

Under the High Patronage of  
H.S.H. Prince Albert II of Monaco



# AMWC 2015

13<sup>th</sup> AESTHETIC & ANTI-AGING  
MEDICINE WORLD CONGRESS

Aesthetic Dermatology and Surgery, Preventive and Anti-Aging Medicine

**26-27-28 MARCH 2015**

Monte-Carlo • Principality of Monaco  
Grimaldi forum



**FINAL**



# Applying Anatomical & Physiological Considerations to Optimize Sexual Function in Cosmetic Vaginal Surgery

Michael Lau, MD, FACS, FACOG

Radiant Rejuvenation & Cosmetic Surgery

Clinical Faculty, University of Washington School of  
Medicine

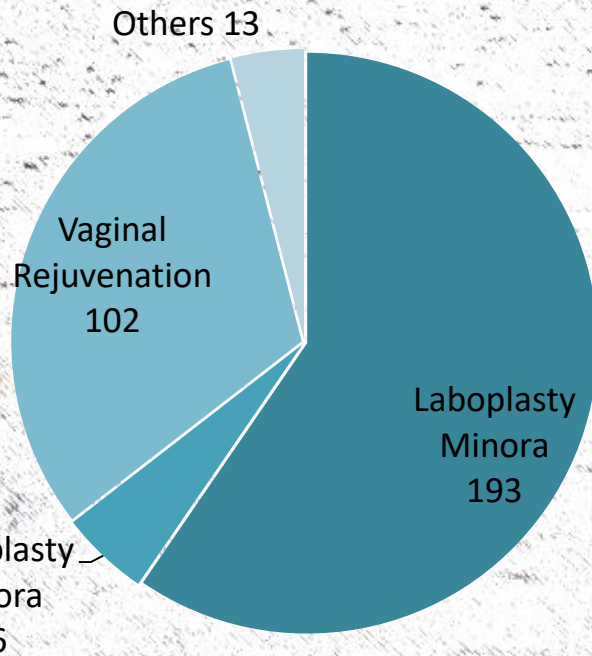
Seattle, USA





# Vaginal Cosmetic Surgery - Aesthetic & Functional

Distribution of Vaginal Plastic Surgery Procedures at Radiant Rejuvenation & Cosmetic Surgery



Vaginal Rejuvenation –  
Functional > Aesthetic?

Labioplasty –  
Aesthetic > Functional?



Before

After

Actual patient results from Radiant Rejuvenation



# Anatomical & Physiological Considerations for Labioplasty & Clitoral Hood Reduction

## **Key factors contributing to sexual function**

### Nerve Distribution:

- Clitoris area
- Labia minora

### Specialized vascular elements

- Clitoris - trabecular/erectile
- Labia minora - non-trabecular/ non-erectile

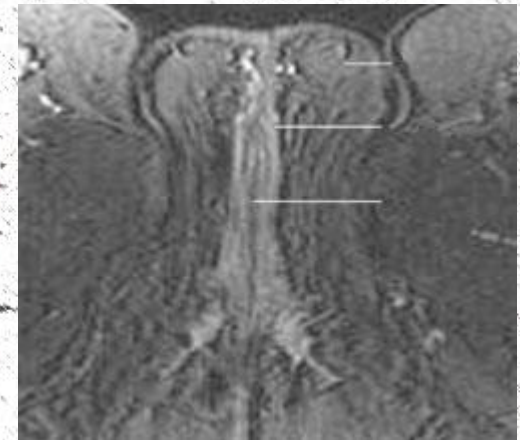
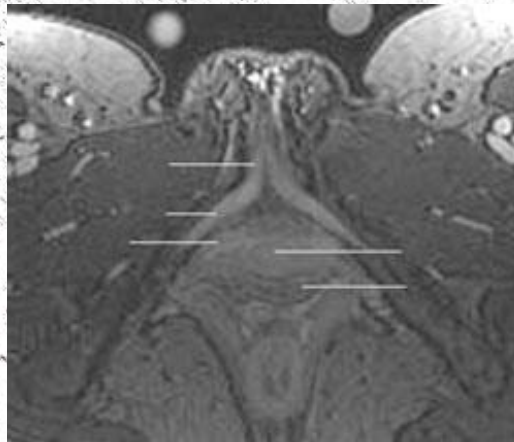
### Interplay between vascular engorgement & sensory activation



