



病理組織檢體處理 < 教學手冊 >

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References:

William H. Westra, M.D., et al. "Surgical Pathology Dissection: An Illustrated Guide, Second Edition" .



Outline of today's lecture

- **Surgical pathology level (I-VI)**
- **Fundamentals of dissection**
- **Different specimen sampling**



Surgical pathology level I & II

Surgical pathology level	診療項目
25001C	眼觀檢查 Surgical pathology Level I , Gross examination only 如異物(<u>牙齒</u> 、 <u>金屬</u> 、玻璃、結石、寄生蟲等)。
25002C	Surgical pathology Level II <u>附帶切除之闌尾</u> 、 <u>包皮(包莖)</u> 、 <u>疝氣囊</u> 、陰囊水腫、胃迷走神經切除、皮膚(整形修復)、交感神經結、睪丸(闔割性睪丸切除)、創傷性之指頭截肢、結紮之輸卵管、附帶切除之陰道壁、輸精管結紮。



Surgical pathology level III

Surgical pathology level	診療項目
25003C	<p>Surgical pathology Level III</p> <p>人工流產、膿瘍、<u>動脈瘤</u>、肛門息肉、<u>闌尾炎</u>、粥狀動脈硬化、非病理性骨折之骨碎片、關節囊腫、腕部隧道症、軟骨刮削、膽脂瘤、結腸造口術、結膜切片/翼狀胬肉、<u>雞眼</u>、角膜、食道及小腸憩室病、股骨頭(非骨折性)、纖維<u>脂肪瘤</u>、<u>瘻管</u>、包皮(包皮炎，尖狀濕疣)、<u>膽囊</u>、腱鞘囊腫、血腫、<u>痔瘡</u>、椎間盤突出、關節游離體、<u>關節半月板</u>、黏液囊腫、外傷性神經瘤、藏毛瘻管、<u>鼻腔及鼻竇發炎性息肉</u>、<u>皮膚囊腫/皮膚息肉/皮膚清創術</u>、軟組織清創術、<u>脂肪瘤</u>、精液囊腫、肌腱、睪丸附屬器官、<u>血栓</u>、口腔及鼻咽扁桃腺或腺樣組織、精索靜脈曲張、<u>靜脈曲張</u>、輸精管(非結紮)。</p>



Surgical pathology level IV

Surgical pathology level

診療項目

25004C

Surgical pathology Level IV

自然流產、骨髓切片、乳房切片(不需margin)、切片 biopsy (支氣管、子宮頸、結腸、十二指腸、子宮頸/子宮內膜息肉、結腸直腸息肉切除、尖性濕疣、皮纖維瘤、子宮內頸刮除術、子宮內膜刮除術、食道、創傷性之肢體截肢、輸卵管、股骨頭骨折、非創傷性之指頭截肢、牙齦/口腔黏膜、心臟瓣膜、血管瘤、痣、腎臟切片、喉部、子宮肌瘤切除術、唇、經支氣管肺、淋巴結、肌肉、鼻黏膜、鼻咽或口咽、牙源性囊腫、網膜切片、卵巢切除(非腫瘤)、副甲狀腺切除、腹膜切片、腦下垂體腫瘤、胎盤(非懷孕後三個月)、肋膜/心包膜切片、子宮脫垂、前列腺細針切片、攝護腺刮除、唾液腺切片、皮脂漏性角化、小腸、脾臟、胃切片、胃/小腸息肉切除、舌切片、扁桃腺切片、輸卵管異位懷孕、輸尿管切片、尿道切片、膀胱切片、陰道切片、尋常疣、會陰切片。



Surgical pathology level V

Surgical pathology level	診療項目
25024C	<p>Surgical pathology Level V</p> <p>腎上腺切除、病理性骨折之骨碎片、乳房腫瘤切除(需要檢查margin)、乳房切除(不含淋巴結)、腦/腦膜(腫瘤)、子宮頸圓錐狀切除、<u>膽囊癌膽囊切除</u>、非腫瘤的結腸切除、非創傷性之肢體截肢、眼摘除、<u>腎臟部份或全部切除</u>、喉部分及全部切除(不含淋巴結)、<u>肝臟切片</u>、<u>肝臟部分切除</u>、<u>肺臟楔形切片</u>、<u>淋巴腺摘除</u>、縱隔腔腫瘤、<u>心肌切片</u>、牙源性腫瘤、器官移植(角膜除外)、卵巢腫瘤、胎盤(懷孕後三個月)、前列腺非根治性切除、<u>非腫瘤的小腸切除</u>、軟組織切片或簡單切除(非脂肪瘤)、<u>非腫瘤的胃切除</u>、<u>睪丸切片</u>、胸腺腫瘤、<u>甲狀腺切除</u>、輸尿管切除、經尿道膀胱腫瘤切除、<u>子宮切除/子宮肌瘤及非脫垂(有或無輸卵管及卵巢)</u>。</p>



Surgical pathology level VI

Surgical pathology level

診療項目

25025C

Surgical pathology Level VI

骨切除(腫瘤)、乳房切除(含淋巴結)、結腸切除(腫瘤)、食道部分及全部切除、截肢(關節截斷)、胎兒、喉部分及全部切除(含淋巴結)、肺葉切除、胰臟部份或全切除、前列腺根治性切除、小腸切除(腫瘤)、軟組織腫瘤廣泛性切除、胃部份或全部切除(腫瘤)、睪丸腫瘤、舌/扁桃腺腫瘤根治性切除、膀胱部分或全部切除、子宮切除/腫瘤性(有或無輸卵管及卵巢)、會陰全部或部分切除。



級數統整表

檢體	處理方式	診斷	級數
Teeth&Foreign body			1
Soft tissue	debridement		3
Soft tissue	excision		4
Soft tissue	excision	Lipoma	3
Skin	excision	Epidermal cyst	3
Skin	debridement		3
Skin	Biopsy & removal	Seborrheic keratosis	4
Skin	Biopsy & removal	Intradermal nevus	4
Skin	debridement	Verruca vulgaris	4
Skin	excision	Sqcc & Bcc & Melanoma	5
Buccal mucosa	Wide excision		5
Buccal mucosa	debridement		3
Endometrial	D&C & MR & Sampling		4
Endometrial	hysterectomy	EM carcinoma	6
Cervix	Biopsy		4
Cervix	Conization		5
Cervix	hysterectomy	Sqcc	6
Endocervical	ECC		4
Stomach & colon	Biopsy & polypectomy		4
Stomach & colon	ESD & EMR		5
Stomach	gastrectomy	adenocarcinoma	6
Colon	LAR	adenocarcinoma	6
Duodenum	Whipple procedure		6
Pancreatic	Whipple procedure		6
Spleen	Splenectomy		4
Small intestine	Resection	GIST	6
Small intestine	Resection	Ischemic bowel	5
Breast	Excision	FCC	4
Breast	Excision	IDC DCIS	5
Breast	BCS & MRM		5
Breast +LN	BCS & MRM		6
Breast	Biopsy		4
Prostate	TRUS&TURP&TULEP		4
Prostate	Prostatectomy		6
Urinary bladder	biopsy		4

Urinary bladder	TURBT		5
Urinary bladder	cystectomy	Urothelial carcinoma	6
Kidney	biopsy		4
Kidney	nephrectomy	RCC & UCC	5
Liver	biopsy		5
Liver	Segmentectomy hepatectomy	HCC & transplantation	5
Heart	biopsy		5
Heart(整顆)		transplantation	5
LN	EBUS & Biopsy		4
LN	Excisional biopsy		4
LN	dissection		5
Uterus	LAVH & TVH	Leiomyoma Adenomyosis	5
Uterus	LAVH & TVH	Prolapse	4
Uterus	Robotic subtotal hysterectomy	Leiomyoma Adenomyosis	5
Lung	Biopsy		4
Lung	VATS with wedge resection	GGO	5
Lung	VATS with lobectomy & segmentectomy	GGO	6
Salivary gland	biopsy		4
Testis	biopsy		5
Testis	Orchiectomy		6
Tonsil	Tonsillectomy & UPPP	Chronic tonsillitis	3
Tonsil	tonsillectomy	Tonsil cancer	4
Uvula	UPPP		3
Medial meniscus	Arthroscopy		3
Nasal tissue & septum	ESS & SMP & SRP		3
DISC & spine	Discectomy		3
Bone	Biopsy		4
Bone	Biopsy	Pathological fracture	5
Femoral head	Bipolar hemiarthroplasty	AVN	5



級數統整表

Mitral valve & aortic valve	MVR & AVR		4
vulva	Biopsy		4
vulva	Excision	Uvular tumor (margin)	5
Vagina	Biopsy		4
Bone marrow	Biopsy		4
Ovary	LAOC	endometrioma	4
Ovary	LAOC & cystectomy	Teratoma	5
Ovary	Opital debulking	Carcinoma	5
Panis	Paniectomy		6
Gallbladder	Cholecystectomy		3
Appendix	appenectomy		3
Fistula			3
Hemorrhoid			3
Anus	excision	Condyloma acuminata	4
plantar			4
Brain			5
Thyroid	Lobectomy & thyroidectomy	PTC & NG	5



Fundamentals of dissection

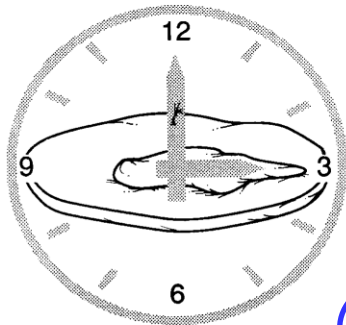
Orient

Measure

Ink

Sample

Assess margin



1

Fundamentals of Specimen Dissection

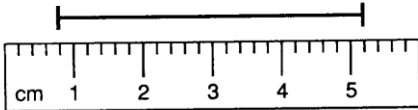
1. Orient

Use anatomic landmarks and/or surgical designations to help orient the specimen. In the illustration, the surgeon has placed a suture at the 12-o'clock position of the skin ellipse.

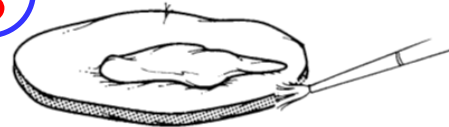
2

2. Measure

Size is one of the most important parameters to document in the gross dictation. Include not only the overall dimensions of the specimen but also the size of the lesion and its distance from the surgical margin.

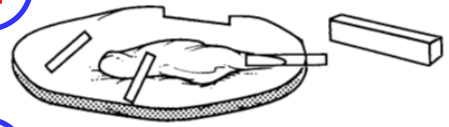


3



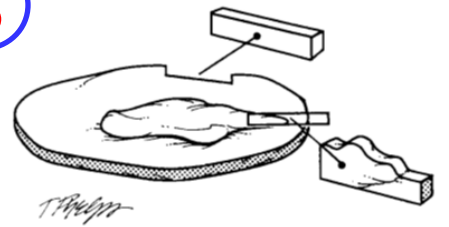
3. Ink
Application of ink to the cut surface of the specimen is a good way to mark the resection margin.

4



4. Sample
Adequately sample the specimen. Include sections of the lesion, normal tissue, and the margins. Sections should be no bigger than the diameter and thickness of a nickel.

5



5. Assess Margins
A perpendicular section is a good way to evaluate the margin when it is closely approached by a lesion. This section shows the distance of the lesion to the edge of the specimen. A parallel section evaluates a larger surface area of the margin, and it may be used to evaluate a margin that is not closely approached by the lesion.

Clinical image

Grossly

Form

Diagnosis



輔助判讀要件

檢查項目: Frozen section 器官: (liver)

手術前診斷: Hepatocellular carcinoma s/p segmentectomy
 相關定性 Hx
 海軍醫院
 Hepatocellular carcinoma s/p segmentectomy and C/T 5 months ago

手術前治療: 化學治療

影像學發現: a 1.2 cm nodule noted in the segment 7, HCC recurrence is highly suspicious.

手術名稱: Segmentectomy

檢體名稱: liver, segment 7

病理申請單

ography of the breast were performed with a high-frequency sducer.

ere are some hypoechoic nodules, less than 5 mm in size, in eral breast, might be complicated cysts or focal cystic change.

31.3 x 19.4 mm irregular mass with poorly defined margin, in JIQ of left breast (10/2 cm), might be neogrowth. Suggest ical evaluation.

ome enlarged lymph nodes in left axillary fossa, might be opathy. Suggest surgical evaluation.

ADS Category 5: > 95% likelihood of malignancy - roprite Action Should be Taken.

臨床影像學報告

檢查名稱: Surgical pathology Level IV

病理器官: Breast, ? side Operation: core biopsy

病理診斷: Invasive ductal carcinoma, grade II.

報告更改人員:

報告內容

Breast, ? side, core biopsy --- Invasive ductal carcinoma, grade II.

#####

Immunohistochemical stains: "A"

CK14: loss of myoepithelial cells.

ER: percentage 15%, intensity 2+.

PR: percentage 5%, intensity 2+.

Her2/neu: positive; DAKO score 3+, 70%.

Ki-67: proliferative index, 15%.

CK5/6: negative for tumor cells.

#####

The specimen submitted consisted of 5 strips of breast tissue measuring up to 1.4 cm in length, fixed in formalin.

Grossly, they were yellowish gray in color and soft in consistence. Totally embedded for sections.

Microscopically, the sections show pictures of invasive ductal carcinoma, grade II, characterized by some tumor cells with pleomorphic tumor cells with loss of myoepithelial cells arranged in focally fused glandular and focally solid patterns infiltrating in the stroma of the breast tissue. In addition, the tumor measured 1.3 cm in length.

The total Nottingham histologic score is 6 points:

(a) tubular formation score: 2.

(b) nuclear pleomorphism score: 3.

(c) mitotic score: 1.

