

# Every Time. Every Endoscope.

Date



# Learning Objectives

1

The importance of cleaning & cleaning verification

2

Hygiene management system for flexible endoscopes

# The Outbreaks: In the news but not new.....

*There is a well documented history of outbreaks*



# What is the issue?

In the past year there has been a significant increase in reports of outbreaks related to the use of Duodenoscopes for ERCP.



# Why is cleaning important?

- Surfaces are disinfected or sterilized in order to help prevent transmission of pathogens.
- All soil must be removed from surfaces as most disinfectants and sterilants do not penetrate through organic matter.
- Soil can protect microbes from the action of disinfection and sterilization. Surviving microbes have potential to be transmitted to another patient causing infection.
- Recommended Practices, Standards and Guidelines are beginning to emphasize the importance of monitoring the cleaning efficacy.



# Know The Difference

## Cleaning

- **Removal** of organic and inorganic soil
- Bacteria/soil is still present on surface
- Can be infectious

## High-Level Disinfection (HDL)

- Refers only to **microbial kill** under defined conditions.
- Kills vegetative cells
- Depends on disinfectant
- **Does not kill all bacterial spores**
- Proper cleaning is essential for effective disinfection.

## Sterilization

- **Kills** all living cells including spores
- Proper cleaning is essential for effective sterilization

# The Outbreak: No Consistent Root Cause

## How did the duodenoscopes become contaminated?

- Occult defects in the flexible endoscope
- Inadequate cleaning
  - Elevator Guidewire Channel, Elevator Mechanism, Suction/Biopsy Channel
- Complex design of duodenoscope
- Current Reprocessing Guidelines are not adequate
- Staff training, questions on competency

# Why are Flexible Endoscopes Difficult to Reprocess?

- Complex design
- Multiple, long, narrow channels that are difficult to clean
- Lack of consistent effective training
- Lack of time and resources for adequate reprocessing
- Visual inspection not adequate to monitor efficacy of reprocessing
- > 120 steps involved in reprocessing!!!!





# Just because it looks clean does not mean it is clean.....

- You can't see biological residues
- You can't see biofilm or microbes
- You can't see inside long narrow lumens

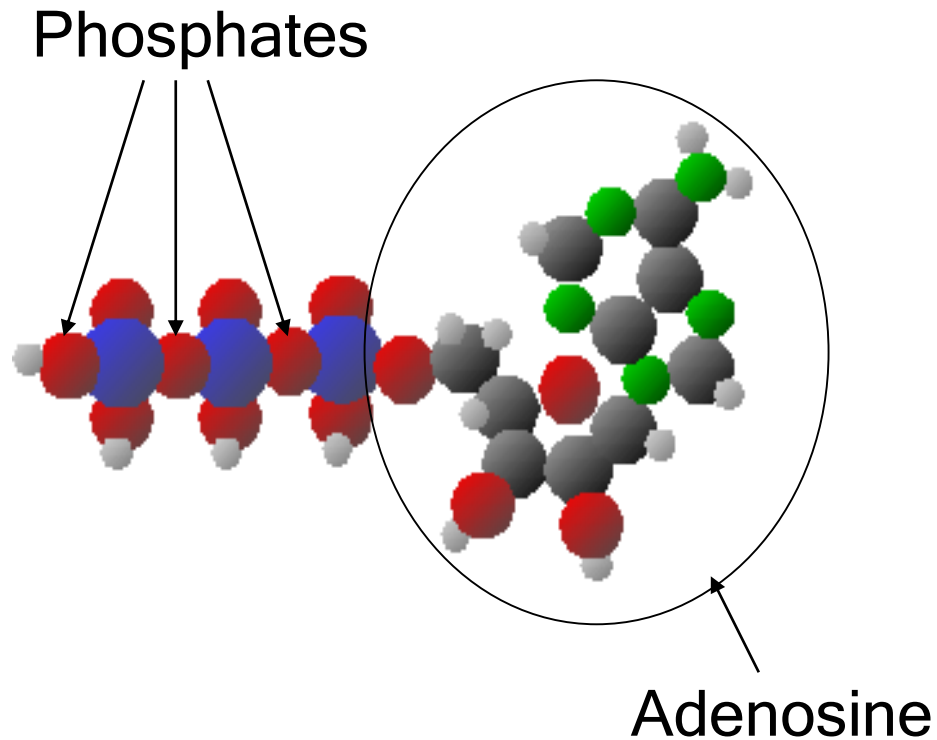


# What can we do now?

## Focus on Manual Cleaning

- It is a problem
- It is critical to success of HLD and Sterilization
- Lack of proper manual cleaning contributed to outbreaks
- It can be improved with monitoring cleaning efficacy
- Use validated, real-time indicators of cleaning efficacy
  - Commercially available kits that test for ATP, protein, hemoglobin, carbohydrate

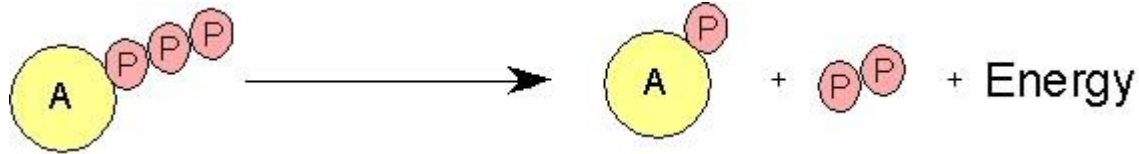
# What is Adenosine Tri-Phosphate (ATP)?



