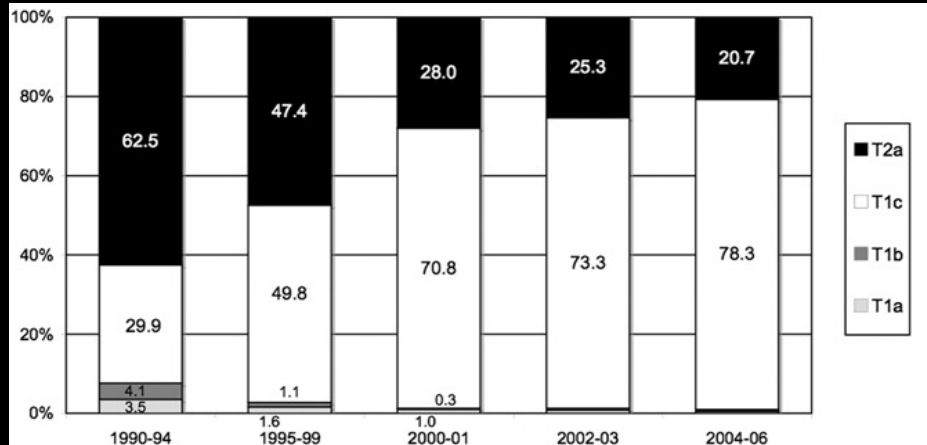


# **ROBOT-ASSISTED RADICAL PROSTATECTOMY: CLINICAL CHALLENGES**

Welcome to Bilbao ¡¡

*II International Symposium  
Robotic Surgery and  
New technologies in Urology.  
Bilbao 5-6 March, 2009*

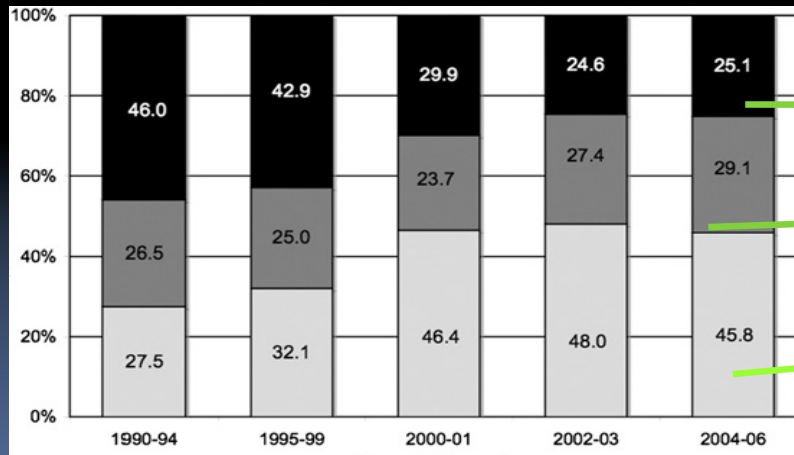
# Prostate cancer actual scenario.....



