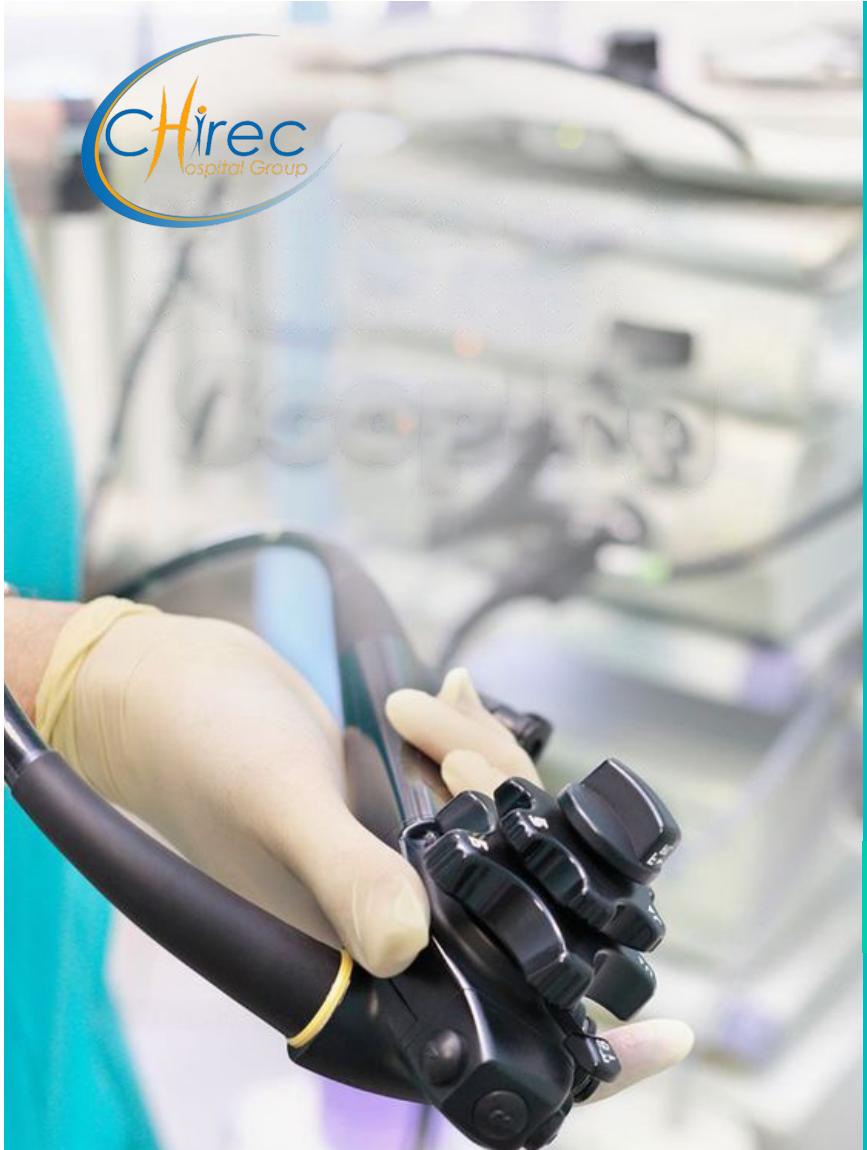


# Automation to battle current endoscope reprocessing issues & missing field knowledge

19-10-2023



Meet the Expert

**Martina Pinilla Reija**

Head of Endoscopy

Chirec

A portrait of Martina Pinilla Reija, a woman with short brown hair and glasses, wearing white medical scrubs with blue stripes and a name tag. She is standing in a clinical setting with medical equipment in the background.

**wfhs**  
World Federation for  
Healthcare Sciences



Martina Pinilla Reija

# + 25 Year Experience

More than 15 years in operating theatre

Februari 1999: endoscopy service CPL?

