

Using Flat Mopping Systems in Hospitals



Take Home Message

1. A practical, common-sense approach for patient care areas, but WILL NOT meet all mopping needs.
2. Immediate water and chemical savings, but most cost savings are a result of reduced labor.
3. Need to proactively address potential implementation hurdles.

Mopping Requirements

- Patient care areas cleaned daily; common areas cleaned more often
- Floor cleaners can contain dangerous chemicals
- Special precautions required to avoid cross-contamination

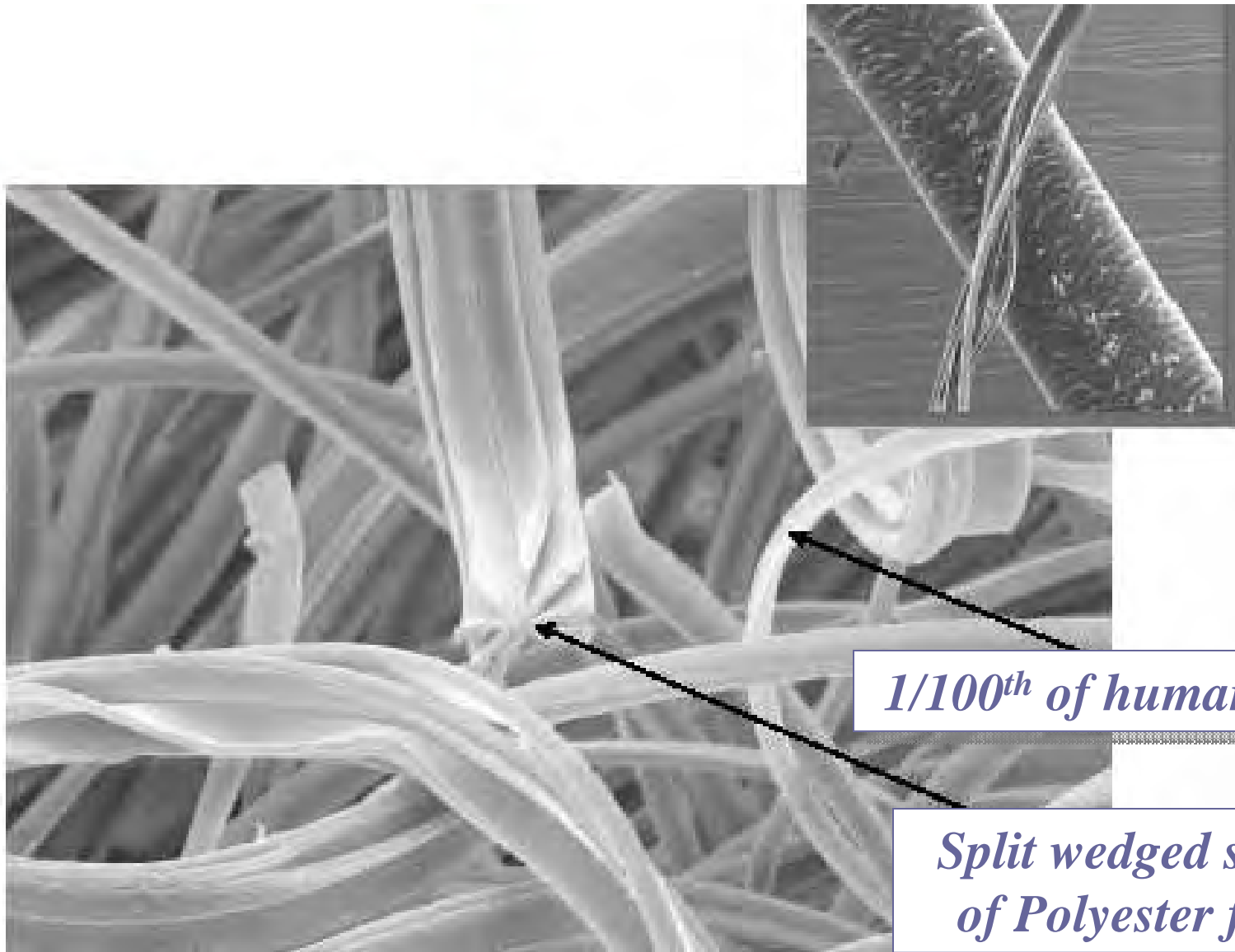


Why Are Hospitals Switching to Flat Mopping Systems?

