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# Infection Control in Ambulatory Care

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# Disclosures

- No financial disclosures or affiliations with any commercial entities

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# Learning Objectives

Upon completion of this presentation, you will be able to:

1) Demonstrate increased knowledge related to maintaining a compliant and effective infection prevention and control program in the ambulatory care setting.
2) Establish an understanding of how to audit sterilization of reusable instruments practices and high-level disinfection practices in ambulatory care and effectively improve the standards in these areas.
3) Establish an understanding of the unique space limitations of clean and dirty utility areas in ambulatory care and effective methods in which to separate them.

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# My Story

- Began career in Infection Control in 2013 at Harvard Vanguard Medical Associates
- Became Infection Control Manager in 2017 and then the Infection Control Director in June 2020
- Entire Infection Control career has been in ambulatory care

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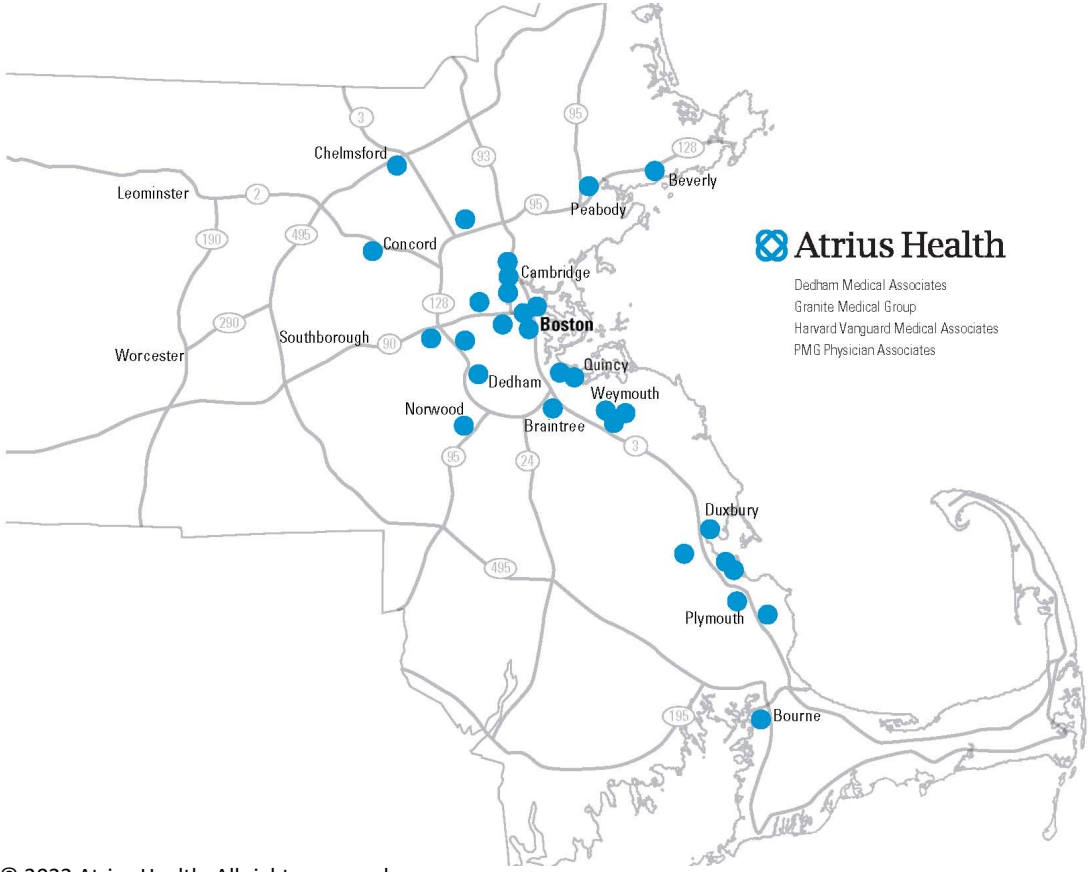
# 30 practice locations in eastern Massachusetts

- **Largest multispecialty medical group in New England**
- Medical practices operate as Dedham Medical Associates, Granite Medical Group, Harvard Vanguard Medical Associates, and PMG Physician Associates

- 2.1 million patient visits annually
- 665,000 adult and pediatric patients
- 650 physicians and primary care providers
- 4,800 employees

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# Unique Aspects of Infection Control in Ambulatory Care

Ambulatory Care is a growing healthcare environment with unique infection control needs and challenges which include the following:

- **Limited** evidence-based societal and regulatory guidance
- Decentralized instrument high level disinfection and sterilization
- High likelihood of patients suspect for infectious diseases to visit due to the relationship between patients and their PCP or Urgent Care center
- Limited engineering controls for patients on transmission-based precautions and varying access to resources
- Different access and structure of departments and teams as compared to the inpatient setting
- Space challenges

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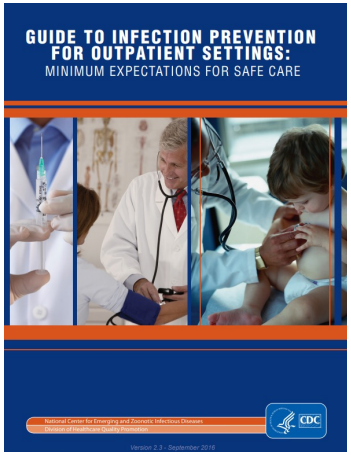
# Infection Control in Ambulatory Care Program

What are the main components of an Ambulatory Care Infection Control Program?




- Surveillance and Disease Reporting
- Cleaning, Disinfection, and Sterilization
  - Including areas in which these processes occur (Clean & Dirty Areas)
- Transmission-Based Precautions
- Hand Hygiene
- Policy, procedure, Standard Work, and communication development related to Infection Control

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# What Resources are Available?

- APIC Text
- CDC Guide to Infection Prevention for Outpatient Settings
- CDC Infection Control and Response (ICAR) Tool for Outpatient/Ambulatory Care
- State Public Health guidance and regulations (Massachusetts DPH)
- Professional Society Standards and Guidance (e.g. ANSI/AAMI)
- The Joint Commission Ambulatory Health Care Infection Prevention and Control Resources

*Connections with other Infection Control Practitioners at conferences and through regular engagement and meetings*

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# Surveillance and Disease Reporting

- Our team starts every morning with surveillance of infectious diseases including the following:
  - Chickenpox
  - Measles, mumps, and rubella
  - Pertussis
  - Active pulmonary Tuberculosis
  - MPox
- All suspect cases are compiled onto a spreadsheet that is shared internally with the team
- We can then report a suspect or confirmed case to Public Health, or inform a local department of the need for transmission-based precautions
- How do we receive information for the trackers?
  - Weekly patient TB Medication reports (from Analytics team)
  - EPIC reports that can be manually run each morning and pull in positive results
  - Order Alerts routed to the Infection Control team's EPIC account
  - Calls/e-mails from frontline staff

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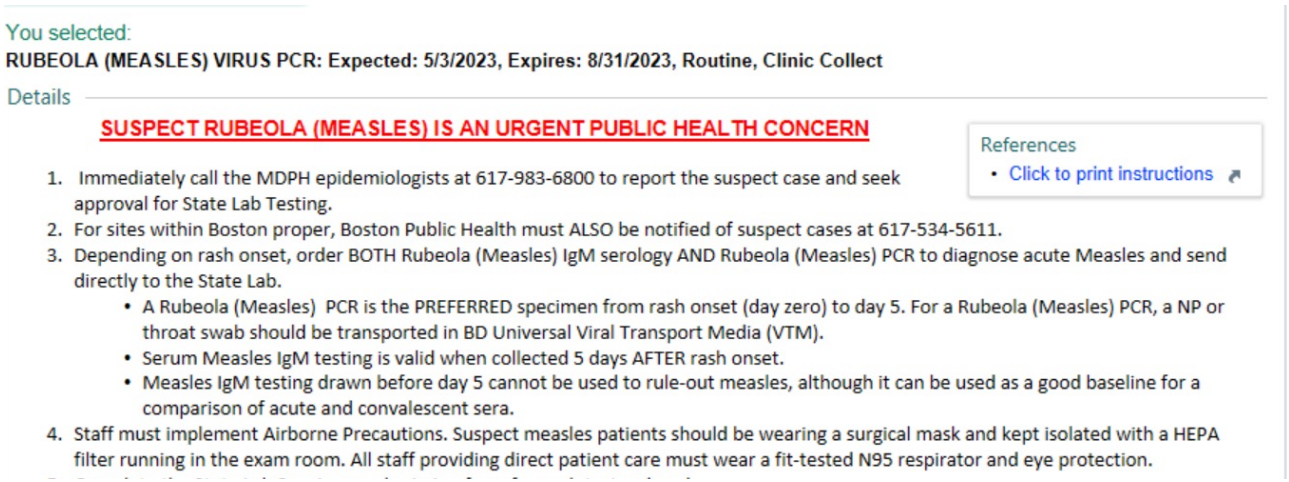
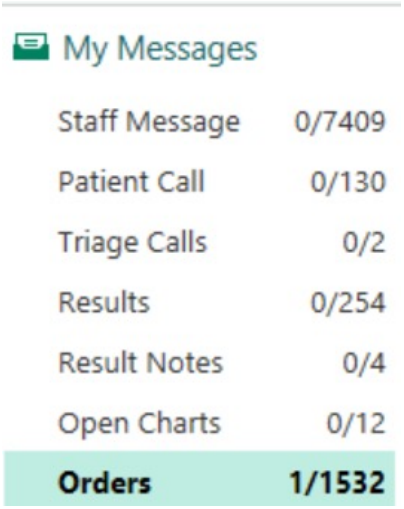
# EPIC Order Alerts

