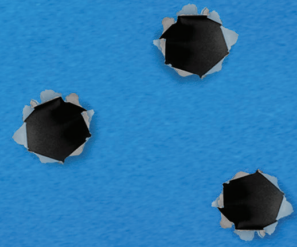


## PROBLEM DAMAGED MATTRESSES



Tears



Punctures

**20%+**

Of hospital mattresses found damaged in studies

**458**

Mattress fluid ingress reports to FDA in 2 year period

**\$300-\$2,000**

The estimated cost to replace a hospital mattress

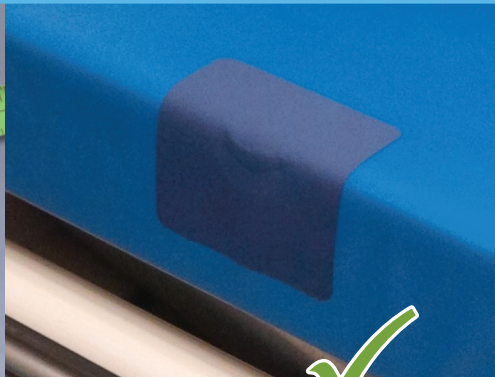
**DAMAGED MATTRESSES = CONTAMINATION RISK**

## 3-STEP SOLUTION FDA-APPROVED MATTRESS REPAIR



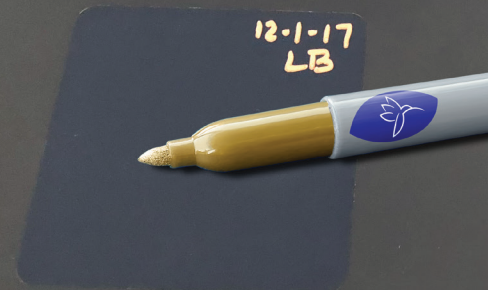
### Step 1: Mattress Inspection

Damage area less than 4" – no fluid ingress.



### Step 2: Mattress Intervention

Use FDA-approved patch to repair mattress.



### Step 3: Mattress Tracking

After repair, staff should date and initial the patch, enabling patch-effectiveness tracking.

**SOUND MATTRESSES = REDUCED HAI RISK**

For more information, visit [sdfhc.com/cleanpatch](http://sdfhc.com/cleanpatch)



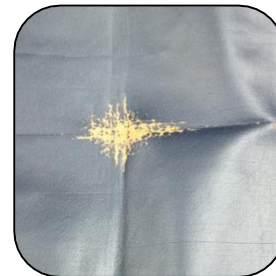
## The Imperative of Mattress Cover Integrity for Survey Readiness and Infection Prevention

December, 2017

### The Problem of Damaged Mattress Covers

Environmental cleaning and disinfection is a key requirement to preventing the transmission of infection, and is paramount to stopping infection once an outbreak has occurred. The CDC recommends that healthcare facilities monitor cleaning performance to ensure consistent and effective disinfection of surfaces, especially high-touch surfaces located in close proximity to the patient<sup>(1)</sup>. One high-touch surface found in every patient room is the hospital mattress: the second most contacted surface in an intensive care unit, and third most common in medical surgical areas<sup>(2)</sup>. Although generally underappreciated as a source of contamination, hospital mattresses have been implicated in outbreaks in multiple studies<sup>(3)</sup>.

Despite their importance in patient care, mattress covers in healthcare facilities are frequently damaged. Studies have shown that more than 20% of patient mattresses in Canadian hospitals have damaged or worn covers, and a study at a US hospital revealed that 26.9% of mattresses showed occult damage to the interior waterproof backing<sup>(4,5)</sup>. In 2013, the FDA issued a Safety Communication warning that damaged mattress covers pose a risk of cross contamination and patient infection after it received 458 reports of fluid ingress over a two year period.



### Survey Readiness

Healthcare facilities are required to address damaged mattress covers and other soft surfaces to remain in good standing with survey organizations. The Joint Commission (TJC) recently increased focus on the Environment of Care, including the patient environment (EC.02.06.01) and maintenance of medical equipment (EC.02.04.01), as well as the reduction of healthcare acquired infections (IC.01.04.01). *Patient bed and stretcher mattresses fall under all three of these standards.*

According to TJC standards, compliance with preventative maintenance plans (manufacturer recommendations or hospital-documented AEM) must be 100% to avoid a formal requirement for improvement (RFI). The bottom line is that all hospital mattresses must be kept in good repair.

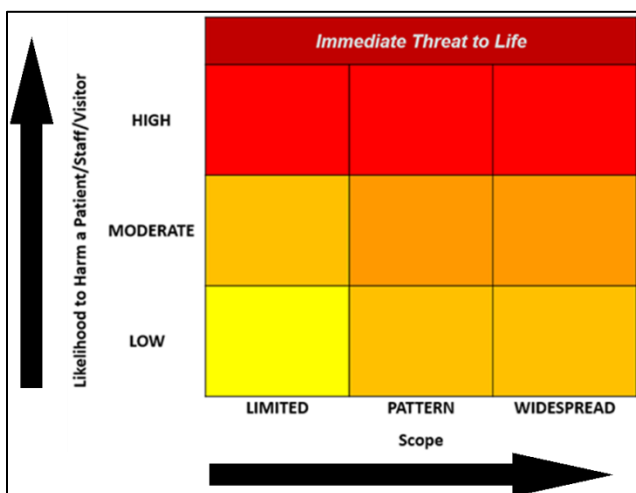


TJC uses the SAFER matrix to score the risks associated with non-compliance issues found during a survey, but it can also help with risk prevention planning. The higher the risk score of non-compliance, the greater the need to prevent the issue from occurring in the first place.

