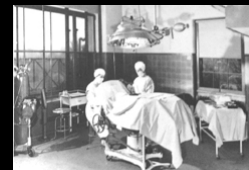


# *Attacking Misidentified Tissue Specimens That Originate in Surgery and the Operating Room*



## **Surgical Specimen Collection, Labeling, and Delivery**



Pathology and Surgical Services

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Rita D' Angelo  
Manager, Quality Systems Division  
Pathology and Laboratory Medicine  
Henry Ford Health System

## **Our Aim**



To continually strive for process standardization opportunities in specimen handling from the Operating Room → Pathology

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## The Team

- **Surgical Services**
  - OR Educators
  - Nurses
  - Administration
- **Department of Surgery**
  - Chair
  - Surgeons
  - Film Crew
  - Residents
- **Department of Pathology**
  - Pathologists' Assistants
  - Pathologists
  - Residents
  - Quality Systems Division

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## Surgery Initiative



- ✓ From OR to Pathology
- ✓ Specimen identification, labeling & hand-off



Wish for this image.  
(724,415) archive.indh.org

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## Surgical Pilot

- Data Collection  
Began January 2010
  - Data collection included defects associated with:
    - Requisitions
    - Containers
    - Specimens
    - "Other" ←  < opportunity 
- Note: A white bracket groups Requisitions, Containers, and Specimens under the label '2010 Focus'.*

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## Defects Within Pathology Frozen Section-Specimen Receipt Room

- Lack of **standard work**
- Lack of **competency** training for PAs
- **QC Check** not performed in the FS Room for Specimen Container-Requisition verification

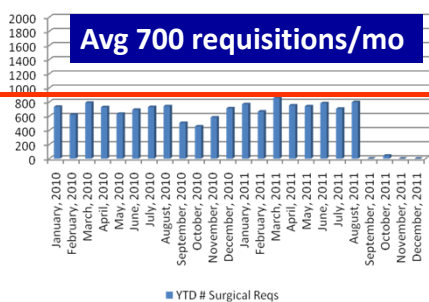
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## ★ Defects Originating in the OR

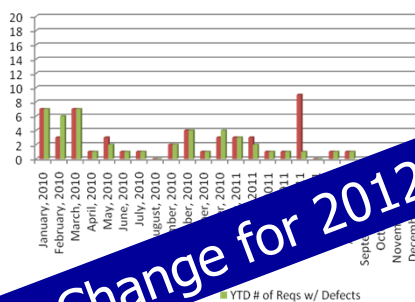
- Number of specimens did not match the requisition
- Patient ID not on all parts
- Missing complete clinical history
- Majority of requisitions missing at the time of procedure

## Surgical Requisitions

2011 YTD OR Surgical Reqs



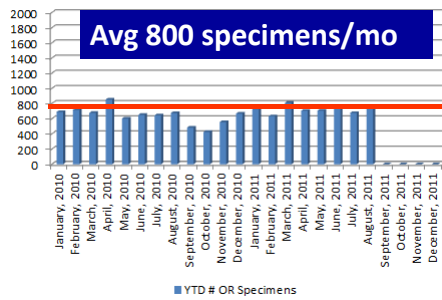
2011 YTD OR Surgical Req Defects



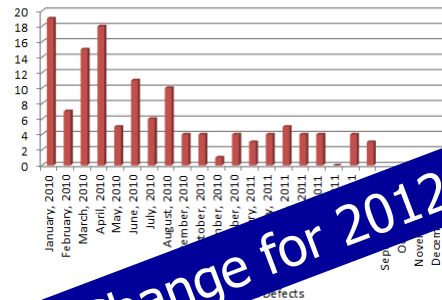
**No Change for 2012**

# Specimen Totals

2010 -2011 YTD OR Specimens



2011 YTD OR Specimen Defects



**No Change for 2012**

## Result of primary intervention

Reduction in defects, however, the remaining defects had a significant impact on patient safety

## Standardized Problem Solving Culture



**Problem Solving as a Way of Life- It's the Culture**

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## OR/Pathology Team Formation

- Waste, gaps, lack of standardization and defective processes associated with specimen handoffs



