Management pathway for urinary retention after Orthopaedic surgery in Prince of Wales Hospital

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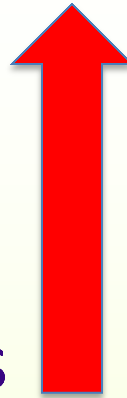
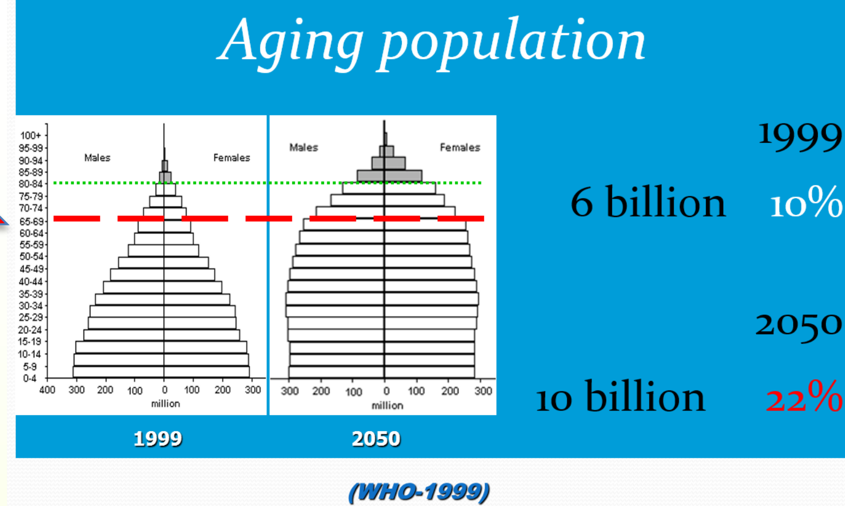
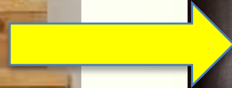
Introduction

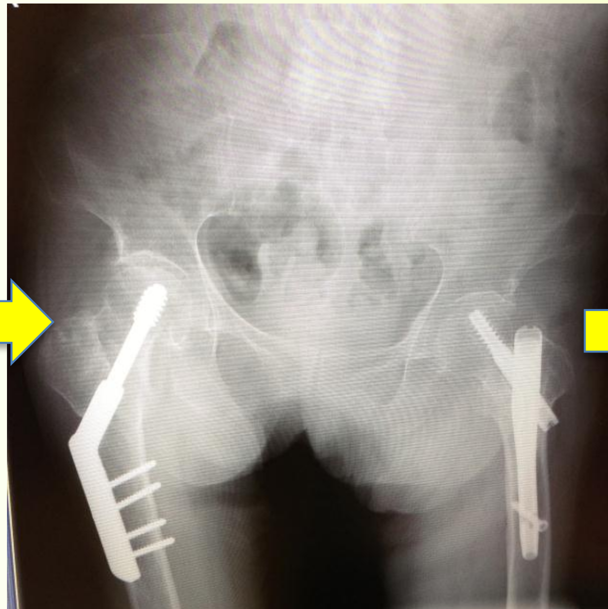




(WHO-1999)

- Aging !!!
- Geriatric hip fractures
- Surgery : (1) Fracture healing (2) Pain control (3) Functional recovery





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Introduction

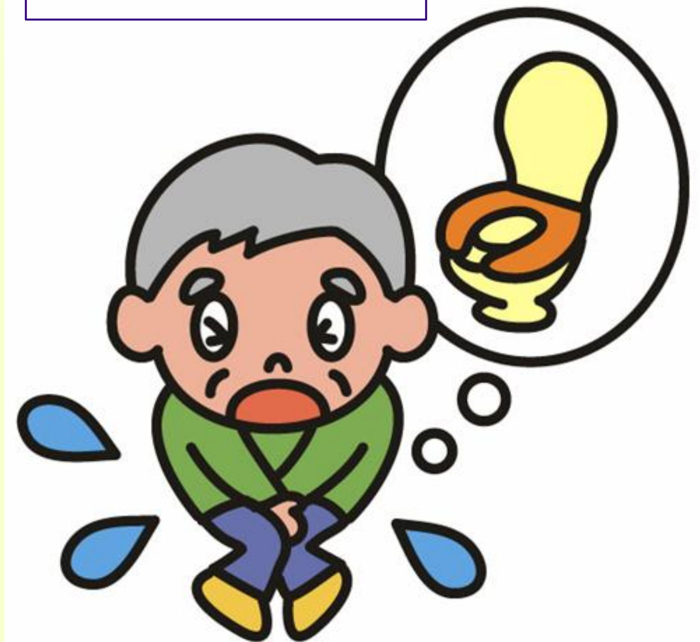
- Incident rate of acute retention of urine (AROU) after hip surgery can be ranged from 20% to 39%