- Ergonomic issues
- Labor savings
- Reduced chemical and water usage
- Cross-contamination concerns related to conventional mopping



What is Microfiber?



1/100th of human hair

*Split wedged shape
of Polyester fiber*

Flat Mopping Systems: How Do They Work?

1. Place
2. Mop
3. Peel
4. Launder



vs. Conventional Loop Mops

1. Dip & Wring
2. Mop
3. Repeat 3x
4. Change Water
5. Send to Industrial laundry



Demonstration



Ergonomic Benefits

- During use, similar gross motor skills required
- Unfavorable positions for both methods, but flat mopping systems significantly reduced the frequency and severity of the risk factors



Ergonomic Benefits

1. Lift empty bucket, carry to water basin, fill and return to cart, add cleaning solution



- ~ 60% trunk flexion, 5 lbs. empty, 15 lbs. full



- Marginal trunk flexion, 1 lb. empty, 5 lbs. full

Ergonomic Benefits

2. Place wringer on mop bucket, walk to first room, wring mop

- Walking with trunk flexion 30° , shoulder and elbow flexion 80° .
- Wringing with palmar grasp, shoulder elevation and flexion, elbow flexion.



- Less effort to move cart, wrist/hand twist with grip force OR use wringer

Ergonomic Benefits

3. Mop floor and prepare to mop next room (wring mop OR replace head)



- Same risks as stated previously



- Turn mop head downside up and replace cloth at mop head

Microfiber Considerations

- Cannot be used in areas contaminated with blood or body fluid
- Some products ineffective in greasy, high traffic kitchen areas
- Sticky floors?



Non-industrial washing machines must be used to wash microfiber mop heads

CA DHS - Licensing and Certification

March 2002 Memo:

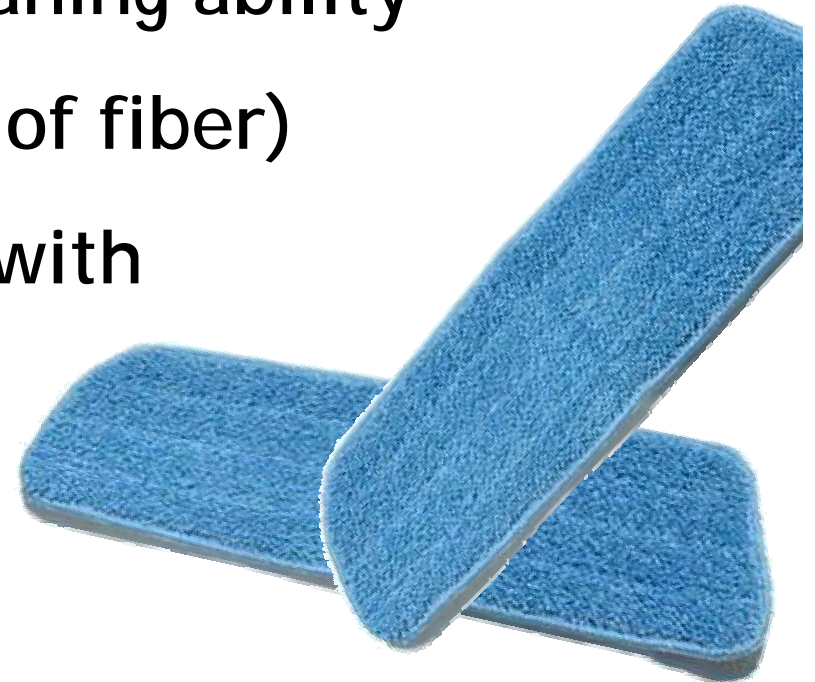
“...acceptable to install household washing machines to launder microfiber mops...” provided:

- ✓ Water temperature between 130 and 140 degrees F
- ✓ Separately from other textiles
- ✓ No bleach/fabric softener

“...as long as (these conditions) are met, there should be no infection control related issues.”