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## Process Defects

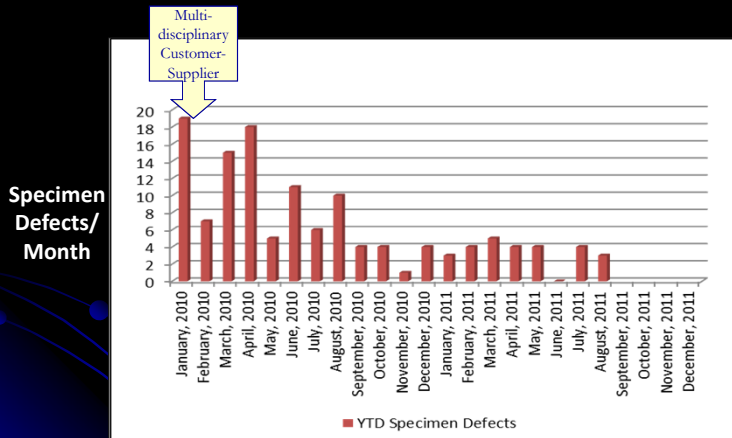
- Poor communication between OR and Pathology
- Faulty hand-offs, Lack of chain of custody upon specimen drop-off, matching parts and requisitions
- Incorrect sticker placed on paper work
- No label- Patient identification missing
- Incorrect documentation on requisition

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**As a result of our cross-functional teams,  
we have implemented many  
improvements and processes to enhance  
OR specimen safety**

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## OR Specimen Defects & Interventions



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## Customer – Supplier Meetings

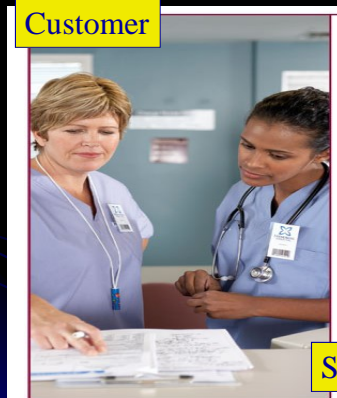
- Numerous customer-supplier meetings promoting a collaborative interaction between Surgical Services and Pathology have been developed
- The established customer-supplier meetings have assisted to
  - Define requirements
  - Generate ideas
  - Brainstorm solutions

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# Direct Connection

Customer-supplier relationship



Customer states requirements and supplier responds by meeting those requirements

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# Customer - Supplier Interaction

Multiple Involvements with Aspects of Same Problem



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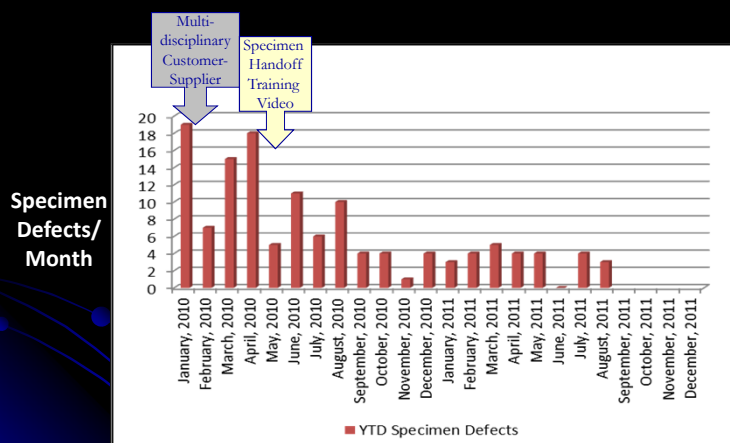
## Team Meetings

- Surgical Services
- Surgeons
- Pathology
- OR Educators
- Informatics
- Residents



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## OR Specimen Defects & Interventions



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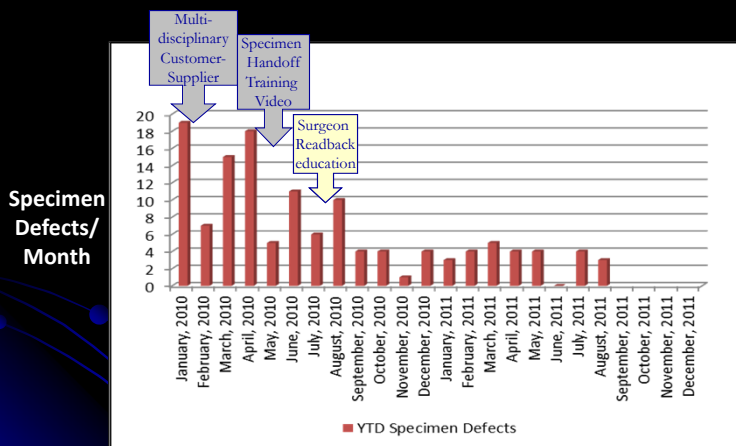
# Specimen Hand-Off Training Video

