



Pass It On
C E N T E R

... the National AT Reuse Center

Planning a Sanitization Program: Tools, Supplies and Environment

July 27, 2010

Lindsey Kampwerth

Trish Redmon

CEUs and CRCs are available!

- **CEUs** - visit the AAC Institute
www.aac institute.org
- **CRCs** – to receive your Verification Form, send an email with your Name, Organization, City, State and email address to Liz@passitoncenter.org

Download your work package

A package of working documents is available for this Webinar. Go to

<http://www.passitoncenter.org/content/>

and download the Webinar package

Planning a Sanitization Program

under “*New to the Knowledge Base*”.



Pass It On
CENTER

... the National AT Reuse Center

Maintenance Not Included

- This session is about planning a sanitization program for the cleaning and disinfection of devices. It does not consider repairs or maintenance.
- Additional tools, supplies and environmental accommodations are needed for repairs and maintenance.



Learning Objectives

- Understand the need for sanitization
- Identify what we need to know to plan a program: standards, regulations, methods
- Explore options in cleaning **equipment**
- Learn how to select appropriate **cleaners**
- Identify features of a **work area** appropriate for sanitization activities
- Be prepared to document policies and procedures and to train workers

Why sanitize previously used AT?

- To prevent the spread of disease to workers or to future users of the donated devices
- To protect the program from potential legal liability resulting from negligence if devices are not sanitized
- To make the devices as clean and attractive as possible for the next users



When to sanitize:

ASAP to protect workers

– Consider the process when accepting donations

- How to provide some immediate protection to those handling the devices
- How to sanitize and maintain in clean state while in inventory

Microorganisms That Cause Disease can survive for long periods on solid surfaces

VIRUSES

Colds
Influenza
Hepatitis
HIV
RSV
Polio
Measles
Mumps
Rubella
Chicken pox

BACTERIA

Staph
Strep
Tuberculosis
Anthrax

FUNGI

Molds
Mildew

BACTERIA WITH SPORES

Tetanus
Botulism

Language of Sanitization

- **Cleaning** – removal of visible soil from objects or surfaces, including removal of some of the harmful substances or microorganisms
 - **Detergent:** a chemical that aids cleaning
- **Disinfecting** – removal and destruction of some harmful microorganisms
 - **Disinfectant:** destroys some microorganisms
 - **Anti-:** *against*, aids in the removal of bacteria
 - **-cide:** *kills* viruses, bacteria, germs, spores (as indicated on product)

Removing Microorganisms

Three-step process:

- **Cleaning for physical removal**

Use of tools and/or detergents to remove dirt, debris and some harmful substances

- **Drying the device**

- **Disinfection with chemicals**

Use of chemicals designed to act against specific organisms to complete the sanitization process

Method Not Necessary for AT Reuse:

- **Sterilization** – total destruction of microorganisms using heat or chemical action

Essential for some medical environments in which devices contact internal membranes of the patient or facilitate the transmission of gases or fluids into the body.

CDC Guidelines for Disinfection

- Most AT devices fall into the “non-critical” category because they contact intact skin but do not contact mucous membranes.
- Most AT devices can be sanitized with intermediate-level disinfectants.
 - Review *Guidelines for Disinfection and Sterilization in Healthcare Facilities, 2008* (Centers for Disease Control).
Check CDC site or PIOC Knowledge Base for this document.

Indicator of Quality for AT Reuse

- **3.10 Sanitization of Donated Equipment**

The program has written sanitization procedures based on sound medical or scientific practice and that are consistent with the manufacturer's recommendations for the sanitization of equipment.

Related Indicators of Quality

- **3.2 Facilities: Safety and Security**

The facility is safe and secure for employees, contractors, volunteers and customers.

- **3.3 Facilities: Space and Services**

The facility has adequate space and services to conduct AT reuse activities.

