

# Surgical Specimen Handling and Management in the Operating Room

## Site Applicability

PHC: SPH OR, MSJ OR, DT Procedure Room, Surgical Procedure Rooms

## Practice Level

Basic: Within the scope of practice of the perioperative RN and LPN

## Need to Know

### Clinical Indication:

This guideline applies to surgical specimens collected in the OR and surgical procedure rooms at MSJ and SPH.

1. Tissue removed from a patient, foreign bodies, and explanted devices are classified into three distinct groups.

- **Group 1: Materials, Minor Tissue Discards**
- **Group 2: Minor Tissue/Material for Medical/Legal Purposes – for documentation only**
- **Group 3: All Other Surgical Specimens**

Refer to the Anatomic Pathology on-line manual for descriptions and lists of the above groups.

Also refer to the manual for instructions for cytology and embryopathology specimens.

2. Intraoperatively, the surgeon may determine that there is reason to send a specimen for identification or analysis. Therefore, the nurse **must always confirm the decision to send or discard tissue/devices with the surgeon**. If the tissue/device is sent, it then becomes a Group 2 or Group 3 specimen.
3. Tissues, bodily fluids, devices, or implants removed in the procedure become the property of the hospital and may be used for the purpose of teaching or research, as approved by the hospital.
4. At SPH, the SealSAFE system is used, except as noted in the next point. See [Appendix A](#)
5. Small specimens are placed in pre-filled jars. Specimens that are too large for the SealSAFE plastic bag are placed in a large plastic bucket. Specimens that could puncture the SealSAFE plastic bag are also placed in a plastic bucket. For specimens that are to be preserved in 10% formalin, the volume of formalin should be 10 times the volume of the specimen whenever possible.
6. At MSJ, specimens are placed in plastic containers. See note above re volume of formalin.
7. The confirmation of specimen(s) will be included in the debriefing phase of the Surgical Safety Checklist.

## Guideline

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1. The scrub nurse confirms with the surgeon that the specimen may be handed off the sterile field.
2. The circulating nurse will verify that the correct patient label(s) is/are on the specimen container(s) and will confirm that the label(s) match the requisition and the banner bar in Cerner.
3. The scrub nurse is responsible for delivering the specimen(s) to the OR Pathology Lab. This task may be delegated to another nurse.
4. If the specimen will fit, place it in the refrigerator. (Refrigeration helps to preserve cells as the formalin penetrates the tissue.)
5. Place tissue for discard in an anatomical waste (red) bag/bin.
6. Amputated limbs are delivered to the morgue in a large plastic tote bin. Double bag the limb in two yellow bags. Label both bags. Place the requisition in the bin.

## Documentation

1. In Cerner, place an order for the specimen. For a pathology specimen, print the requisition. The surgeon is responsible for completing the clinical history section. If the specimen is for documentation only, note this on the requisition.
2. In the **Intraop Record**, complete the documentation in the specimen segment. In the specimen comments box, note if the specimen was taken by the pathologist or sent to the morgue or for research.
3. Place a patient label and a logbook communication sticker in the book in the OR lab. Fill in the information requested on the sticker.

**Note:** The lab personnel track all specimens via the OR lab logbook. That is why it is necessary to record the disposition of all specimens in the logbook, even those that are not left in the OR lab for pick up.

## Related Documents

1. [Pathology and Laboratory Medicine on-line manual for anatomic pathology](#)
2. [B-00-11-10019](#) - Surgical Safety Checklist - SPH and MSJ Surgery
3. Consent for Treatment/Procedure/Surgical Operation (PHC-MR002a/FF2745)

## References

ORNAC. (2021). *The ORNAC standards, guidelines, and position statements for perioperative registered nurses* (15<sup>th</sup> ed.), 3-99 to 3-102.

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<b>Owners:</b>	PHC
	Surgery

## Appendix A – SealSAFE: Equipment Operating the SealSAFE in the OR Lab

### Purpose:

This procedure provides instructions for how to safely operate and maintain the SealSafe Automated Filling and Vacuum Sealing Instrument for St. Paul's Hospital perioperative team.

### Background:

The SealSafe instrument provides a safe and effective method to safely add formalin and secure surgical specimens for transport and storage. Durable plastic bags are used to contain the specimens while the instrument weighs, adds formalin and vacuum seals the specimen-containing bags.

