



MONASH University



RESIDENTIAL AGED CARE COMMUNIQUE

VOLUME 5. ISSUE 2.

June 2010

ISSN 1834-318X

CONTENTS

Editorial	1
Case #1 "Even simple things may cause harm"	2
Case #2 "Complications of Catheterisation"	3
Expert Commentary	4
List of Resources	4

EDITORIAL

Welcome to the June edition of the Residential Aged Care Communiqué. This edition features two cases that required an extensive investigation and inquest. Both cases involved harm occurring from the use of very familiar and common equipment in health and aged care. Most readers will be surprised to hear that residents have died from complications arising from the use of a urinary catheter and a hot water bottle.

As usual the cases have multiple underlying contributory factors related to communication, training, timely clinical care and the use of policy and protocols. The focus of this edition is the use of equipment and how we use Health Technology Assessment.

Some may argue this type of assessment has little relevance, especially in the two cases described. However, Health Technology Assessment provides us with a structure to examine whether new equipment or procedures improve resident care and safety. It also examines any unintended consequences of introducing new equipment and procedures.

A thorough assessment of equipment requires consideration of the (i) technical properties, (ii) safety, (iii) efficacy and/or effectiveness, (iv) economic attributes and (v) social, legal, ethical and/or political impacts.

By using this structure we can reflect on the cases and analyse what assumptions created the situations that could have occurred anywhere.

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Next Edition: August 2010

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ACKNOWLEDGEMENTS

This initiative has been made possible by collaboration with the Victorian Institute of Forensic Medicine and Department of Health (Victoria) - Aged Care Branch.

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Residential Aged Care Communiqué [electronic resource]: Department of Forensic Medicine, Monash University, Available at: <http://www.vifm.org/communique.html>

FEEDBACK

The editorial team is keen to receive feedback about this communication especially in relation to changes in clinical practice. Please email your comments, questions and suggestions to: racc@vifm.org

DISCLAIMER

All cases that are discussed in the Residential Aged Care Communiqué are public documents. A document becomes public once the coronial investigation process has been completed and the case is closed. We have made every attempt to ensure that individuals and organizations are de-identified. The views and conclusions are those of the authors and do not necessarily represent those of the Coroners, Department of Health, Victorian Institute of Forensic Medicine or Monash University.

EVEN SIMPLE THINGS MAY CAUSE HARM!

Case Précis Author: Carmel Young
RNCCM

CLINICAL SUMMARY

Ms K was an 82-year-old female resident requiring high-level care at a South Australian metropolitan Residential Aged Care Service (RACS).

Past medical history included aortic stenosis, ischaemic heart disease, osteoporosis with fractures and chronic back pain.

Ms K used hot water bottles to ease the back pain. On this day she requested that a staff member refill the hot water bottle before settling for the night. The nurse half-filled the hot water bottle with boiling water, screwed the top on, inverted it to make sure there were no leaks and placed the bottle on Ms K's back.

Minutes later the nurse heard screams from Ms K's room. The bottom of the hot water bottle had split open. Ms K sustained burns to 9% of her body. She was conveyed to a hospital where she opted for palliative management and died three days later.

PATHOLOGY

The cause of death following an inspection and report was multi-organ failure from burns on a background of aortic stenosis and ischaemic heart disease.

INVESTIGATION

The coroner held an inquest to understand how Ms K sustained burns whilst in the RACS.

Despite seeking statements from multiple sources it was not possible to identify the manufacturer, importer and retailer of the hot water bottle.

Another interesting fact uncovered is the lack of any Australian Standard covering hot water bottles. The only available standard was from Britain.

The coroner found that the manufacturer's instructions were to fill the hot water bottle two-thirds with hot water, not boiling water and to expel air from the bottle before securing the lid.

These instructions were not available to staff and no formal training was in place. The Director-of-Nursing stated that until this incident happened she was not aware that hot water bottles were being used at the facility.

Following the incident, the RACS developed and implemented a formal policy about the application of heat packs and banned the use of hot water bottles.

