

Intraoperative frozen section consultation-the Pathologists' Assistant Perspective

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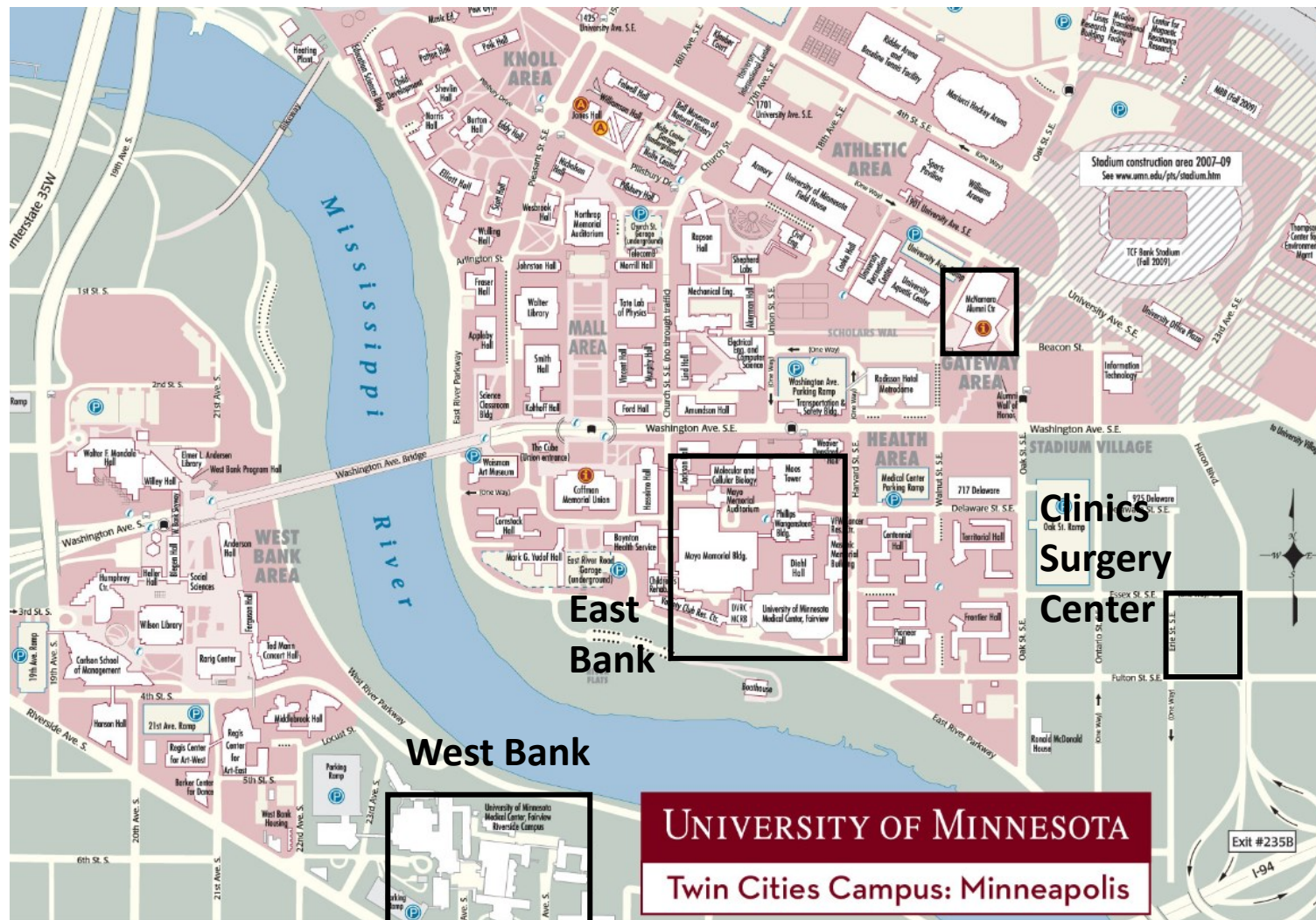
Disclosures

- None

Overview

- Pre-analytical
 - Communication with OR
 - Warm hand offs
 - Reducing unnecessary time
- Frozen sections
 - Head and neck specimens
 - Lung specimens
 - Ovaries specimens
- Telepathology
- Gross assessment
- Additional special handling

University of Minnesota Medical Center



A collaboration among the University of Minnesota,
University of Minnesota Physicians and Fairview Health Services



Frozen section turnaround time

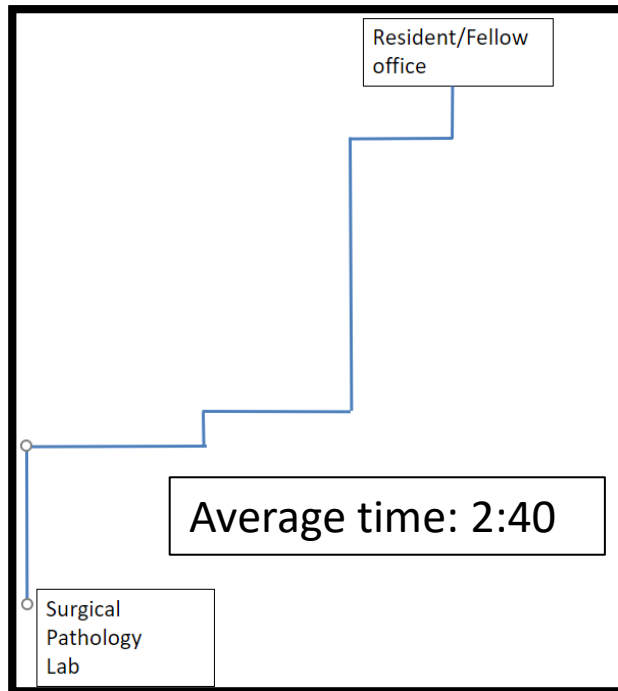
- Tracking of frozen section TAT
 - 20 minutes at East Bank
 - 30 minutes at West Bank and CSC
- Tracking cases with a single frozen
- Calculated by time of accessioning to time pathologist signs out frozen section in LIS

Pre-analytical

- ORs call gross room before sending a frozen
- Hand the specimen to someone in the lab
 - Termed: Warm hand off
- Reduce unnecessary time on a specimen

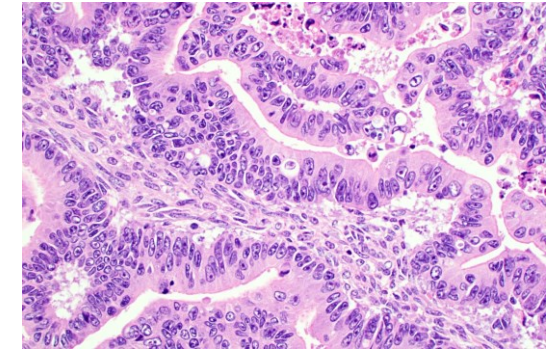
OR notification calls on frozens

- Make space available at grossing bench
- Allows time for residents/fellows



OR informative sessions

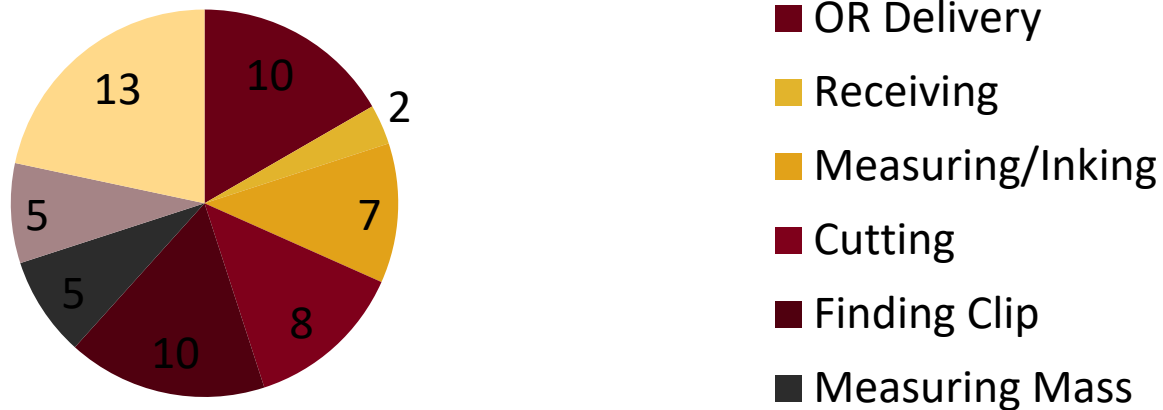
- PAs participate in educational presentations for incoming nurses
 - Role of the surgical pathology lab
 - Discuss frozens and why it is important to call



OR informative sessions

- Breast specimens

Ideal time



- Promptly bringing specimens to gross room
 - Especially colons, kidneys, uteri, bladders etc.

colon
whipple
gastrectomy
nephrectomy
large ovarian tumors
larger soft tissue masses
explanted liver
explanted lung
rectum

distal pancreas
spleen
cystoprostatectomy
cystectomy
hysterectomies
soft tissue mass no larger than softball
leiomyosarcomas
explanted heart
thymus
placenta

penectomy
small ovarian tumor
Fibroids
larger ENT resections
glossectomies
soft tissue mass no larger than tennis ball
laryngectomies
thyroid
partial hepatectomy

