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## NEW APPROACHES FOR GENITOURINARY SYNDROME OF MENOPAUSE

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Vulvovaginal Atrophy (VVA) →  
Genitourinary Syndrome of Menopause (GSM)

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### Genitourinary Syndrome of Menopause (GSM)

**Background**

The terms **vulvovaginal atrophy** (VVA) and **atrophic vaginitis** inadequate for describing the range of menopausal symptoms associated with physical changes of the vulva, vagina, and lower urinary tract associated with oestrogen deficiency

*Menopause, Vol. 21, No. 10, 2014*

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### Genitourinary Syndrome of Menopause (GSM)

*Menopause, Vol. 21, No. 10, 2014*

**TABLE 1. Components used to develop new terminology**

Anatomy	Descriptors	Problem	Life Phase
Vagina	Vulvovaginal	Atrophy	Midlife
Vulva	Genital	Alterations	Aging
Labia	Gynecologic	Changes	<b>Menopause</b>
Vestibule	Reproductive	Condition	Perimenopause
Urethra	Sexual	Disease	Postmenopause
Bladder	Urogenital	Disorder	
	<b>Genitourinary</b>	Deficiency	
	Urinary	Dysfunction	
	Urologic	<b>Syndrome</b>	
		Vaginitis	

Terms in bold are the words selected by the panel to develop new nomenclature.

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### Genitourinary Syndrome of Menopause (GSM)

**Background**

Menopause-related genitourinary symptoms affect up to 50% of midlife and older women

GSM tends to be chronic and progressive and unlikely to improve over time

*Menopause, 2013;20: 888-902*

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### Genitourinary Syndrome of Menopause (GSM)

Women were at 4-fold greater risk of experiencing sexual dysfunction when VVA was present

The effect of VVA in a survey of 1,000 postmenopausal women:  
64% reported painful sex, 64% described loss of libido, and 58% avoid sexual intimacy

*Menopause 2008;15:661-666  
Menopause 2014;21:137-142.*

## Causes of GSM

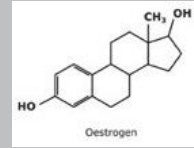


- Natural menopause
- During the years leading up to menopause (menopause transition)
- Surgical removal of both ovaries (surgical menopause)
- After pelvic radiation therapy for cancer
- After chemotherapy for cancer
- As a side effect of breast cancer hormonal treatment

## Causes of GSM



Menopause  
(oestrogen deficiency)



*versus*

Urogenital Ageing  
(tissue atrophy)



## Exacerbating Factors



### Smoking

Reduces blood circulation, reduces the effects of estrogens, earlier menopause.

### No vaginal births

### No sexual activity

Sexual activity increases blood flow and improves vaginal tissues elasticity

## Symptoms of GSM



- Vaginal dryness
- Decreased lubrication with sexual activity
- Discomfort or pain with sexual activity (dyspareunia)
- Post-coital bleeding (PCB)
- Decreased arousal, orgasm, desire
- Irritation/burning/itching of vulva or vagina
- Dysuria
- Urinary frequency/urgency
- Urinary incontinence
- Shortening and tightening of the vaginal canal