Clinician View when a Measles PCR is Ordered




Infection Control Team View

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# Tips for Surveillance and Disease Reporting in Ambulatory Care


- Connect with your organization's Analytics or Electronic Medical Record team to gain access to built reports and patient lab orders that would be impactful for Infection Control follow-up
- Include Surveillance as a routine part of the Infection Control team's workday
- Communicate to frontline staff regarding the transmission-based precautions needed for highly infectious diseases, including measles and Tuberculosis
- Develop Infection Control resources and update them regularly on your organization's intranet
- Develop a relationship with your state Public Health department

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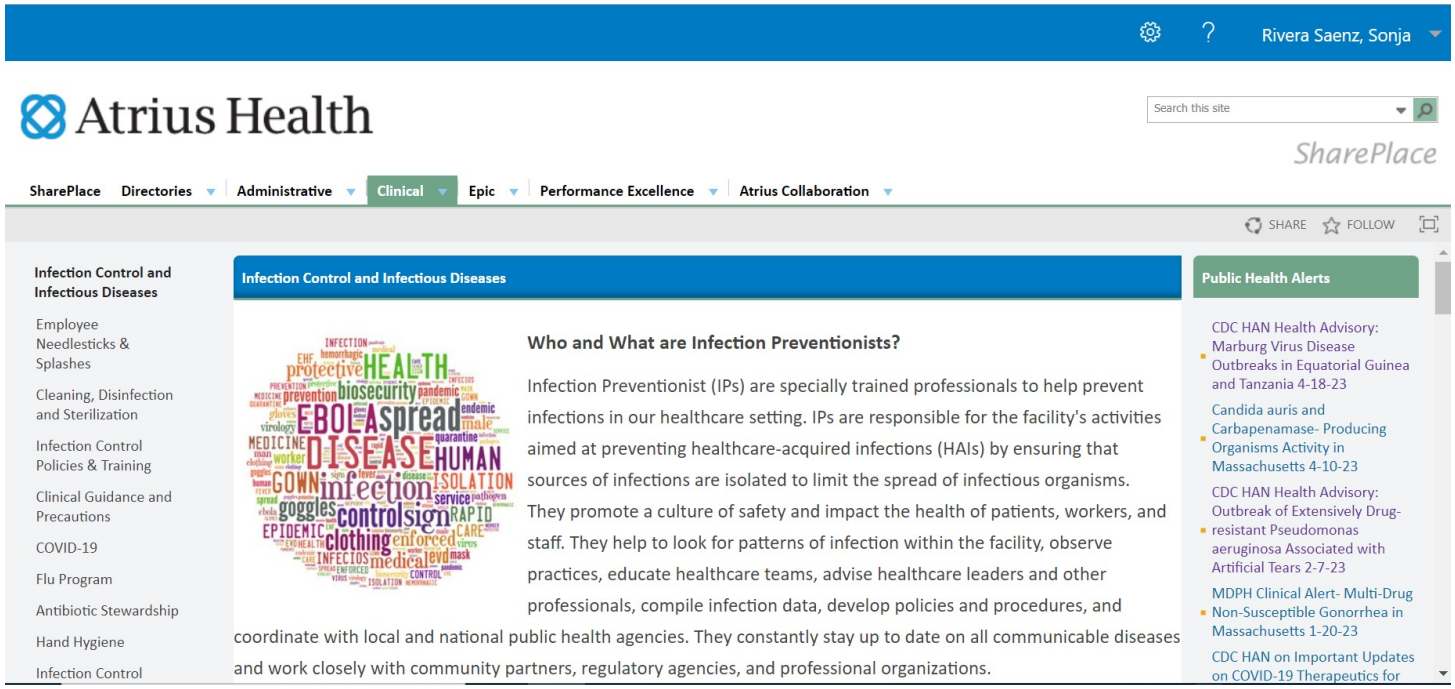
# Infection Control Organizational Webpage (Intranet)

