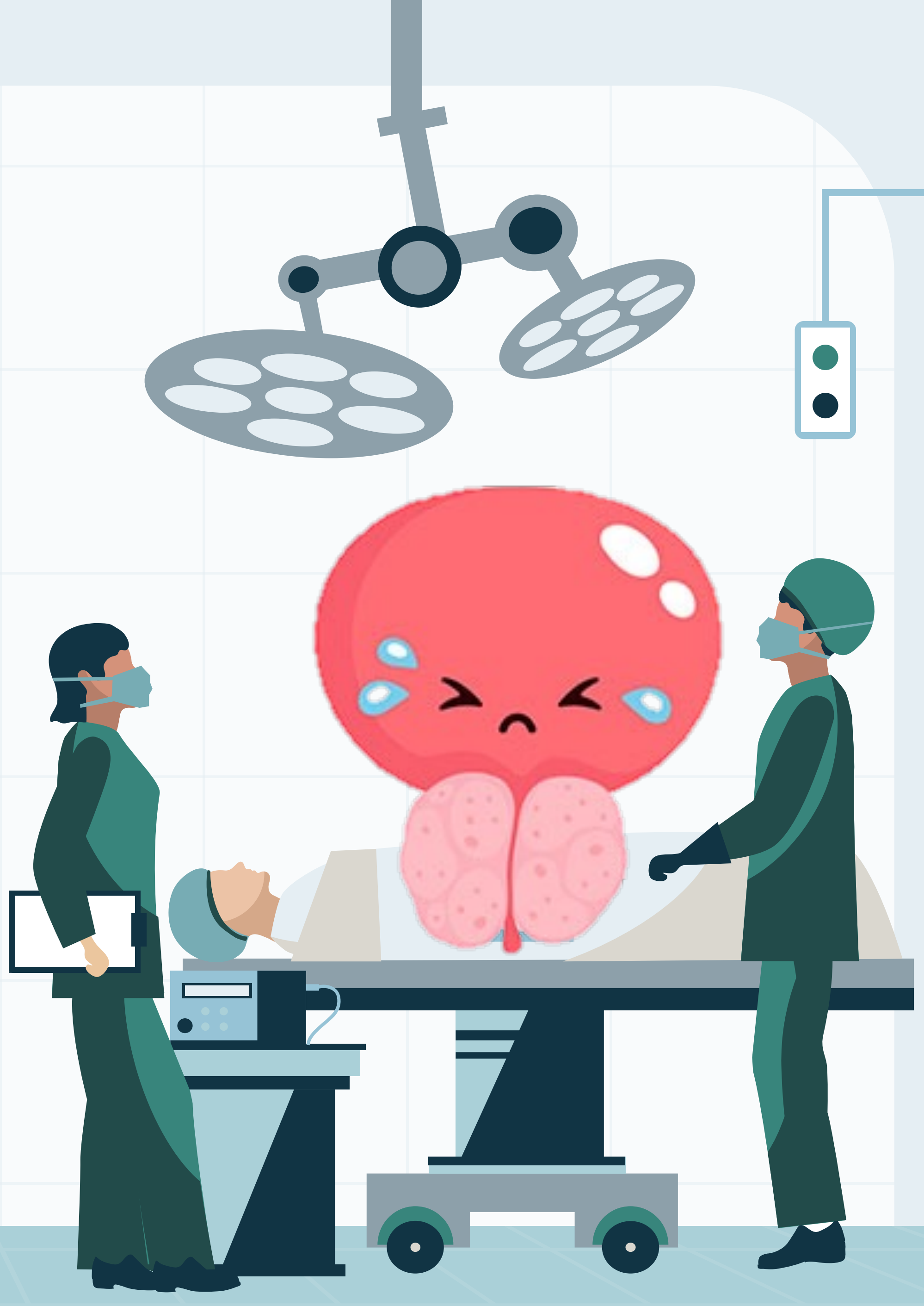
Advance in Surgery for Benign Prostate Hypertrophy



Dr Wilson Lam

How common is LUTS in HK?

