

An Evaluation of SurgiSafe® Absorbent Floor Mats in the Perioperative Environment

References

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- 9 Consumer Protection Act 1987 Norwich The Stationery Office
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Further Reading

- Department of Health and Human Services, Centers for Disease Control and Prevention and National Institute for Occupational Safety and Health 2011 Slip Trip and Fall Prevention for healthcare workers available from; <http://www.cdc.gov/niosh/docs/2011-123/pdfs/2011-123.pdf>
- Health and Safety Laboratory 2006 Cleaning activities and slips and trip accidents in NHS Trusts Buxton Health and Safety Laboratory Hughes N L 2009 Environment Health and Safety American Nurse Today 4 (3) p.38 National Patient Safety Agency 2007 Healthcare risk assessment made easy London NPSA.

An evaluation of the product range was carried out at a large Midlands teaching facility, NHS Trust, raising awareness of the hazards of slips, trips & falls in the operating theatre environment. This evaluation was led by the Modern Matron & the Senior ODP across various theatre specialities. Author: Jill Biggins, Advanced Surgical Care Practitioner and formerly National Chair of the National Association of Assistants in Surgical Practice.

Introduction

Slips, trips and falls are identified as a major problem in the workplace and can cause significant injury.^{1,2,3,4,5} The aim of this review is to identify the slip and trip hazards in the perioperative environment, to discuss how these risks can be minimised in order to prevent injury and to provide a safe environment for staff, visitors and patients.

In 2009, it was reported that slips, trips and falls were the second highest reported injury in the healthcare sector, with up to 30% of all cases reported resulting in an absence from work of 3 months or more.¹ In 2007/8, it was reported that 5.1 million working days were lost to work related injury or ill health. This was calculated to be the equivalent of 1.9 working days per employee in the health and social care sector and this was the highest rated employment sector.⁵ The costs of such a high level of absence and injuries in the UK has been estimated as being in excess of **£500 million per year.**³

Flooring is a significant contributor to the risk of slips, trips and falls, and in particular that contamination of the flooring will significantly increase the risks.¹

Environmental cleaning and the spillage of water and fluids are known hazards in the perioperative environment. Floors will be cleaned as appropriate at the end of each case and will be cleaned on a daily basis once the operating session has ended.⁶ Environmental cleaning of floors can often leave them wet as an invisible film of fluid is left on the surface until such time as it has evaporated. However, regular environmental cleaning of the floor area can reduce the risks of slip hazards if an appropriate method is taken.³

Wet Floors

Within the perioperative environment there will be wet floor hazards associated with some specialities & fluid intense procedures such as:

- Scrub up area
- Sluice area
- Environmental cleaning between cases and at the end of the list
- Surgical procedures such as:
 - Arthroscopy, particularly shoulder arthroscopy
 - Caesarean Section
 - Hysteroscopy
 - Cystoscopy
 - Trans Urethral Procedures
 - Irrigation of wounds

The Health & Safety Authority (HSA) recommends that key preventative measures should be in place to reduce slips and trips:

- Risk assessments
- Deal with spillages without delay
- Revise if possible, environmental cleaning methods for floors
- Prompt reporting of accidents and near misses.

Solutions to minimise slips and trips

The most effective method of reducing the risk of slips and trips is to prevent the fluid reaching the floor.⁸

The management of fluid spillages can take on numerous forms. However the most likely method is by mopping, which is known to increase the slip and trip hazard.

The use of fluid solidifiers, often in the form of a granulated substance that will absorb the fluid is an effective way to deal with spillages and pooled fluids, as the granules will facilitate solidification, thus reducing the potential for infection.⁸

In some perioperative environments, incontinence pads are placed on the floor to absorb anticipated spillages. These products are not designed for this purpose and can increase the slip hazard if used in this way. It should be noted that the manufacturer of these items would not be held liable under the Consumer Protection Act 1987⁹, as the product is not being used in accordance with their instructions. Consequently, the legal liability will have passed to the organisation and personnel who have decided to use the product in this way.



Preventative measures

The Health and Safety at Work Act 1974, section 2, requires employers to ensure as far as is reasonably practical, that employees have a safe place of work⁷. In order to comply with this requirement it is necessary to undertake a risk assessment relating to the identified risks associated with slips and trips.

