

Optimising Sexual Function Outcomes in Men Post Pelvic Cancer Treatment

John Sullivan

Consultant Urologist

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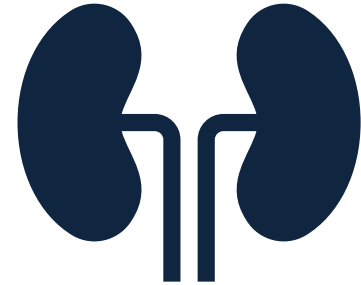
Importance of Survivorship !

*“Let’s not focus solely on adding years to life, but let’s also pay attention to adding **life to years.**”*

President JOHN F. KENNEDY, to Congress Feb 21,1963

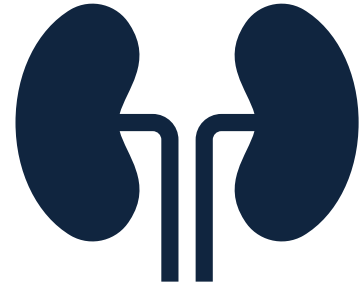
Key Components:

- Continenence & **sexual function recovery**
- Fertility preservation & regeneration
- Endocrinopathies & hypogonadism
- Mental health & body image
- Psychosocial factors
- Disease surveillance



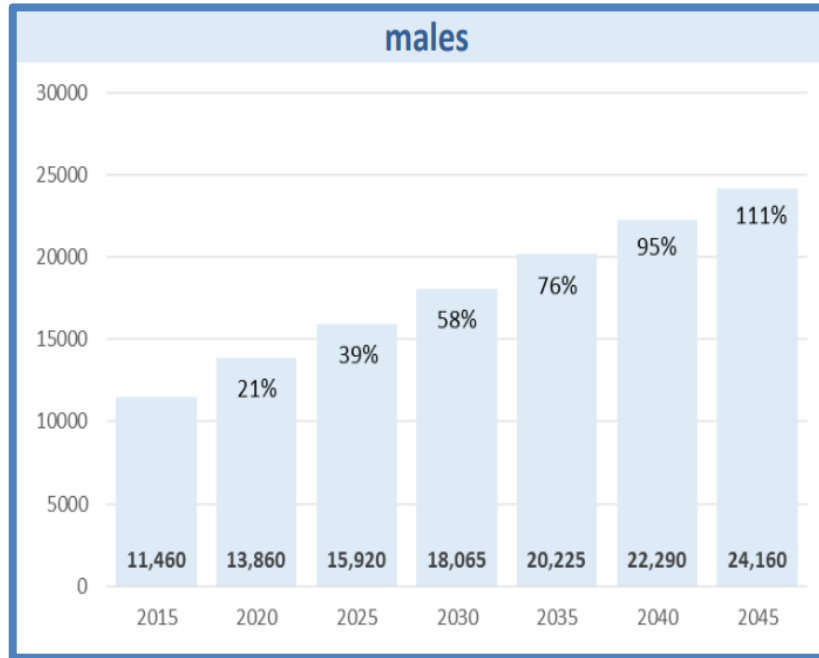
Sexual Function Recovery:

- Erectile dysfunction
- Orgasmic dysfunction
- Peyronie's disease / penile curvature
- Penile length loss
- Low libido / low testosterone
- Psychogenic ED



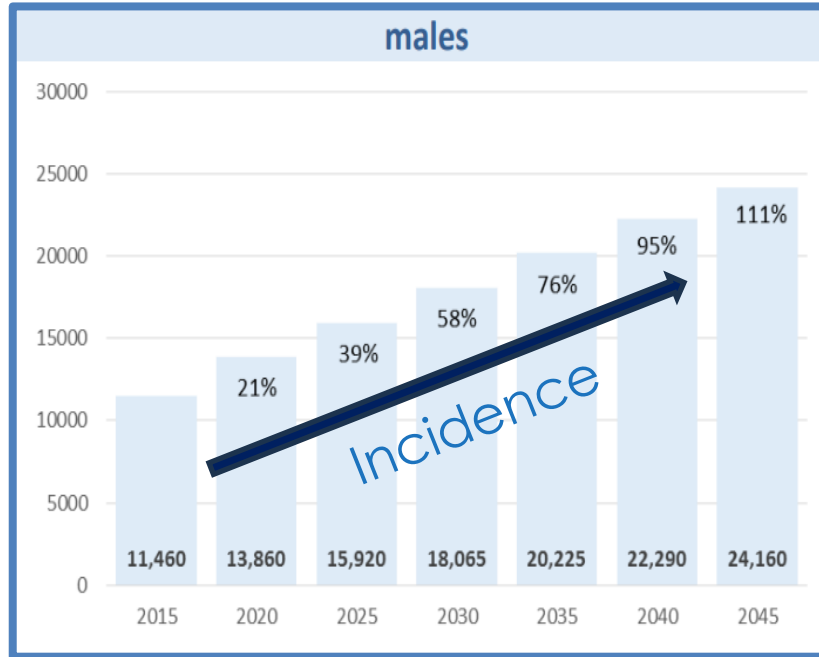
Projected Burden of Cancer (2015 – 2045)