亞洲人口下尿路症狀現患率調查

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引言：下尿路症狀對社會經濟及個人生活質量有重大影響。本研究旨在檢視亞洲人口下尿路症狀的現患率。

方法：對40歲或以上華人進行電話調查，調查內容包括基本人口統計學、醫療及健康史、飲酒習慣、國際前列腺症狀評分、膀胱過度活躍症狀評分、患者健康問卷（PHQ-9）評分及標準十二題簡明健康狀況調查表第二版（SF-12v2）評分。

結果：2017年3月至5月期間共撥打18 881次電話，其中1543次符合納入標準，最終招募1000名成功受訪者（包括302名男性和698名女性）。經年齡調整的膀胱過度活躍現患率為15.1%。受訪者年齡越大，儲尿期和排尿期症狀便越普遍（儲存症狀：$r=0.434$，$P<0.001$；排尿症狀：$r=0.190$，$P<0.001$）。高血壓和糖尿病患者較易出現儲尿期和排尿期症狀。儲尿期和排尿期症狀會影響PHQ-9評分（儲存症狀：$r=0.257$，$P<0.001$；排尿症狀：$r=0.275$，$P<0.001$）和SF-12v2評分（儲存症狀：$r=0.467$，$P<0.001$；排尿症狀：$r=0.335$，$P<0.001$）。夜尿症是下尿路症狀患者求醫時的最常見症狀。

