



A HYGIENICALLY CLEAN & SAFE IN-HOUSE LAUNDRY PROGRAM

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BASIC - PROTOCOLS: BEST LAUNDRY PRACTICES

BEST PRACTICE'S COMPILED FROM CDC / APIC / CMS / AHE

CDC: Guidelines for Environmental Infection Control in Health-Care Facilities; 2003

APIC Text: Infection Control & Epidemiology: Chapter 111- Laundry, Patient Linens, Textiles, and Uniforms
(accessed 7/15)

CMS: State Operations Manual: Appendix PP-Guidance to Surveyors for Long Term Care Facilities
(Rev. 133, 02-06-15): 483.65 Infection Control

CDC: Laundry Best Practices: Q & A with CDC's Lynne Sehulster, PhD; Infection Control Today; 2015

HLAC: Healthcare Laundry Accreditation Council, 2016 Standards

Joint Commission Resources: Basic Environmental Cleaning Practices (CMS Patient Safety Initiative
Module - Infection Control)

CDC: Healthcare Textiles and Laundry 101: Management in Acute Care and Residential Care: L. Sehulster,
PhD/ Division of Healthcare Quality Promotion: Nov. 16, 2011

AHE: American Society for Healthcare Environmental Services of the American Hospital Association:
Healthcare Textile Services: Infection Control: Jan. 1997

TRSA: Standard for Producing Hygienically Clean Reusable Textiles, Jan. 2015

Disclaimer: Infection control laundry Best Practices should always consult local regulations.

TABLE OF CONTENT

Cleaning Healthcare Textiles and Fabrics



Scope of the Program: The purpose of this program is to help assure healthcare textiles and fabrics are cleaned and maintained in a manner that does not pose a health hazard risk to residents. The term used for this is producing and maintaining “hygienically-clean” textiles and fabrics. Currently there is no standard definition for “hygienically-clean” for any “non-surgical” healthcare textiles and fabrics. However, by following Best Practices as outlined by the CDC, APIC, HLAC, TRSA and others along with today’s modern chemicals and mechanical products rendering hygienically-clean linen is possible. While outbreaks related to linen have occurred, occurrences are “fairly rare” (CDC). Therefore, attention must be paid to the following: 1. CDC Guidelines (e.g. Environmental, Hand Hygiene, and Standard Precautions) 2. OSHA Bloodborne Pathogen Standards, 3. Your laundry detergent provider & expert technicians (hot and/or warm water temperatures), and 4. Storage of clean linen in laundry processing areas/including receiving areas from outside services.

Hot & Warm Water Laundering: CDC/APIC: “Substantial numbers of microorganisms are removed through the process of dilution and agitation.” While it is recognized that hot water temperature (160°F.) is effective in reducing microbes, lower temperatures (71°F.-77°F.) with bleach have also been found comparable. Bleach is not always appropriate for all fabrics. “Chlorine alternatives (e.g., activated oxygen-bleach based detergents) may be used to ensure adequate disinfection of laundry” (APIC).

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1. **Program Assessment, Education/Training and Monitoring of Best Laundry Practices Checklist**
 2. **Hazard Warning Sign for Laundry Work Areas (Right To Know / OSHA / HLAC)**
 3. **Job Cards:**
 - **Employee Personal Safety Card**
 - **Soiled Linen Collection**
 - **Sorting Linens for Washing**
 - **Washing**
 - **Post Washing**
 - **Drying**
 - **Linen Finishing/Folding**
 - **Storage & Distribution**
 4. **Technical Educational Moment: Common Mistakes**
5 Important: “Do Not Do’s”
 5. **OSHA Hazards Prevention: Laundry Chemicals:** (Taken From OSHA Laundry Website)
 6. **CMS: Clarification of Interpretive Guidelines-F144 – Laundry and Infection Control**
 7. **Safety Data Sheets (SDS)**

BEST LAUNDRY PRACTICES

Use the checklist as a guide to assess your program, educate/train and monitor best practices.



1. Best Laundry Practices Protocol: Checklist

- ✓ Recommend: EVS/Laundry and Infection Control partner together to assess practices and work towards assuring standards are met.
- ✓ Always follow equipment and chemical manufacturing recommendations to assure hygienically clean linen outcomes; i.e. never overload washers.
- ✓ Review monthly chemical titration reports/maintenance checks performed by your service technician.
- ✓ Have access to equipment manuals and regularly perform needed PM activities.