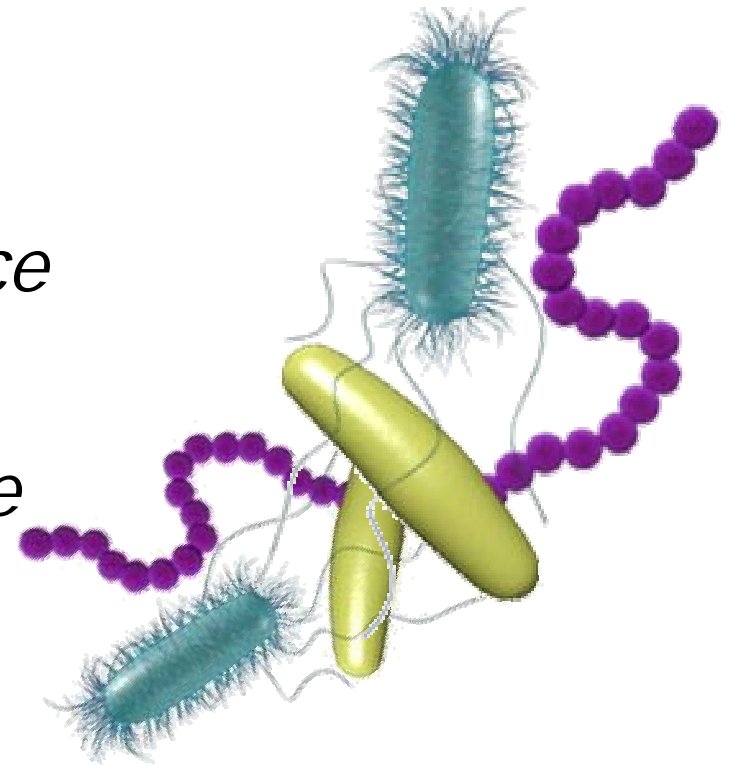
Not All Mopping Systems are Created Equal...

- No governing body or industry definition of “microfiber”
- Density of fibers per square inch can affect pricing and cleaning ability
- ...vs denier (diameter of fiber)
- Some are pretreated with antimicrobials



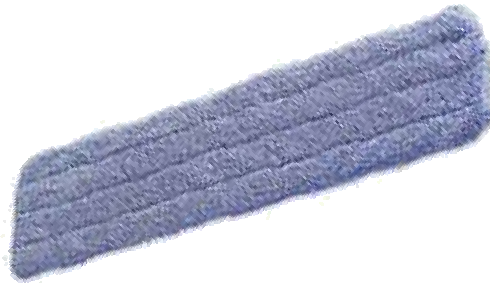
Should I Use Disinfectants for Cleaning Floors?

- Some microfiber products are treated with triclosan or other antimicrobials
- Concerns about general use of antimicrobials
 - *Potential for causing antimicrobial resistance*
 - *Unknown long term consequences of its use*



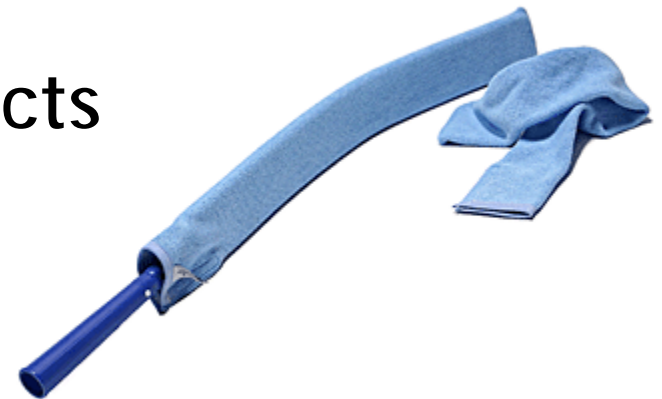
Not all flat microfiber mops are created equal...

- Size and shape of handle
- Construction of handle and mop head frame
- Adjustability of handle length
- Attached spray system
- Size of microfiber mop head compared to mop head frame



Not all flat microfiber mops are created equal...

- Different size, shape, and texture of microfiber mop head
- Quality of Velcro® used to attach mop head to frame
- Quality of microfiber material
- Availability of other products



How many mops handles/heads?