- Surgical Services Training



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# OR Specimen Defects & Interventions



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## Communication to Surgeons

Adoption of The WHO recommendation

- Surgery Chair communicated the importance of OR specimen handling to 200 surgeons

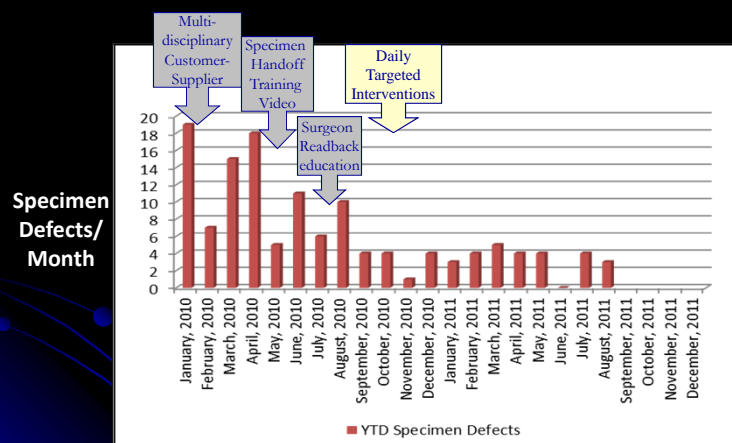
“The team should **confirm that all surgical specimens are correctly labeled** with the identity of the patient, the specimen name and location (site and side) from which the specimen was obtained, by having one team member read the specimen label aloud and another verbally confirming agreement.”

WHO Guidelines for Safe Surgery 2009

- Surgeons have been included in Customer- Supplier meetings

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## OR Specimen Defects & Interventions



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## Daily Targeted Interventions

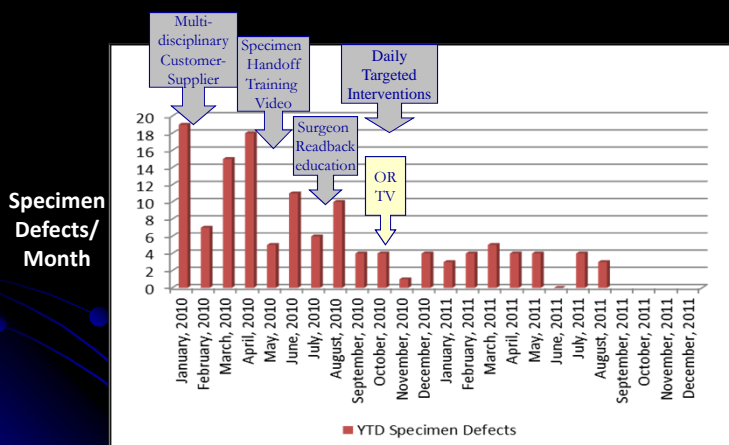
Defect Feed-Back and Root Cause

- Daily Intervention between Surgical Services and Pathology
- Daily education



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## OR Specimen Defects & Interventions



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## Surgeon Training



Specimen handoff training video was developed from surgeons for surgeons to include read-back instruction specifically for patient safety and specimen naming accuracy

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## Surgeon Training

Specimen handoff training video was developed from surgeons for surgeons to include read-back instruction specifically for patient safety and specimen naming accuracy

