Enuresis and voiding dysfunction

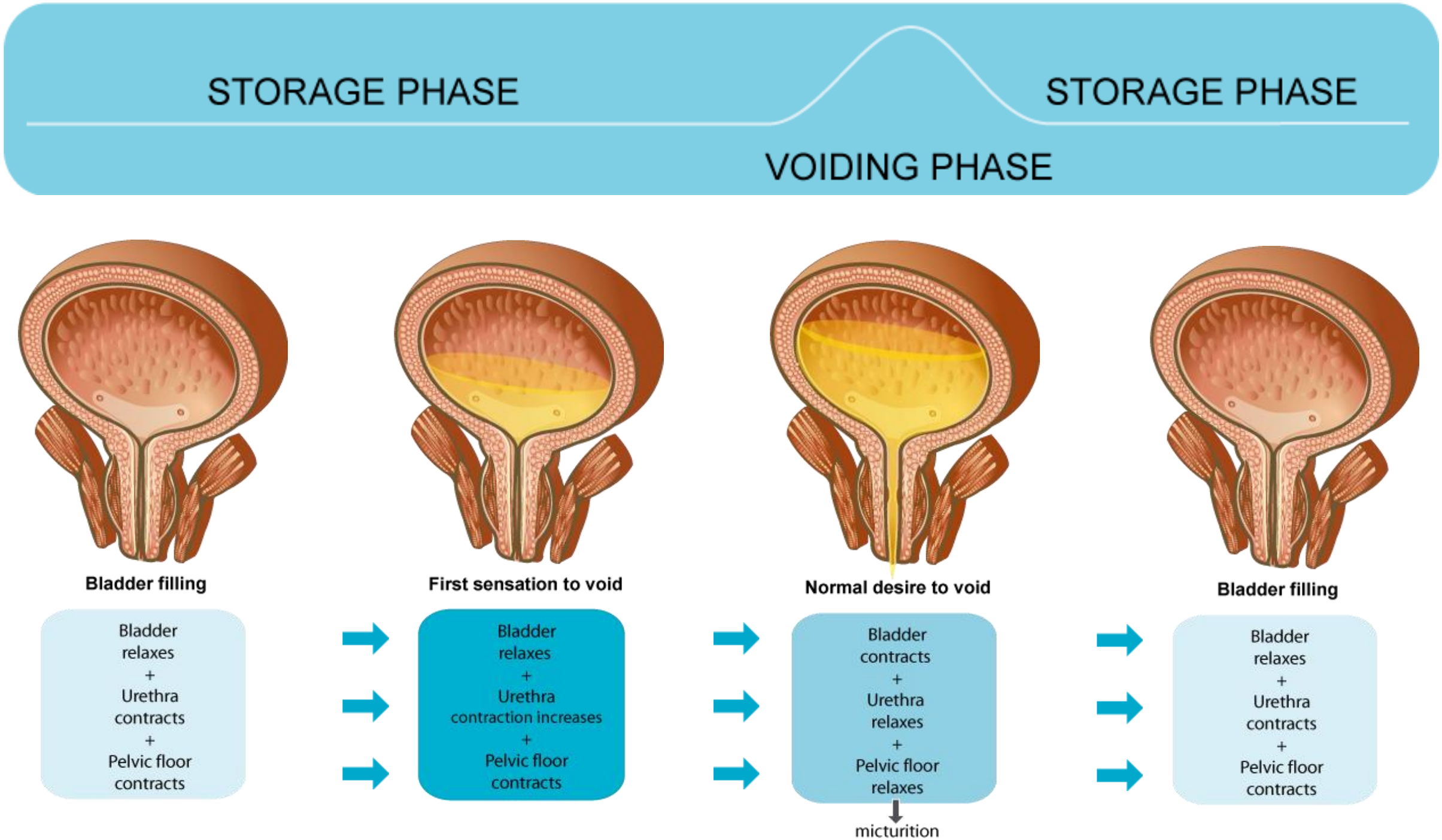
2012

Dr Gaudji

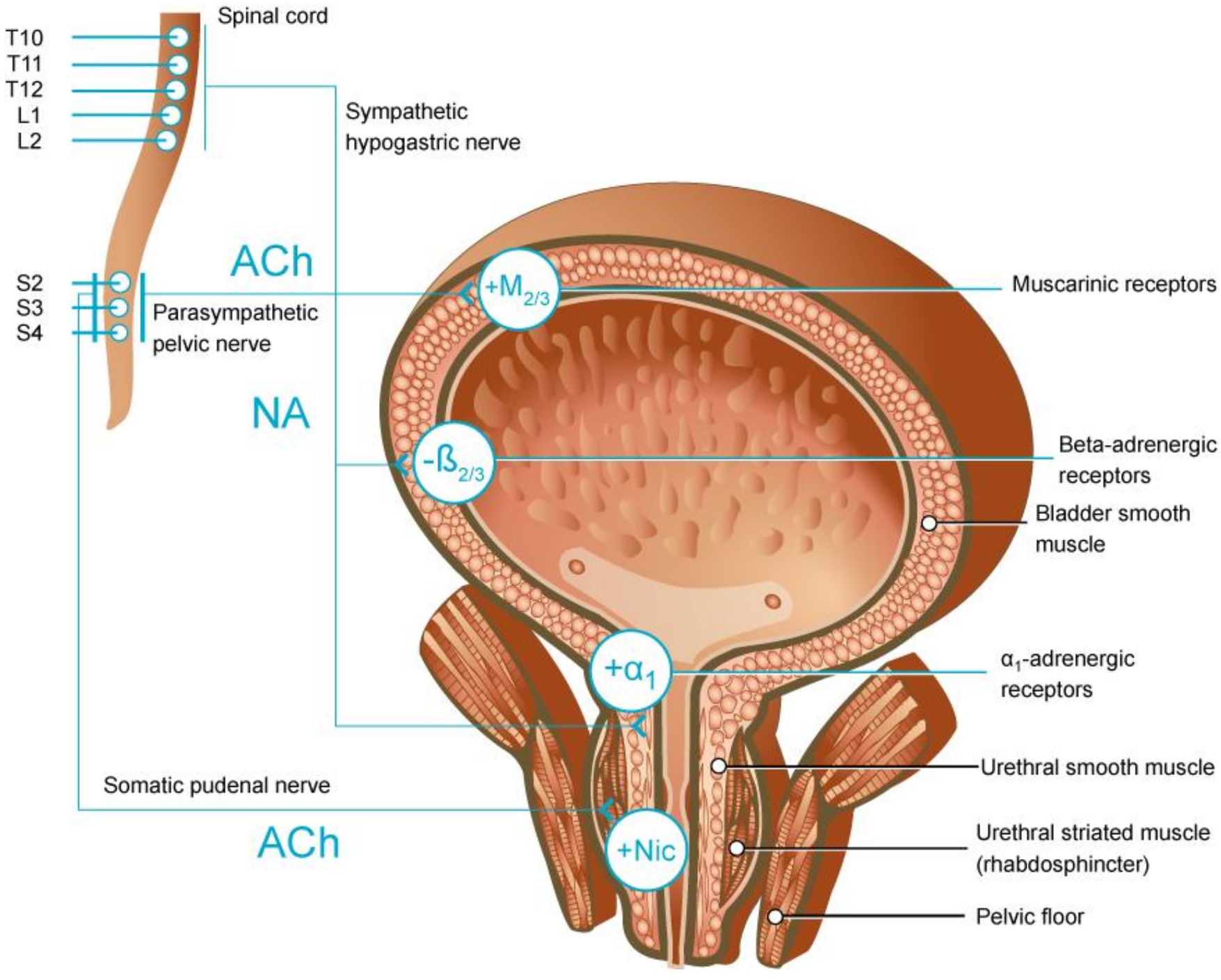
Micturation

- Ability -Patency & continence
- When?
- Where?
- Safety to upper tracts
  - Infections
  - Pressure

The normal micturition cycle

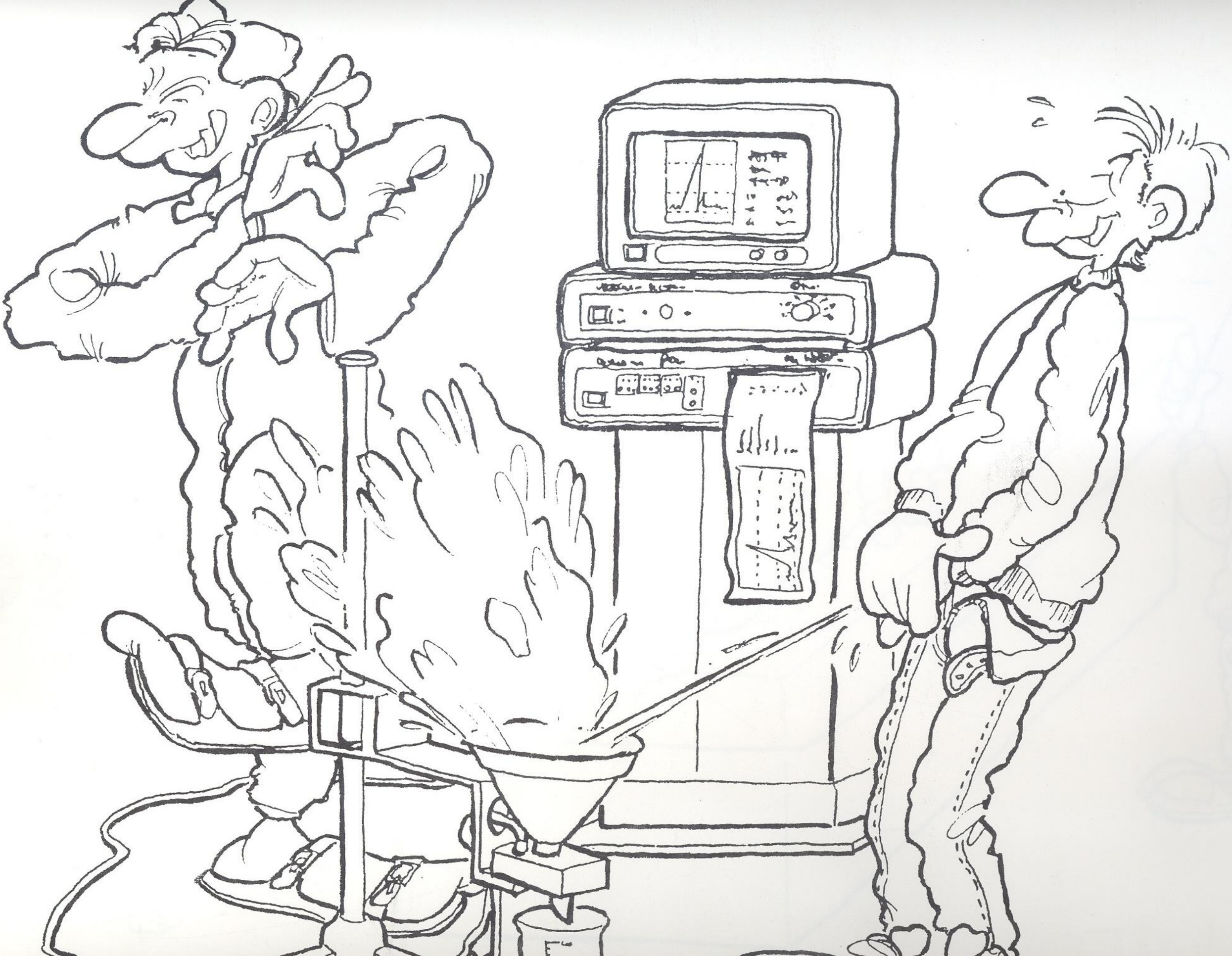


Nerves, neurotransmitters and receptors involved in bladder filling and voiding



Outcomes

- Approach and management of Enuresis
- Etiology of enuresis
- Treatment options
- Indications for further investigations



Enuresis

- Definition- Involuntary voiding
  - Diurnal
  - Nocturnal
- Incidence
- Aetiology
- Natural history

Law of 15

- 15% of 5 yr olds wet
- 5 % of 10 yr old wet
- 1% of 15 yr old wet
- 15 % of enuretics have encopresis
- 15% of enuretics become dry yearly
- 15 % have day time symptoms!