Medical technical services

2006: Reorganisation endoscopy service

Pain clinic

Vision pluri disciplinaire



Endoscopy formation



Centralisation  
High level  
disinfection



2006: TROS  
Procedures disinfection  
en microbiological  
control



Coordination  
different  
examination rooms  
+ rentability





## Group Chirec

5 hospitals



Parc Leopold



Chirec Delta

Ste. Anne - St. Remi  
Braine l'Alleud  
Edith Cavell  
Basilique  
Chirec Delta

4 day hospitals

Trône  
Europe Lambermont  
Jean Monnet  
Louise





**Mr Frédéric Cattoor**  
Cadre intermédiaire de  
l'endoscopie + hygiéniste -  
PCI du site Delta



**Mme Gretta Chehab**  
Infirmière d'endoscopie +  
référente hygiène



**Mme Sandy Moyse**  
Cadre intermédiaire des  
soins intensifs + hygiéniste  
PCI du site Delta



**Mme Lama Roukos**  
Infirmière d'endoscopie +  
référente hygiène

# Equipe hygiénistes



# Début endo 1999

**Service d'endoscopie CPL**  
**2 salles**

- Traitement des endoscopes dans le même local que les actes techniques
- À la glutaraldehyde
- Pré-nettoyage dans un évier avec marque + produit enzymatique dosage selon recommandation

**Plateau technique CPL**  
**4 salles**

- Pré-nettoyage et désinfection dans un local adapté entre 2 salles d'endoscopies.
- Selon recommandations + marque spécifique et dosage adapté



### 1. Bedside cleaning



### 2. Flushing



### 4. Brushing



### 3. Leakage test



### 5. Wiping





## Les machines

Ticket traçabilité machine	Semaine du .... au ....
	Semaine du .... au ....
	Semaine du .... au ....

## Self-désinfection





## Annexe 1.10 : Acte technique feuille de traçabilité par patient

### Traçabilité acte technique

Identification du patient
---------------------------

#### 1. Acte technique:

#### 2. Identification des praticiens:

Nom du médecin:

Nom de l'anesthésiste:

Nom de l'infirmière

#### 3. Date de l'examen:

Heure de début:

Heure de fin:

Salle d'examen:

#### 4. Liste du matériel utilisé:

N° de l'endoscope:

Matériel à usage unique utilisé (étiquette):

--

#### 5. Donnée sur la désinfection:

Manuelle / Machine:

N° machine:

Full traceability

1. Patient

2. Doctor  
Anesthesist  
Nurse

3. Examination  
(Date and hours)  
Room examination

4. Type of endoscope  
Single use instruments

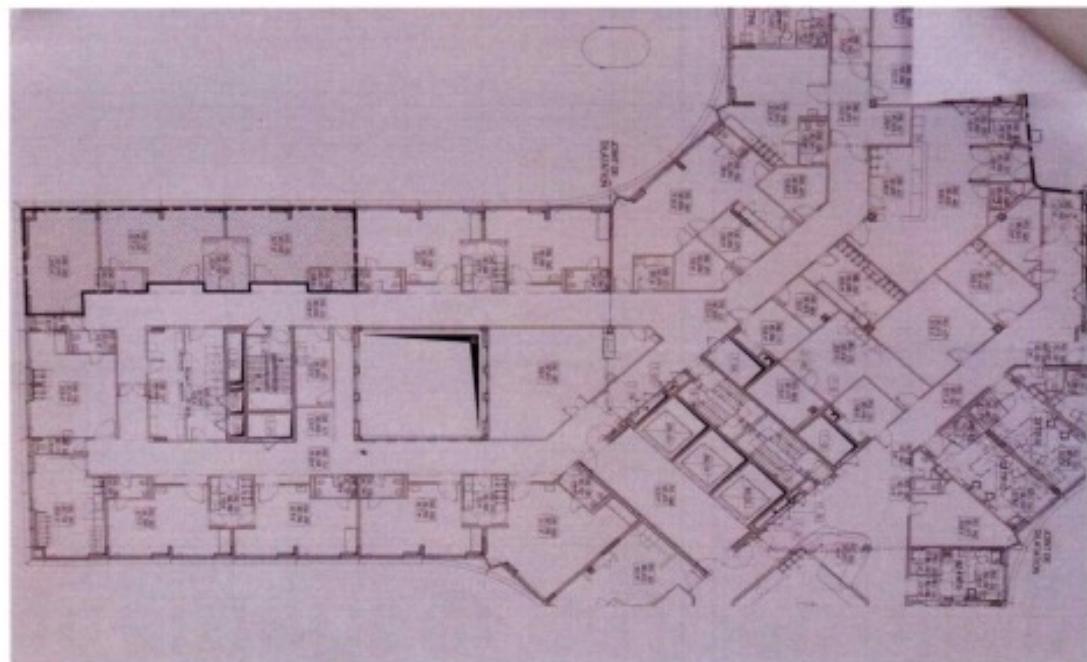
5. Disinfection  
Manual/machine  
N° machine