Incidence by Cancer Type



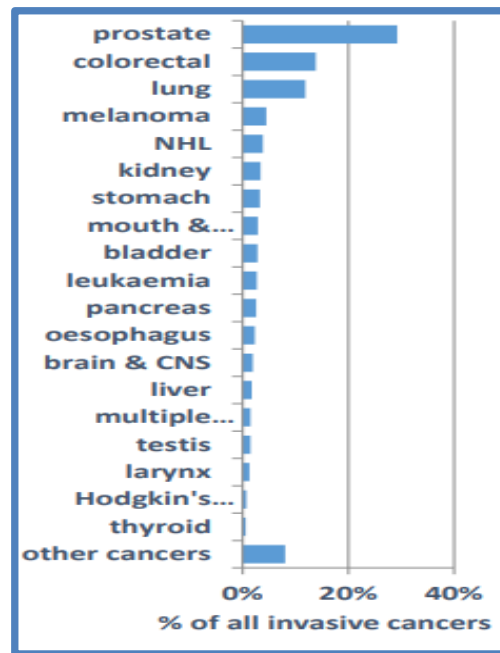
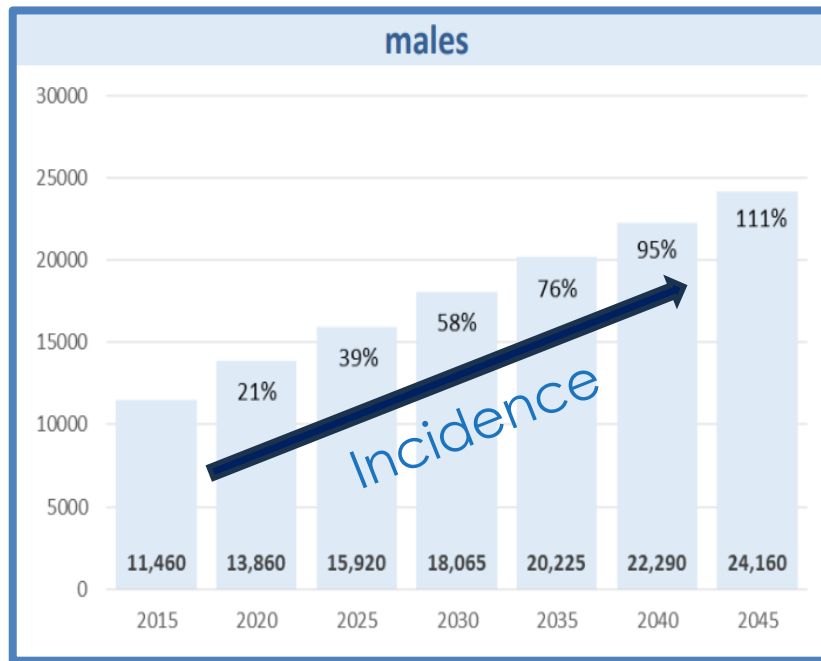
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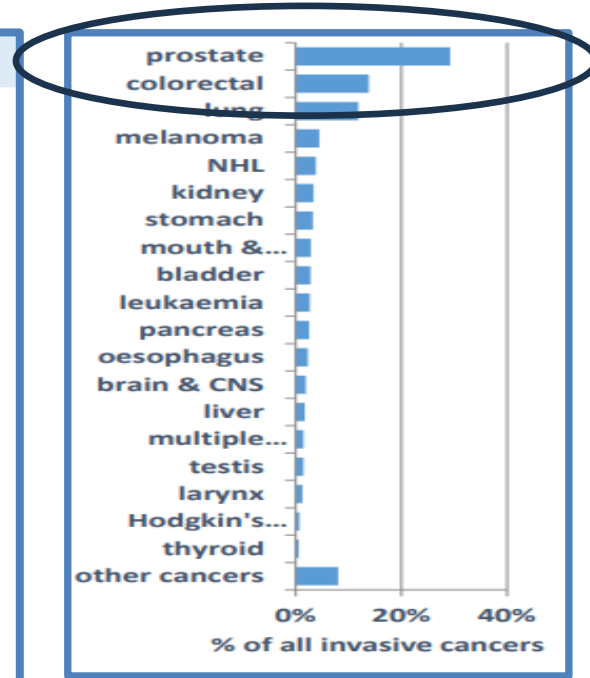
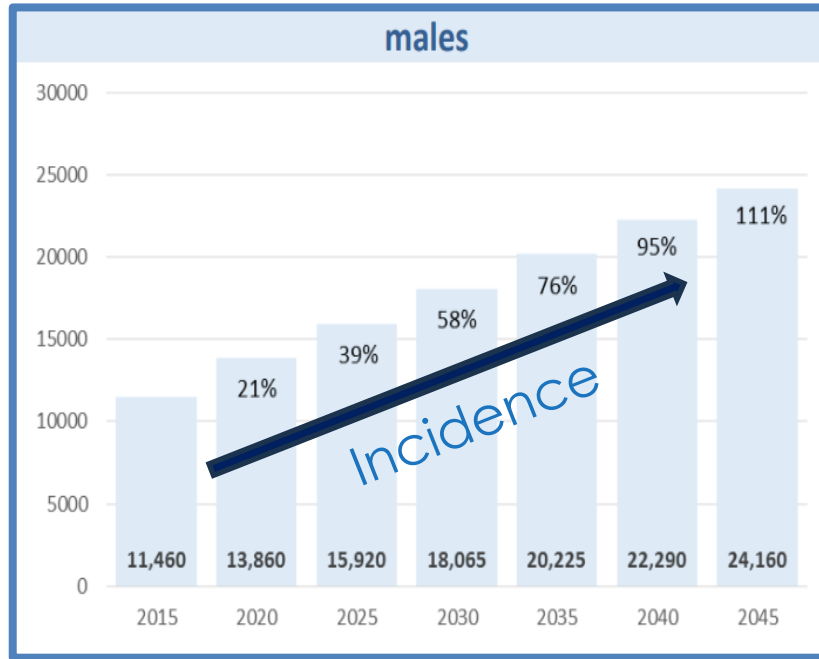
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Projected Burden of Cancer (2015 – 2045)