T2a

T1c

T1a, T1b



High risk

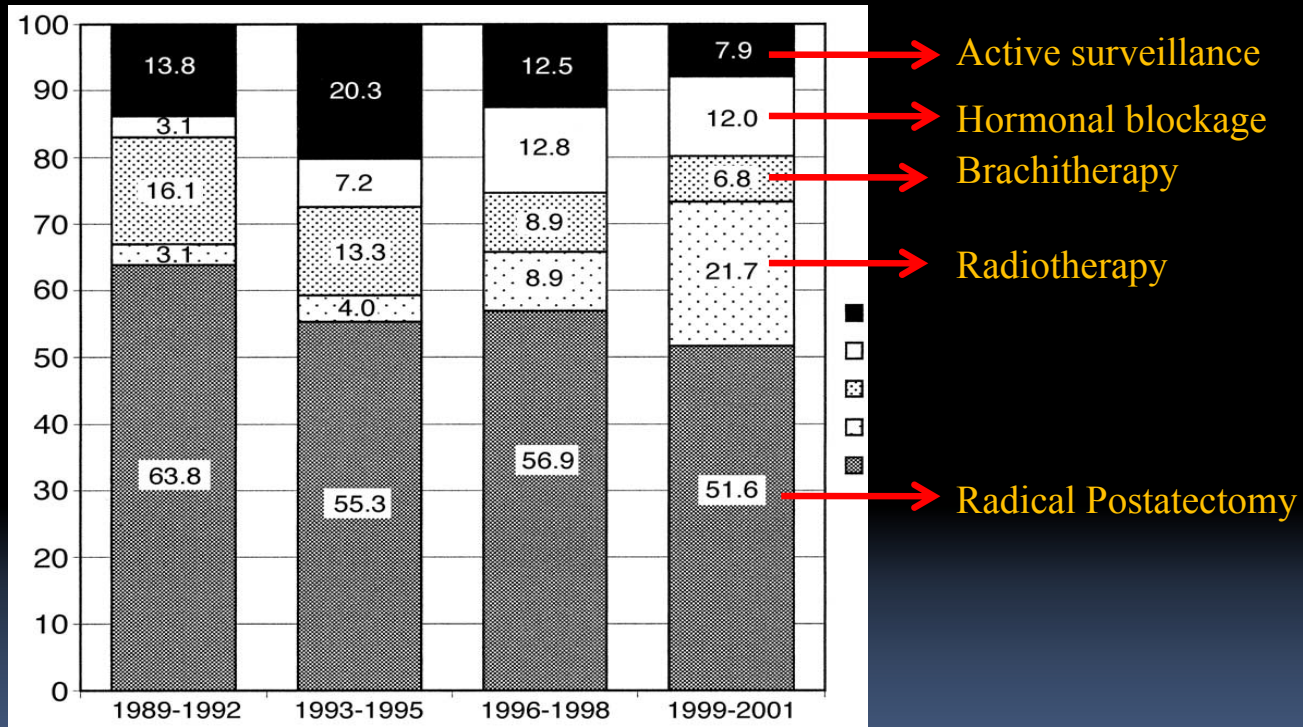
Moderate Risk

Low Risk

Contemporary Trends in Low Risk Prostate Cancer: Risk Assessment and Treatment

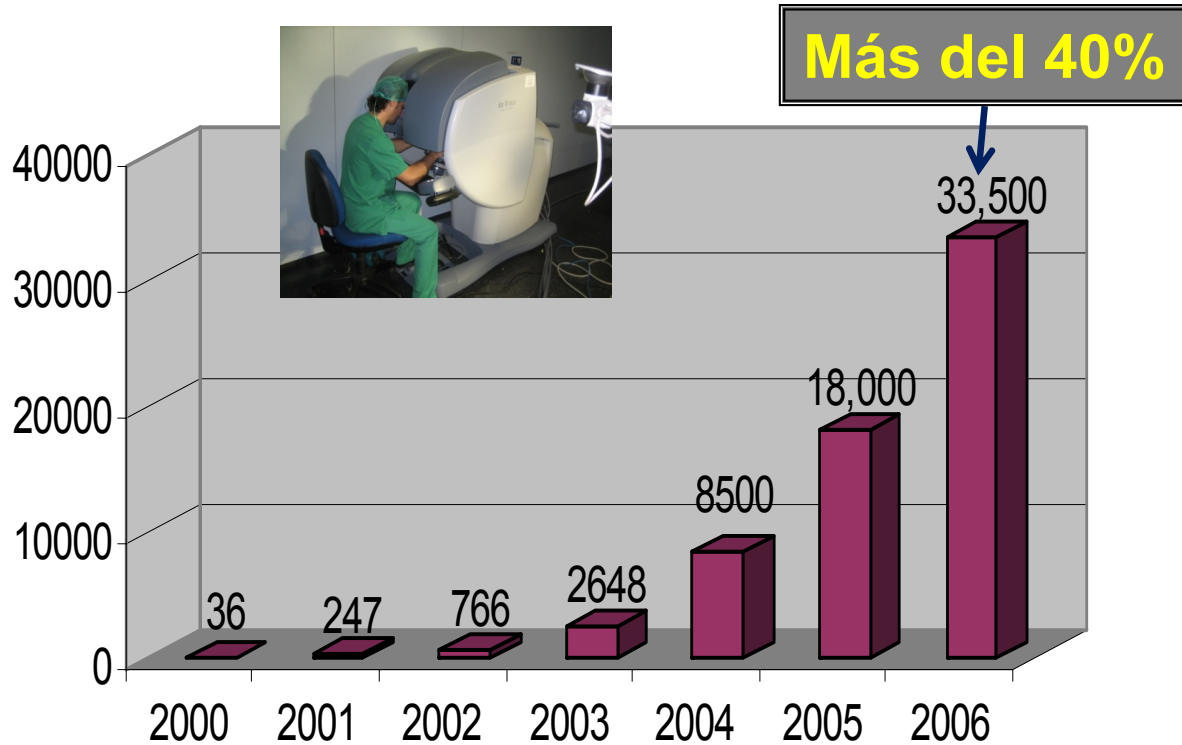
M R. Cooperberg, J M. Broering, P W. Kantoff, P R. Carroll, J Urol 2007;178(3):S14-S19

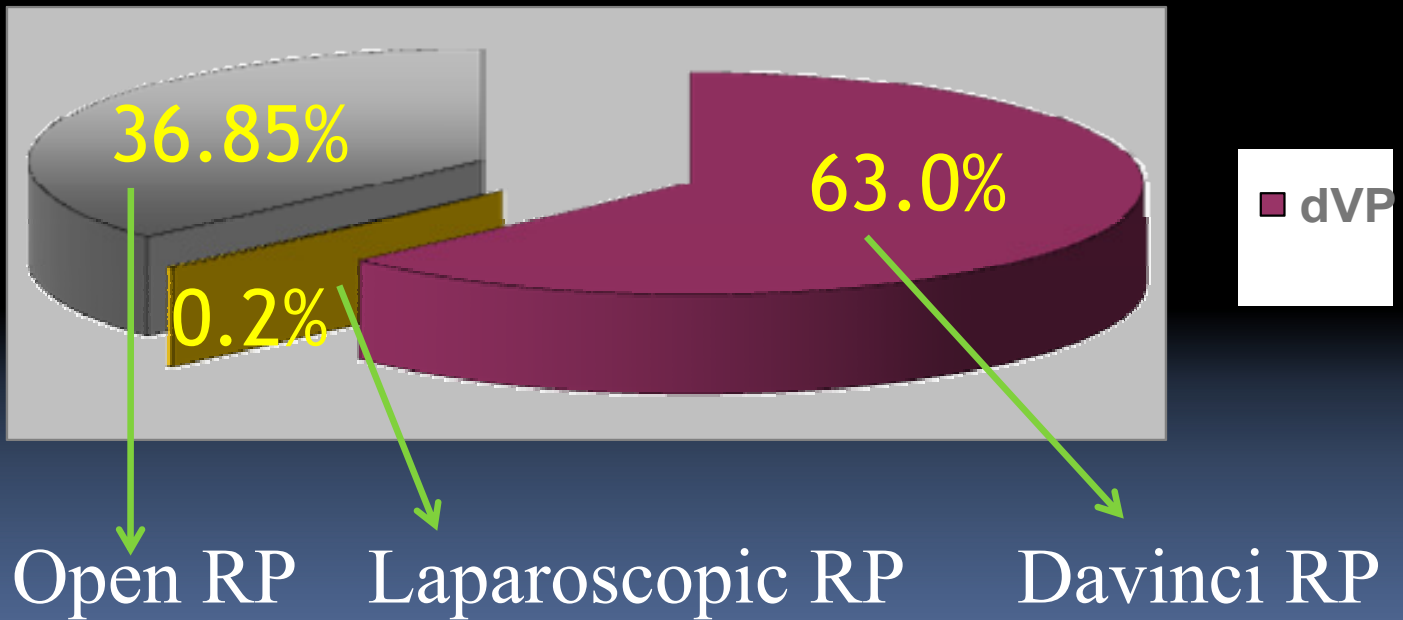
# Trends in PCA treatment options



The Changing Face of Low-Risk Prostate Cancer: Trends in Clinical Presentation and Primary Management *M R. Cooperberg, D P. Lubeck, M V. Meng, S S. Mehta, P R. Carroll*  
*J Clin Oncol 2004; 22:2141-2149.*