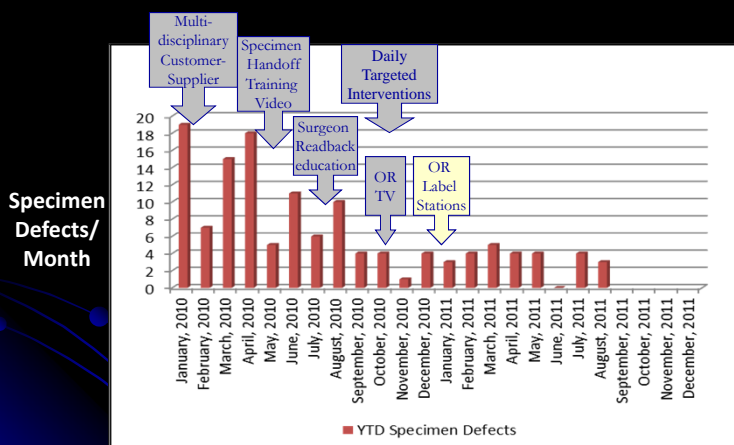
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## Remember

- Accuracy of specimen information is a patient safety issue
- The Surgeon is responsible for the accuracy of all information on the pathology requisition slip
- Carefully listen to the Read-Back with the Circulator **before** you confirm that the information is correct

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## OR Specimen Defects & Interventions



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# Labeling and Specimen Streams



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Operating Room at Henry Ford Hospital, c. 1950

## SURGICAL SPECIMEN SUBMISSION

ROUTINE PROTOCOL	FROZEN SECTION	LYMPHOMA WORK-UP	LUNG PROTOCOL	MICROBIOLOGY SPECIMEN
<b>ROUTINE</b>	<b>FROZEN</b>	<b>LYMPHOMA</b>	<b>LUNG</b>	<b>MICRO</b>
No Fix	No Fix	No Fix	No Fix	No Fix
NO FIXATIVE ↓ deliver to FROZEN SECTION LAB	NO FIXATIVE ↓ deliver to FROZEN SECTION LAB	NO FIXATIVE ↓ deliver to FROZEN SECTION LAB	NO FIXATIVE ↓ deliver to FROZEN SECTION LAB	NO FIXATIVE ↓ deliver to MICROBIOLOGY DEPARTMENT
Mon-Fri, 8am-5pm: leave at frozen section window Off-hours and weekends: leave in frozen section refrigerator	notify Pathology before ahead Monday-Friday, 8am-5pm - CALL 161279 Off-hours and weekends - PAGE On-call staff: 3300 (Resident) or 2281 (Pathologist)			for assistance Mon-Fri, 8am-5pm: CALL 16..... Off-hours and weekends: PAGE On-call staff at 3300 (Resident) or 2281 (Pathologist)
	No Fix	Generic label for additional requests		

The specimens are labeled with a color-coded sticker for time sensitive or special handling specimen streams

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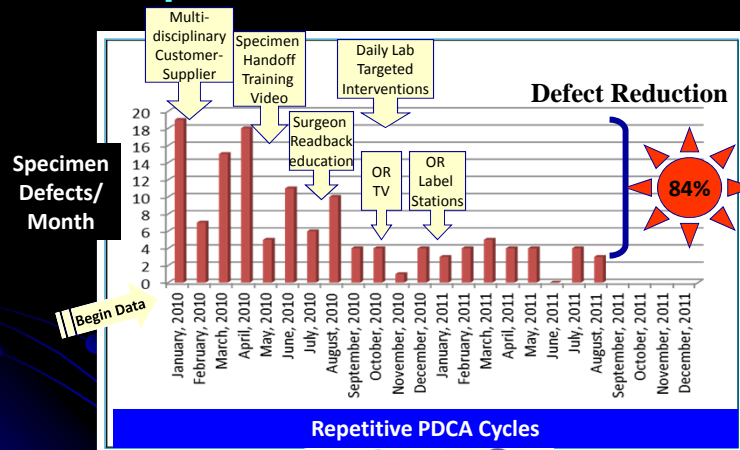


Labelling stations were installed in each Operating Room for accurate specimen identification at the point of collection



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## Continual Improvements Toward Goal OR Specimen Defects & Interventions



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## Chain of Custody

**Significant Results**



**A Read-Back was implemented from surgeon to circulator/scrub nurse to repeat critical specimen information**

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Operating Room scene in the Henry Ford Hospital Surgical Pavilion, 1939

## Expanding the Scope

**To work with our customers to redesign processes that would foster correct identification and elimination of critical defects**



Operating Room in the old UC Hospital, 1913

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## We've Established the Need for Process Redesign

- Identified work flow and hand-off concerns
  - Defective processes
  - Mis-Identification
  - Lack of standard work
  - Variation within identical tasks
  - Lack of consistent training