Planning a Sanitization Program

- Tools:
 - Hand tools
 - Power tools
 - Automated equipment
 - Worker safety devices
- Supplies:
 - To clean devices
 - To protect workers
- Environment
 - Services (power, plumbing, ventilation)
 - Activity-based design

What types of devices will be sanitized?

- Durable medical equipment
 - ___ Manual devices
 - ___ Powered devices
- Computers and other digital devices

TIP: Collect manufacturer recommendations to begin building a procedures manual for sanitization by device type.

Equipment/Tools Options

	LOW VOLUME	MODERATE VOLUME	HIGH VOLUME
METHOD	Manual cleaning	Manual cleaning aided by powered devices	Automated cleaning (for some DME devices)
EQUIPMENT	Bucket Pick/tweezers Brushes Cloths/towels	Vacuum cleaner Air compressor Steam device	Automated cleaning machine
CONCERNS (cumulative with volume)	Adequacy, effectiveness, worker safety	Appropriate environment, training	Initial cost, operating expenses, maintenance

How many devices?

Indicator for method/equipment:

- Few devices: May perform all sanitization manually
- Moderate volume: Consider adding power devices to aid cleaning.
- Large volume: Consider automated cleaning devices.

How to Select Cleaning Equipment

- Consider volume of devices to be sanitized
- Analyze time/labor implications
- Examine effectiveness and cost of alternative methods and tools
- Compare the options

Tools for Manual Cleaning

- Durable Medical Equipment:
 - Utility buckets
 - Industrial tweezers
 - Brushes
- Computers and Electronic Components:
 - Soft artist paintbrushes



Powered Devices for Cleaning

- Vacuum – may be useful for removal of surface dust, especially on upholstery
- Compressed air – removing dust from most surfaces
- Pressure washers – assist with removal of contaminants
- Powered spot lifter



AUTOMATED CLEANING EQUIPMENT

Machines that clean and sanitize large devices (such as manual wheelchairs) are available from several suppliers.

- **Hubscrub**
- **Aqua Phase**
- **MEDCO**



Some large AT Reuse programs that use automated cleaning equipment are FODAC, Paraquad and Project MEND.



Pass It On
CENTER

... the National AT Reuse Center

Cost of Automated Cleaning

- Initial investment
 - Depends on model, capacity and options
 - Costs for Hubscrub and Aqua Phase models range from approx. \$9,000 to \$13,000
- Operating expense
 - **Electricity**
 - **Water**
 - Aqua Phase estimates these cost about 2 cents per cycle (clean, disinfect, or dry)
 - Hubscrub: 3.5 gals. water per cycle
 - **Cleaners, disinfectants and drying agents**
 - Est. \$1,500 savings vs. spray bottles



Calculating Payback

1. Compute cost of manual cleaning.

- **Time: Labor (salaries)**
- **Employee benefits**
- **Cost of chemicals**
- **Cost of related supplies and tools**

INTANGIBLE FACTORS:

- **Quality of process**
- **Reduction in risk**

2. Compute cost of automated cleaning.

- **Initial investment to acquire machine**
- **Annual operating costs**

3. Compute annual savings.

4. Divide #2 by #3 to determine payback.

Supplies for Sanitizing DME

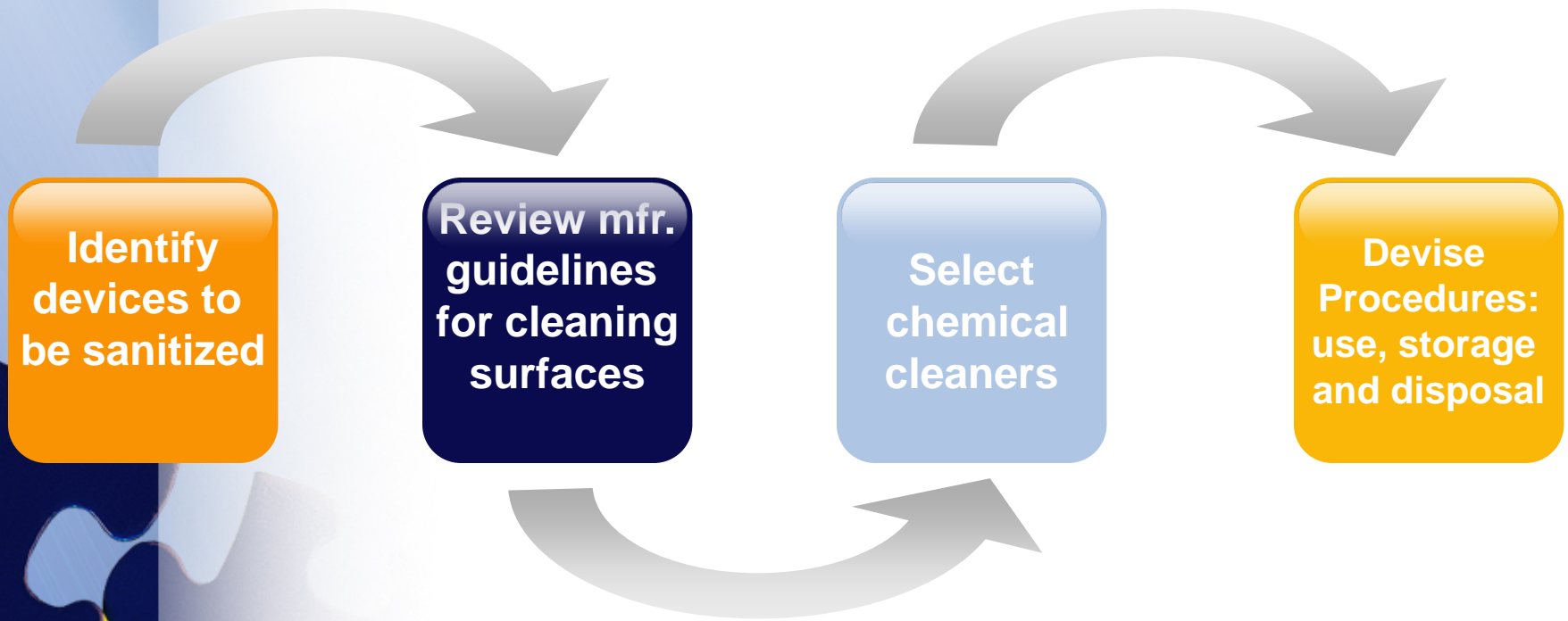
- Cleaners and disinfectants: manual cleaning
 - **Hard surface cleaners**
 - **Hard surface stain removers**
 - **Leather, vinyl, plastic and glass cleaners**
 - **Intermediate-level chemical disinfectant**
 - **Car wax (for protective coating after cleaning)**
 - Plus washable or disposable cloths
- Mfr.-recommended disinfectants for automated cleaning equipment

Supplies for Sanitizing Computers

- Compressed air cans
- Alcohol wipes
- Anti-bacterial wipes



Selecting Chemical Cleaners



Choosing Cleaners

- Follow manufacturer recommendations
- Choose cleaners for the specific surfaces that will be cleaned manually: glass, chrome, plastic, upholstery, etc.
- Most AT can be sanitized with an intermediate to high-level disinfectant.
 - **Inactivates most viruses, fungi, vegetative bacteria and TB. May not kill bacterial spores, called ‘*tuberculocide*’ by EPA.**

Selecting Cleaners and Disinfectants: Factors

Factors to consider:

- Effectiveness
- Convenience
- Residual effects on surface materials
- Human and environmental considerations
- Cost

Tip: Commercial cleaners designed for healthcare settings are better and more cost effective than home formulations.