# Robotic RP evolution in USA

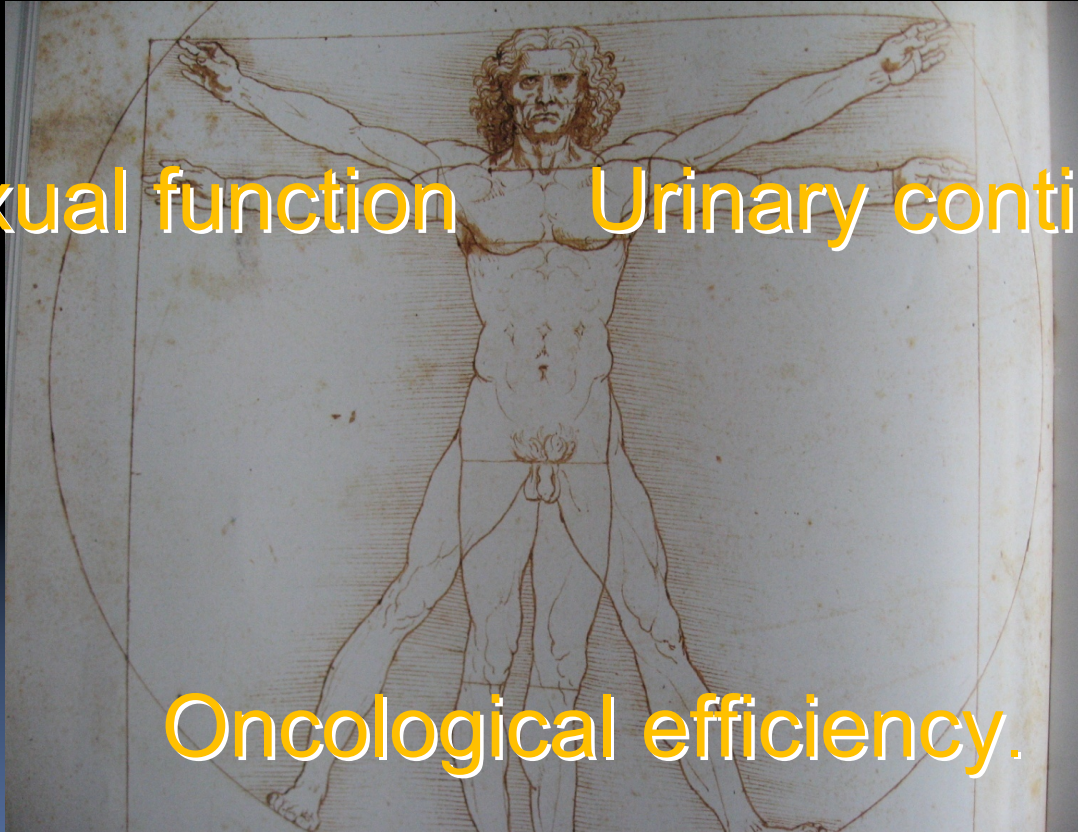




Radical prostatectomy final objective: oncological control with reduce functional collateral damage.

Sexual function      Urinary continence

Oncological efficiency.



# Are really important functional outcomes ?

- 45 % patients supported that preserve quality of life was the most important objective in Pca treatment.
- Only 29% choose prolong life rather than preserve quality of life.

*CRAWFORD ED: Comparison of perspectives on prostate cancer: Analysis of survey data. Urology 50:366, 1997*

- 68% change 10% of survival in order to mantain sexual function after surgical Pca treatment.

*SINGER PA: Sex or survival: Trade-offs between quality and quantity of life. J Clin Oncol 9:328, 1991*



# Could robotic surgery improve functional and oncological outcomes ?

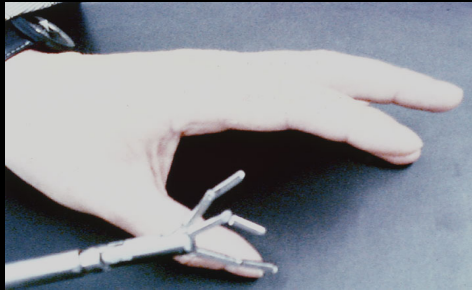


**REMOTE CONTROL**  
The doctor-directed da Vinci Surgical System performs operations with less cutting and greater accuracy than conventional surgery. Giorgio Armani dress, Balenciaga shoes. In this story, hair, Julien D'Ys using Mokuba ribbon; makeup, Stéphanie Marais; set design, Mary Howard Studio. Still in a state-of-the-art operating room at the Hackensack University Medical Center, New Jersey. Details, see In This Issue.

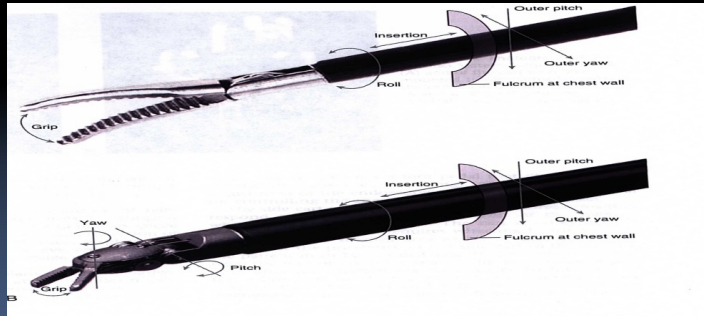
*The four-armed probe follows the commands of a surgeon seated in a hooded console a few feet away, shades of the wizard at the court of Oz*



Human arm: 22 gdl=594.823.321 mov.



DaVinci Robot : 7 gdl = 117.649 mov.



Convencional Lap: 4gdl = 729 mov.

# Could robotic surgery improve oncological outcomes ? Is possible to reduce positive surgical margins ?



• Similar or even Better ONCOLOGICAL RESULTS than RRP and LRP.

