Example Policy of a Brush Selection Process

NOTE: This document is an example of a policy that may be instituted in a healthcare facility for brushing instruments. The actual policy in a facility must be based on variables, logistics, and risk-assessments that are specific to your facility.

Subject: Brushing of Instruments as Part of the Cleaning Process

Department: Sterile Processing or Endoscope Processing Area

Approved By: [Name of Dept Supervisor/Manager]

Effective: [Enter the date when this will take effect]

Revised: May 2022

Purpose: The purpose of this policy is to provide a means of selecting the appropriate and correct size brush. Brushing is a major part of the cleaning process and is one of the most important steps. Brushing requires the mechanics of friction and fluidics to clean an instrument.[1] It is essential to ensure that the correct type of brush is selected for the devices being cleaned. The concept of using the proper brush for the task at hand is supported throughout national standards, professional society guidelines, and recommendations and is found in the Instructions for Use (IFU) provided by the Original Equipment Manufacturer (OEM).

Policy: The Sterile Processing manager (or their designee) is responsible for assuring staff training, initiation, completion, documentation, and analysis of the brushing policy for the department.

Rationale: Reprocessing staff should pick the appropriate size and type of brush or multiple brushes for the task of cleaning an instrument.

It is crucial to select the correct brush, whether it is OEM brush or by third-party manufacturer (Mfr.) that shows as equivalent or appropriate.

Standards and Professional Society Guidelines:

- AAMI ST79 states to “clean lumened items with a brush of the recommended type, size (diameter and length), and bristle type and material, flush the lumen with the recommended cleaning solution, and then rinse the lumen, preferably with treated water (unless otherwise specified in the manufacturer's written IFU).”[2]

- AAMI ST79 also states to "use brushes and other cleaning implements intended for use on medical devices; brushes should be checked for visible soil and damage following each use and should be frequently cleaned and disinfected. If the device manufacturer specifies a specific brush or cleaning implement, the brush or an equivalent should be used."[2]
- AAMI ST79 also states "Disposables should be separated by waste categories and disposed of in accordance with all federal, state and local regulations; single-use cleaning implements should be discarded after each use."
    a. The healthcare facility's policy and procedure should designate what constitutes a "use".[2]
    b. Example: A "use" may constitute one use of the brush on an instrument or may be one day dependent on the Mfr.'s IFU of the product.
- Furthermore, ST79 states that "brushes and other cleaning implements should be cleaned and decontaminated as recommended by the Mfr. at least daily or, preferably, after each use. Whenever possible, single-use brushes and other cleaning implements should be used and then disposed of afterwards." [2]
- According to AAMI ST91, "Clean all valve cylinders, openings, and forceps elevator housings with a cleaning brush of the length, width, and material designated in the endoscope manufacturer's written IFU."[3]
- The Food and Drug Administration (FDA) states to "have available appropriate size channel cleaning brushes." FDA classifies endoscope cleaning brushes as Class I medical devices and as accessory to a cleaning brush.[4]
- The CDC and HICPAC suggest to, "Use cleaning brushes appropriate for the size of the endoscope channel or port (e.g., bristles should contact surfaces). Cleaning items (e.g., brushes, cloth) should be disposable or, if they are not disposable, they should be thoroughly cleaned and either high-level disinfected or sterilized after each use."[5]
- AORN, in their practice guidelines, assert that, "All accessible channels and the distal end of the endoscope should be cleaned with a cleaning brush of the length, width, and material recommended by the endoscope manufacturer."[6]
- SGNA states to, "Have available appropriate size channel cleaning brushes; Use a brush size compatible with each channel; Endoscope cleaning brushes should be the appropriate size that assures contact with the surface (Peterson et al., 2011; Rutala et al., 2008)."[7]
- In an Olympus IFU, it is stated that for cleaning brushes and cleaning wire in the following reprocessing instructions, Olympus uses the terms "appropriate brush" and "appropriate surface brush".[7]

There are ASTM test methods that specify processes for brush Mfrs. to perform to demonstrate that their generic brush is equivalent to the brush that is specified in the IFU from the OEM. Therefore, the brush's ability to clean and be stated as equivalent to the OER brush is now based on actual test data, not just the Mfr.'s wording.