Shopping for Disinfectants

- Identify the types of cleaners and disinfectants needed (that is, generic specifications)
- Shop the Internet to locate commercial products or providers of commercial healthcare products that meet the required specifications
- Consult with the technical sales rep from a company that provides disinfectants to healthcare facilities



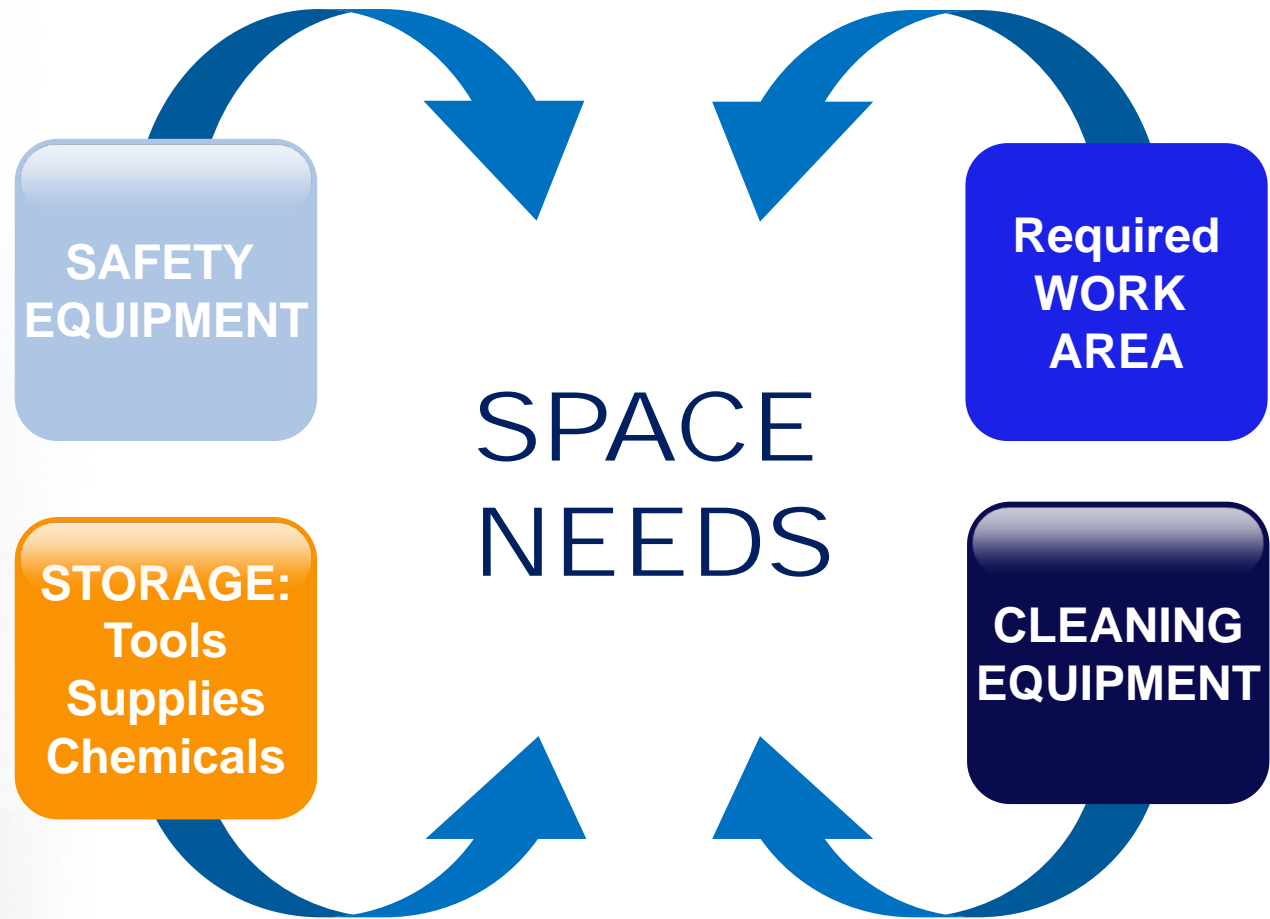
Disinfectants: Pros and Cons

CATEGORY/ Examples	ADVANTAGES	DISADVANTAGES
HALOGENS - Hypochlorites - Bleach	Cheap Effective Active against viruses (HIV, hepatitis)	Rapidly inactivated by organic material Corrosive to metals Disposal
ALCOHOLS - Ethanol - Isopropanol	Good for surfaces that contact user and for skin	Requires water to kill bacteria Disposal
QUATERNARY AMINES ('QUAT') - Alky dimethyl benzyl ammonium chloride	Effective surface disinfectant at low concentrations Inexpensive	Disposal of concentrations >1%

Cleaning Electronic Equipment

- Surfaces require consideration of material
- Extreme care must be taken to avoid liquids on unprotected surfaces inside computers and electronic devices
- Workers need special training and equipment for safe sanitization

Environment: Work Area



Work Area Considerations

- Devices to be sanitized:
 - **Computers are more easily sanitized on workbenches.**
 - **Sanitizing DME is greatly facilitated by tile rooms with floor drains and easy access to water.**

Designing the Work Area

- Identify the activities and the amount of space needed to perform the tasks.
- Define the flow of tasks and activities.
- Measure the footprint of all pieces of equipment and workbenches.
- Map the dimensions of the available work area then start positioning work surfaces and equipment to fit the work flow. Identify where electrical outlets, water availability, drains and ventilation are needed.