## Signs of GSM

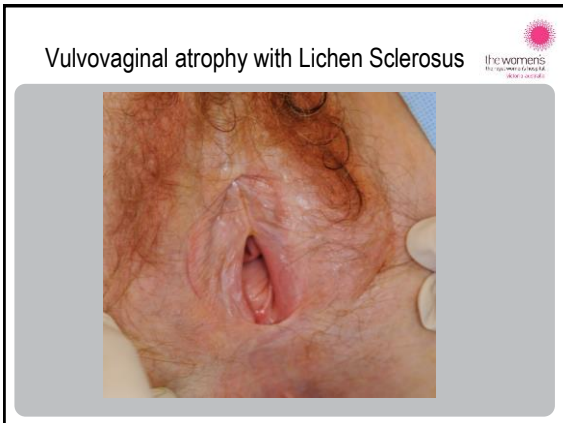
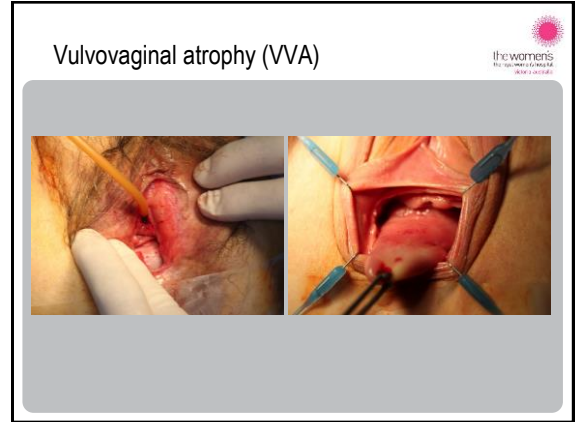
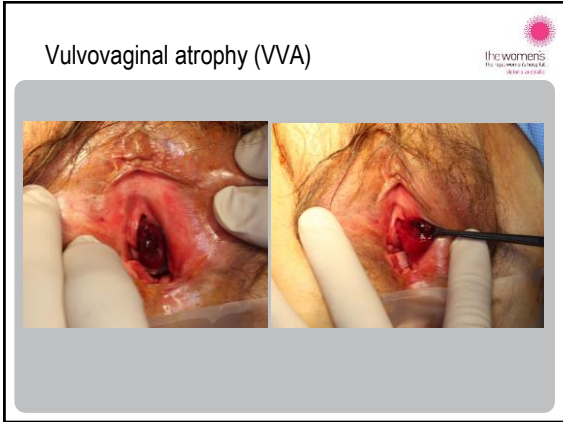


- Decreased moisture
- Decreased elasticity
- Labia minora resorption
- Pallor/erythaemia
- Loss of vaginal rugae
- Tissue fragility/fissures/petechiae

## Signs of GSM



- Loss of hymenal remnants
- Prominence of urethral meatus
- Urethral eversion or prolapse
- Introital retraction
- Recurrent urinary tract infections



Possible differential diagnoses

**Infection**  
candidiasis, bacterial vaginosis, trichomoniasis, gonorrhoea/chlamydia

**Irritant or allergic vaginitis/vulvitis**  
soaps, perfumes, powders, deodorants, panty liners/pads, urine, spermicides, latex condoms, semen, warming gels, lubricants, vaginal moisturizers, topical oestrogens

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Possible differential diagnoses

**Vulvovaginal dermatoses**  
lichen sclerosus, lichen planus, pemphigoid

**Hypertonic pelvic floor muscle dysfunction**  
(involuntary levator muscle contractions)

**Vulvodysnia/vestibulodynia**

**VAIN, VIN**  
(vaginal and vulva intra-epithelial neoplasia)

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### Genitourinary Syndrome of Menopause (GSM)



#### Management

- Topical vaginal oestrogen (Vagifem, Ovestin)
- Lubricants and moisturizers
- Ospemifene (SERM)
- Pulsed CO<sub>2</sub> Laser (DEKA *MonaLisa Touch*)**
- Surgery

### PULSED CO<sub>2</sub> LASER FOR GENITOURINARY SYNDROME OF MENOPAUSE



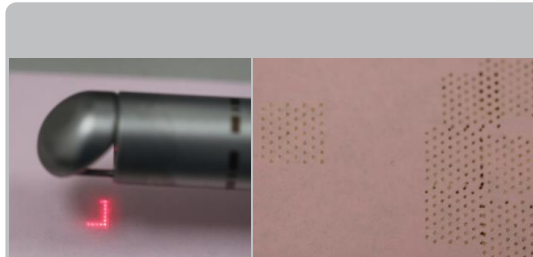
### Deka SmartXide 60 Watt Laser System



### Deka SmartXide2 360°, 90°, Straight Probes



### Deka SmartXide2 360° Probe



### Clinical Results of MLT

**Table 1.** Assessment at baseline and at 30 days after each single pulsed CO<sub>2</sub> laser treatment for VHI and VVA symptoms (evaluated with a 10-point VAS) expressed as mean value ± SD

	Baseline	4-week follow-up	8-week follow-up	12-week follow-up
VHI (mean ± SD)	13.1 ± 2.5	17.1 ± 1.9 <sup>a</sup>	22.1 ± 1.0 <sup>a,b</sup>	23.1 ± 1.0 <sup>a,b,c</sup>
Vaginal dryness (n, mean ± SD)	8.3 ± 2.1	5.5 ± 2.9 <sup>a</sup>	3.4 ± 2.5 <sup>a,b</sup>	2.7 ± 1.9 <sup>a,b</sup>
Vaginal itching (n, mean ± SD)	6.1 ± 3.0	3.3 ± 3.1 <sup>a</sup>	2.1 ± 2.8 <sup>a,b</sup>	1.5 ± 1.2 <sup>a,b</sup>
Dyspareunia (n, mean ± SD)	8.1 ± 2.8	5.7 ± 3.2 <sup>a</sup>	4.5 ± 3.0 <sup>a,b</sup>	3.3 ± 2.3 <sup>a,b</sup>
Dysuria (n, mean ± SD)	5.0 ± 2.4	2.8 ± 1.3 <sup>a</sup>	2.0 ± 0.9 <sup>a,b</sup>	1.1 ± 1.1 <sup>a,b</sup>