- *Positive margin rates: RRP (12,8%-36%) 21,2%*

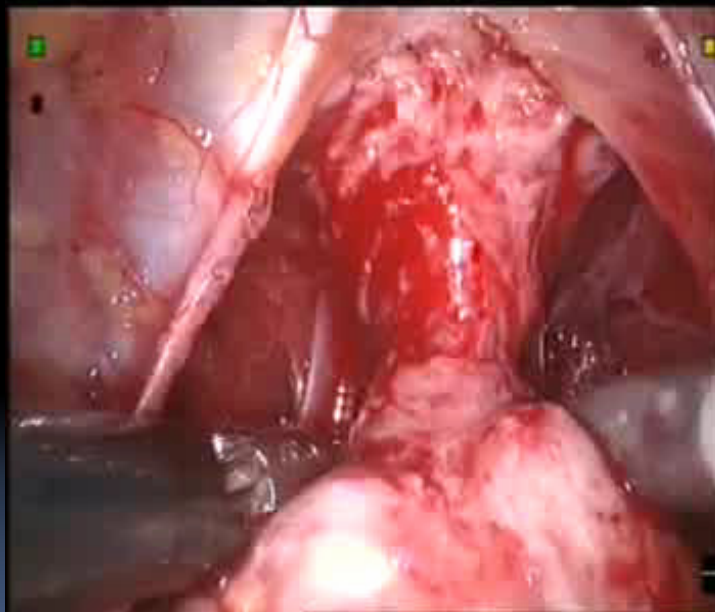
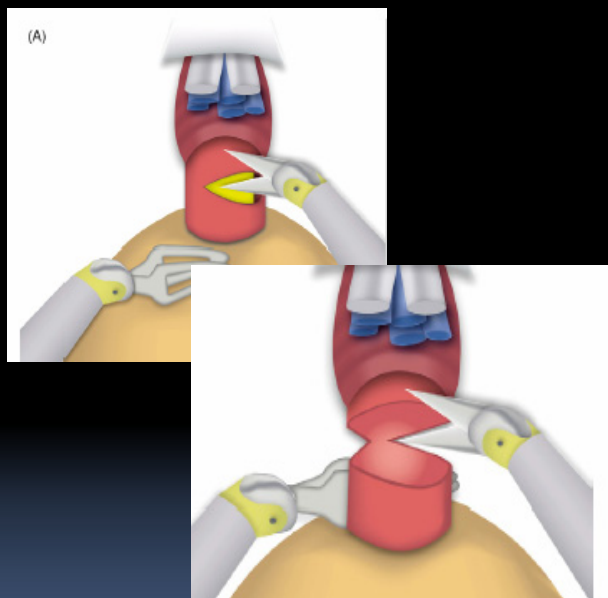
*LRP (15,7%-29,7%) 20,6%*

*RAP (2,6%-35,5%) 19,24%*

AHLERING T: Multiinstitutional review of pathological margins after RALP. J Urol 2006;175: 217.

ESEQUEIL JR: Prostatectomía radical robótica: Resultados oncológicos. Arch Esp Urol 2007, 60:429.

## Excellent 3D view for precise apical dissection and reduce PMR

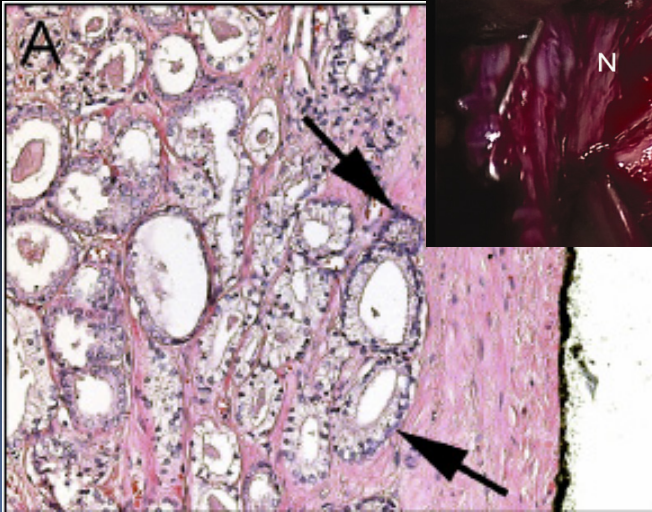


*BORIN JF: Impact of urethral stump length on continence and positive surgical margins in RALP. Urology 70:173-177; 2007 .*

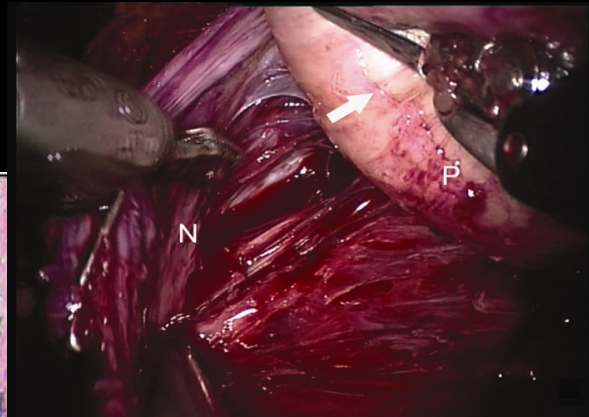
*AHLERING TE: RRP: A technique to reduce pT2 positive margins. Urology 2004;64, 1224.*

# Excellent 3D magnified view for precise NVB posterolateral dissection

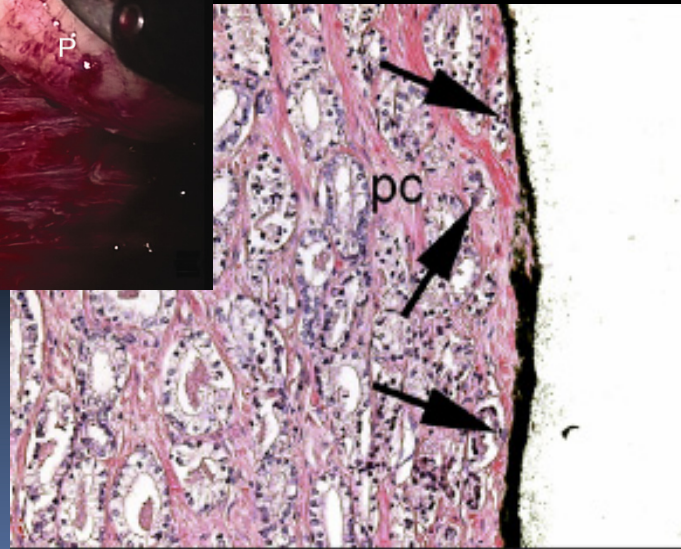
**Interfascial**



**pT2 R0**



**Intrafascial**



**pT2 R1**

# Improve PMR with increase experience



Author	N° cases	PT2	PT3	PMR
Menon 03	100	85%	14%	15%
Menon 07	2652	78%	22%	13%
Patel 05	200	88%	12%	10,5%
Patel 06	500	78%	15%	9,4%
Ahlering 04	90	71%	27%	16,7%
Ahlering 06	1090	76%	24%	13,3%



AHLERING T: *Multiinstitutional review of pathological margins after RALP. J Urol 2006;175: 217.*

PATEL V: *RRP in the community –setting the learning curve and beyond: initial 200 cases. J Urol 2005;174:269.*

