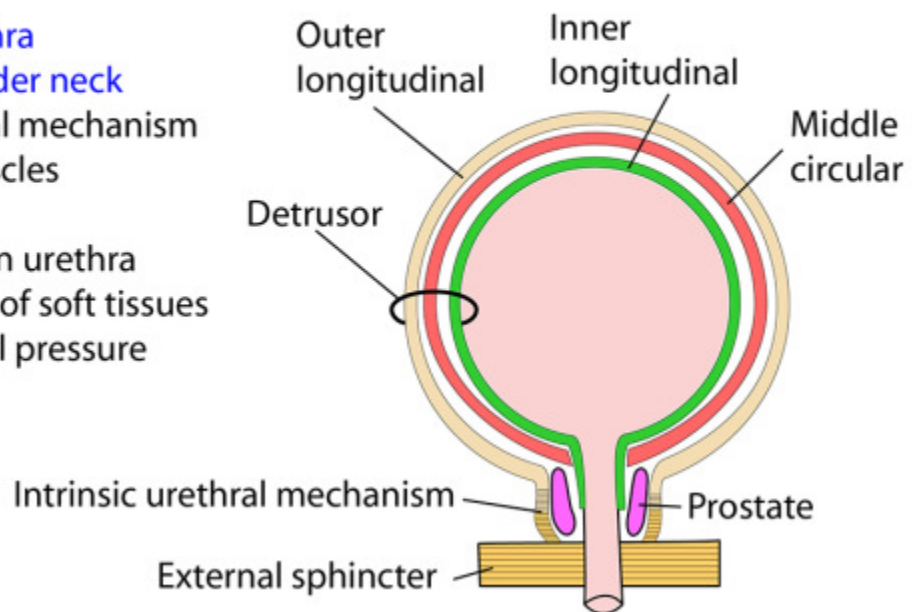


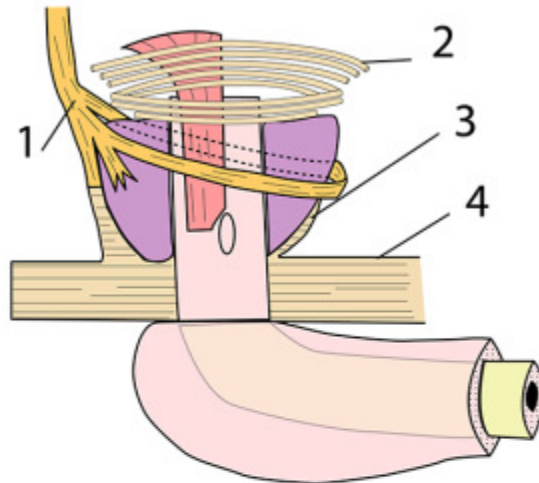
## MAIN UROLOGICAL PRESENTING SYMPTOMS

- HAEMATURIA (BLEEDING IN URINE)
- VOIDING PROBLEMS
- PAIN
- LUMP
- INFERTILITY
- IMPOTENCE
- GENERALLY UNWELL
  - CANCER
  - RENAL FAILURE
  - INFECTION

## CONTINENCE FACTORS

- Sphincter
  - Around urethra
  - Around bladder neck
- Intrinsic urethral mechanism
- Pelvic floor muscles
- Compliance
- Elastic tension in urethra
- Watertight seal of soft tissues
- Intra-abdominal pressure on urethra