- 15% have secondary enuresis
- 15% of nonenuretics have nocturnal polyuria
- 15% of non eniretics have nocturnal awakenings

Clinical evaluation

- History – Worrysome symptoms?
- Examination
- Urinalysis
- sonar
- When to do further evaluation?

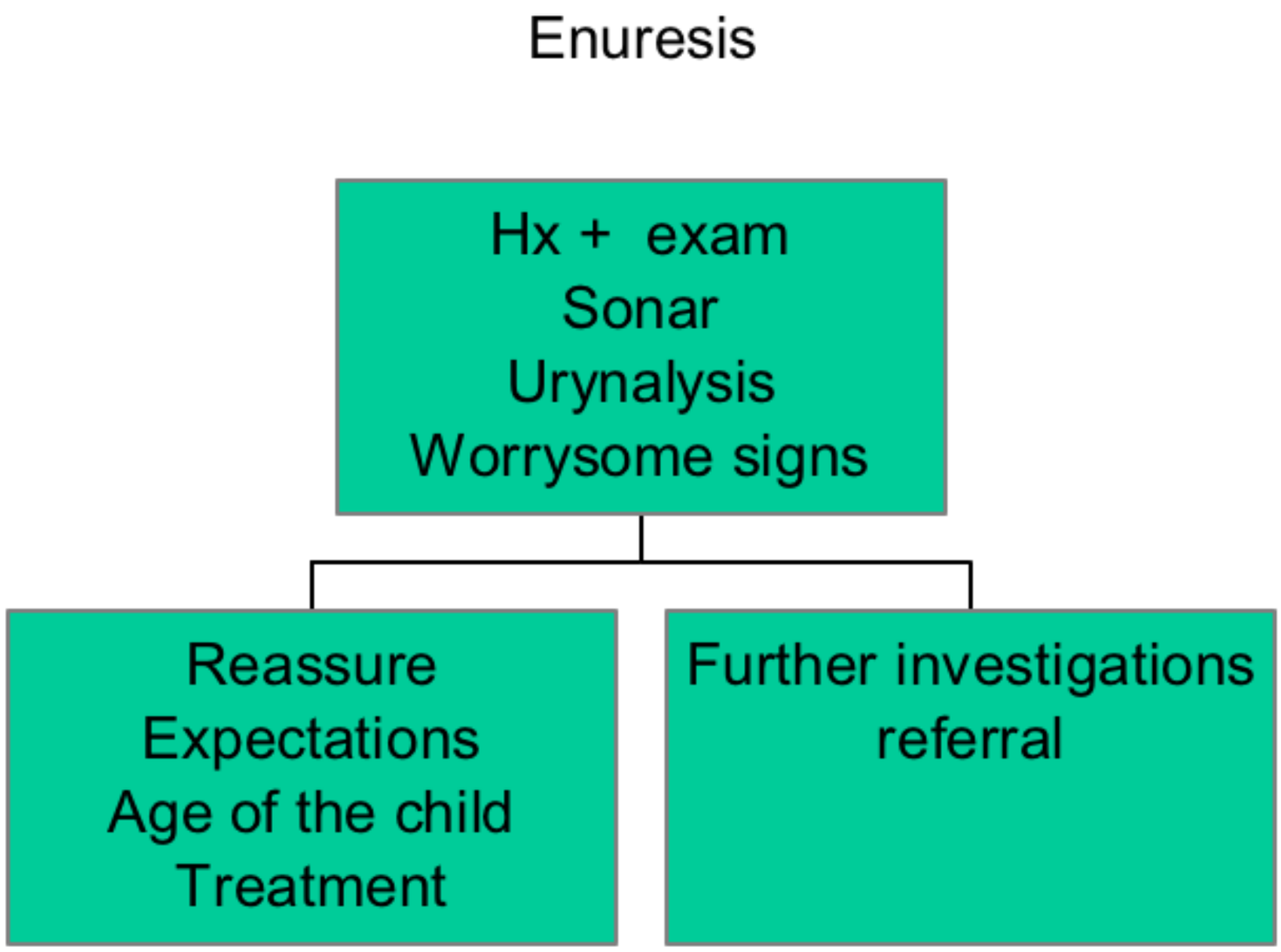
Worrysome

- Symptoms
  - Day & night frequency
  - Painful urination
  - Penile pain+/discharge
  - Vaginal pain&/or discharge
  - rectal pain
  - Straining to urinate
- Signs
  - Palpable bladder
  - Back/ spine abnormalities
  - Reduced anal sphincter tone
- Urinalysis
  - Fixed low specific gravity
    - UTI