In a peer-reviewed article by Basile et al., it is stated these ASTM test methods provide a means to quantitate the performance of brushes. They allow objective comparisons of similar designs from different sources and different designs of a brush to clean the same device. Quantifiable methods have now been developed for comparing two brushes that have been designed to clean the same target area(s). Thus, an OEM brush can be compared to another brush Mfr.'s brush, and if the results of the data show they are equivalent they can be used in place of the OEM brush.[8]

The specific ASTM International standards to reference are:

- F3275-19 - Standard Guide for Using a Force Tester to Evaluate the Performance of a Brush Part Designed to Clean the Internal Channel of a Medical Device
- F3276-19 - Standard Guide for Using a Force Tester to Evaluate the Performance of a Brush Part Designed to Clean the External Surface of a Medical Device

Process of Selecting a Brush:

Processing staff should have a method to ensure they have selected the correct brush and are competent on how to use it. There is a simple method to use to select brushes for the manual cleaning process, which can be used for any instrument found in the processing area.

1. Identify the type of surfaces to be cleaned on the instrument (e.g., external surfaces and their condition- rough, smooth, serrated, etc.).
2. Identify the internal surfaces of the instrument (e.g., diameter and length of the lumen) and if there are open or dead-end lumens.
3. Review the IFU for specific instrument for guidance on the specifications of the brush.
4. Finally, pick the correct brush type for the job from your inventory ensuring it matches the requirements for correct size, surface type, single-use or reusable, etc.

Procedure:

Ensure the brushing is performed with the proper technique. Consult the IFU for the instrument and brush for guidance on recommended brushing methods. There are several methods that can be employed for brushing.

- Brush, flush, brush, inspect
- Pull through method
- Push through method
- Other techniques as instructed by the brush manufacturer.

General Brushing Considerations:

- The brush diameter must be greater than or equal to the diameter of the inner lumen being brushed.
- The brush bristles must fully extend and contact the surface of the inner lumen.

- The brush should move easily in and out of the instrument.
- Tapered or irregular lumens may require the use of different brushes with different brush diameters.
- Brushing is a cleaning activity and is therefore to be performed only in the decontamination area (not in the clean or assembly side).
- Do not use a brush with metal bristles or any other types of bristle which can scratch and damage the instrument, unless the IFU from the OEM states a metal brush can be used.
- Only use brushes which the Mfr. has designated specifically for the purpose of reprocessing medical devices.

Responsibility:

The Sterile Processing manager (or their designee) is responsible for ensuring staff training, initiation, completion, documentation, and analysis for the brushing policy for the department.

Sample Competency for Brushing:

Name:

Competency Statement: Complies with the healthcare facility's policy and procedure for brushing instruments in the processing area.

Key:
1 = Performs independently and consistently. Asks for assistance in new situations.
2 = Performs with minimal guidance and direction. Asks for assistance when necessary.
3 = Performs with maximal guidance and direction. Preceptor dependent. Consistently needs assistance.

Comments:
_____
_____
_____

Competency Achieved: _____ Date: _____

Evaluator: _____

Learner: _____

For both pre- and post-cleaning of the instrument, consider proper storage of the brushes. For reusable brushes, ensure that they are cleaned and disinfected or sterilized at the appropriate intervals as recommended by the brush manufacturer.

This document references standards and professional society guidelines do not state that the brush used to clean the instrument has to be the exact model number that is listed in the IFU. Healthcare facilities may choose a different brush model but become responsible for matching the instrument IFU's specifications. This document gives guidance on how to do that correctly and discusses the ASTM test methods a Mfr. should use to demonstrate the equivalence of their brush.

Critical Behavior	1	2	3
Wears the proper PPE per the facility policy because brushing is an act of cleaning that takes place in the decontamination area.			
Employee is aware brushing requires both friction and fluid to clean any item.			
Ensure selected cleaning solutions for the cleaning of any items with any type of brushes.			
Identifies the item and its surfaces to be cleaned by examining the external and internal surfaces.			
Reads/reviews IFU for any specific brushes for the item to be cleaned.			
Picks the brush(es) from the facility's inventory.			
Critical Behavior	**1**	**2**	**3**
Per Mfr.'s IFU cleans the outside surface while keeping the instrument completely under the waterline.			
Inspects the brush before use.			
After cleaning the exterior-surface, follow the IFU for cleaning the interior-surface. (If there is no interior surface, inspects the item for cleanliness. If clean, follow the IFU to the next step.)			
Cleans the interior-surface with the proper sized brush to match the diameter of the inner-surface of the item.			
Follows the correct method to clean the inner surface per the IFU.			

***References*:**

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3. AAMI. (2021). *ANSI/AAMI ST91:2021, Flexible, and semi-rigid Endoscope Processing in Health Care Facilities* [Section 7.6]. Association for the Advancement of Medical Instrumentation (AAMI).

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8. Basile, R. J., Kulkarni, K., Clark, S. (2019). New ASTM Test Methods to Evaluate Performance of Medical Device Cleaning Brushes, *PANAMERICAN FORUM*, 1/2019. 25-27.

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