Reagents:	Equipment:	Supplies:
20L Formalin cubes	SealSAFE Refrigerator 20L Waste Carboy	Milestone Vacuum Bags (various sizes) Gripstick Sealing Handles Disinfecting wipes Spill response PPE

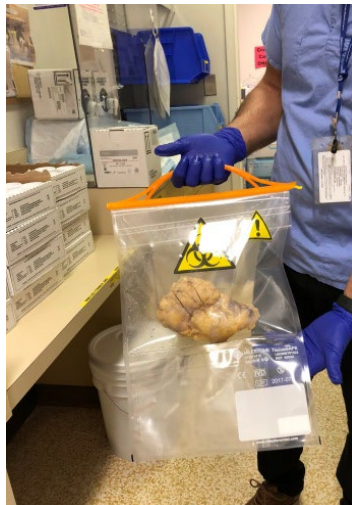

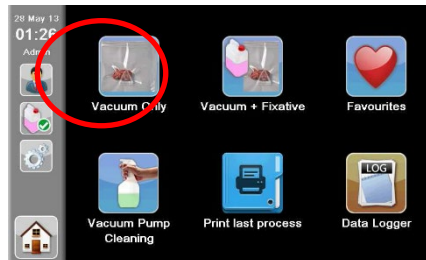
### Safety Precautions:

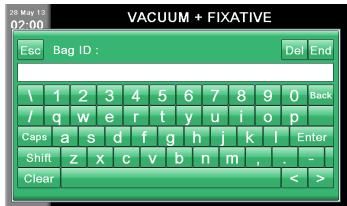



- All equipment in this area is considered dirty
- Appropriate protective equipment such as gloves, lab gown, eyewear.
- Refer to the "Handling Biohazardous Material" documents online
- Refer to the "PHC Waste Disposal Guidelines" documents online
- Access to SDS sheets is online

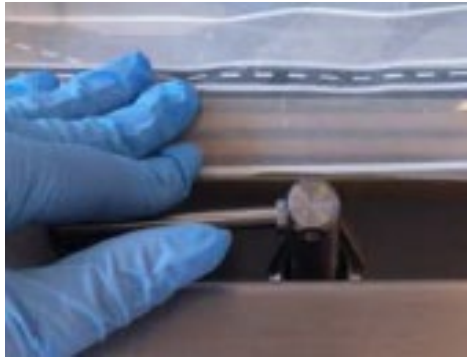
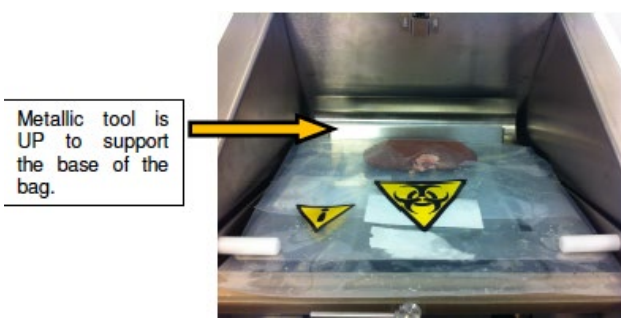

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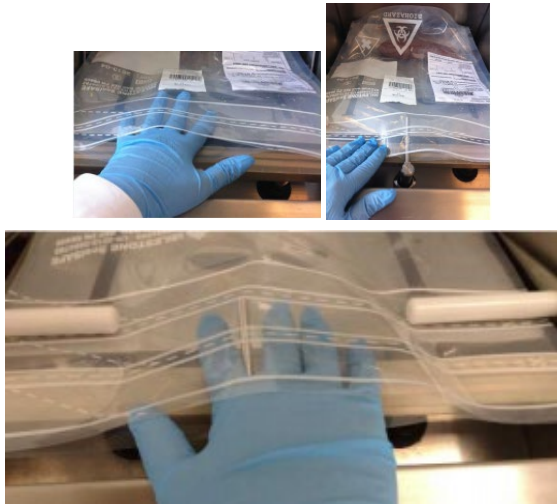
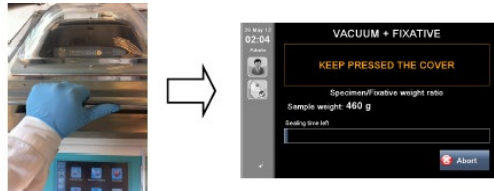

## Procedure: Operating the SealSAFE

Action	
<p><b>1</b></p> <p>Collect specimens in Milestone Vacuum bag.</p> <p>(See <a href="#">Appendix D: SealSAFE Specimen Bag and Program Selection guide</a>)</p> <p><b>NOTE: Remember to affix patient label to frosted area of bag.</b></p>	
<p><b>2</b></p> <p>Log in under “User” and enter “or” as the password.</p>	
<p><b>3</b></p> <p>Press the Icon labeled “<b>Vacuum + Fixative</b>” from main menu or favorites menu (default screen is favourites)</p> <p><b>NOTE: If specimen does not require fixative, choose Vacuum only!</b></p>	