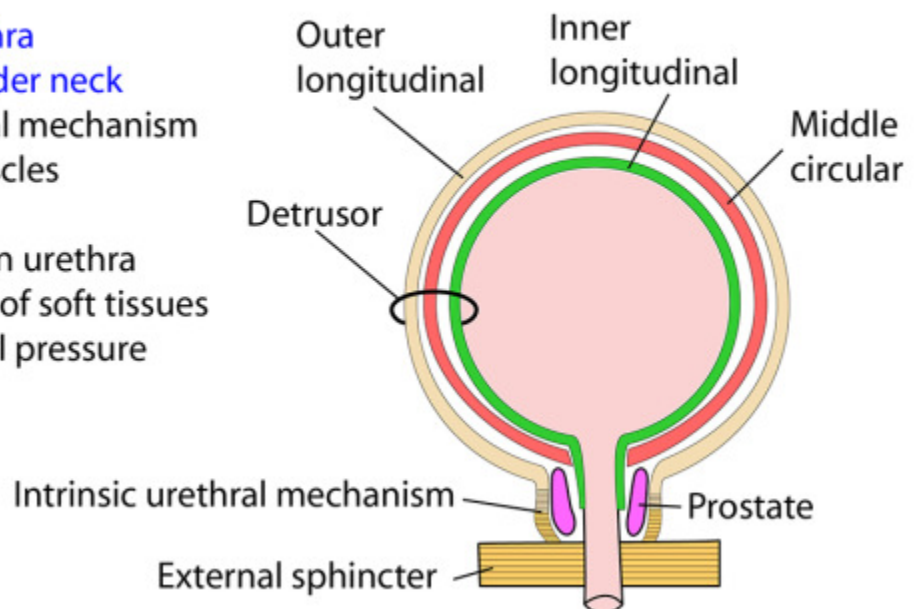


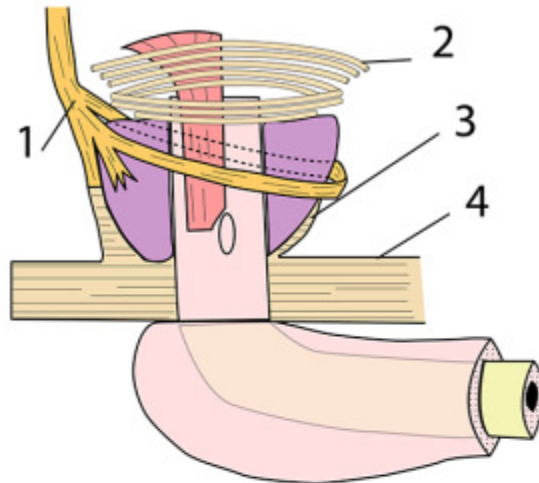


1. Longitudinal detrusor muscle
2. Circular muscle (bladder neck)
3. Intrinsic urethral mechanism
4. External voluntary sphincter

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- Sphincter
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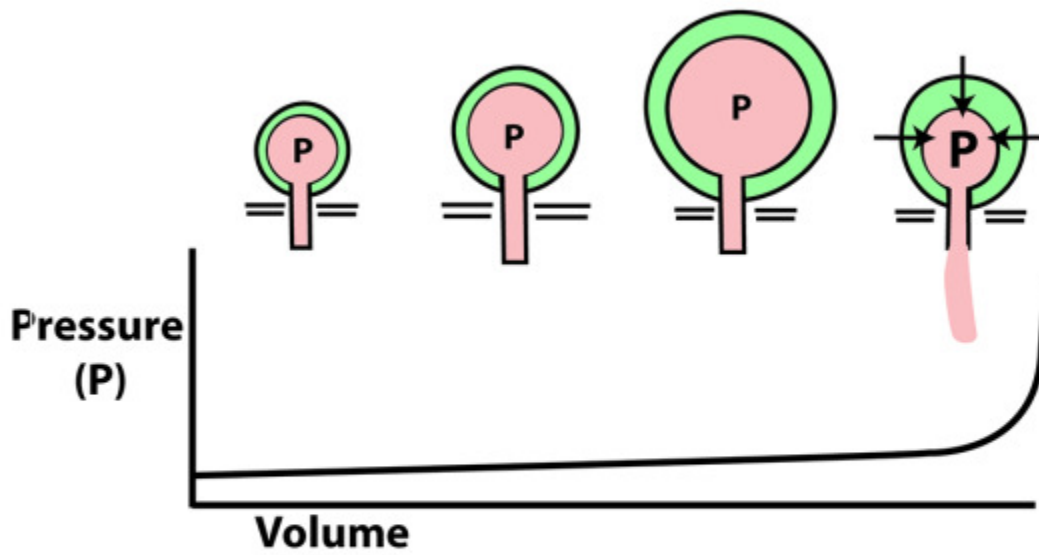