160 oz

64 oz

32 oz

larger gallbladders
hernia sac
gastric sleeve
adrenal
partial nephrectomies
soft tissue mass no larger than golf ball
circumcision
prostate
orchiectomy
fallopian tubes for cancer
fallopian tubes for ectopic pregnancy
BRCA ovary/fallopian tubes
larger vulvas
small ENT resections
salivary glands
thyroid
lung wedge

biopsies
appendix
gallbladders
frozen margins
ureters
soft tissue mass smaller than golf ball
hernia sac
TURBT
most cones/LEEPs
fallopian tubes (for ligation)
incidental small ovary
SMALL vulvas
middle ear contents
lymph node packets
parathyroids
tonsils
neuro resections

Biopsies

16 oz

90 mL

60 mL

Pre-analytical

- ORs call gross room before sending a frozen
- Hand the specimen to someone in the lab
 - Termed: Warm hand off
- Reduce unnecessary time on a specimen

Warm hand off

- OR staff must physically hand specimen to lab staff
 - Indicating
 - Frozen
 - Breast specimen
 - Lymphoma work up
 - After hours
 - A member from core lab receive specimens

Pre-analytical

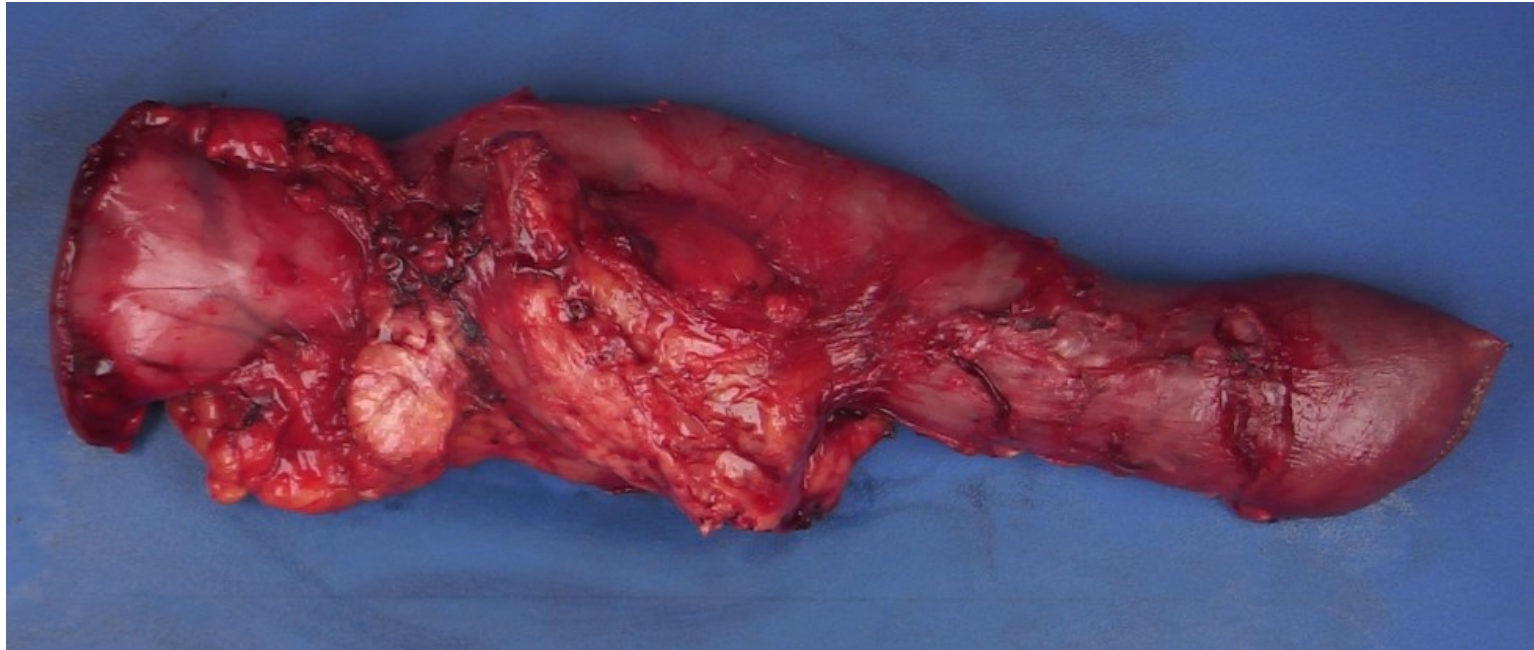
- ORs call gross room before sending a frozen
- Hand the specimen to someone in the lab
 - Termed: Warm hand off

- Reduce unnecessary time on a specimen

Reducing time

- Accessioning
 - Match container with paperwork
 - Scan specimen to receive
 - Hand specimen off
- Focus on what is the requested surgeon
 - Can some measurements, prepping and/or inking be taken later?