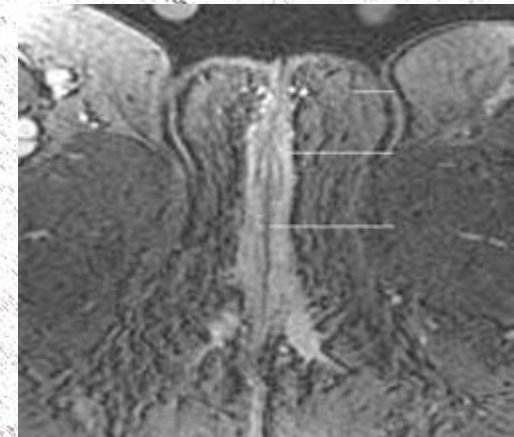
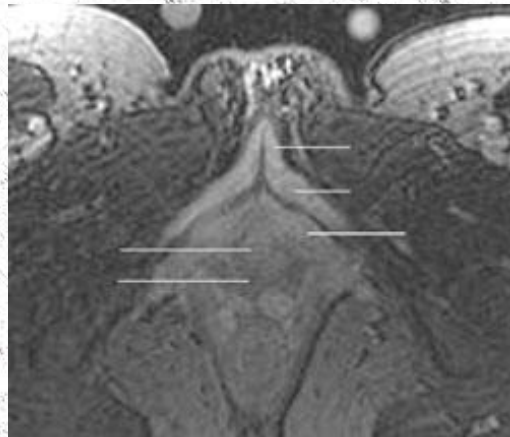


Specialized Vascular Elements :  
Axial MRI of Clitoris/urethral area & labia showing areas  
of increased vascular intensity with sexual arousal  
(Yang, C, et al, BJU 97; 2005)

Neutral

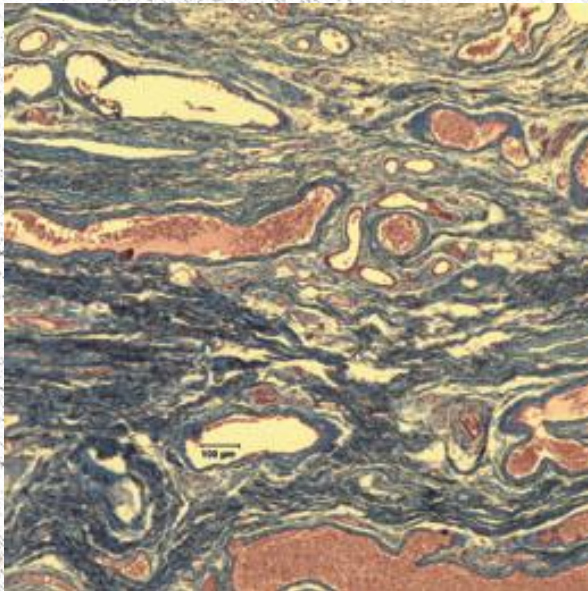


Arousal

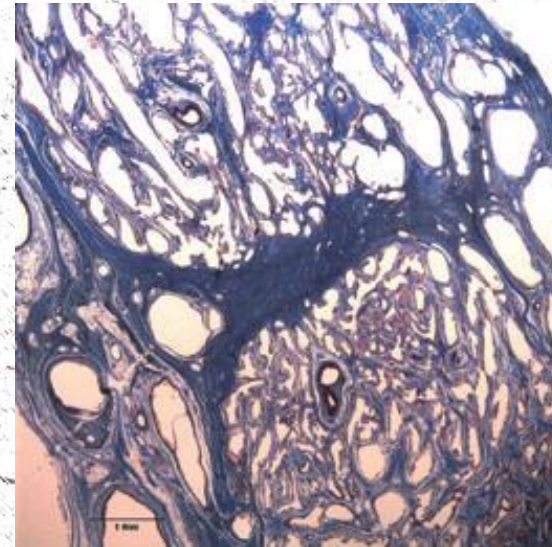




Specialized vascular elements: Differences between labia minora & clitoris erectile tissue – contribution to sexual function?  
(Yang, C, et al, BJU 97; 2005)



Labia minora with dilated vascular space surrounded by blue-stained fibro-elastic tissue, not closely packed