Action		
4	A virtual keyboard will appear prompting you to enter the “Bag ID”	
5	To enter the <b>bag ID</b> , scan the <b>barcode</b> located near the <b>back bottom portion of bag</b> .	
6	The virtual keyboard will now prompt you to enter the <b>Case ID</b> . Scan the <b>MRN barcode</b> on the <b>Cerner generated label</b>	
7	The next screen will appear with the available programs	
8	<b>Ensure that weight is at “0”.</b> <b>If not, press “TARE” to zero the scale</b>	

Action	
9	<p>Position the bag inside the cavity of the instrument with the <b>sealing bar between the two white lines</b>.</p> 
10	<p><b>Adjust metal support tool</b> according to the length of the bag. The tool acts a ledge to support the weight of the specimen inside the bag, preventing the bag from sliding into the bottom of the cavity. The tool can only be set into one of the numbered positions.</p> <p><b>Lower white side-bars</b> onto bag to keep the bag positioned on sealing bar</p> 
11	<p>Select the program.</p> <p><b>All specimens are run in 1:2 program except prostate chips at 1:3</b></p> <p><b>Tissue that cannot go into formalin should be vacuum sealed with program P4 only</b></p> 



Action	
<p><b>12</b> Open the bag and <b>Arm the injection nozzle</b> by rotating it clockwise 90 degrees into the bag.</p> <p>It is important to <b>open the bag in a way such that formalin does not backflow</b> and spill over the sides of bag.</p> <p>To do so, keep the side of the bag that is underneath the nozzle, flush against the metal surface and not stuck to the side of the bag above the nozzle.</p> <p>There needs to be a <b>clear path for the formalin to flow to the bottom of the bag</b> where the specimen should be.</p>	
<p><b>13</b> Close the cover and hold for a few seconds for the vacuum to seal</p>	
<p><b>14</b> When the process is complete an audible sound will occur and the printer will print label. <b>Tear the label and place in pocket on bag</b></p> <p>If any problems or spillage occurs press "ABORT" to stop the process. Notify the pathology lab at local <b>62363</b> for further assistance.</p> <p><b>For weekend support, page the on-call technologist at (604) 252-4577</b></p>	



Action	
<p><b>15</b> Check bag for any leaks and <b>place in refrigerator.</b></p> <p>If a leak or problem has occurred during the sealing of the bag, notify the Anatomical Pathology Lab at local <b>62363.</b></p> <p><b>For weekend support, page the on-call technologist at (604) 252-4577</b></p>	

### Procedure: Maintaining the SealSAFE





Action	
<p><b>1. Refer to the SealSAFE Maintenance log.</b></p> <ul style="list-style-type: none"> <li>• Check Instrument for any Errors</li> <li>• Check the Formalin level</li> <li>• Check for any spills- refer to spill cleaning procedures</li> <li>• Perform Daily Cleaning</li> </ul>	
<p><b>2.</b> Daily Cleaning of the SealSAFE instrument is performed by using disinfecting wipes to clean the internal cavity and external surfaces (eg. Enzymatic cleaners and phenol based disinfectants) clean and wipe dry the following:</p> <ul style="list-style-type: none"> <li>• Spacers</li> <li>• Inner cavity</li> <li>• Welding bar</li> <li>• Red silicone bar under the cover</li> <li>• Black rubber seal</li> <li>• Cover</li> <li>• Outside surfaces (e.g. around the touch screen, front door, etc.)</li> </ul> <p><b>*DO NOT USE ALCOHOLS OR ACIDS*</b></p>	
<p><b>3. Daily Pump Cleaning:</b></p> <ul style="list-style-type: none"> <li>• On main menu, click on “Pump cleaning” icon</li> <li>• Close the cover and hold it down to initiate the process</li> <li>• A vacuum is generated to thoroughly clean the pump</li> </ul>	



Action	
	<p>Cont.</p> <ul style="list-style-type: none"> <li>The cleaning program will take 10 minutes</li> <li>The program can be cancelled any time by pressing “Abort”</li> <li>Once complete, the unit automatically returns to the main menu.</li> </ul>
4.	<p><b>Monthly Vacuum Pump Oil Window check:</b></p> <p>The Oil for the compressor is can be contaminated by spills and heavy use of the instrument. To prevent the compressor from failing it is important to routinely check the oil.</p> <ul style="list-style-type: none"> <li>Locate Oil Window at back of the TissueSAFE Unit.</li> <li>Use flashlight if need to see inside the window</li> <li>The oil should appear clear and not cloudy.</li> <li>Oil level is at half way mark on round circle.</li> <li><b>Oil window is serviced every 6 months when under service contract OR sooner if oil appears cloudy.</b></li> </ul>
5.	<p><b>Check Paper roll and change if needed. ( See Appendix )</b></p>
6.	<p><b>Complete the SealSAFE Maintenance log.</b></p>