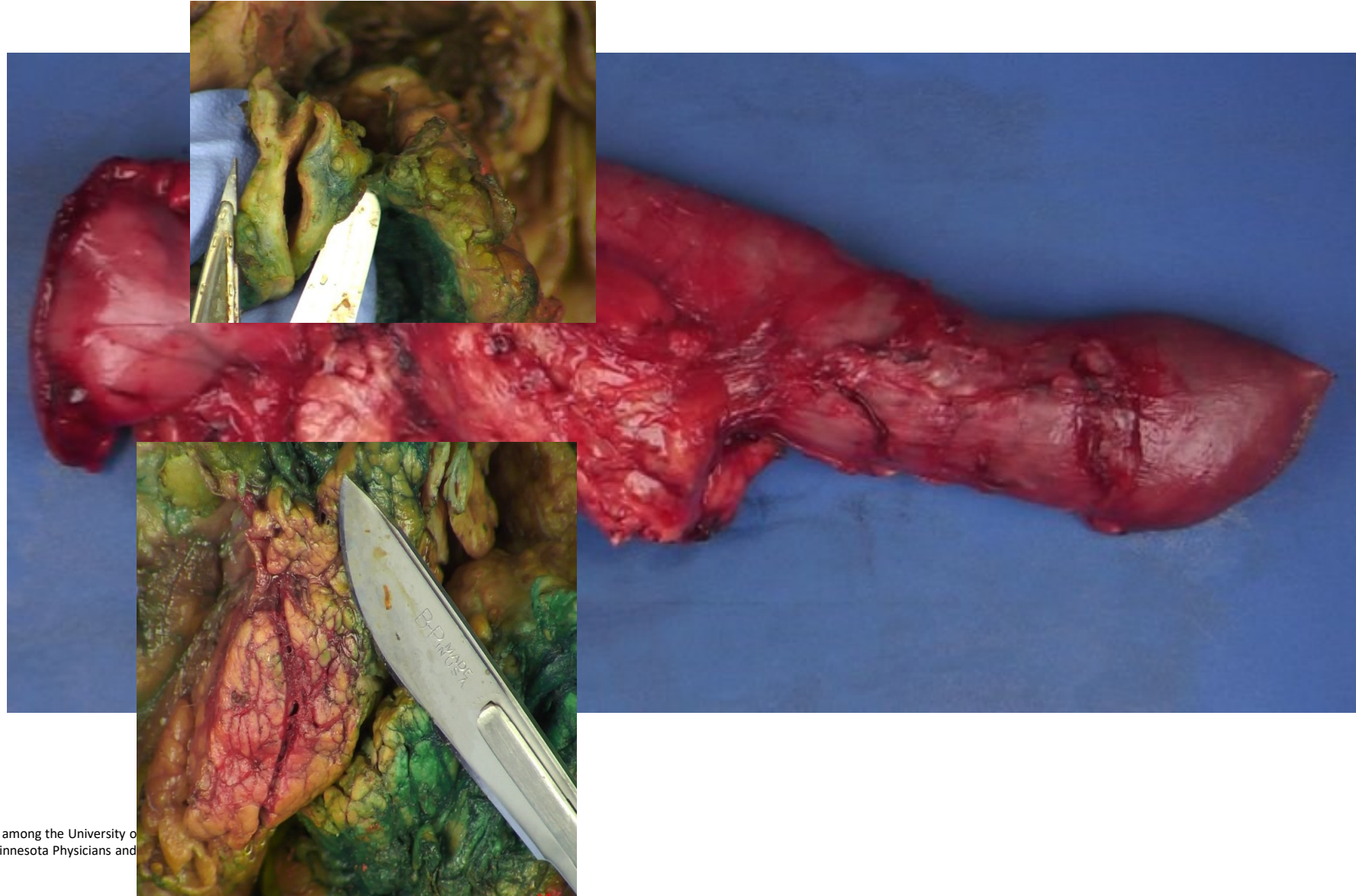
Reducing time-Whipples



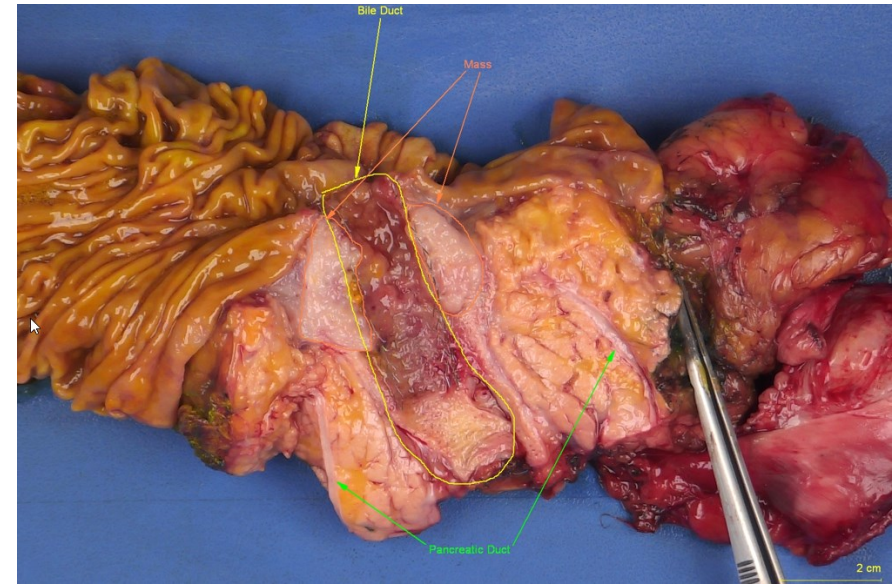
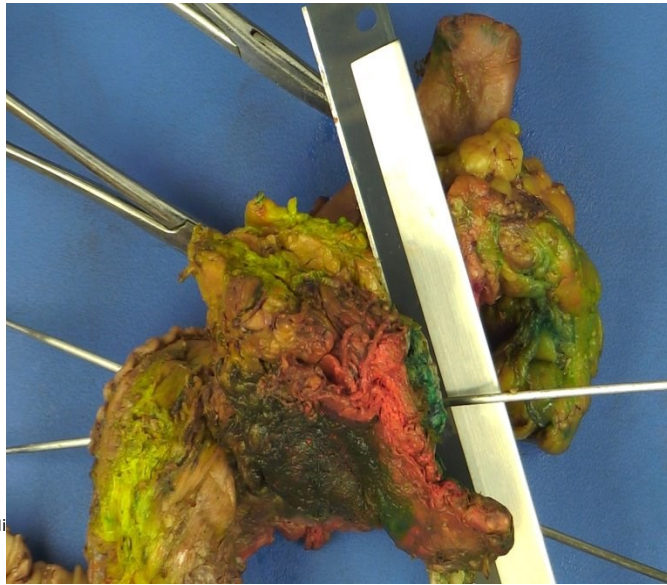
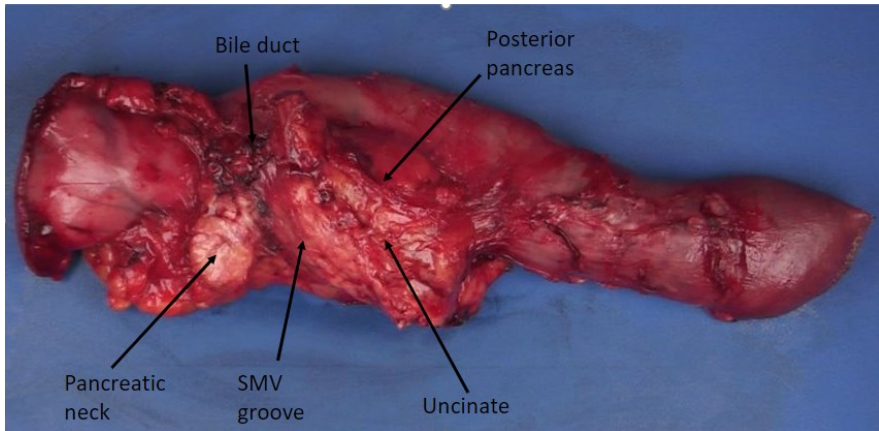
- Orientation
- Inking scheme
- What to measure?
- Is there a stent in the duct(s)?
- How should it be opened?

What is the surgeon requesting a frozen on?

Reducing time-Whipples



Whipples



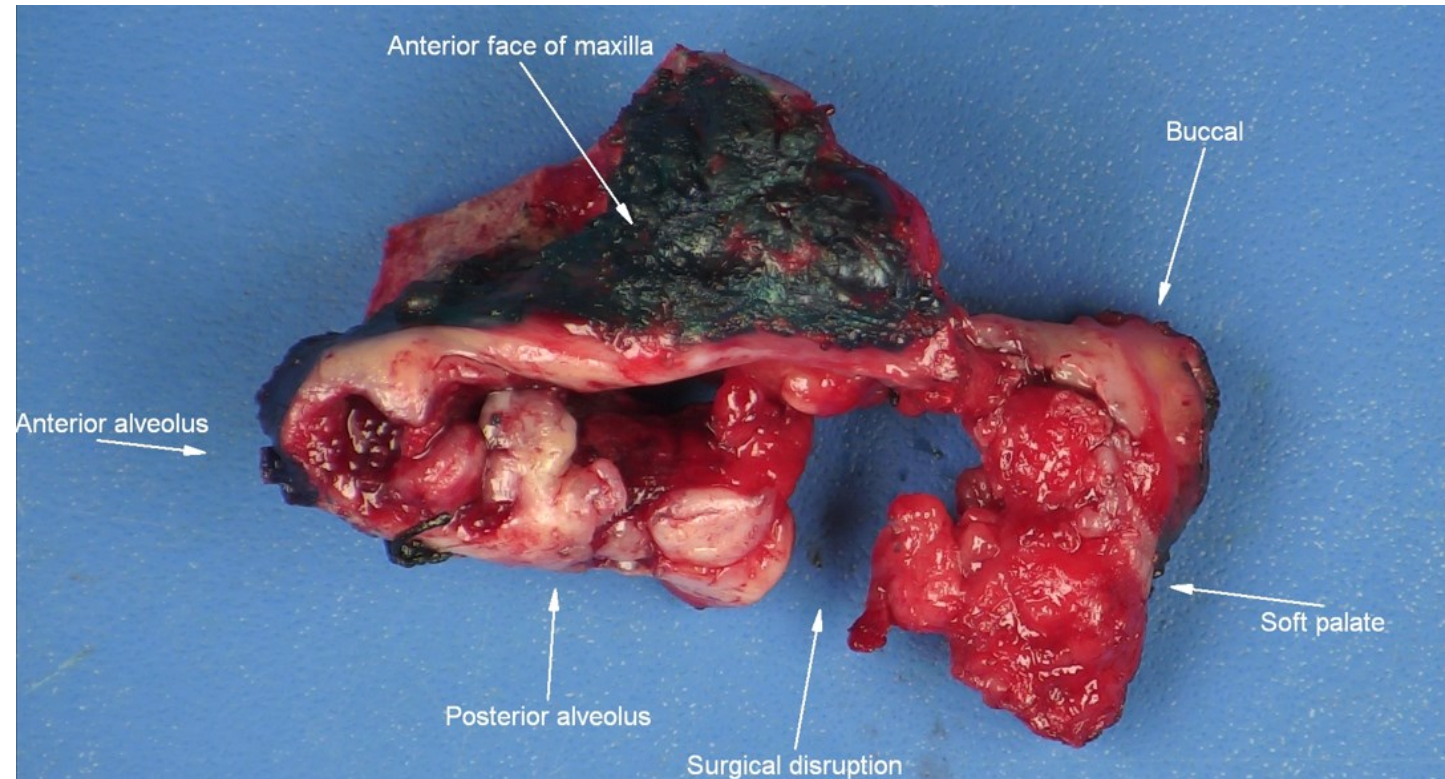


Frozen sections

- UMMC Policy on submission of margins
 - All true margins are placed down on the frozen section chuck **except** GU specimens, where the true margin is placed up on the frozen section chuck
 - Typically take two levels per frozen
 - First when faced into tissue
 - Second past the mid portion of tissue
 - Exception: Head and Neck margins

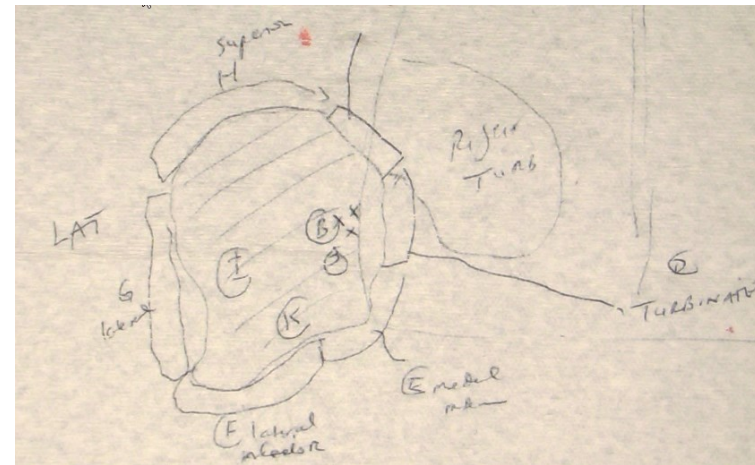
Head and Neck specimens

- Proper handling and margin identification has been built on consistent surgeon interactions

