

Importance of instrument tracking- for a safe patient journey

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Biography

Jonna Rautiainen is currently working as a Charge Nurse at Al Jalila Children's Specialty Hospital in Dubai UAE for the Operating Suite. She successfully received her Bachelors' Degree of Nursing from Pirkanmaa Polytechnic in Finland. She started her career at Meilahti University Hospital Operating Room in 2004. After working for over 4 years in Finland, she commenced her journey into the Gulf in Riyadh, Saudi Arabia and worked as a Registered Nurse in National Guard - and King Faisal hospital Operating Rooms, specialized for adult and pediatric cardiac surgeries and kidney, liver, heart and lung transplants. After 7 years of thorough practice in Saudi Arabia, Jonna shifted borders and moved to Dubai. Jonna has been a part of the pilot batch at the Al Jalila Children's Specialty Hospital since hospital was commenced year 2015. She continues to highlight importance of the team work within their multidisciplinary team to ensure that high standards of the hospital are met to the fullest.

Learning objectives

Highlight sterile processing department's role in patient safety

Describe appropriate documentation on the sterilization process

Explore benefits of automated computer systems for instrument tracking

Patient safety -
CENTRAL STERILE DEPARTMENT
has an important role in this!

Patient Safety is

The absence of preventable harm to a patient during the
process of health care

and

Reduction of risk of unnecessary harm associated with
better health care to an acceptable minimum.
(WHO Guidelines for safe surgery)

Patient safety and Central Sterile Department

To ensure patient safety, the health care facility must prevent cross contamination and improve patient safety by proper reprocessing and handling of devices

To ensure patient safety, the health care facility must be able to track to whom patient sterilized items were used-
traceability



"It's worse than a piece of surgical equipment.
We accidentally left the surgeon inside you."

Bodies providing safety guidelines for Central Sterile Department:

Joint Commission International (JCI)

Association of periOperative Registered Nurses (AORN)

Association of the Advanced Medical Instrumentation (AAMI)

The Centers for Disease Control and Prevention (CDC)

Joint Commission International

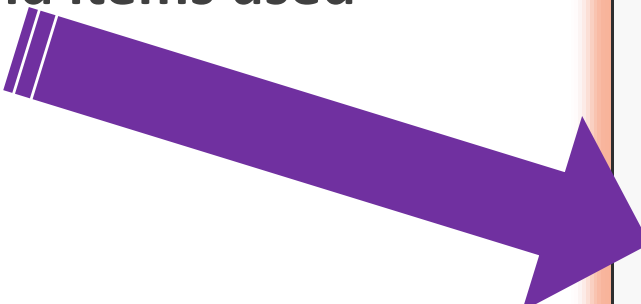


Joint Commission International (JCI) **works to improve patient safety and quality of health care in the internationally** by offering [education](#), [publications](#), [advisory services](#), and international [accreditation](#) and [certification](#). **In more than 100 countries**, JCI partners with hospitals, clinics, and academic medical centers; health systems and agencies; government ministries; academia; and international advocates to promote rigorous standards of care and to **provide solutions for achieving peak performance**.

Joint Commission International

Year 2005 The Joint Commission developed **Universal protocol to avoid wrong site, wrong surgery, wrong patient errors.**

Part of this protocol includes verifying the Instruments and items used in surgery!