Treatment

- Pharmacological
  - DDAVP
  - Imipramine
- Behavioral
  - Alarm
  - Star chart

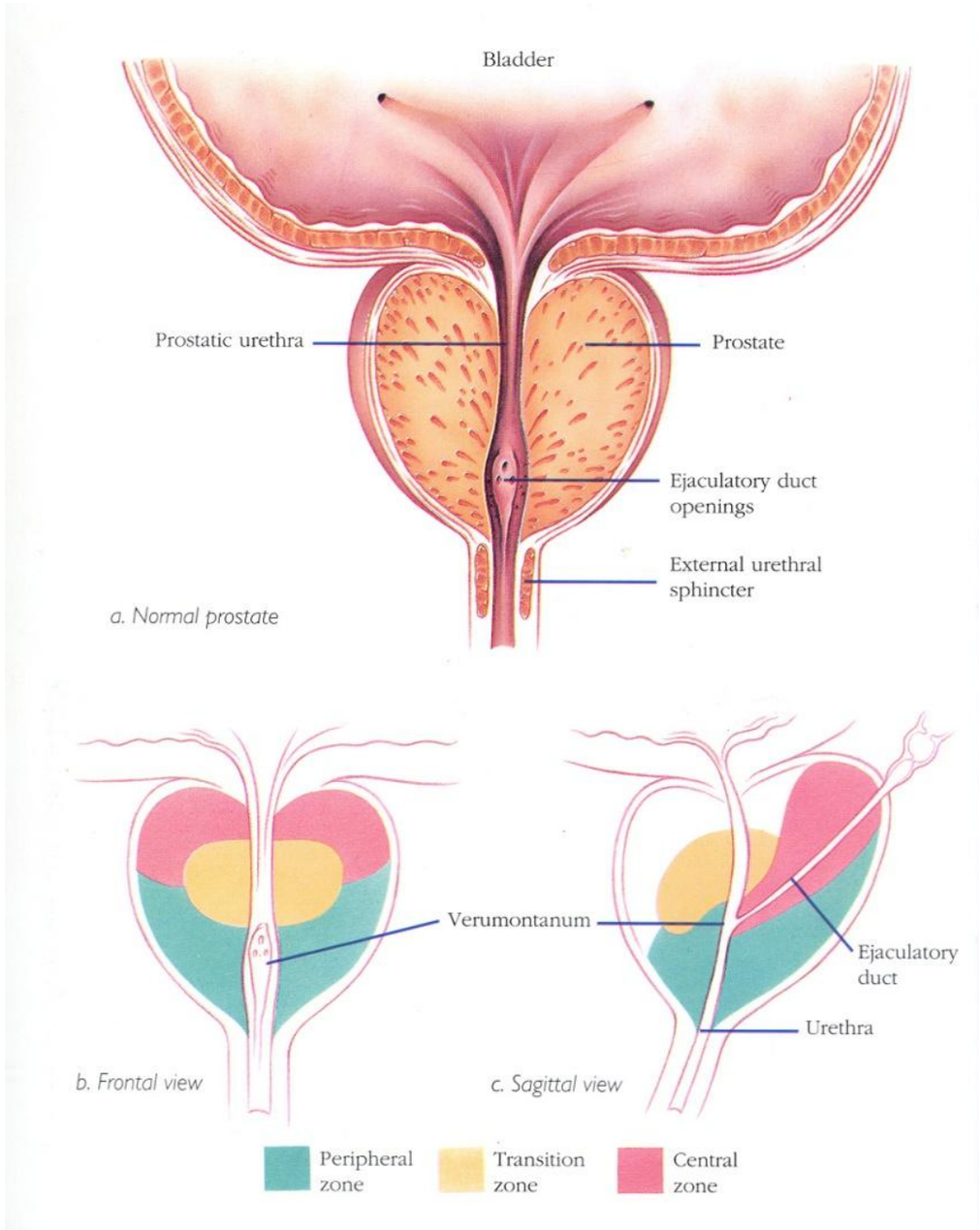
Approach


Enuresis
Hx + exam
Sonar
Urynalysis
Worrysome signs
Reassure
Expectations
Age of the child
Treatment
Further investigations
referral

Male incontinence

- Age related
- Incidence – 7-17%
- Male sphincter mechanism
- Bladder
  - Storage
  - Void

Male sphincter Mechanism



Etiology

- Bladder/ Sphincter insufficiency
- Congenital
  - Anatomical
  - functional
- Acquired
  - Trauma
  - Neurogenic
  - Pharmacological
  - Tumours