結論：下尿路症狀在亞洲人口中很常見。儲尿期和排尿期症狀對個人心理健康和一般生活情況皆產生負面影響。

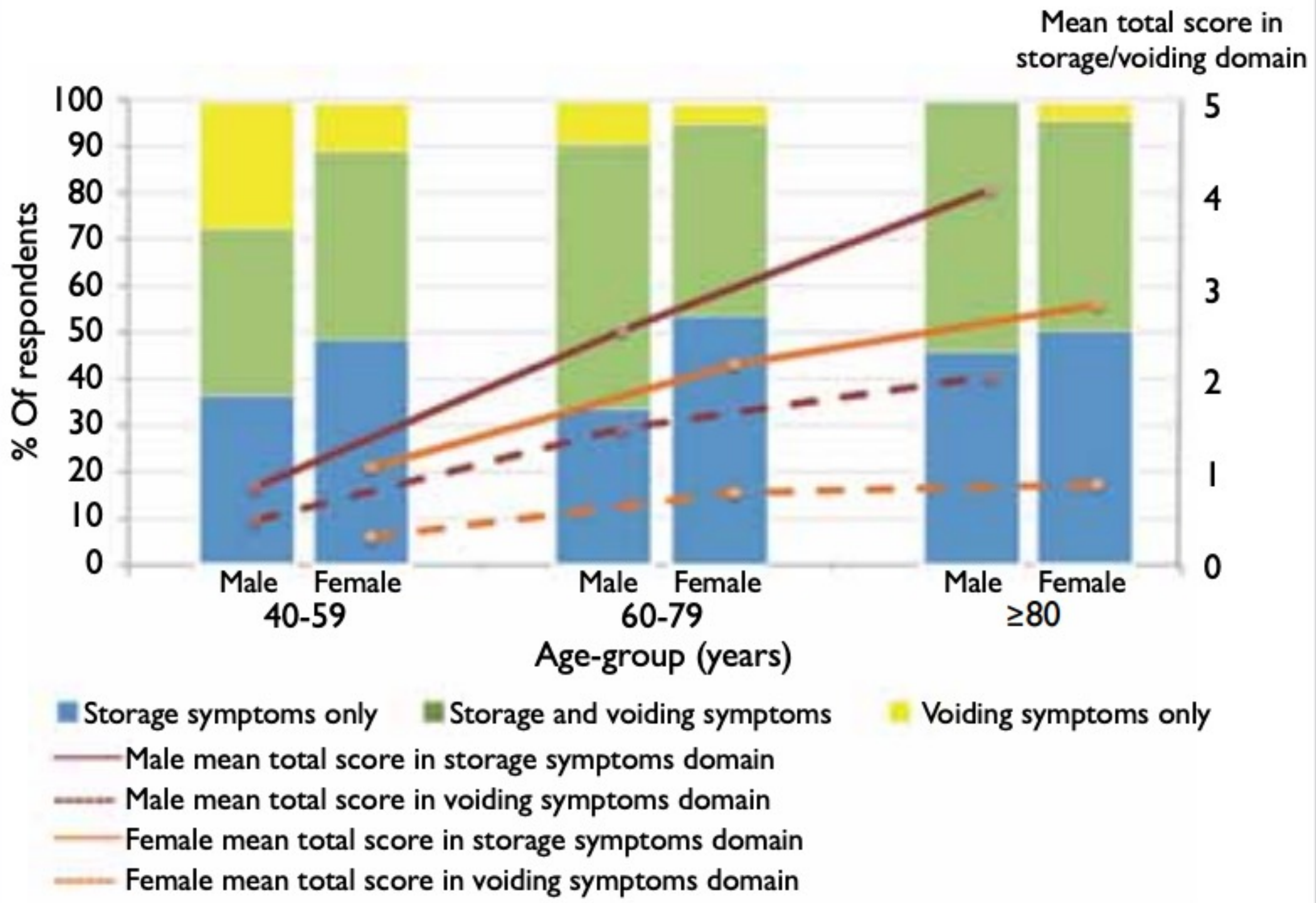
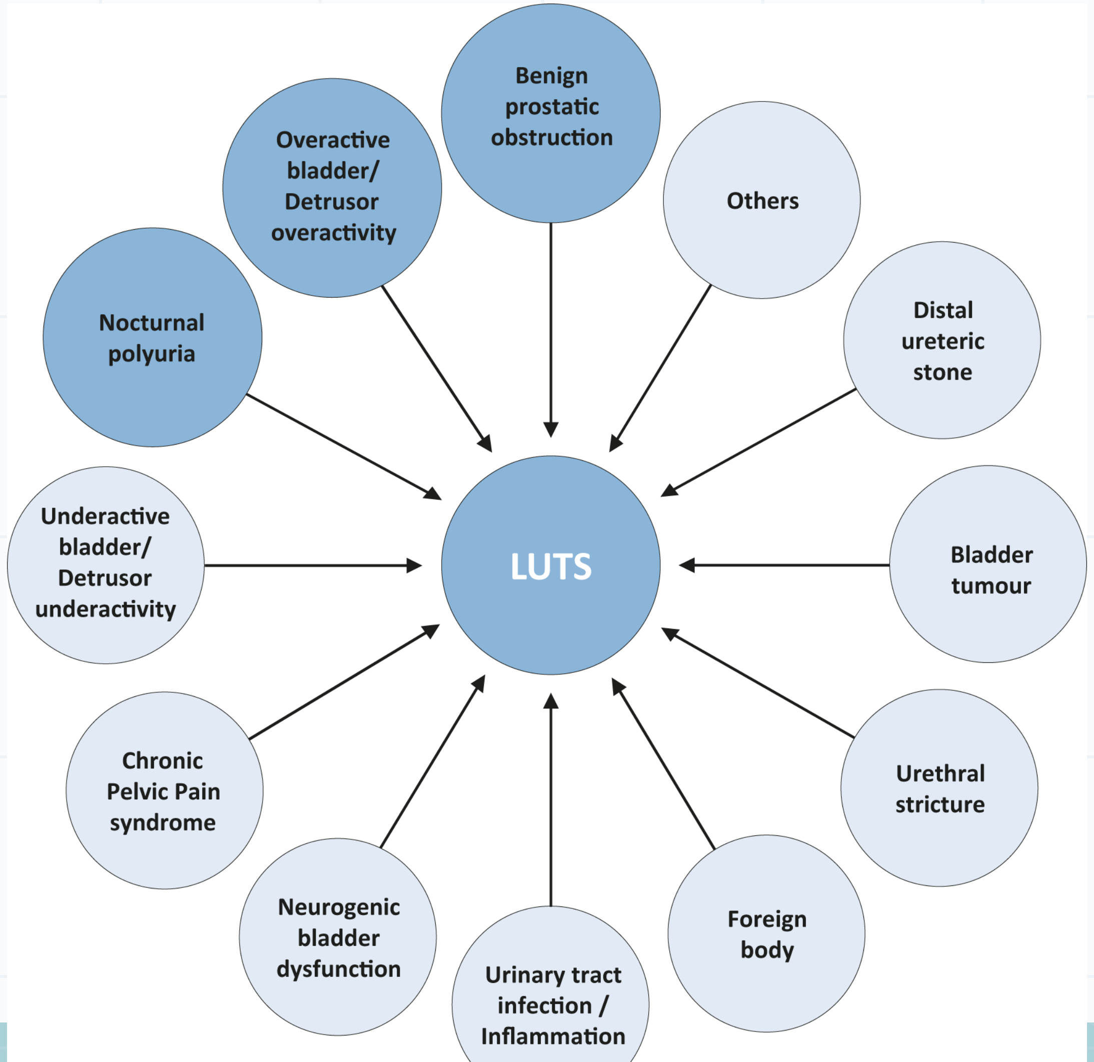