CORONER'S COMMENTS AND FINDINGS

The coroner recommended the minister for Consumer Affairs consider the promulgation of a public education campaign, warning of the dangers of the improper use of hot water bottles.

AUTHOR COMMENTS

This case highlights the importance of following manufacturer's instructions when using any sort of equipment. If these instructions are not available, staff should seek advice before using equipment and make this is made available to everyone. We should also consider that the range of aids and equipment available needs to be appropriate to residents' specific care needs, comfort and safety.

Once again this case highlights how easy it is for all health professionals to take the routine and simple tasks for granted, with unintended serious consequences.

A robust health and safety program in RACS identifies all the aids and equipment in use within the facility, evaluates effectiveness (i.e. use of equipment consistent with manufacturer's recommendations and regularly maintained), and provides equipment replacement schedules to ensure timely decommissioning and removal of unsuitable and obsolete equipment.

COMPLICATIONS OF CATHETERISATION

Case Précis Author: Carmel Young
RNCCM

CLINICAL SUMMARY

Mr D was an 87-year-old male resident requiring high-level care at a South Australian metropolitan Residential Aged Care Service (RACS) since 2005.

Past medical history included a stroke, heart failure, atrial fibrillation for which he was prescribed warfarin, recurrent urinary tract infections, a transurethral prostatectomy (TURP) and an atonic bladder that required a permanent indwelling urinary catheter.

Mr D usually had his urinary catheter changed by the Royal District Nursing Service. On this particular day he requested the catheter be changed as it was leaking.

The district nurse attended the facility and after two failed attempts at catheterization abandoned the procedure and left the facility after phoning the doctor.

The local doctor attended two to three hours later and passed the urinary catheter with little difficulty and without any antibiotic cover. He stated that Mr D was passing clear urine, and asked a nurse to connect the catheter bag.

The nurse found that Mr D had passed dark red blood. The catheter was irrigated and the doctor was called to return and attend Mr D. At first the doctor could not be contacted, so a decision was made to call for an ambulance to transfer Mr D to hospital.

Just after this call the doctor contacted the facility and requested the ambulance be cancelled until he reviewed the patient. The doctor arrived at the facility within the hour.

Mr D had lost approximately 500 ml of "frank blood", was distressed and pale. The ambulance service was contacted and a second request was made for a transfer to hospital. At the hospital Mr D was treated for sepsis, had the warfarin dose monitored (INR>3.0) and died soon after admission.

PATHOLOGY

The cause of death was multi-organ failure due to septic shock complicating a urinary tract infection and traumatic bladder catheterisation.

INVESTIGATION

The coroner held an inquest over seven days to investigate the circumstances of death. Statements were obtained from the doctors, RACS nurse and the District Nurse who looked after Mr D. The coroner also had expert opinions from two urologists.

The general practitioner explained he managed to successfully introduce a 16-gauge catheter at the first attempt without any force and had chosen a smaller gauge because of the earlier failed attempts. The experts were unable to determine when and which catheterisation led to the urinary tract trauma. The medication warfarin clearly contributed to the bleeding.

The appropriateness of the procedure was considered because of past difficulties with catheterisations, the increased risks of infection associated with long term indwelling catheter and bleeding due to warfarin. The experts' opinion differed about whether the presence of a positive urine microbiology culture (two months earlier) required antibiotic cover and whether catheterisation be delayed until the raised INR was corrected.

The coroner found no issues with how the staff of the RACS had managed the situation. The doctor stated that when the nurse rang, he was not informed Mr D was unwell, and so had requested the ambulance be cancelled until Mr D was reviewed. However, the coroner commented a "*very compelling reason would have needed to exist for that decision to have been second-guessed by a person who had not actually seen Mr D*".

CORONER'S COMMENTS AND FINDINGS

The coroner concluded that this case highlighted "*the potential dangers associated with the insertion of catheters in uncontrolled environments such as nursing homes in circumstances where patients have potential complications*".

The coroner could not come to a firm conclusion from the evidence and noted that no-one was "*advocating a position whereby re-catheterisations ought routinely be carried out in a hospital...*".