### Procedure: Spill Cleaning

Action	
1.	<p>If an accidental spill occurs in the cavity, <b>KEEP LID CLOSED</b> until proper PPE has been put on. This includes;</p> <ul style="list-style-type: none"> <li>Gloves</li> <li>Gowns</li> <li>Respirator</li> <li>Goggles</li> </ul>



	Action	
2.	Open Lid and clean any residue off metallic plate if dirty. Place in sink and clean in warm water.	
3.	Open the reagent drawer and place the white rapid connector of the dedicated draintube in position as shown in the right figure and the other side of the tube into a 20L approved waste carboy.	
4.	Flush any residual debris in the vacuum chamber drain hole with 1 liter of warm water and drain into Carboy.	
5.	Turn the lever down into the "OPEN" position. Any fluids and debris can now be unloaded through the chamber drain hole located at the right rear corner of the cavity floor. The hole is covered with a removable metallic screen to collect large particles	
6.	When the procedure is complete, turn the lever to the "CLOSE" position. If the valve is not closed, the unit will NOT be able to create vacuum in the chamber. Press the rapid connector tab to remove the tube. You can leave the tube attached in the wall of the drawer, as shown in the right figure.	

	Action	
7.	<p>Clean the lateral sides of the cavity of any residual formalin. Dry all cavity surfaces with paper.</p> <p>Position some dry paper over the drain hole, inside the chamber, then run a "Pump cleaning" program. The paper will absorb any residual water left in the discharge canal.</p>	
8.	<p>Replace the Metallic plate and the unit is ready to use again</p>	

#### References:

1. SealSAFE Automatic Fixative Filling and Vacuum Sealing System MM095-007-SealSAFE Operator Manual 2018-02

#### Appendices:

[Appendix A:](#) SealSAFE User Guide Job Aid


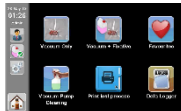


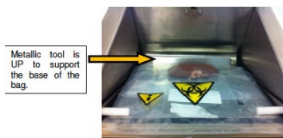

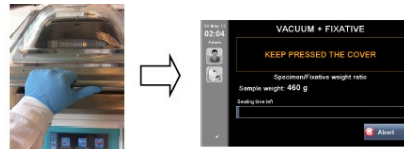


[Appendix B:](#) Using the SealSAFE tissue bags and Gripstic Handle

[Appendix C:](#) Changing the Paper Roll on the SealSAFE

[Appendix D:](#) SealSAFE Specimen Bag and Program Selection Guide

# Appendix A: SealSAFE User Guide Job Aid

## 9 Easy Steps to Seal a Specimen

<b>Step 1:</b>  Login	
<b>Step 2:</b>  Choose appropriate program	
<b>Step 3:</b>  Scan barcode on back of bag	
<b>Step 4:</b>  Scan Cerner barcode	
<b>Step 5:</b>  Position and secure bag	
<b>Step 6:</b>  Choose program option and follow prompts	
<b>Step 7:</b>  Close cover and hold for a few seconds	
<b>Step 8:</b>  Tear off receipt and place in pocket of bag	
<b>Step 9:</b>  Place sealed bag in fridge, requisition in designated bin	

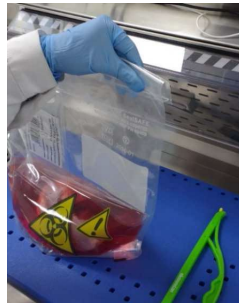
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## Appendix B: Using the SealSAFE tissue bags and Gripstic Handle

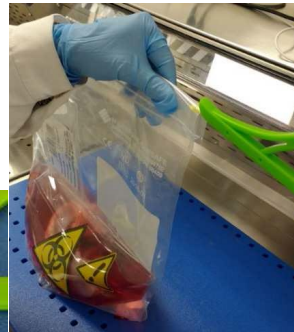
Vacuum SealSafe bags are made of a heavy durable plastic material that can withstand punctures from bone and sharp specimens. Handles are available to use in the OR and Pathology rooms to help carry heavy specimens and secure bags to prevent leaking of Formalin.