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# Instrument Reprocessing: High Level Disinfection and Sterilization

- In order to understand high level disinfection and sterilization practices in ambulatory care, it's first important to understand the departments in which they occur and the types of devices
  - Create a simple spreadsheet with important fields that require input from department staff (initiated in 2018)
  - Conduct a Risk Assessment (2019)
  - Ongoing annual visits with collaboration with frontline staff (2019-current)

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# High Level Disinfection

- In ambulatory care, high level disinfection (HLD) is often decentralized
- At Atrius Health, there was variety in practice during the first Infection Control risk assessment with pre-cleaning, manual cleaning, and the instrument's environment/utility rooms
- Atrius Health Infection Control team created a standard Assessment Tool to use in all departments with HLD, a self-initiated calendar to visit the departments at least annually, and a follow-up process for gaps

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# HLD Spreadsheet to Understand Departments and Equipment

- Knowledge is power!
- Understand the ‘where’ and ‘how’ of your organization’s HLD practices
- A simple spreadsheet could include the following fields:
  - Department, Practice Site, Department Contact (supervisor/manager), type of Instrument, type of HLD method, Manufacturer, Model, Serial number, Technical Service rep, and most recent Staff Competency dates

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# High Level Disinfection Sample Calendar

**Annual Calendar for Direct Observation of Reprocessing Staff**

| | |
|---|---|
| **January** | OB/GYN |
| **February** | OB/GYN (continued) |
| **March** | ENT |
| **April** | ENT (continued) |
| **May** | Special Procedures Unit |
| **June** | |
| **July** | |
| **August** | |
| **September** | Urology |
| **October** | Imaging |
| **November** | GI Endoscopy |
| **December** | |

***Tips:***

- Observe the process from beginning to end with staff – starting with pre-cleaning and ending with instrument storage and quality control logs
- Explain the 'why'

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# Create a HLD Assessment Tool to Identify Gaps

- Utilize Infection Control guidance and resources to create an assessment tool which includes:
  - Pre-cleaning
  - Safe instrument transport
  - Staff use of Personal Protective equipment
  - Manual cleaning and proper enzymatic dilution
  - High Level Disinfection
  - Quality Control logs
  - Storage
  - Environment of care (utility rooms)
  - Staff knowledge, access to resources, and competencies

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# Department Visits

- Engage the department leadership to inform them in advance that Infection Control will be visiting and explain the rationale for the visit
- Ensure a supervisor or manager is present for the visit in addition to the reprocessing staff
- Observe the process beginning to end, and request for staff to utilize the materials and instrument ‘in real time’
- When gaps are observed, provide education and explain the ‘why’ behind each step
- Follow-up with a written communication to the department and ensure there is a feedback loop to ensure gaps were closed

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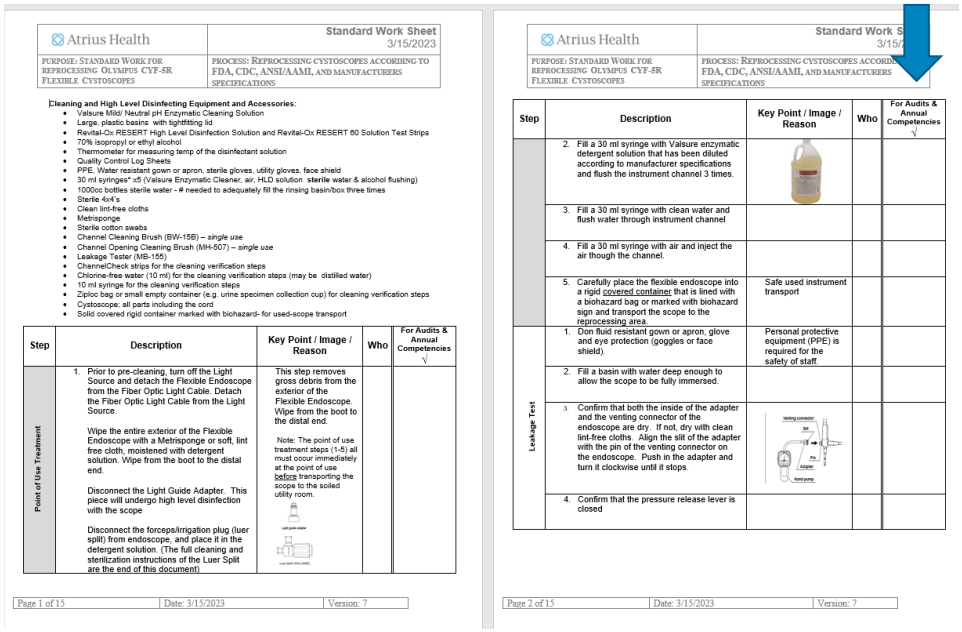
# Standard Work

