



Automation to battle current endoscope reprocessing issues & missing field knowledge

19-10-2023





Meet the Expert

Martina Pinilla Reija

Head of Endoscopy

Chirec





Martina Pinilla Reija + 25 Year Experience

More than 10 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
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Mme Sandy Moyse
Cadre intermédiaire des
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Mme Gretta Chehab
Infirmière d'endoscopie +
référente hygiène



Mme Lama Roukos
Infirmière d'endoscopie +
référente hygiène

Equipe hygiénistes



Début endo 1999

Service d'endoscopie CPL 2 salles

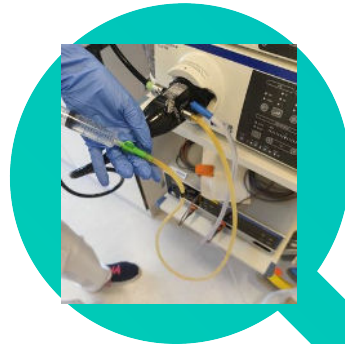
- Traitement des endoscopes dans le même local que les actes techniques
- À la glutaraldehyde
- Pré-nettoyage dans un évier avec marque + produit enzymatique dosage selon recommandation

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



3. Leakagetest

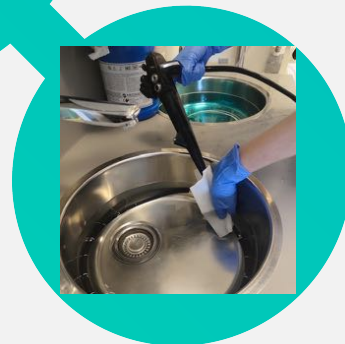
2. Flushing



4. Brushing



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
Anesthetist
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.