FIG 2. Storage and voiding symptoms in respondents with lower urinary tract symptoms

What is lower urinary tract symptoms

- 排尿不清
- 排尿斷續
- 尿流無力
- 排尿費力
- 尿頻
- 尿急
- 夜尿



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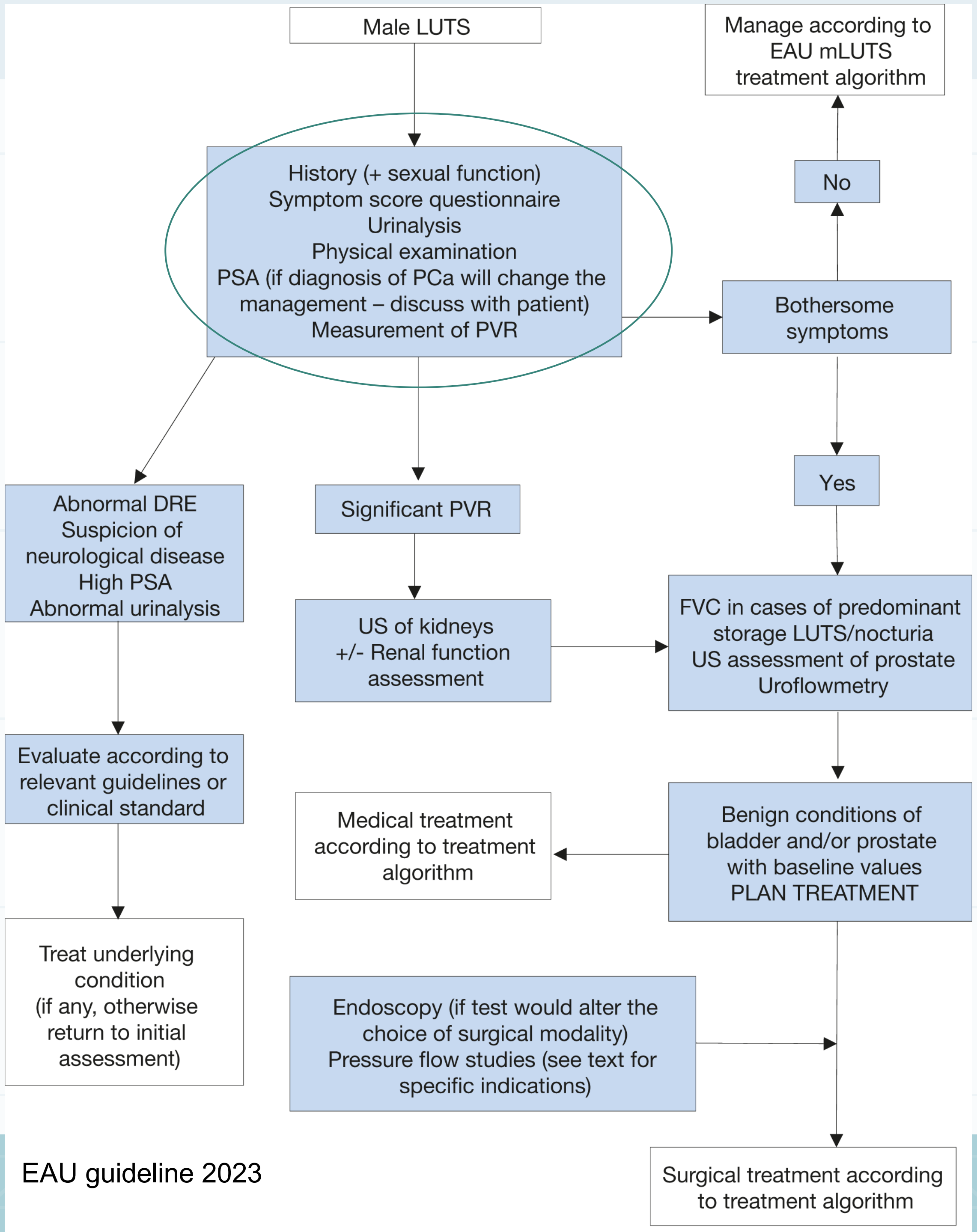

