

# Importance of Pretreating Surgical Instruments

## Test Your Knowledge of Pretreatment Product and Improve Practice of Cleaning Surgical Instruments.



### SECTION 1: The main attributes of best in class pretreatment product.

- Ready-to-use and of neutral pH
- Formulated to initiate pre-cleaning action at point-of-use
- The non-aerosol application covers the surfaces of the surgical instrument evenly and prevents bioburden from drying
- Capable of retaining on average 100% - 75% moisture in the first three hours, and afterward, 70% moisture up to 72 hours at 72F and 35% RH (relative humidity)
- Contains non-subtilisin based protease, and other enzymes such as lipase, and amylase
- Delivers superior pre-cleaning action without the presence of harsh carcinogenic components
- Easy to rinse; will not stick or cling to instrument surfaces
- Marine life safe
- Tested for the dermal irritation (direct patch) and ocular irritation (direct injection) according to the ISO 10993-10



### SECTION 2: Pros and Cons of Pretreatment Products.

	Single or Multi-enzyme Neutral Liquid (protease only)	Multi-Enzyme Neutral Liquid (protease, lipase, amylase)	Multi-Enzyme Neutral Liquid (subtilisin-free protease, lipase, amylase)	Non-enzymatic Neutral Liquid (free of enzymes)	Non-enzymatic Neutral Gel (free of enzymes)
<b>PROS</b>	Initiate pre-cleaning immediately with any soil or biofilm	Initiate pre-cleaning immediately with any soil or biofilm	Initiate pre-cleaning immediately with soil or biofilm	Best application for ophthalmic instruments pretreating	Localized application
<b>CONS</b>	Targets only blood and other proteins. Associated with TASS and respiratory issues.	Associated with TASS and respiratory issues.	None	Limited applications	May encapsulate bacteria and viruses

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## SECTION 3: Mode of pre-cleaning initiation with various products.

ACTION	WATER	CLEAR LIQUID	FOAM	BLUE LIQUID	BLUE FOAM	CLEAR GEL
Initial						
after 30 seconds						
1 min						
10 min						

These photos show the soil covered with pretreatment products delivered through different modes. You can see the differences.

The Pretreatment product’s role is to prevent bio-burden from drying. The solution lifts the soil, disperses the dirt, disrupts the pathogen network, and initiates the pre-cleaning action.

When applied, pretreatment has to comprehensively cover all of the bio-soil on the instrument, even that which is not visible to the naked eye.

The foam tends to be the easiest to see and will help you confirm that the instrument is fully covered. It also blocks the view of bio-soil completely.

When using Liquid or gel application, it is harder to determine if you have fully covered the instrument, especially if they don’t contain a dye.

Some manufacturers prefer adding a dye to a product for visual aid, but too much dye can stain instruments.

## SECTION 4: Clinical importance of pretreatment product.

- Restrict microorganisms from spreading
- Interrupt microorganism reproduction process
- Prevent microorganisms from aerosolizing
- Inhibit transmission of pathogenic organisms from a contaminated device to a patient or health care worker

Applying the pretreatment product, especially the product containing an active ingredient or ingredients such as enzyme(s), is the first defense against growing and spreading the pathogens into the environment.

Pretreatment is an effective “weapon” against microorganisms:

- Organisms are constrained
- Organisms activity is inhibited
- Organisms can’t quickly multiply
- Organisms can’t be lifted and land on other surfaces

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## SECTION 5: Proper pretreatment practice and types of risk mitigation.

RISK	MITIGATION
Formation of biofilm on instrument surfaces	<ul style="list-style-type: none"><li>• Pretreat using the enzymatic formulation</li><li>• Clean instruments as soon as possible after use</li></ul>
Shorter Instrument life due to corrosive effects of blood and soil	<ul style="list-style-type: none"><li>• Use of pretreatment product to aid in blood and soil removal</li><li>• Clean instruments as soon as possible after use</li></ul>
Disinfection and sterilization process compromised because of poor inactivation and removal of microorganisms	<ul style="list-style-type: none"><li>• Use of pretreatment product to aid in blood and soil removal</li><li>• Clean instruments as soon as possible after use</li></ul>
Cross Contamination due to improper containment of soiled instruments	<ul style="list-style-type: none"><li>• Use recommended instrument containers</li><li>• Proper marking of contaminated containers</li></ul>

There are many risks associated with poor pretreatment practices, which include:

- Biofilm formation
- Shorter Instrument life
- Poor Disinfection and sterilization of the instruments due to residual bioburden
- Potential for cross-contamination

Implementing proper policies and procedures related to instrument pretreatment can help mitigate these risks.

### SECTION 6: Review your pretreatment practice by asking yourself the following questions:

- Am I in compliance with regulations?
- Do I have an effective pretreatment policy and procedure?
- Does everyone know how to use the product?
- Do I have the right product to protect patients, SPD personnel, and instrument?
- Is the product non-toxic and non-irritant to skin and eyes?
- Do I have trial data to support my decision?
- Do I understand the consequences of my choices?

For more information, questions, or to request a CEU on pretreatment, please contact [consumables.us@belimed.com](mailto:consumables.us@belimed.com)

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