Surgical Safety Checklist		
World Health Organization		Patient Safety
Before induction of anaesthesia (with at least nurse and anaesthetist)	Before skin incision (with nurse, anaesthetist and surgeon)	Before patient leaves operating room (with nurse, anaesthetist and surgeon)
Has the patient confirmed his/her identity, site, procedure, and consent? <input type="checkbox"/> Yes <input type="checkbox"/> No	Confirm all team members have introduced themselves by name and role. <input type="checkbox"/> Yes <input type="checkbox"/> No	Nurse Verbally Confirms: <input type="checkbox"/> The name of the procedure <input type="checkbox"/> Completion of instrument, sponge and needle counts <input type="checkbox"/> Specimen labelling (read specimen labels aloud, including patient name) <input type="checkbox"/> Whether there are any equipment problems to be addressed
Is the site marked? <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable	Has antibiotic prophylaxis been given within the last 60 minutes? <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable	To Surgeon, Anaesthetist and Nurse: <input type="checkbox"/> What are the key concerns for recovery and management of this patient?
Is the anaesthesia machine and medication check complete? <input type="checkbox"/> Yes <input type="checkbox"/> No	Anticipated Critical Events To Surgeon: <input type="checkbox"/> What are the critical or non-routine steps? <input type="checkbox"/> How long will the case take? <input type="checkbox"/> What is the anticipated blood loss? To Anaesthetist: <input type="checkbox"/> Are there any patient-specific concerns? To Nursing Team: <input type="checkbox"/> Has sterility (including indicator results) been confirmed? <input type="checkbox"/> Are there equipment issues or any concerns?	
Is the pulse oximeter on the patient and functioning? <input type="checkbox"/> Yes <input type="checkbox"/> No	Is essential imaging displayed? <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable	
Does the patient have a: Known allergy? <input type="checkbox"/> No <input type="checkbox"/> Yes		
Difficult airway or aspiration risk? <input type="checkbox"/> No <input type="checkbox"/> Yes, and equipment/assistance available		
Risk of >500ml blood loss (Timing in children)? <input type="checkbox"/> No <input type="checkbox"/> Yes, and two 200ml blood access and fluids planned		

This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.

Revised 1 / 2009 © WHO, 2009

Association of periOperative Registered Nurses



The **Association of periOperative Registered Nurses (AORN)** represents more than 41,000 registered [nurses](#) in the United States^[2] and abroad who facilitate the management, teaching, and practice of [perioperative nursing](#), or who are enrolled in nursing education or engaged in perioperative research. Its members also include perioperative nurses who work in related business and industry sectors.

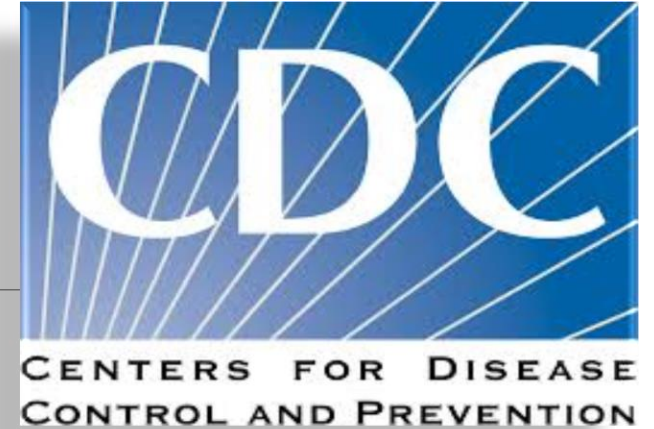
The Association for the Advancement of Medical Instrumentation



The **Association for the Advancement of Medical Instrumentation** (AAMI) is an organization for advancing the development, and safe and effective use of [medical technology](#).

More than 7,000 individuals, [hospitals](#), and medical device manufacturers are members of AAMI

The Centers for Disease Control and Prevention



The **Centers for Disease Control and Prevention (CDC)** are a [United States federal agency](#) under the [Department of Health and Human Services](#). It works to protect [public health](#) and [safety](#). It provides information to [enhance](#) health [decisions](#). The CDC works on [environmental health](#), [occupational safety and health](#), [health promotion](#), [injury prevention](#) and [education](#) activities designed to improve the [health](#) of the people of the United States.



Documentation ensures traceability and verifies correct practice use

Each health care facility should have record- retention policy

Documentation helps to determine when Re Call is necessary (positive BI/ nonresponsive CI)

Provides evidence to quality control program

AORN recommendation for Sterilizer record keeping and documentation

- a) Date And time
- b) Identification of instruments
- c) Method and verification of cleaning and results of cleaning audits
- d) Number of identifier of the mechanical instrument washer and results of washer efficacy testing
- e) Name of the person performing the cleaning and decontamination
- f) Lot numbers of cleaning agents
- g) Testing results for insulated instruments
- h) Disposition of detective equipment
- i) Maintenance of cleaning equipment

AAMI recommendation for Sterilizer record keeping and documentation

- a) The lot number
- b) The specific content of the lot or load, including quantity, department and a specific description of the items
- c) Exposure time and temperature
- d) The name or initials of the operator
- e) The results of biological testing (if applicable)
- f) Bowie- Dick testing results (if applicable)
- g) The response of the CI placed in the PCD

Documentation- Manual record keeping?

