

# Quality of life issues after treatment for prostate cancer

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# Definition of Health

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not merely the absence of disease or infirmity, but a concept that incorporates well-being or wellness in all areas of life (physical, mental, emotional, social, spiritual)

World Health Organization

# Domains most commonly affected

- Sexual function quality of life
- Urinary function quality of life
- Bowel function quality of life
- Anxiety
- Marital intimacy/effect on spouses

# Health Related Quality of Life

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- How do we measure it?
- Who should assess it?
- Are there major differences among treatments?

# Longitudinal tracking of QOL

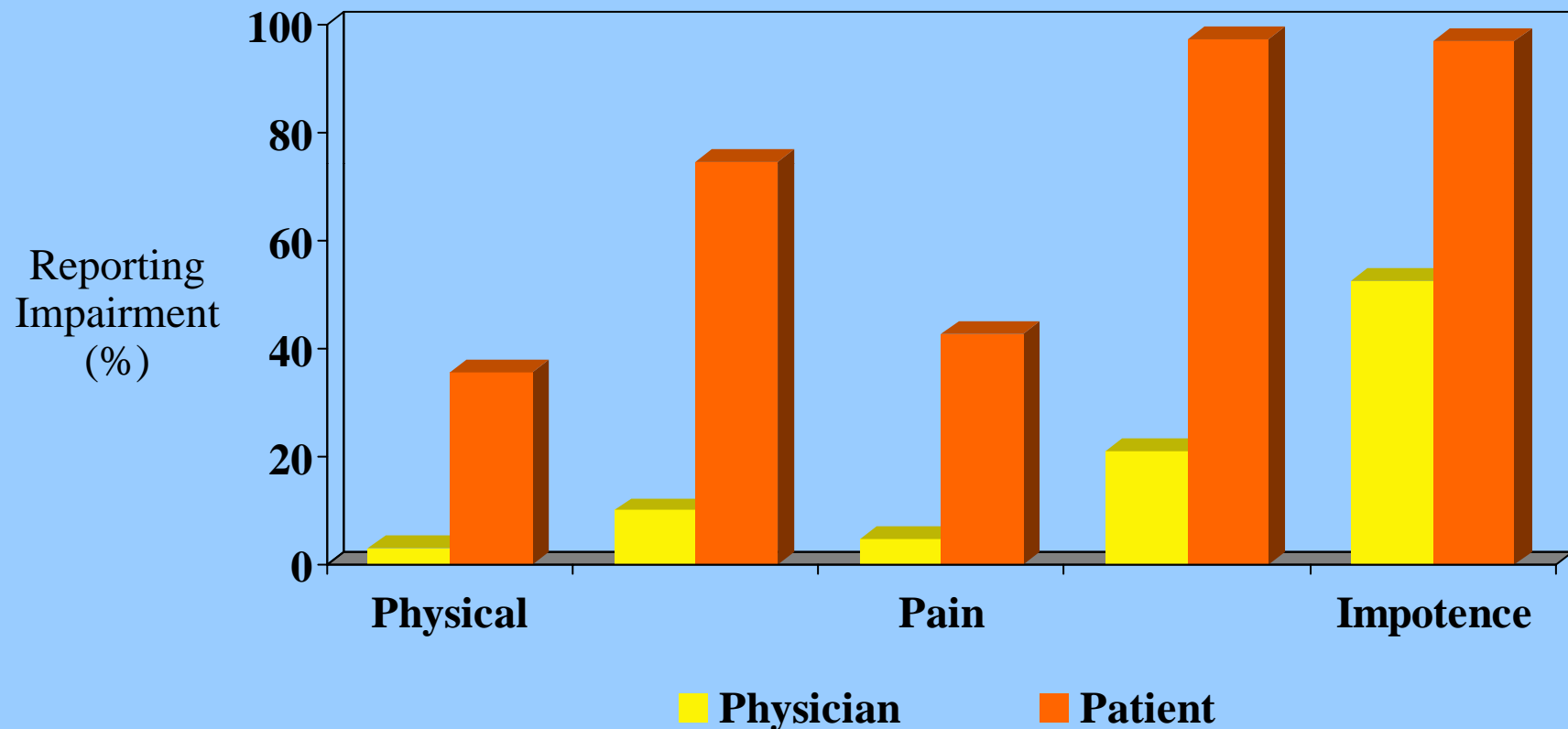
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- QOL measured at baseline
- Then followed over time to determine the long-term impact of treatment

# CaPSURE

## Patient/Physician Reporting QOL

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# Health Related Quality of Life Measurement in CaPSURE