# Could robotic surgery improve sexual function recovery after RP ? And how can we do it ?

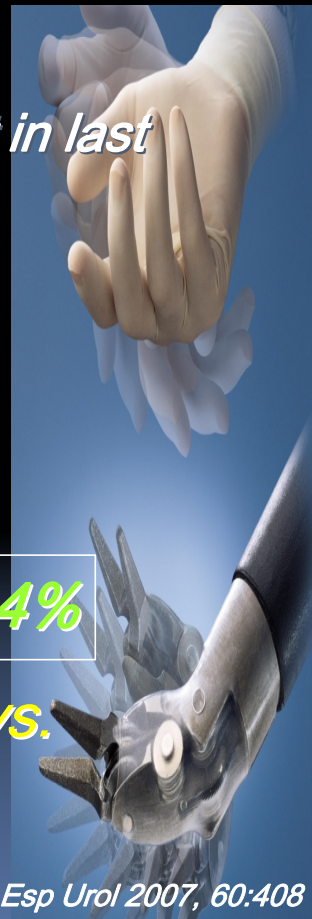
- *“ Probably the best major surgical advancement in last 10 to 15 years that can improve potency rates “.*

- Early potency recovery results are impressive.

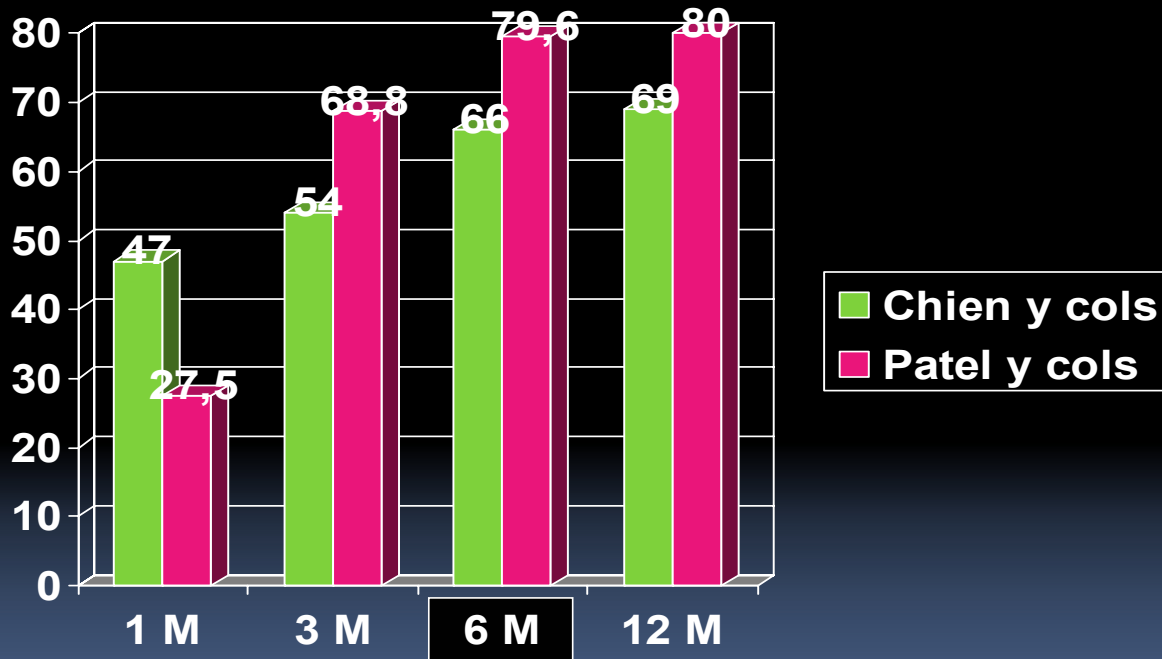
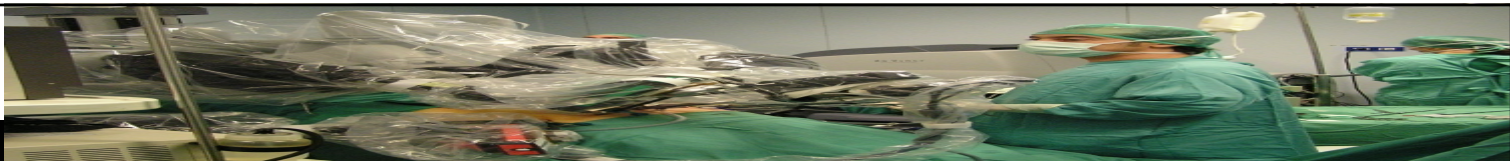
- *Sexual function first year:*

*53% (Zorn KC) – 96% (Menon M): 80,4%*

- *Faster recovery:* *180 days vs 440 days.*



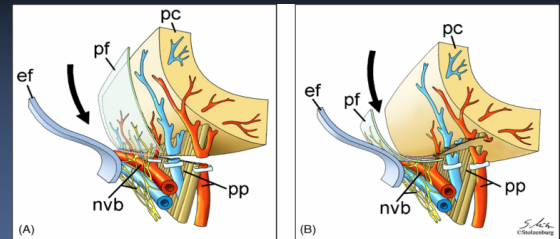
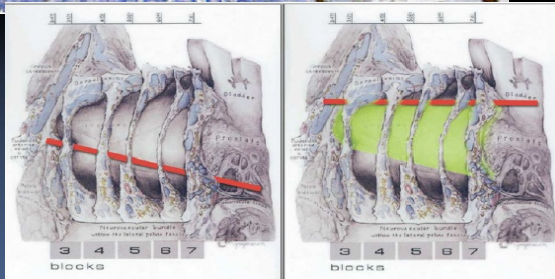
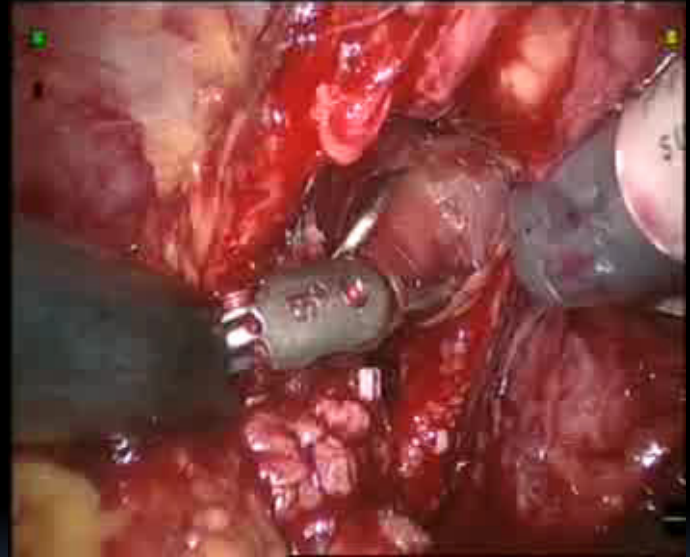
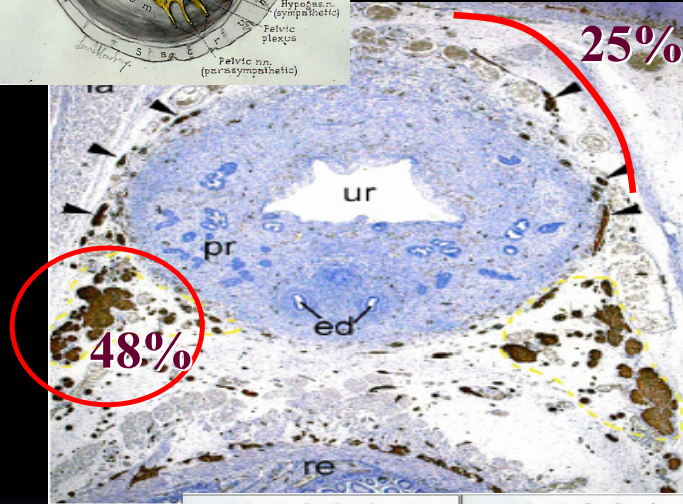
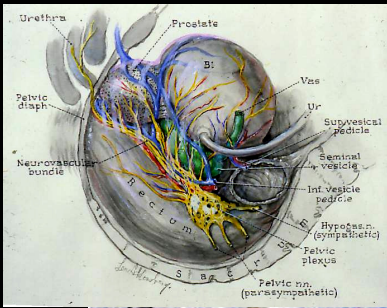
Coughlin G: Prostatectomía radical asistida por robot: Resultados funcionales. Arch Esp Urol 2007, 60:408