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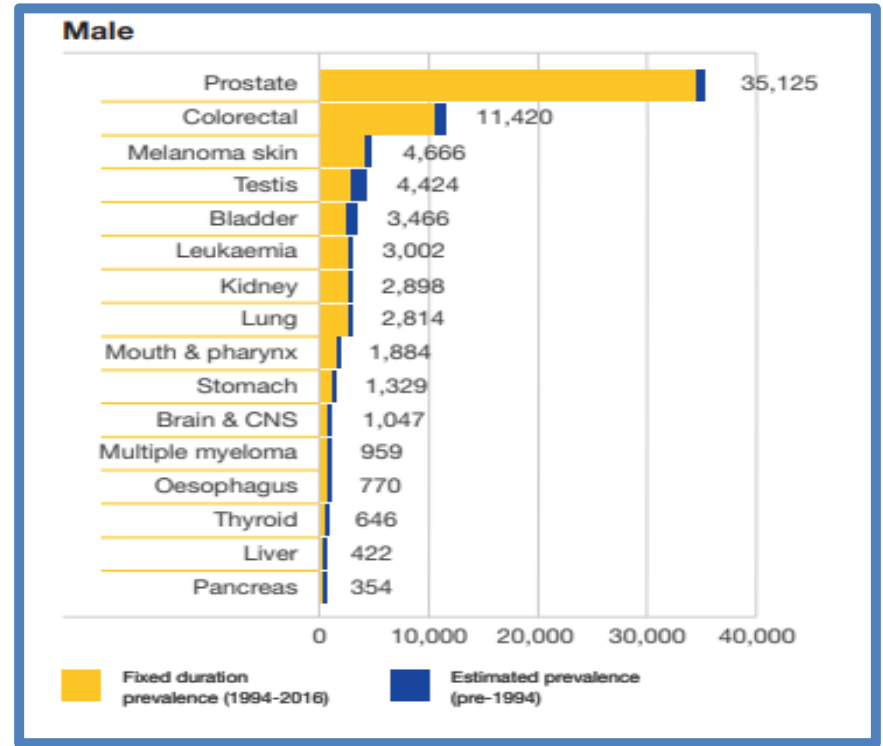
43%

National Cancer Survivorship Needs Assessment:

The Unmet Needs of Cancer Survivors in Ireland: A Scoping Review 2019

Number of cancer survivors
(*prevalence by cancer type*)

[National Cancer Registry Ireland \(ncri.ie\)](http://ncri.ie)



Prostate Cancer in Ireland

- 4,000 + new cases in 2024 (1/8)
- Highest incidence in Europe
- Average age diagnosis 74 (1994-1996) > 67 (2014-2020)
- Current 10-year survival rates over 95%
- Becoming less oncocentric !!

[National Cancer Strategy 2017 - 2026 \(www.gov.ie\)](http://www.gov.ie)



ED Post Prostate Cancer Treatment

Radical Prostatectomy	Radiotherapy
Immediate effect – 90% +	Little effect within first 12 m
Nadir – 3 m after surgery RALP = Open	Nadir – 3 to 5 yrs after completion of rads
Recovery 18 – 24 m	Recovery : earlier but progresses
Ejaculation - None – but climacturia common	Ejaculation - Reduced semen – 70% at 3 years, 90% at 5 years

ASCO GU 2023: Testosterone Recovery Following Androgen Suppression & Prostate Radiotherapy (**TRANSPORT**): Individual Patient Data Meta-Analysis from the MARCAP Consortium

851 (**69%**) men had full Testosterone recovery

Median time months (range)

- **3 months - 5.5 (1.8-75.7)**
 - **6 months - 12.7 (1.8-86.0)**
 - **18 months - 30.8 (18.1-84.1)**
- Approximately one-third of the men did not achieve FTR, which may have life-long impact on quality of life.