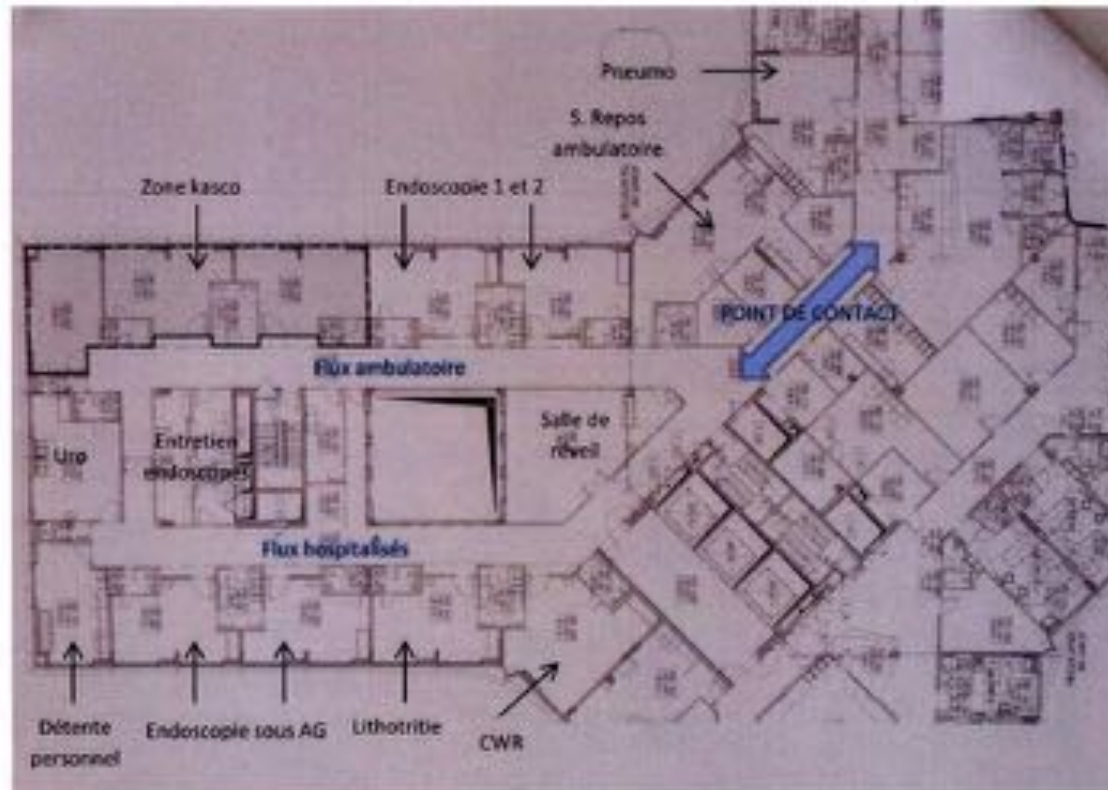


Figure 1 - Plan du plateau d'endoscopie (Bureau d'architecture Assar)



Left:

Automated pre-cleaning sinks

Right:

Pass through
Washer disinfectors



Comparison

Before:

Manual leakage test

Less precise

No control

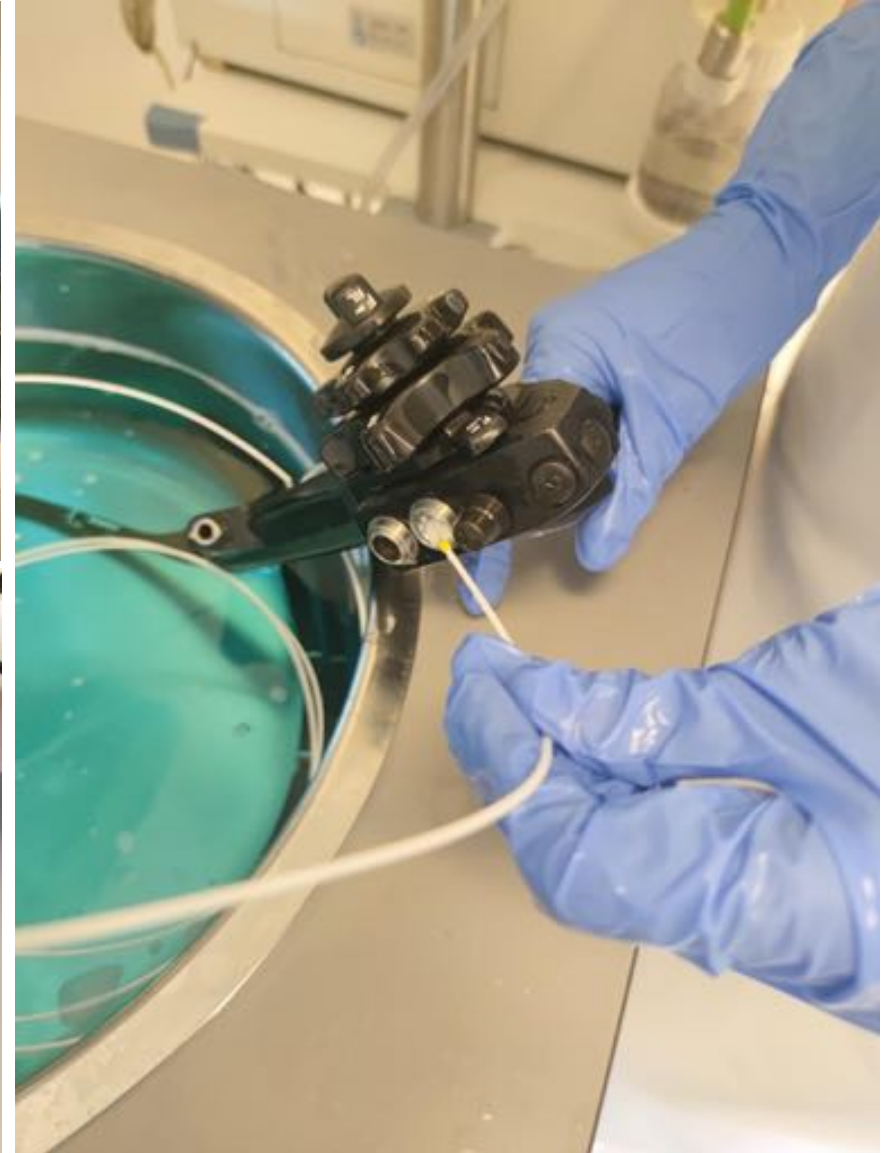
No traceability

Overload staff

Longer time to clean

Small and narrow sinks

...