1. Longitudinal detrusor muscle
2. Circular muscle (bladder neck)
3. Intrinsic urethral mechanism
4. External voluntary sphincter

## **NORMAL BLADDER FUNCTION**

“The bladder is a smooth muscle organ that must collect and store urine at low pressures, then periodically expel urine via a highly co-ordinated and sustained contraction”

## BLADDER COMPLIANCE

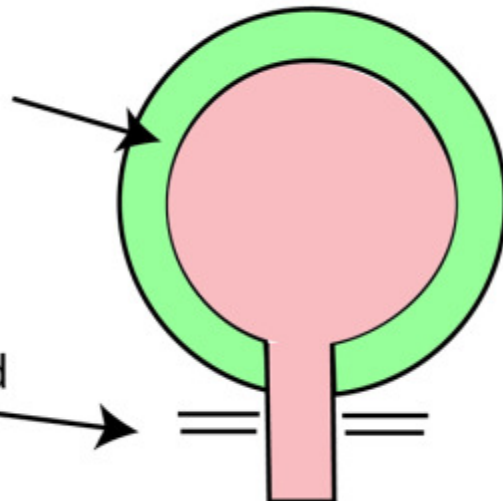


Bladder needs visco-elasticity which is the ability to relax on filling. This gives good compliance which is limited by filling too full or too fast, or if the bladder wall is hypertrophied or if the nerves are abnormal

## NORMAL VOIDING

Needs a long, co-ordinated, sustained and large enough contraction of the bladder

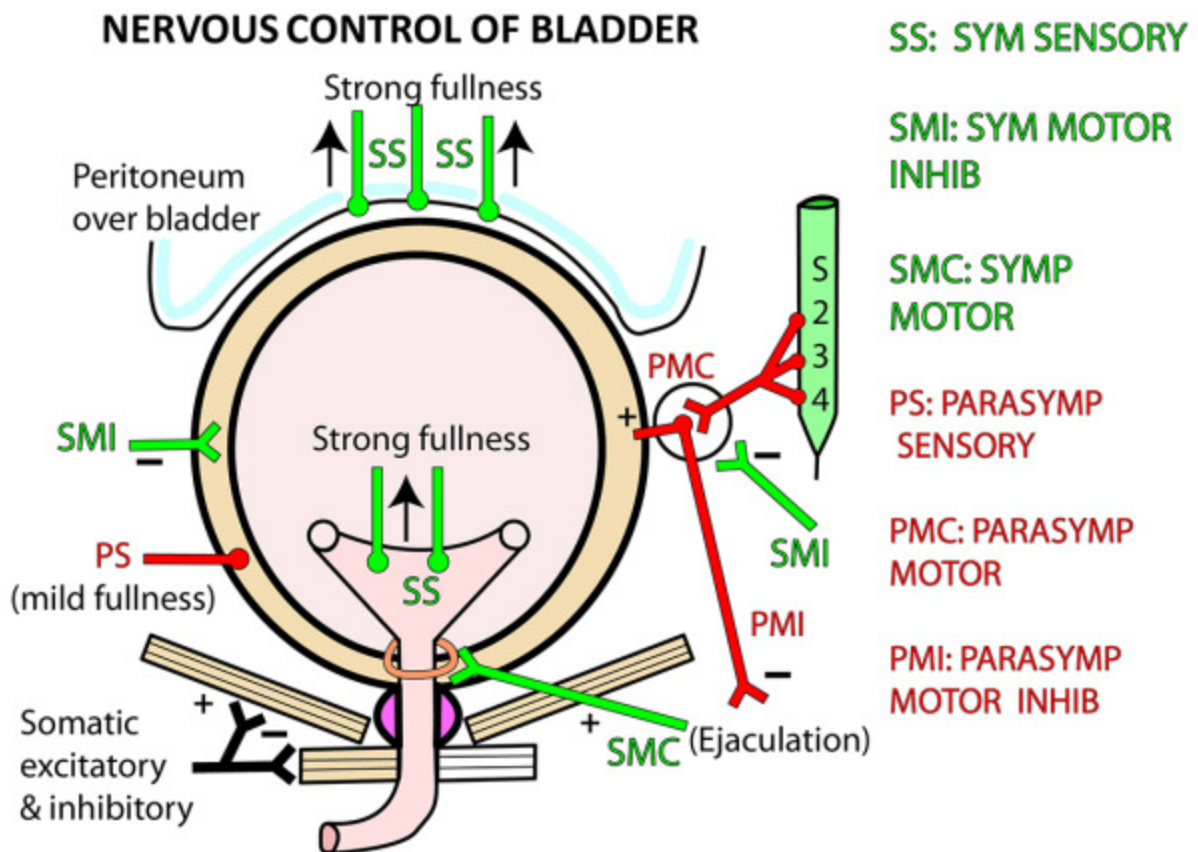
Also needs a reduction in resistance of bladder neck and sphincters (an unobstructed urethra)