Bladder instability

- Sensory
- motor

Incontinence

- Total
- Overflow
- urge

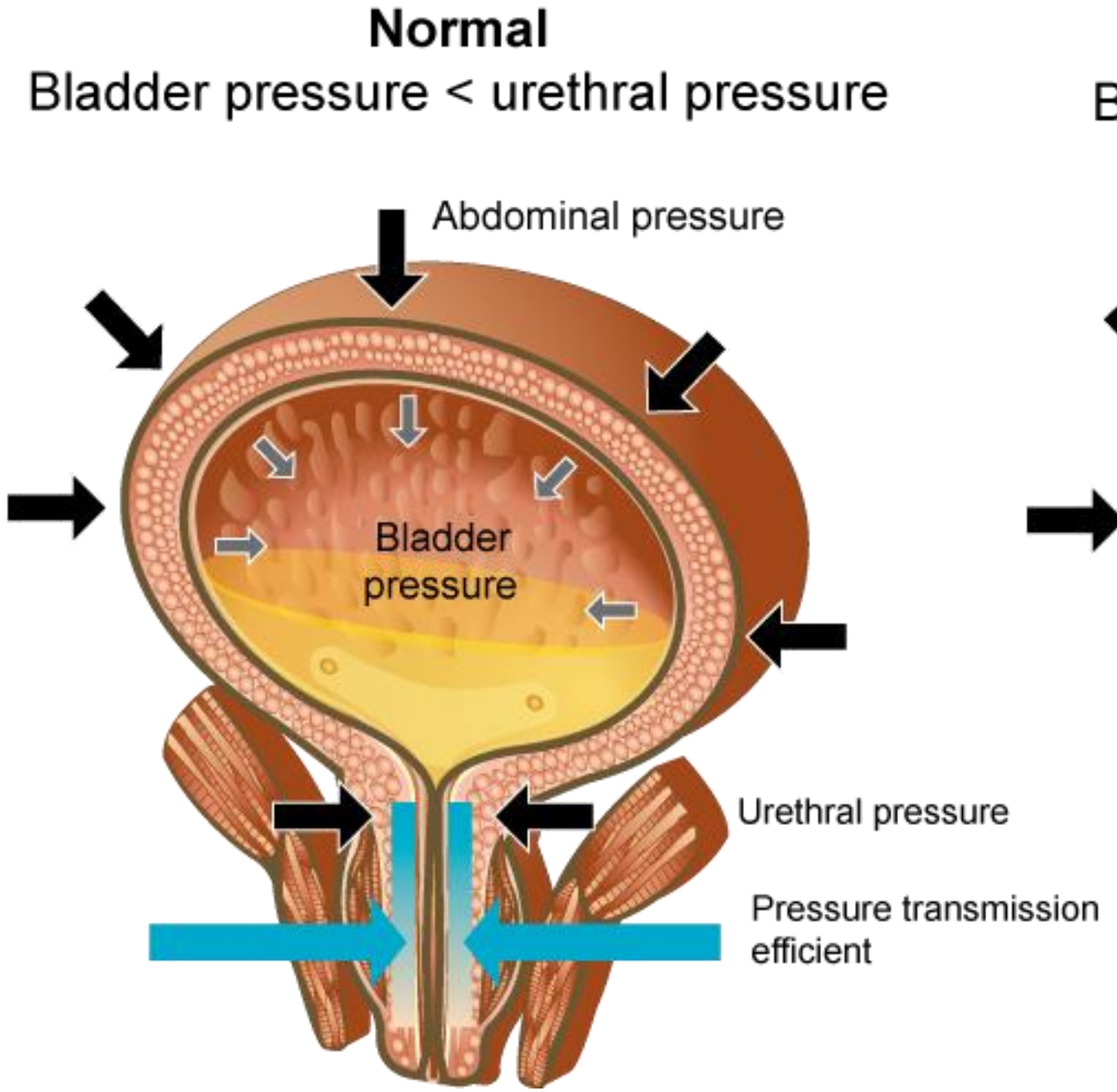
Evaluation

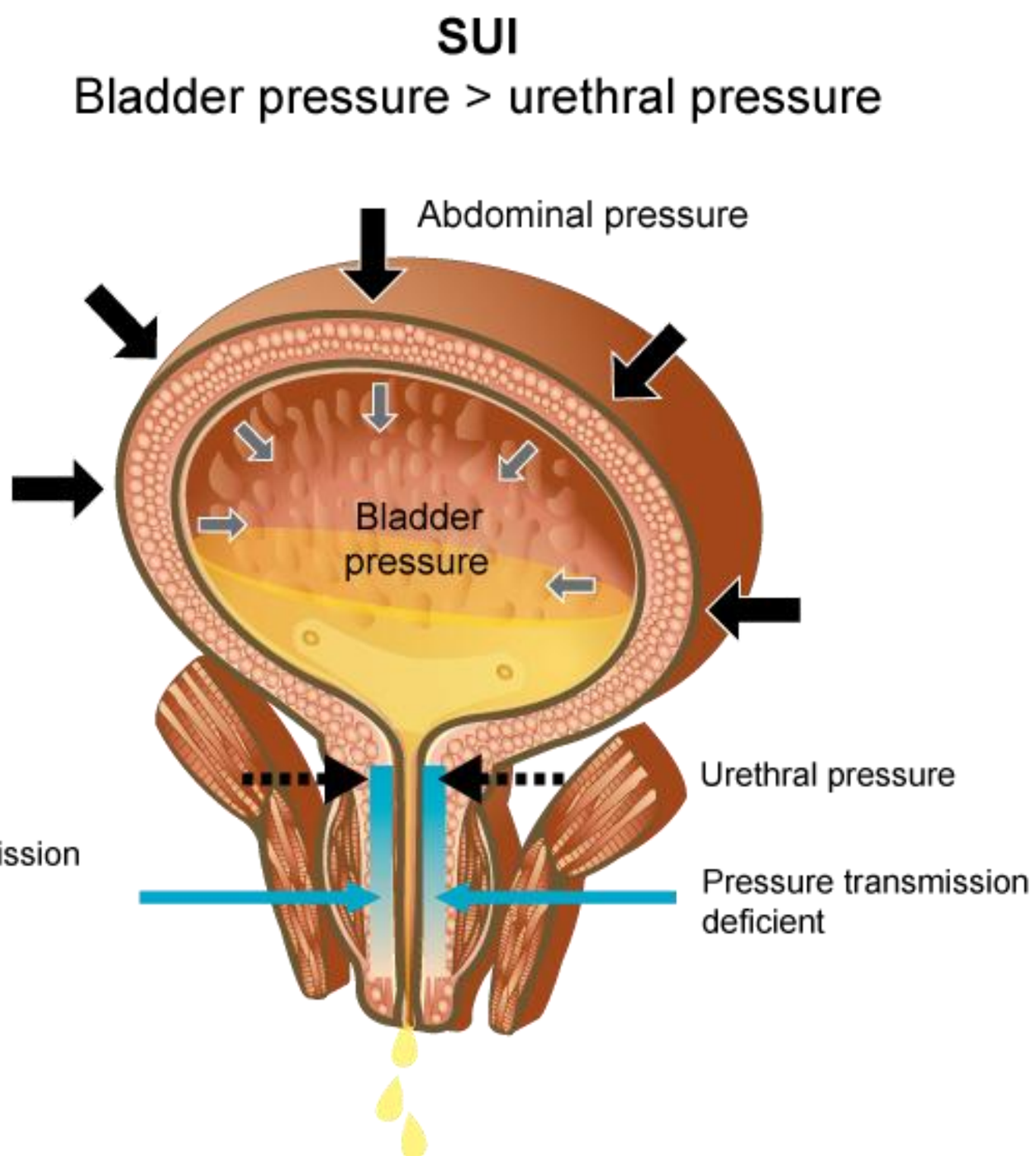
- History
- Exam
  - Nature of problem?
  - Etiology?
- Investigations
  - Radiological
  - UDS
  - Cystoscopy
  - laboratory

Female incontinence

- Total
  - Urethral
  - Vaginal
- Stress
- Urge
- Mixed
- Dribbling?
- Urethrovaginal reflux?