Comparison

After:

Automatic leakagetest

Safety using the right quantity chemistry

Control on water temperature

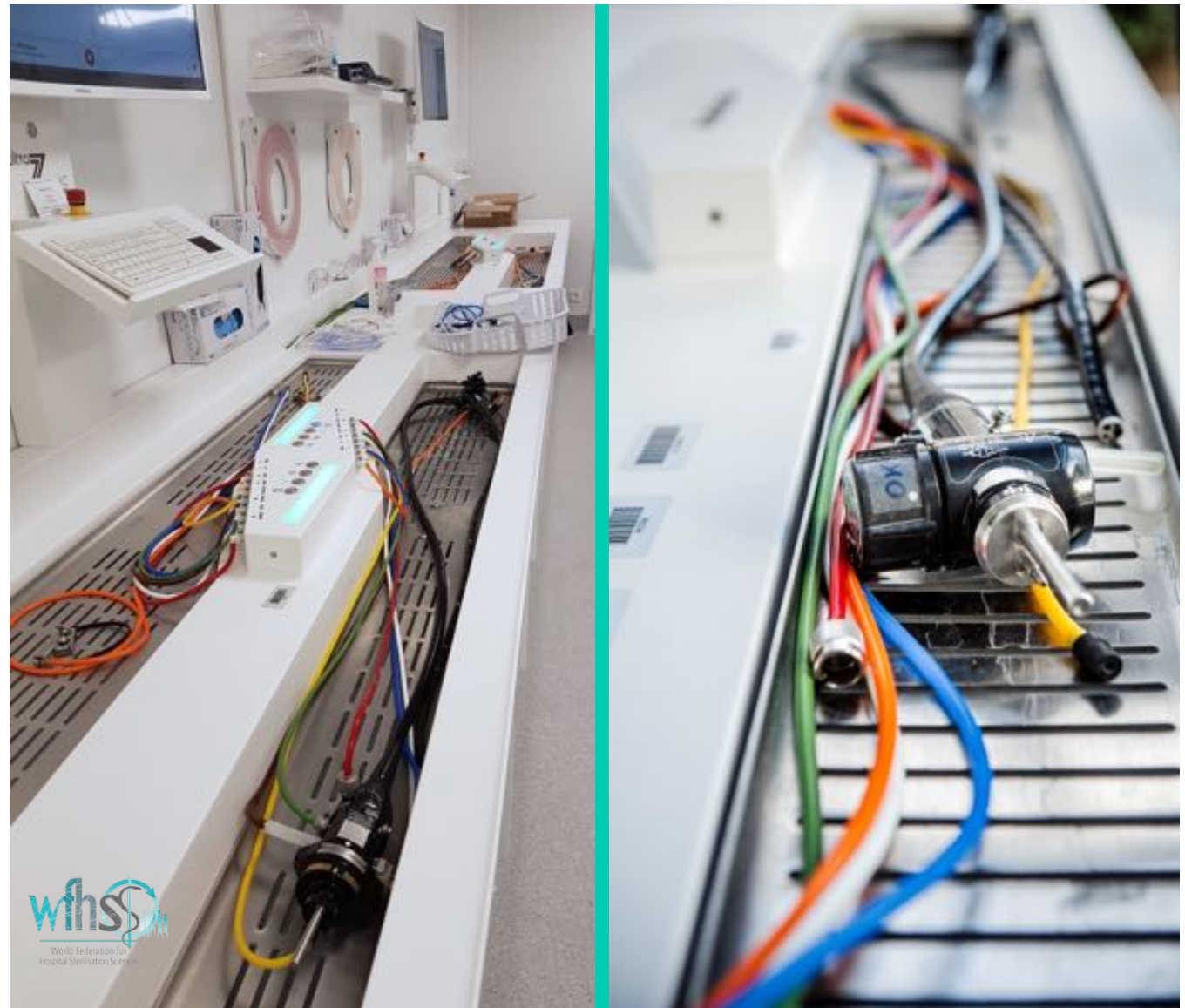
Control on contacttime chemistry

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



ultraZonic

- Overview
- Reports
- Actions
- UD
- Settings
- Log

About

Logout

18:17
26/03/2019

Overview

Disinfection Buffer cleaning

Notice board selected

- Total elapsed time: 00:02
- Filter identifier:
- Disinogen: Trizec 1
- Operator: In Control

Connect endowings

Endowings	Color	Material	Length	Diameter	Weight	Status
1	Red	...	...	...	...	...
2	Grey	...	...	...	...	...
3	Blue	...	...	...	...	...
4	Yellow	...	...	...	...	...
5	Black	...	...	...	...	...

View endowings folder when ready

Please start test with the start button

Disinogen tank calculated level: Refresh disinogen