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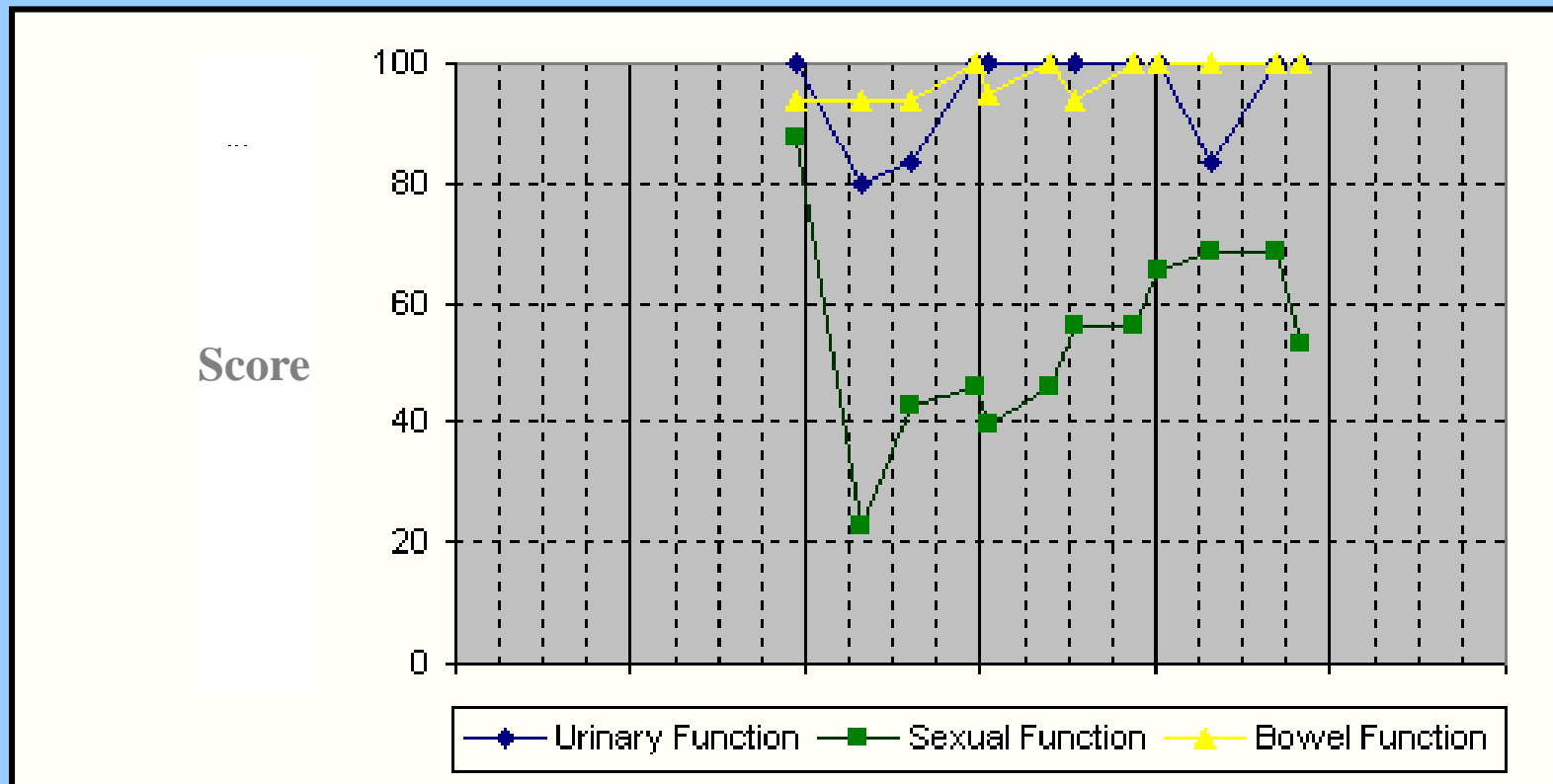
Patients complete questionnaires every 6 months

- RAND 36-item health survey (8 domains covering physical and emotional function) and 2 summary scores
- UCLA prostate cancer index
  - Urinary function and bother
  - Bowel function and bother
  - Sexual function and bother