Continence versus stress urinary incontinence





Evaluation

- History
  - Trauma
  - Irradiation
  - Pv bleeding
  - Parity
  - LUTS
  - Sexuality
- Exam
  - Urine in vagina?
  - Prolapse
  - Atrophy
  - Diverticula

Geriatric Incontinence DIAPPERS

- Delirium
- Infection
- Atrophy
- Pharmacological
- Pshycological
- Excessive urine output
- Restricted mobility
- Stool impaction

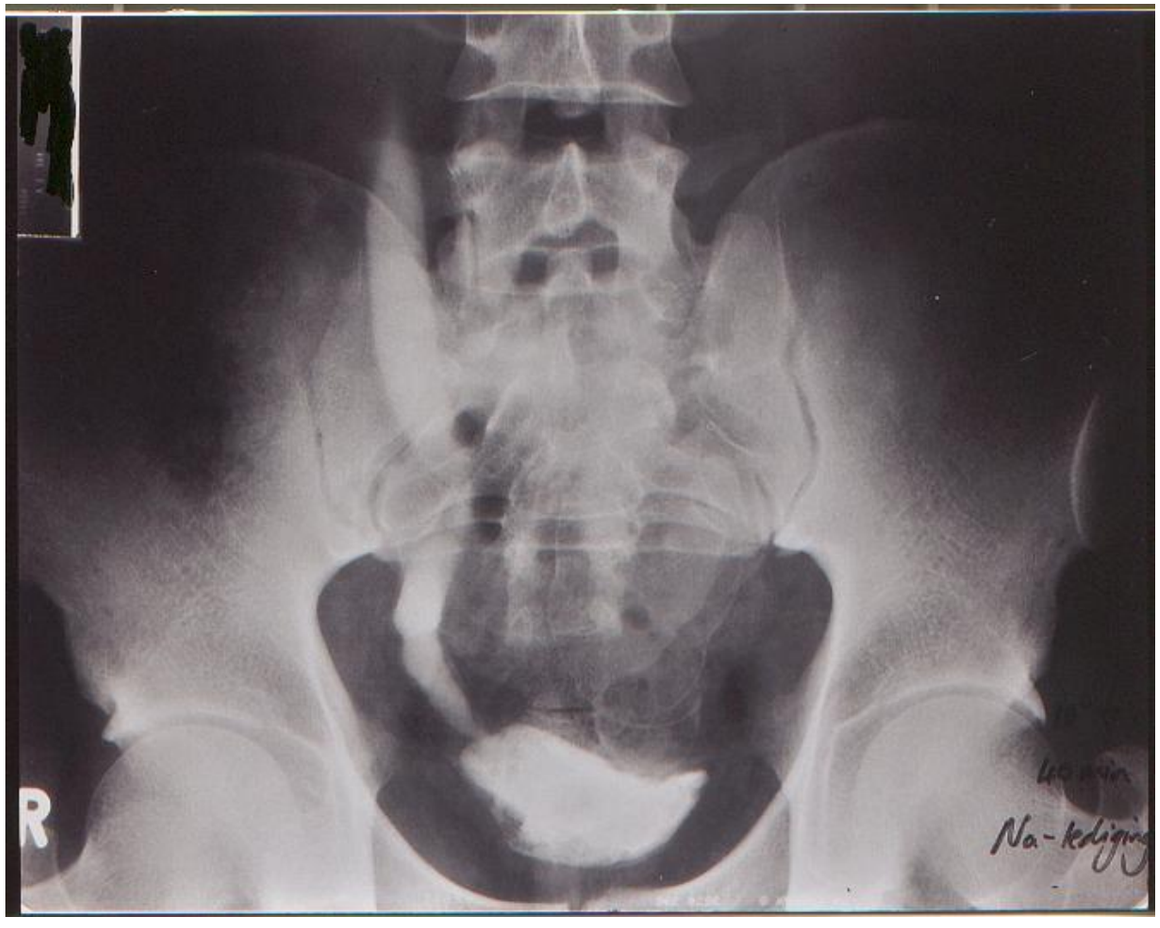
Voiding dysfunctions

- Neurogenic
- Congenital
- Acquired
  - Trauma
  - Infections
  - Tumours
  - metabolic
- Non Neurogenic
  - OAB
  - Dysfunctional voiding - children