- The development of Standard Work and the regular updating of Standard Work serves as an excellent tool to ensure staff understand the steps of the process



Atrius Health | Standard Work Sheet 3/15/2023

PURPOSE: STANDARD WORK FOR REPROCESSING OLYMPUS CYF-5R FLEXIBLE CYSTOSCOPES

PROCESS: REPROCESSING CYSTOSCOPES ACCORDING TO FDA, CDC, ANSI/AAMI, AND MANUFACTURERS SPECIFICATIONS

**Cleaning and High Level Disinfecting Equipment and Accessories:**

- Valsure Mild/ Neutral pH Enzymatic Cleaning Solution
- Large, plastic basins with tightfitting lid
- Revital-Ox RESERT High Level Disinfection Solution and Revital-Ox RESERT 60 Solution Test Strips
- 70% isopropyl or ethyl alcohol
- Thermometer for measuring temp of the disinfectant solution
- Quality Control Log Sheets
- PPE, Water resistant gown or apron, sterile gloves, utility gloves, face shield
- 30 ml syringes* x5 (Valsure Enzymatic Cleaner, air, HLD solution sterile water & alcohol flushing)
- 1000cc bottles sterile water - # needed to adequately fill the rinsing basin/box three times
- Sterile 4x4's
- Clean lint-free cloths
- Metrisponge
- Sterile cotton swabs
- Channel Cleaning Brush (BW-15B) – *single use*
- Channel Opening Cleaning Brush (MH-507) – *single use*
- Leakage Tester (MB-155)
- ChannelCheck strips for the cleaning verification steps
- Chlorine-free water (10 ml) for the cleaning verification steps (may be distilled water)
- 10 ml syringe for the cleaning verification steps
- Ziploc bag or small empty container (e.g. urine specimen collection cup) for cleaning verification steps
- Cystoscope; all parts including the cord
- Solid covered rigid container marked with biohazard- for used-scope transport

| Step | Description | Key Point / Image / Reason | Who | For Audits & Annual Competencies √ |
|---|---|---|---|---|
| Point of Use Treatment | 1. Prior to pre-cleaning, turn off the Light Source and detach the Flexible Endoscope from the Fiber Optic Light Cable. Detach the Fiber Optic Light Cable from the Light Source.<br><br>Wipe the entire exterior of the Flexible Endoscope with a Metrisponge or soft, lint free cloth, moistened with detergent solution. Wipe from the boot to the distal end.<br><br>Disconnect the Light Guide Adapter. This piece will undergo high level disinfection with the scope<br><br>Disconnect the forceps/irrigation plug (luer split) from endoscope, and place it in the detergent solution. (The full cleaning and sterilization instructions of the Luer Split are the end of this document) | This step removes gross debris from the exterior of the Flexible Endoscope. Wipe from the boot to the distal end.<br><br>Note: The point of use treatment steps (1-5) all must occur immediately at the point of use before transporting the scope to the soiled utility room. | | |

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PURPOSE: STANDARD WORK FOR REPROCESSING OLYMPUS CYF-5R FLEXIBLE CYSTOSCOPES

