

## Microfibre Mopping Reduces Movement Risk

### Workplace Mopping Ergonomic Assessment at Royal Melbourne Hospital

Hospital mopping processes underwent rigorous human movement testing to assess and compare the movement risk for employees using different mopping techniques.

#### What was the methodology used?

ViSafe wearable wireless sensors were fitted to the shoulders and lower back of the study participant. These sensors measured the movement and postural risk while performing typical mopping tasks in a hospital room and bathroom using two different mops.

- 1 Method One used a **Rubbermaid Microfibre Flat Mop**
- 2 Method Two was a Traditional Wet Mopping technique using a **Roller Wringer Bucket and Cotton Blend Mop** (other brand)

Sensor readings were compared to video footage for consistency across both cleaning techniques. Each movement was scored against the benchmarks in the Code of Practice for Manual Handling (Safe Work Australia).



#### What postural risk-factors were measured?

The ViSafe wireless sensor technology tracks and measures how a person moves while performing real-time workplace tasks to assess the health and safety risks.



#### BACK MOVEMENT

- Lumbar Flexion
- Trunk Inclination
- Pelvic Angle
- Electro-Muscular Activity



#### SHOULDER MOVEMENT

- Upper Arm Elevations
- Electro-Muscular Activity

	ALERT	PREFERRED
Range of Movement (% time)	≥ 30% time outside preferred movement zone	> 30% time within preferred movement zone
Repetitions	≥ 2 reps / min	< 2 reps / min
Sustained Positions	Sustained position outside preferred movement	No sustained position outside preferred movement
Muscle Activity (EMG)	EMG ≥ Standardised Voluntary Contraction	EMG < Standardised Voluntary Contraction

**20%**

**LOWER MOVEMENT RISK**

for microfibre compared with traditional wet mopping\*

**33%**

**LESS TIME OUTSIDE THE PREFERRED SHOULDER RANGE OF MOVEMENT**

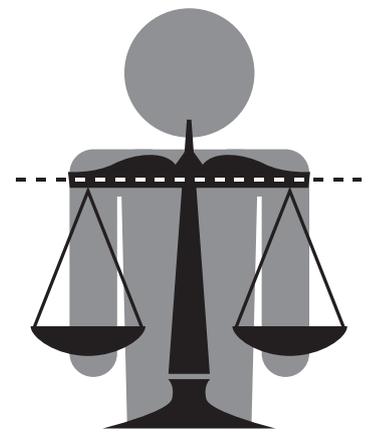
(overall) compared to traditional wet mopping\*



**49%**

**LESS TIME OUTSIDE THE PREFERRED MOVEMENT RANGE**

(when mopping a hospital room) compared to traditional wet mopping\*



**Results show that when using a RUBBERMAID MICROFIBRE MOP an operator will perform the mopping task with LESS SHOULDER MOVEMENT RISK**

**MICROFIBRE MOPPING ACTION WAS COMPLETED CLOSER TO THE BODY'S CORE THAN TRADITIONAL WET MOPPING**

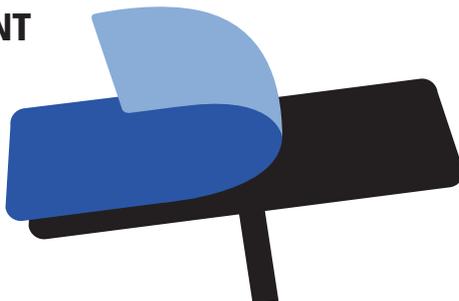


**MICROFIBRE MOPPING WAS OBSERVED TO BE MORE EVENLY SYMMETRICAL FOR SHOULDER RANGE OF MOVEMENT**

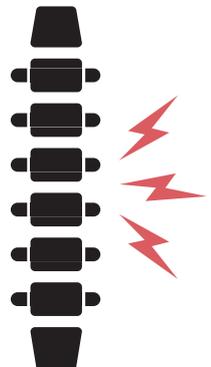
**20%**

**LOWER MOVEMENT RISK CHANGING MICROFIBRE MOP PADS**

compared with wringing wet mop and changing mop head\*



**LOWER MUSCLE ACTIVITY (EMG) FOR LOWER BACK AND SHOULDER WITH MICROFIBRE**



\*Rubbermaid Microfibre comparison results were obtained when testing against competitor 15L Roller Wringer bucket and 400g Cut End Wet Mop. Claims made relate to a comparison between these two product systems only.