# CaPSURE

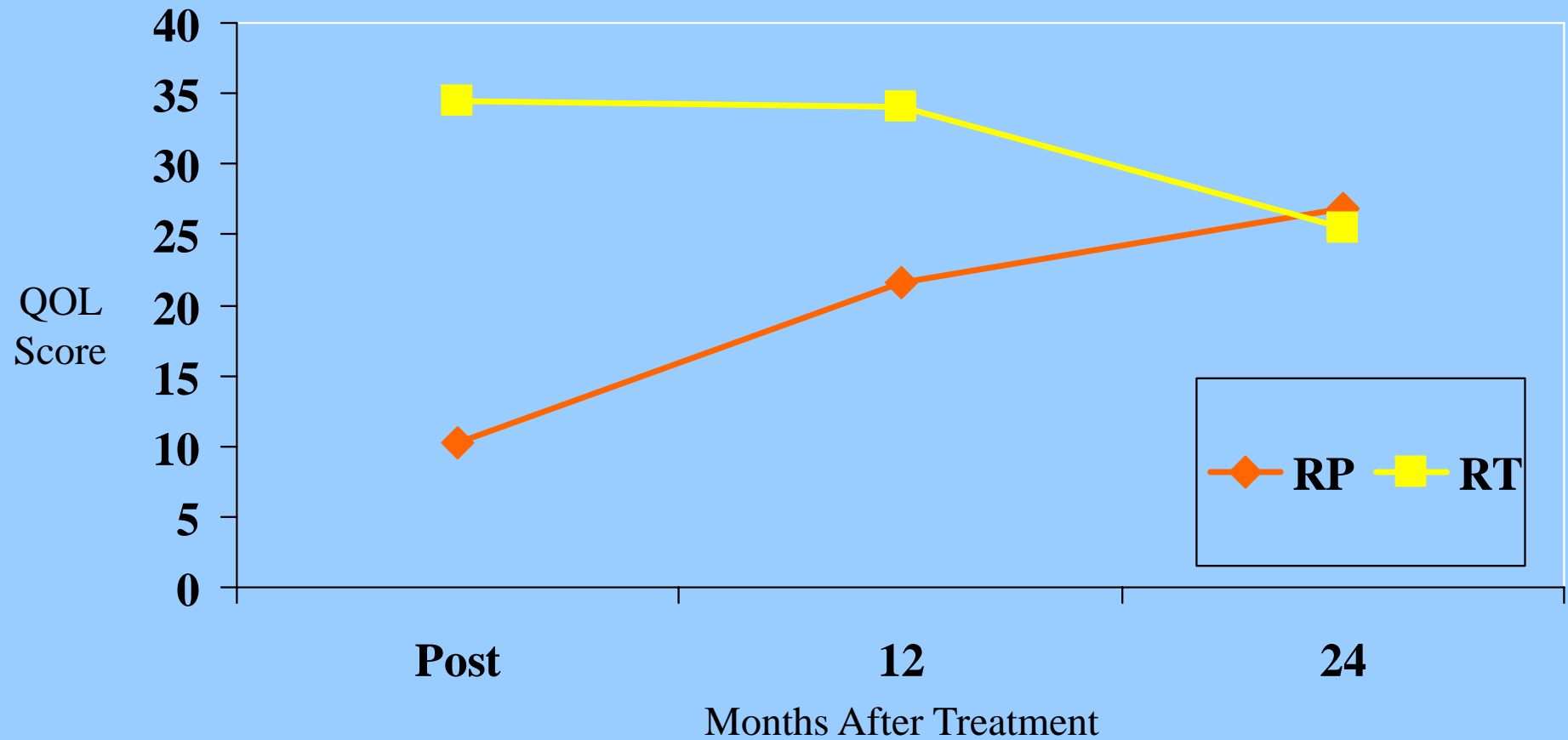
## QOL Outcomes

Quality of life improves with increasing vertical score (on a 100-point scale)





# Sexual Function CaPSURE



# Male Sexual Health

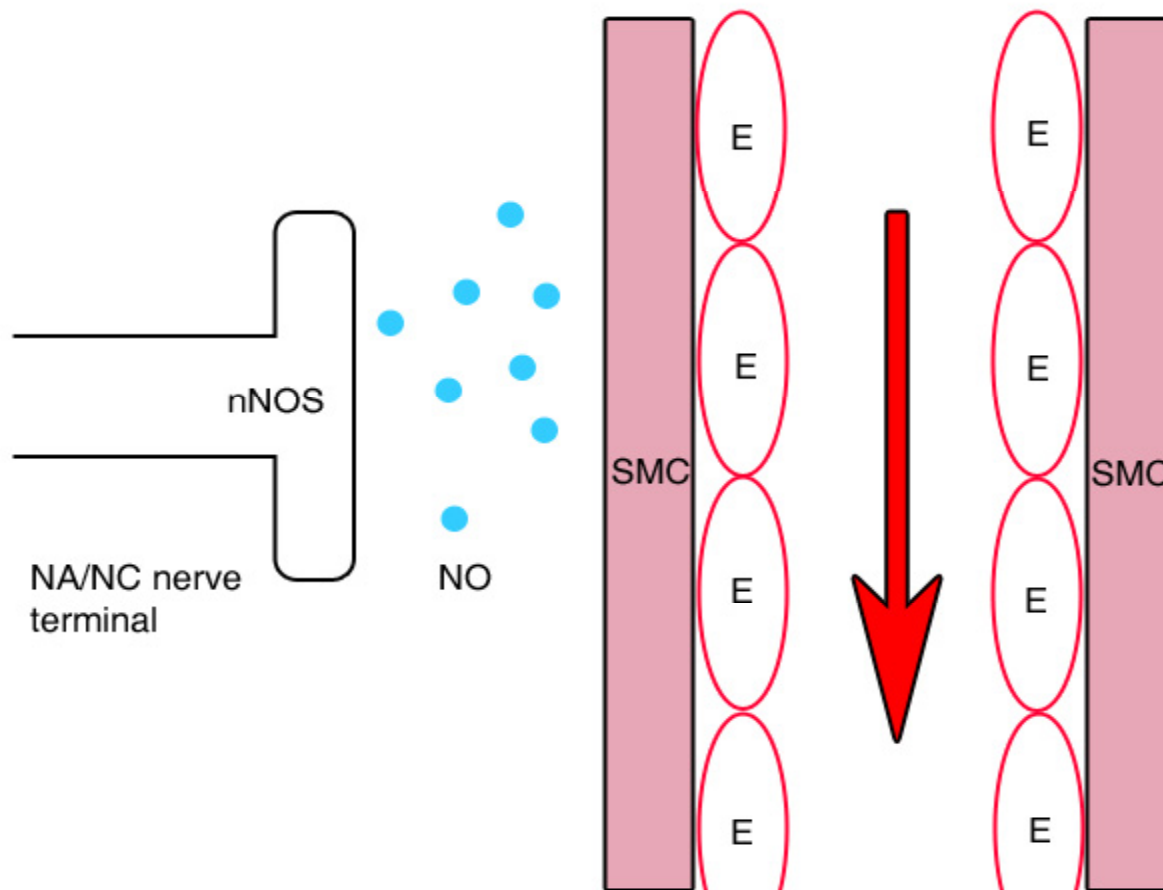
- Male sexual functioning is comprised of desire, ejaculatory function, orgasmic ability, and erectile dysfunction
- Erectile Dysfunction (ED) is defined as “the inability to achieve or maintain an erection sufficient for satisfactory sexual performance” (1992 NIH Consensus Statement)