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The Productive Operating Theatre

The Productive Operating Theatre (TPOT) project has been developed by the NHS Institute for Innovation and Improvement and is being implemented nationally in England. The TPOT programme aims to increase performance in the perioperative area and has identified efficiency measures which include team performance and value and efficiency¹⁰.

One of the measures suggests anaesthetising the next patient in the anaesthetic room whilst the previous patient is prepared and transferred to recovery. Whilst this will increase efficiency in patient throughput on an operating session, consideration must be given to the ability of the team to effectively clean theatres and prepare for the next case. Evidence suggests that the use of SurgiSafe mats can assist in this process and as such, will improve turnaround time with the added benefit of compliance with the Consumer Protection Act requirements⁹. In addition, increased efficiency in turnaround times could potentially lead to an increase in list utilisation as a result of increased efficiency.

SurgiSafe® Absorbent Floor Mats

The Scrub Area

An alternative method for minimising the risks of slips and trips is to utilise specific fluid absorbent mats such as SurgiSafe Absorbent Floor Mats.

These products are available in a range of sizes and absorbency levels and can be used in the scrub up area to absorb fluid splashes generated when staff perform surgical hand antisepsis. The Association for Perioperative Practice (AfPP) recommends reducing the risk of splashes as far as possible in the scrub up area⁶. This however, can be difficult to achieve particularly when



staff move from the sink to the gowning and gloving area, in order to dry their hands and arms with sterile towels. These risks are increased with the number of personnel who perform hand antisepsis for individual procedures. For example, a patient undergoing a caesarean section may require 5 members of the perioperative team to perform surgical hand antisepsis – anaesthetist, surgeon and assistant, scrub nurse and midwife. It follows therefore, that the risk of fluid contamination on the floor of the scrub up area will increase as each person performs these procedures.

The use of a suitable SurgiSafe Absorbent Floor Mat should significantly reduce the slip hazards in this area.

The Operating Theatre

In the operating theatre, there is a risk of contamination from body fluids and irrigation fluids such as those used in the procedures identified earlier. In this instance the use of SurgiSafe Absorbent Floor Mats, should significantly reduce the slip hazard.

There are several varieties of SurgiSafe Absorbent Floor Mats available in a range of sizes; some absorb from both sides, some have a skid resistant fluid barrier backing.

The mats are capable of absorbing irrigation fluids as well as blood and bodily fluids. The high rate of absorbency is achieved by the absorbent wicking that is used in these products. The wicking does not affect the ability of the mats to adjust to any uneven floor surface or to cause any bunching to the surface of the mats, making them suitable to stand on.

The SurgiSafe Absorbent Floor Mats are latex free and are single use products which are non-sterile.

Appropriate use of SurgiSafe Absorbent Floor Mats should significantly reduce the risks associated with wet floors in the perioperative environment and therefore significantly reduce the slip hazards associated with wet floors. This will assist employers to meet the requirements of the Health and Safety at Work Act 1974 of safe systems of working.

Details of Evaluation

The mats were made available to the teaching hospital for a period of 4 weeks in Orthopaedic, Urology, Gyne, Neurological, Vascular Theatres & Day Surgery Unit. Representatives of Aspen Medical attended during the first three weeks to offer support training and guidance on the products.

The yellow, white and blue SurgiSafe mats were evaluated in the higher fluid intense procedures.