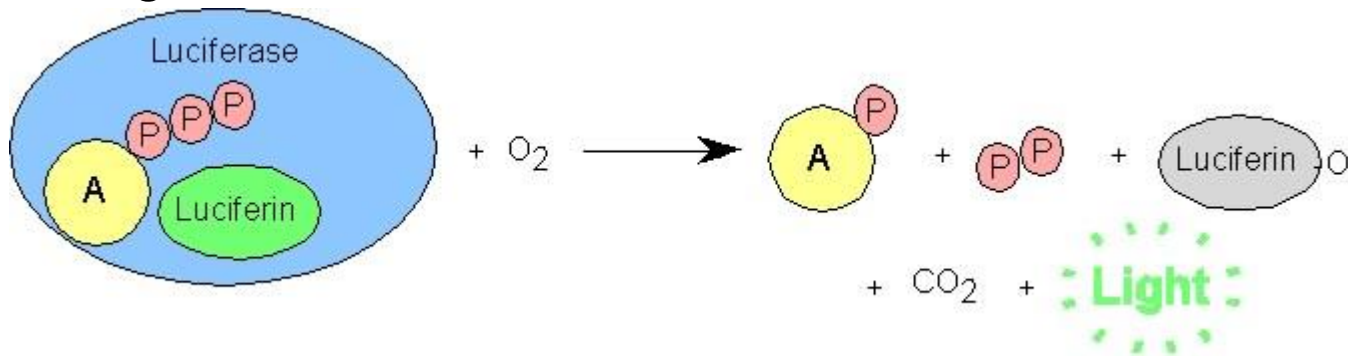
- ATP is present in ALL living cells
  - Microbes
  - Plants
  - Animals
  - Bodily Fluids
  - Secretions/Excretions
- ATP stores energy in the phosphate bonds.
- Carries energy to wherever it is needed inside cells

# ATP Bioluminescence Technology

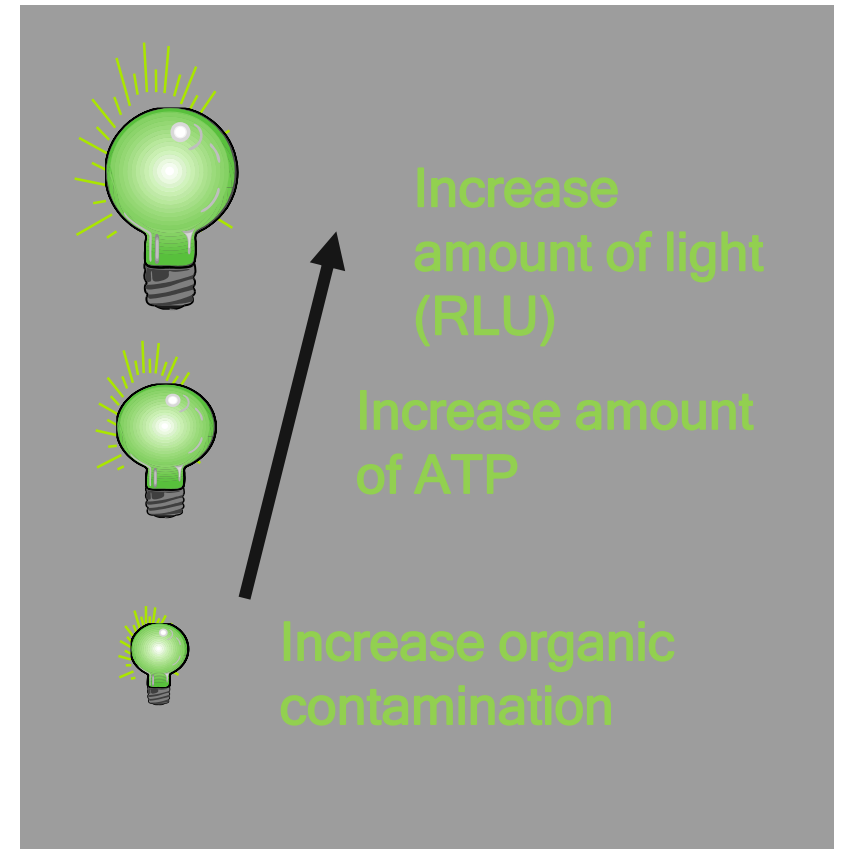
- In cells, ATP loses one or more phosphates to release energy



- Fire-fly Luciferase harnesses this energy to produce Light



## Simple Relationship



# 3M™ Clean-Trace™ Hygiene Management System for Flexible Endoscopes



**Sample**



**Click/Shake**



Results in 30 seconds

**Measure**

# Thank you!

# Any Questions?

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