Pathophysiology of ED Post Surgery / Radiation for Prostate Cancer

Pathophysiology of ED Post RP/RT

Plumbing



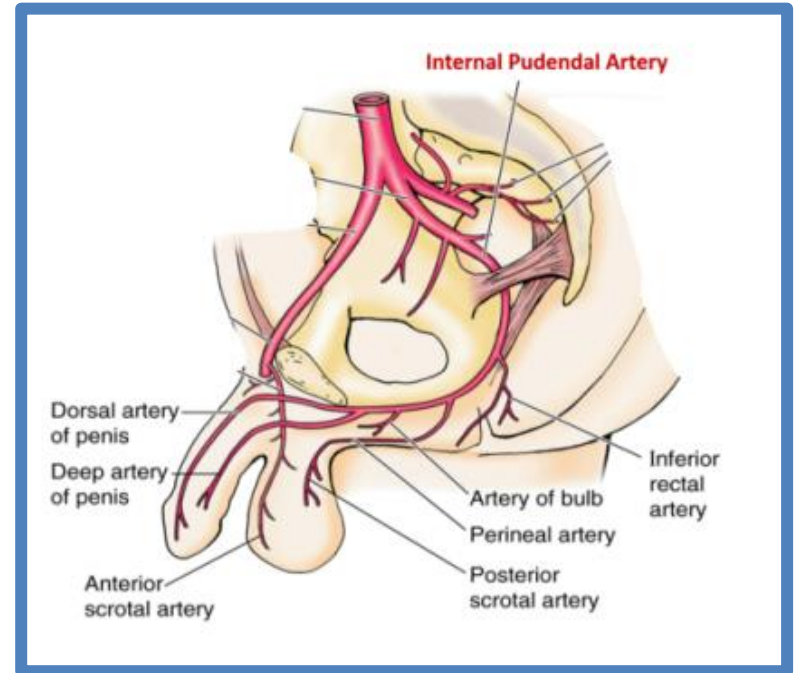
Electricity



Mind Games

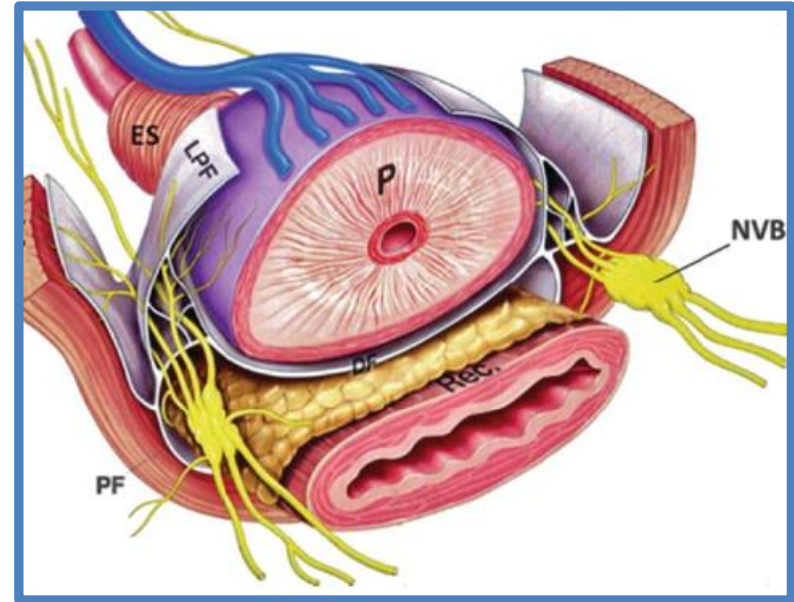


- Blood flow vital to prevent hypoxic / fibrotic changes
- Accessory pudendal arteries
 - Above pelvic diaphragm
 - Prone to injury during Pelvic surgery
 - Major inflow to penis in 70%
 - Improved erectile function when preserved



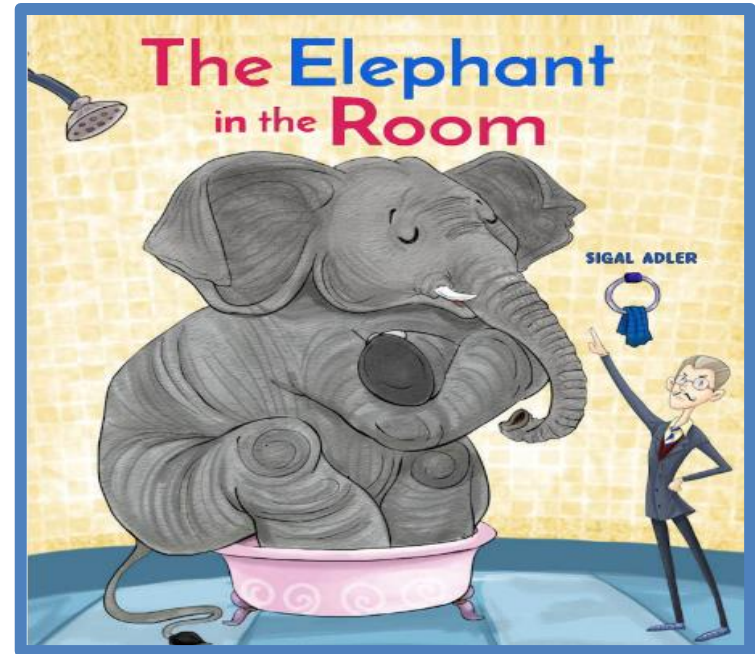


- Macroscopically poorly visualized
- Injured by transection, traction & thermal injury
- Neuropraxia > hypoxic injury > fibrosis via TGF B1, cytokines, proapoptotic factors





- Cancer diagnosis
- Demasculinisation
- Patient / partner anxiety
- Performance anxiety
- Adrenaline ++



How do we optimise sexual function recovery ?

Pre - Treatment

- Informed consent / realistic expectations
- Patient education – websites / patient advocates
- Include “significant other” from beginning
- Pre - tx erectile function assessment

SEXUAL HEALTH INVENTORY FOR MEN (SHIM)

Instructions

Each question has five possible responses. Circle the number that best describes your own situation. Select only one answer for each question.