VHI, Vaginal Health Index. Adapted from [18].  
<sup>a</sup>Statistical significant difference with baseline.  
<sup>b</sup>Statistical significant difference with 1-month follow-up.  
<sup>c</sup>Statistical significant difference with 2-month follow-up.

Salvatore et al. 2014

### Clinical Results of MLT

**Table 2.** Self-assessment of pain experienced during each single laser treatment expressed as mean value ± SD

	First laser application	Second laser application	Third laser application
Pain experienced during insertion of the probe (mean ± SD)	4.7 ± 1.6	2.6 ± 1.5 <sup>a</sup>	0.4 ± 0.5 <sup>a,b</sup>
Pain experienced due to movements of the probe (mean ± SD)	2.6 ± 1.5	1.0 ± 0.8 <sup>a</sup>	0.2 ± 0.4 <sup>a,b</sup>
Pain experienced during laser application (mean ± SD)	0.6 ± 0.8	0.3 ± 0.5 <sup>a</sup>	0.1 ± 0.4 <sup>a</sup>

**Table 3.** Sexual function evaluation using the Female Sexual Function Index at baseline and at 12 weeks after pulsed CO<sub>2</sub> laser treatment expressed as mean value ± SD

	FSFI DOMAINS					
	Desire	Arousal	Lubrication	Orgasm	Satisfaction	Pain
Baseline (T1)	2.4 ± 1.0	2.8 ± 1.7	2.2 ± 1.5	2.8 ± 1.8	2.9 ± 1.9	1.8 ± 1.5
12-week follow-up (T2)	3.6 ± 0.7	4.8 ± 1.0	4.5 ± 1.4	5.0 ± 1.0	5.1 ± 1.0	4.2 ± 2.0
P	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

FSFI, Female Sexual Function Index. Adapted from [23].