# 2017 Delta



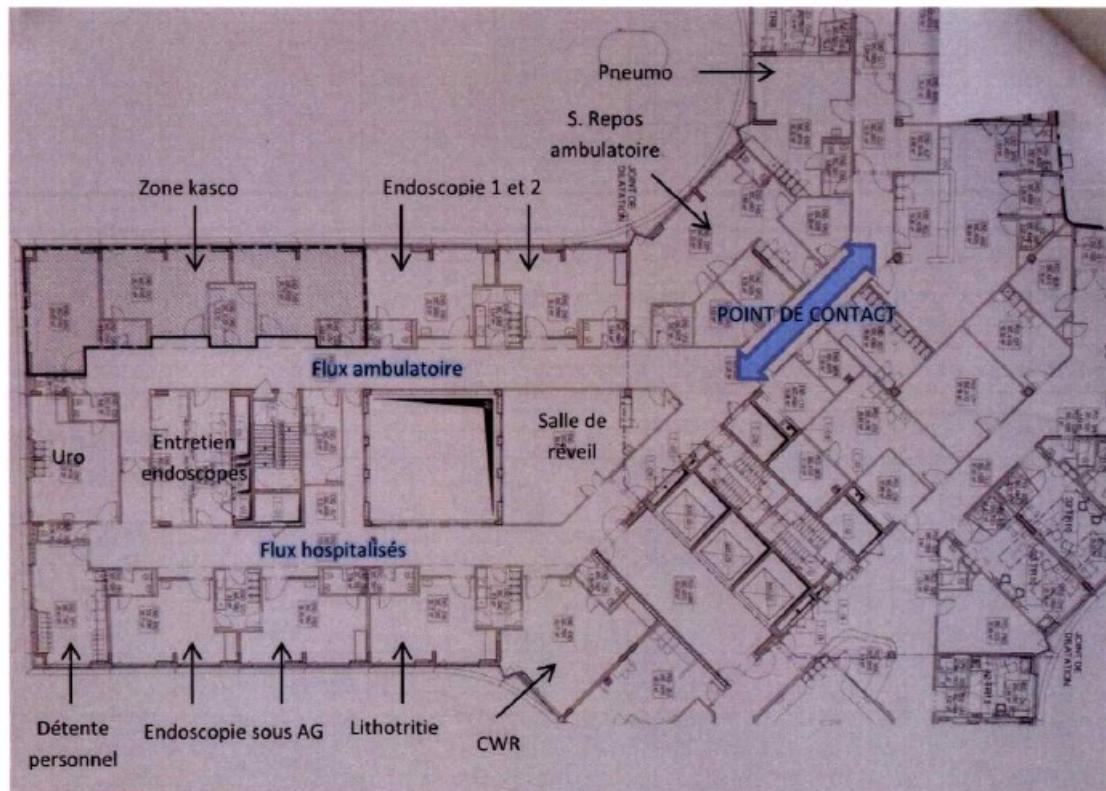
# Contexte - Capacité

- 7 salles d'endoscopies
  - 1 salle de lithotritie
  - 1 salle de réveil
  - 1 salle de repos
  - 1 salle pour traitement des endoscopes