Disinfection number Buffer cleaning number



User: Gert
Engineer: Maintenance



Overview

Documentation | Refresh screen

Station Head selected

- Sub-assembly Name: 010101
- Filter identifier:
- Sub-assembly: 10001
- Operation: 1010000
- Sub-assembly: 1000000

Leakage test

Leakage test: Test

Elapsed time (sec)	Pressure (mbars)
0	0
5	200
10	200
20	200
30	200
40	200
50	200
60	200
70	200
80	200
90	200
100	200
110	200
120	200

Please start test with the start button

VIEW ON SCREEN FOLLOW UP LEAKAGE TEST

Chirec Hospital Group

Target test calculated level: Refresh delegates

User: Gert (Engineer, Workman) | Refresh screen | Refresh loading screen

System status icons: Warning, Error



GREEN LIGHT
= SAFE & NO
LEAKAGE
DETECTED





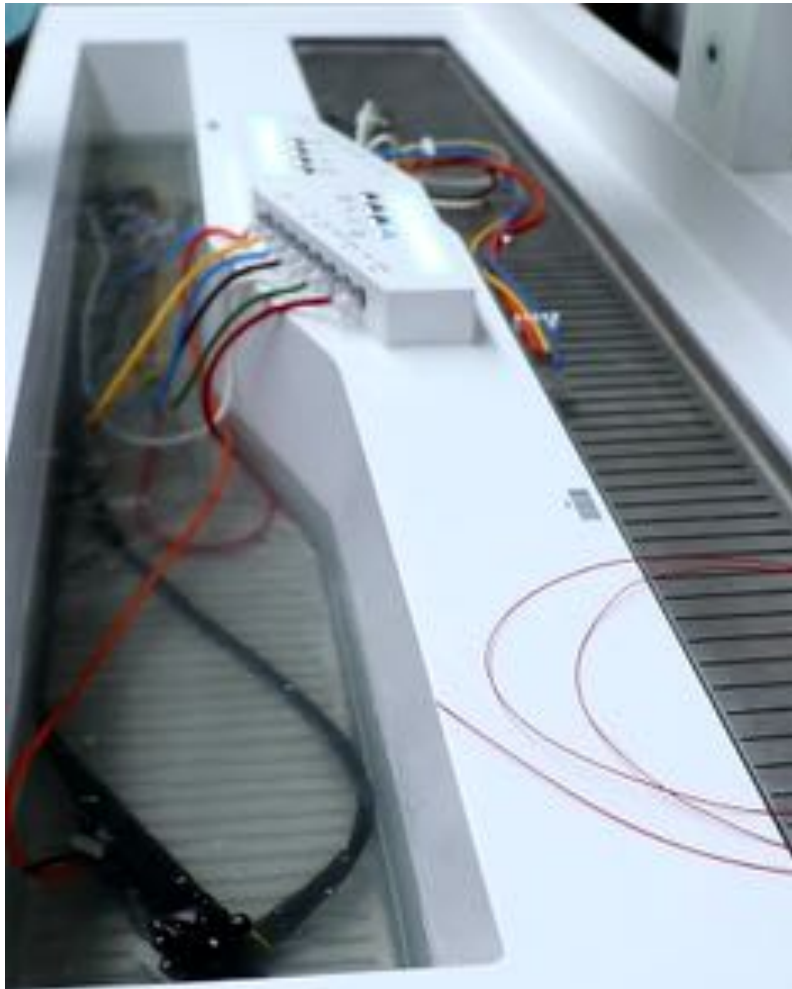
Dry leakagetest during two minutes on 200 milibar