Time consuming

Labor intensive

Retrieving information is difficult

Requiring storage space

Accurate data? Chance of error!

For manual record keeping, few tips that can help:

Standardization of trays

Color coding

Correct type of sterilization containers



Documentation- Automated tracking system?

Easy management of inventory

Instructional features

Preventive maintenance reminder

Accurate data

Can be expensive investment!

Good automated tracking system can enhance patient safety:

1. Missing/ mismatched items in surgical trays

Automated system can identify correct instruments to correct trays and missing instruments

2. Accurate documentation

Automated system prints out accurate labels, verify content of the trays, data and quality reports, inventory

3. Timely reprocessed expired sets

Automated system identifies expired items for reprocessing on time

Good automated tracking system can enhance patient safety:

4. Cycle tracking

Automated system informs exact cycle counts each instruments

5. Access to manufacturer's instructions for care and maintenance for each instrument

6. Quicker turn around time

7. Integration with Electronic Medical Record

Automated instrument tracking systems available in the market:

Stemato/ Besco

CensiTrac/ Censis

SynergyTrak/ Steris

IMPRESS/ Becton Dickinson

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Al Jalila Children's Specialty Hospital Central Sterile Supply Department

Team of 6 Technicians and Nurse Manager

Our Equipment:

Two (2) Steam Sterilizers/ Getinge Group

One (1) Low Temperature Sterilizer (Plasma)/ Getinge Group

Four (4) Washers-Disinfector/ Getinge Group



Al Jalila Children's Specialty Hospital Central Sterile Supply Department

We are using T-DOC system/ Getinge Group

Computers utilized for data keeping and tracking:

1 Decontamination PC

3 Packing Area PC

2 Sterile and Dispatch Area PC

3 Admin PC

1 OR PC (not in use)

T-DOC

Item documentation to database

1. Items are added and registered to the system manually (Super users)

2. Details of each item can be as following:

- Item identified to customer group (OR, PACU, OPD, NICU, PICU...)
- Item product code
- Item warranty (not in use)
- Item End of Life notification (not in use)
- Total Count of items
- Washer program to be used
- Sterilizer program to be used
- Packing material to be used