(Urwin, et. al, 2000 & Poh & Lingaraj, 2013)

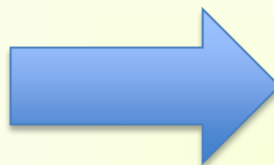
- The reason of AROU:
  - Advanced age
  - Mode of anaesthesia
  - Peri-operative mental status
  - Pain
  - Immobility
  - Constipation

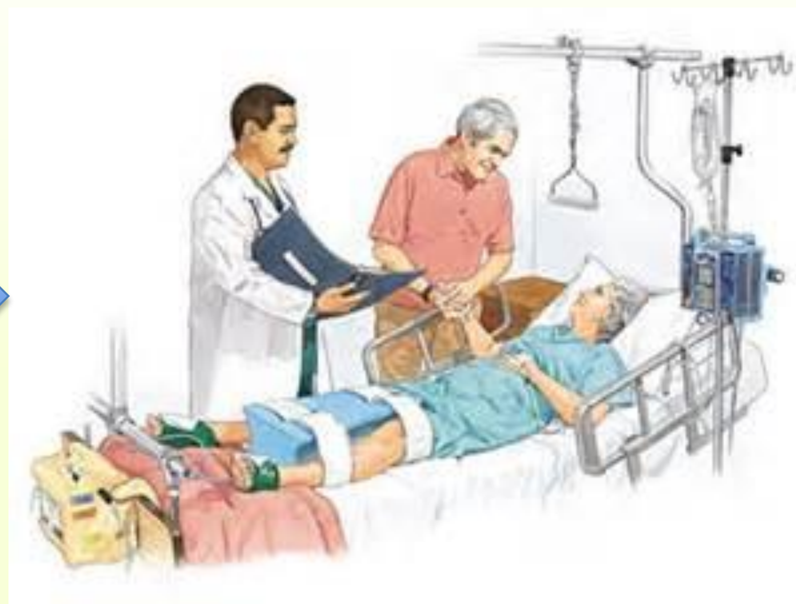
(Johansson & Christensson, 2010)

AROU



Background





Incident rate 14.1%

62 cases among 437 geriatric hip fractures

(2011-2012 Pre-protocol PWH)