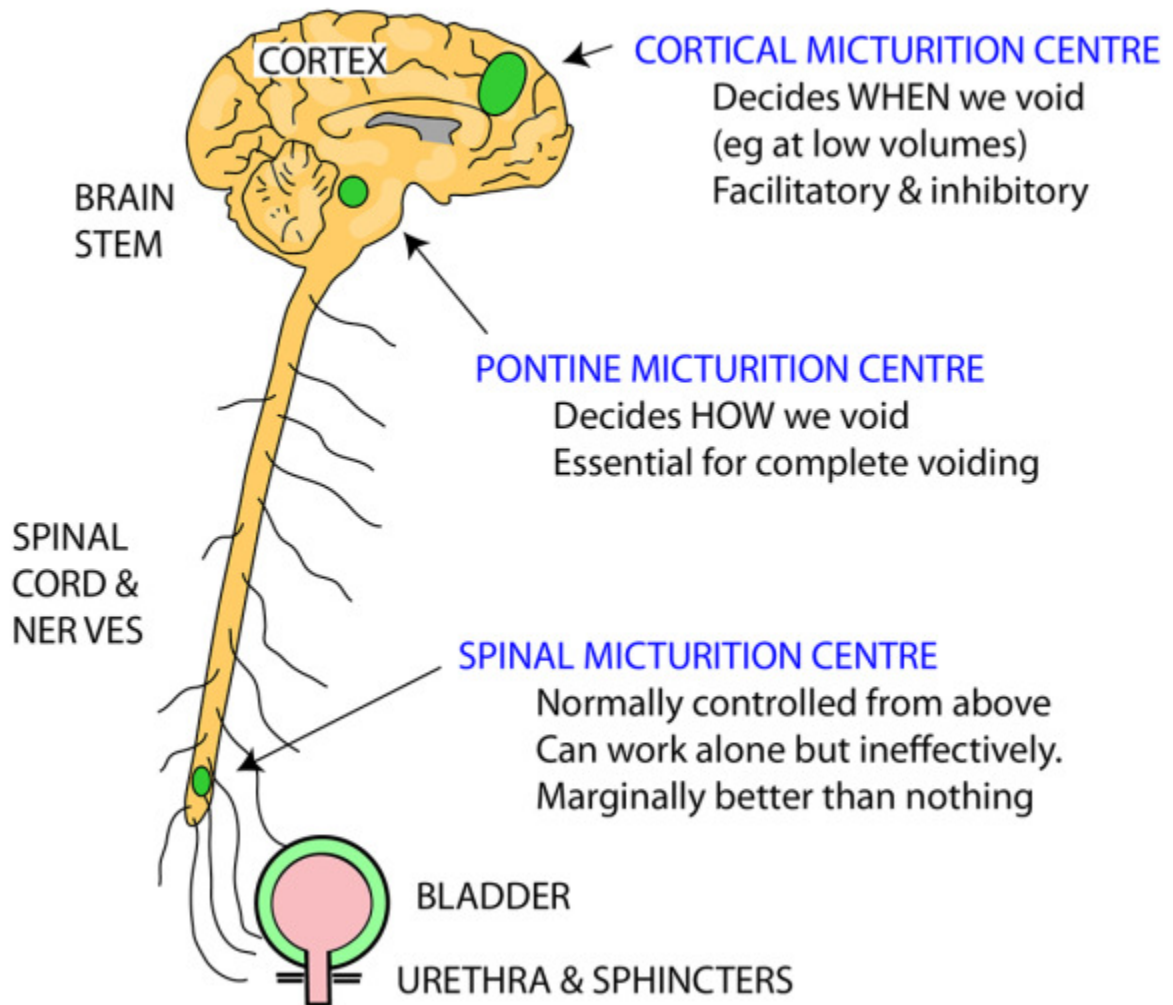
# VOIDING

## Sequence of events:

1. Voluntary relaxation of pelvis floor muscles or an overfull bladder can both lead to a lowering of pressure in urethra.
2. Bladder pressure increases and the neck opens.
3. Voiding begins and completes.
4. Stream can be cut off "mid-stream" by contracting the voluntary sphincters.



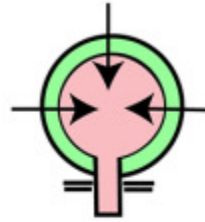
## NERVE CONTROL OF MICTURITION



## ABNORMAL STORAGE OF URINE

### Unstable (overactive) bladder

- Very common
- Bladder simply contracts when it shouldn't
- Ill-understood