Over the last six months:

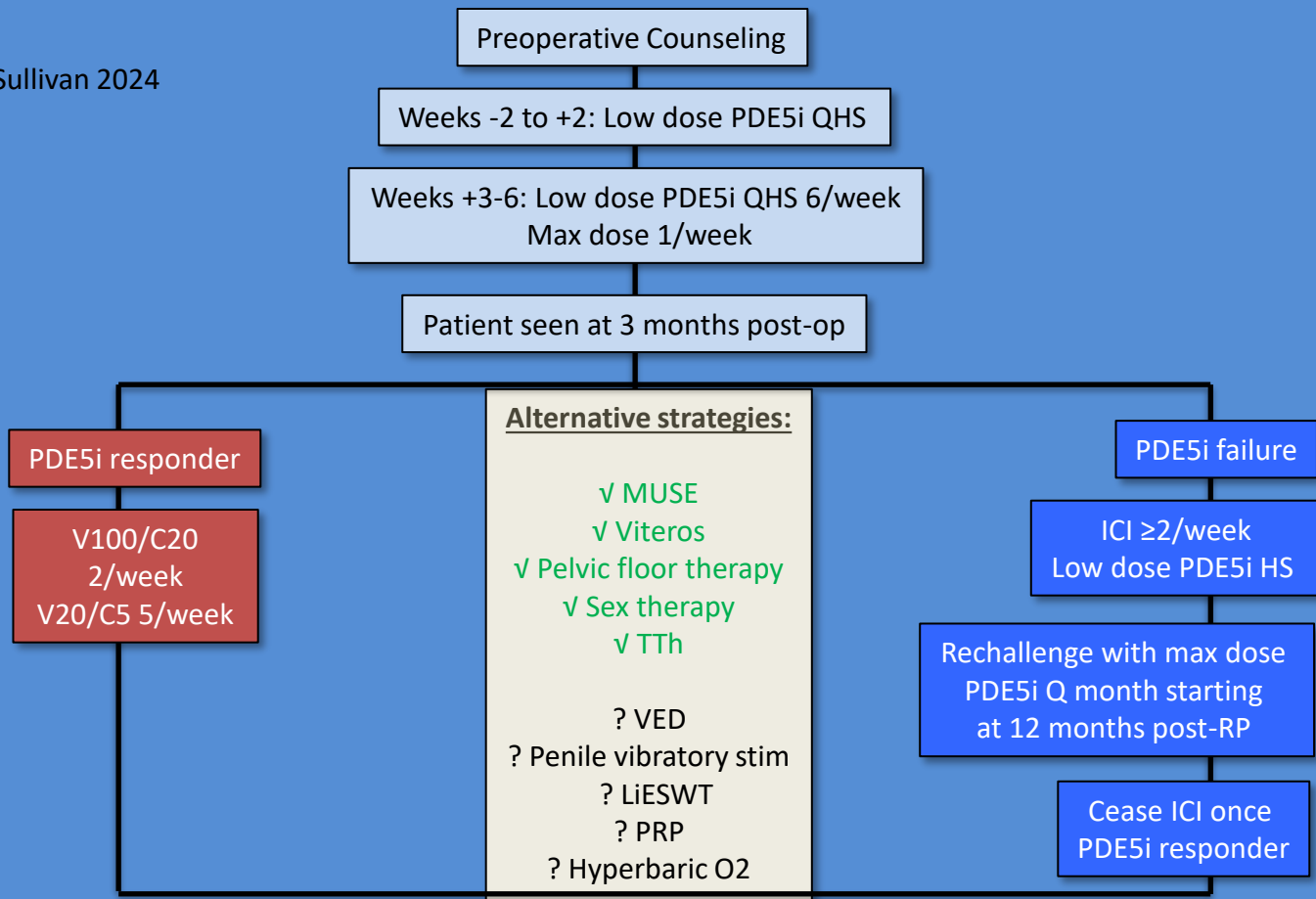
1. How do you rate your confidence that you could keep an erection?				
1 Very low	2 Low	3 Moderate	4 High	5 Very high
2. When you had erections with sexual stimulation, how often were your erections hard enough for penetration (entering your partner)?				
1 Almost never or never	2 A few times (much less than half the time)	3 Sometimes (about half the time)	4 Most times (more than half the time)	5 Almost always or always
3. During sex, how often were you able to maintain your erection after you had penetrated (entered) your partner?				
1 Almost never or never	2 A few times (much less than half the time)	3 Sometimes (about half the time)	4 Most times (more than half the time)	5 Almost always or always
4. During sex, how difficult was it to maintain your erection to completion of intercourse?				
1 Extremely difficult	2 Very difficult	3 Difficult	4 Slightly difficult	5 Not difficult
5. When you attempted sex, how often was it satisfactory for you?				
1 Almost never or never	2 A few times (much less than half the time)	3 Sometimes (about half the time)	4 Most times (more than half the time)	5 Almost always or always

Post - treatment

- Enrollment in survivorship pathway early
- Andrologist / survivorship ANP's / patient support workers
- Uncouple above from cancer surgeon or radiation therapist
- Early & aggressive penile rehabilitation
- **Sex therapists / psychogenic component !!!!!!!!!!!!!!!!!!!!!!!**
- Use nomograms to predict recovery & set targets

Penile Rehabilitation





At 18 months if failure > IPP

What do you as a GP have at your disposal ?