Consult Urologist

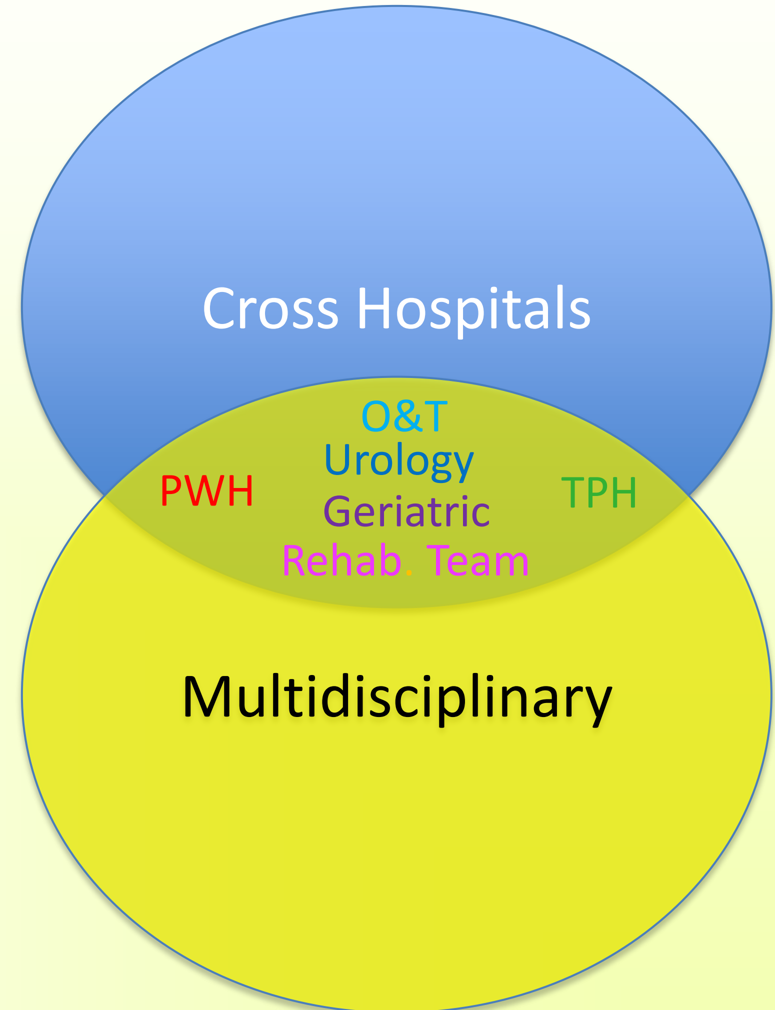
Lengthening the inpatient stay !

Aims

1. Standardizing management for post-op AROU in PWH/ TPH till discharge
2. Minimizing consultation to Urologist
3. Decrease LOS awaiting Urologist assessment
4. Streamline referral to Urology daycare for resistant cases

Protocol development

- Collaboration of
  - PWH O&T Trauma Team
  - PWH Urology
  - PWH Geriatric Team
  - TPH rehabilitation team
- Establish
  - Criteria of inclusion/ exclusion
  - Medication
  - Treatment flow
  - Referral pathway



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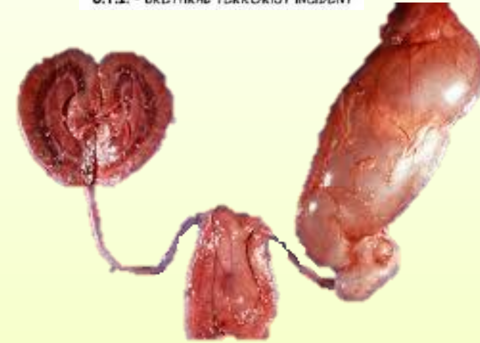
Exclusion Criteria

1. Unstable vital signs

2. Active urinary tract infection
3. Chronic retention of urine
   (e.g. bilateral hydronephrosis)



4. Tumor felt from PR

5. Haematuria

6. Neurological cause of retention
   (e.g. concomitant lower limb weakness)

TWOC protocol

Course of TWOC

Male patient

1. Insert urinary catheter
2. Start α-blocker (e.g. Xatral XL 10mg daily)
3. Removal of catheter 2 days after ROU

Female patient

1. Insert urinary catheter
2. No need to start any medication
3. Removal of catheter 2 days after ROU

Re-insert catheter:

- Residual urine > 350ml and/or
- Distress symptoms from retention

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TWOC protocol

AROU after surgery

↓

Course of TWOC (Maximum 2 cycles) → Success → Continuous O&T management

↓ Fail

Keep catheter till discharge

↓ Fit for discharge

Course of TWOC → Success → Continuous O&T management

↓ Fail

- Refer to Surgical Ambulatory Care Center (SACC) for Urologist assessment
- Prescribe α-blocker to male patient till SACC follow up
- Arrange CNS for catheter care

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Please fax this page to PWH 9C (2632 4621) upon initiation of TWOC protocol

1st trial of TWOC	
Date of insert catheter (Day 0):	
Hospital	PWH/ TPH
Medication	Y/N/na
Day 1 of indwelling catheter Date:	**Day** 2 of indwelling catheter Date:
Off catheter on **Day 3** Date:	
Outcome	Success/ Fail