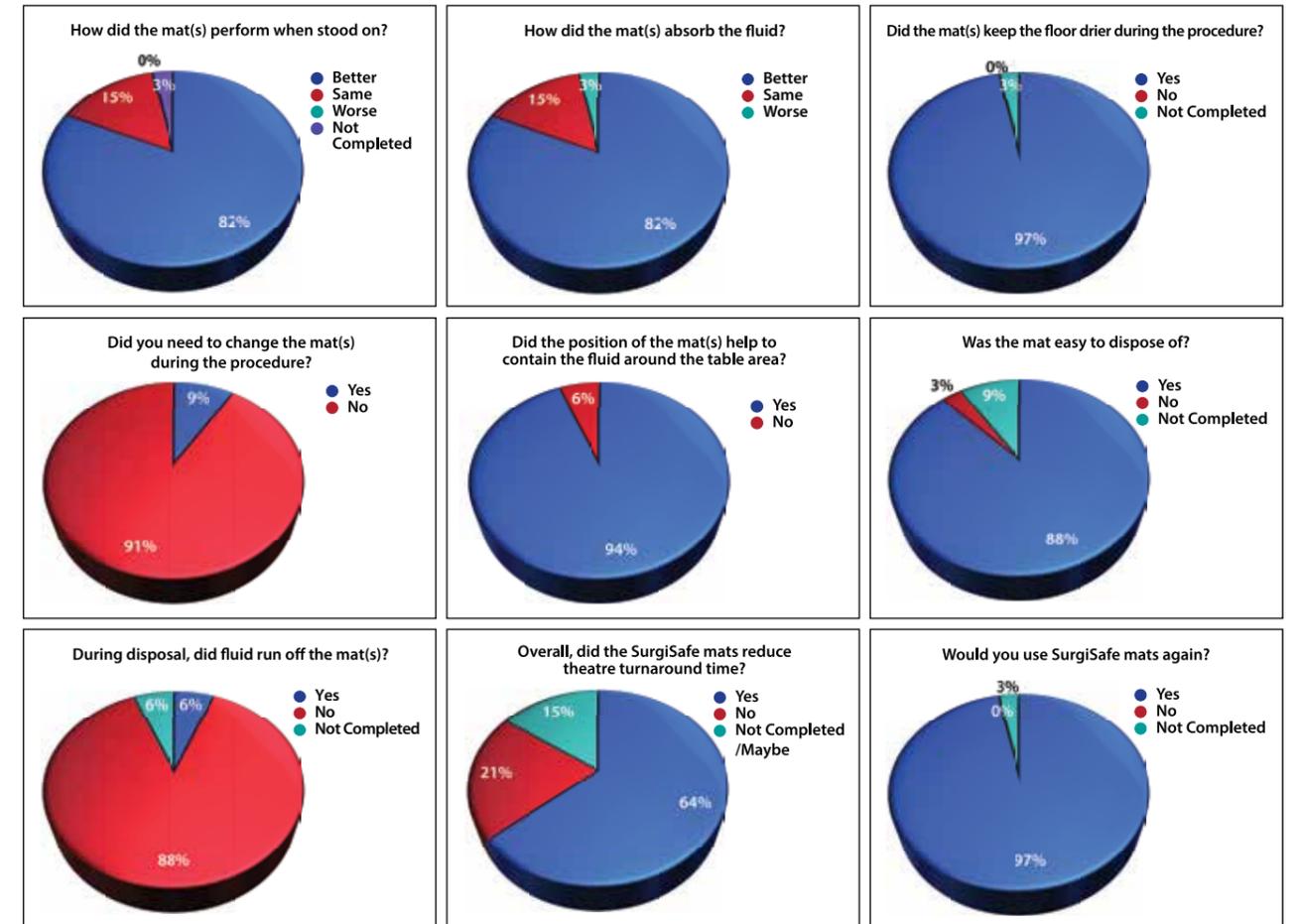
During the review each theatre was left with an evaluation feedback form. These forms posed qualitative questions regarding the performance of each mat.

Key questions included

- Did the mats keep the floor drier during the procedure?
- Did you have to change the mat?
- Did the mats reduce theatre turnaround time?
- How did the mat(s) perform when stood on?

At the end of the review 34 evaluation forms were collected and the results analysed.

Results



Analysis & Conclusion

For all questions posed the mats clearly show positive feedback from the end users in the perioperative environment.

Ultimately, over half the respondents thought that the SurgiSafe range would reduce theatre turnaround time. Over three quarters of the respondents thought the mats performed better when stood on, and 97% of respondents thought that the floor was kept drier. 97% of respondents confirmed that they would use the mats again because of their effect on patient and staff safety. As discussed a drier floor will greatly enhance patient and staff safety.

This qualitative review opens up several questions that could be answered by undertaking a more quantitative study specifically where an actual reduction in slips and trips can be demonstrated and then audited over a specific period.

In conclusion, the use of SurgiSafe mats could increase efficiency in turnaround times and lead to greater efficiency in theatres by increasing list utilisation. In addition, evidence from the evaluation shows that the mats have the potential to reduce the slip, trip and fall hazard in the operating theatre and could contribute to a safer way of working overall.

(Full Results – Data on File Aspen Medical Europe)

