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

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Content

• Introduction
• Background
• Aims
• Protocol development
• Methodology
• Result
• Discussion
• Conclusion
Introduction

• Aging !!!
• Geriatric hip fractures
• Surgery: (1) Fracture healing (2) Pain control (3) Functional recovery
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)
**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
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
TWOC protocol

AROU after surgery

Course of TWOC (Maximum 2 cycles)

Fail

Keep catheter till discharge

Fit for discharge

Course of TWOC

Success

Continuous O&T management

Success

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
Prince of Wales Hospital  Management Pathway for Retention of Urine after PWH Orthopedic Surgeries
Department of Orthopaedics & Traumatology  NTEC-PWH-O&T-P-2012-TWOC-V2

Date: 11th March, 2013.  Page 3 of 3

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

1st trial of TWOC

<table>
<thead>
<tr>
<th>Date of insert catheter (Day 0):</th>
<th>Gum Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>PWH/TPH</td>
</tr>
<tr>
<td>Medication</td>
<td>Y/N/na</td>
</tr>
<tr>
<td>Day 1 of indwelling catheter</td>
<td>Day 2 of indwelling catheter</td>
</tr>
<tr>
<td>Date:</td>
<td>Date:</td>
</tr>
<tr>
<td>Off catheter on Day 3</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>Outcome</td>
<td>Success/Fail</td>
</tr>
</tbody>
</table>

↓ Fail

2nd trial of TWOC

<table>
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<tr>
<td>Hospital</td>
</tr>
<tr>
<td>Medication</td>
</tr>
<tr>
<td>Day 1 of indwelling catheter</td>
</tr>
<tr>
<td>Date:</td>
</tr>
<tr>
<td>Off catheter on Day 3</td>
</tr>
<tr>
<td>Outcome</td>
</tr>
</tbody>
</table>

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

3rd trial of TWOC (before discharge)

<table>
<thead>
<tr>
<th>Hospital</th>
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<td>PWH/TPH</td>
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<td>Date:</td>
</tr>
<tr>
<td>Off catheter on Day 3</td>
<td>Date:</td>
</tr>
<tr>
<td>Outcome</td>
<td>Success/Fail</td>
</tr>
</tbody>
</table>

↓ 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 Xatrax 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

Controlled Version on iHospital  Hard Copy for Reference Only
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
TWOC protocol

PWH + TPH
RESULT
Pre-TWOC protocol

- >65 years old geriatric hip fractures
- Sample size: 437

- 54 cases consulted Urology

- AROU 14% (62 cases)
- Without AROU 86% (375 cases)
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
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

- 55 cases success
- 12 cases fail
- 1 case withdraw from protocol

Total save: 143.5 bed days
Inpatient Urologist consultation
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
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


Thank You!