Healthcare facilities should consider the following when assigning a risk factor for hospital mattresses:

- Patients shed skin and body fluids, and spend most of their time in bed
- Bed and stretcher mattresses are widespread through every area of the hospital, and more than 20% of mattress covers found in hospitals are damaged
- Damaged mattress covers cannot be properly cleaned and may harbor pathogens leading to patient infection: blood and bodily fluids from one patient can leach into the mattress core and contaminate the next patient

Scoring Criteria	
<b>Likelihood of harm to patient:</b>	
<b>Low</b>	<i>Undermines safety/quality or contributes to unsafe environment. Unlikely to directly contribute to harm</i>
<b>Moderate</b>	<i>Could cause harm directly, but more likely as a contributing factor given circumstances / other failures</i>
<b>High</b>	<i>Could directly lead to harm without need for other significant circumstances or failures</i>
<b>Scope:</b>	
<b>Limited</b>	<i>Issue is a unique occurrence, outlier, not representative of routine/regular practice</i>
<b>Pattern</b>	<i>Issue has potential to impact more than a limited number of patients</i>
<b>Widespread</b>	<i>Issue is pervasive in the organization. Majority of patients are/could be impacted</i>





Using this analysis in the SAFER matrix, one could rank damaged mattress covers as having a **Moderate to High** Likelihood to Harm a Patient, and a **Pattern** to **Widespread** Scope.

### **Implementing a Mattress Inspection and Repair Program**

To reduce patient safety risks from damaged mattress covers and ensure compliance with survey requirements, healthcare facilities should implement a Mattress Inspection and Repair Program. This program would ensure that mattress damage is identified and immediately addressed in accordance with infection control practices.

#### **There are three basic steps:**

##### Step 1 – Mattress Inspection

A bedside mattress inspection should be performed at every terminal cleaning. Mattress covers are inspected for rips, tears, punctures or abrasions. Any signs of fluid ingress such as warping or staining should be noted. A paper towel test may be used to assess for potential ingress to a damaged area.

##### Step 2 – Mattress Intervention

During this step, it is determined whether the mattress is suitable for repair or requires replacement. If the damage site is less than four inches and shows no signs of fluid ingress, an approved repair patch can be applied. CleanPatch® is the only FDA registered Class 1 medical device designed specifically to repair damaged mattress covers. CleanPatch has been validated by Infection Prevention professionals and is proven to be durable, impervious to fluids and fully cleanable with hospital disinfectants.

If the damage site is greater than four inches and/or shows signs of fluid ingress, it is important to remove the mattress from circulation and replace it.

##### Step 3 – Mattress Tracking

Mattresses are a valuable asset and are in constant use; it is recommended that mattresses be labelled and tracked within a healthcare facility. When mattresses are repaired with CleanPatch, healthcare staff is encouraged to record the date of the repair and their initials, in order to track the effectiveness of CleanPatch over time. Diversey provides healthcare facilities with an AP-stamped (non-toxic) Sharpie® marker with every CleanPatch kit.

### **Program Implementation Results in Cost-Savings**

A Mattress Inspection and Repair program allows healthcare facilities to quickly and cost-effectively repair damaged mattresses. One CleanPatch kit can repair up to 30 damaged mattresses, and represents substantial cost-savings over mattress replacement. As an example, a hospital with 500 beds can save over \$40,000 in cost-avoidance by repairing damaged mattresses with CleanPatch.

Environmental Services or Nursing staff are more likely to observe mattress damage than other departments, and are ideally suited to championing a Mattress Inspection and Repair program. Facilities and Maintenance may not come across damage daily, but are adept at repairing patient equipment, and should also be versed in how to use CleanPatch. Diversey includes an Implementation Flipcard that highlights the key points of this program with every CleanPatch kit; and should be attached to cleaning and supply carts for immediate access.



## Call to Action

Damaged mattress covers are commonplace in healthcare facilities; they pose an infection risk to patients and are therefore flagged as a deficiency item by surveyors. Implementing a Mattress Inspection and Repair program led by a specific department such as Environmental Services allows for the proactive management of this problem, leading to significant cost-savings, better patient outcomes and stronger survey results.

**For more information and access to resources on implementing a Mattress Inspection and Repair program in your facility, visit Diversey at [www.sdfhc.com/cleanpatch](http://www.sdfhc.com/cleanpatch)**



## References

1. Guh, AG and Carling, P. Environmental Evaluation Working Group. Options for Evaluating Environmental Cleaning. CDC. December 2010
2. Creamer, E. and Humphreys, H. The contribution of beds to healthcare-associated infection: the importance of adequate decontamination. Journal of Hospital Infection. 2008. Vol. 69. pp 8-23
3. Huslage, K. Rutala, W.A. et al. A quantitative approach to defining "high touch" surfaces in hospitals. Infection Control and Hospital Epidemiology. August 2010. Vol. 31. No. 8. pp. 850-853.
4. Surface Medical Inc. Results of assessments at five Canadian acute care hospitals, 2015-2017. <http://www.surfacemedical.ca/>
5. Bradbury, SL et al. Potential bloodborne pathogen exposure from occult mattress damage. American Journal of Infection Control. 2014, 1-2.