### 3.1. Plan du plateau d'endoscopie

La nouvelle configuration des locaux du site Delta aura de nombreux impacts sur l'organisation et les flux au sein du service comme vous pouvez le voir sur le plan ci-dessous.



**Figure 1 - Plan du plateau d'endoscopie (Bureau d'architecture Assar)**



Left:

Automated pre-cleaning sinks

Right:

Pass through  
Washer disinfectors

# Comparison

Before:

Manual leakage test

Less precise

No control

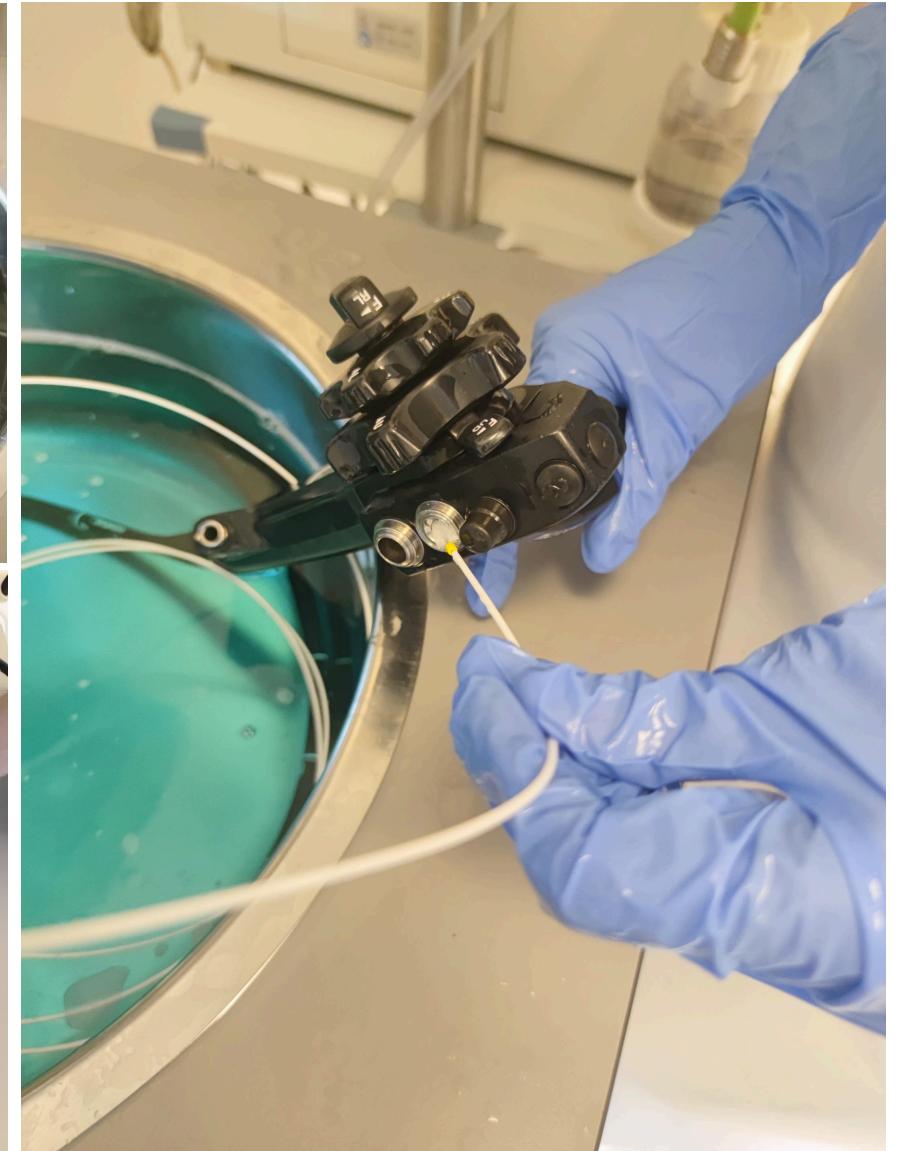
No traceability

Overload staff

Longer time to clean

Small and narrow sinks

...