	<b>Always or almost always able To achieve erection</b>	<b>Usually Able To achieve erection</b>	<b>Sometimes Able To achieve erection</b>	<b>Never Able To achieve erection</b>
<b>All ages</b>	<b>65% (62-68)</b>	<b>17% (15-18)</b>	<b>12%(11-14)</b>	<b>6% (5-8)</b>
<b>20-29 years</b>	81%(78-84)	12%(9-16)	5%(3-7)	2%(1-3)
<b>30-39 years</b>	88% (84-92)	8% (5-11)	3% (1-5)	0 (0-1)
<b>40-49 years</b>	72% (67-76)	20% (15-25)	7% (4-10)	1% (0-3)
<b>50-59 years</b>	56% (50-63)	20% (14-26)	20% (15-25)	4% (1-7)
<b>60-69 years</b>	29% (22-35)	28% (22-33)	27% (23-31)	17% (11-22)
<b>70-74 years</b>	19% (11-27)	21% (14-29)	39% (29-48)	22% (14-29)
<b>75+ years</b>	6% (1-10)	17% (12-21)	30% (24-36)	47% (40-55)

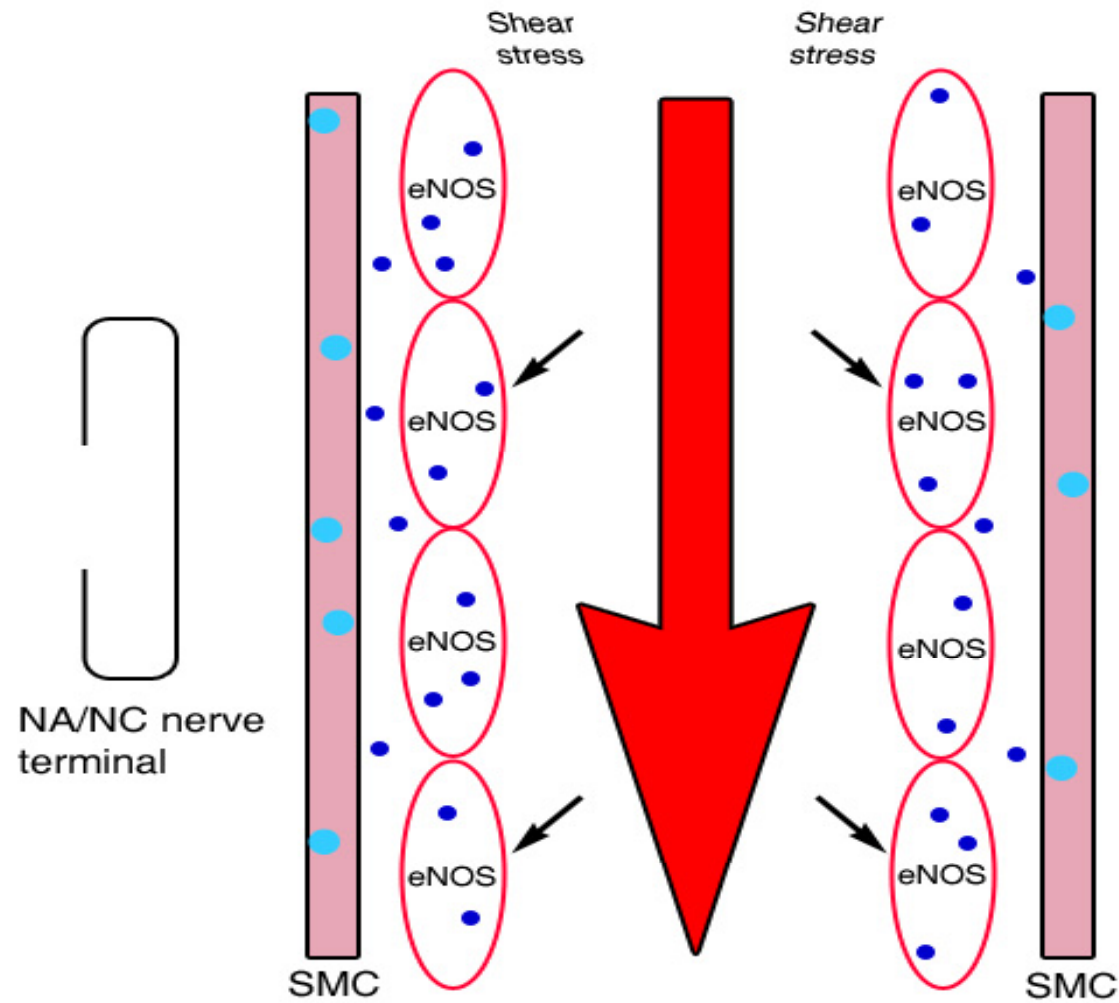
Comorbid Diagnosis	ED Absent	ED Present	Prevalence of ED among men with comorbid diagnosis.
Diabetes	3,675,146	3,572,607	49%
Obesity	16,206,023	4,990,098	23%
Heart Disease	3,055,592	3,344,306	52%
Hypertension	13,124,111	7,184,282	35%
Smoking	20,088,443	3,543,914	15%