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## Standardization Teams

- 3 Team Leaders



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## Team Goals

- Create your perfect process
- Observe current processes to identify opportunities for improvement
- Develop process maps
- Create future state map
- Present to Leadership
- Implement new process

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## Results of Observation Sessions

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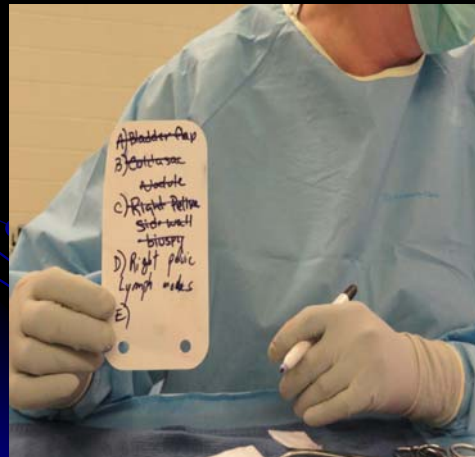
## Documentation

1. Check Patient File for correct order of Anatomic Site, Procedure to fill out Lab Requisition
2. Enter specimen information in SIS
3. Write specimen description on the containers
4. Write specimen description on the container labels
5. Write specimen description on the Lab Requisition
6. Keep adding a running tab of all of the above specimen descriptions for all Frozen Sections and permanent section on scrap paper
7. Write same information on Log Book at Frozen Room Window
8. Multiple Frozen Section specimens delivered at multiple times per procedure/patient as requested by Clinician (6,7x or more)
9. Multiple Lab Reqs if run out of space to document all parts in the original tag
10. Photo copy Lab Req for easiness of writing multiple times in Log Book
11. Photo copy machine not located nearby- at OR front desk or inside Frozen Section room (no access to OR personnel)
12. White Boards are available in the OR but location is inconvenient for utilization by the CSR's and also poor lighting

10x steps

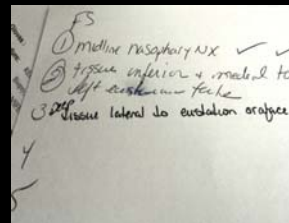
## Label Documentation

- Nurses keep track of their own specimen on a personal list



**WASTE**

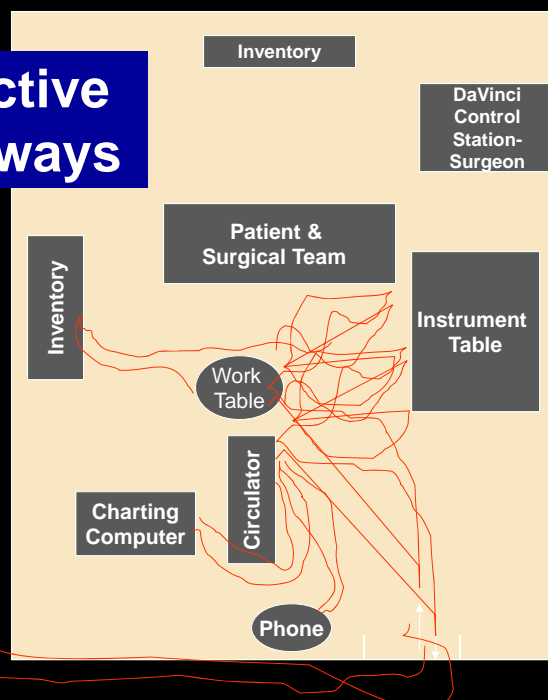
More steps....



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Pathology Lab  
Frozen Section  
Room

## Defective Pathways



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## Problem

- The specimen collection, labeling and hand off process from Operating Room to Pathology-  
**VARIATION**
- Waste, inefficiency, lack of standard work-  
**Potential adverse patient safety events**
- **Lack of communication** between departments
- Considerable time, effort and staff involvement spent correcting inaccurate patient information to ensure diagnostic accuracy

### REWORK

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## Defects Identified

- Failure to establish & follow a standard process
- Poor communication or poor hand-offs
- Human error
  - Staffing matches workload
  - Rotate staff duties to eliminate fatigue
  - Educate and assess competence

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## Goals

1. Identify and minimize variation within the processes
2. Adopt one pathway to collect, label and deliver
3. Implement the standard process throughout the OR