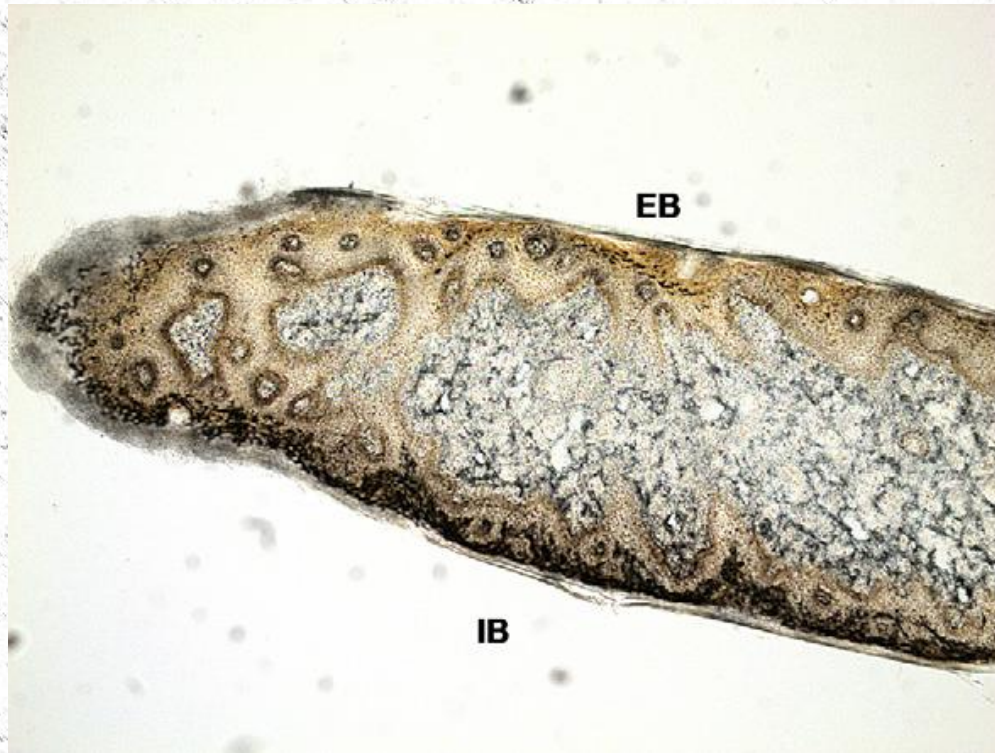


Clitoris and bulbar erectile tissue are trabecular with closely packed vascular space





## Nerve Distribution of Labia Minora : Nerve marker S-100 & nNOS staining showing nerve fiber distribution pattern of labia minora – introital >> external border

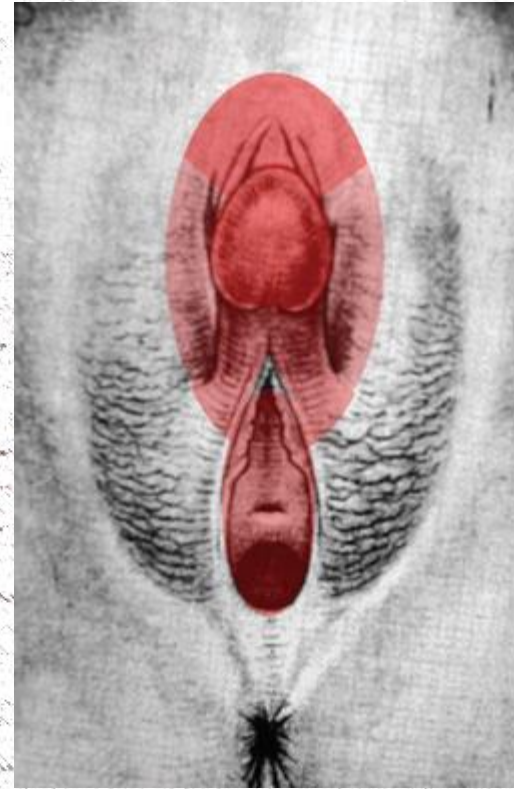
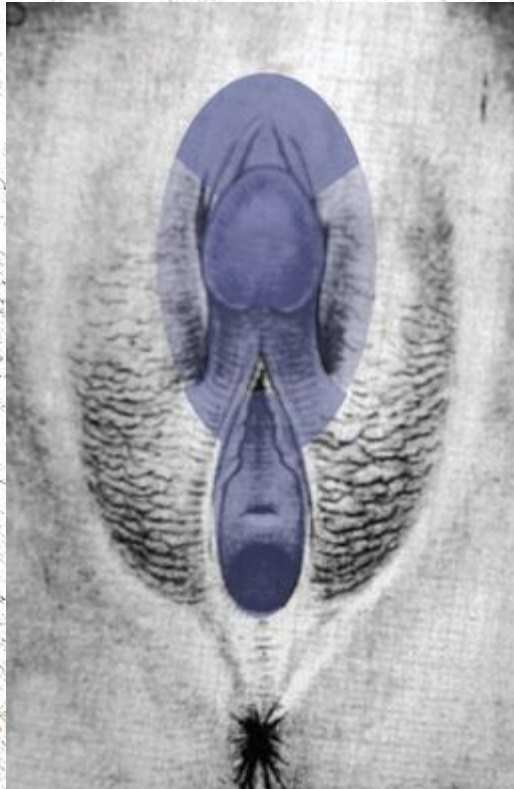


Cross section of the labia minora. (EB) external border, (IB) introital border. Introital epithelium is highly innervated compare to the external border. (Credit: Schober J, et al, J Pediatr Adolesc Gynecol 23; 2010)