Laws and regulations affecting workplace safety

- OSHA (federal) regulations
- EPA regulations
- State and local building codes

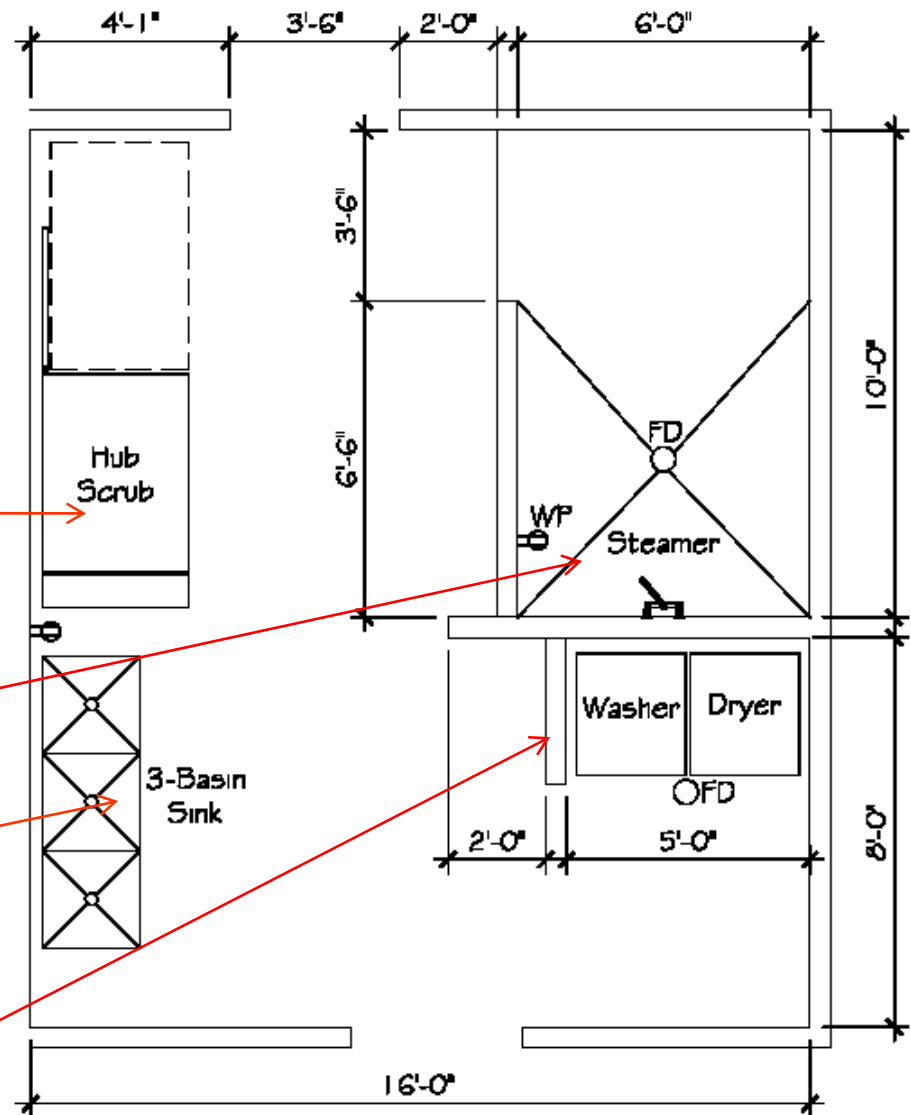
AT CLEANING ROOM Plan for Tiled Room

**Automated
cleaning
equipment**

Power equipment

**Manual cleaning,
cleanup**

**Washer/dryer for
removable fabric covers
and cleaning cloths**



Environment: Workplace Safety



Policies and Procedures

Sanitization Policy

Sanitization Procedures:

- General Procedures
- Worker Training, Required
- Worker Personal Protective Equipment
- Use and Storage of Tools
- Use, Storage and Disposal of Chemicals
- Storage of Sanitized Equipment

Workers Need Training

- AT Reuse Program Policies and Procedures
- Workplace Safety (including OSHA regulations and operation of powered devices)
- Use of personal protective equipment
- Proper use, storage and disposal of chemicals to avoid adding risk in the sanitization process

Personal Protective Equipment



Personal Protective Equipment

Essential elements of worker safety, depending on the activity being performed or the chemical or equipment being used:

- Disposable gloves
- Protective eyewear
- Protective apron or work suit
- Anti-static wristband or other professional grounding device
- Anti-skid shoes



Supplies: To Protect Workers

- Disposable gloves
- Protective eyewear
- Mask, depending on activity
- Protective clothing (depending on activity)
- Anti-static wristband if working with computers or other powered devices

* Anti-skid footwear should be required to perform sanitization activities involving liquids