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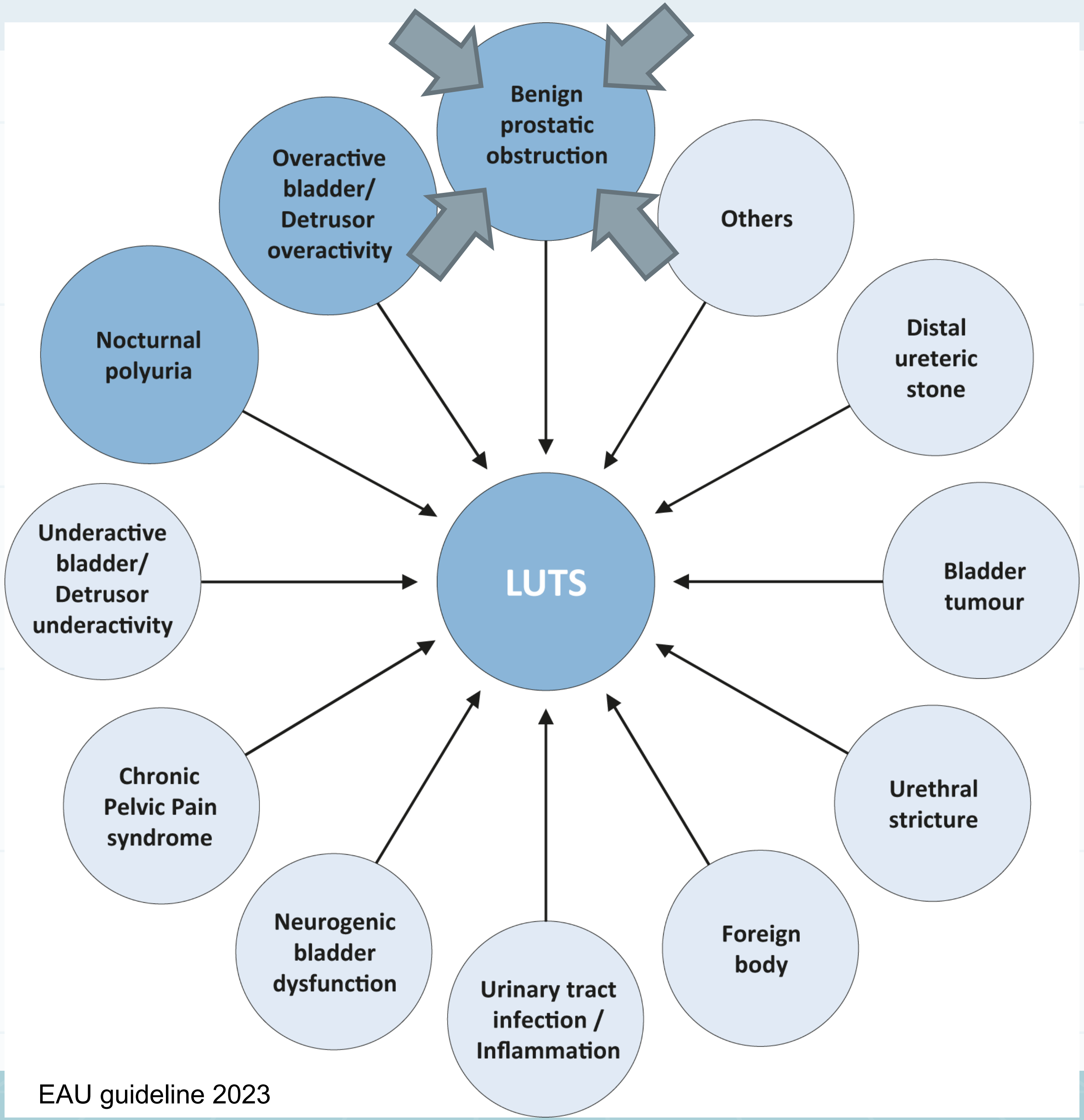

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Who are indicated for BPH surgery?