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

Reports

From: 1/1/2024 To: 1/1/2024 Search

ID	Reg	Message	Operator	Physician	Message	Referral	Notes
1486	1101000-111-044	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input checked="" type="checkbox"/>
1488	1101000-41174	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input type="checkbox"/>
1491	1101000-44074	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input type="checkbox"/>
1493	1101000-44074	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input type="checkbox"/>
1497	1101000-41074	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input type="checkbox"/>
1499	1101000-41074	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input type="checkbox"/>
1495	1101000-14174	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input type="checkbox"/>
1496	1101000-11074	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input type="checkbox"/>
1492	1101000-14074	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input type="checkbox"/>
1490	1111000-114-044	800	Operator-Pe	Stacy-Dr-Pe		No-Info	<input type="checkbox"/>
1494	1111000-114-044	800	Operator-Pe	Stacy-Dr-Pe	801	No-Info	<input type="checkbox"/>
1498	1174000-14174	800	Operator-Pe			No-Info	<input type="checkbox"/>

CLICK ON EYE

09:49
1/1/2024

User: Administrator
Administrative Engineer, Maintenance Operator



REPORTING DATA SYSTEM

Zonic

Reports

Back

Report

Estimated working results

Pressure (MPa)

Related video during working

Play **Next** **Stop**

10:33
14/10/2024

User Administrator
Administrator Engineer Maintenance Operator

10:33
14/10/2024

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 in the 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.



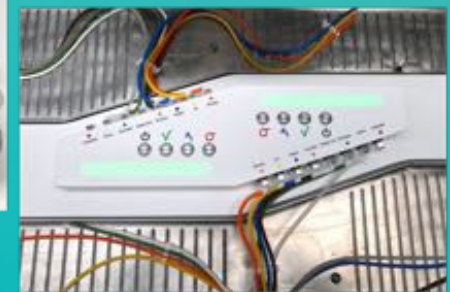
When you want to run the biofilm elimination cycle, you need two flacons of NosoZym 6 plus. Each basin needs to be filled with one flacon of NosoZym 6 plus (500ml).



Biofilm cleaning takes about 1 hour and 30 minutes. Therefore, it is recommended to run this procedure at the end of the working day. 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

Noms de la procédure	code tarif	ENCADRE	Mois													
			janvier	février	mars	avril	mai	juin	juillet	août	septembre	octobre	novembre	décembre		
DUODÉNO																
GP-DUODÉNO	GP	GP-DUODÉNO														
GP-DUODÉNO	MF	GP-DUODÉNO														
ECHO-ENDO																
GP-ECHO-ENDO	GP-M	GP-ECHO-ENDO														
GP-ECHO-ENDO	MF-M	GP-ECHO-ENDO														
EXAMEN CANN																
GP-EXAMEN CANN	MF	GP-EXAMEN CANN														

