



Your Laundry & Infection Control Partner

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**York Hospital**  
**OTEX Microbiological Results**

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## 1. INTRODUCTION

JLA's OTEX ozone disinfection system was introduced in 2006 at York District Hospital. The system, two 16 kilo washers with a double OTEX system was set up to process mops (microfibre and traditional) and cloths. Current laundry guidelines are recommended in HSG(95)18. These guidelines were first introduced 30 years ago following research carried out in the 1960's. Whilst the guidelines are considered adequate for the disinfection of most vegetative bacteria, heat resistant spore forming organisms were not included in the original research by the Public Health Laboratory. Spore forming bacteria have been found to survive the laundering process at high wash temperatures<sup>1</sup>. The OTEX system utilises the second most powerful disinfectant known, ozone, which is produced throughout the wash process providing full bacteriological protection. This allows laundry to be processed at lower temperatures resulting in benefits to both utility and textile life.

A visit was made to York District Hospital on the 22 January 2008 to check the OTEX system and take samples for microbiological analysis.

## 2. SITE DETAILS

### 2.1 Equipment

Two JLA HC165 washers were installed within the laundry. These have been fitted with a double OTEX unit. The OTEX wash cycle only requires cold water. Detergent is dosed within the main wash section of the wash cycle only.

### 2.2 Wash Program Details

Program	OTEX	Thermal Disinfection
	Temp	Temp
Pre Wash	Cold	Warm 40°C
Main Wash	Cold	Hot 75°C
Rinse 1	Cold	Cold
Rinse 2	Cold	Cold
Rinse 3	Cold	Cold
Cycle Time	47 mins	1 hour

Based on a 16 kilo machine, cycle times dependent upon machine.

## 3. METHODOLOGY

To investigate the effectiveness of the ozone wash process analysis of microfibre mops and cloths were carried out before and after washing. This included using bacteriological dipslides to provide contact total viable count (tvc) before and after the wash process. In addition samples were also taken for analysis by independent laboratory, Huddersfield University.

#### 4. BACTERIOLOGICAL TEST RESULTS.

##### 4.1: Bacteriological Dipslide Results:

Date	Test	Program Details	TVC Before CFU/cm <sup>2</sup>	TVC After CFU/cm <sup>2</sup>
22 Jan 08	Microfibre Mop	OTEX	Moderate	No Growth
	Microfibre Mop		Moderate	No Growth
	Microfibre Mop		Moderate	No Growth
	Microfibre Mop		Moderate	No Growth
	Microfibre Mop		Moderate	No Growth
	Microfibre Mop		Moderate	No Growth

##### 4.2: Huddersfield University Laboratory Results

Condition	Lab Reference	TVC (cfu/mop)	MRSA (cfu/mop)	C.difficile (cfu/mop)
Pre Wash	106	5.1 x 10 <sup>8</sup>	1.9 x10 <sup>2</sup>	None Detected
	107	1.0 x 10 <sup>8</sup>	4.9 x10 <sup>4</sup>	None Detected
Post Wash	110	2.0 x 10 <sup>6</sup>	None Detected	None Detected
	111	2.5 x 10 <sup>4</sup>	None Detected	None Detected
	112	2.4 x 10 <sup>2</sup>	None Detected	None Detected
	113	1.5 x 10 <sup>3</sup>	None Detected	None Detected

None Detected – would normally be expressed as <15 cfu/mop

#### 5. OBSERVATIONS & CONCLUSION

Whilst good laundry practices were observed there are a number of areas, which need attention:

- Storage of items on top of washers should be discouraged.
- Need to increase the awareness of staff to the handling and hygiene requirements when working with contaminated (dirty) laundry. Staff were observed handling dirty items with hands ie no gloves being worn with no washing of hands afterwards. There is provision for hand washing on site, although no soap was present at the time of the site visit.
- Laundry was observed being sorted on the floor.
- Clear segregation of the laundry – dirty and clean should be improved.
- Overloading of the washers needs to be addressed.