病理報告

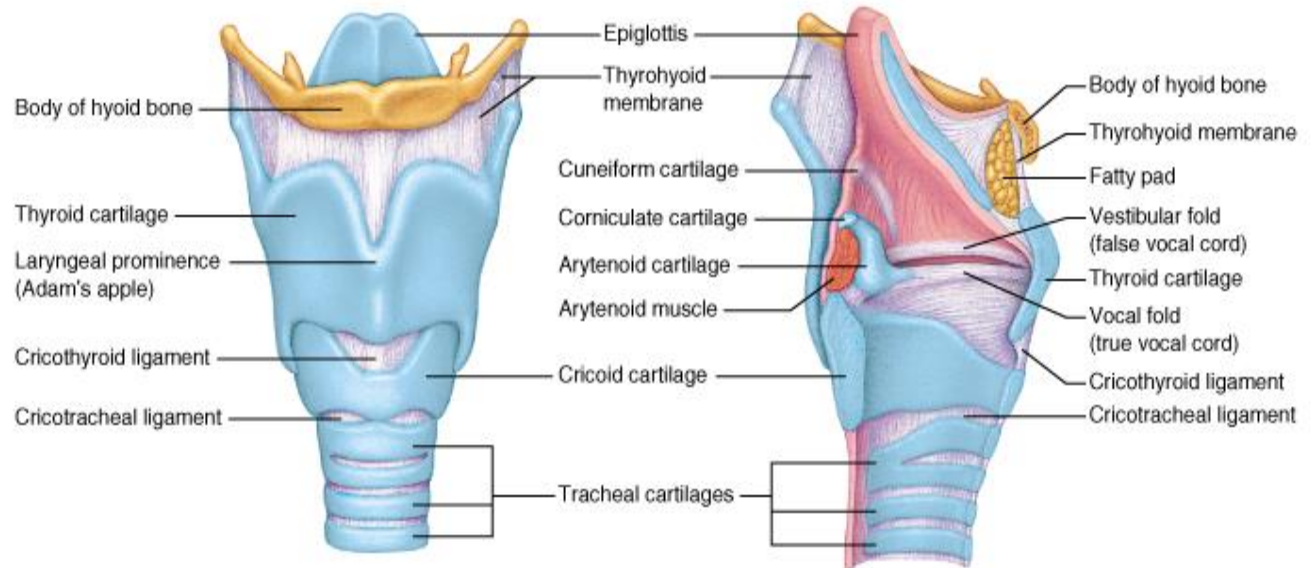
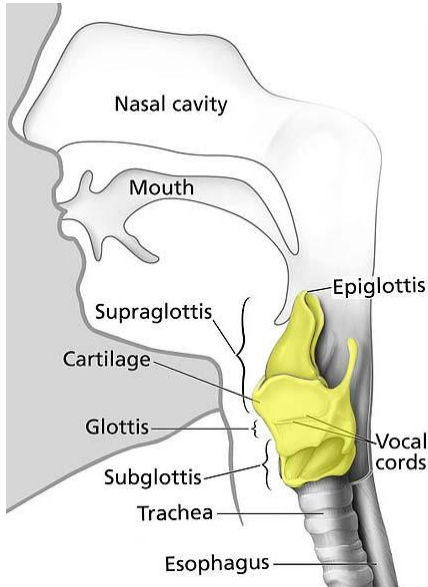


Different Specimen Sampling

- The Head and Neck (Larynx, Oral cavity).
- The Digestive System (Stomach, Colon, Liver).
- The Cardiovascular/Respiratory System (Lungs).
- The Breast.
- The Female Genital System (Uterus, Cervix).
- The Urinary Tract and Male Genital System. (Kidney)



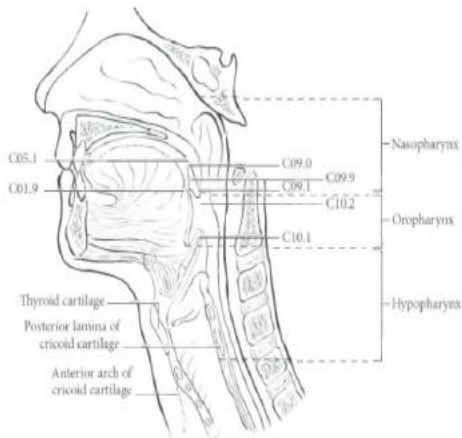
Larynx 結構



(a)

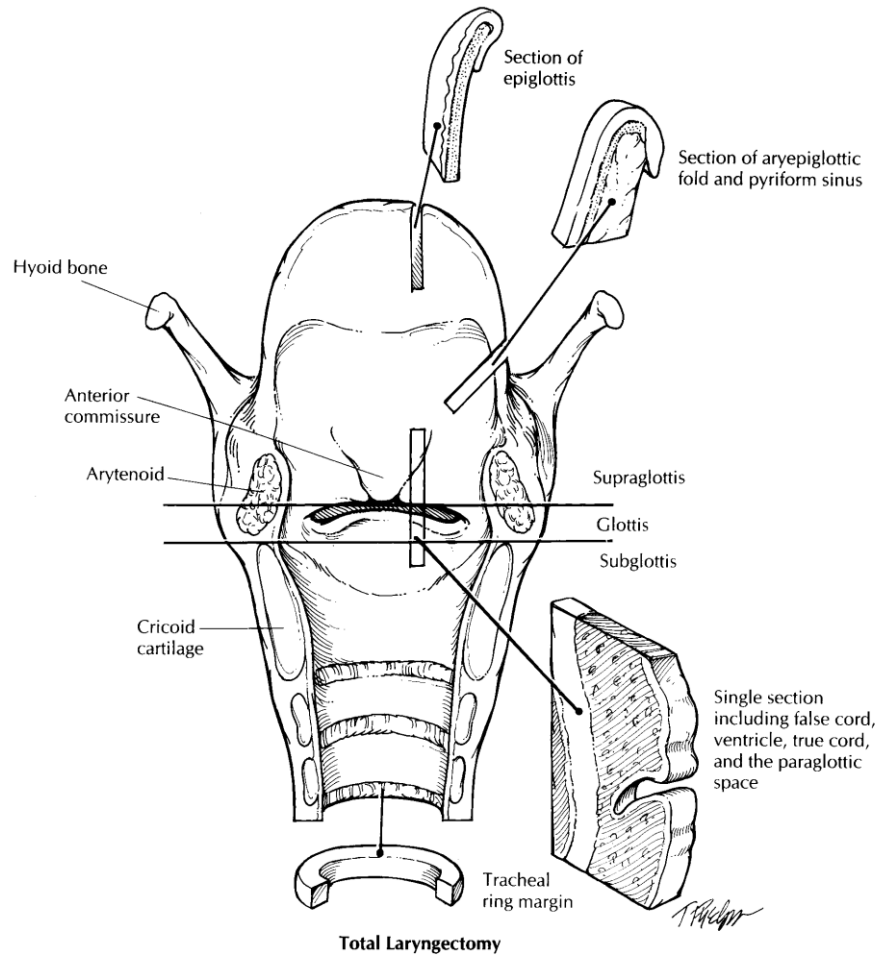
(b)

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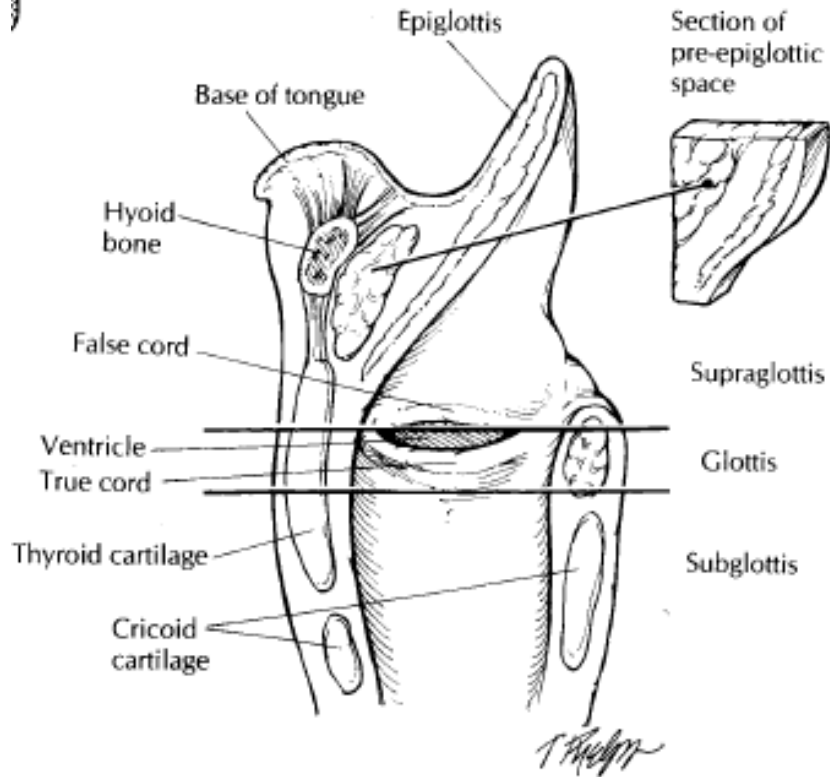


Larynx





Larynx



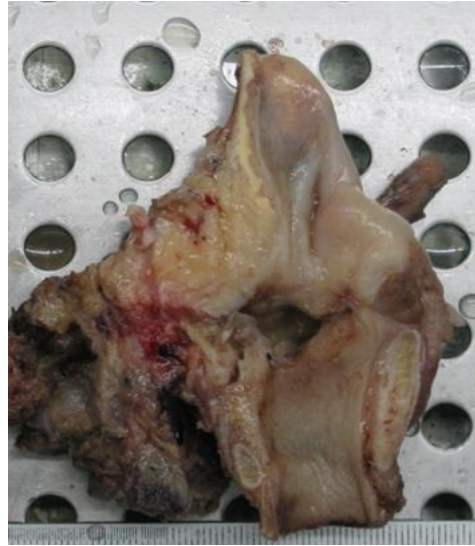
Although this is a plane of section you will not see, we find this diagram helpful, because it demonstrates the anatomy and the location of the pre-epiglottic space.





Larynx

Sample 1
Glottis



Sample 2
Glottis
& Supra
glottis





Larynx

Supraglottis

T Category	T Criteria
TX	Primary tumor cannot be assessed
Tis	Carcinoma <i>in situ</i>
T1	Tumor limited to one subsite of supraglottis with normal vocal cord mobility
T2	Tumor invades mucosa of more than one adjacent subsite of supraglottis or glottis or region outside the supraglottis (e.g., mucosa of base of tongue, vallecula, medial wall of pyriform sinus) without fixation of the larynx
T3	Tumor limited to larynx with vocal cord fixation and/or invades any of the following: postcricoid area, preepiglottic space, paraglottic space, and/or inner cortex of thyroid cartilage
T4	Moderately advanced or very advanced
T4a	Moderately advanced local disease Tumor invades through the outer cortex of the thyroid cartilage and/or invades tissues beyond the larynx (e.g., trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)
T4b	Very advanced local disease Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

1. Larynx, partial or complete laryngectomy --- Squamous cell carcinoma, differentiated (Verrucous Papillary, Spindle, Basaloid, Undifferentiated, Neuroendocrine, Adenocarcinoma), invaded to mucosa/submucosa/muscle layer.
2. Both cutting ends and base, ditto --- Free of tumor invasion / Tumor involvement.
3. Epiglottis, ditto --- Free of tumor invasion. / Tumor involvement.
4. Thyroid cartilage, ditto --- Free of tumor invasion. / Tumor involvement.
5. Cricoid cartilage, ditto --- Free of tumor invasion. / Tumor involvement.
6. Hyoid bone, ditto --- Free of tumor invasion. / Tumor involvement.
7. Thyroid and parathyroid glands, ditto --- Free of tumor invasion. / Tumor involvement.
8. Adjacent muscle, neck, ditto --- Free of tumor invasion. / Tumor involvement.
9. Regional lymph nodes, neck dissection --- Free of tumor metastasis/ Tumor metastasis, level I () level II (), level III (), level IV (), level V ().
10. Extracapsular extension of metastatic lymph node --- Absent. / Present ().
11. Lymphovascular space invasion --- Absent. / Present.
12. AJCC pathological staging --- pT N Mx, stage at least.

Immunohistochemical stains: ""

#####

Pathological Examination:

- (A) Total laryngeal specimens size: x x cm in size and gm in weight.
 (B) Tumor appearance: The tumor was verrucous / warty / nodular / sessile / plaque / ulceration in appearance,
 Tumor size: cm in length, cm in width and cm in depth, invading to mucosa/submucosa/muscle layer with/without crossing the middle line. Tumor location: transglottic/glottic/supraglottic/infraglottic.
 (C) Margins:
 1. Both margin free.
 2. Single margin involvement, microscopic.
 3. Both margins involvement, microscopic.
 4. Macroscopic involvement.
 5. Not accessible.
 (D) Perineural invasion: Absent / Present.
 (E) Pathologic findings:
 (F) Additional information:
 (1) main tumor lesion was embedded in blocks.
 (2) metastatic lymph node was embedded in blocks.



Larynx (AJCC)

Glottis

T Category	T Criteria
TX	Primary tumor cannot be assessed
Tis	Carcinoma <i>in situ</i>
T1	Tumor limited to the vocal cord(s) (may involve anterior or posterior commissure) with normal mobility
T1a	Tumor limited to one vocal cord
T1b	Tumor involves both vocal cords
T2	Tumor extends to supraglottis and/or subglottis, and/or with impaired vocal cord mobility
T3	Tumor limited to the larynx with vocal cord fixation and/or invasion of paraglottic space and/or inner cortex of the thyroid cartilage
T4	Moderately advanced or very advanced
T4a	Moderately advanced local disease Tumor invades through the outer cortex of the thyroid cartilage and/or invades tissues beyond the larynx (e.g., trachea, cricoid cartilage, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)
T4b	Very advanced local disease Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

Subglottis

T Category	T Criteria
TX	Primary tumor cannot be assessed
Tis	Carcinoma <i>in situ</i>
T1	Tumor limited to the subglottis
T2	Tumor extends to vocal cord(s) with normal or impaired mobility
T3	Tumor limited to larynx with vocal cord fixation and/or invasion of paraglottic space and/or inner cortex of the thyroid cartilage
T4	Moderately advanced or very advanced
T4a	Moderately advanced local disease Tumor invades cricoid or thyroid cartilage and/or invades tissues beyond the larynx (e.g., trachea, soft tissues of neck including deep extrinsic muscles of the tongue, strap muscles, thyroid, or esophagus)
T4b	Very advanced local disease Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures



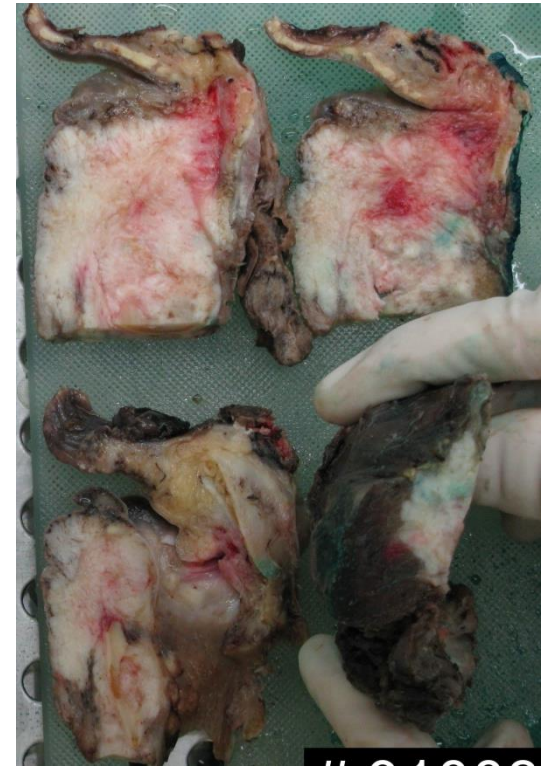
Larynx



Laryngeal cancer invasive to the tongue



Larynx

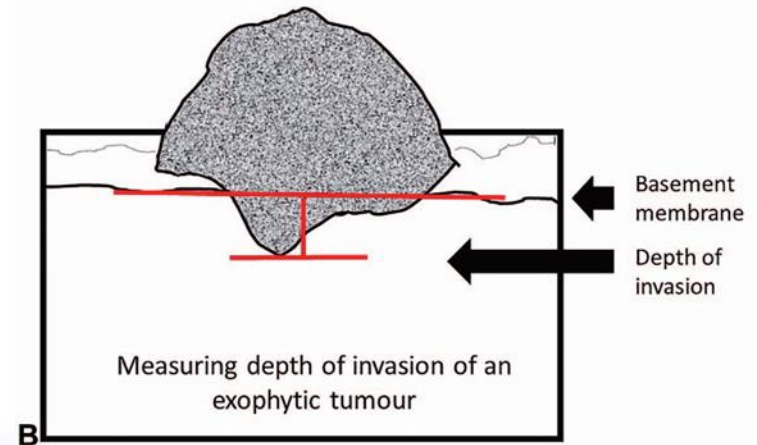
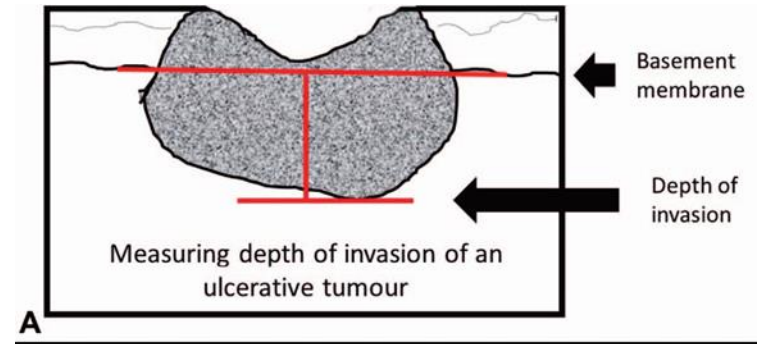


Oral cancer (tongue) without tumor invasion to larynx

Laryngeal cancer invasive to the esophagus & thyroid
Cricoid & thyroid cartilage is tumor involvement



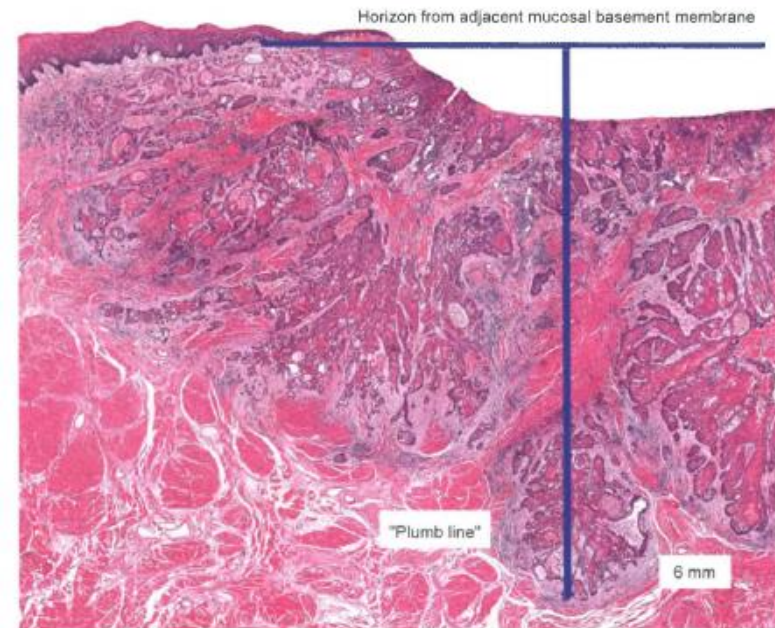
Oral cavity





Oral cavity

T Category	T Criteria
TX	Primary tumor cannot be assessed
Tis	Carcinoma <i>in situ</i>
T1	Tumor ≤ 2 cm, ≤ 5 mm depth of invasion (DOI) DOI is depth of invasion and not tumor thickness.
T2	Tumor ≤ 2 cm, DOI > 5 mm and ≤ 10 mm or tumor > 2 cm but ≤ 4 cm, and ≤ 10 mm DOI
T3	Tumor > 4 cm or any tumor > 10 mm DOI
T4	Moderately advanced or very advanced local disease
T4a	Moderately advanced local disease (lip) Tumor invades through cortical bone or involves the inferior alveolar nerve, floor of mouth, or skin of face (i.e., chin or nose) (oral cavity) Tumor invades adjacent structures only (e.g., through cortical bone of the mandible or maxilla, or involves the maxillary sinus or skin of the face) Note: Superficial erosion of bone/tooth socket (alone) by a gingival primary is not sufficient to classify a tumor as T4.
T4b	Very advanced local disease Tumor invades masticator space, pterygoid plates, or skull base and/or encases the internal carotid artery





Stomach

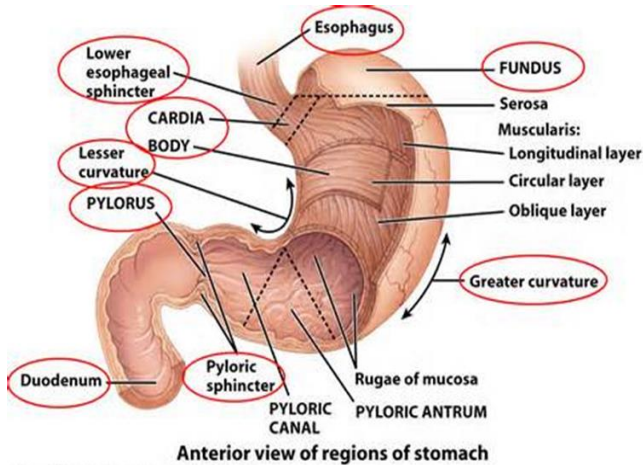
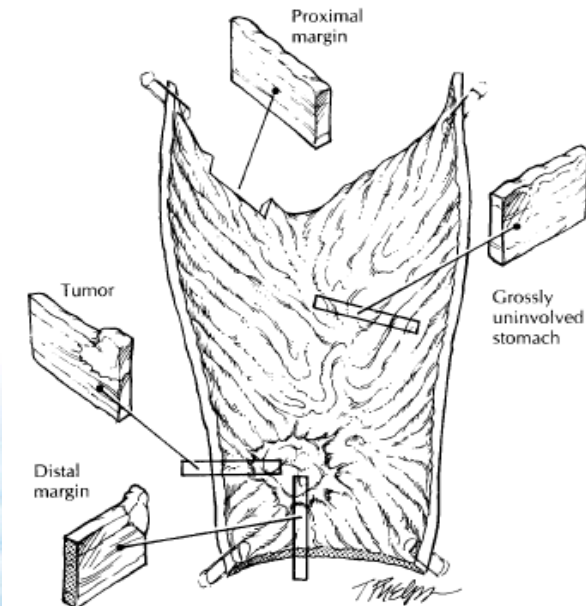


Figure 24-11a Principles of Anatomy and Physiology, 11/e
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1. Stomach, subtotal gastrectomy --- Adenocarcinoma, poorly differentiated, invaded to subserosa layer and perigastric tissue.
2. Cutting ends, bilateral, ditto --- Free of tumor invasion.
3. Lymph nodes, dissection --- Free of tumor metastasis, including LN1 (), LN3 (), LN4sa (), LN4sb (), LN4d (), LN5 (), LN6 (), LN7 (), LN8 (), LN9 (), LN11p (), LN12a () and LN14v ().
4. Omentum, omentectomy --- Free of tumor invasion.
5. Extracapsular extension of metastatic node --- Present / Absent.
6. Lymphovascular space invasion --- Present / Absent.
7. AJCC pathological staging --- pT N (correlate with clinical M staging), stage at least.

Immunohistochemical stains:

#####

PATHOLOGICAL EXAMINATION:

(A) Specimen:

- (1) Stomach: x cm in dimension; cm in thickness.
- (2) Lymph nodes: LN1 (gm), LN3 (gm), LN4sa (gm), LN4sb (gm), LN4d (gm), LN5 (gm), LN6 (gm), LN7 (gm), LN8 (gm), LN9 (gm), LN11p (gm), LN12a (gm) and LN14v (gm).
- (3) Omentum: x x cm in size.

(B) Tumor: one ulcerative/annular/polypoid, irregular-bordered tumor measuring x cm in greatest dimension and invading to perigastric fat layer/muscle layer, located at cardia/antrum/fundus.

(C) Surgical margins: cm to proximal cutting end / cm to distal cutting end.

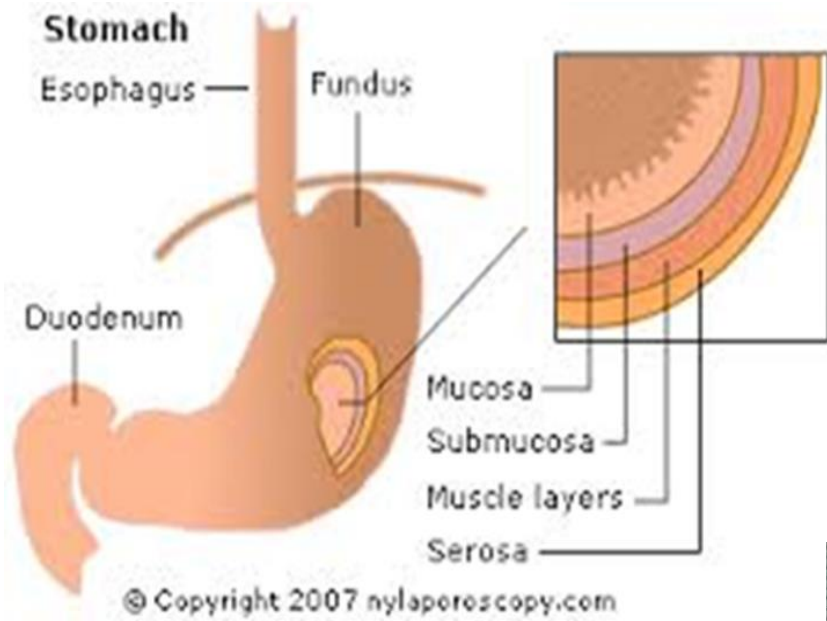
(D) Histopathologic description:

(E) Additional information:

- (1) main tumor lesion embedded in blocks .
- (2) metastatic lymph nodes embedded in blocks .

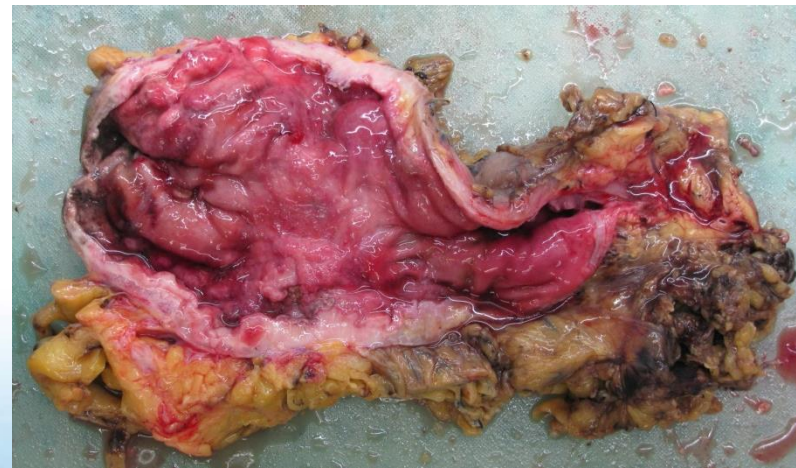


Stomach





Stomach



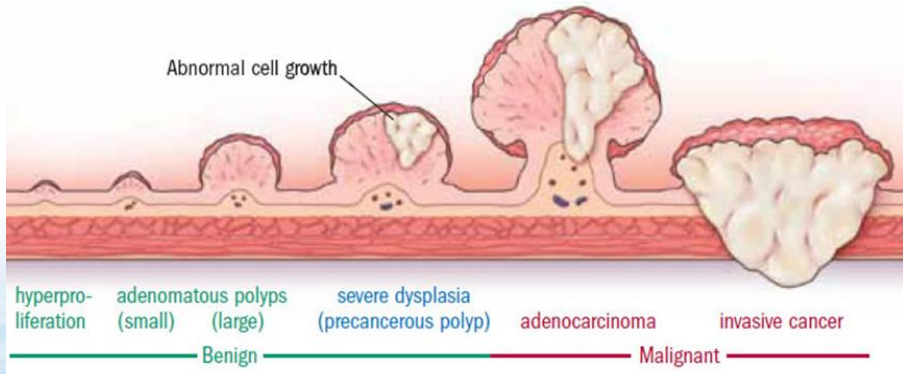
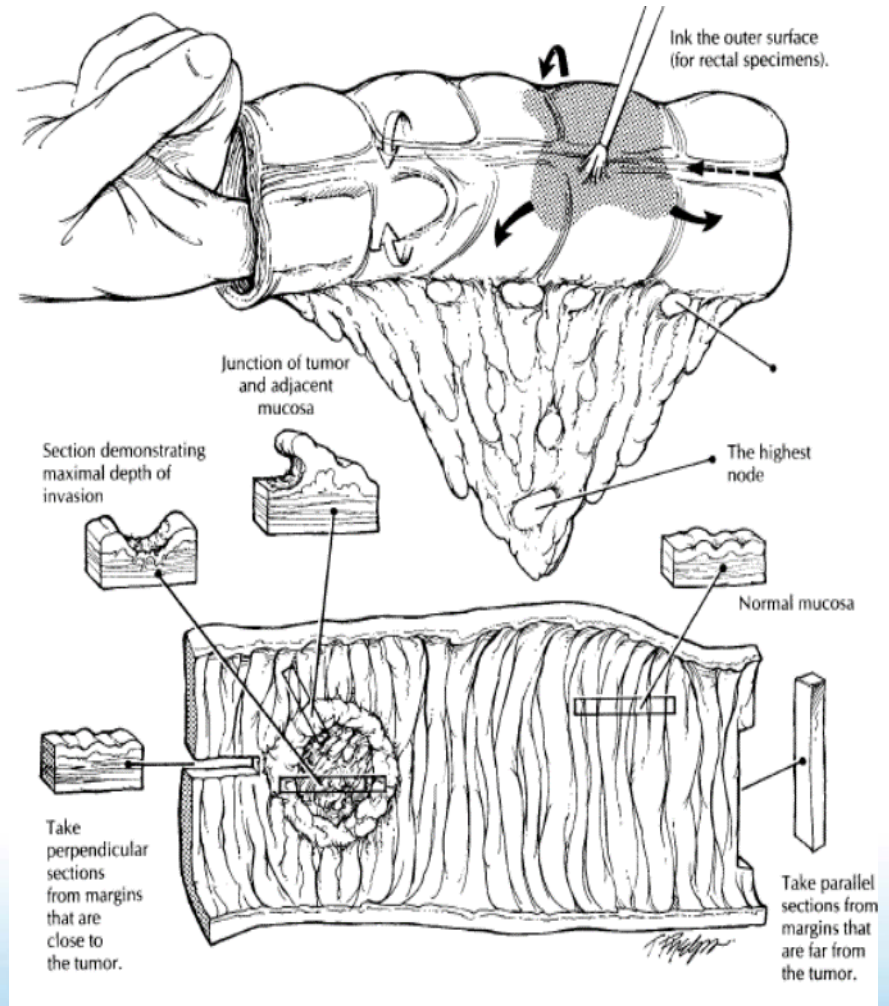
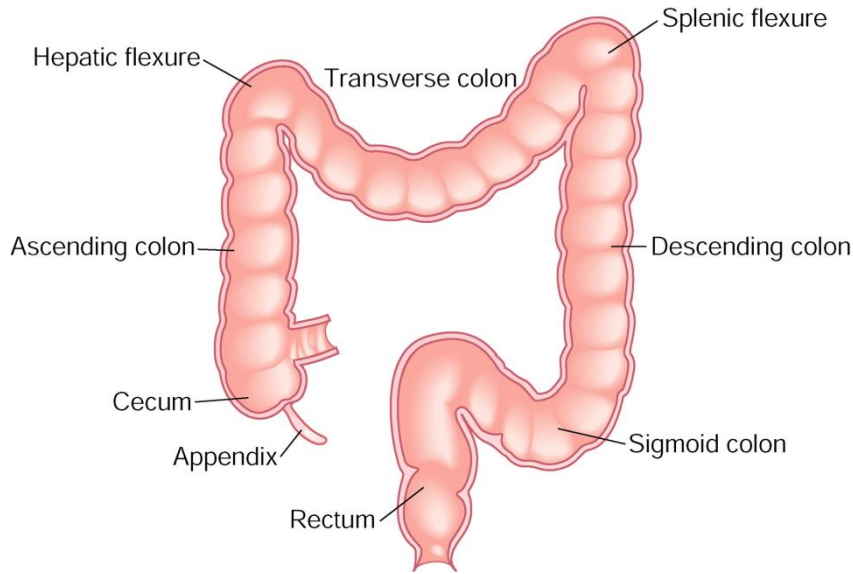