Legend:

- S : signal
- T : positif
- FD : trottinette distal
- FPD : trottinette piston rouge
- FPB : trottinette piston bleu
- FB : trottinette biphasé
- C : culture
- R : réparation
- D : Défectueux

Broncho + Cysto + Broncho réa

Modèle et N° de série	code bar	ENCODAGE	Mois																								
			janvier		février		mars		avril		mai		juin		juillet		août		septembre		octobre		novembre		décembre		
			FD	A	FD	A	FD	A	FD	A	FD	A	FD	A	FD	A	FD	A	FD	A	FD	A	FD	A	FD	A	
BRONCHOSCOPES																											
BP-113000 2123807	333	BP113000																									
BP-113000 2300937	367	BP113000																									
BP-113000 2349347	363	BP113000																									
BP-113000 2349774	364	BP113000																									
BP-103000 2033375	365	BP103000																									
BP-103000 2077700	366																										
BP-103000 2122888	373	BP103000																									
190000 Eau 100																											
BRONCHOSCOPIE																											
	368	NL 10000																									
	369	NL 10000																									
	370	NL 10000																									
	371	NL 10000																									
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	379	NL 10000																									
	380	NL 10000																									
CYSTOSCOPES																											
CYF-80120000	339	CYF80120000																									
CYF-80120000	336	CYF80120000																									
CYF-80120000	337	CYF80120000																									
CYF-80120000	338	CYF80120000																									
CYF-80120000	335	CYF80120000																									

Légende

- R : réparé
- F : posé
- FD : sortie dorsal
- FPB : sortie piston rouge
- FPB : sortie piston bleu
- FB : sortie bipolaire
- C : culture
- R : réparation
- D : défectueux



Colonoscopes

Modèle et N° de série	code Item	EMBALLAGE	Plan														
			janvier	février	mars	avril	mai	juin	juillet	août	septembre	octobre	novembre	décembre			
Colonoscope																	
CF-198R/29A25R	48	CF-237/300R	■	■	■	■	■										
		Ligne	■	■	■	■	■										
		20000	■	■	■	■	■										
		50000	■	■	■	■	■										
CF-198R/29A25R	48	CF-237/300R		■	■	■	■	■									
CF-198R/29A25R	48	CF-237/300R		■	■	■	■	■	■								
		Ligne		■	■	■	■	■									
		20000		■	■	■	■	■									
		50000		■	■	■	■	■									
CF-198R/29A25R	48	CF-237/300R			■	■	■	■	■								
CF-198R/29A25R	48	CF-237/300R			■	■	■	■	■								
CF-198R/29A25R	48	CF-237/300R			■	■	■	■	■								
		Ligne			■	■	■	■	■								
		20000			■	■	■	■	■								
		50000			■	■	■	■	■								
CF-198R/29A25R	48	CF-237/300R					■	■	■	■							
CF-198R/29A25R	48	CF-237/300R					■	■	■	■							
		Ligne					■	■	■	■							
		20000					■	■	■	■							
		50000					■	■	■	■							
CF-198R/29A25R	48	CF-237/300R							■	■	■						
CF-198R/29A25R	48	CF-237/300R							■	■	■						
		Ligne							■	■	■						
		20000							■	■	■						
		50000							■	■	■						
CF-198R/29A25R	48	CF-237/300R									■	■					
CF-198R/29A25R	48	CF-237/300R									■	■					
		Ligne									■	■					
		20000									■	■					
		50000									■	■					
CF-198R/29A25R	48	CF-237/300R										■	■				
CF-198R/29A25R	48	CF-237/300R										■	■				
		Ligne										■	■				
		20000										■	■				
		50000										■	■				



White paper

Effectiveness study

May 2023

Presented by

Pawel de Sternberg Stojalowski



Microsoft Teams

Research

2023-10-11 15:20 UTC

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Thank you!

Martina Pinilla Reija
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