CHIEN WG: Modified clipless antegrade nerve preservation in RALP with validated sexual function evaluation. *Urology* 2005;66:419.

COUGHLIN G: Prostatectomía radical asistida por robot: Resultados funcionales. *Arch Esp Urol* 2007, 60:408

**YASUHIRO K:** Nerves at the ventral prostatic capsule contributes to erectile function: Initial electrophysiological assessment in Humans. *Eur Urol* 55:148, 2008



**SAVERA AT, KAUL S;BADANI K:** Robotic radical prostatectomy with the "Veil of Aphrodite" technique: histologic evidence of enhanced nerve sparing. *Eur Urol* 2006;49:1065-1074.



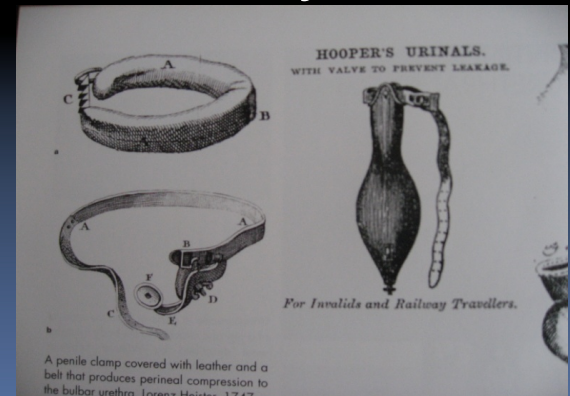
# Could robotic surgery improve early continence recovery ? And how can we do it ?

## •FASTER AND BETTER CONTINENCE RECOVERY

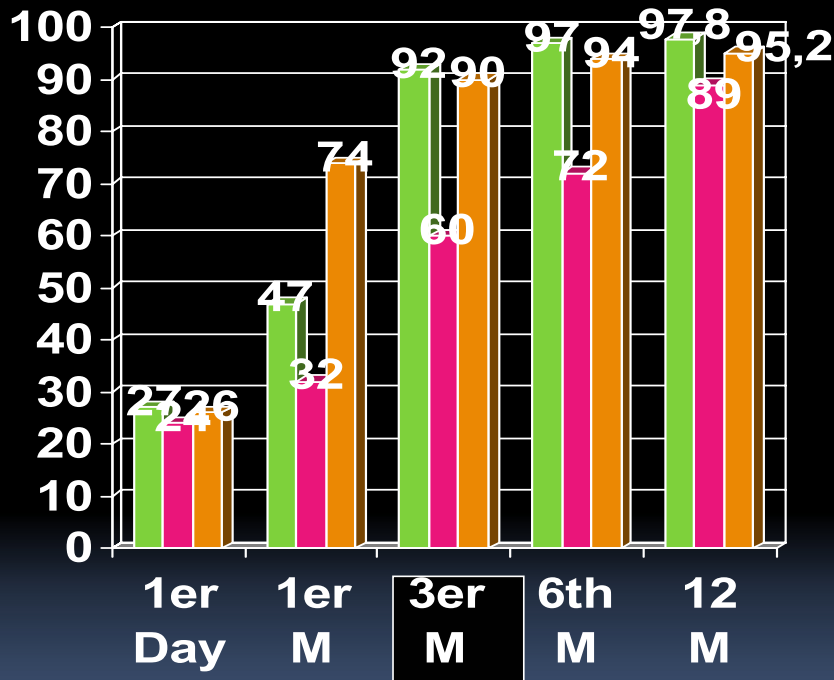
- Continenence rate 1 year:

80% (Cheng W)– 98% (Menon M): **94%**

- Continenence Faster: 44 days vs 169 days.



# Early continence recovery after RRP



1er day (25%), 1er month (50%) and 3 months (90%)  
Median time to continence: Between 3 to 8 weeks

# What about different reconstructive modalities to improve early continence recovery ?

## ( PUBOPERINEOPLASTY- ANTERIOR RECONSTRUCTION ) **TAKENAKA A.**

*Preservation of the puboprostatic collar and puboperineoplasty for early recovery of urinary continence after robotic prostatectomy: Anatomic basis and preliminary outcomes. Eur Urol 51:433;2007*