- Possibly "psychological" or a nerve problem



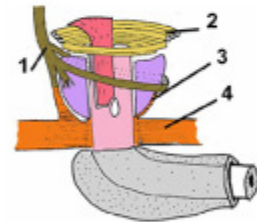
### Small bladder (rare)

- After infection, cancer, surgery, radiotherapy



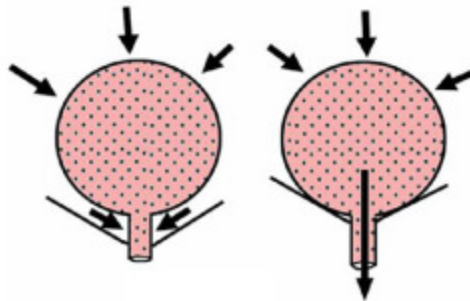
### Surgical damage to sphincters

Can occur after prostatectomy



### Stress incontinence

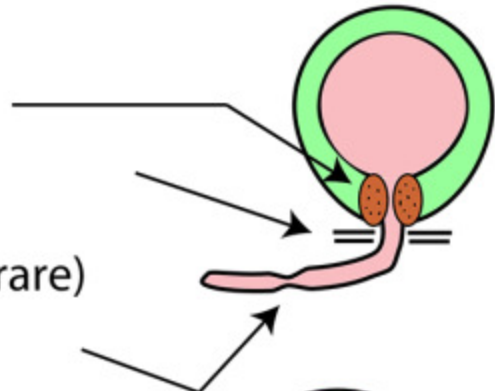
Where the urethra has fallen through the pelvic floor



## TOO DIFFICULT - POOR STREAM

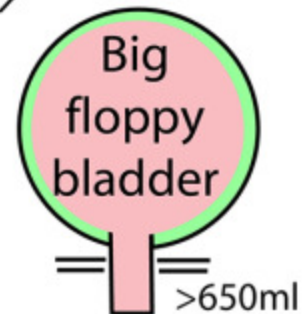
### Mechanical obstruction

- Prostate (very common)
- Sphincter not relaxing (nerve problems)
- Narrowing of urethra (now rare)