Stomach

T Category	T Criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma <i>in situ</i> : intraepithelial tumor without invasion of the lamina propria, high-grade dysplasia
T1	Tumor invades the lamina propria, muscularis mucosae, or submucosa
T1a	Tumor invades the lamina propria or muscularis mucosae
T1b	Tumor invades the submucosa
T2	Tumor invades the muscularis propria*
T3	Tumor penetrates the subserosal connective tissue without invasion of the visceral peritoneum or adjacent structures**.*.*.*
T4	Tumor invades the serosa (visceral peritoneum) or adjacent structures **.*.*.*
T4a	Tumor invades the serosa (visceral peritoneum)
T4b	Tumor invades adjacent structures/organs



Colon





Colon



1. Colon/Rectum, R't/transverse/L't, colectomy --- Adenocarcinoma, well to moderately differentiated, invading to lamina propria/submucosa/muscularis propria/pericolonic fat.
2. Surgical margins, ditto --- Free of tumor invasion.
3. Appendix, ditto --- Free of tumor invasion.
4. Regional lymph nodes, dissection --- Free of tumor metastasis ().
5. Extracapsular extension of metastatic node --- Absent.
6. Lymphovascular space invasion --- Not identified.
7. Perineural invasion --- Not identified.
8. AJCC pathological staging --- pT N (please correlate with clinical M staging), stage at least.

Immunohistochemical stains:
EGFR: percentage %, intensity +.
#####

PATHOLOGIC EXAMINATION

(A) Specimen:

- (1) Colon: cm in length, cm in circumference and cm in wall thickness.
- (2) Ileum: cm in length, cm in circumference and cm in wall thickness.
- (3) Appendix: cm in length, cm in diameter and cm in wall thickness.

(B) Tumor: one protruding tumor measuring x cm in dimension and invading to lamina propria/submucosa/muscularis propria/pericolonic fat.

(C) Surgical margins:

- (1) cm to the proximal cutting end.
- (2) cm to the distal cutting end.
- (3) cm to the nearest circumferential margin.

(D) Histopathologic description: well to moderately differentiated adenocarcinoma of the colonic tissue, characterized by tumor cells with nuclear hyperchromatism, high N/C ratio and prominent nucleoli arranged in fused glandular and cribriform patterns infiltrating in the stroma.

(E) Additional information:

- (1) main tumor lesion embedded in blocks .
- (2) metastatic lymph node embedded in block .

(F) Tumor regression score S/P CCRT (Modified Ryan scheme):

Score 0: No viable cancer cells (complete response)

Score 1: Single cells or rare small groups of cancer cells (near-complete response)

Score 2: Residual cancer with evident tumor regression, but more than single cells or rare small groups of cancer cells (partial response).

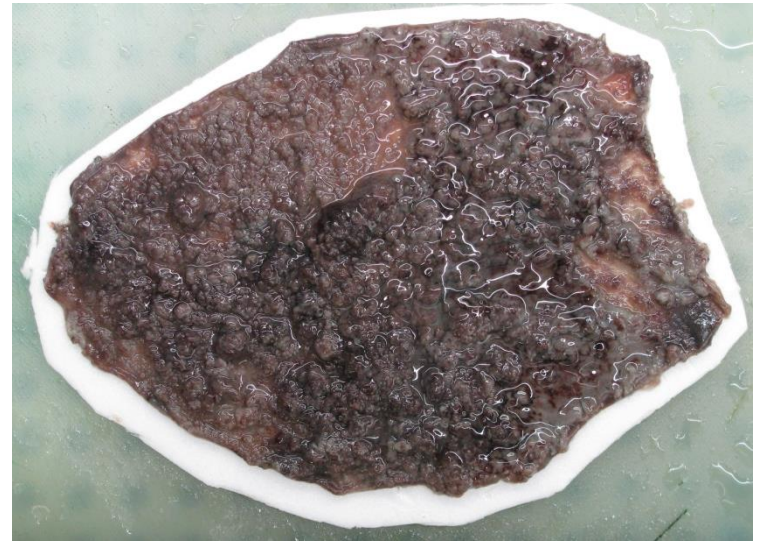
Score 3: Extensive residual cancer with no evident tumor regression (poor or no response).



Colon



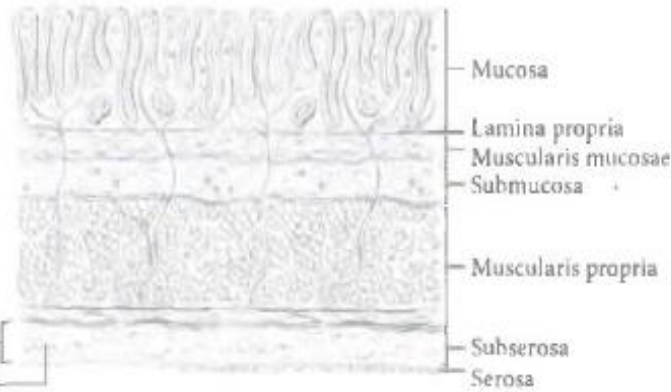
Rectum (CCRT)



Colon (ESD & EMR)



Colon



T Category	T Criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma <i>in situ</i> , intramucosal carcinoma (involvement of lamina propria with no extension through muscularis mucosae)
T1	Tumor invades the submucosa (through the muscularis mucosa but not into the muscularis propria)
T2	Tumor invades the muscularis propria
T3	Tumor invades through the muscularis propria into pericolorectal tissues

T Category	T Criteria
T4	Tumor invades the visceral peritoneum or invades or adheres to adjacent organ or structure
T4a	Tumor invades through the visceral peritoneum (including gross perforation of the bowel through tumor and continuous invasion of tumor through areas of inflammation to the surface of the visceral peritoneum)
T4b	Tumor directly invades or adheres to adjacent organs or structures



Small intestine



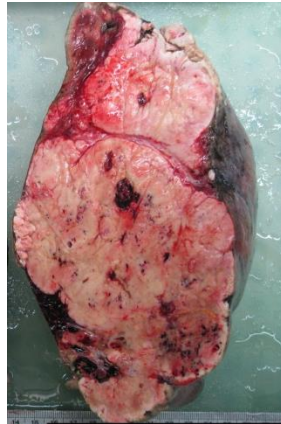
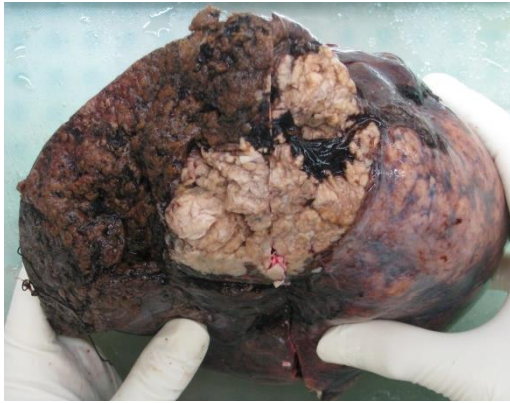
T Category	T Criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
T1	Tumor 2 cm or less
T2	Tumor more than 2 cm but not more than 5 cm
T3	Tumor more than 5 cm but not more than 10 cm
T4	Tumor more than 10 cm in greatest dimension

Mitotic rate	Definition
Low	5 or fewer mitoses per 5 mm ² , or per 50 HPF
High	Over 5 mitoses per 5 mm ² , or per 50 HPF





Liver

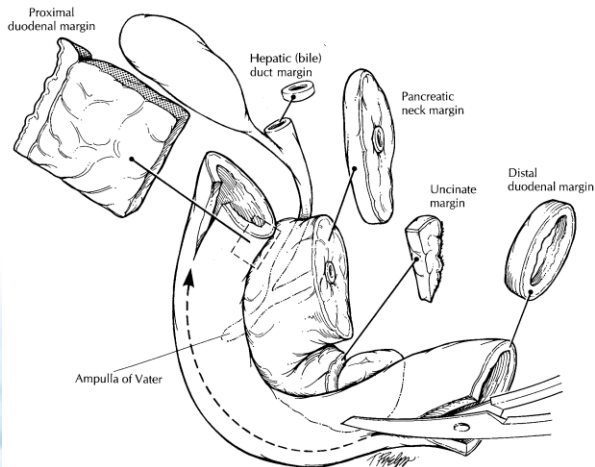
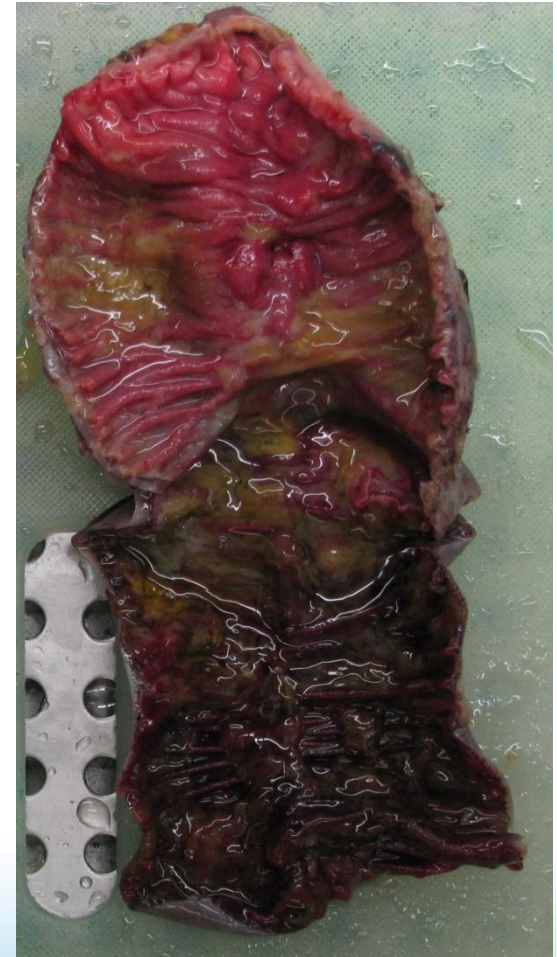
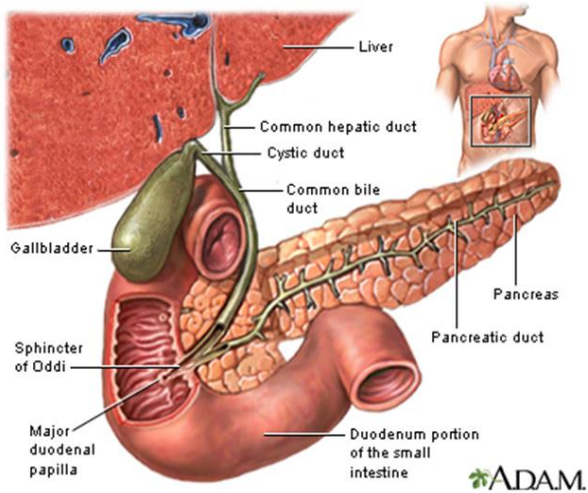


Definition of Primary Tumor (T)

T Category	T Criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
T1	Solitary tumor ≤ 2 cm, or >2 cm without vascular invasion
T1a	Solitary tumor ≤ 2 cm
T1b	Solitary tumor >2 cm without vascular invasion
T2	Solitary tumor >2 cm with vascular invasion, or multiple tumors, none >5 cm
T3	Multiple tumors, at least one of which is >5 cm
T4	Single tumor or multiple tumors of any size involving a major branch of the portal vein or hepatic vein, or tumor(s) with direct invasion of adjacent organs other than the gallbladder or with perforation of visceral peritoneum



Ampulla of Vater & Pancreas





Ampulla of Vater & Pancreas





Ampulla of Vater

T Category	T Criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma <i>in situ</i>
T1	Tumor limited to ampulla of Vater or sphincter of Oddi or tumor invades beyond the sphincter of Oddi (perisphincteric invasion) and/or into the duodenal submucosa
T1a	Tumor limited to ampulla of Vater or sphincter of Oddi
T1b	Tumor invades beyond the sphincter of Oddi (perisphincteric invasion) and/or into the duodenal submucosa

T Category	T Criteria
T2	Tumor invades into the muscularis propria of the duodenum
T3	Tumor directly invades the pancreas (up to 0.5 cm) or tumor extends more than 0.5 cm into the pancreas, or extends into peripancreatic or periduodenal tissue or duodenal serosa without involvement of the celiac axis or superior mesenteric artery
T3a	Tumor directly invades pancreas (up to 0.5 cm)
T3b	Tumor extends more than 0.5 cm into the pancreas, or extends into peripancreatic tissue or duodenal serosa without involvement of the celiac axis or superior mesenteric artery
T4	Tumor involves the celiac axis, superior mesenteric artery, and/or common hepatic artery, irrespective of size

1. Duodenum, ampulla of Vater, Whipple procedure --- Adenocarcinoma, differentiated invading to layer.
2. Duodenal cutting end, bilateral, ditto --- Free of tumor invasion.
3. Pancreatic cutting end, ditto --- Free of tumor invasion.
4. Common bile duct cutting end, ditto --- Free of tumor invasion.
5. Pancreas, ditto --- Free of tumor invasion.
6. Common bile duct, ditto --- Free of tumor invasion.
7. Gallbladder, ditto --- Free of tumor invasion.
8. Lymph nodes, regional, ditto --- Free of tumor metastasis, including periduodenal (), peri-pancreatic (), and peri-common bile duct ().
9. Extracapsular extension of the metastatic lymph node --- Identified/Not identified.
10. Lymphovascular space invasion --- Identified/Not identified.
11. AJCC pathologic stage --- pT N (correlate with clinical M staging), stage at least.