Mop Handles= Environmental
Service Staff/Shift

Mops Heads=

- + twice the number of rooms cleaned daily
- + "shrinkage"
- + special circumstance - large rooms, extra dirty rooms





University of California Davis Medical Center

- Reasons for change...
 - *Increasing worker's compensation claims*
 - *Frequent "light duty" ergonomic requirements*
 - *Reduce cleaning time for patient rooms*
 - *Reduce chemical use and disposal*



Mopping Cost Analysis

| Cotton Loop |  | Flat Microfiber |  |
|---|--|---|---|
| \$5 each, 55 to 200 washing lifetime | | \$15-\$20 each, 500 - 1000 washing lifetime | |
| 10.5 ounces of chemical per day | | 0.5 ounces of chemical per day | |
| 21 gallons of water per day | | 1 gallon of water per day | |
| \$1.00 industrial laundry costs per day | | Nominal cost of non-industrial laundry | |
| 20 patient rooms cleaned per day | | 22 patient rooms cleaned per day | |

Facility Specific Cost Benefit Analysis Tool

Microsoft Excel - Map Cost Benefit Spreadsheet.xls

File Edit View Insert Format Tools Data Window Help Acrobat

Times New Roman 12 B I U

A1

1 Using Microfiber Mops in Hospitals

2 *Cost-Benefit Data for Insert Hospital Name Here*

3

4

5 *At a minimum, input facility-specific data in yellow cells.*

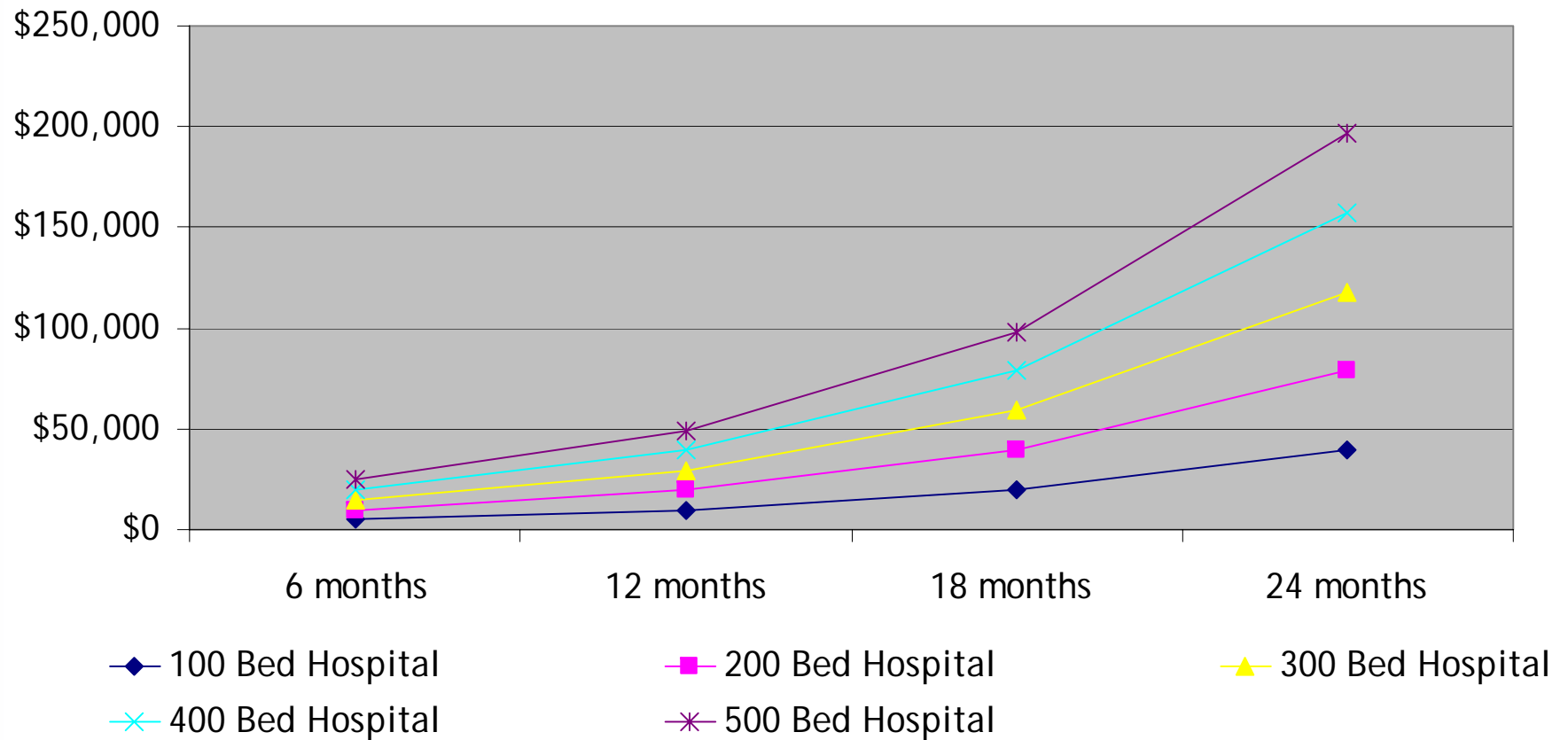
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| Input Data Here | Unit | Required Data |
|---------------------------------------|-----------------------------|--|
| Hospital-Specific Data | | |
| 150 | [patient rooms] | Number of patient care rooms in hospital |
| \$15.00 | [\$/hour] | Labor cost for custodial staff (including benefits) |
| \$0.22 | [\$/ounce] | Cost of floor cleaning chemical |
| 0.5 | [oz/gal of water] | Dilution ratio - amount of chemical used per gallon of water |
| Conventional Wet Loop Mop Data | | |
| \$5.00 | [\$/mop] | Conventional loop mop cost |
| 20 | [rooms/employee/8-hr shift] | Cleaning rate |