PROCESS: REPROCESSING CYSTOSCOPES ACCORD FDA, CDC, ANSI/AAMI, AND MANUFACTURERS SPECIFICATIONS

| Step | Description | Key Point / Image / Reason | Who | For Audits & Annual Competencies √ |
|---|---|---|---|---|
| | 2. Fill a 30 ml syringe with Valsure enzymatic detergent solution that has been diluted according to manufacturer specifications and flush the instrument channel 3 times. | | | |
| | 3. Fill a 30 ml syringe with clean water and flush water through instrument channel | | | |
| | 4. Fill a 30 ml syringe with air and inject the air though the channel. | | | |
| | 5. Carefully place the flexible endoscope into a rigid covered container that is lined with a biohazard bag or marked with biohazard sign and transport the scope to the reprocessing area. | Safe used instrument transport | | |
| Leakage Test | 1. Don fluid resistant gown or apron, glove and eye protection (goggles or face shield). | Personal protective equipment (PPE) is required for the safety of staff. | | |
| | 2. Fill a basin with water deep enough to allow the scope to be fully immersed. | | | |
| | 3. Confirm that both the inside of the adapter and the venting connector of the endoscope are dry. If not, dry with clean lint-free cloths. Align the slit of the adapter with the pin of the venting connector on the endoscope. Push in the adapter and turn it clockwise until it stops. | | | |
| | 4. Confirm that the pressure release lever is closed | | | |

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# Lessons on High Level Disinfection in Ambulatory Care

- Engage staff and create collaboration between Infection Control and the department being assessed
- In ambulatory care, there is a high likelihood there can be gaps due to less standardization in instrument reprocessing, de-centralization, department staffing changes, and space limitations
- Understand the challenges and be a supportive partner to ensure the department is compliant with all the important steps
- It is important to set targets and improve the process through Infection Control program goal each year. Examples may include:
  - Creation of a Qualified Observer Program for HLD
  - Creation of simple HLD visual aids for staff
  - Leading an effort to transition from automated endoscope reprocessors for HLD or sterilization as a replacement for manual HLD

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# Sterilization in Ambulatory Care

- Sterilization is de-centralized and typically occurs in ambulatory care with tabletop autoclaves
- Common themes include lack of consistency with staff understanding of instrument reprocessing, quality control logs, and limitations with space
- Similar to HLD, it is important to assess the departments and understand the need for the autoclaves in ambulatory care
- Atrius Health had 95 autoclaves across the organization in early 2021, and by the end of 2022 decreased the amount by ½ (~50 autoclaves)
- It is important to utilize an assessment tool to visit a sample of departments, understand the need for the autoclave, and educate staff on best practices and positive aspects of consolidation of autoclaves

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# Utility Rooms: Clean and Dirty Areas


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# Dirty Utility Room Example


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# Clean or Dirty Areas


Clean Room


Point of Care Testing Room


Clean Room


Dirty Utility Room


Dirty Utility Room


Clean Room/ Meds

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# Clean Utility Room Examples

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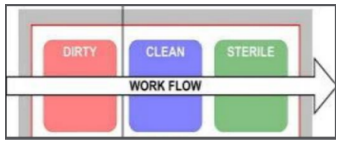


# Separation of Clean and Dirty Areas in Ambulatory Care Settings

There are space limitations in ambulatory care that make separation of clean and dirty processes difficult

- It's important to visit the clinical departments, explain the 'why' behind separating clean & dirty for staff, and receive input from them on how to best transform or rearrange their space
- Ensure there is a unidirectional dirty to clean workflow (at a minimum) and clearly separate the clean and dirty areas wherever possible into different rooms/spaces
- Atrius Health Infection Control team created "Clean and Dirty Space Guidance" to ensure staff understand the key processes that should be in each area
  - During 2022, the team worked to ensure that Point of Care testing was removed from the instrument reprocessing Soiled Utility Rooms

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# Staffing Models and Structure Recommendations

- Atrius Health Infection Control team consists of 3 Infection Preventionists (includes the Director) and Infection Control Medical Directors
  - Recommended ratio: 1 Infection Preventionist per 10 outpatient sites
- For the ambulatory care setting, it's most helpful have the Infection Preventionists cross-trained to cover all necessary topics within the program
- Engage regularly with your organization's leadership and create an Infection Control Risk Assessment or Infection Control Annual Report
  - **Note**: This can be particularly important for the ambulatory care setting because less is understood about its program and goals as compared to the inpatient setting

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# Key Takeaways

- Utilize existing resources on Ambulatory Care Infection Control to develop a program that is inclusive of the important elements
- Conduct a risk assessment and understand where high level disinfection and sterilization practices occur in your Ambulatory Care sites
- Visit the departments and sites to observe practices, provide education, and create collaboration and trust between the frontline staff, leadership, and Infection Control team to create impactful change
- Create supportive Standard Work and regularly communicate with frontline staff on Infection Control processes and updates

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# Thank you and Acknowledgements

***Atrius Health Infection Control Team***

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Thank you!

Questions or Comments?

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