Gum Label

Remember this!!
Age >65 & developed ROU after orthopedic surgeries
& Retention of urine
& Urethral catheterization performed
Need to fulfill above criteria when implement this protocol

↓ **Fail**

2nd trial of TWOC	
Date of insert catheter (Day 0):	
Hospital	PWH/ TPH
Medication	Y/N/na
Day 1 of indwelling catheter Date:	**Day** 2 of indwelling catheter Date:
Off catheter on **Day 3** Date:	
Outcome	Success/ Fail

↓ **Keep catheter if fail and 3rd trial TWOC before discharge**

3rd trial of TWOC (before discharge)	
Hospital **Medication**	PWH/ TPH
Day 1 of indwelling catheter Date:	**Day** 2 of indwelling catheter Date:
Off catheter on **Day 3** Date:	
Outcome	Success/ Fail

↓ **Fail**

Checklist for arrange surgical day ward admission (10LM) for follow up

- ☐ Attempted and failed TWOC with compliance to protocol
- ☐ Patient will be discharged home within 1 week
- ☐ Prescribe Xatral XL 10mg once per day to male patients till re-admission 10LM ward
- ☐ Refer CNS for catheter care

PWH Surgical Day Ward 10 LM (Fax: 26324619/ Tel: 26323818)
Surgical Day Ward (10LM) appointment date: ______/_____/______

*Remarks:*____

**For any enquiry, please contact Ms. Chan Ka Wai (RN)/ Ms. Sindy Tse (APN) Ward 9C, PWH, Tel: 2632 2712.*

*Please file this sheet into PWH in-patient folder upon discharge

Methodology

Pre-TWOC protocol

- 1/6/2011 - 31/5/2012
- >65 years old geriatric hip fractures

Methodology

TWOC protocol

- Started from 1/6/2012
- Target group:

  Patient >65 years old geriatric hip fractures developed post-op AROU in PWH or during rehabilitation in TPH