# Comparison

After:

Automatic leakagetest

Safety using the right quantity chemistry

Control on water temperature

Control on contacttime chemistry

Larger quantity endoscopes

Higher capacity

ONE operator four sinks

...



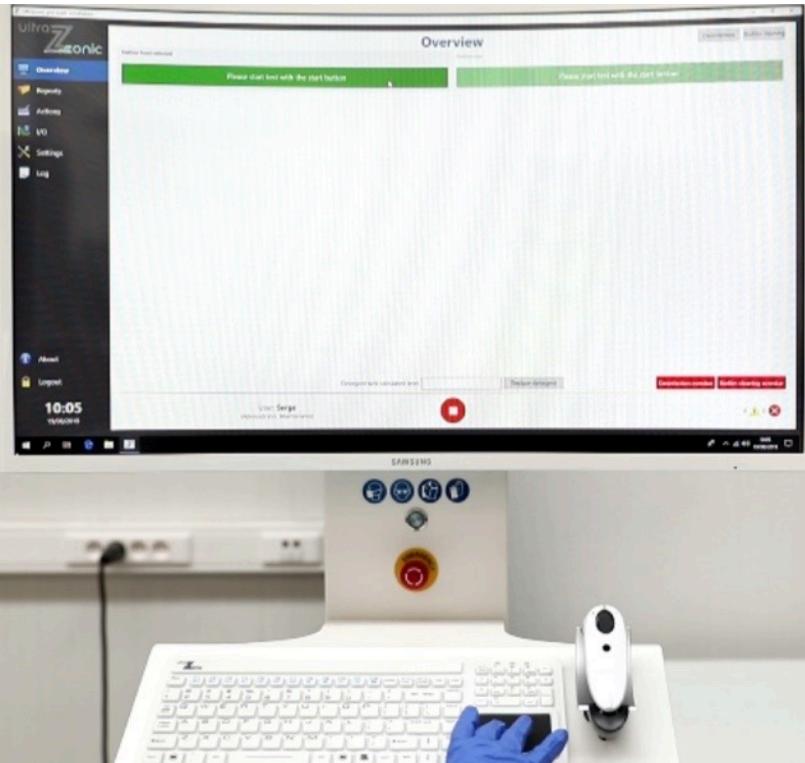


# Pre-cleaning phase

1. As soon as the examination is complete, rinsing the channels, check for insufflation and clean the outside of the endoscope with a damp cloth.
2. The endoscope is returned in its basket covered with red plastic (unfit for use) to the DM processing room.
3. 2 LAs take charge of the endoscope
4. Placement of the endoscope on the bench
5. Connection of all the channels with tubing adapted to each channel according to the type of endoscope.
6. Start the pre-cleaning program and scan the person carrying out the procedure = traceability
7. Launch of the various cleaning stages + brushing, etc.
8. Disconnection of the tubing and repositioning of the endoscope in the ad hoc basket + connection and transition to disinfection.
9. Disinfection of machines 3x/week, biofilm 2x/week
10. Table surface cleaning 1x/week and other product 1x/month



Barcode reader to trace :  
Sink  
Endoscope  
Patient  
Doctor  
Operator







## EVIDENCE



# Collecting dirt out of pump during circulation



FILTER with barcode

CLEAN FILTER

DIRTY FILTER



# CONNECTING THE ENDOSCOPE

- All channels connected
- 8 channel connections
- All channels flushed
- Easy in use