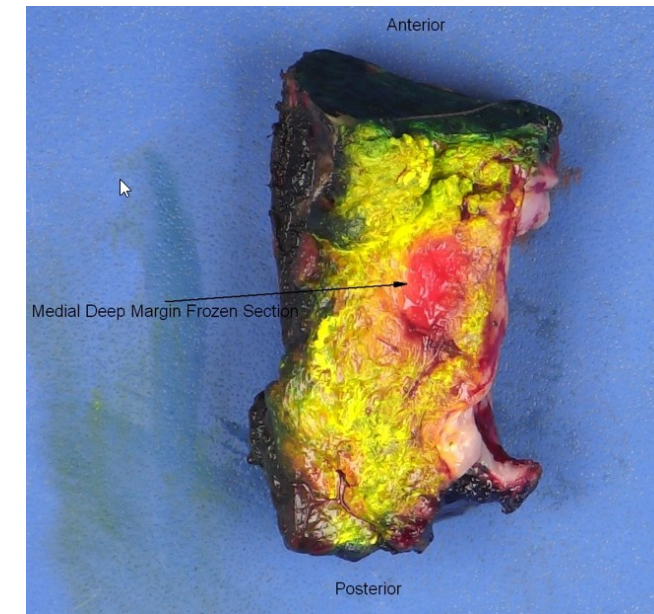
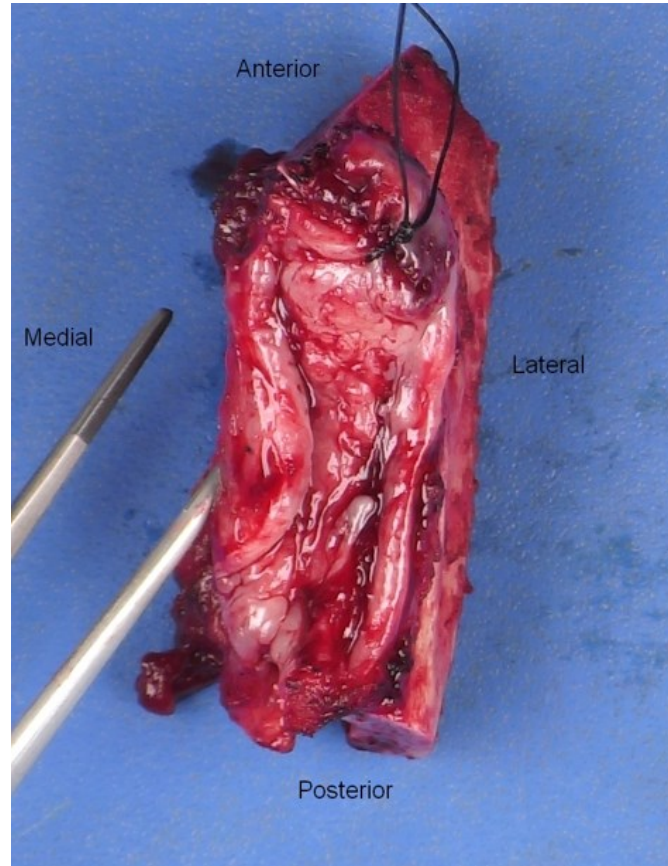
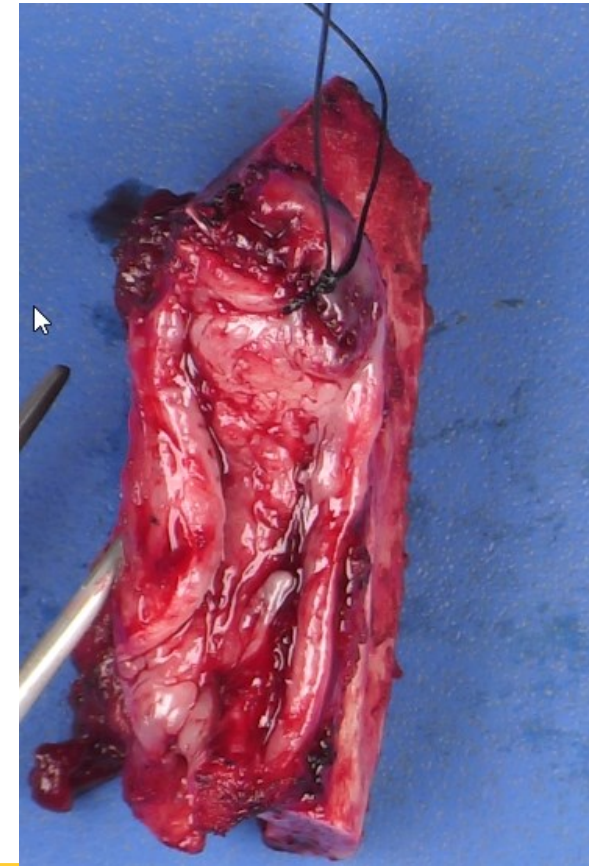


Head and Neck specimens

- Receive call from OR
- Station is prepared
- Standard is to bring main resection to gross room, reconfirming margins
 - What frozens are needed?
 - What are the true margins on the specimen?

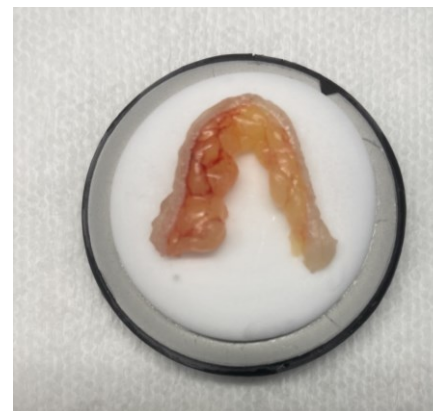


Head and Neck specimens



HN margins

- Don't curl the tissue on the chuck
- Cut the tissue into strips
 - Ink appropriate ends if necessary



Levels on HN margins

True margin
down on chuck



1st section
taken at
full face of
tissue



Patient info
Accession #
Date
Part A-L1

2nd section
taken ~50% into
tissue



Patient info
Accession #
Date
Part A-L2

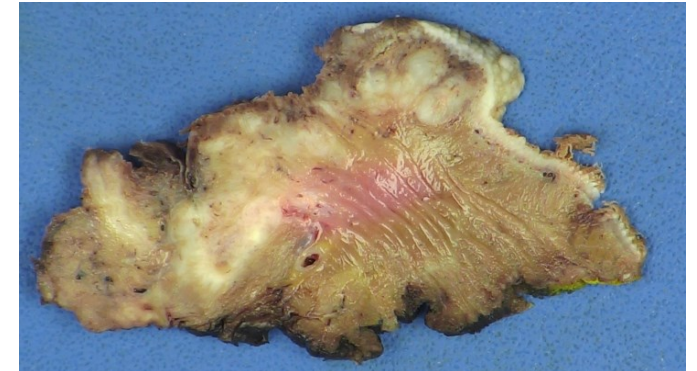
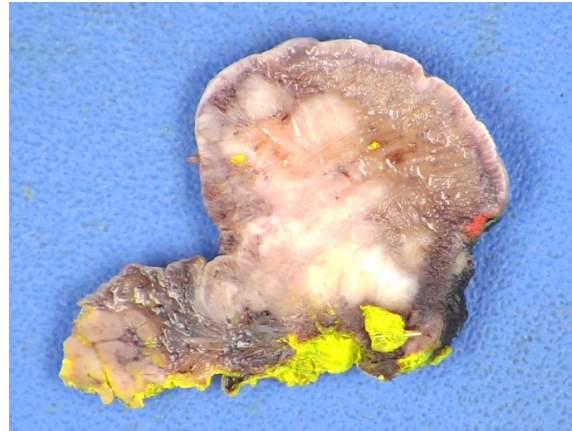
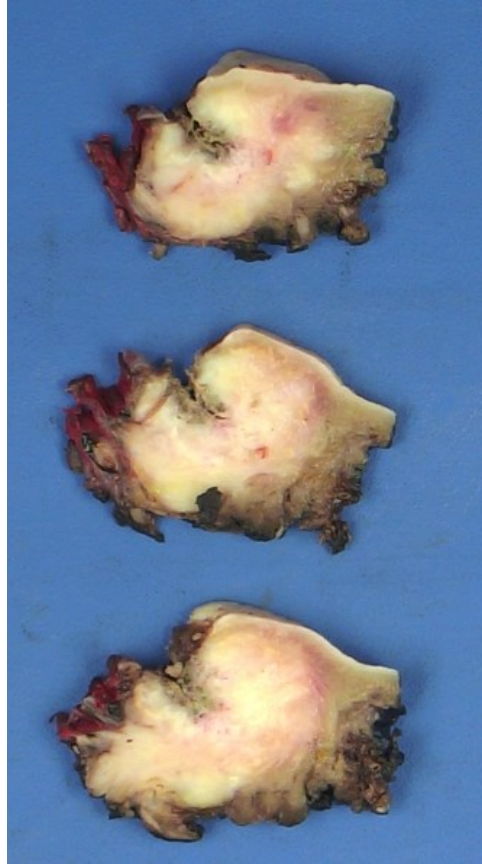
3rd section
taken near end
of tissue, but
not depleting
sample



Patient info
Accession #
Date
Part A-L3

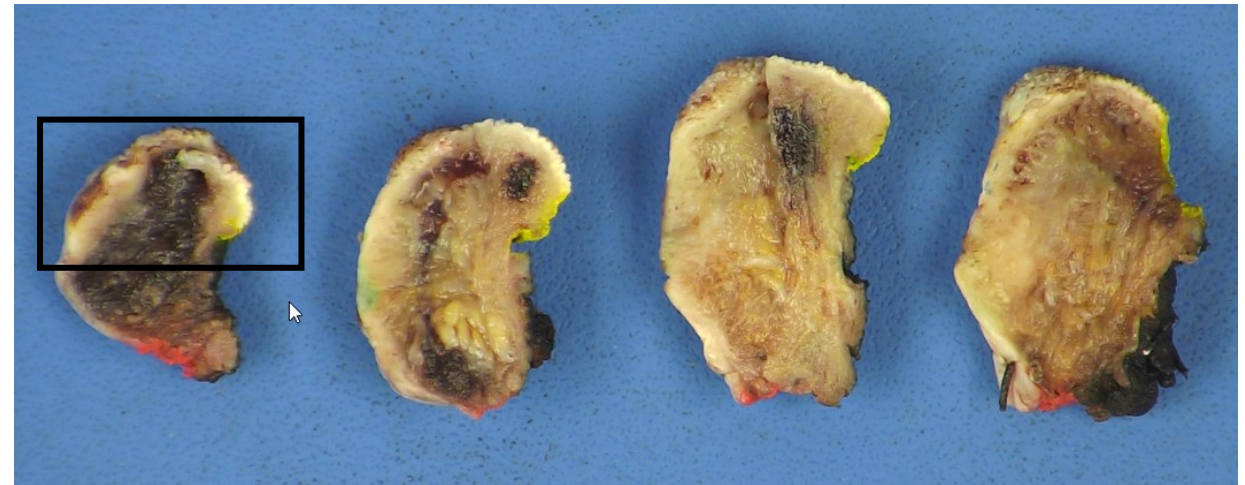
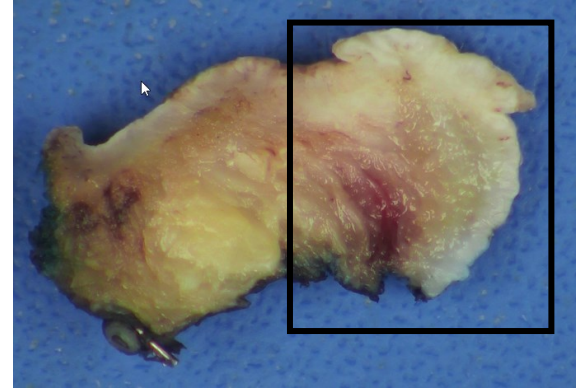
HN specimens (depth of invasion)

- Frozen on mass to deep
 - Is the deep margin clear?
 - What is the depth of invasion?
- What is the standard at your institution?