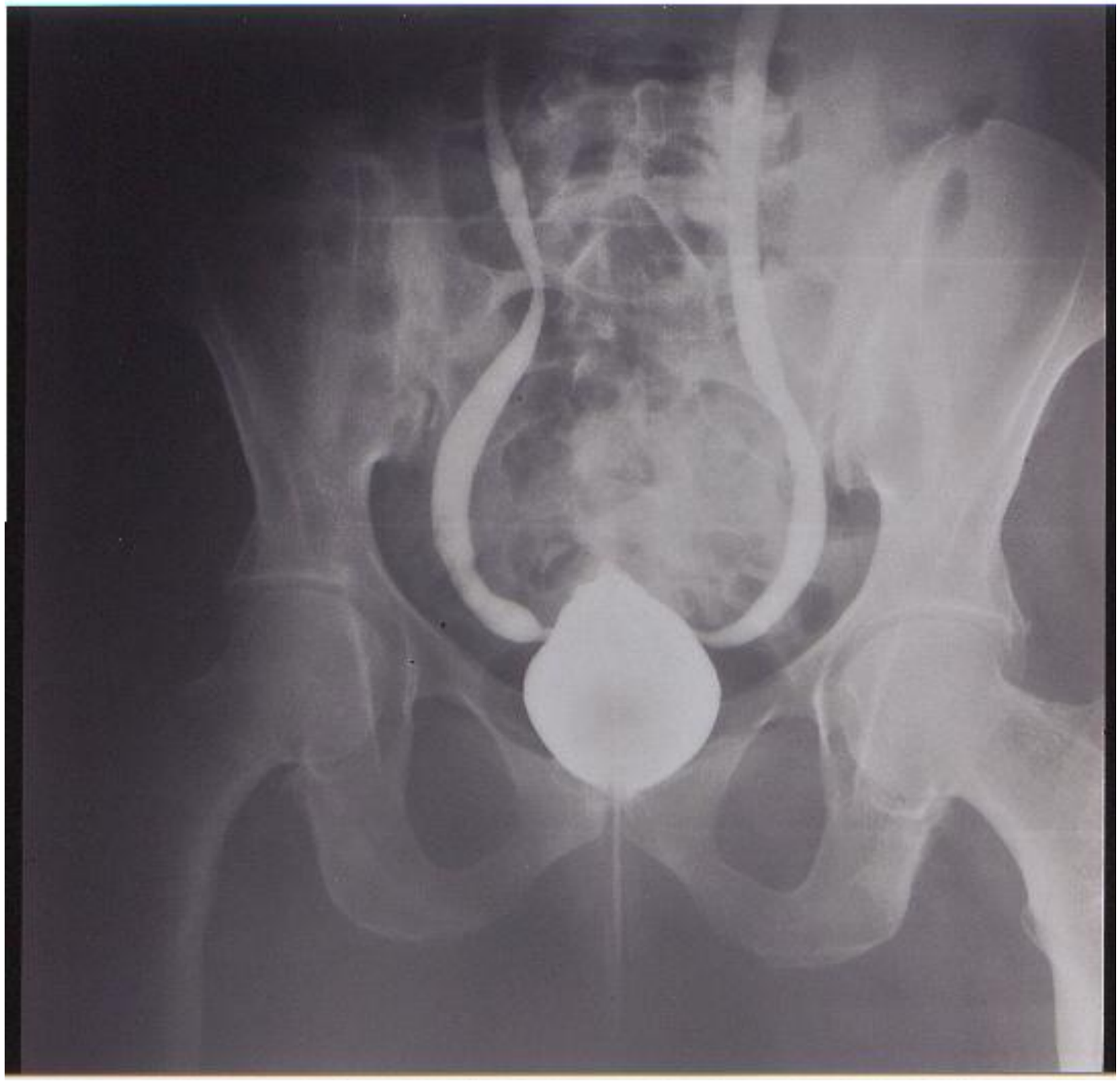
Neurogenic

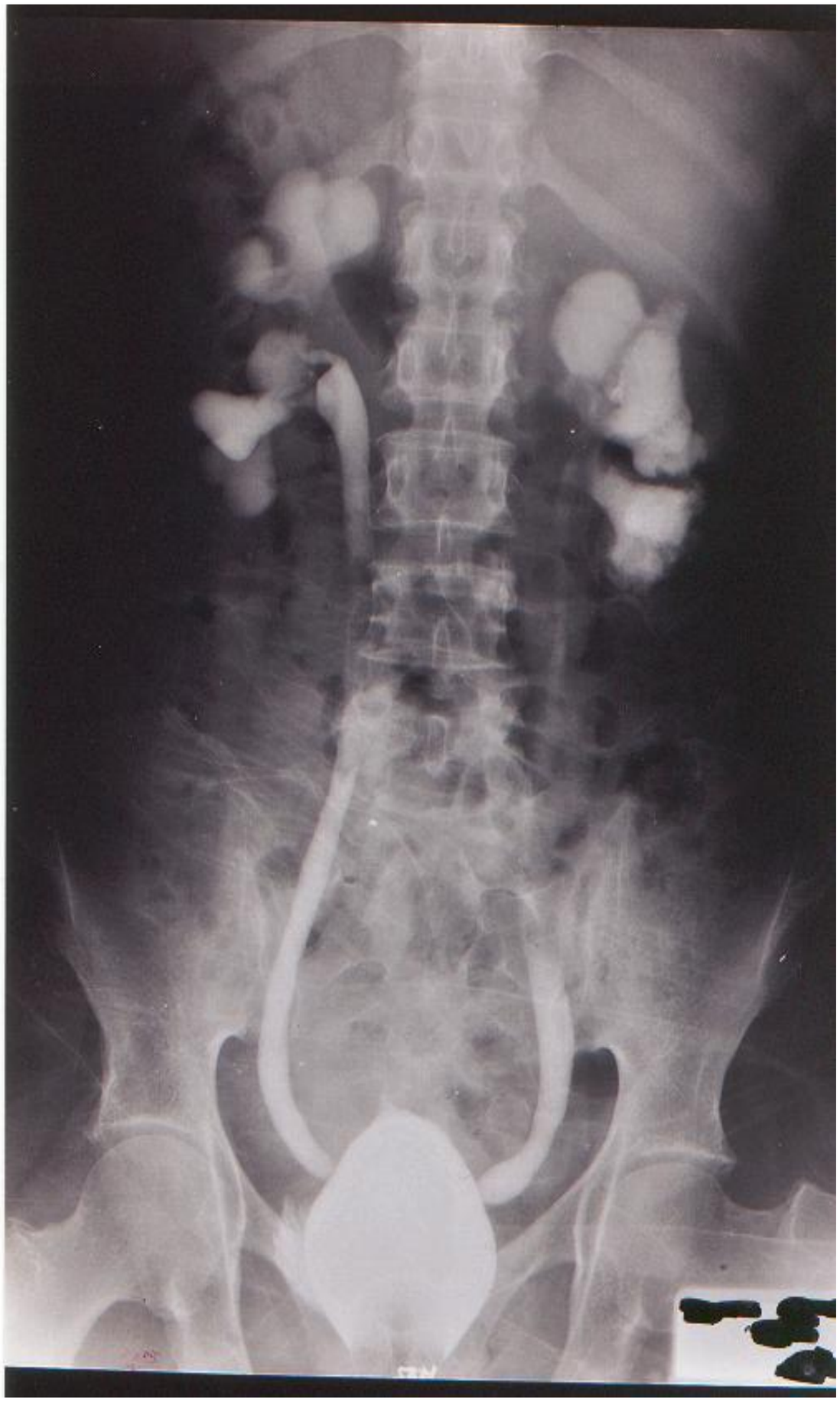
- Storage
  - Bladder
  - Urethra
- Voiding
  - Bladder
  - Urethra