Ultrasonic pre-wash installation

# ultraZonic

## Overview

Station front selected

- Total elapsed time: 00:05:31
- Filter identifier:
- Endoscope: Scope 1
- Operator: Jan Janssen

**Connect endoscope**

Connector	Kleur	Code
S Kanaalschroef	n/a	09063103 or 09068105
L Leidstof	Rood	08491104
1 Luchtkanaal	Geel	08492103
2 Waterkanaal	Blauw	08493104
3 Afvoerkanaal	Oranje	08491102
4 Waterkanaal	Blauw	08491103
5 Extra kanaal	Wit	084914103
		Merkt endoscop Fujinon
		Kanaalaansluitcode 31

Press acknowledge button when ready

Station rear

Please start test with the start button

Detergent tank calculated level:  Replace detergent

User: Gert  
(Engineer, Maintenance)

Desinfection overdue Biofilm cleaning overdue

0 ! 0 X

2020 UltraZonic nv, All Rights Reserved

18:17 29/07/2019

**ultraZonic**

**Overview**

Station front selected

- Total elapsed time: 00:06:49
- Filter identifier:
- Endoscopes: Scope 1
- Operator: Jan Janssen
- Endoscope: Connected

**Leakage test**

Leakage test: Busy

Pressure (mbar)

Elapsed time (sec)

**Overview**

Station rear

Please start test with the start button

Desinfection Biofilm cleaning

**VIEW ON SCREEN FOLLOW UP LEAKAGE TEST**

18:19  
29/07/2019

About

Logout

**Chirec** capital Group

User: Gert  
(Engineer, Maintenance)

Detergent tank calculated level:

Replace detergent

Desinfection overdue Biofilm cleaning overdue

0 ! 0 X



GREEN LIGHT  
= SAFE & NO  
LEAKAGE  
DETECTED

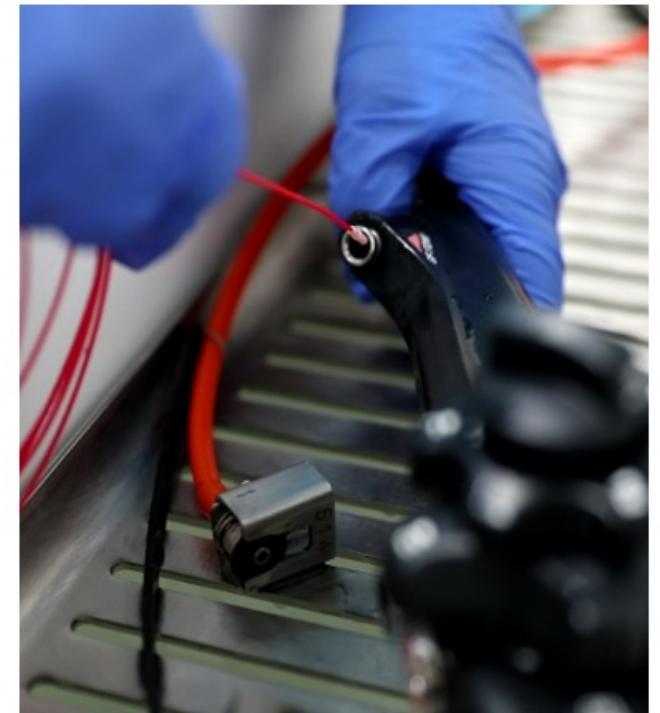




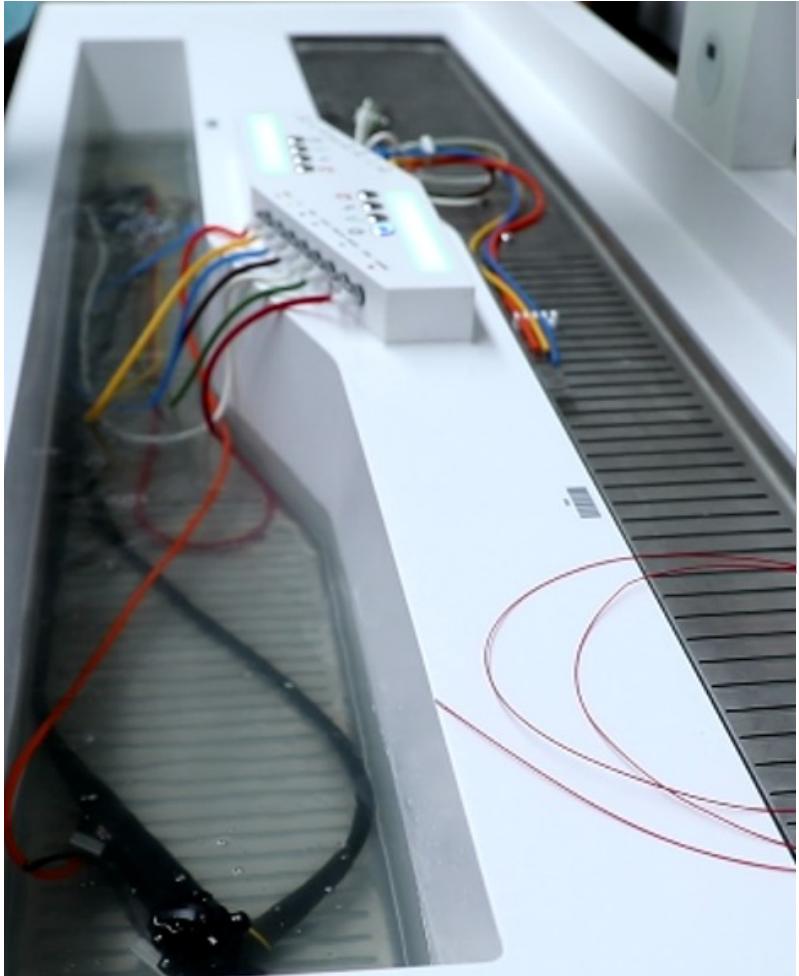
Dry leakagetest during two minutes on 200 milibar



Start channel rinsing of all channels  
BEFORE brushing



# BRUSHING PROCEDURE



## AFTER RINSING

- Re-connection of all channels
- After rinsing with clear water
- Endoscope de-connection
- After each procedure
- Automatic water draining
- Automatic rinse & cleaning bottom in sink due to inbuild sprinklers



## EXTRA SAFETY FEATURES



## REPORTING DATA SYSTEM

- Powerful reporting system
- Stores cycle data
- Tracks IDs: scopes, patient, physician, assistant
- Select/sort by cycle criteria
- Example: Report showing all patients who were examined with XX scope from October 1, 2019 to December 31, 2023
- Immediate report
- Mirrored hard drives for immediate data backup

Integrated communication between UltraZonic Endo & Washer disinfectors



# REPORTING DATA SYSTEM

**ultraZonic**

From 10/01/2020 [15] To 10/02/2020 [15] Search

ID	Log	Endoscope	Operator	Physician	Patient ID	Test Result	Actions
11081	1/23/2020 11:11 AM	BE09	Operator The	Doctor 01 The		No faults	
11080	1/22/2020 4:57 PM	BE09	Operator The	Doctor 01 The		No faults	
11079	1/22/2020 4:46 PM	BE09	Operator The	Doctor 01 The		No faults	
11078	1/22/2020 4:42 PM	BE09	Operator The	Doctor 01 The		No faults	
11077	1/22/2020 4:39 PM	BE09	Operator The	Doctor 01 The		No faults	
11076	1/22/2020 4:33 PM	BE09	Operator The	Doctor 01 The		No faults	
11075	1/22/2020 4:14 PM	BE09	Operator The	Doctor 01 The		No faults	
11074	1/22/2020 4:05 PM	BE09	Operator The	Doctor 01 The		No faults	
11073	1/22/2020 4:04 PM	BE09	Operator The	Doctor 01 The		No faults	
11072	1/17/2020 11:40 AM	BE09	Operator The	Doctor 01 The	y	No faults	
11071	1/17/2020 11:33 AM	BE09	Operator The	Doctor 01 The	001	No faults	
11070	1/16/2020 3:20 PM	BE09	Operator The			No faults	