HN specimens (depth of invasion)

- Choosing deepest area of invasion
- Communicating to pathologist what grossly is the depth of invasion



HN specimens and COVID

- Specimens are handled in a biological safety cabinet if:
 - Positive COVID 19 result within 30 days
 - Documentation of COVID symptoms but no testing

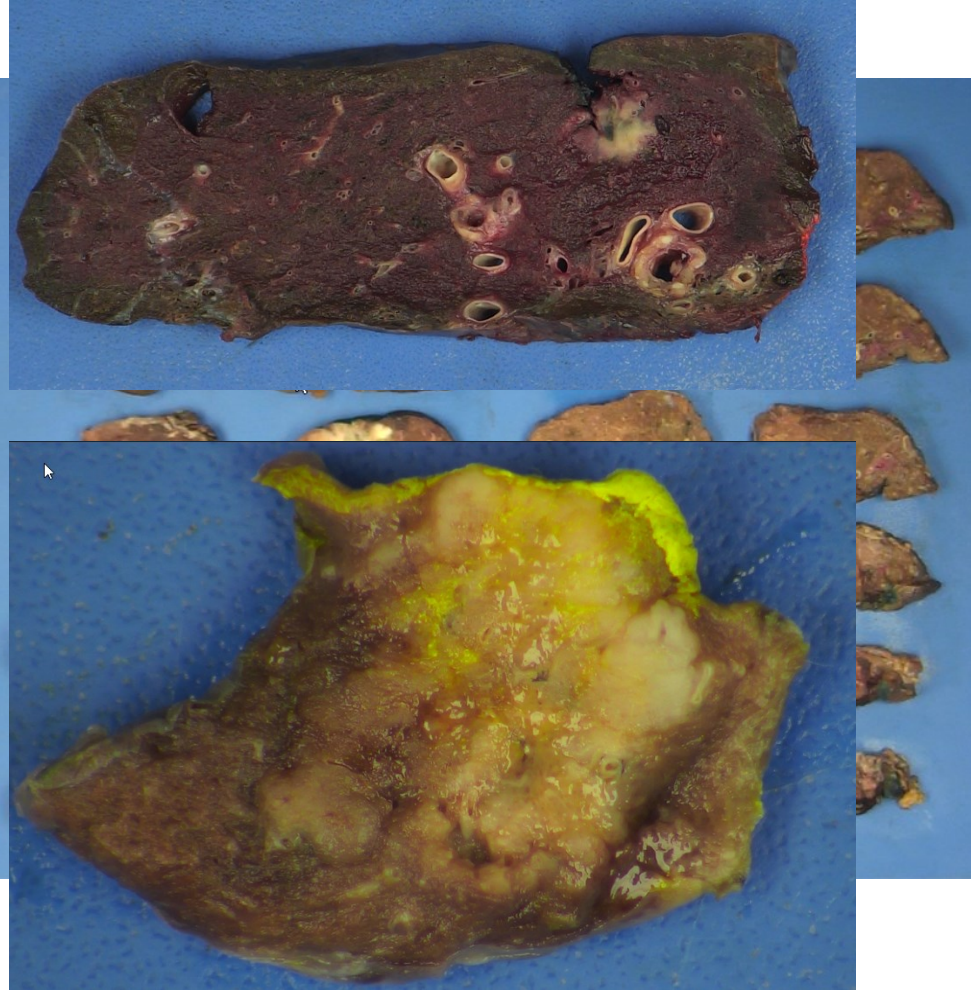
Lung specimens

- Since the start of the COVID pandemic all lung specimens are handled in the Biological Safety Cabinet (BSC)
 - Turn blower on for 4 minutes
 - Don N95 and standard grossing PPE
 - Remove all other items from the cryostat



Lung specimens

- Call OR if unclear on frozen request
- Measure thickness of staple line
 - "0.3 cm thick staple line is removed and the underlying surface is inked"



Lung specimens

- Sample is covered and transferred to cryostat
- No other tissue is cut on cryostat
- On frozen diagnosis ask pathologist if there is any sign of infection