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**Variation**

**To AVOID MIS IDENTIFIED  
SPECIMENS**

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## Team Brainstorming Events



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## Identified Process to Be Tested

- ★ ● Multiple specimens are not labeled when handed off to circulator
- ★ ● Multiple sites to document- in multiple places- pathology- document all over again and must stay at the window until verified
- ★ ● Surgeon has left the OR and verification has not been performed
- ★ ● No standard of where to place the label on the container - need standard specimen packaging

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## Team Work to Pilot



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## New Process

- The development of a Piggy-back label packet
- Requisition – New and improved to accommodate labels
- Standardized specimen part type list
- Develop a reconciliation page to confirm that all specimens are accounted for and are correct

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# Revised Requisition Form

Send Diagnostic Report To:			
Doctor Name: _____	Doctor Code: _____	Date: _____	Suffix: _____
Direct contact phone number: _____		Time: _____	
Additional Copy to: Doctor Name: _____	Medical Center/Clinic: _____	ICD-9: _____	
Direct contact phone number: _____		<input type="checkbox"/> IPD <input type="checkbox"/> OPD	
Additional Copy to: Doctor Name: _____	Doctor Code: _____	ICD9 Code: _____	
Direct contact phone number: _____		Date of Birth: _____	
Additional Copy to: Doctor Name: _____	Medical Center/Clinic: _____	<input type="checkbox"/> Male <input type="checkbox"/> Female	
Direct contact phone number: _____		Clinical History/Pre-Operative/Post-Operative Diagnosis: _____	
Additional Notes:			

## OR Copy for the Binder

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# NEW: Piggy-Back Specimen Labels

<input type="checkbox"/> ORP <input type="checkbox"/> Frozen <input type="checkbox"/> Permanent Affix Patient Information Label Here Specimen Description: _____ Date: _____ Time: _____	<input type="checkbox"/> ORP <input type="checkbox"/> Frozen <input type="checkbox"/> Permanent Affix Patient Information Label Here Specimen Description: _____ Date: _____ Time: _____
<input type="checkbox"/> ORP <input type="checkbox"/> Frozen <input type="checkbox"/> Permanent Affix Patient Information Label Here Specimen Description: _____ Date: _____ Time: _____	<input type="checkbox"/> ORP <input type="checkbox"/> Frozen <input type="checkbox"/> Permanent Affix Patient Information Label Here Specimen Description: _____ Date: _____ Time: _____
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<input type="checkbox"/> ORP <input type="checkbox"/> Frozen <input type="checkbox"/> Permanent Affix Patient Information Label Here Specimen Description: _____ Date: _____ Time: _____	<input type="checkbox"/> ORP <input type="checkbox"/> Frozen <input type="checkbox"/> Permanent Affix Patient Information Label Here Specimen Description: _____ Date: _____ Time: _____

## Labels to be placed on Requisition and Container

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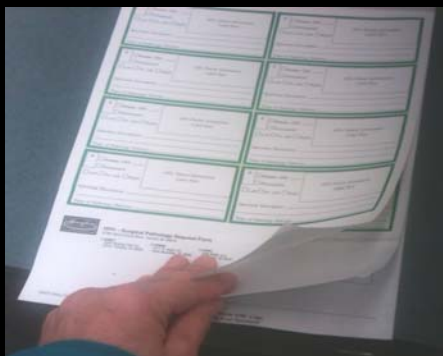
## Label Packet

3 Pages are included in the Label Packet:

Page 1. Requisition Labels

Page 2. Container Labels

Page 3. OR Reconciliation Copy- To organize specimen load



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## Piggy-Back Labels “How To”

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## Patient Demographic Labels

Step 1

On Requisition

The image shows a 'Surgical Requisition Form' with a blue arrow pointing from the text 'On Requisition' to a box labeled 'Affix Patient Information Label Here'. The form includes fields for 'Send Diagnostic Report To:', 'Date:', 'Time:', 'ICD-9:', 'Date of Birth:', and 'Clinical History/Pre-Operative/Post-Operative Diagnosis:'. There are also checkboxes for 'IPD' and 'OPD', and 'Male' and 'Female'.