Elective

Symptomatic LUTS

Relative

Bladder stones
Bleeding BPH
Recurrent UTI
Large RU

Absolute

Obstructive uropathy
AROU Failed TWOC

Surgical Management Options

General / spinal anaesthesia	Local anaesthesia
Endoscopic Surgery Resection (TURP) Enucleation (Bipolar / laser) Vaporization (Bipolar / laser) Aquablation **Open Surgery** Simple prostatectomy	Prostate stent Prostate artery embolization Rezum Urolift

Endoscopic surgery – **TURP**

- Loop wire using monopolar / bipolar diathermy
- Cut the prostate tissue in piecemeal

- Pros
  - Gold standard for prostate size 30-80cc
  - Long-term efficacy and safety well proven
  - Instruments and technique widely available
- Cons
  - GA/SA
  - Affect ejaculatory function (60% retrograde ejaculation)
  - Bleeding tends to be more with larger prostate volume
  - Problem of urethral stricture

Endoscopic surgery – **Enucleation of prostate**

- Laser / bipolar
- Remove whole central portion of prostate tissue along anatomical plane

- Pros
  - Short and mid-term efficacy similar to TURP
  - re-treatment rate lower in large prostate >80cc
  - Hospital stay shorter than TURP
- Cons
  - Operation time longer than TURP
  - Steep learning curve
  - GA / SA
  - Affect ejaculatory function

Endoscopic surgery – **Vaporization of prostate**

- Pros
    - Short-term results comparable with TURP
    - Less bleeding complication than TURP particularly good for case with bleeding tendency, anticoagulant use
- Cons
    - GA/SA
    - Longer operative time than TURP
    - Higher re-operation rate than TURP
    - Affect ejaculatory function

Endoscopic surgery – **Aquablation** 前列腺水刀消融術

- Use targeted high velocity saline stream to ablate prostatic tissue under real-time transrectal ultrasound guidance

- Pros
  - Much shorter resection time than TURP
  - Short term outcome and re-treatment rate similar to TURP
  - Cover wide range of prostate size from 30 to 150cc
  - 80% patient can preserve antegrade ejaculation
- Cons
  - GA/SA
  - No long-term data
  - More post-op bleeding
  - Machine not widely available

LA procedure – **Prostate Stent insertion**

- ***Nitinol*** stent
- Thermo-sensitive, self expanding, shape memory effect
- Coil expand when >55°C water flush through
- Coil soften when <7°C water flush through

- Pros
  - LA procedure, particularly target patient with high surgical risk
  - Reversible
- Cons
  - Efficacy lower than TURP
  - Risk of stent dislodgement

LA procedure – **Prostate Urolift** 前列腺提拉術

- Permanent implant that retract the two lobes of prostate to open up the prostate channel

- Pros
  - LA procedure
  - Preserve ejaculation
- Cons
  - Permanent implant
  - Prostate size limit
  - No long term data
  - Higher retreatment rate than TURP at 5 years

LA procedure – **Rezum** 前列腺水蒸氣治療

- Radiofrequency water vapour inject into prostate
- Causing cell death and tissue reduction