#####

Immunohistochemical stains:

#####

PATHOLOGIC EXAMINATION

(A) Specimen:

(1) Duodenum: cm in length, cm in diameter and cm in wall thickness; gm in weight.

(2) Pancreas: x x cm in size.

(3) Common bile duct: cm in length, cm in diameter and cm in wall thickness.

(4) Gallbladder: cm in length, cm in diameter and cm in wall thickness with/without gall stones measuring up to cm in diameter.

(B) Tumor: one polypoid/ulcerated/infiltrative grey tumor measuring x x cm in size, and invading to layer.

(C) Surgical margins:

(1) cm to the proximal duodenal cutting end (gastric cutting end).

(2) cm to the distal duodenal cutting end.

(3) cm to the pancreatic cutting end.

(4) cm to the common bile duct cutting end.

(D) Histopathologic description:

(E) Additional information:

(1) main tumor lesion embedded in blocks .

(2) metastatic lymph nodes embedded in blocks .



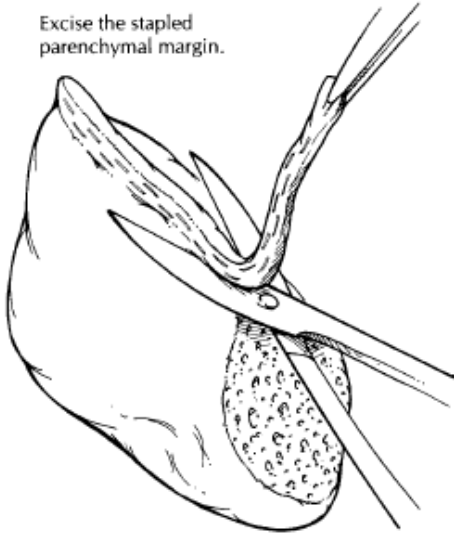
Pancreas

T Category	T Criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma <i>in situ</i> This includes high-grade pancreatic intraepithelial neoplasia (PanIn-3), intraductal papillary mucinous neoplasm with high-grade dysplasia, intraductal tubulopapillary neoplasm with high-grade dysplasia, and mucinous cystic neoplasm with high-grade dysplasia.
T1	Tumor ≤ 2 cm in greatest dimension
T1a	Tumor ≤ 0.5 cm in greatest dimension
T1b	Tumor >0.5 cm and <1 cm in greatest dimension
T1c	Tumor 1–2 cm in greatest dimension
T2	Tumor >2 cm and ≤ 4 cm in greatest dimension
T3	Tumor >4 cm in greatest dimension
T4	Tumor involves celiac axis, superior mesenteric artery, and/or common hepatic artery, regardless of size

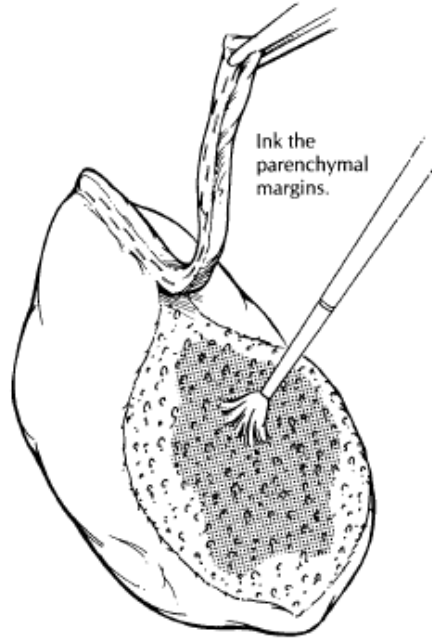


Lung

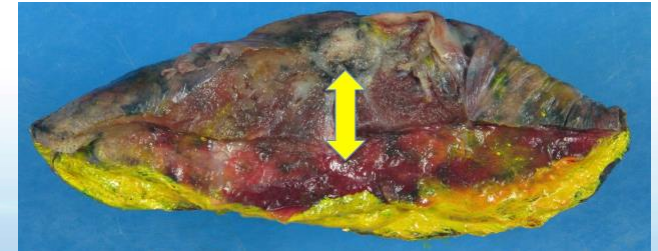
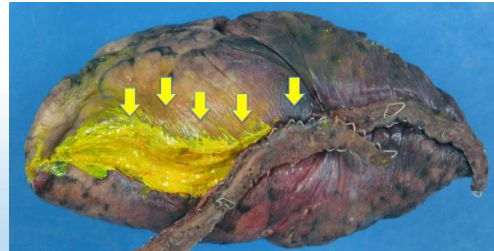
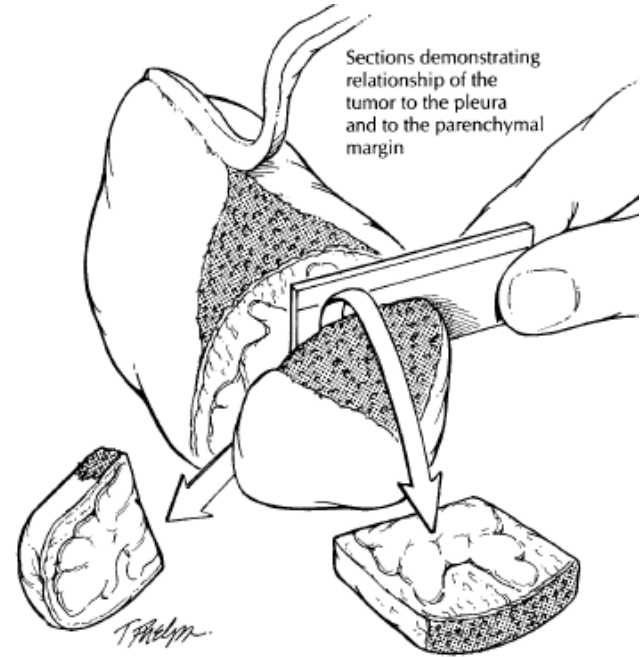
Excise the stapled parenchymal margin.



Ink the parenchymal margins.



Sections demonstrating relationship of the tumor to the pleura and to the parenchymal margin





Lung





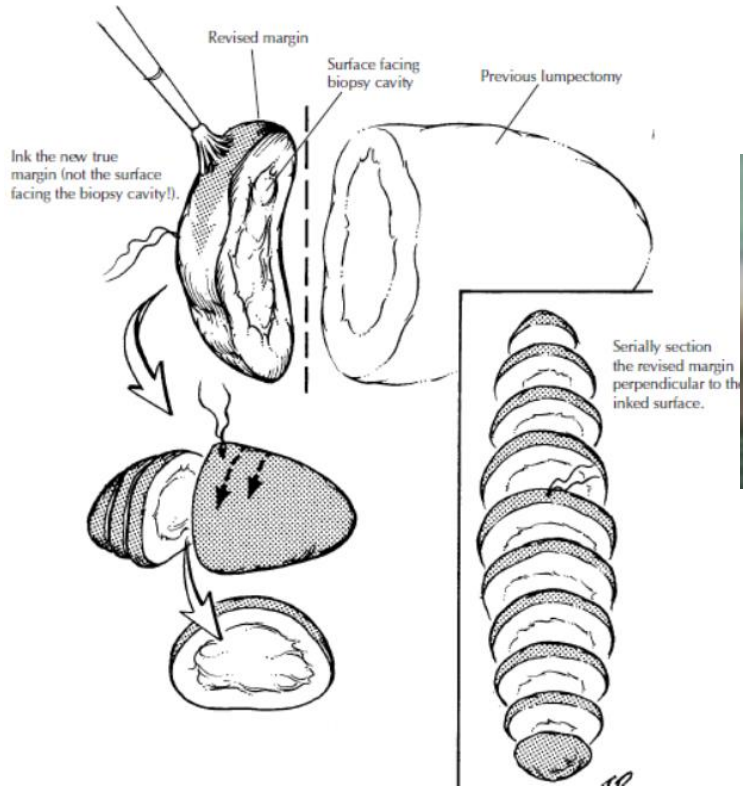
Lung

T Category	T Criteria
TX	Primary tumor cannot be assessed, or tumor proven by the presence of malignant cells in sputum or bronchial washings but not visualized by imaging or bronchoscopy
T0	No evidence of primary tumor
Tis	Carcinoma <i>in situ</i> Squamous cell carcinoma <i>in situ</i> (SCIS) Adenocarcinoma <i>in situ</i> (AIS): adenocarcinoma with pure lepidic pattern, ≤ 3 cm in greatest dimension
T1	Tumor ≤ 3 cm in greatest dimension, surrounded by lung or visceral pleura, without bronchoscopic evidence of invasion more proximal than the lobar bronchus (i.e., not in the main bronchus)
T1mi	Minimally invasive adenocarcinoma: adenocarcinoma (≤ 3 cm in greatest dimension) with a predominantly lepidic pattern and ≤ 5 mm invasion in greatest dimension
T1a	Tumor ≤ 1 cm in greatest dimension. A superficial, spreading tumor of any size whose invasive component is limited to the bronchial wall and may extend proximal to the main bronchus also is classified as T1a, but these tumors are uncommon.
T1b	Tumor > 1 cm but ≤ 2 cm in greatest dimension
T1c	Tumor > 2 cm but ≤ 3 cm in greatest dimension

T2	Tumor > 3 cm but ≤ 5 cm or having any of the following features: <ul style="list-style-type: none"> • Involves the main bronchus regardless of distance to the carina, but without involvement of the carina • Invades visceral pleura (PL1 or PL2) • Associated with atelectasis or obstructive pneumonitis that extends to the hilar region, involving part or all of the lung T2 tumors with these features are classified as T2a if ≤ 4 cm or if the size cannot be determined and T2b if > 4 cm but ≤ 5 cm.
T2a	Tumor > 3 cm but ≤ 4 cm in greatest dimension
T2b	Tumor > 4 cm but ≤ 5 cm in greatest dimension
T3	Tumor > 5 cm but ≤ 7 cm in greatest dimension or directly invading any of the following: parietal pleura (PL3), chest wall (including superior sulcus tumors), phrenic nerve, parietal pericardium; or separate tumor nodule(s) in the same lobe as the primary
T4	Tumor > 7 cm or tumor of any size invading one or more of the following: diaphragm, mediastinum, heart, great vessels, trachea, recurrent laryngeal nerve, esophagus, vertebral body, or carina; separate tumor nodule(s) in an ipsilateral lobe different from that of the primary



Breast





Breast

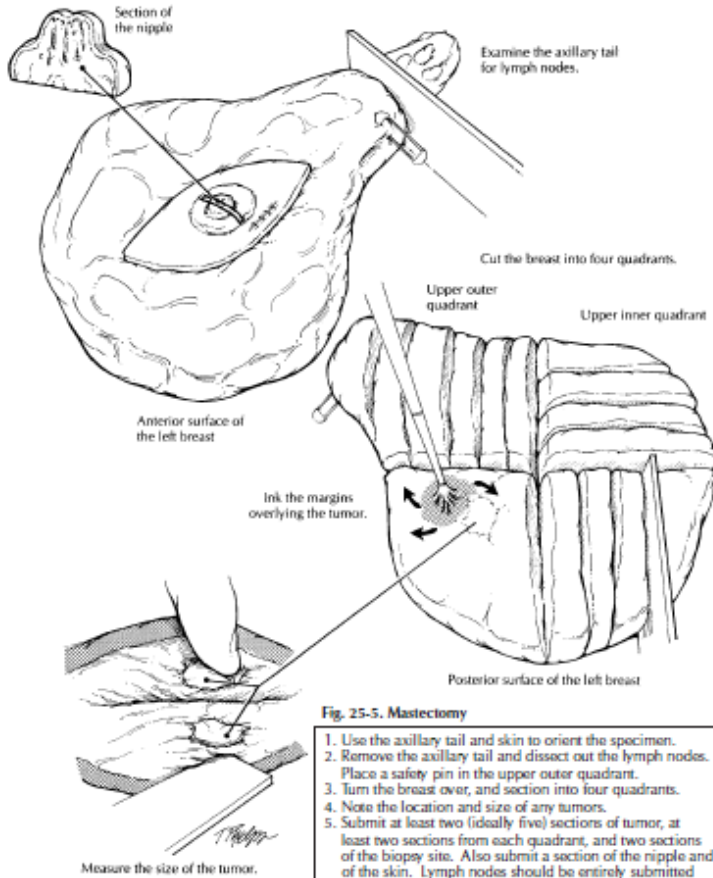
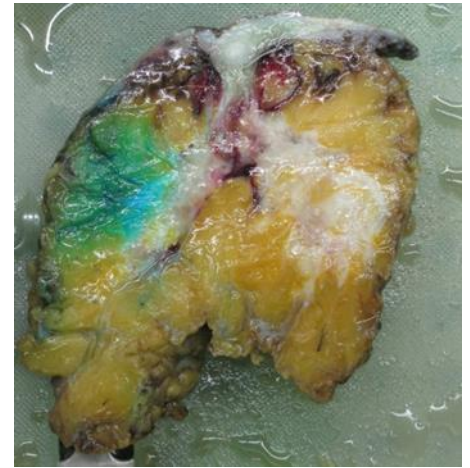


Fig. 25-5. Mastectomy

1. Use the axillary tail and skin to orient the specimen.
2. Remove the axillary tail and dissect out the lymph nodes. Place a safety pin in the upper outer quadrant.
3. Turn the breast over, and section into four quadrants.
4. Note the location and size of any tumors.
5. Submit at least two (ideally five) sections of tumor, at least two sections from each quadrant, and two sections of the biopsy site. Also submit a section of the nipple and of the skin. Lymph nodes should be entirely submitted for histologic evaluation.