Place Patient and Pathology labels on **ALL** areas that state: **Affix Patient Labels Here**

## Part Type List for OB/GYN Speciality

OB-GYN SPECIMENS/ DESCRIPTIONS Fallopian Tube Specimens (Contd.)		
CPT Description	SPECIMEN/ PART TYPE NAME	SPECIMEN/ PART TYPE DESCRIPTION
Fallopian tube sterilization	Fallopian tube, sterilization, left	Left fallopian tube, partial salpingectomy
Fallopian tube sterilization	Fallopian tube, sterilization, right	Right fallopian tube, partial salpingectomy
Fallopian tube tumor	Fallopian tube, TUMOR + IPSI OVARY, left	Left fallopian tube and ovary, excision
Fallopian tube tumor	Fallopian tube, TUMOR + IPSI OVARY, right	Right fallopian tube and ovary, excision
Fallopian tube tumor	Fallopian tube, tumor, left	Left fallopian tube, salpingectomy
Fallopian tube tumor	Fallopian tube, tumor, right	Right fallopian tube, salpingectomy
Salpingectomy, complete or partial, unilateral or bilateral	Fallopian tubes, bilateral salpingectomy	Fallopian tubes, bilateral salpingectomy

Standard Work - Surgeon involvement

## Peel Off Piggyback Labels



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## The Piggyback Label Packet

### Step 2

Place top label on requisition

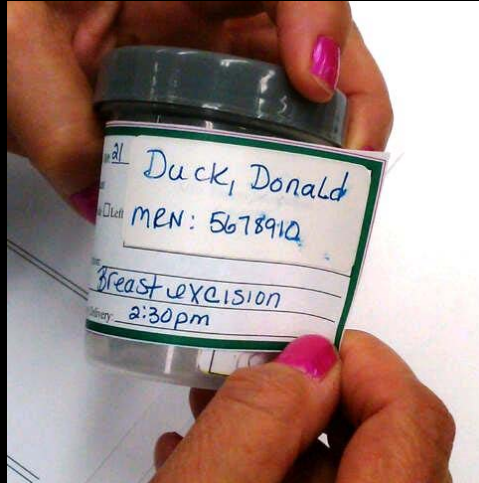
Patient Name: Duck, Donald		OR#: 21
Send Diagnostic Report To:		
Date: 6/28/12	Clinical History/Pre-Op/Post-Op Diagnosis: Breast CA	Doctor Code: 4851
Time: 2:00 PM		Medical Center/ Clinic: CR # 21
ICD-9: 191.8		Additional Copy to Doctor Name: _____
IPD: WOPD		Additional Copy to Doctor Name: _____
Suffix: _____		Additional Copy to Doctor Name: _____
<input checked="" type="checkbox"/> From OR: AL Duck, Donald <input type="checkbox"/> Permanent <input checked="" type="checkbox"/> Right <input type="checkbox"/> No side <input type="checkbox"/> Left MEN: 5678910		
Specimen Description: Breast excision		
Time of Pathology Delivery: 2:30pm		

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## The Piggyback Label Packet

### Step 3

Place piggy-back Label on container



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## Labels on the Requisition



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## Deliver to Pathology

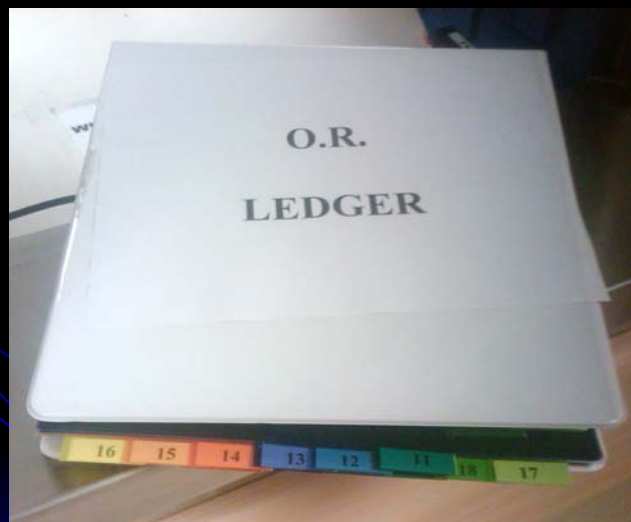


1. The first labeled container
2. Completed requisition (place in the binder under appropriate OR number)
3. Add additional specimen labels to requisition
4. Submit the reconciliation copy with the last specimen of the case