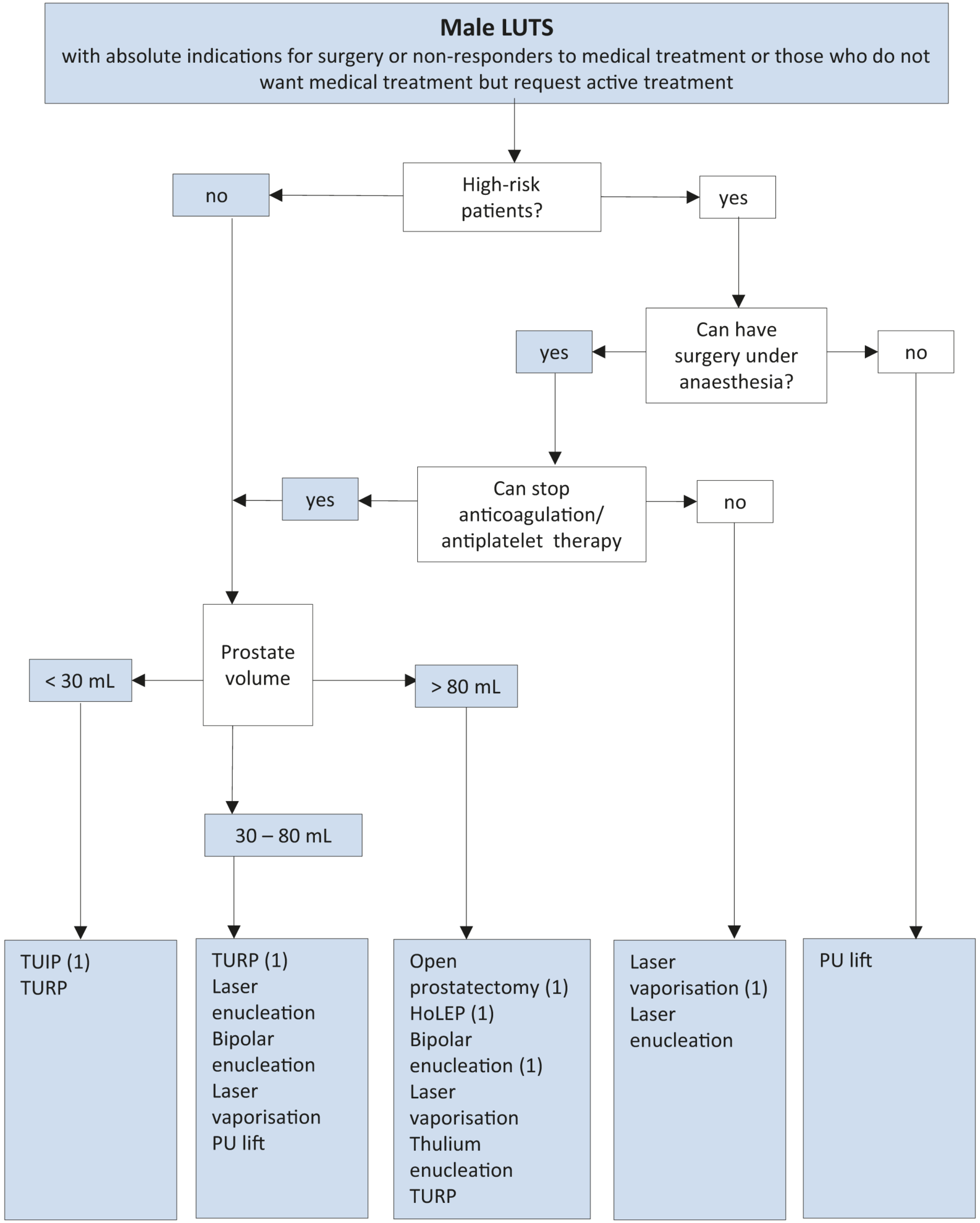
- Pros
    - LA procedure
    - Preserve ejaculation
    - No implant
- Cons
    - Takes a longer time to have effect (2-4 weeks)
    - need to have foley catheter for at least 1 week
    - No long-term data