# ED: Physiology

# Physiology of Erection



# Physiology of Erection



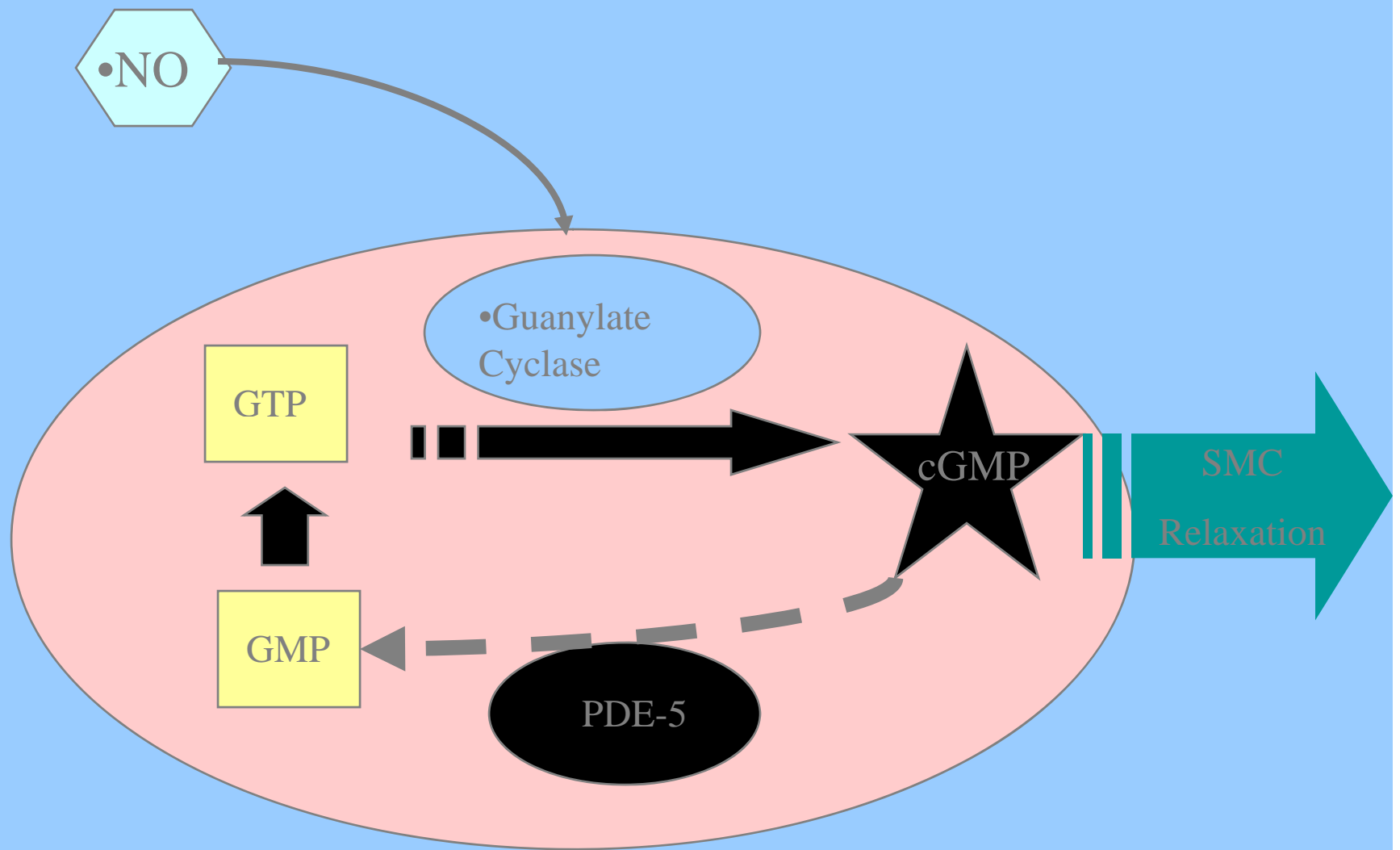
# ED treatment: oral agents

Introduced in 1998

Inhibitors of phosphodiesterase-5

Introduction was associated with 50% increase in physician visits for ED by 2000.





Mechanism of Smooth Muscle Cell Relaxation  
in the Penis

# ED treatment: oral agents

- Must be taken on an empty stomach
  - Require stimulation, intact cavernous nerves
  - Cardiac risks: contraindicated with nitrates
- AHA guidelines suggest caution in men with:  
Positive exercise stress test, CHF and low BP,  
Men with complicated anti HTN regimens

# ED treatment: oral agents

PDE-5 inhibitors: 70% 'beneficial' treatment effect vs 30% placebo

Benefit is dose dependant

70% in hypertensive patients

56% in diabetics

80% spinal cord injury patients

43% in men s/p radical prostatectomy

# ED treatment: oral agents

- Yohimbine

Associated with anxiety, GI distress

May be helpful in men with psychogenic ED

- L-arginine

Small studies showed benefit of 3 g/day in younger men, other studies showed no benefit

? Valuable in men with low urinary NO?

