclero-atrofico*



## *Efficace per migliorare l'incontinenza urinaria (da stress ed urge)*



# Efficace per migliorare le disfunzioni del pavimento pelvico



# Efficace per migliorare la dispareunia post-partum



SOCIAL SECURITY INSTITUTE

DECEMBER 2014

## Use of the *MonaLisa Touch*<sup>®</sup> Treatment for Post-Partum Dyspareunia. A Pilot Study

Maurizio Filippini, M.D. - Miriam Farinelli, M.D.

Gynaecological Endoscopy Functional Unit of the Republic of San Marino State Hospital

**Objectives:** This pilot study aimed to assess the efficacy in treating perineal pain symptoms in women who had late post-partum dyspareunia.

**Materials and methods:** The study involved six patients who had late post-partum dyspareunia. Over a time period from January 1, 2013 through August 31, 2014, patients were subjected to *MonaLisa Touch*<sup>®</sup> CO<sub>2</sub> laser treatment.

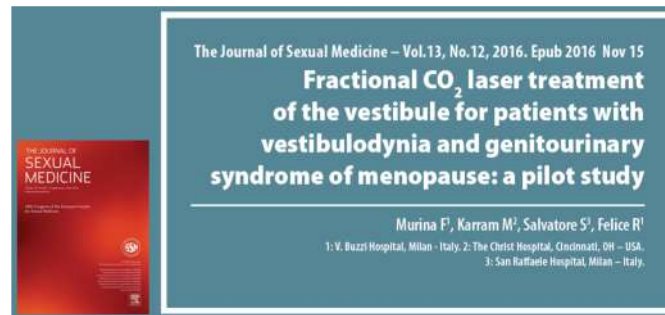
**Results:** Study results showed that two months after the treatment, out of a total of six patients, four treated for pain following episiorrhaphy or vaginal tear reported improvement in symptoms. The other two patients who underwent cesarian section, one has noticed a significative improvement while the other patient had modest pain reduction after two treatments.

**Conclusions:** This pilot study has shown the effectiveness of the *MonaLisa Touch*<sup>®</sup> fractional CO<sub>2</sub> laser treatment in patients with post-partum perineal pain.

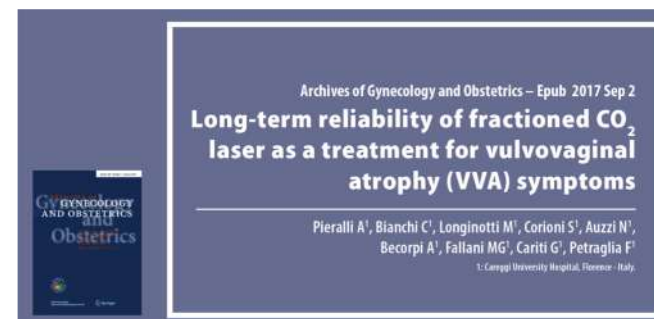
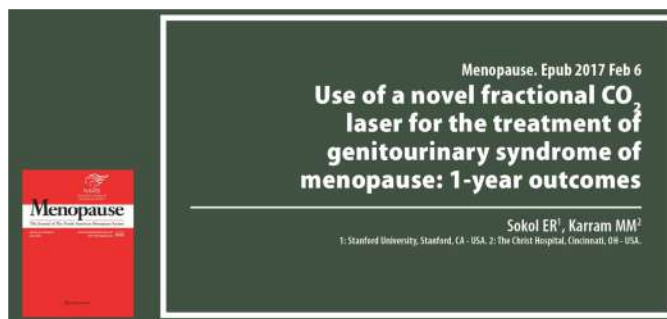
**Key words:** perineal trauma, CO<sub>2</sub> fractional laser, post-partum dyspareunia, episiotomy, perineal tear.



## *Efficace per migliorare i disturbi della vestibulo-vulvodinia*



## *Efficace per migliorare i sintomi di cistiti ricorrenti*



# Studi sulla sicurezza della metodica




European Journal of Obstetrics Gynecology and Reproductive Biology  
Vol. 213, 2017, Epub 2017 Apr 2

**Safety and long-term efficacy of fractional CO<sub>2</sub> laser treatment in women suffering from genitourinary syndrome of menopause**

Behnia-Willison F<sup>1,2</sup>, Sarraf S<sup>1</sup>, Miller J<sup>3</sup>, Mohamadi B<sup>4</sup>, Care A S<sup>4,5</sup>,  
Lain A<sup>6</sup>, Willison N<sup>6</sup>, Behnia L<sup>1</sup>, Salvatore S<sup>1</sup>

1: FHW Gynaecology Plus - Australia, 2: Flinders University - Australia, 3: Virginia Women's Center - USA, 4: The University of Adelaide - Australia, 5: Robinson Research Institute - Australia, 6: Centre for Advanced Reproductive Embryology - Australia, 7: University of Milan - Italy, 8: San Raffaele Hospital - Italy




Maturitas - Epub 2017 Jul 21

**CO<sub>2</sub>-laser for the genitourinary syndrome of menopause. How many laser sessions?**

Athanasios S<sup>1</sup>, Pitsouni E<sup>1</sup>, Falagas ME<sup>1,2</sup>, Salvatore S<sup>1</sup>, Grigoriadis T<sup>1</sup>

1: Alexandra Hospital, National and Kapodistrian University of Athens, Greece, 2: Alfa Institute of Biomedical Sciences (IBS), Athens - Greece, Henry Dunant Hospital Center, Athens - Greece, 3: Tufts University School of Medicine, Boston, MA - USA, 4: San Raffaele Hospital, Milan - Italy




Menopause - Epub 2017 Jul 31

**Randomized, double-blind, placebo-controlled clinical trial for evaluating the efficacy of fractional CO<sub>2</sub> laser compared with topical estriol in the treatment of vaginal atrophy in postmenopausal women**

Cruz VL, Steiner ML, Pompei LM, Strufaldi R,  
Fonseca FLA, Santiago LHS, Wajsfeld T, Fernandes CE

ABC School of Medicine, São Bernardo do Campo, São Paulo - Brazil




Lasers Med Sci - Epub 2017 Aug 2

**Microablative fractional CO<sub>2</sub> laser for the genitourinary syndrome of menopause: power of 30 or 40 W?**

Pitsouni E<sup>1</sup>, Grigoriadis T<sup>1</sup>, Falagas M<sup>1,2</sup>, Tsiवेleka A<sup>3</sup>, Salvatore S<sup>1</sup>, Athanasios S<sup>1</sup>

1: Alexandra Hospital, National and Kapodistrian University of Athens, Greece, 2: Alfa Institute of Biomedical Sciences (IBS), Athens - Greece, Henry Dunant Hospital Center, Athens - Greece, 3: Tufts University School of Medicine, Boston, MA - USA, 4: San Raffaele Hospital, Milan - Italy



Lasers Surg Med. Epub 2017 Sep 7

**Fractional CO<sub>2</sub> laser of the vagina for genitourinary syndrome of menopause: Is the out-of-pocket cost worth the outcome of treatment?**

Lang P<sup>1</sup>, Dell JR<sup>2</sup>, Rosen L<sup>3</sup>, Weiss P<sup>4</sup>, Karram M<sup>4</sup>

1: The Christ Hospital, Cincinnati, OH - USA, 2: Institute for Female Pelvic Medicine, Knoxville, TN - USA, 3: Fairfax OB-GYN Associates, Gainesville, FL - USA, 4: Harkness Surgical Center, Beverly Hills, CA - USA