Ready NUM

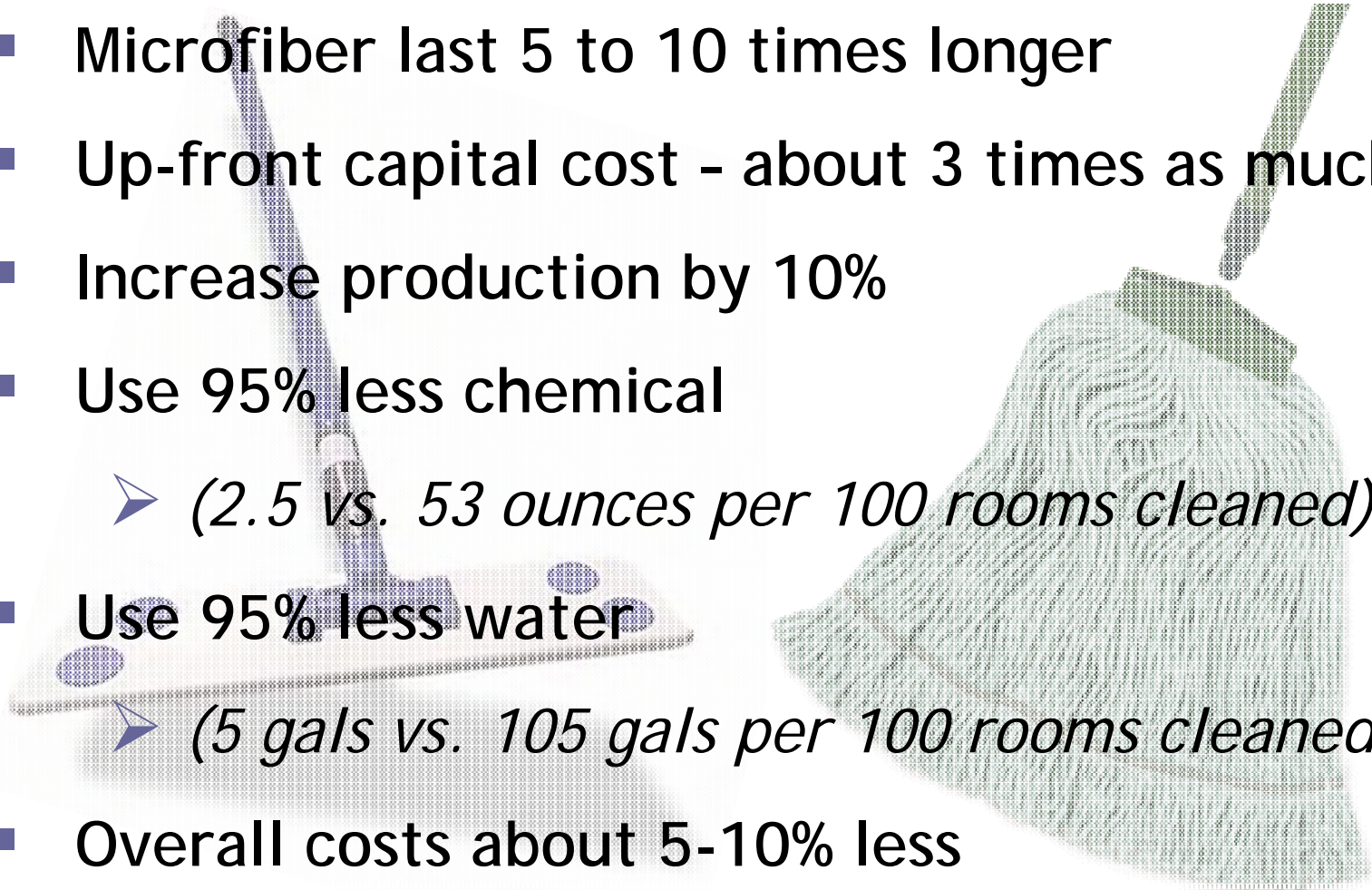
Flat Mop Cost Performance

Most cost savings a result of labor savings (more patient rooms cleaned per day, per environmental service staff)



Flat Mopping Systems Performance Summary

- Microfiber last 5 to 10 times longer
- Up-front capital cost - about 3 times as much
- Increase production by 10%
- Use 95% less chemical
 - *(2.5 vs. 53 ounces per 100 rooms cleaned)*
- Use 95% less water
 - *(5 gals vs. 105 gals per 100 rooms cleaned)*
- Overall costs about 5-10% less