# ED treatment: urethral suppository

Medicated Urethral System for Erection  
(MUSE)

Intraurethral alprostadil (PGE1)

Penile pain in one third of men

Response rates less than with intracorporeal  
injection

# ED treatment: Intercavernous Injection

Alprostadil alone

Papaverine, Phentolamine, Alprostadil  
(trimix)

As effective as alprostadil alone, less  
priapism

Risks: priapism (1%-20%), penile fibrosis  
(1%-15%)

# ED treatment:non- pharmacologic

Vacuum Erection Device



# ED Treatment: penile prosthesis

- Inflatable
- Semi rigid



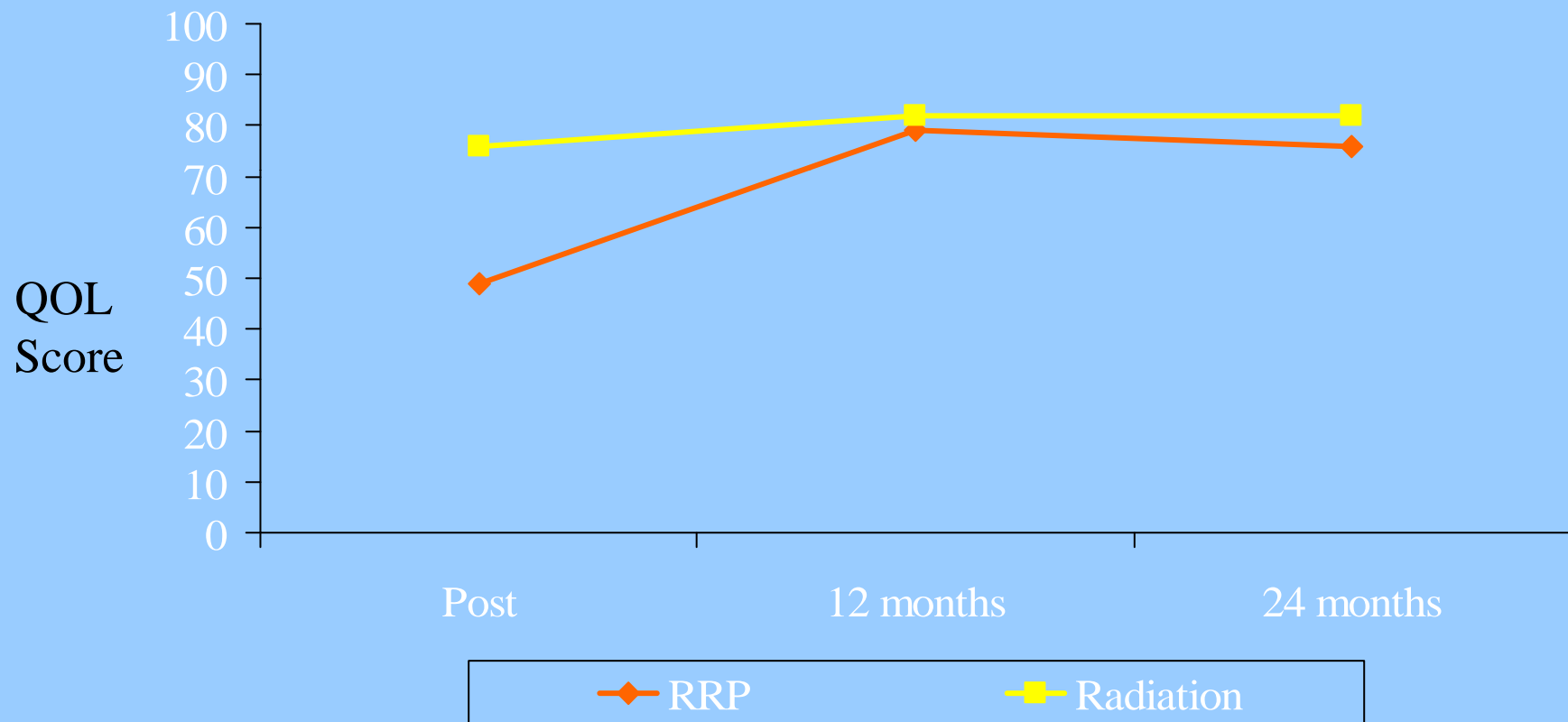


# Urinary Incontinence

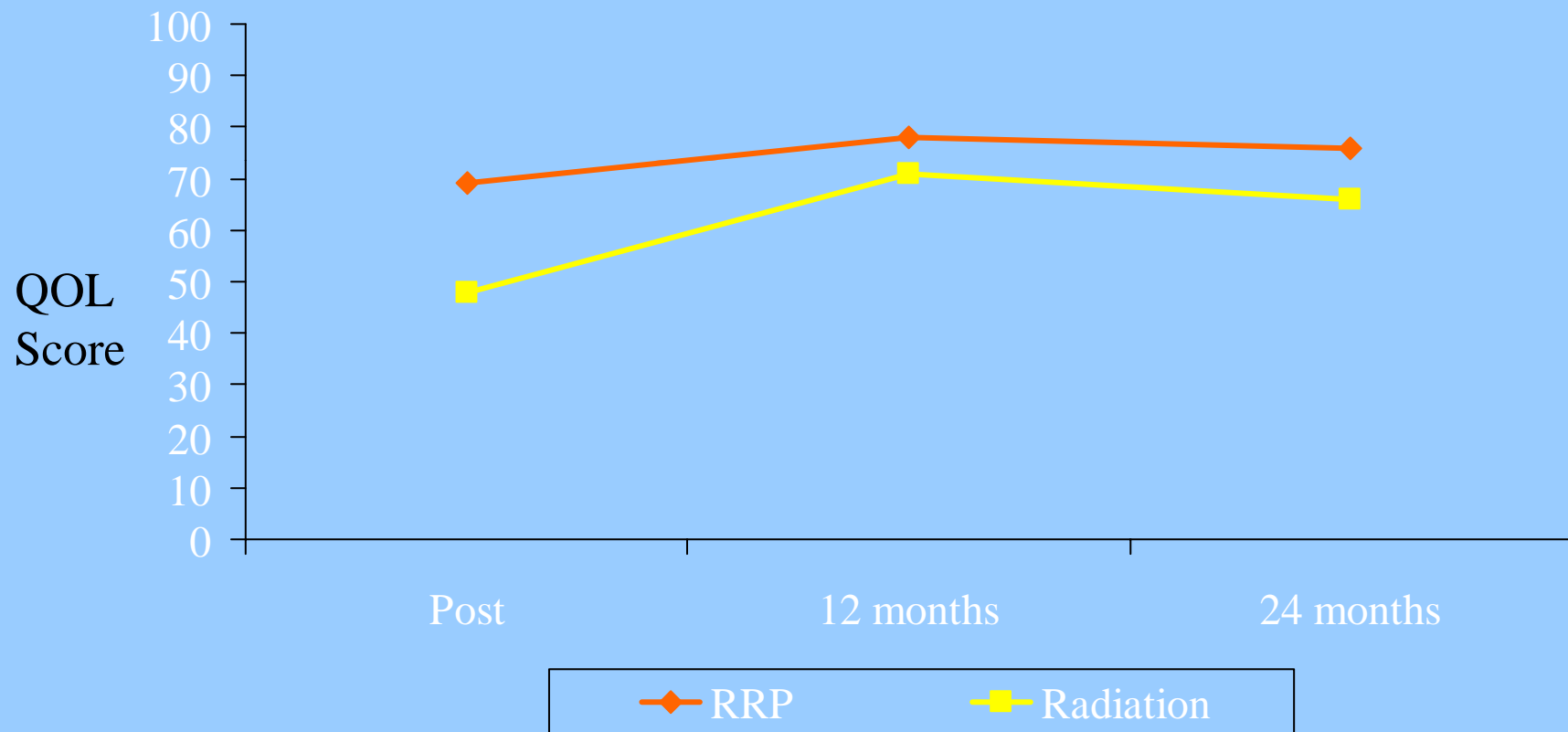
# urinary incontinence

- Rates at 12 months 7-35% wearing pads
- Rates depend on definition (total control vs 'no pads')
- Of those reporting 'no pads' 47% reported 'total control'
- By 2 years, further improvement unlikely

# Urinary Function CaPSURE



# Urinary Bother CaPSURE



Litwin MS, et al. *J Urol.* 2000;164:1973-1977.

# UI management

- Medications: anti-cholinergics
- Kegel exercises
- Artificial urinary sphincters
- Urethral slings
- Collagen injection

# Anxiety

- 1 in 3 men with prostate cancer in a GU clinic met criteria for anxiety disorder

Roth Cancer 1998

# Prostate Cancer Follow Up

**P S A**



# Prostate Cancer Follow Up

After radical prostatectomy

Any detectable level

Single value  $> 0.4$  ng/mL

Two values  $\geq 0.2$  ng/mL

Ultrasensitive PSA identifies recurrence 1-2 years earlier

# Prostate Cancer Follow Up

## After Radiation (XRT)

ASTRO Consensus Panel in 1997

- PSA recurrence *per se* does not justify additional treatment
- 3 consecutive rising PSA levels
- Nadir PSA strong prognosticator, best if  $<1.0$