Oral Medications



Injections



Penile Implants



Topical Creams



Vacuum Erection Devices



Urethral Suppositories

Oral medications – PDE 5 Inhibitors

Comparison of PDE5 Inhibitor							
PDE5i	Dose(mg)	T1/2 (Hr)	Bioavailability / Food Effect	Onset of Action	Duration	S.Es	ContraInd
Sildenafil	25, 50, 100	3.7hr (4-5hrs)	40% (Low Absorption with food)	15-60mins	8-12hrs	Blurr/Blue Vision*	Nitrates
Vardenafil	5, 10, 20	3.9hr (4-5hrs)	15% (Low Absorption with food)	15-60mins	8-12hrs	Blurred Vision* Prolonged QT interval	Nitrates AntiArrhythmics
Tadalafil	2.5, 5, 10, 20	17.5hr	Not Tested/None Not impaired with fatty food	15- 120mins	36-48hrs	Back Pain*	Nitrates
Avanafil	50, 100, 200	5hr		15-30mins	8-12hrs	Back Pain* Overall lowest risk	

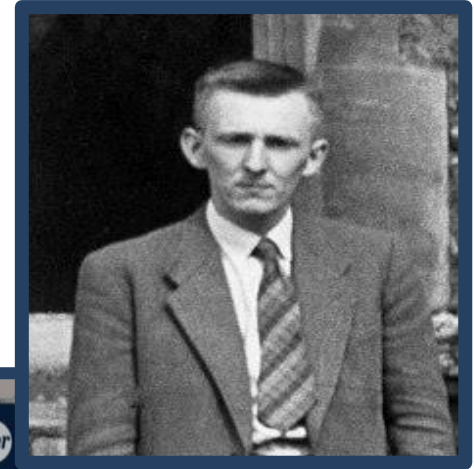
** Headache, Dizziness, GI Upset, Flushing, Nasal Congestion

- C/I's – Nitrates, Recent MI (< 6 m), unstable angina, significant stroke
- α blocker – 4 hour separation
- 25% patients non responders
- Are they taking it properly.....
- Switch PDE 5
- 8 -12 times max dose – then failed.....(approx. 3 months)

Intracavernosal Injection Therapy

- **Prostaglandin E1 - Brindley Scott (AUA 1983)**

HOW (NOT) TO COMMUNICATE NEW SCIENTIFIC INFORMATION: A MEMOIR OF THE FAMOUS BRINDLEY LECTURE LAURENCE KLOTZ – Sunnybrook and Women's College Health Sciences Centre, University of Toronto, Toronto, Canada



“no normal person would find the experience of giving a lecture to a large audience to be erotically stimulating or erection-inducing”



Intracavernosal Injection Therapy

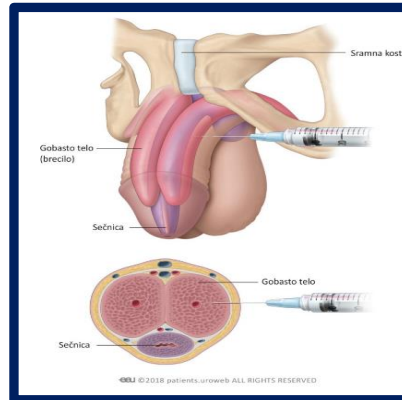
Caverject > Alprostadil (PDE1) > c AMP activator

Bimix > Papaverine: non specific PDE inhibitor

Trimix > Phentolamine: a blocker

Invicorp → Vasoactive Intestinal Peptide + Phentolamine

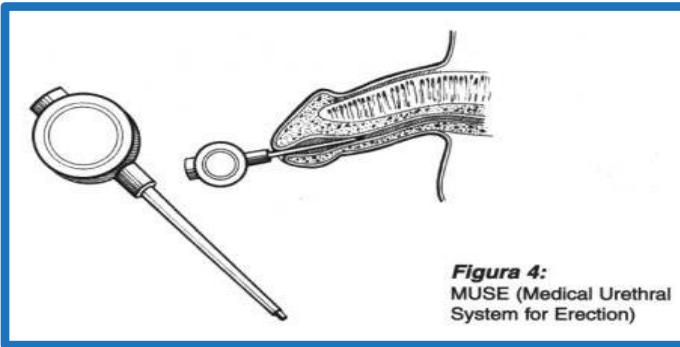
- Direct injection into corpus cavernosum (syncytium)
- 2/10 o'clock positions
- Bypasses need for neural input
- Efficacy dependent on CCSM health



- Priapism history
- MAOI medications
- Coagulopathy
- Poor manual dexterity
- Poor vision
- Peyronie's disease

Topical Alprostadil

- **MUSE:** PGE1 pellet
- Success Rates = 30-66%
- S.E : Penile and Urethral Pain, Priapism, Dizziness, Urethral Bleed