Breast

1. Breast, L't/R't, MRM/BCS/mastectomy/wide excision --- Invasive ductal carcinoma, grade III, with extensive intraductal component, high grade, see description.
2. Skin and nipple, ditto --- Free of tumor invasion /Paget disease.
3. Surgical margin and base, ditto --- Free of tumor invasion.
4. Breast tissue, "T1", excision --- Free of tumor invasion.
5. Lymph nodes, dissection --- Free of tumor metastasis; including sentinel node (), level I (), level II () and R node ().
6. Extracapsular extension of the metastatic lymph node --- Present/Absent.
7. Lymphovascular space invasion --- Not identified.
8. Perineural invasion --- Not identified.
9. Tumor infiltrating lymphocytes (TIL) --- %.
10. AJCC Anatomic Stage Groups --- pT N (Please correlate with clinical M staging), stage at least.

#####

Immunohistochemical stains: ""

CK14: preserved peripheral myoepithelial cells.

ER: percentage %, intensity +.

PR: percentage %, intensity +.

Her2/neu: negative/ positive/ equivocal; DAKO score +, %.

E-cadherin: positive for tumor cells.

Ki67: increased proliferative index, %.

#####

PATHOLOGICAL EXAMINATION:

(A) Specimen:

(1) Breast: x x cm in size.

Skin: x cm in dimension.

Nipple: x cm in size (with downward traction).

Incisional line: Absent/present (cm in length).

Pouch cavity: Absent/present (x cm in dimension).

(2) Breast tissue, "T1": x x cm in size.

(3) Lymph node: sentinel node (gm), level I (gm), level II (gm) and R node (gm).

(B) Tumor: one ill-defined solid tumor measuring x cm in dimension and the invasive part measuring x cm in dimension.

(C) Surgical margins and base:

(1) cm to the nearest surgical margin.

(2) cm to the surgical base.

(G) Additional information:

(1) main tumor embedded in blocks .

(2) metastatic lymph node embedded in blocks .

(H) Grading of pathologic reponse post neoadjuvant chemotherapy (Miller-Payne grading system):

grade 1: No change or some alteration to individual malignant cells but cells reduction in the overall cellularity.

grade 2: A minor loss of tumor cells but overall cellularity still high; up to 30% loss.

grade 3: Between an estimated 30% to 90% reduction in tumor cells.

grade 4: A marked disappearance of tumor cells such that only small tumor clusters or widely dispersed individual cell remain; more than 90% loss of tumor cells.

grade 5: No malignant cells identifiable in sections from the site of tumor; only vascular fibro-elastic stroma remains often containing macrophages. However, DCIS may be present.)

(G) Axillary lymph node (diaper grading system):

category 1: No evidence of metastatic disease and no evidence of changes in the lymph nodes.

category 2: Metastatic tumor not detected but evidence of response/down-staging, e.g. fibrosis.

category 3: Metastatic disease present but also evidence of response, such as nodal fibrosis.

category 4: Metastatic disease present with no evidence of response to therapy.



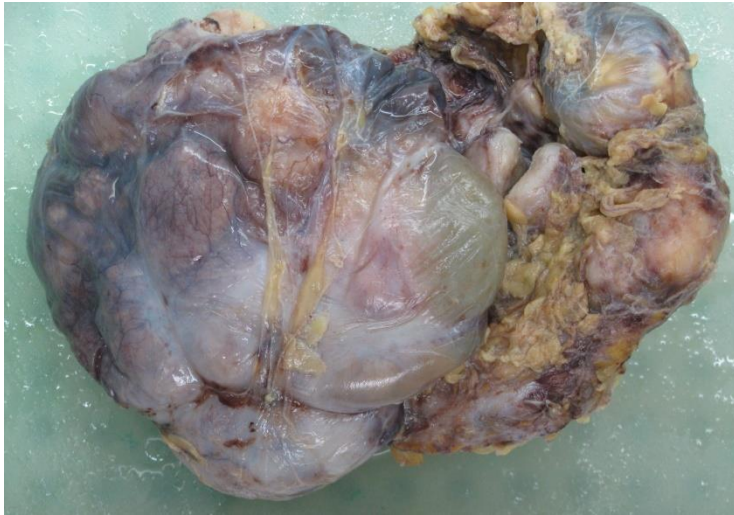
Breast

T Category	T Criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis (DCIS)*	Ductal carcinoma <i>in situ</i>
Tis (Paget)	Paget disease of the nipple NOT associated with invasive carcinoma and/or carcinoma <i>in situ</i> (DCIS) in the underlying breast parenchyma. Carcinomas in the breast parenchyma associated with Paget disease are categorized based on the size and characteristics of the parenchymal disease, although the presence of Paget disease should still be noted.
T1	Tumor ≤ 20 mm in greatest dimension
T1mi	Tumor ≤ 1 mm in greatest dimension
T1a	Tumor > 1 mm but ≤ 5 mm in greatest dimension (round any measurement 1.0-1.9 mm to 2 mm).
T1b	Tumor > 5 mm but ≤ 10 mm in greatest dimension
T1c	Tumor > 10 mm but ≤ 20 mm in greatest dimension
T2	Tumor > 20 mm but ≤ 50 mm in greatest dimension
T3	Tumor > 50 mm in greatest dimension
T4	Tumor of any size with direct extension to the chest wall and/or to the skin (ulceration or macroscopic nodules); invasion of the dermis alone does not qualify as T4
T4a	Extension to the chest wall; invasion or adherence to pectoralis muscle in the absence of invasion of chest wall structures does not qualify as T4
T4b	Ulceration and/or ipsilateral macroscopic satellite nodules and/or edema (including peau d'orange) of the skin that does not meet the criteria for inflammatory carcinoma
T4c	Both T4a and T4b are present
T4d	Inflammatory carcinoma (see "Rules for Classification")

* Note: Lobular carcinoma *in situ* (LCIS) is a benign entity and is removed from TNM staging in the AJCC Cancer Staging Manual, 8th Edition.



Breast

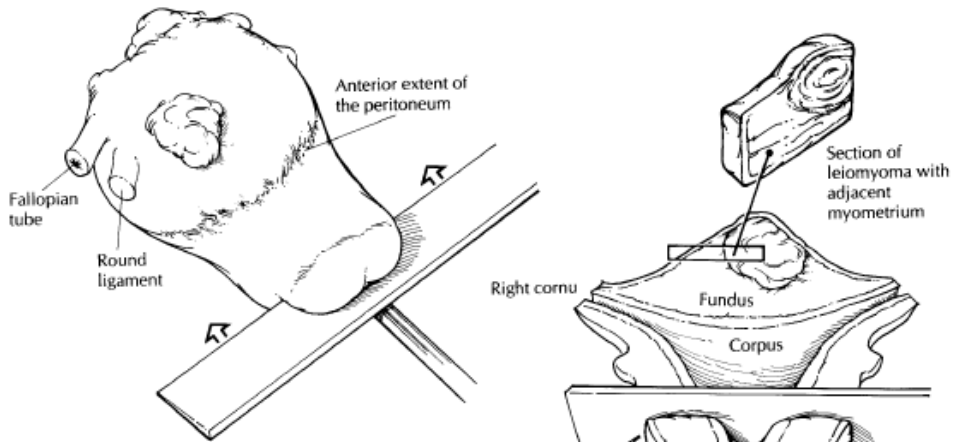


Phyllodes tumor



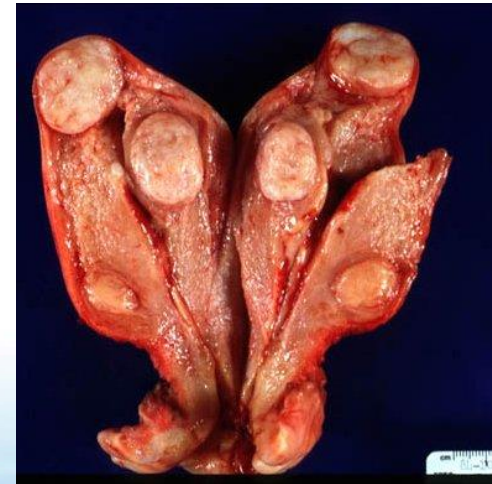
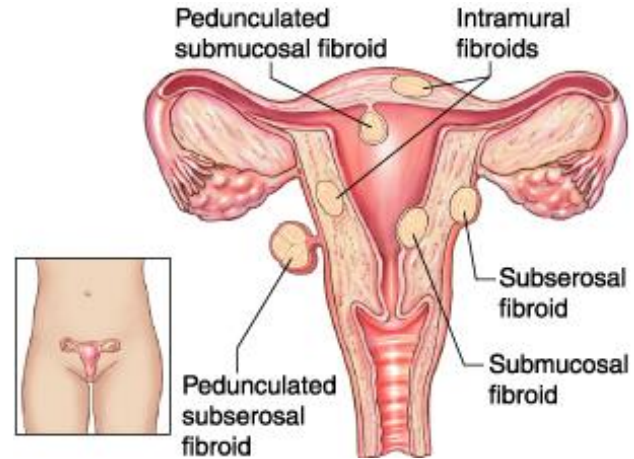
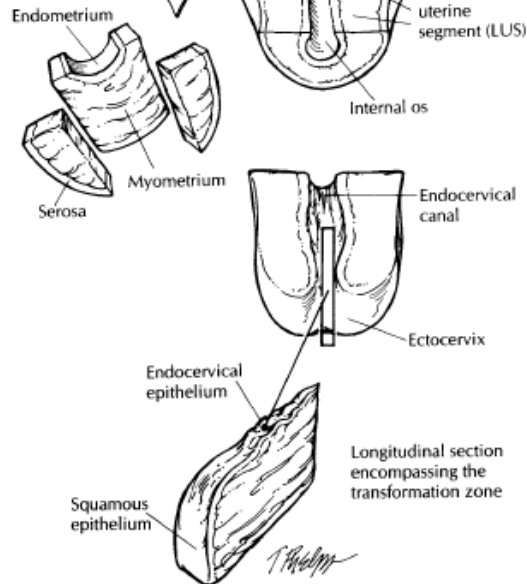


Hysterectomy with nonmalignant tumor



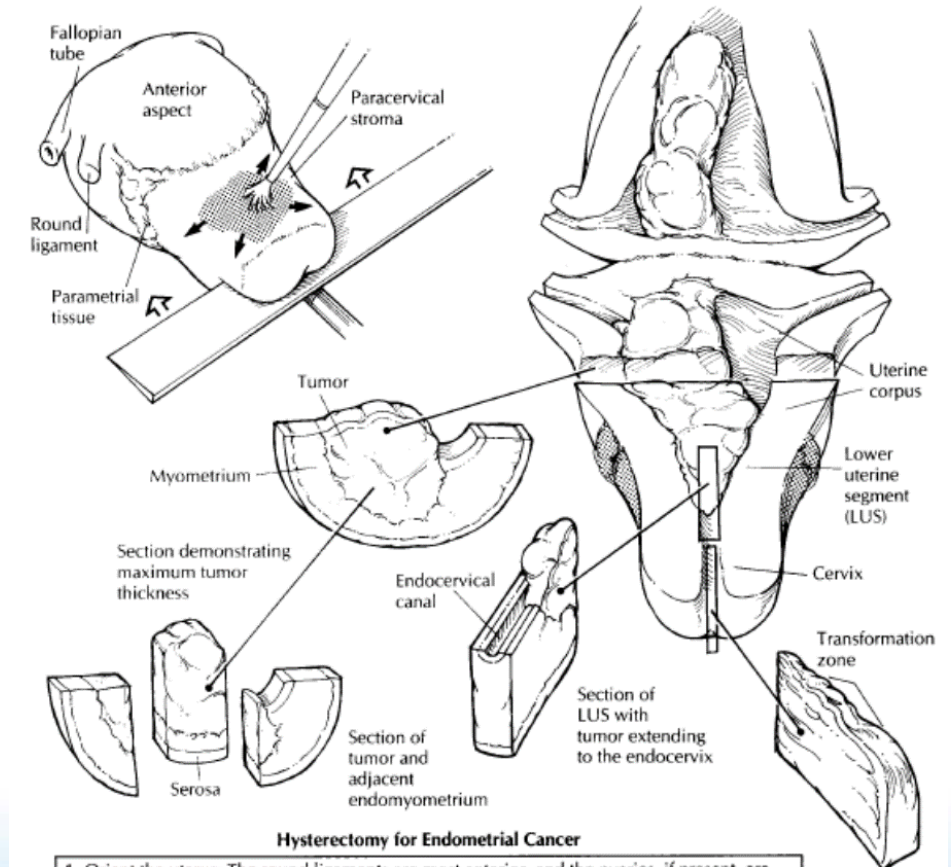
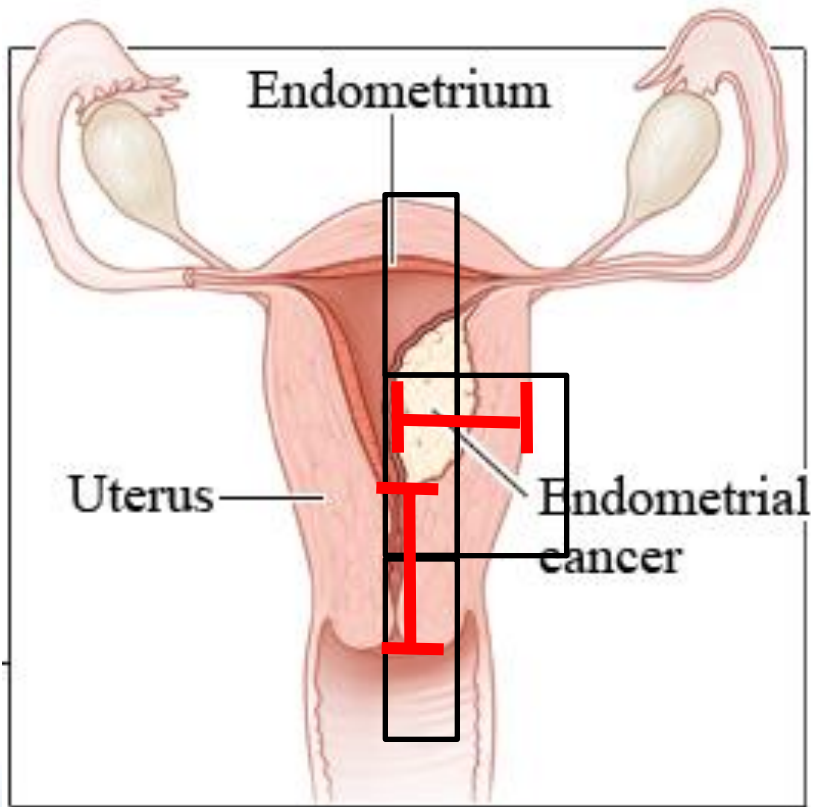
Hysterectomy for Nonmalignant Disease

1. Orient the uterus: The round ligaments are most anterior, and the ovaries, if present, are most posterior. The peritoneum extends further inferiorly along the posterior aspect of the uterus than it does anteriorly.
2. Remove adnexa, if present, and weigh and record measurements of the uterus and cervix.
3. Place a probe through the endocervical canal and into the endometrial cavity. Bivalve the uterus into anterior and posterior halves with a long blade.
4. Longitudinally section the cervix to evaluate the transformation zone.
5. Serially bread-loaf the uterine corpus and LUS with 0.5-cm transverse slices.
6. Submit one section each of the anterior and posterior cervix and one section each of the anterior and posterior endomyometrium with serosa.
7. For leiomyomata, submit representative sections of all myomas greater than 5 cm. If regions of hemorrhage, necrosis, or softening are present.