M=Met, NM=Not Met, A=Additional Assessment Is Needed

M	NM	A	BEST LAUNDRY PRACTICES CHECKLIST
			LP: Laundry Personnel / HC Healthcare Personnel (all other persons in HC)
			SAFE PRACTICES: HANDLING SOILED LINEN & CHEMICALS
			LP: Are oriented and trained in safe practices including: Standard Precautions, Bloodborne Pathogens (OSHA), Sharp's Safety, and Chemical hazard practices (including accessing SDS).
			All soiled linen is assumed to be contaminated: (CDC) LP/HC: Standard/Universal Precautions are always followed when handling soiled linen: <i>Rationale: To minimize exposure to infectious microbes including but not limited to: Bloodborne pathogens (HIV/HBV/HCV), MRSA, VRE, CRE, C-difficile, Norovirus, and/or Influenza.</i>
			Isolation linen: can be laundered with textiles from general patient care areas. (CDC)
			LP: Know how to report chemical & infectious exposures & seek first aid. (OSHA)
			A Hazard Warning sign is posted in laundry where soiled linen is held &/or sorted. (OSHA, HLAC)
			An eyewash station is available for flushing of eyes. (OSHA)
			A "Sharps" container is located in areas were linen is sorted. (OSHA)
			Only trained LP should be allowed in soiled or clean laundry areas. (OSHA)
			Eating and drinking are not permitted in soiled linen areas. (CDC/OSHA)
			Standard Precautions/Universal Precautions are followed when moving/sorting soiled linen.
			LP: Soiled linen areas have hand washing stations (CDC)

BEST LAUNDRY PRACTICES

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M	NM	A	SAFE PRACTICES: HANDLING SOILED LINEN & CHEMICALS
			LP/HC: Perform hand hygiene: - Before gloving & after glove removal (risk of contamination) - Before & after eating - If hands are accidentally exposed to blood or body fluids. (OSHA/CDC)
			LP/HC: Ready access to PPE: gowns and gloves and goggles (OSHA/CDC) e.g., Gowns: Protects uniform during normal handling conditions
			LP/HC: Always wear gloves and gowns when handling soiled linen (OSHA/CDC)
			LP/HC: Never agitate soiled linen (CDC/APIC)
			LP/HC: Bag soiled linen at "Point of Use", i.e., resident room (CDC)
			Note: Containers for soiled linen must be labeled or color coded if facility does not follow Universal Precautions. Soiled linen sent out must be identified as hazardous. (OSHA)
			LP/HC: Use leak-resistant containment for soiled linen contaminated with blood or body substances (OSHA/CDC); if leakage occurs double-bag. (OSHA/CDC)
			LP: Containers used for soiled linen are not used to transport clean linen. (APIC/HLAC)
			Soiled linen containers are cleaned/disinfected after each use/before next use. (APIC/HLAC)
			LP/HC: Do not sort and pre-rinse linen in resident room/restroom. (CDC)
			LP/HC: Remove large solids/stool from linen into a hopper: PPE is worn.
			Residential: Disinfection of washing & drying machines in residential care is not needed as long as gross soil is removed from items before washing and proper washing and drying procedures are used (CDC: Guidelines for Environmental Infection Control in Health-Care Facilities) (APIC)
			Laundry Chutes: Are maintained and clean, and disinfected following contamination. (CDC)
			FUNCTIONAL SOILED / CLEAN LINEN SEPARATION & SORTING
			There is a separation of soiled and clean linen processing areas. (CDC/APIC/HLAC)
			LP/HC: Handle soiled linens in a manner that ensures segregation of dirty from clean linens; no cross-contamination due to work-flow. (CDC/APIC/TRSA)
			Functional Separation: Structural (separate room) and/or by Ventilation or Conceptually: Designated location for soiled textiles and designated location for clean textiles are clearly defined. (APIC/HLAC)
			Doors for soiled and clean linen rooms are kept closed. (APIC/HLAC)
			LP: Sorting linen: LP wear appropriate PPE when sorting (ex: gown & gloves)