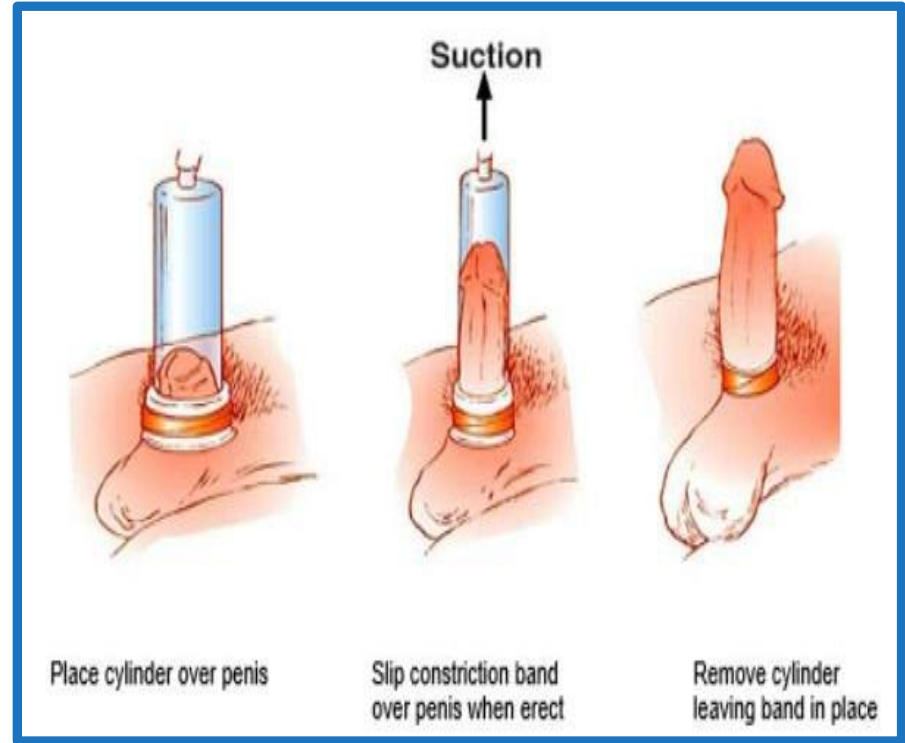


- **Vitaros:** Same MOA
- Messy / Expensive

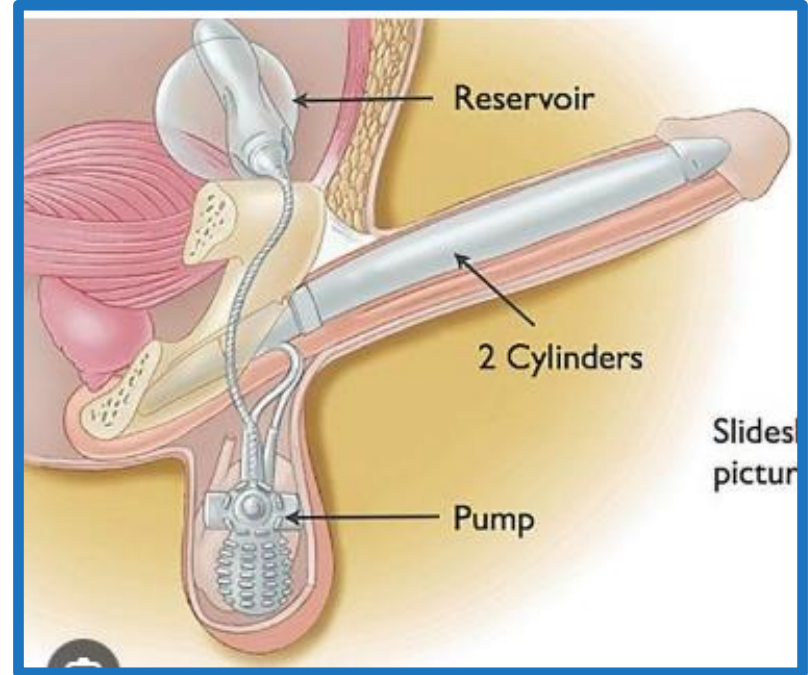


Penile Pump

- **Veno - Occlusive Dysfunction**
- 3 components → Vacuum Chamber, Pump and Constriction band
- **C/I's**
 - ✓ Anticoagulation Rx (Relative)
 - ✓ Poor controlled DM
 - ✓ Poor penile sensation
 - ✓ Poor cognitive function
 - ✓ Significant PD
- **Side Effects**
 - ✓ Penile bruising, Pain, ischemia