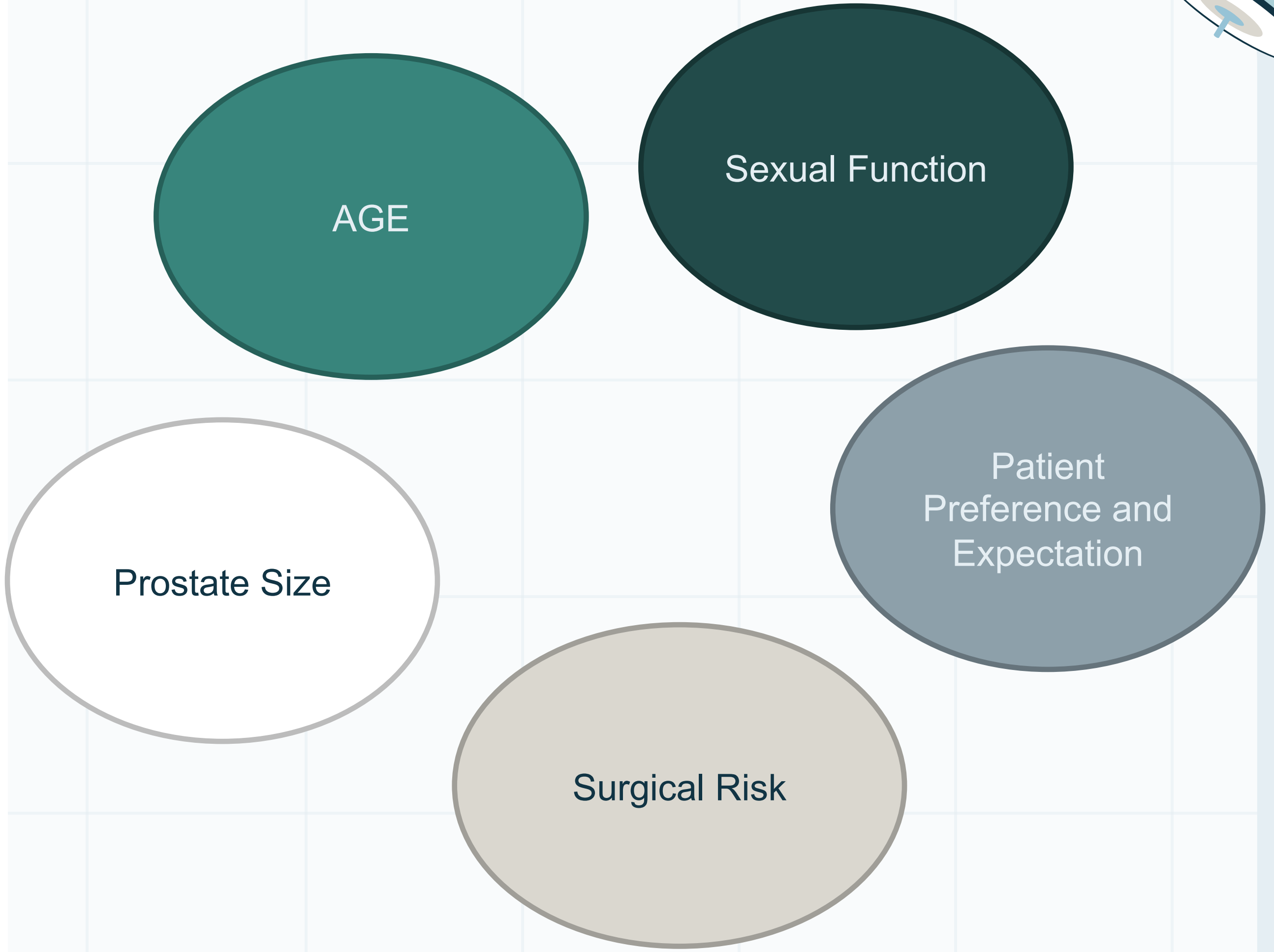
LA procedure – **prostate artery embolization**

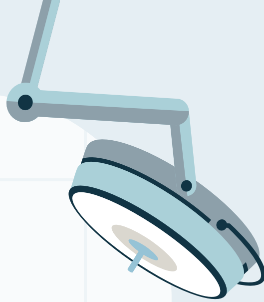
- Performed by radiologist
- Embolizing bilateral prostate artery to reduce blood supply
- Prostate ischemia and atrophy

- Pros
    - LA procedure
    - Can reduce prostate bleeding as well
    - Particularly suitable for large prostate with high surgical risk
- Cons
    - Radiation, IV contrast
    - Need a few weeks time for prostate to shrink
    - Efficacy lower than TURP
    - No long-term data

Era of Individualized treatment of BPH







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Take home message

- TURP is no longer the only choice of BPH surgery
- Multiple treatment modalities in modern BPH management
- Factors to consider include
    - Age
    - Sexual function
    - Surgical risk
    - Prostate size
    - Patient’s preference
- Importance of choosing the best treatment method specific to individual patient