Free disk space: 908953.04 MB

Run number: 17  
Front sink: 13  
Rear sink: 4

User: Administrator  
(Administrator, Engineer, Maintenance, Operator)

0 0

**CLICK ON EYE**



# REPORTING DATA SYSTEM

**Report**

Back

Logtime: 1/22/2020 4:39 PM      Leakage test measuring results:

Run number: 11  
Run number (sink): 3  
Sink: Back  
Total cycle time: 00:04:43  
First flushing time: 30  Pump  
Brushing time: 13  
Second flush time: 30  Pump  
Water temperature: 15  
Endoscope: BE09  
Operator: Operator The  
Physician: Doctor 01 The  
Test Result: No faults  
Test Comment: Test successful

Pressure (mbar)

Elapsed time (sec)

Recorded video during brushing:

Play   Pause   Stop

---

About   Logout

10:33   04/02/2020

Run number: 17  
Front sink: 13  
Rear sink: 4

User: Administrator  
(Administrator, Engineer, Maintenance, Operator)

0 ! 0 X

10:33   04/02/2020

# EXTRA SAFETY FEATURES

## Extra added cycles

### UltraZonic ENDO

#### • Disinfection program

Program integrated to disinfect the device:

Sinks, drain and internal tubes are validated

disinfected

#### • Biofilm removal program

Program integrated to destroy biofilm in the device



#### 5.4.2 DETERGENTS

Depending on the selected procedure, your basin is filled with a specific additive. One can find the correct product description of the used chemicals in the attachments.

#### 5.4.3 DISINFECTION CYCLE

When you want to start the disinfection cycle, you need two flacons of Nosoprotect. Each basin needs to be filled with one flacon of Nosoprotect (500ml).



The disinfection-cycle will take about 25 minutes, after which the device will be ready to use. This cycle can best be done in the morning. We advise you to perform this cycle this at least three times a week.



#### 5.4.5 USER'S GUIDE

Before you can start your desired cycle, you need to make sure your cleaning tube set is attached to the ENDO device. Attach the cleaning tube sets to both sides. (consoles). If all is prepared, please navigate towards the home screen. (see picture previous page).



## Duodéno + Echo-endo

## Lexique

0 : négatif

1 : positif

## FD : frottis distal

## FPR : frottis piston rouge

## FPB : frottis piston bleu

## **FB : frottis biopsie**

## C : culture

## R : réparation

## D : déclass



## **Broncho + Cysto + Broncho réa**

## Gastroscopes

Lexique

- 0 : négatif**
- 1 : positif**
- FD : frottis distal**
- FPR : frottis piston rouge**
- FPB : frottis piston bleu**
- FB : frottis biopsie**
- C : culture**
- R : réparation**
- D : déclassé**



# Colonoscopes



White paper

# Effectiveness study

May 2023

Presented by

Pawel de Sternberg Stojalowski



## DEMONSTRATING THE EFFECTIVENESS OF A SEMI-AUTOMATED PRE-CLEANING PROCESS FOR FLEXIBLE ENDOSCOPES

Theme: endoscope reprocessing

May 26<sup>th</sup>, 2023

### Contributing parties:



Microsoft Teams

# Research

2023-10-11 15:20 UTC

Recorded by

Pawel de Sternberg  
Stojalowski

Organized by

Pawel de Sternberg  
Stojalowski



# Thank you!

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**Martina Pinilla Reija**  
Head of Endoscopy  
Chirec