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TWOC protocol

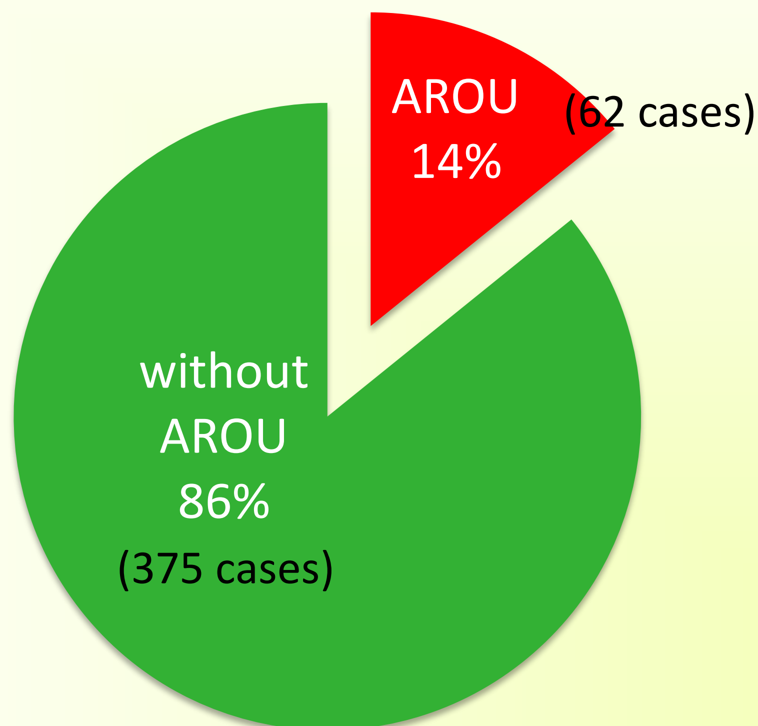
PWH

TPH

RESULT

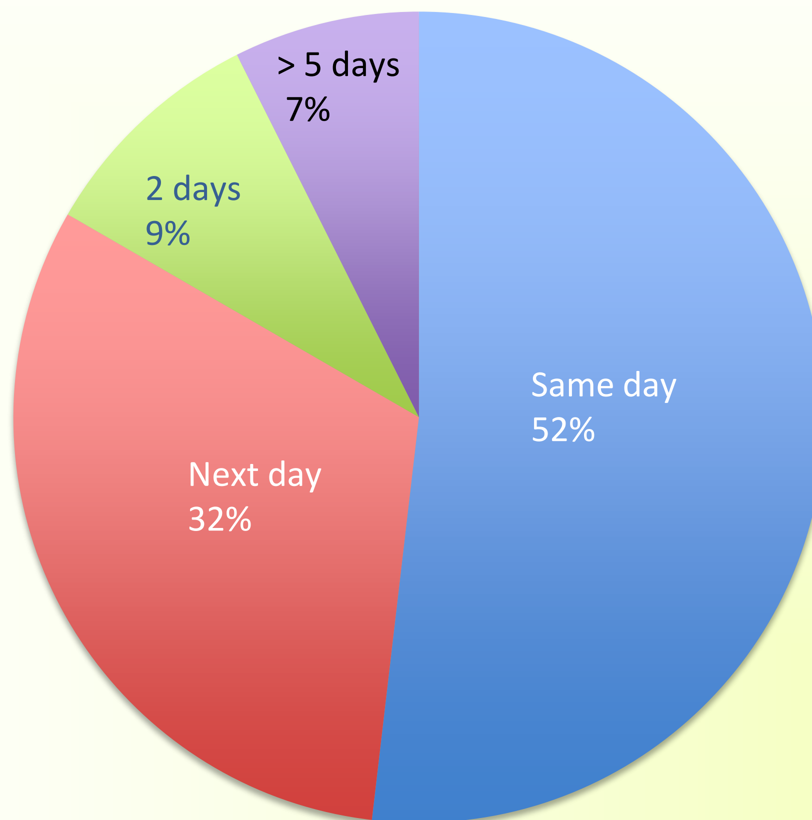
Pre-TWOC protocol

- Period: 1/6/2011 – 31/5/2012
- >65 years old geriatric hip fractures
- Sample size: 437



- 54 cases consulted Urology

Waiting time for Urologist Assessment



- 28 cases same day
- 17 cases next day
- 2 cases 2 days
- >5 days 4 cases

Average waiting bed days: 2.1

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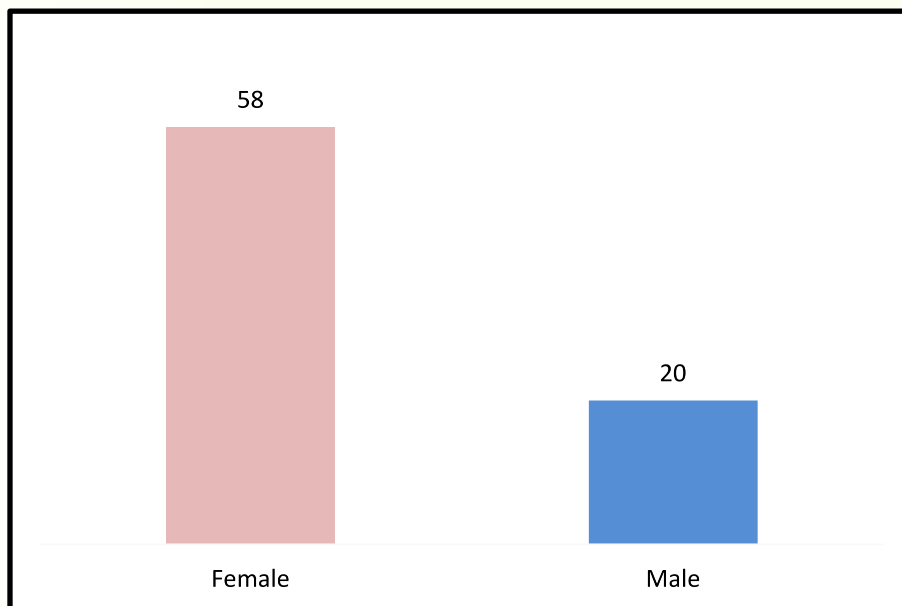
Post-TWOC protocol