3. Item will be identified as a **Single item (supplementary)**

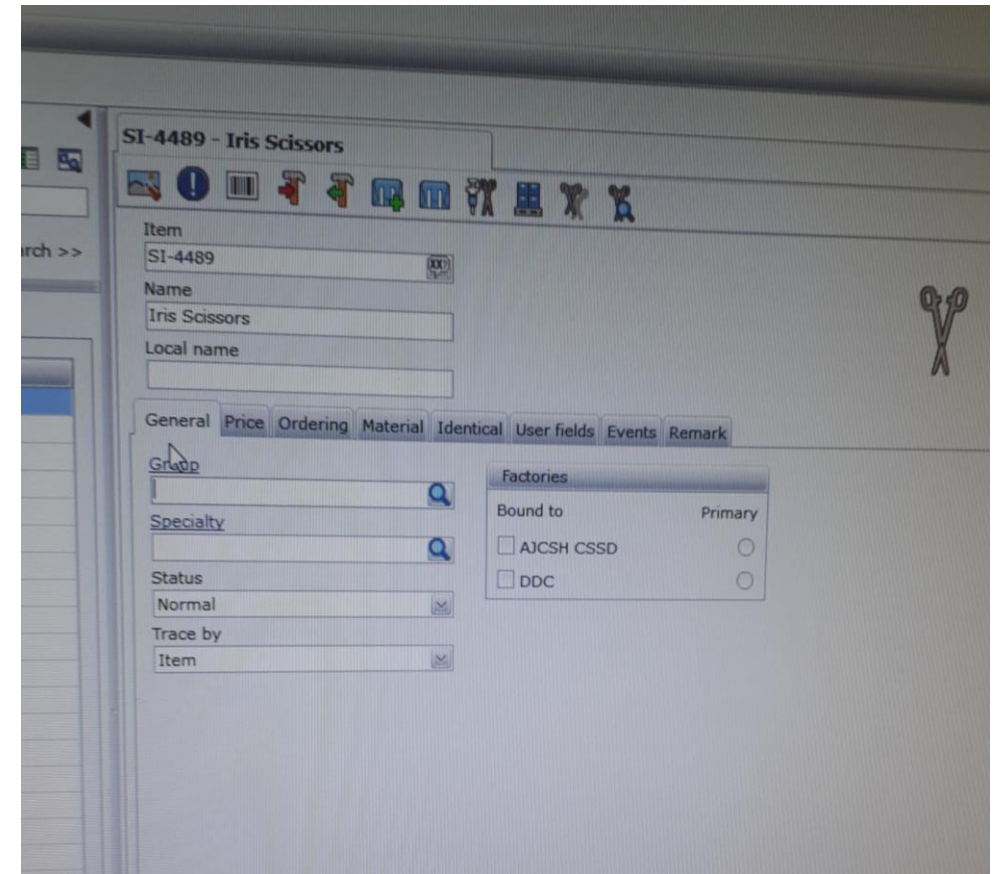
OR

Composite item (sterile tray)

4. Item will have unique number for tracking

5. T-Doc will generate **check list/ count sheet** for
Composite item

6. T-Doc will generate **label sticker**



T-Doc label generation

Product code

Customer

REF #
(cycle batch number)

PR-0115 Wrap-013 REF#:

MYRINGOTOMY SET-3

Customer: OR-ENT
OR-ENT
Prog:
Unit Ref: 32436

Packed: 23-10-19 By: BM

Expire date:

1015 PR-0115
MYRINGOTOMY SET-3

1015 PR-0115
MYRINGOTOMY SET-3

T-DOC

Order no.: J9931 ISO11140-1 Type 1

LOT: 9931151230

The diagram illustrates the layout of a T-Doc label. On the left, three labels ('Product code', 'Customer', and 'REF # (cycle batch number)') have purple arrows pointing to specific fields on the T-Doc label. The T-Doc label itself is a rectangular document with a light beige background. It contains several lines of text: 'PR-0115', 'Wrap-013', and 'REF#' at the top; 'MYRINGOTOMY SET-3' below that; 'Customer: OR-ENT' and 'OR-ENT' in the middle; 'Prog:' and 'Unit Ref: 32436' below that; 'Packed: 23-10-19' and 'By: BM' on the right; and 'Expire date:' followed by a blacked-out area. At the bottom, there are two identical barcode sections, each with '1015' and 'PR-0115' above it and 'MYRINGOTOMY SET-3' below it. On the far right, there is vertical text: 'T-DOC' at the top, 'Order no.: J9931' and 'ISO11140-1 Type 1' in the middle, and 'LOT: 9931151230' at the bottom.

T-Doc label generation

Packing date and packer, Expire date

Stickers to be attached to patient file

PR-0115 Wrap-013 REF#:

MYRINGOTOMY SET-3

T-DOC

Customer: **OR-ENT**
OR-ENT

Prog:

Unit Ref: 32436

Packed: 23-10-19 By: BM

Expire date:

1015 PR-0115
MYRINGOTOMY SET-3

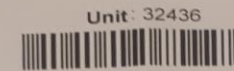
1015 PR-0115
MYRINGOTOMY SET-3

Order no.: J9931 ISO1140-1 Type 1

LOT: 9931151230

T- Doc Composite item check list generation

AJCSH
Central Supply



Unit: 32436

Al Jalla Children's Hospital
Ajman
in place where I can be of aid

MYRINGOTOMY SET-3

Product PR-0115

Serial no. 166

Item CI-0036

Customer OR-ENT

OR-ENT

Packed 10/23/2019

BM

Expiration date

Sterilizer program group

Count	Name	Manuf. No
1	Towel Forceps For Paper Clothes, 11	796011 ✓
1	Hartmann Ear Forceps Very Fine	221100 ✓
1	Farrior Ear Speculum Oval Sizes 1	123031 ✓
1	Farrior Ear Speculum Oval Sizes 2	123032 ✓
1	Farrior Ear Speculum, Sizes 3, Oval	123033 ✓
1	Farrior Ear Speculum, Sizes 4, Oval	123034 ✓
1	Farrior Ear Speculum, Sizes 5, Oval	123035 ✓
1	Buck Ear Curette, Blunt, Size 1, Length 14.5 cm	153301 ✓
1	Buck Ear Curette Blunt 0, Length 14.5 cm	153310 ✓
1	Wullstien Needle	224303 ✓
1	Pick 90° Size 0.8 mm	225208 ✓
1	Cotton Applicator, 0.7 mm, Length 13 cm	151007 ✓
1	Politzer Ear Knife, Angular, Length 7.5cm	154800 ✓
1	Wagener Ear Hook, Size 1 (Ball End) Length 15.5cm	152201 ✓
1	Suction Tube, Straight, Luer Lock, Malleable, Outer Diameter 1 Mm, Length 10 cm	204310 ✓
1	Fisch Adaptor, For Suction Tubes With Cut -Off Hole Luer Length 5.5 cm	204200 ✓
1	Suction Tube, Straight, Luer Lock, Malleable, 1.3 Mm, Length 10 Cm	204313 ✓
1	Suction Tube Stright Luer Lock Malleable 1.5mm Length 10 Cm	204315 ✓
1	Suction Tube Stright Luer Lock Malleable 2 mm Length 10cm	204320 ✓
1	Suction Tube Stright Luer Lock Malleable 2.5 mm length 10 cm	204325 ✓
1	Barnes Suction Tube with Cut off Hole, Luer Lock, 2mm, 5mm	203617 ✓
1	Cup Medicine 200cm3 , Diameter 100mm ,Hight 30 Mm	810810 ✓
1	Cup Medicine 200cm3 , Diameter 100mm ,Hight 50 Mm	810806 ✓
1	Kidney Tray Small	820517 ✓
1	Wire Tray Miniset Container For Cleaning , Sterilization And Storage	N/A ✓
1	Mini Set Container	✓

Items: 26

Total number of Items: 26

10/23/2019 11:41:58 AM

Packing list Std

Page: 1 / 2

T-Doc WORKFLOW

RETURN AREA/ CONTAMINATED (SOILED ZONE)

Items are scanned by each employee as:

Item RETURN, to
Washer PreBatch



The clean zone

The sterile zone



T-Doc WORKFLOW

PACKING AREA (CLEAN ZONE)

Items are scanned by each employee as:

Item PACKING

Washer PostBatch

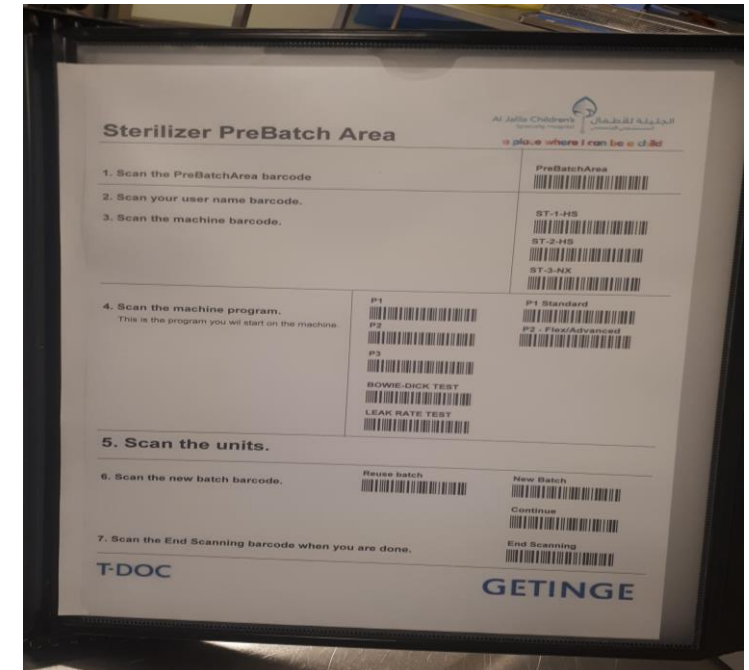


The clean zone

The sterile zone



Sterilizer PreBatch



T-Doc WORKFLOW

STERILE STORE/ DISPATCH AREA (STERILE ZONE)

Items are scanned by each employee as:

Item **STERILIZED**

Sterilizer PostBatch

Item dispatch to each location



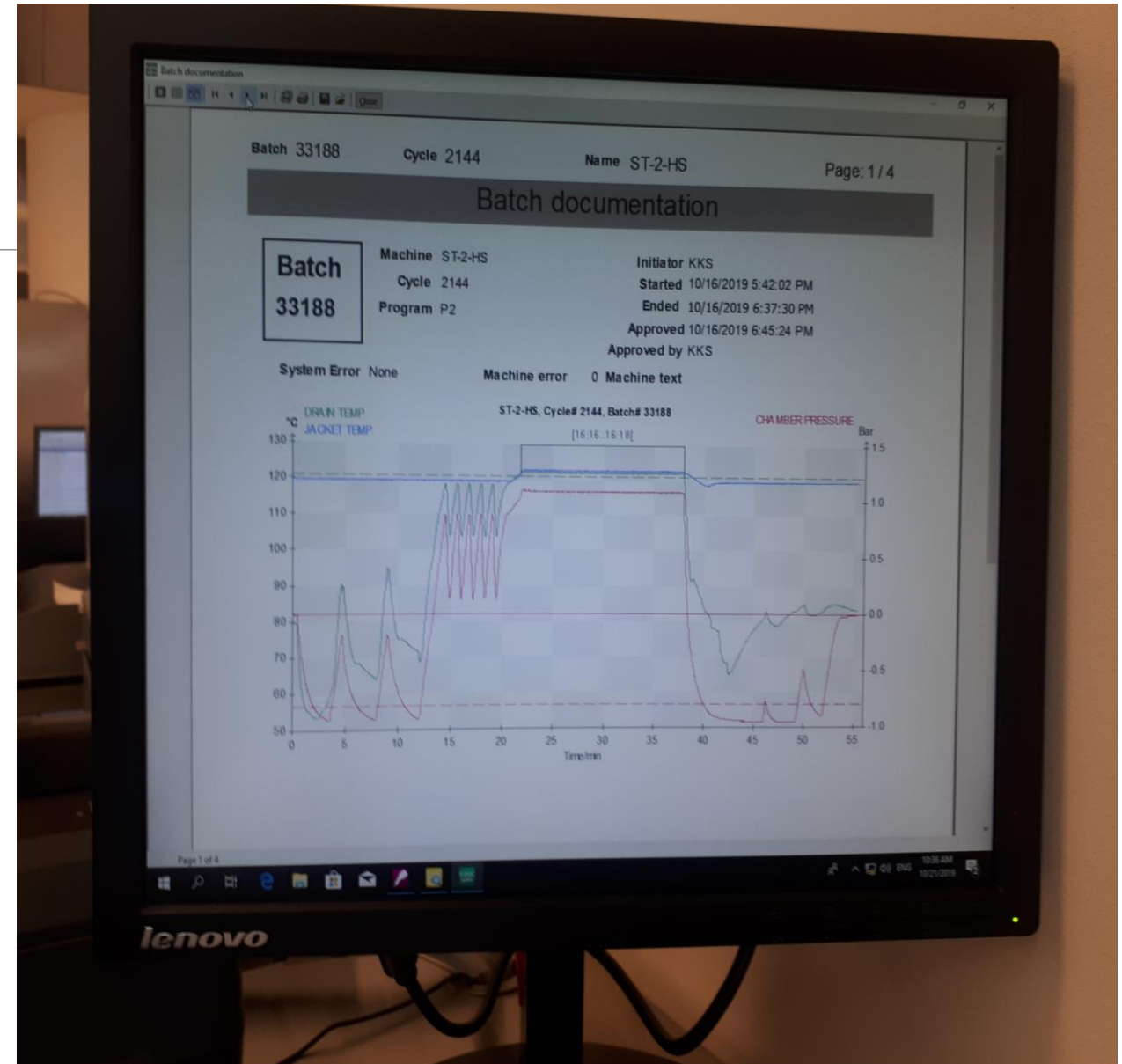
T-Doc Administration

Access to information of instruments,
users, processes

All actions are recorded

Reports are available

Data is displayed



Next steps in AJCH.....

T-doc integration to EMR (Cerner)

**T-Doc PC and scanner utilization
to all dispatch units**



Any questions?
Thank you!

References

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