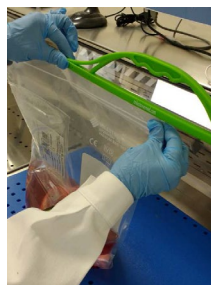
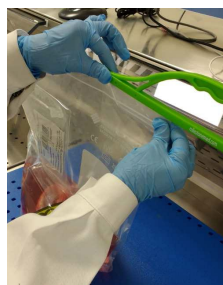
1. Bend the upper part of the bag as shown into the picture



2. Insert the spindle of the handle into the bended part of the bag



3. Push the Gripstic along the bended part of the handle



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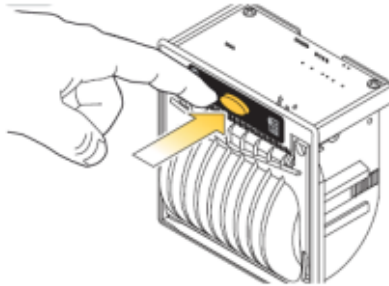


## Appendix C: Changing the Paper Roll on the SealSAFE

### D.1.2. Changing the paper roll

To change paper roll, proceed as follows:

- Open the paper roll compartment by pressing the OPEN key.

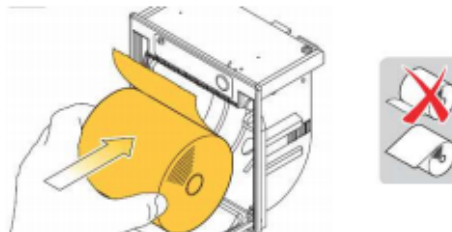


- Move down the plastic cover to the maximum opening.

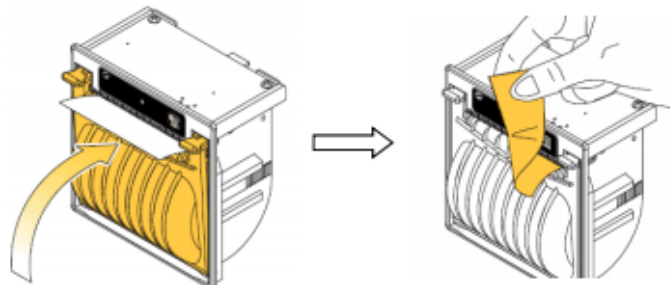


**Before inserting a new roll of paper into the printer, cut the first part (20cm) that may be sticky.**

- Place the paper roll making sure that it unrolls in the proper direction.






- Take out the paper and close the plastic cover.
- Push on the plastic cover to lock it.
- Tear off the exceeding paper using the jagged edge.





## Appendix D: SealSAFE Specimen Bag and Program Selection Guide

<div>   <b>SealSAFE Specimen Bag and Program Selection Guide</b> </div>			
	Container/Bag	Examples of Specimen types	Program
Pre-filled container	90 mL pre-filled formalin jar	<ul style="list-style-type: none"> <li>Lymph nodes</li> <li>Small biopsies</li> <li>Endometrial curettings</li> <li>Endocervical biopsies</li> <li>Bladder biopsies</li> <li>Specimen less than 2cm in thickness</li> </ul>	
SealSAFE	Small vacuum bag	<ul style="list-style-type: none"> <li>Skin excision</li> <li>Appendix</li> <li>Gallbladder</li> <li>Lipoma</li> <li>Tonsil</li> <li>Ovary</li> <li>Testicle</li> <li>Small specimens which do not fit in a pre-filled formalin jar</li> </ul>	Vacuum and Fixative; <b>1:2</b> ratio
	Large vacuum bag	<ul style="list-style-type: none"> <li>Large specimens which do not fit in small vacuum bag</li> <li>Prostate</li> <li>Bowel</li> <li>Stomach</li> <li>Thyroid</li> <li>Breast</li> </ul>	
	Large vacuum bag <i>Note: can use small vacuum bag if total amount is going to be less than 1/3 of bag volume</i>	<ul style="list-style-type: none"> <li>Prostate chips (TURP)</li> </ul>	Vacuum and Fixative; <b>1:3</b> ratio
	Large vacuum bag	<ul style="list-style-type: none"> <li>Placenta</li> </ul>	Vacuum only; <b>P4</b>

Manually fill	Large plastic containers	<ul style="list-style-type: none"> <li>Extra-large specimens (exceeding 1.5 kg)</li> </ul>	
No Formalin	Sterile containers	<ul style="list-style-type: none"> <li>Lymphoma protocol</li> <li>Stones</li> <li>Explant IUD's</li> <li>Any other small specimens that do not need formalin</li> </ul>	
<div> <p><b>For technical support, contact Anatomical Pathology at local 62363. For weekend support, page the on-call technologist at (604) 252-4577</b></p>  </div>			

May 2021