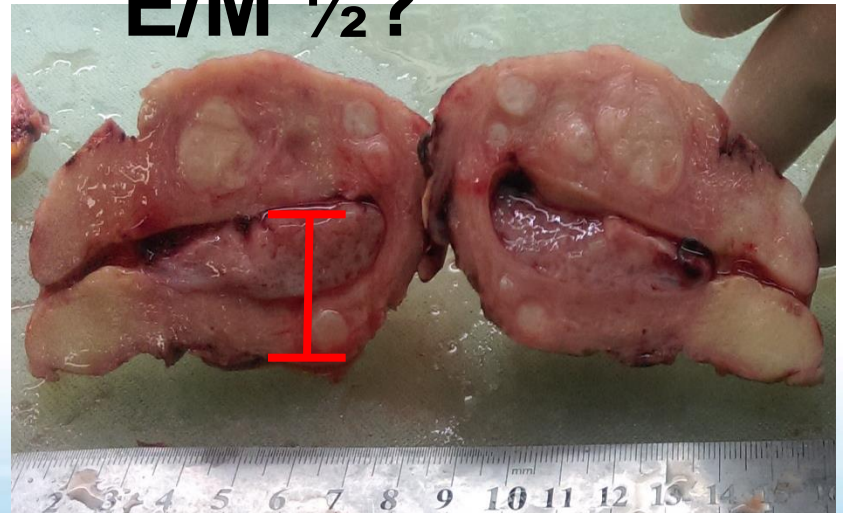
Hysterectomy with endometrial cancer



1. Cut the uterus. The round ligaments are most anterior, and the ovaries, if present, are



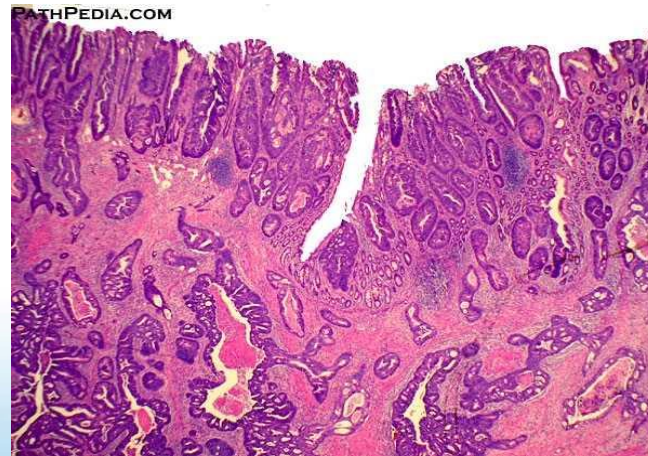
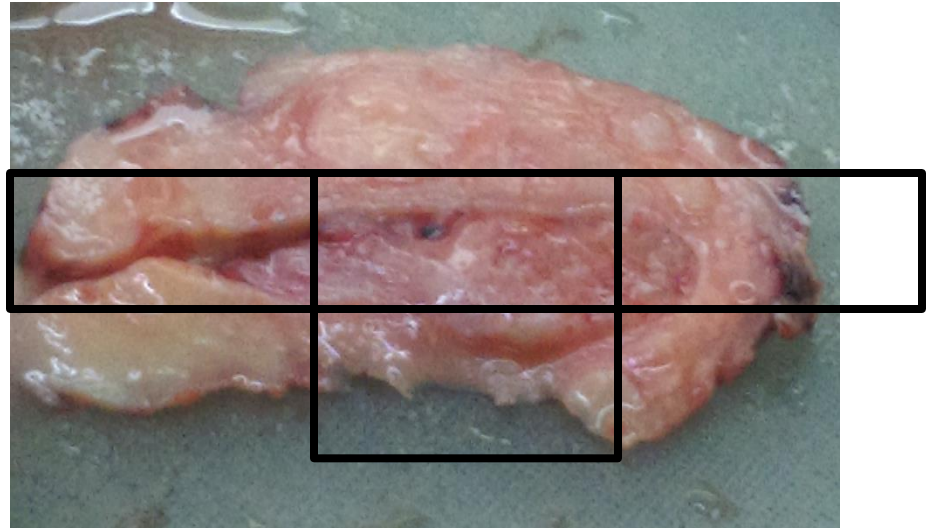
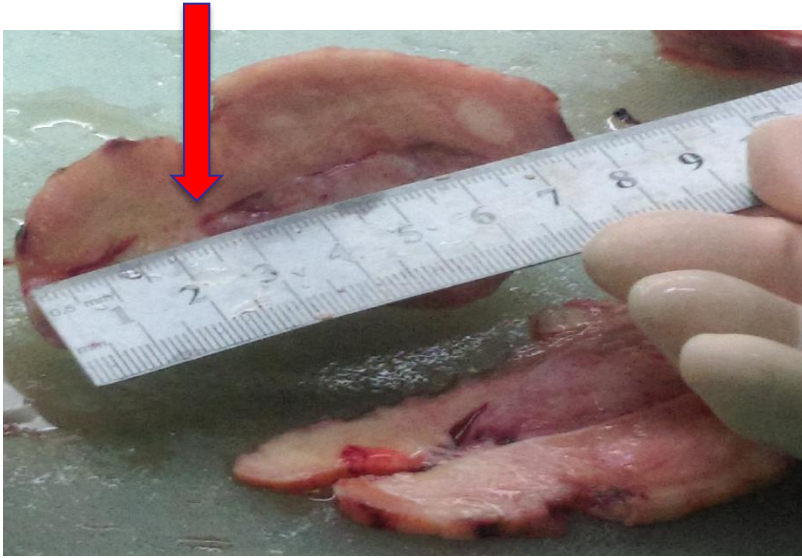
Hysterectomy with endometrial cancer





Hysterectomy with endometrial cancer

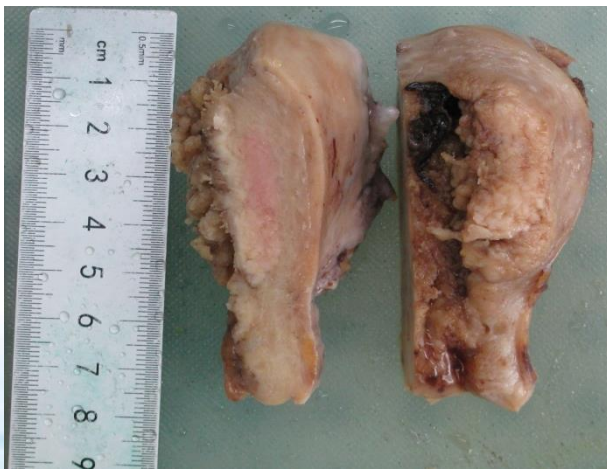
2.5 cm





Hysterectomy with endometrial cancer

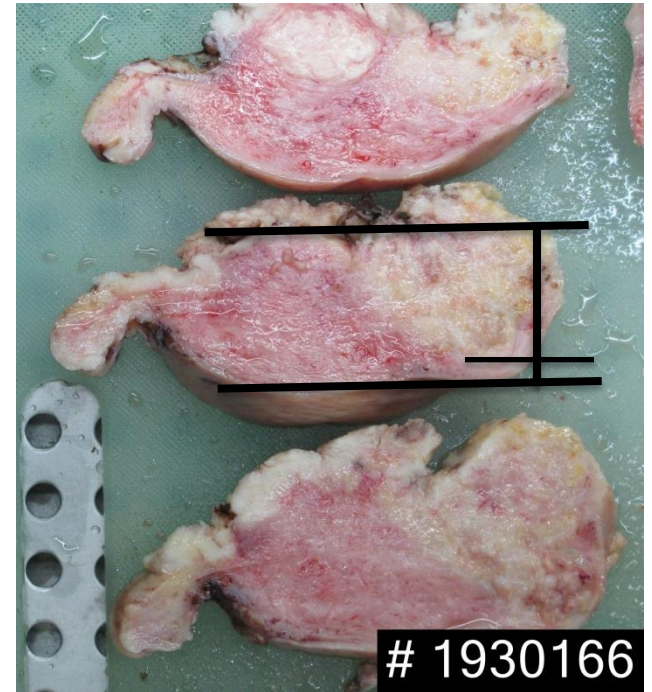
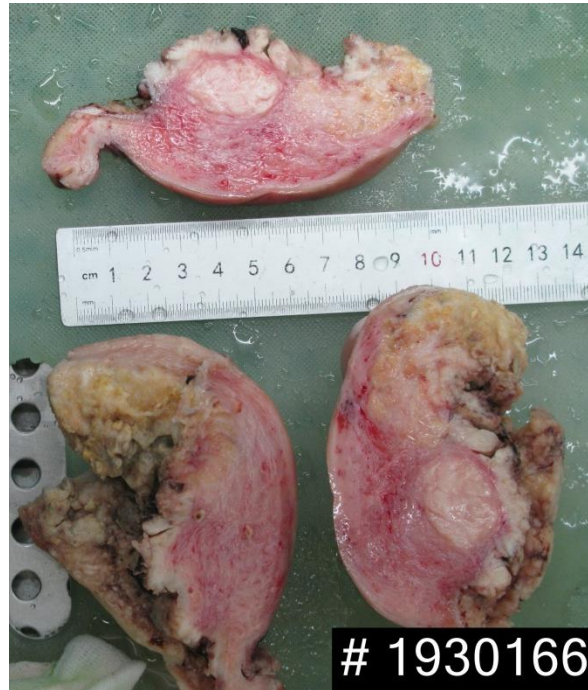
E/M $< 1/2$



#



Hysterectomy with endometrial cancer



$E/M > 1/2$

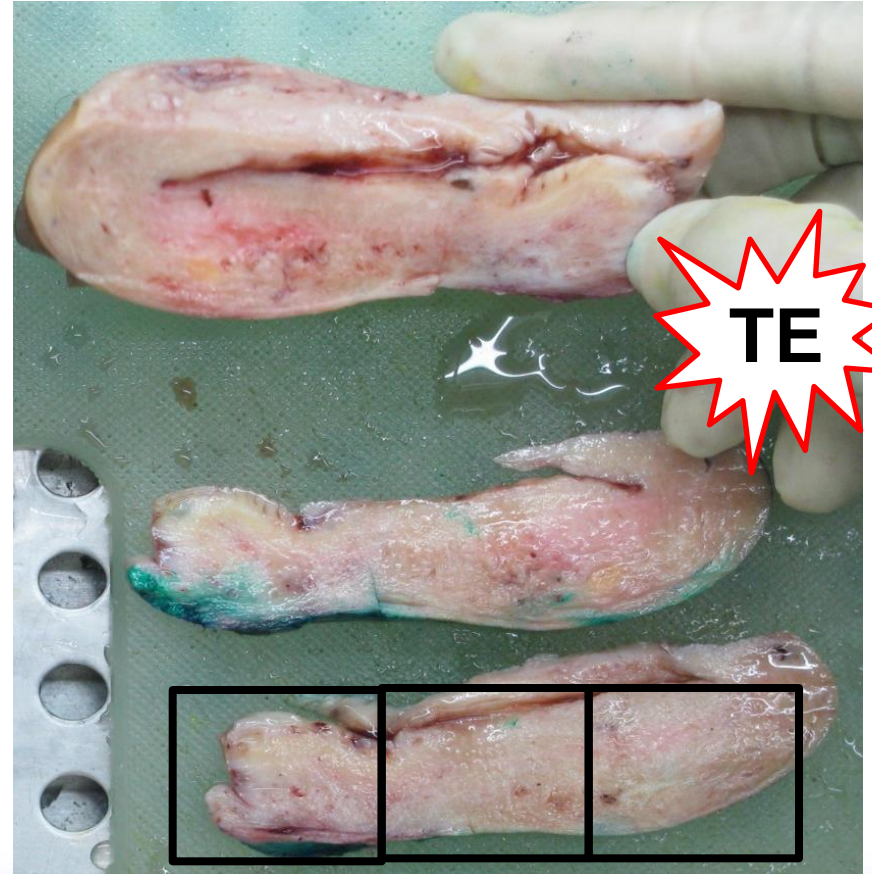


Hysterectomy with endometrial cancer





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T Category	FIGO Stage	T Criteria
TX		Primary tumor cannot be assessed
T0		No evidence of primary tumor
T1	I	Tumor confined to the corpus uteri, including endocervical glandular involvement
T1a	IA	Tumor limited to the endometrium or invading less than half the myometrium
T1b	IB	Tumor invading one half or more of the myometrium
T2	II	Tumor invading the stromal connective tissue of the cervix but not extending beyond the uterus. Does NOT include endocervical glandular involvement.
T3	III	Tumor involving serosa, adnexa, vagina, or parametrium
T3a	IIIA	Tumor involving the serosa and/or adnexa (direct extension or metastasis)
T3b	IIIB	Vaginal involvement (direct extension or metastasis) or parametrial involvement
T4	IVA	Tumor invading the bladder mucosa and/or bowel mucosa (bullous edema is not sufficient to classify a tumor as T4)

1. Uterus, endometrium, radical hysterectomy --- Endometrial intraepithelial / Endometrioid/ Villoglandular/ Secretary/ Ciliated cell/Serous/Clear cell/Mucinous/Squamous/Mixed type/Undifferentiated carcinoma, FIGO grade 1-3.
2. Uterus, cervix, ditto --- Free of tumor invasion.
3. Uterus, myometrium, ditto --- Tumor invasion (less/more than one-half of the myometrium).
4. Ovaries, bilateral, ditto --- Free of tumor invasion.
5. Fallopian tubes, bilateral, ditto --- Free of tumor invasion.
6. Parametria, bilateral, ditto --- Free of tumor invasion.
7. Vaginal cutting end, ditto --- Free of tumor invasion.
8. Omentum, omentectomy --- Free of tumor metastasis.
9. Lymph nodes, dissection --- Free of tumor metastasis, including R't pelvic (), L't pelvic (), R't common iliac (), L't common iliac () and para-aortic ().
10. Extracapsular extension of metastatic nodes --- Absent/Present.
11. Lymphovascular space invasion --- Absent/Present.
12. AJCC pathological stage --- pT N (correlate with clinical M), stage , at least.

Immunohistochemical stains:

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Pathological Examination:

(A) Specimens:

- (1) Uterus: x x cm.
Myometrium: up to cm in thickness.
Endometrium: up to cm in thickness.
- (2) Vagina cuff: cm in length and cm in circumference.
- (3) Right ovary size: x x cm.
- (4) Left ovary size: x x cm.
- (5) Right fallopian tube length: cm in length and cm in diameter.
- (6) Left fallopian tube length: cm in length and cm in diameter.
- (7) Omentum: x x cm.
- (8) Lymph nodes: right pelvic (gm); left pelvic (gm); right common iliac (gm); left common iliac (gm) and para-aortic (gm).