References

Pass It On Center Knowledge Base

<http://www.passitoncenter.org/content/>

See Program Operations/Sanitization.

- *Mini-Guide to Sanitization*
- *Guidelines for Disinfection and Sterilization in Healthcare Facilities, 2008 (CDC)*
- *10 Ways to Find Safer and Greener Cleaners*, Toxic Use Reduction Institute
- *Understanding Sanitizers and Disinfectants*, Multi-Clean Technical Bulletin, 2007



Pass It On
CENTER

... the National AT Reuse Center

CEUs and CRCs are available!

- **CEUs** - visit the AAC Institute
www.aac institute.org
- **CRCs** – to receive your Verification Form, send an email with your Name, Organization, City, State and email address to Liz@passitoncenter.org

Help us improve!

- Please complete a brief evaluation of today's Pass It On Center Webinar at:

<http://www.surveymonkey.com/s/R325KJX>



Pass It On
C E N T E R

... the National AT Reuse Center

<http://www.passitoncenter.org>

trish@passitoncenter.org

lindsey@passitoncenter.org

DISCLAIMER

This work is supported under a five-year cooperative agreement # H235V060016 awarded by the U.S. Department of Education, Office of Special Education and Rehabilitative Services, and is administered by the Pass It On Center of the Georgia Department of Labor – Tools for Life. However, the contents of this publication do not necessarily represent the policy or opinions of the Department of Education, or the Georgia Department of Labor, and the reader should not assume endorsements of this document by the Federal government or the Georgia Department of Labor.



Thank You!