Continencia 29% en 1ª semana y 62% en 6 semanas

## ( POSTERIOR RECONSTRUCTION )

### **ROCCO F:**

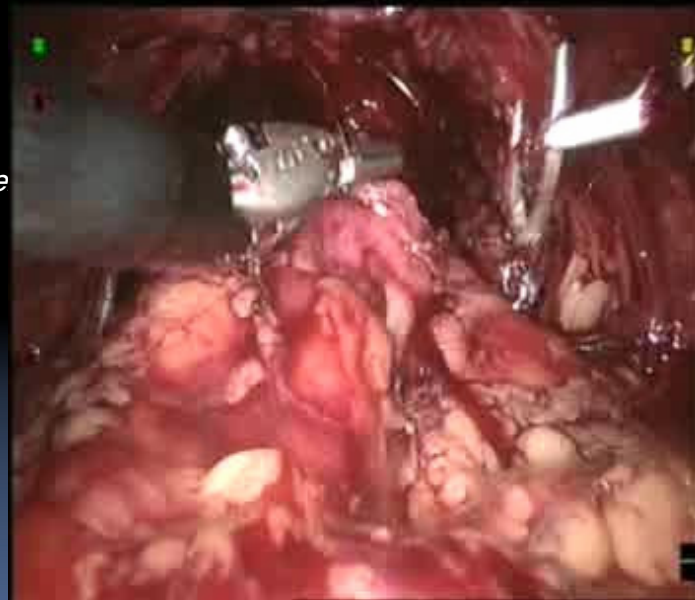
*Restoration of posterior aspect of rhabdosphincter shortens continence time after radical retropubic prostatectomy.*

*J Urol 2006; 175: 2201*

mejoría del 30% al 74% en 1º mes

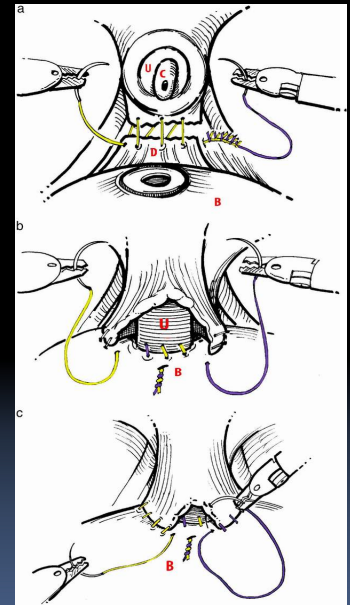
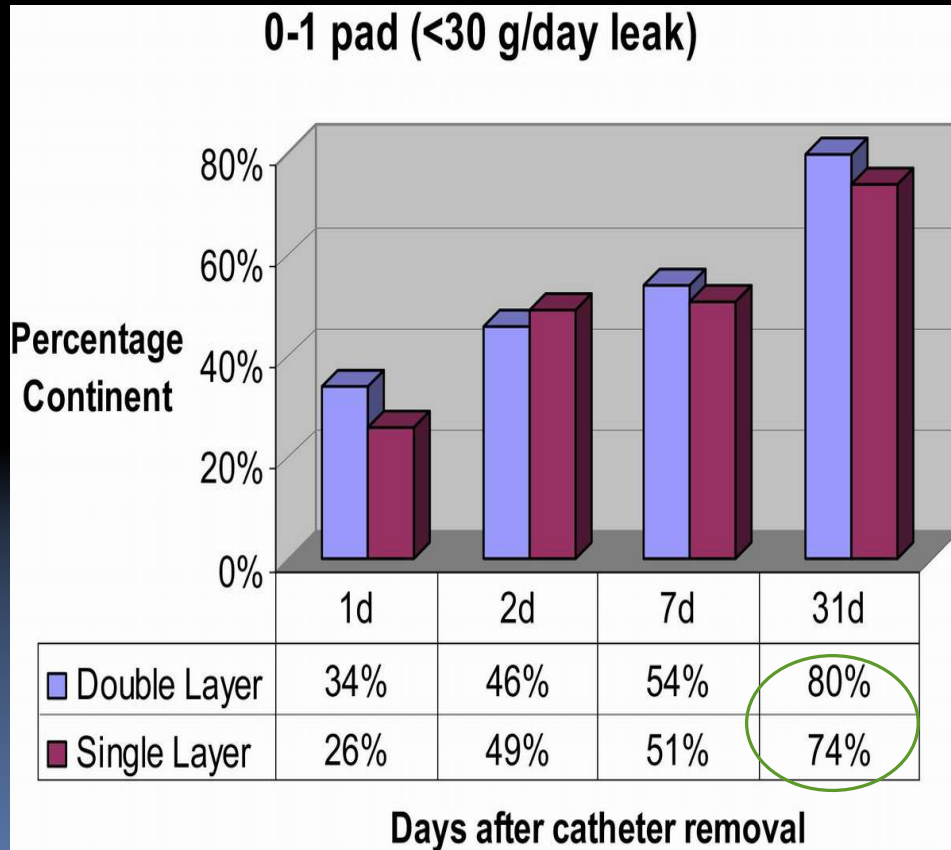
(**ROCCO B 2007** )

y del 3 al 34% (**NgUYEN MM 2008**)

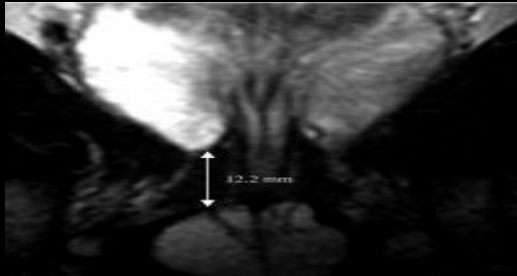


*CAMPENNI MA. Improved continence after radical retropubic prostatectomy using two pubourethral suspension stitches. Urol Int 68:109, 2002.*

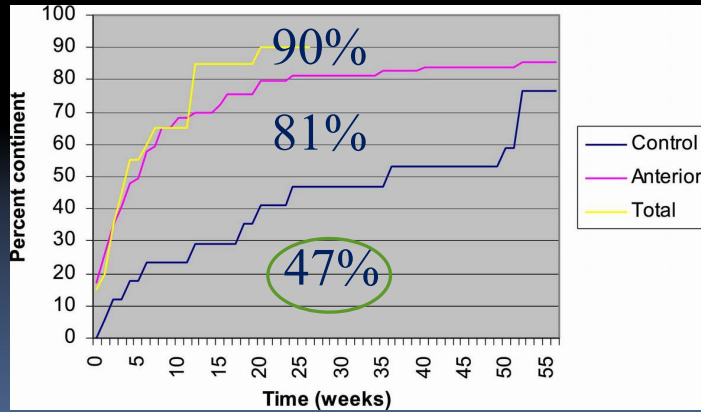
**Menon M:** *Assessment of Early Continence After Reconstruction of the Periprostatic Tissues in Patients Undergoing Computer Assisted (Robotic) Prostatectomy: Results of a 2 Group Parallel Randomized Controlled Trial.*  
**J Urol** 180(3), September 2008, p 1018–1023