- Period: 1/6/2012 – 31/5/2013
- Sample size: 360 cases
- 74 cases received
- 6 cases were excluded (wrongly recruited)
- 68 cases under TWOC protocol

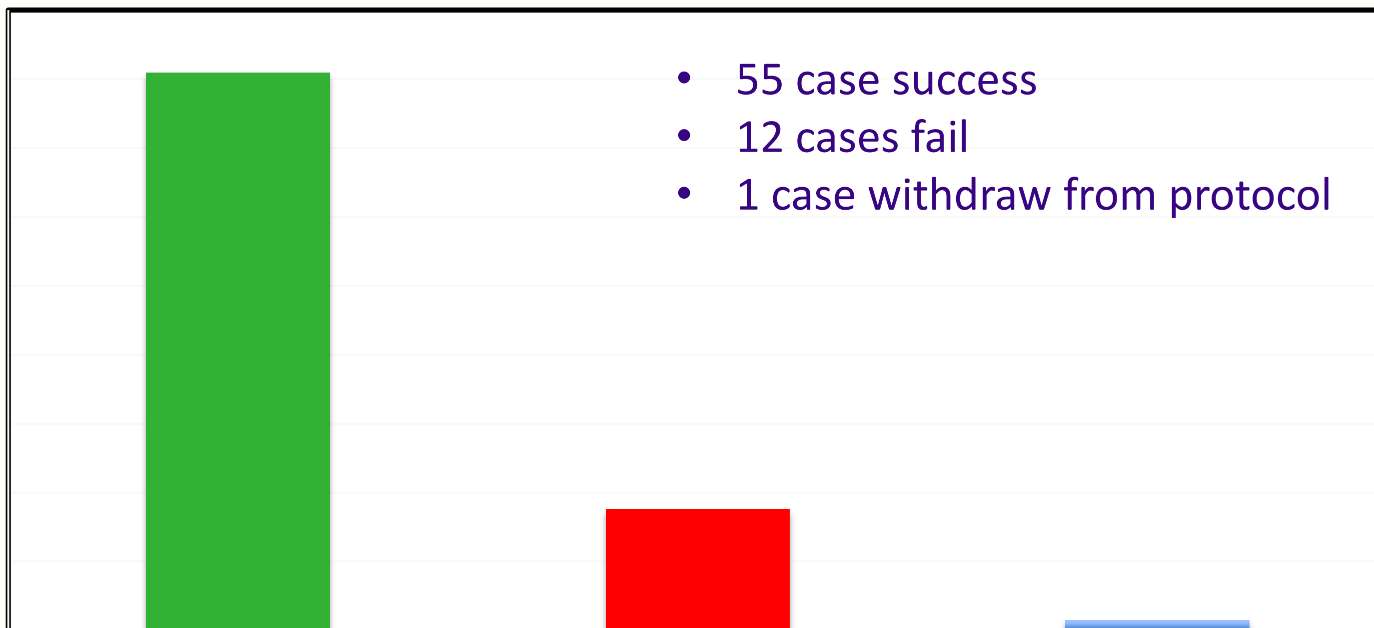
Demographic

- Male: female: 1:2.9



- Average age: 83

TWOC protocol



Total save: 143.5 bed days

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Inpatient Urologist consultation

18%
16%
14%
12%
10%
8%
6%
4%
2%
0%

Pre protocol
Post protocol

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Complication ?

0%

DISCUSSION

Discussion

- **Simple** & **Safe** protocol
- Seamless protocol implement throughout patient journey PWH/TPH → SACC
- Initiated by nurse following the protocol
  - Promote patient comfort
  - Delivery of appropriate care

(Heaney, 2011)

Discussion

1. ↓ Urology consultation
2. ↓ waiting time for Urology consultation
3. All resistant cases followed by urologist in day care unit after discharge
4. No complication

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Conclusion

- Effective and efficient way to manage post-op AROU in geriatric hip fracture patients
- Extended to all orthopaedic patients apart from fracture hip patients
- Possible implement in other departments and hospitals

Reference

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Thank You !