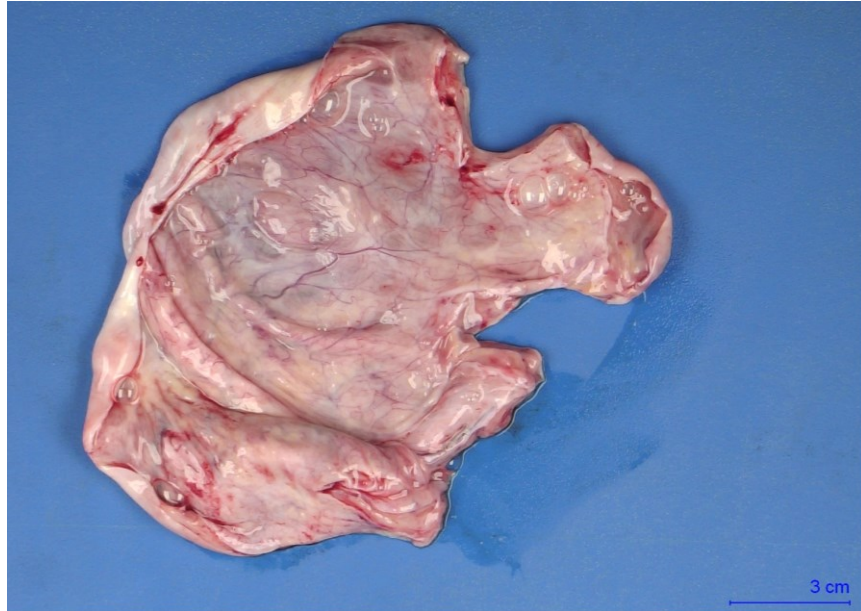


Lung specimens-Infection

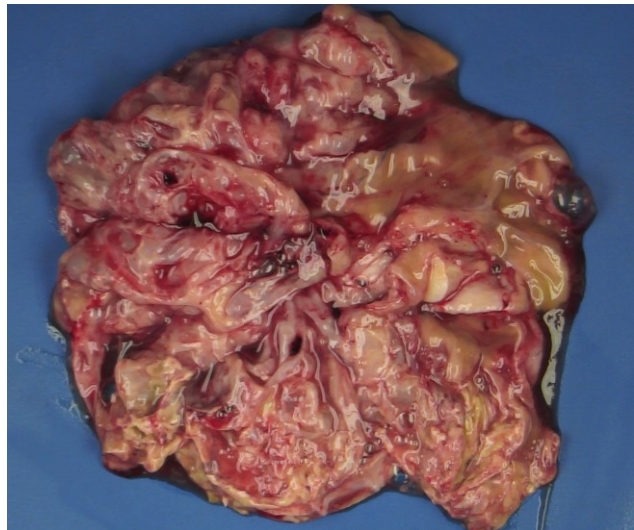
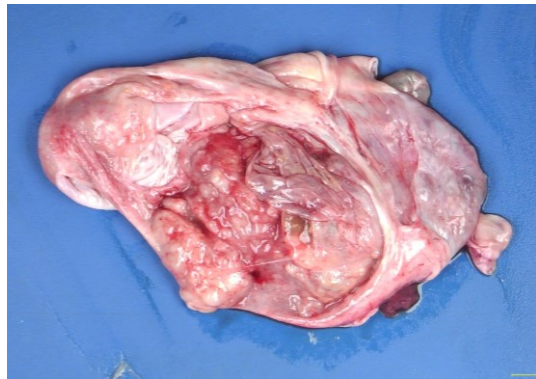
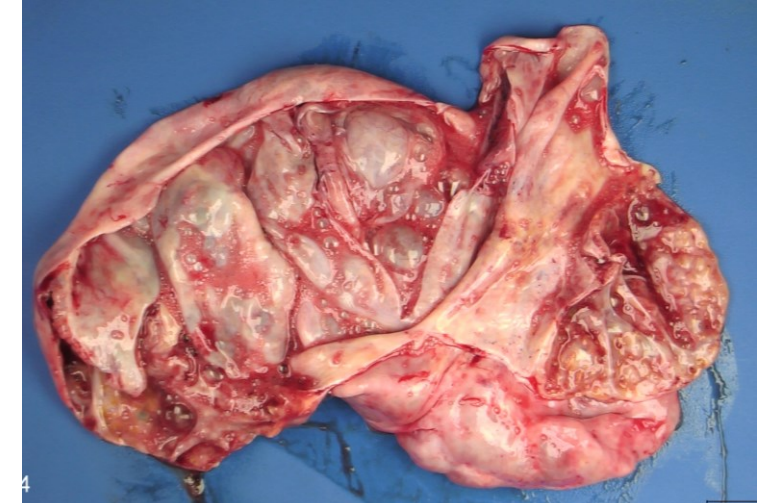
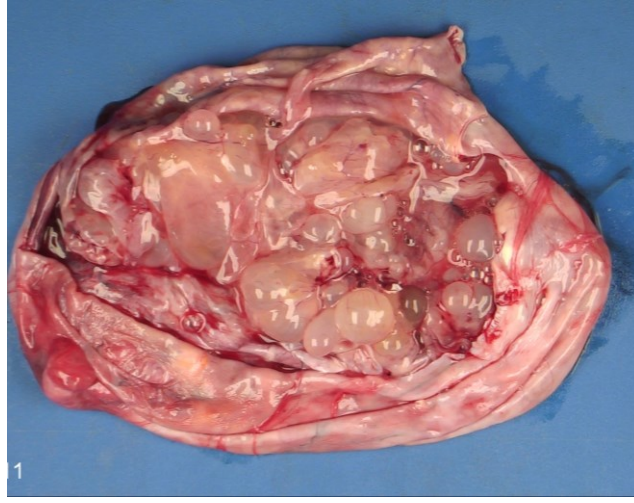
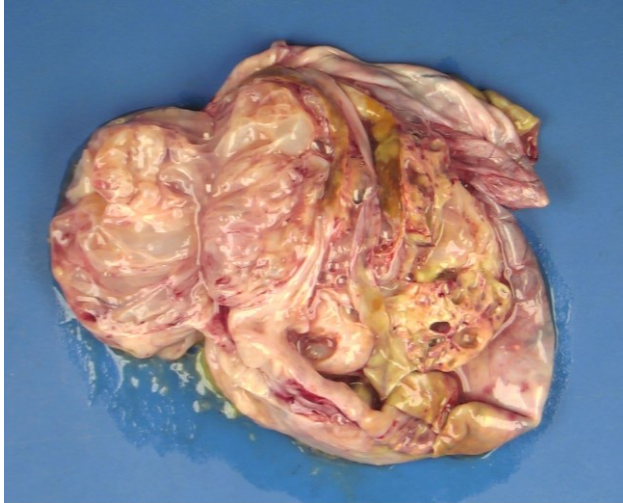
No infection	Infection
Carry remaining frozen back in covered container	Run UV light
Standard cleaning of cryostat	Discard blade.
Prep remaining specimen in BSC	Place shavings in small sealed biohazard bag
Spray tools and workspace with disinfectant	Place bag in Biohazard trash
	Clean cryostat with disinfectant
	Carry remaining frozen back in covered container
	Prep remaining specimen in BSC
	Spray tools and workspace with disinfectant



Ovarian tumors-mucinous tumors (benign)

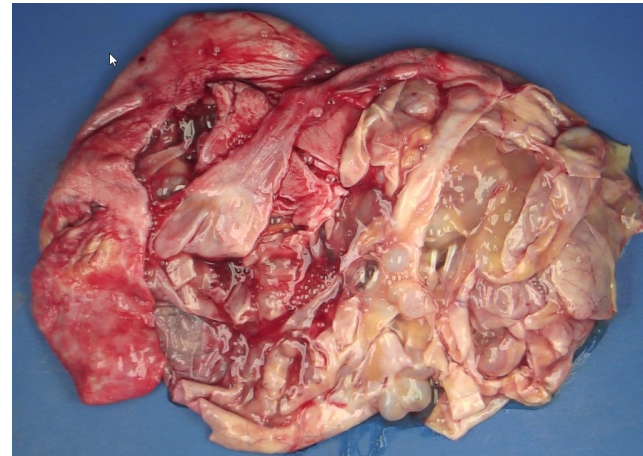
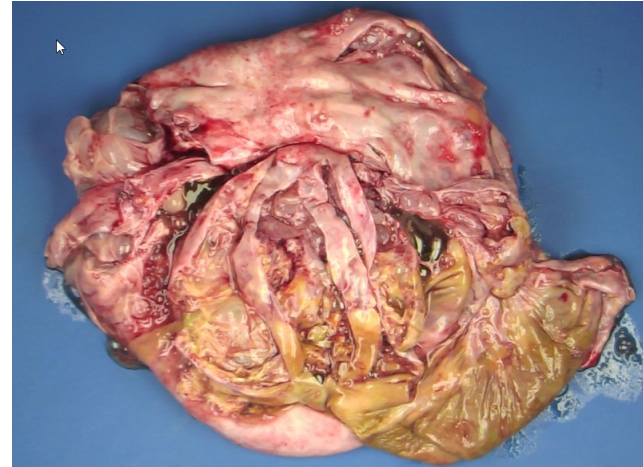


Ovarian tumors-mucinous borderline

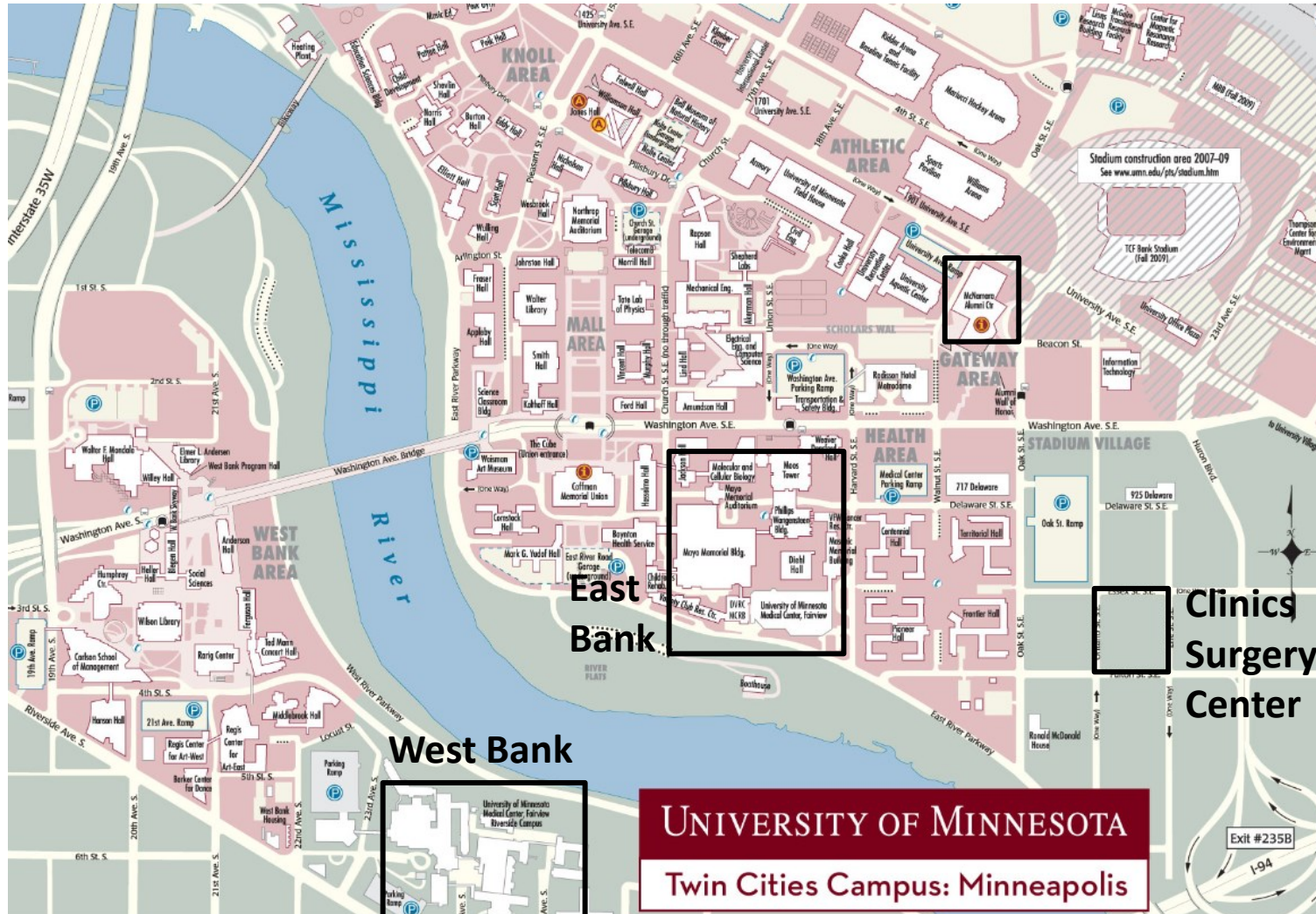


Ovarian tumors-mucinous borderline

- Standard documentation
 - Receiving intact or disrupted
 - Describe outer surface (smooth or involved by mass)
- Section through "all" cysts
- Sample solid areas, excrescences or multilocated areas