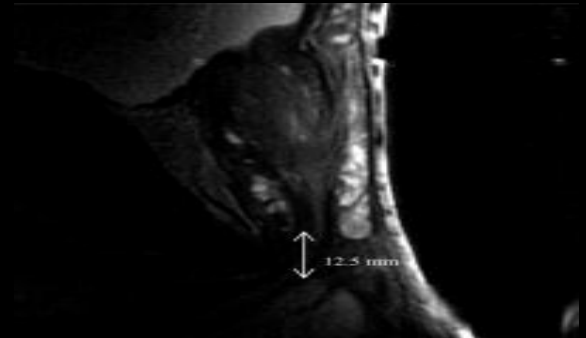
**Nguyen L:** *Surgical Technique to Overcome Anatomical Shortcoming: Balancing Post-Prostatectomy Continence Outcomes of Urethral Sphincter Lengths on Preoperative Magnetic Resonance Imaging.*  
**J Urol** 179(5), May 2008, p 1018–1023



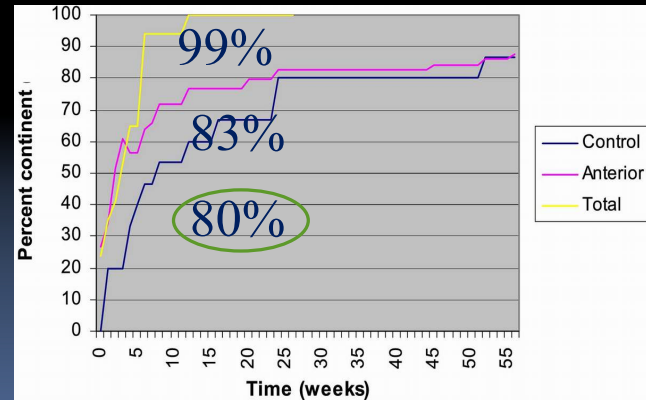
Urethral length < 14 mm



25 semanas



Urethral length > 14 mm



12 semanas

COAKLEY FV. *Urinary continence after RRP: relationship with membranous urethral length on preoperative endorectalMRI.* *J Urol* 168:1032, 2002

# ROBOTIC RP: GOLD-STANDAR ?

## Sexual function

80,4% first year

6-7 months

## Urinary continence

94% first year

3-8 weeks

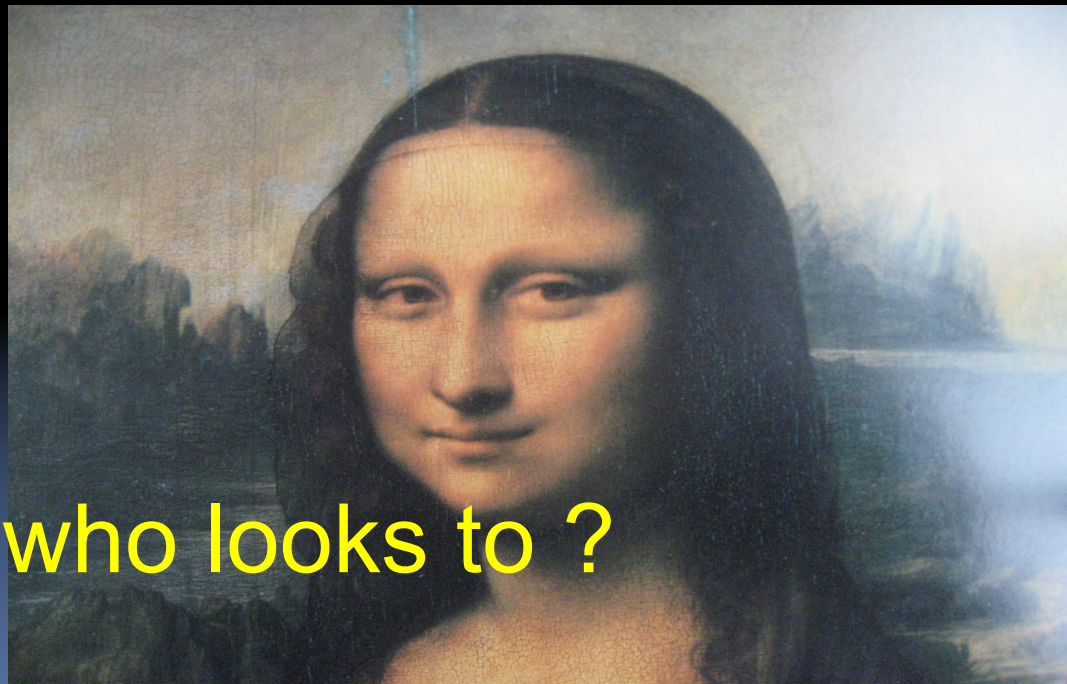
## Oncological Outcomes

PMR: 19,4%

## *da Vinci*<sup>®</sup> vs. Open vs. Conventional Laparoscopy

Outcome	<i>da Vinci</i> <sup>®</sup>	Open	Lap
<b>Cancer control</b>			
T2 margin status	2.5 <sup>1</sup>	5.9 <sup>2</sup>	7.7 <sup>3</sup>
<b>Complications</b>			
Estimated blood loss (EBL)	109 ml <sup>4</sup>	1355 ml <sup>5</sup>	380 ml <sup>6</sup>
Length of stay (LOS)	1.2 days <sup>4</sup>	3 days <sup>5</sup>	2.5 days <sup>13</sup>
Major	1.7% <sup>4</sup>	6.7% <sup>5</sup>	3.7 <sup>6</sup>
Minor	3.7% <sup>4</sup>	12.6% <sup>5</sup>	14.6% <sup>6</sup>
<b>Urinary function</b>			
3 month	92.9% <sup>7</sup>	54% <sup>8</sup>	62% <sup>9</sup>
6 month	94.9% <sup>7</sup>	80% <sup>8</sup>	77% <sup>9</sup>
12 month	97.4% <sup>7</sup>	93% <sup>8</sup>	83% <sup>9</sup>
<b>Sexual function</b>			
12 month	86% <sup>10</sup>	71% <sup>11</sup>	76% <sup>12</sup>

“ In future we must be aware, watching in all directions, with our eyes clearly open to avoid missing amazing things happening around us..... as MONA LISA is always doing “



who looks to ?