# Self-assessment of sexual sensitivity

(Schober, J, et al, BJU 94; 2004)



*Graphs of women's:*

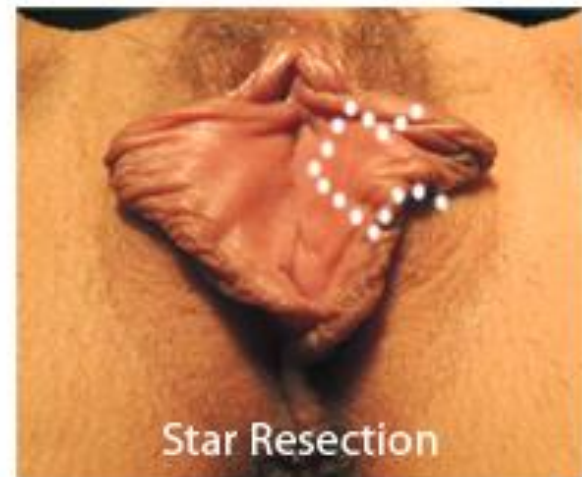
*A: orgasm-intensity ratings for the external genitalia;*

*B: orgasm-effort ratings for the external genitalia*





# Different techniques of labioplasty – which would preserve sexual function best?





# Anatomical & Physiological Considerations for Labioplasty & Clitoral Hood Reduction

## **Practical points to optimize sexual function**

### Preserving Nerve Distribution:

- Minimize disruption to clitoral area, especially midline
- Avoid thermal damage and excessive tissue trauma, especially the introital border of labia minora

### Consider specialized vascular elements

- Preserve clitoris and bulb structures
- Avoid excessive tissue tension





# Anatomical & Physiological Considerations for Vaginal Rejuvenation – Colpoperineoplasty

## **Key factors contributing to sexual function**

### Nerve Distribution:

- Clitoris area
- Vaginal walls

### Specialized vascular elements

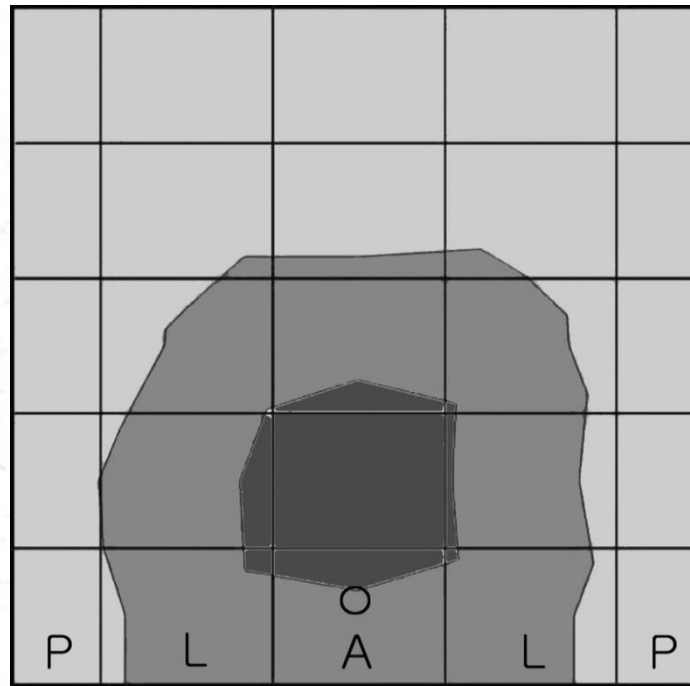
- Clitoris –trabecular/erectile
- Vestibule/ vaginal mucosa – non-trabecular/non-erectile

### Interplay between vascular engorgement & sensory activation





# Sensory Nerve Density Distribution of the Vaginal Walls ( mucosa > muscle)



**The densest site of the nerve is at second 1/5 partition of distal anterior wall**

Density of terminal nerve branches – darker area more dense. Unfolded vaginal tract showing vaginal wall divided into four sides: anterior (A), two lateral (L), and posterior (P). Circle indicates urethral orifice. (Credit: Yon BS, et al, J of Sex & Marital Therapy 35; 2009)



# Anatomical & Physiological Considerations for Vaginal Rejuvenation – Colpoperineoplasty

## **Practical points to optimize sexual function**

### Preserving Nerve Distribution:

- Avoid distal anterior vaginal wall erogenic structures
- Posterior wall reconstruction to optimize effect
- Avoid thermal damage and excessive tissue trauma
- Preservation of mucosa

### Consider specialized vascular elements

- Preserve clitoris and bulb structures
- Avoid excessive tissue tension





Thank you!  
Merci!