Cystogram



TB





Neurogenic bladder

Treatment goals

- Continence
- Preserve upper tracts –
  - Prevention & early treatment of infections

Voiding

- Bladder
  - CIC
- Outlet
  - Pharmacological-
    Alpha blockers
  - surgical

Case

- History
  - 10 yrs old boy
  - Primary bed wetting
  - Wet pants during the day
  - Can feel full bladder and voids frequently
  - ?ADD
- Examination
  - Small for age
  - Restless during consultation- frequenting the toilet
  - Full bladder
  - Normal external genitalia

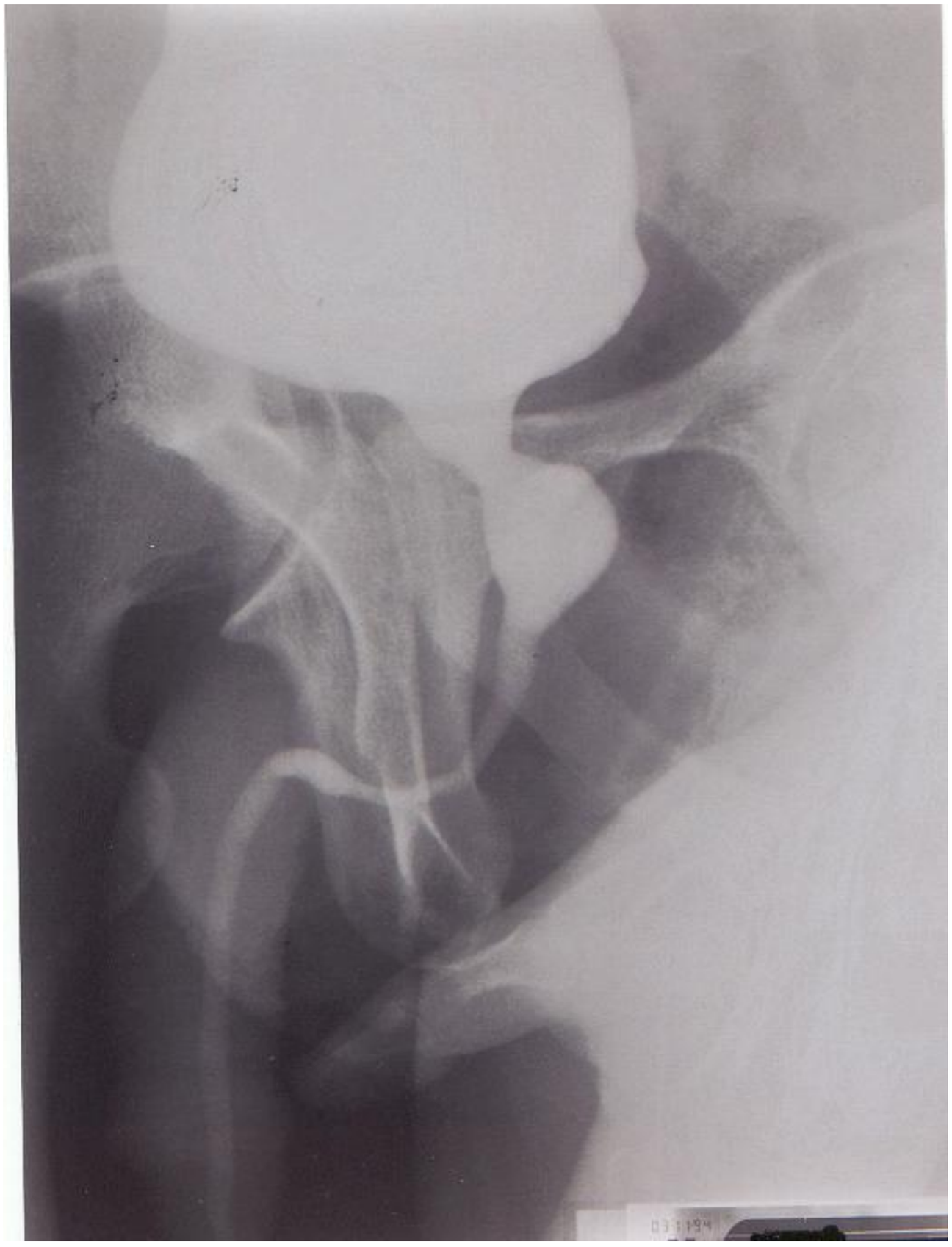
Investigations

- Laboratory
- Urine dipstix & MC+S –leucocytes
  - Positive culture
  - U& E elevated creatinine
  - FBC - WCC

Radiological

- Sonar –Hydronephrosis
  - Hydroureter
  - Thick bladder wall
  - High PVR

VCUG



Treatment

- Antibiotics
- Catheterisation
- Vesicostomy
- later valve ablation and closure
  - vesicostomy