

# Medigenic Key Features

- **Sanitize in seconds:** flat keyboard design quickly wipes clean with hospital-grade disinfectants.
- **Audo and visual alerts:** indicator will flash and alert will sound at user defined intervals to help monitor and promote good infection control practices. Cleaning the keyboard turns off the indicators.
- **High speed data entry:** full size keyboard enables healthcare professionals to touch type iwth conventional keyboard like performance.
- **Backlit keys:** keyboard is usable in low-light environments to accomodate data input accuracy and reduce patient disturbance
- **Disinfection without disconnection:** single disable key allows connectivity while keyboard is cleaned.

For more information:  
 URL: [ww.medigenic.com](http://ww.medigenic.com)  
 Email: [eit.medigenic@esterline.com](mailto:eit.medigenic@esterline.com)  
 Tel: 208-635-8222



# Medigenic® Medical Keyboard Test Results



**Americas**

Headquarters  
 600 W. Wilbur Avenue  
 Coeur d'Alene, ID 83815  
 208-765-8000

**Europe**

530 N. Franklin Street  
 Frankenmuth, MI 48734  
 989-652-2656

**Asia**

Hofer Straße 5  
 D-86720 Nördlingen, Germany  
 +49 (0) 9081 800-1

Caoheijing High Tech Park  
 6th Floor, Block 87,  
 No. 1199 Quin Zhou Bei Road  
 Shanghai, China

# Test Results: Medigenic® Medical Keyboard

## Department of Microbiology University College of London Hospitals

Peter R. Wilson MD, Paul Ostro PhD, Marita Magnussen MSc, and Ben Cooper PhD  
Published in AJIC Volume 3, No. 10 December 2008

**Objective:** With the advancement of capturing healthcare patient records electronically, the number of electronic devices in clinical areas is on the increase. The hands of staff are believed to be the main influence of the transfer of pathogens. The aim of this study was to develop a user-friendly computer keyboard that can be easily cleaned in which bacteria is not readily transferred.

### Study Methods:

- In vitro studies were performed to demonstrate bacterial transfer between keyboard surfaces and gloves.
- Usability study (e.g. typing speed, accuracy, and ergonomics)
- Controlled trial of keyboard contamination in an intensive care unit both with and without an alarm to indicate the need for cleaning.
- Cleanable keyboards were placed at random beds and compared with standard keyboards.

**Keyboards Tested:** Three types of cleanable keyboards submitted from three different manufacturers:

1. Flat silicone keyboard with 2 cleaning sensors and a light alarm (Medigenic®)
2. Low profile silicone keyboard with 1 mm-high keys, no alarm
3. Standard keyboard with ultraviolet light source (254nm) as an automatic sterilizing system

### Results:

- Bacteria were most easily removed from a flat silicone-coated surface.

- The total viable count on flat keyboards with an alarm was lower than that on standard or other low profile cleanable keyboards.
- Compliance with hand hygiene before touching the standard keyboard was 27%, but the alarmed keyboard was cleaned on 87% of occasions on which the alarm was triggered.

### Study Group Discussion

- "A completely flat profile, a cleaning alarm, and a silicone-coated surface are the most important features in achieving low bacterial counts on high-contact keyboards."
- The flat silicone keyboard is "...tolerant to disinfectants (i.e. chlorine, alcohol, phenol, and detergent in water)."
- "...membrane keyboards are almost always flat, but they require excessive force on the keys. In contrast, the usability study found that (the Medigenic) keyboard allowed a near normal rate of data entry."
- "With the cost of each MRSA infection exceeding \$7600 prevention of just a few such infections would justify the extra cost of the keyboard, mouse, and alcohol wipes."
- Medigenic was found to have "...the best characteristics for minimizing the transfer of MRSA."

**Conclusion:** The flat keyboard with an alarm (Medigenic®) is easy to clean, and its use is related with better cleaning compliance.

## Philipps University Marburg, Institute for Medical Microbiology and Hygiene

Prof. Dr. Mutters Head of Hospital Hygiene 6.2.2009

- The hygienic examination of the Medigenic Infection Control keyboard and mouse system for use in medically sensitive areas yielded a high reduction of the test organisms by disinfection with products of the German VAH (Association for Applied Hygiene) disinfectant list.
- Thorough and rigorous spray disinfection with subsequent dispensation by wipe is effective and safe.
- The Medigenic Infection Control keyboard and mouse system can be used without risk in hygienic sensible areas of hospitals if disinfection is carried out correctly with preparations and application time in accordance with the VAH list.
- **The use of the system in hygienic sensitive areas as in operation rooms, intensive-care units and also in laboratories is recommended.**



## Esterline Interface Technologies Internal Test Reports

Jim Clark Mechanical Engineer, Paul Paroff  
Reliability Engineer, Neil Oliver Reliability Technician

### Cleaning wipe resistance

- **Elastomer skin protects the printed keyboard image from simultaneous abrasion and chemical exposure**
- No sign of degradation of 9,211 wipes with germicidal disposable cloths. Test Procedure: Wiped every 3 hours every day for three years equates to 8 wipes per day times (3yr x 365dy/yr) = 8,760 wipes.

**Comparative usability** of the Medigenic keyboard to standard keyboards. Typing speed and accuracy were measured and compared over a set of 8 subjects with a range of typing skills and speeds.

- Subjects retain an average of 95% of their typing speed and 99% of their accuracy when typing sentences
- Subjects retain an average of 81% of their typing speed and 96% of their accuracy when typing random numbers

**Mechanical Lifecycle:** Scissor mechanism and elastomer boots

- No more than 20% change by 1 million cycles and had no failure in the boot area on the two switches that were checked.

### Environmental

- Operating Temperature: 0°C to +40°C
- IP65 Rated: Totally protected against dust ingress and protected against low pressure water jets from any direction. Limited ingress permitted.