BEST LAUNDRY PRACTICES

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M	NM	A	FUNCTIONAL SOILED / CLEAN LINEN SEPARATION & SORTING
			LP: Sorting linen: LP use minimal agitation when sorting soiled linens. (CDC/APIC)
			LP: Sorting linen: Sorts linen by appropriate wash loads and/or types of fabric for the formula used: ex: cleaning cloths not washed with personal clothing (CDC) <i>Seek Technicians advice as needed.</i>
			The facility should have a protocol for when soiled linen is sorted: i.e. (CDC) Linen at this facility is sorted: (circle one) Pre or Post Washing.
			LP: After loading the washer; thoroughly clean & disinfect soiled linen carts. (APIC/HLAC)
			INITIAL KEY LAUNDRY WASHING PRACTICES
			LP: Always apply Standard/Universal Precautions when in contact with soiled linen. (CDC)
			LP: Always wear gloves and gown at a minimum; when loading washers.
			LP: After loading: Remove gloves and perform hand hygiene.
			EPA Disinfectant wipes are readily available, i.e., mounted near washers.
			EPA approved bleach wipes are preferred due to risk of C-diff & Norovirus*.
			LP: After loading: Wipe down all outside surfaces around the washer door, the door and lastly the handle; use an EPA disinfectant wipe or product. <i>Note: Failure to disinfect outside surfaces of washers may lead to contamination of clean linen during removal. (CMS/CDC: prevent cross-contamination)</i>
			LAUNDRY PROCESS / WASHING
			If used: Hot water wash cycles: detergent in water $\geq 160^{\circ}\text{F}$. for ≥ 25 minutes. (CDC) Acute and LTC. <i>No recommendation for residence-style facility.</i>
			Fabric care instructions are followed.
			Choose chemicals suitable for low-temperature washing at proper use concentration if low temperature laundry cycles are used ($<160^{\circ}\text{F}$). (CDC/APIC/HLAC)
			Basic laundry cycles include: Flush, main wash, bleaching or other designated alternative, rinsing, and souring. (APIC/HLAC)
			Knowledgeable technicians follow manufacturer recommendations and routinely monitor washing detergents and other additives to help assure hygienically clean linens are produced. <i>(documented by technician & sent to manager)</i>
			Facilities are required to follow manufacturer's instructions for washing machines, dryers, detergents, rinse aids, and other additives. (CMS)
			CMS: F Tag 441 January 2013 / Clarification of agency's guidance:

BEST LAUNDRY PRACTICES

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M	NM	A	LAUNDRY PROCESS / WASHING
			See Section 6. Table of Content
			LP: Never leave wet linens in machines overnight. (CDC/APIC)
			LP: Leave the doors of washing machines open to air when not in use: to prevent the growth of microorganisms in wet, potentially warm environments. (CDC/CMS/APIC)
DRYING / FINISHING / FOLDING			
			Eating and drinking are not permitted in clean linen areas: only trained LP should be allowed in the area to minimize risk of contamination.
			LP: Should be in good health, no acute respiratory illness and/or open rashes or other skin conditions which may compromise clean linen.
			LP: Perform hand hygiene prior to handling new loads of clean linen, i.e., as preparation for folding. (CDC/APIC)
			LP: Folding tables are disinfected at the beginning of each working shift: wipe with EPA approved disinfectant wipes, i.e., (CDC/APIC)
			EPA disinfectant wipes/cloth are readily available at "Point of Use".
			Clean linen is extracted or dried in a manner that preserves the integrity of the linen material, minimizes microbial growth after washing, and prepares the linen for folding. (CDC/APIC)
			LP: Damp linen is not left in machines overnight. (CMS/CDC/APIC)
			LP: Damp linen is not folded and then stored. (CDC)
TRANSPORTING AND STORAGE			
			LP/HC: Handle clean linen with clean hands and held away from uniforms.
			LP/HC: Clean linen is " always " protected from soil, dust, and debris. (CDC/APIC)
			LP: Protect linen during transport, i.e. covered when traveling through the building to designated units. (CDC/APIC)
			Clean, unwrapped textiles can be stored in a clean location for short periods of time (CDC), i.e. areas/rooms designated for linen storage. (CDC/APIC/HLAC)
			Clean linen storage areas routinely; dust/dirt may harbor pathogens: Routine & deep clean.
			Control of temperature, moisture, and relative humidity in linen storage areas is important. (CDC)
			Floors: Clean linen & soiled linen floors are cleaned daily (clean linen room 1st)

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M	NM	A	MATTRESSES AND PILLOWS
			Keep mattresses and pillows dry and in good condition: discard if remain wet, torn, compromised (CDC)
			Disinfect mattresses and pillows with EPA disinfectant between resident use. (CDC)

BEST LAUNDRY PRACTICES

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2. Hazard Warning Sign For Laundry Work Areas / Soiled Linen



Biohazard Symbol: Unknown - http://www.michigan.gov/documents/CIS_WSH_part476_54539_7.pdf

BIOHAZARD RISK:

Soiled Linen

EVS: Holding &/or Sorting Area

Potential for: HIV, HBV, HVC, MRSA, VRE, CRE, c-diff, Norovirus, etc.