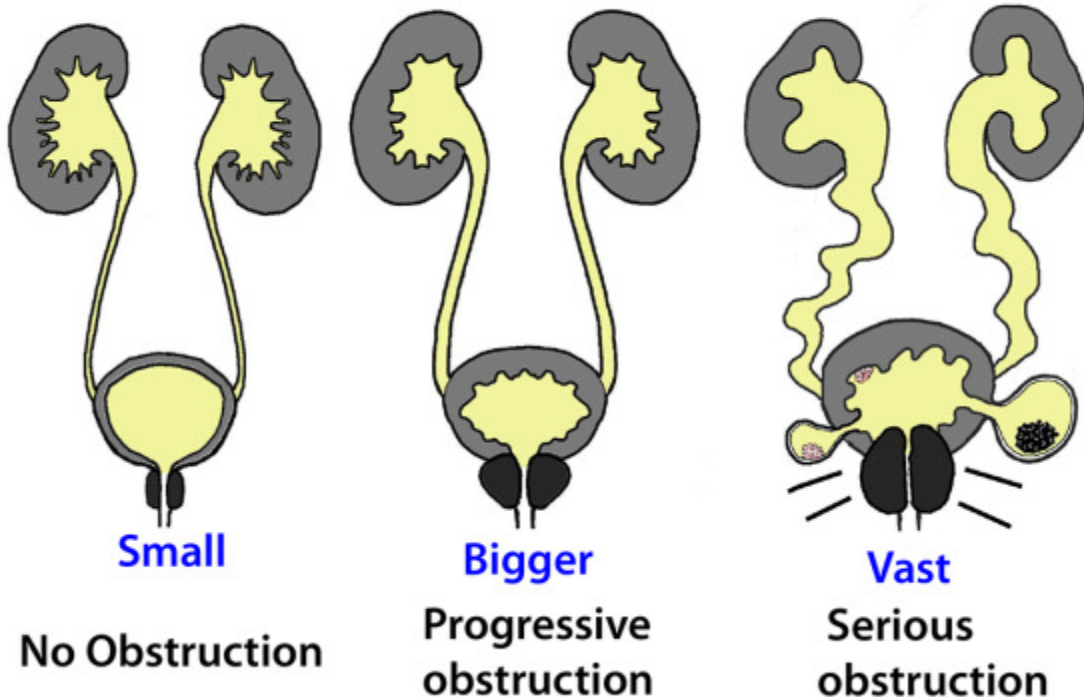


### "Weak" bladder

- No pushing power (fairly rare)
- Over stretched muscle
- Poor nerves (eg "slipped disc")
- Probable need for:  
"Intermittent catheterisation"



## ENLARGING PROSTATE

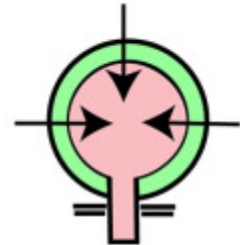




## TOO OFTEN - FREQUENCY, URGENCY

### **Unstable (overactive) bladder**

- Very common
- Bladder simply contracts when it shouldn't
- Ill-understood
- Possibly "psychological" or a nerve problem



### **Small bladder** (rare)

- After infection, cancer, surgery, radiotherapy

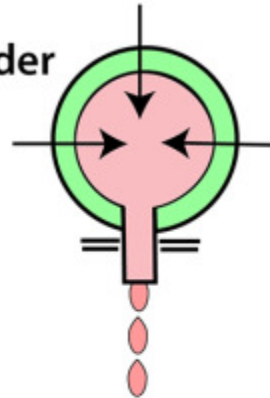


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# LOSS OF CONTROL - WETTING

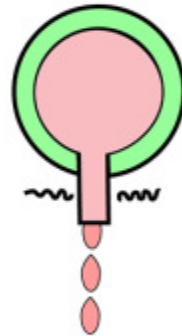
## Unstable (overactive/non compliant) bladder

- Very common in women
- Massive contractions
- Normal sphincters
- Causes: laughing, nerve problems, unknown



## Weak sphincters

- Surgical or nerve damage
- Stress incontinence



## Stress Incontinence

- Very common after childbirth
- Wetting on:
- Coughing
- Laughing
- Straining, bending