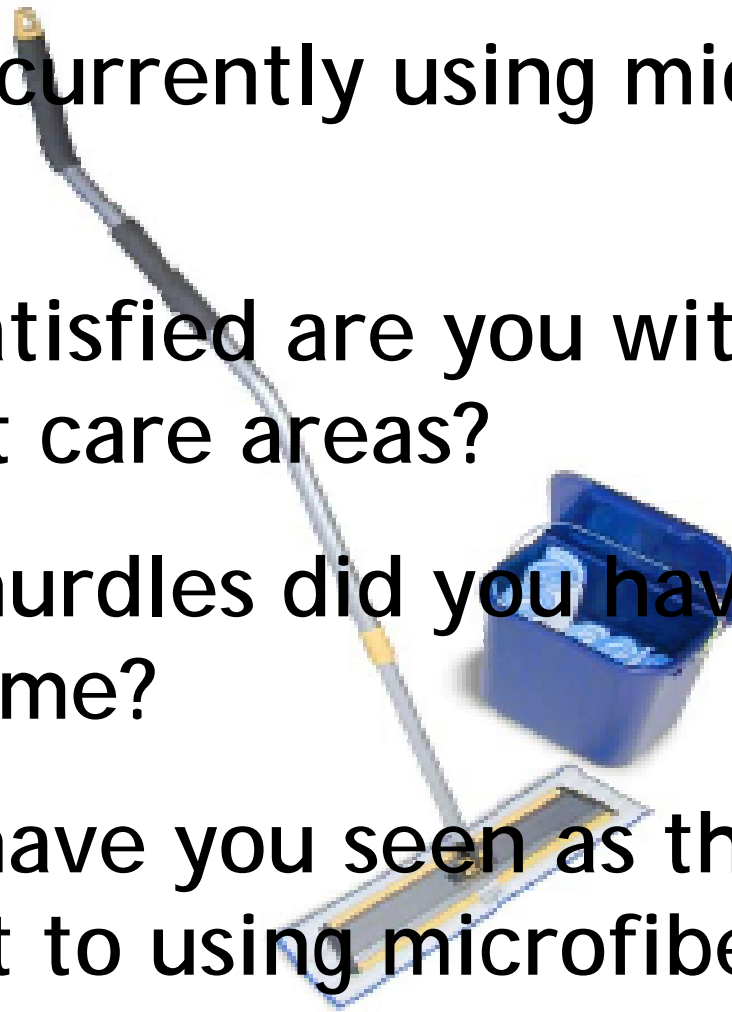
Costs/Benefits Not Quantified

- Reduced risk of cross-contamination related to mopping
- Reduced worker's compensation claims
- Reduced water use
- Patients: "quieter, quicker, less disruptive"



Discussion

1. Who's currently using microfiber mops?
2. How satisfied are you with them in patient care areas?
3. What hurdles did you have to overcome?
4. What have you seen as the greatest benefit to using microfiber mops?



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