PPE:

Minimum Gown & Gloves

Follow Standard/Universal Precautions

BEST LAUNDRY PRACTICES

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3. Job Cards (See section in this manual listed as “Job Cards”)

4. Technical Educational Moment: Top 5 Mistakes

The Top 5 Mistakes In LTC Laundering Are Avoidable

1. **Improper sorting of laundry: Sort by:**
 - a. Soil type: heavy, medium, and light
 - b. Type of goods/fabric: delicate, no bleach cottons, etc.
 - c. By washer cycles
2. **Over loading and/or Under loading of wash machines:**
 - a. Wash machine detergent & additive concentrations:
 - b. Over loading machines negatively impacts agitation:
 - i. Impacts hygienically clean linen results
 - ii. Increases preventable stains: leads to rewashing
 - iii. Increases resources/FTE due to unnecessary rewashing
3. **Laundry Personnel:** Changing formulas, chemicals, & machine settings
 - a. Changes without technician consultation may impact results
4. **Failure to monitor chemicals: so they don't run out**
5. **Failure to rewash clean linen that hits the floor**

BEST LAUNDRY PRACTICES

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5. OSHA Hazard Prevention: Laundry Chemicals/Potential Hazards:

Potential Hazards (OSHA Laundry Website)

- ▶ Employee exposure to hazardous cleaning chemicals found and used in the laundry or housekeeping process.
- ▶ Unlabeled chemicals.
- ▶ Splattering when pouring from larger container to smaller container.
- ▶ Soaps and detergents may cause allergic reactions and dermatitis.
- ▶ Broken skin from soap or detergent irritation may provide an avenue for infection or injury if exposed to chemicals or biological hazards.
- ▶ Never mix together cleaning solutions that contain ammonia and chlorine.
 - ▶ When mixed together these chemicals form a deadly gas.
- ▶ (Note: It would be most important to familiarize your staff with what this means as related to your program's products).

Possible Solutions:

Implement a written program which meets the requirements of the Hazard Communication Standard (HCS) to provide for worker training, warning labels, and access to Safety Data Sheets (SDS).

[Hazard Communication Standard](#)

Medical Services and First Aid:

Where the eyes or body of any person may be exposed to injurious corrosive materials, provide suitable facilities for quick drenching or flushing the eyes and body within the work area for immediate emergency use [29 CFR 1910.151\(c\)](#)

BEST LAUNDRY PRACTICES

Use the checklist as a guide to assess your program, educate/train and monitor best practices.



6. Clarification of Interpretive Guidance F144 – Laundry and Infection Control

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850

Center for Clinical Standards and Quality/Survey & Certification Group
Ref: S&C: 13-09-NH

DATE: January 25, 2013
TO: State Survey Agency Directors
FROM: Director
Survey and Certification Group

SUBJECT: Clarification of Interpretive Guidance at F Tag 441 – Laundry and Infection Control

A. Background

Currently, the requirements for Skilled Nursing Facilities (SNFs) and Nursing Facilities (NFs) at 42 CFR §483.65(c) Infection Control, Linens, state that “personnel must handle, store, process, and transport linens so as to prevent the spread of infection.”

Current interpretive guidance does not address recent changes in manufacturer’s technology for laundry equipment and cleaning agents. There have been many questions related to infection control and laundry processing. In the process of responding to some of these questions, the CMS has identified a need to update the related interpretive guidance.

B. Interpretive Guidance, 42 CFR §483.65(c)

In consultation with the Centers for Disease Control and Prevention (CDC), the CMS is updating surveyor guidance to address improvements in technology utilized in laundry processing. Specifically, the CMS is updating the existing interpretive guidance:

“Detergent and water physically remove many microorganisms from linen through dilution during the wash cycle. An effective way to destroy microorganisms in laundry items is through hot water washing at temperatures above 160 degrees F. (71 degrees C.) for 25 minutes. Alternatively, low temperature washing at 71-77 degrees F. (22-25 degrees C.) plus a 125-part-per-million (ppm) chlorine bleach rinse has been found to be effective and comparable to high temperature wash cycles.”

The CMS is also adding guidance on maintenance of laundry equipment and laundry items and ozone laundry cleaning systems. These updates in interpretive guidance complement other guidance within the SOM under “Handling Linens to Prevent and Control Infection Transmission.”