Salvatore et al. 2014

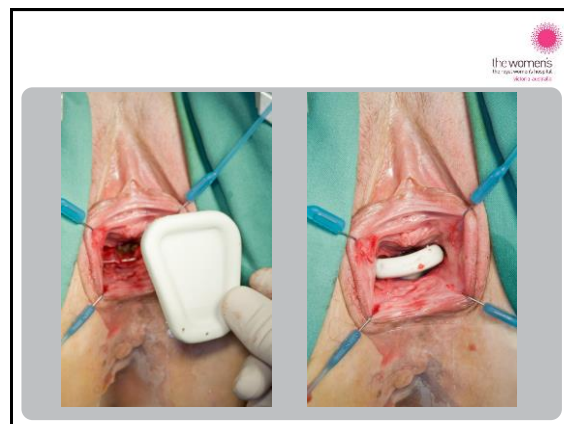
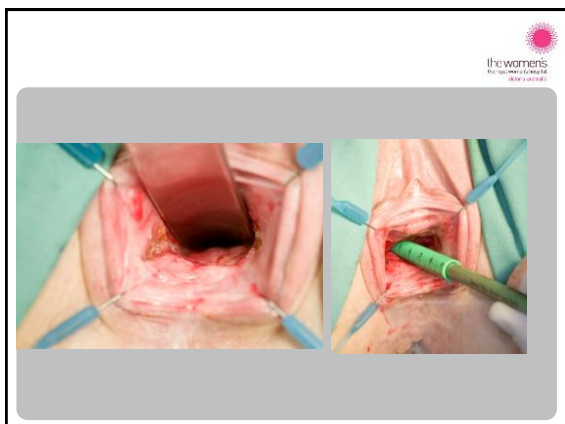
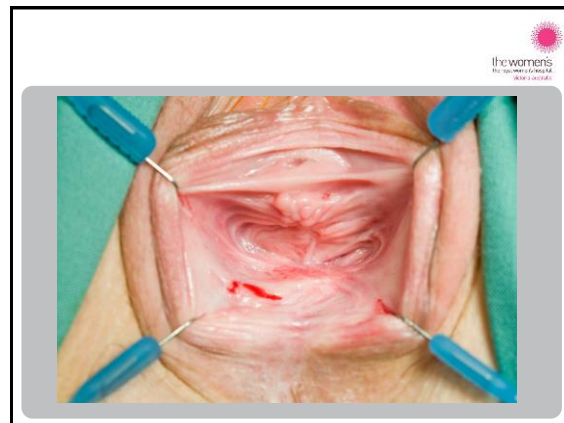
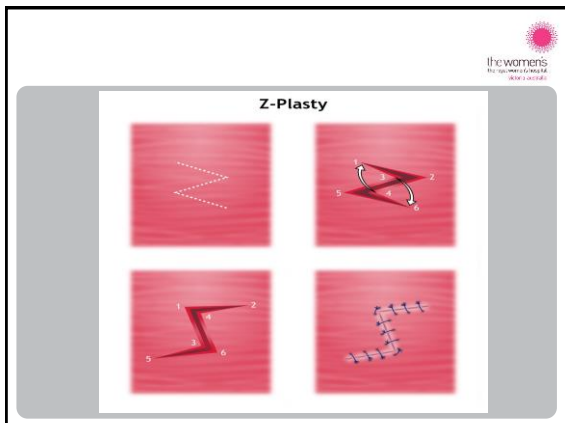
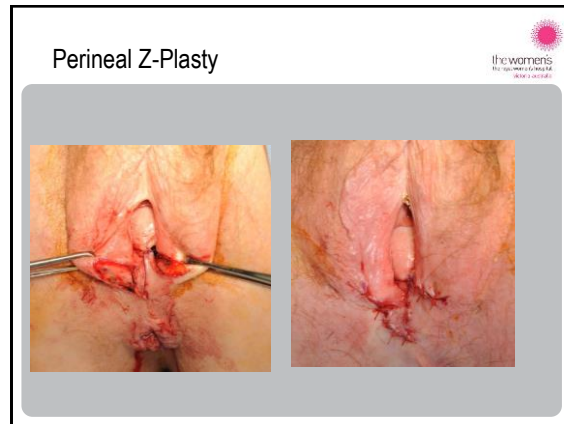
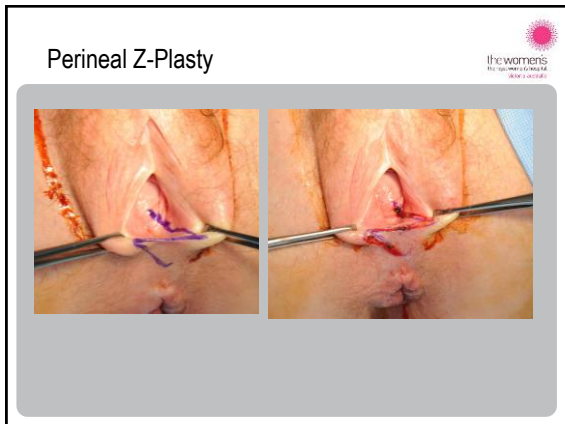
Salvatore et al. Menopause 2015

### Key Points of MLT Salvatore et al. 2014

- Vulvovaginal atrophy (VVA) is a common condition with great impact on quality of life.
- Pulsed CO<sub>2</sub> laser is a novel treatment for VVA performed in an outpatient setting.
- Histological samples after pulsed CO<sub>2</sub> laser treatment show changes in the vaginal lamina propria (increased collagen production and extracellular matrix), as well as in the vaginal epithelium with restoration of new papilla and thickness increase.
- Vaginal dryness, dyspareunia, and all the VVA symptoms significantly improve after a cycle of three laser treatments.
- Improvement of VVA symptoms after pulsed CO<sub>2</sub> laser determines a better sexuality and quality of life.

## SURGERY FOR GENITOURINARY SYNDROME OF MENOPAUSE

### Dyspareunia from Perineal Band



## Vaginal dilators



## Genitourinary Syndrome of Menopause: Conclusion



- GSM very common condition managed by appropriate conservative treatment (vaginal oestrogen preparations)
- Vaginal pulsed CO<sub>2</sub> laser therapy (DEKA MonaLisa Touch) for women non-responsive to or unable to use vaginal oestrogen
- Surgery for selected cases of GSM