## After Radiation (Brachy)

- Nadir PSA strong prognosticator, but no absolute level has been defined

# Prostate Cancer Follow Up

Pound et al, JAMA 1999

2,000 men post RP

PSA q 3 mo x 1 yr, q 6 mo x 1 yr, then q 12 mo

PSA recurrence if any PSA  $\geq$  0.2 ng/mL

Distant mets diagnosed with annual bone scan, CXR in men with PSA recurrence

# Prostate Cancer Follow Up

At 15 years 15% had PSA recurrence

33% of these developed clinical mets

## Timing of PSA recurrence after radical prostatectomy

PSA never falls to undetectable post-op or falls but rises rapidly

→ Systemic disease

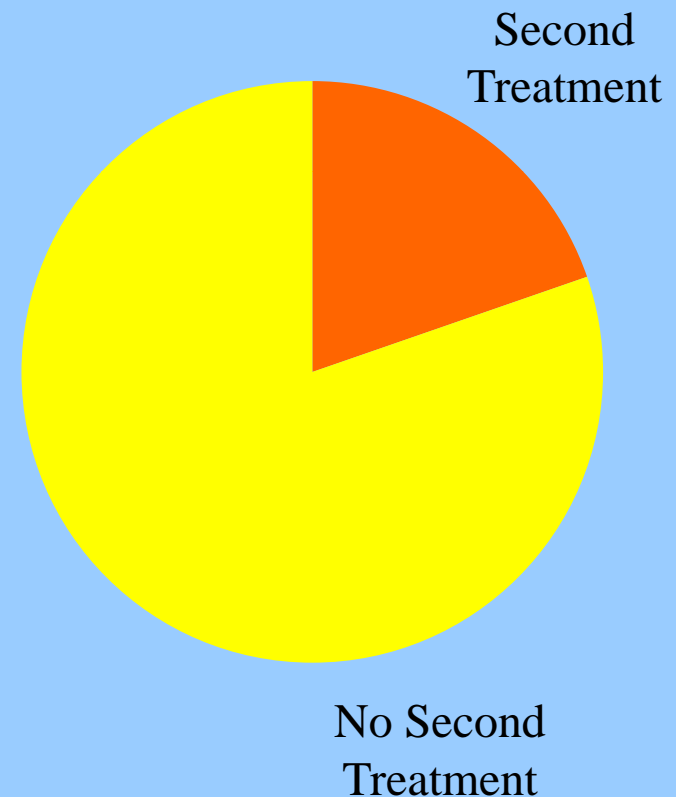
PSA becomes undetectable then slowly rises 1-4 years post-op

→ Local recurrence

# Secondary Treatment

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- Rate of second cancer treatment
- Longitudinal disease registry
- RP 1,254, radiation 499, and cryotherapy 141
- Compare types of second treatment



# Secondary Treatment

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	RP	RT	Cryotherapy
Second treatment (%)	14	27.2	22.4
Mean years at risk	2.52	2.92	2.12

# Many survivors have secondary treatments

- These continue to impact quality of life
- Decision regret
- Partner impact



# Complementary Therapy

# Prostate Cancer: Ornish Study

- 93 men with prostate cancer randomized to diet and exercise vs usual care
- 1 daily serving of tofu plus 58 gm of a fortified soy protein powdered beverage
- fish oil (3 gm daily)
- vitamin E (400 IU daily)
- selenium (200 mcg daily)
- vitamin C (2 gm daily)
- 10% calories from fat

# Ornish Study

- moderate aerobic exercise (walking 30 minutes 6 days weekly),
- stress management techniques (gentle yoga based stretching, breathing, meditation, imagery and progressive relaxation for a total of 60 minutes daily)

# Ornish Study: results

- 6 patients in the control group chose treatment vs none in the experimental group
- PSA decreased (4%) in the experimental group, increased (6%) in the control group
- Serum from experimental group decreased prostate cancer cell line growth by 70%

# Prostate Cancer and Herbal Medicine

- Buyer beware
- The case of PC-SPES
- Saw Palmetto and Pygeum not indicated for prostate cancer treatment
- Integrated approach may be most beneficial to patient

# Prostate cancer prevention during 7-year finasteride study

Variable	Finasteride Group			Placebo Group			Relative Risk of Prostate Cancer
	No. at Random-ization	No. Included in Analysis	No. Positive for Prostate Cancer (%)	No. at Random-ization	No. Included in Analysis	No. Positive for Prostate Cancer (%)	
All men	9423	4368	803 (18.4)	9457	4692	1147 (24.4)	0.75
Age							
<55 Yr	1	0	0	1	1	0	—
55–59 Yr	2954	1380	205 (14.9)	2954	1492	309 (20.7)	0.72
60–64 Yr	2970	1442	254 (17.6)	2825	1477	357 (24.2)	0.73
≥65 Yr	3498	1546	344 (22.3)	3677	1722	481 (27.9)	0.80
Race or ethnic group							
Non-Hispanic white	8667	4056	739 (18.2)	8713	4387	1067 (24.3)	0.75
Non-Hispanic black	356	152	41 (27.0)	353	146	50 (34.2)	0.79
Hispanic	262	117	19 (16.2)	237	114	23 (20.2)	0.80
Other	138	43	4 (9.3)	154	45	7 (15.6)	0.60
Prostate cancer in a first-degree relative							
Yes	1458	719	176 (24.5)	1455	794	241 (30.4)	0.81
No	7965	3649	627 (17.2)	8002	3898	906 (23.2)	0.74

# Testis Cancer

# TREATMENT RISKS - XRT

- Short term:
  - Constitutional
  - GI symptoms - nausea, diarrhea
  - Skin changes
  - Bone marrow suppression
  - Infertility
- Long term:
  - Irritative GI / bladder symptoms: ~5-10%
  - Bowel obstruction: ~5-10%
  - Secondary malignancy: RR ~1.5-2



# TREATMENT RISKS - RPLND

- Short term:
  - Invasive / Structural injury
  - Post-op pain / disability
  - Ileus
  - Atelectasis/pneumonitis
- Long term:
  - Retrograde ejaculation: 2-30%
  - Bowel obstruction: ~5%

# TREATMENT RISKS - CHEMO

- Short term:
  - Constitutional
  - Mucositis
  - Rash
  - Alopecia
  - GI Distress
  - Neutropenia
  - Infertility
- Long term:
  - Pulmonary fibrosis: ~2%
  - Raynaud's phenomena: 10-50%
  - Nephrotoxicity
  - Hypercholesterolemia
  - Neuropathy: 15-45%
  - Secondary malignancy: RR ~1.8
  - ? Chemo Brain?

# RISKS - SURVEILLANCE

- Noncompliance →  
Undetected recurrence
- Anxiety ?
- Impairment in mental health  
measures ?