BEST LAUNDRY PRACTICES

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6. Clarification of Interpretive Guidance F144 – Laundry and Infection Control Continued:

C. Procedures 42 CFR §483.65(c)

Laundry detergents. Advance in technology allow modern-day detergents to be much more effective in removing soil and reducing the presence of microbes than those used in the past when much of the research on laundry processing was first conducted. The CMS in collaboration with the CDC has determined that facilities may use any detergent designated for laundry in laundry processing. Further, laundry detergents used within nursing facilities are not required to have stated anti-microbial claims. Facilities should closely follow manufacturer's instructions for laundry detergents used. The CMS does not endorse any specific laundry detergent or product.

Water temperatures and chlorine bleach rinses. Laundry processing conducted within facilities typically occurs in a low water temperature environment. Many laundry items are composed of materials that cannot withstand a chlorine bleach rinse and remain intact. The chlorine bleach rinse is not required for all laundry items processed in low temperature washing environments due to the availability of modern laundry detergents that are able to produce hygienically clean laundry without the presence of chlorine bleach (The Association for the Advancement of Medical Instrumentation defines the term "hygienically clean" as "free of pathogens in sufficient numbers to cause human illness."). However, the chlorine bleach rinse may be still used for laundry items composed of materials such as cottons. Hot water washing at temperatures greater than 160 degrees F. for 25 minutes and low temperature washing at 71-77 degrees F. (22-25 degrees C.) with a 125-part-per-million (ppm) chlorine bleach rinse remain effective ways to process laundry. If a facility chooses to process laundry using a hot water temperature environment, the temperature maintained for 25 minutes should be 160 degrees Fahrenheit.

Maintenance of equipment and laundry items. Facilities are not required to maintain a record of water temperatures during laundry processing cycles. The CDC recommends leaving washing machines open to air when not in use to allow the machine to dry completely and to prevent growth of microorganisms in wet, potentially warm environments. Facilities are required to follow manufacturer's instructions for all materials involved in laundry processing (e.g., washing machines; dryers; any laundry detergents, rinse aids, or other additives employed during the laundry process). Facilities should also follow manufacturer's instructions for clothing, linens, and other laundry items to determine the appropriate methods to use to produce a hygienically clean product. Facilities should also consider a resident's individual needs (e.g. allergies) when selecting methods for processing laundry. Facilities should have written policies & procedures which should include training for staff who will handle linens and laundry.

Ozone cleaning systems. Ozone laundry cleaning systems are relatively new. The CMS in collaboration with the CDC has determined that ozone cleaning systems are acceptable methods of processing laundry. This method also requires closely following manufacturer's instructions. Facilities opting to utilize an ozone laundry cleaning system will need to obtain an initial agreement between the laundry service and facility that stipulates the laundry will be hygienically clean and handled to prevent recontamination from dust and dirt during loading and transport. This is not an endorsement of ozone cleaning systems.

Please direct any additional questions or concerns regarding F Tag 441 related to handling linens to prevent and control infection transmission to Jemima Drake via phone at 410-786-1526 or email at jemima.drake@cms.hhs.gov.

Effective Date: Immediately. This information should be communicated with all survey and certification staff, their managers and the State/Regional Office training coordinators within 30 days of this memorandum. /s/

Thomas E. Hamilton

Attachment- Advance Copy of SOM Guidance

cc: Survey and Certification Regional Office Management

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6. Safety Data Sheets (SDS): PDF's can also be downloaded at www.theintegraprogram.com

ANDERSON CHEMICAL COMPANY SAFETY DATA SHEET

Issue Date 05-Jun-2014 Revision Date 24-Sep-2014 Version 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name HARMONY

Other means of identification
Product Code 127
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Detergent with Oxygen Bleach.
Uses advised against No information available

Manufacturer Address
Anderson Chemical Company, 325 South Davis Avenue, Litchfield, MN 55355 (320-693-2477)

Emergency telephone number
Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

Label elements

Warning

Hazard statements
Harmful if swallowed
Causes skin irritation
Causes serious eye irritation



Emergency Overview

Appearance aqueous solution Physical state liquid Odor Fresh

Precautionary Statements - Prevention
Wash hands thoroughly after handling
Wear protective gloves
Do not eat, drink or smoke when using this product
Wear eye/face protection

Precautionary Statements - Response
Specific treatment (see Section 4 on this label)

Page 1 / 7