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## Requisition Resides in Binder



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## IMPORTANT

- **DISCARD ALL LABELS** in OR room upon the specimen reconciliation phase at the end of each case

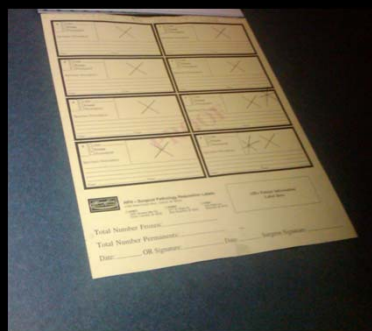
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## At the End of the Case

3rd Page in the Label Packet

Reconciliation form used as a specimen tracking tool and confirmation page

Surgeon –  
Final Reviewer



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## Outcomes of the Standardized Team Approach

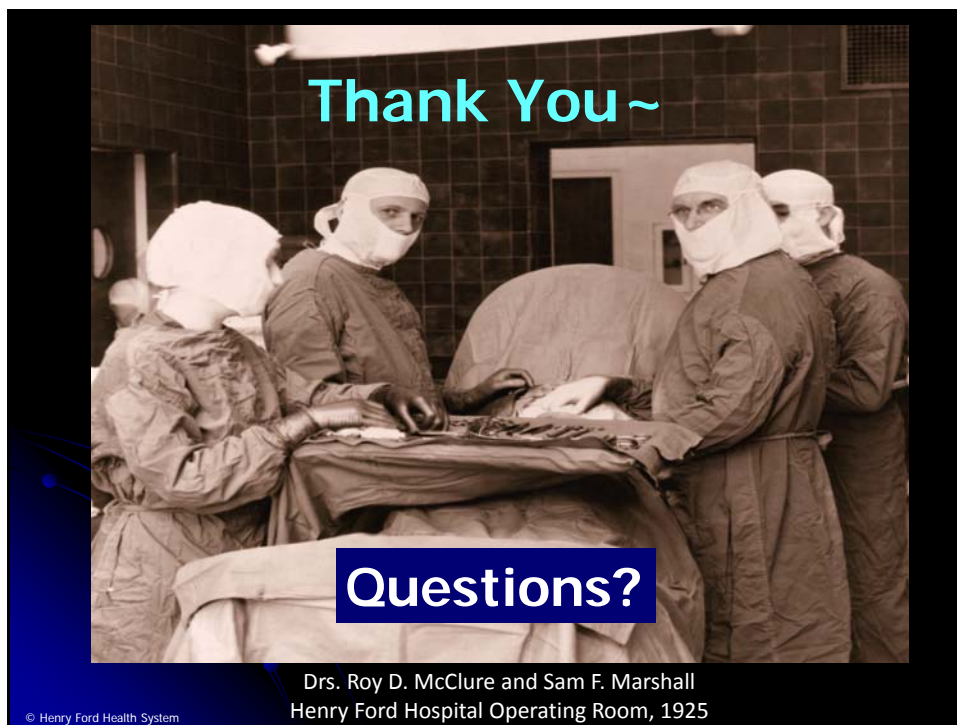
1. ↑ Process simplification
2. ↓ Waste and inefficiency
3. ↑ Employee satisfaction
4. ↑ Standardized processes
5. ↑ Surgeon involvement
6. ↑ Teamwork toward common goal

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## The Team

- Surgical Services Henry Ford Hospital
- The Henry Ford Medical Group doctors
- Pathology Henry Ford Hospital
- Vivian Jones
- Michelle Lucier
- Jackie Adams
- Scott Dulchavsky MD
- Rita D'Angelo
- Sue Ruediger
- Richard Zarbo MD
- Ruan Varney
- Don Lubensky
- Jennifer Gauvin
- Oleksandr Kryvenko MD
- Nelson Main
- Barb Gagnier
- Charito Arabejo
- Jennifer Marr
- Osma Alassi MD
- Linda Szymanski MD
- JC Whitelaw
- Craig Reickert MD
- Raghav Murthy MD

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Drs. Roy D. McClure and Sam F. Marshall  
Henry Ford Hospital Operating Room, 1925

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