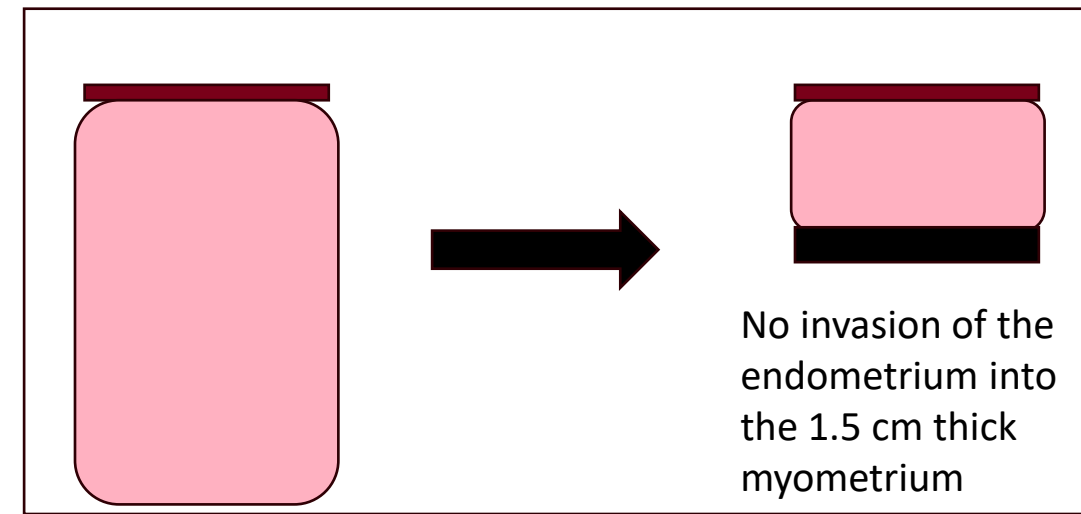
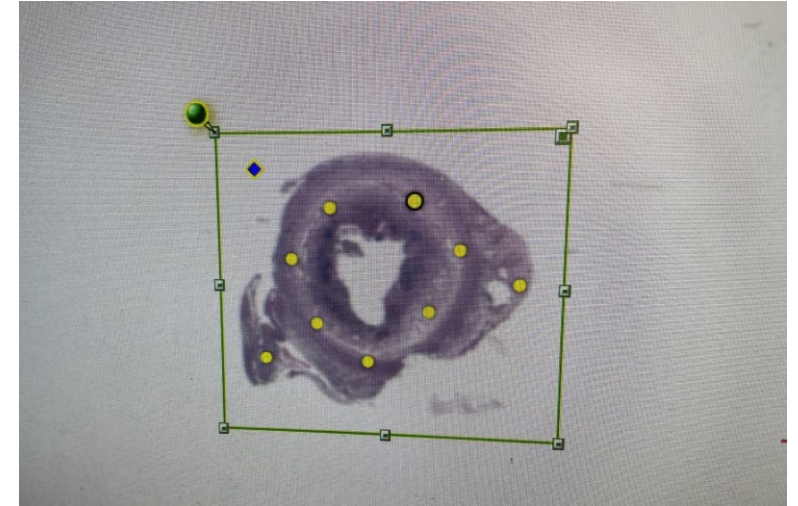


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Telepathology

- Frozen sections slide viewable through Leica slide scanner
 - Logistics
 - Call pathologist when tissue is freezing
 - All lab staff competent on process
 - Whole slide viewable at 20x
 - Advantage-able to see entire slide
 - Disadvantages-waiting for uploaded images
 - Submit appropriate representative sections
 - Parathyroid
 - Soft tissue tumors
 - Submit non full thickness on non-invasive uteri cancers/hyperplasia



Telepathology

- Additional options
 - Video camera where an individual drives the slide
 - Advantage-slides viewable once stained
 - Disadvantage-what happens if someone does not show the entire slide?
 - New technology allow controlling of microscope remotely

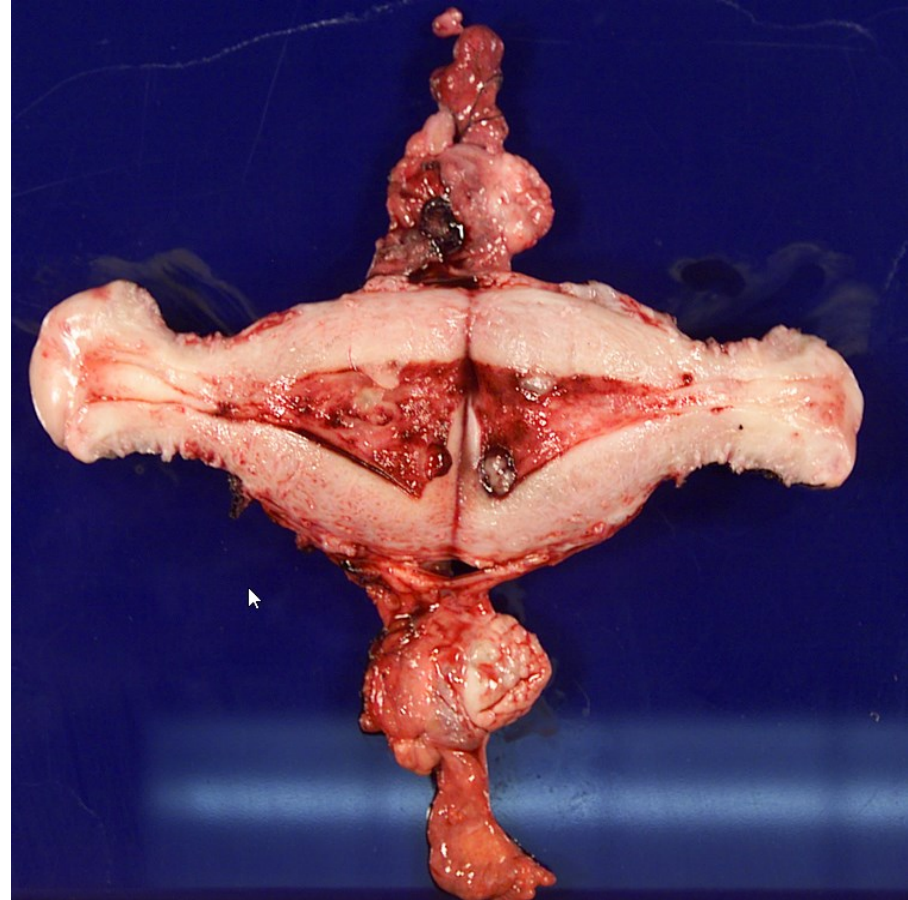


Additional special handling

- Gross assessment
 - Apply code of 88329
 - "Describes an intraoperative consultations by a pathologist based only on a macroscopic exam of the tissue"
 - Pathologist must examine the specimen prior to billing
 - Communication to the surgeon is documented in gross description

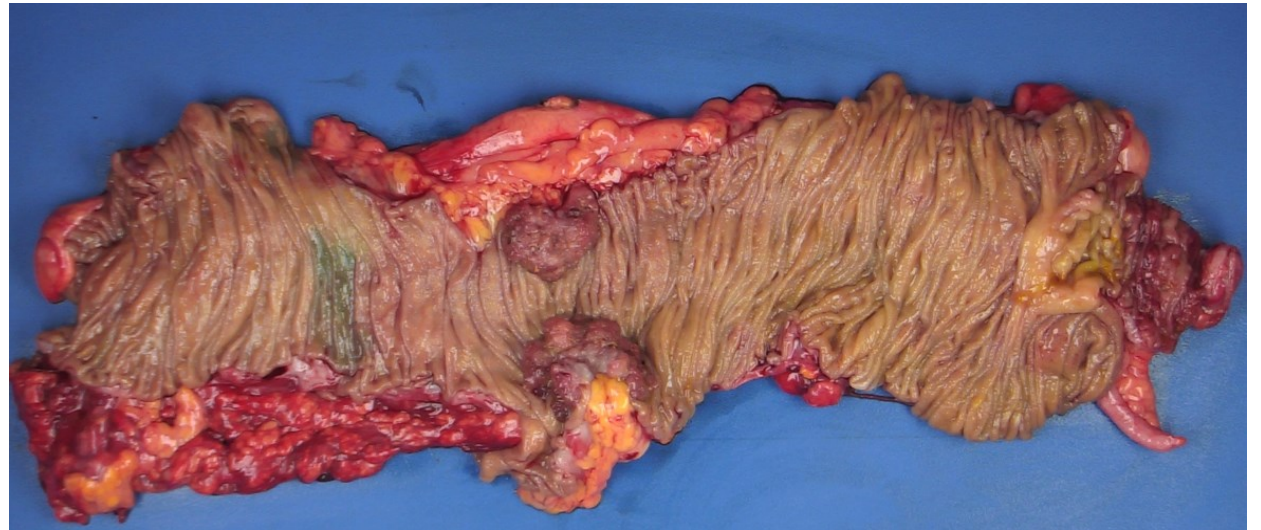
Additional special handling-gross assessment

- Open and call
- Are there any masses and/polyps present?
- Any nodules within the myometrium?