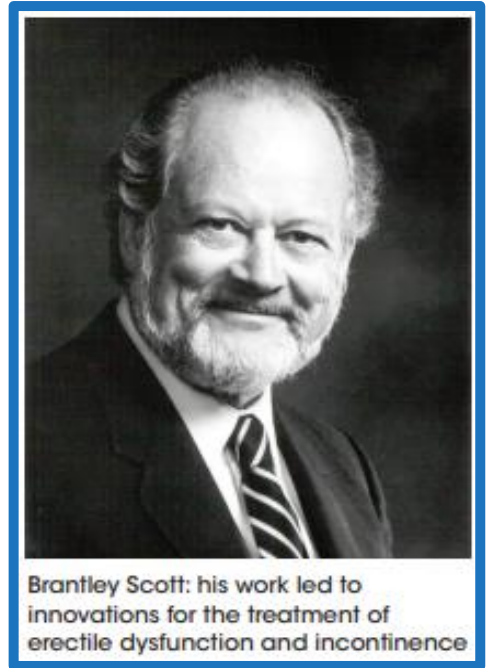


Penile Implants



Penile Implants - History

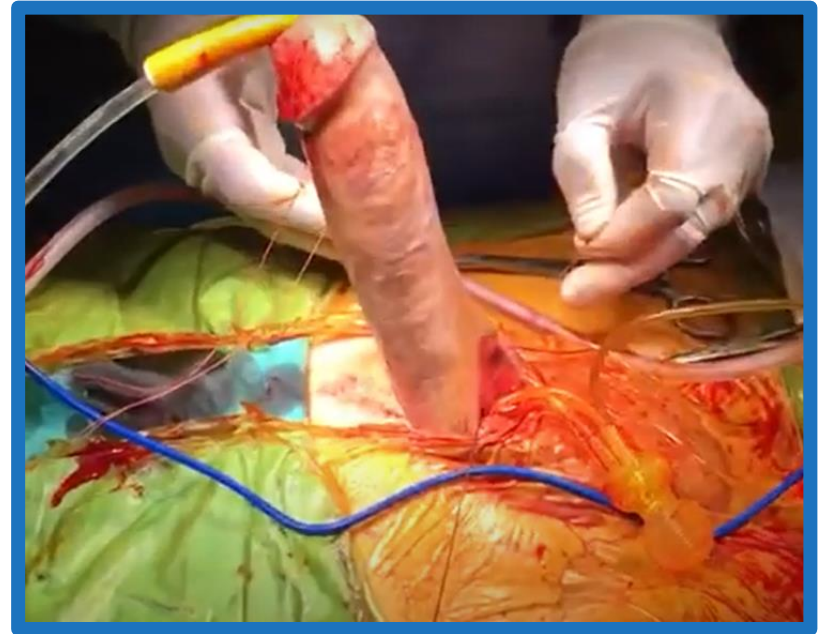
- 1973 - F. Brantley Scott, Houston, Tx
- Prototype inflatable prosthesis
- Hydraulic mechanism to transfer fluid from reservoir to inflatable silicone cylinders via pump
- Co founded AMS (now Boston Sci)
- Became very rich and popular 😊



Brantley Scott: his work led to innovations for the treatment of erectile dysfunction and incontinence

Penile Implants - Present

- 50,000 / yr (50% USA)
- Majority private insurance (7K approx)
- 1 hr / POD 1 home / 6 wks activate
- Complications
 - Infection (1 – 3%)
 - Mechanical failure
 - * 95% @ 5 years
 - * 80% @ 10 years



Some Words of Wisdom

- Never implant a stranger
- Under promise and overdeliver
- Beware the **CURSED** Patient !



Compulsive
Unrealistic
Revisions
Surgeon Shopping
Entitled
Denial
Psychiatric disorders



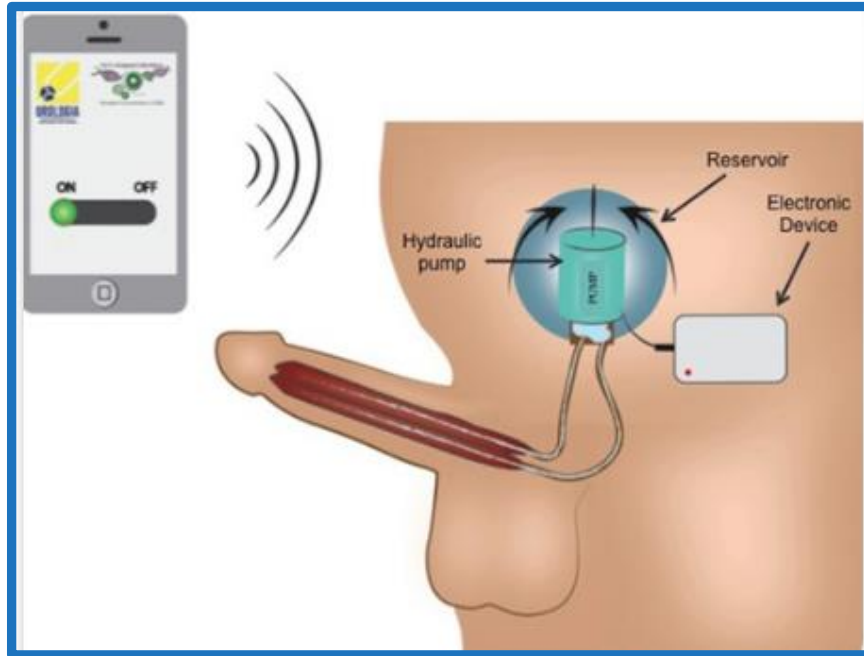
Steven K Wilson MD
(> 10,000 penile implants)

Exclusions

- Active infection – skin / UTI
- Uncontrolled DM (HbA1c level > 8.0%)
- BMI > 30
- Immune compromised
- Poor manual dexterity
- High PVR / BOO / neurogenic bladder

Penile Implants - Future

Electronic IPP (Boston Scientific, Clonmel)



Thank you

Thank You for Attending
AUTUMN GP STUDY MORNING

28.09.2024 O' REILLY HALL, UCD

**Boston Scientific in Ireland
currently employs approximately
6,500 people with a goal of
driving innovation, connect with
us to learn more**