The coroner made several recommendations including "*that the Department of Health undertake a review of the circumstances in which it would be appropriate for catheterisation procedures to be undertaken in nursing homes and to design protocols accordingly*" and "*that the Department of Health and the Medical Board of South Australia cause medical practitioners to be reminded to consider (a) the desirability of antibiotic therapy and (b) the patient's anticoagulation status when performing catheterisation procedures*".

AUTHOR COMMENTS

It is easy for all health professionals to become complacent about potential complications in the common everyday and straightforward procedures like urinary catheterisation.

This case highlights the need to consider all aspects of resident care when performing tasks. It highlights again the key to the safety of residents; are the staff and care team's skills and competencies. It is important there is regular and appropriate staff training in the safe application and use for all aids and equipment.

EXPERT COMMENTARY

Author: Shelly Jeffcott PhD, Senior Research Fellow. School of Public Health and Preventive Medicine, Monash University

These case studies can, of course, be read one of two ways. First, that risk is all around us and we cannot avoid getting caught out, even with something as simple as a hot water bottle. But the other side of the argument, at an individual level, is that try to maintain vigilance to all tasks that involve patient care. In a vulnerable group, with many co-morbidities such as the aged (and especially those over 80, as in these cases), there is no place for complacency. Even with so-called simple or menial tasks, like blood taking or catheterisation.

Resilience

Always keeping an eye on safety, particularly at an organizational level, speaks to the "human factors" concept of 'resilience' which looks at how a system – from individual, team, micro (e.g. organizational) to macro (e.g. governmental) – should always be adapting to new risks and anticipating failure by incorporating lessons from error recovery.

Health Technology Assessment

People are most familiar with the use of HTA when large state or national health care initiatives are being introduced. For example, electronic prescribing and administration systems or introducing new beds designed to reduce harm from falls or pressure ulcers. However, HTA provides a structure to reflect on our use of existing equipment and procedures.

Technical properties

It is not surprising that we take the technical properties of everyday equipment for granted. Working in health care we often assume equipment is manufactured and used according to specified standards. The case involving the hot-water bottle clearly demonstrates what may happen when we exceed the design specifications.

Safety

If we now consider safety, the case involving the urinary catheter best illustrates this aspect because the issue was not about the technical properties of the catheter, so much as the clinical decision-making of when and under what circumstances it should be used. The safety aspects of using the hot water bottle can also be argued given that there are alternatives which would relieve pain and do not have the same risk of harm.

Efficacy and/or effectiveness

This refers to whether the equipment or procedure improves health. The indications and use of the urinary catheter is well known and accepted as providing better health outcomes in that particular case. However, the use of a hot water bottle to relieve chronic pain is more contentious, we could argue that stronger analgesia would be more effective (but it also impacts on safety).

Economic attributes

This considers the actual costs of care and other costs that are less visible such as when a shift in the location of care occurs. The economic costs associated with changing practice to have all urinary catheters changed in hospital would be considerable. In contrast, the costs of removing hot water bottles and replacing these with heat packs are likely to be minimal.

Legal, ethical and political impact

We could say these are self-evident. However, we must also remember that these present the extreme negative aspects. We would have to balance any evaluation with examples where patients or residents have benefited for the equipment and care.

It is important to inform consumers/ residents and relatives about the purpose and need for any equipment used in care.

LIST OF RESOURCES

Most Health Technology Assessment is used in a high level context (i.e., State and National level) there are very few useful resources for application at a local level in aged care. However, the principles are an excellent foundation.

International Network of Agencies for Health Technology Assessment: <http://www.inahta.org/HTA/>

A really good (simple to understand and read) resource from the UK: <http://www.hta.ac.uk/>

DOHA, provides an outline and in an Australian context and in regard to the TGA and other related agencies people may have heard of:

[http://www.health.gov.au/internet/main/publishing.nsf/Content/208F913CD40AD7F9CA2575850080CACD/\\$File/htadiscussionpaper.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/208F913CD40AD7F9CA2575850080CACD/$File/htadiscussionpaper.pdf)