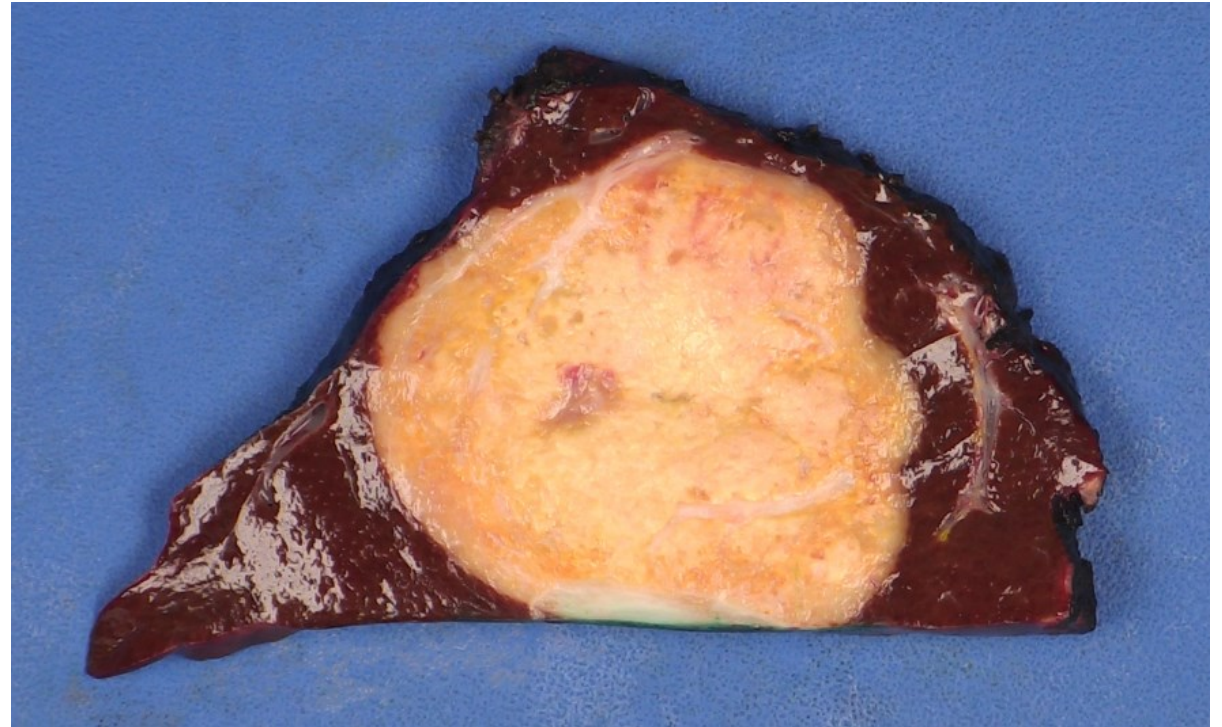
Additional special handling-gross assessment

- Open and call
- Distance of mass to nearest margin?
- Are there any other masses and/or polyps?



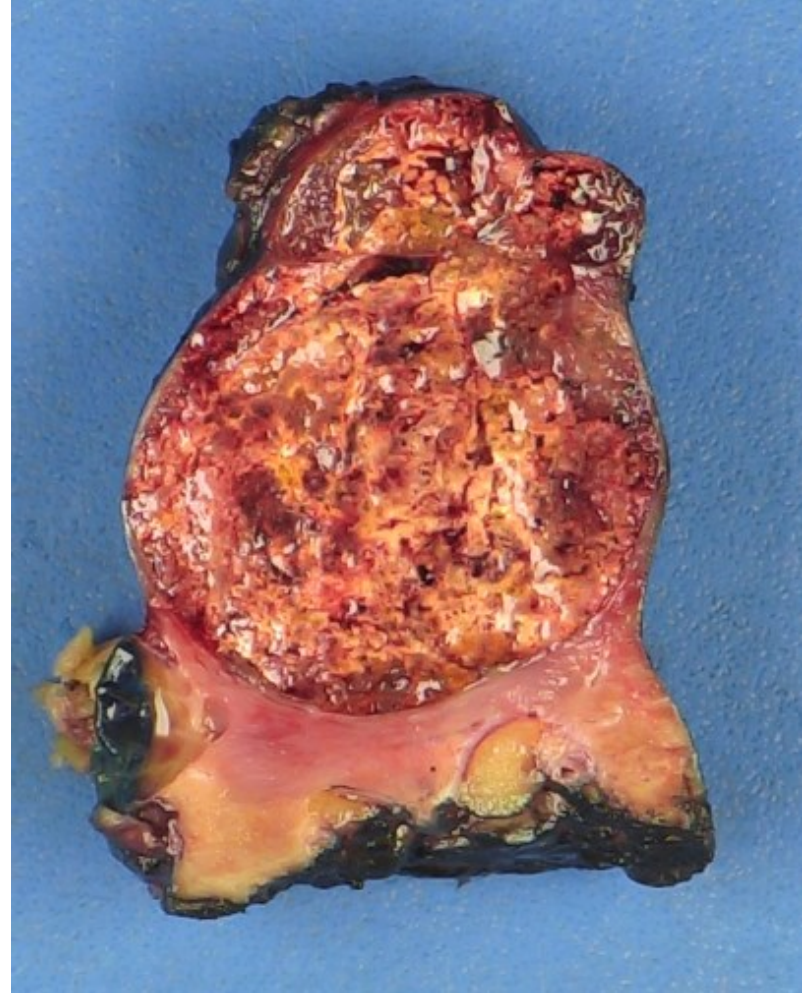
Additional special handling-gross assessment

- Liver resections "ink and breadloaf"
- How close is the mass to the margins?

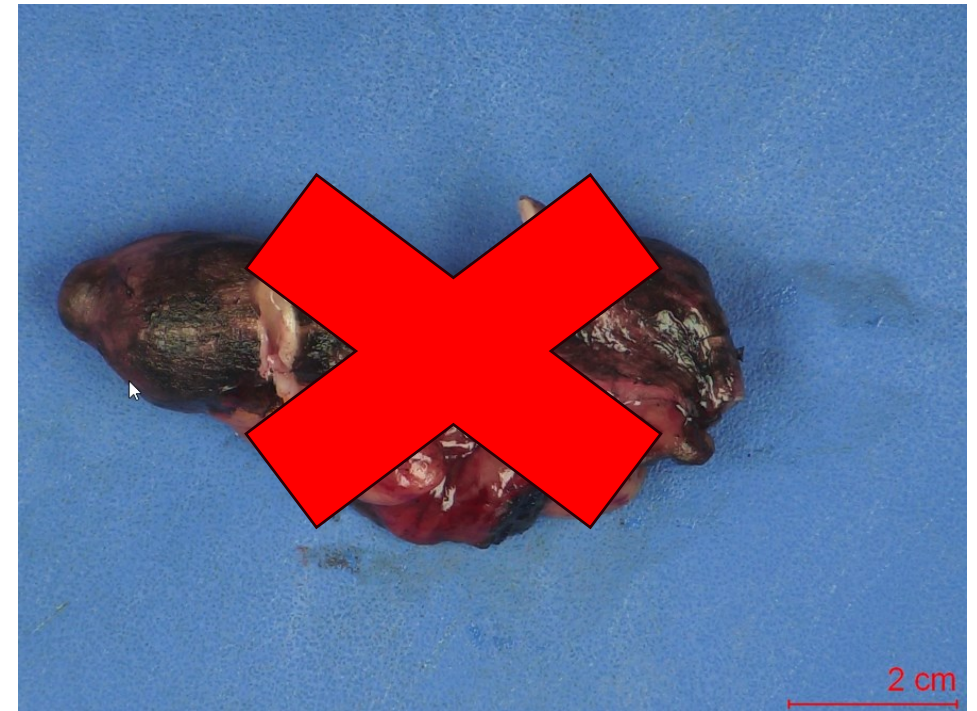
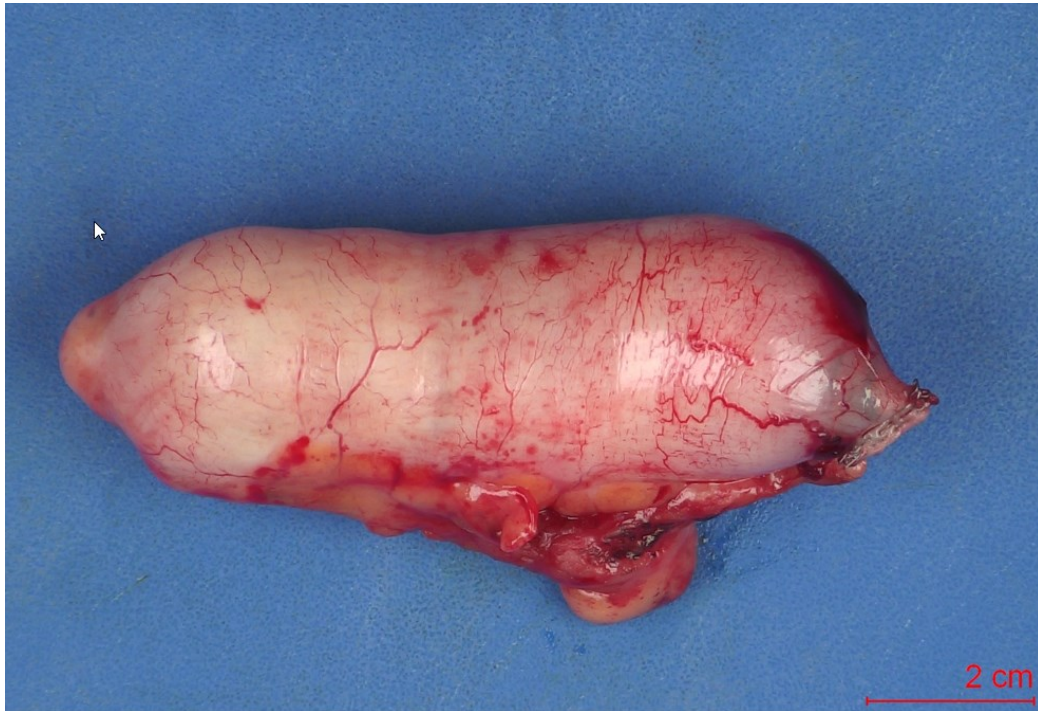


Additional specimen handling-gross assessment

- How close is the mass to the margins?
- Gross assessment of the mass



Additional special handling-Appendix



Thank you

- Thank you to Dr. Racila, Dr. Khalifa and the MN Physicians PA team





HEALTH
FAIRVIEW

Questions

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