(B) Tumor: one irregular-bordered tumor measuring x cm in dimension, with myometrial invasion, measuring cm in invasion depth (less/more than one-half of the myometrium) as well as cervix/vagina/other organ involvement.

(C) Distance of tumor to cervical cutting end: cm.

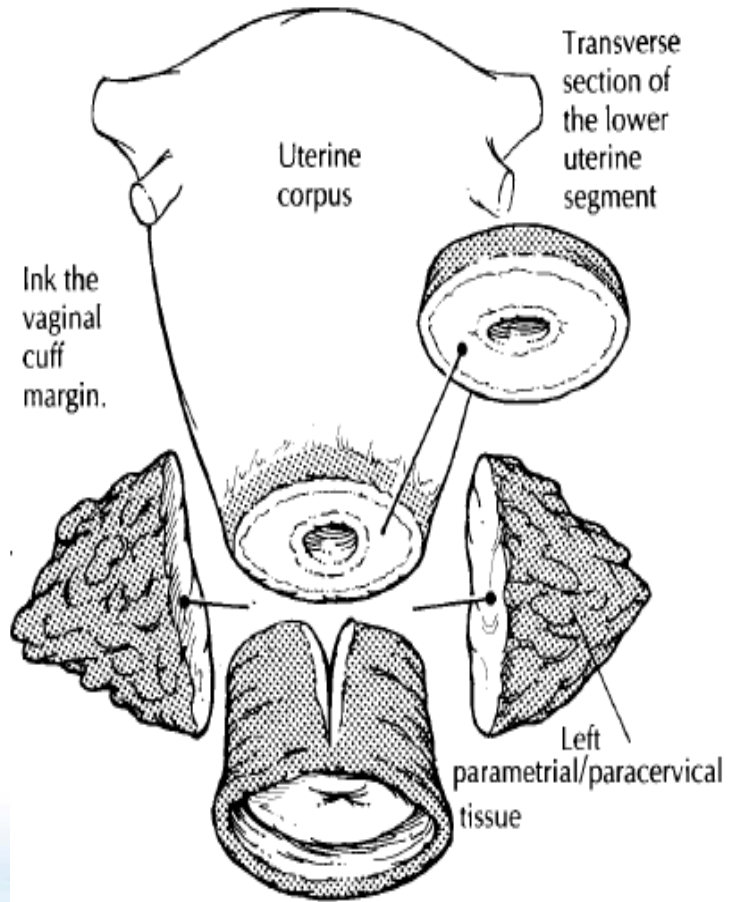
(D) Histopathologic description:

(E) Additional information:

- (1) main tumor lesion embedded in blocks .
- (2) Metastatic lymph node embedded in blocks .



Hysterectomy with cervical cancer





Hysterectomy with cervical cancer



1. Uterus, cervix, radical hysterectomy --- Non-keratinizing squamous cell carcinoma/Adenocarcinoma, large cell type/ differentiated.
2. Uterus, endometrium, ditto --- Free of tumor invasion.
3. Uterus, myometrium, ditto --- Free of tumor invasion.
4. Parametria, bilateral, ditto --- Free of tumor invasion.
5. Vaginal cutting end, ditto --- Free of tumor invasion.
6. Ovary, R't, ditto --- Free of tumor invasion.
7. Ovary, L't, ditto --- Free of tumor invasion.
8. Fallopian tube, R't, ditto --- Free of tumor invasion.
9. Fallopian tube, L't, ditto --- Free of tumor invasion.
10. Lymph nodes, ditto --- Free of tumor metastasis, including right pelvic () and left pelvic ().
11. Extracapsular extension of metastatic lymph node --- Absent/Present.
12. Lymphovascular space invasion --- Present/Absent.
13. AJCC pathological staging --- pT N (correlate with clinical M), stage at least.

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Immunohistochemical stains:

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PATHOLOGIC EXAMINATION

(A) Specimens:

- (1) Uterus size: x x cm.
Myometrium: up to cm in thickness.
Endometrium: up to cm in thickness.
- (2) Vagina cuff: cm in length and cm in circumference.
- (3) Lymph nodes: R't pelvic (gm) and L't pelvic (gm).
- (4) L't ovary: x x cm in size.
- (5) R't ovary: x x cm in size.
- (6) L't fallopian tube: cm in length and cm in diameter.
- (7) R't fallopian tube: cm in length and cm in diameter.

(B) Tumor:

(if grossly visible) one ill-defined white-gray tumor measuring x cm in dimension and confined to uterine cervix, with/without parametrial invasion.

(if grossly NOT visible) one irregular-bordered flat lesion measuring horizontal spread mm and up to mm in stromal invasion.

(C) Distance from tumor to vaginal cutting end: cm.

(D) Histopathologic description:

(E) Additional information:

- (1) main tumor lesion embedded in blocks .
- (2) metastatic lymph node embedded in blocks .



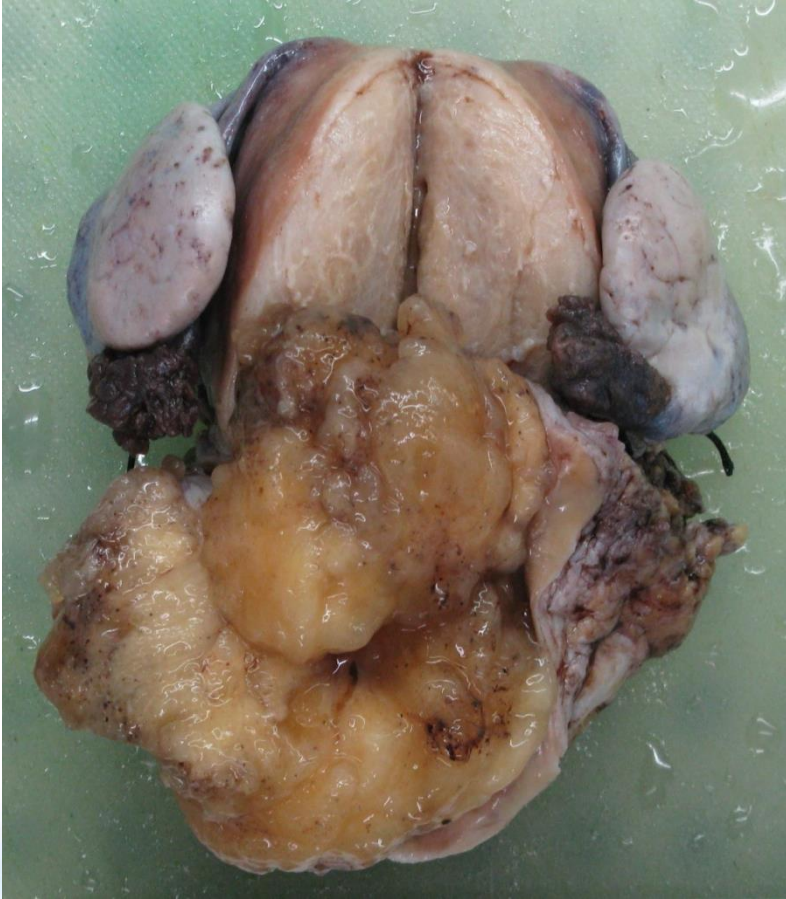
Hysterectomy with cervical cancer

T Category	FIGO Stage	T Criteria
TX		Primary tumor cannot be assessed
T0		No evidence of primary tumor
T1	I	Cervical carcinoma confined to the uterus (extension to corpus should be disregarded)
T1a	IA	Invasive carcinoma diagnosed only by microscopy. Stromal invasion with a maximum depth of 5.0 mm measured from the base of the epithelium and a horizontal spread of 7.0 mm or less. Vascular space involvement, venous or lymphatic, does not affect classification.
T1a1	IA1	Measured stromal invasion of 3.0 mm or less in depth and 7.0 mm or less in horizontal spread
T1a2	IA2	Measured stromal invasion of more than 3.0 mm and not more than 5.0 mm, with a horizontal spread of 7.0 mm or less
T1b	IB	Clinically visible lesion confined to the cervix or microscopic lesion greater than T1a/IA2. Includes all macroscopically visible lesions, even those with superficial invasion.

T Category	FIGO Stage	T Criteria
T1b1	IB1	Clinically visible lesion 4.0 cm or less in greatest dimension
T1b2	IB2	Clinically visible lesion more than 4.0 cm in greatest dimension
T2	II	Cervical carcinoma invading beyond the uterus but not to the pelvic wall or to lower third of the vagina
T2a	IIA	Tumor without parametrial invasion
T2a1	IIA1	Clinically visible lesion 4.0 cm or less in greatest dimension
T2a2	IIA2	Clinically visible lesion more than 4.0 cm in greatest dimension
T2b	IIB	Tumor with parametrial invasion
T3	III	Tumor extending to the pelvic sidewall* and/or involving the lower third of the vagina and/or causing hydronephrosis or nonfunctioning kidney
T3a	IIIA	Tumor involving the lower third of the vagina but not extending to the pelvic wall
T3b	IIIB	Tumor extending to the pelvic wall and/or causing hydronephrosis or nonfunctioning kidney
T4	IVA	Tumor invading the mucosa of the bladder or rectum and/or extending beyond the true pelvis (bullous edema is not sufficient to classify a tumor as T4)

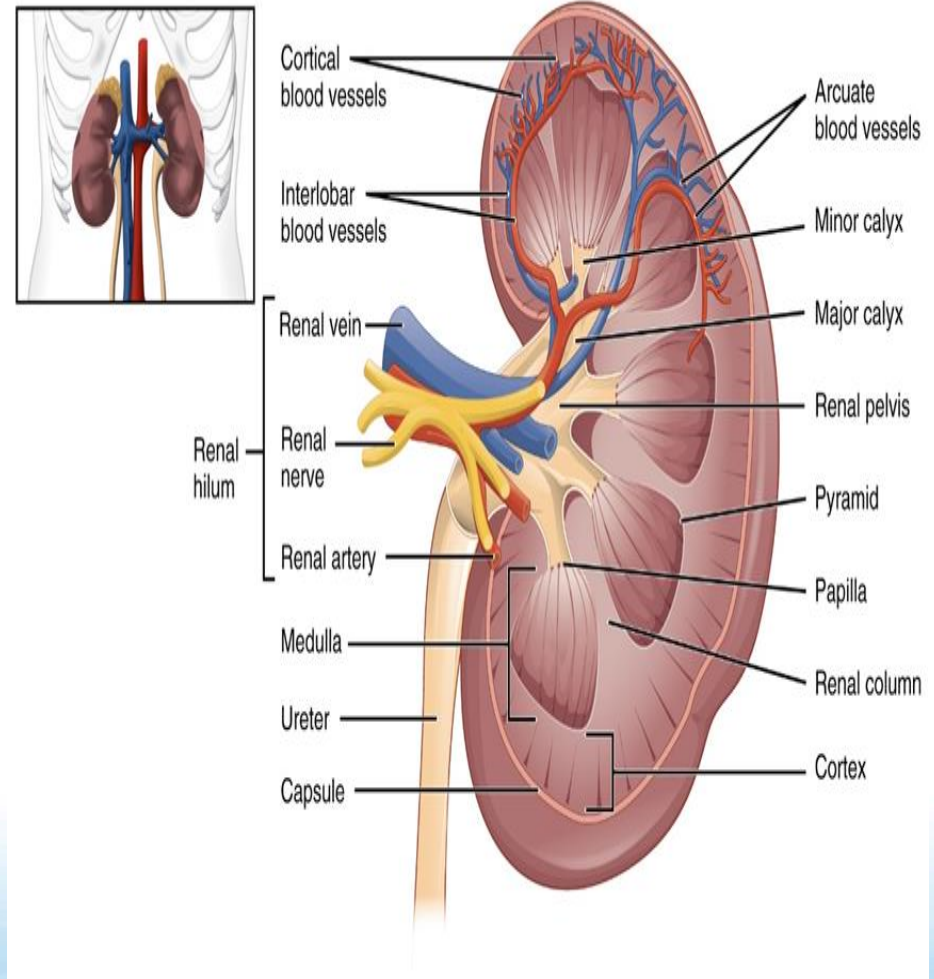
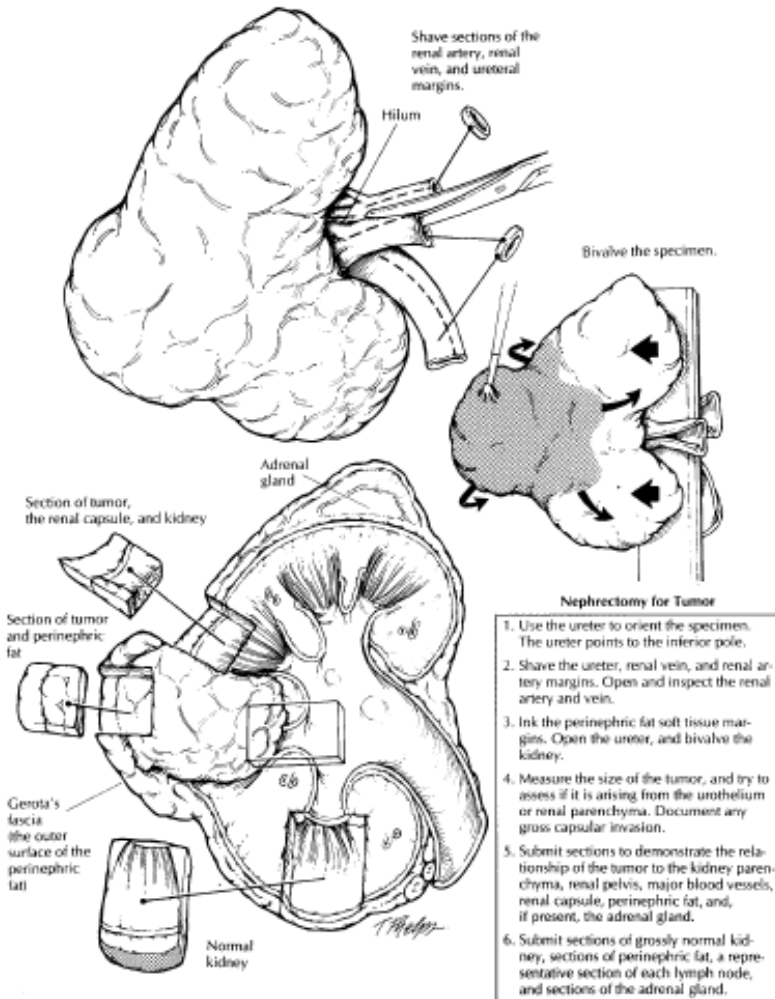


Hysterectomy with cervical cancer



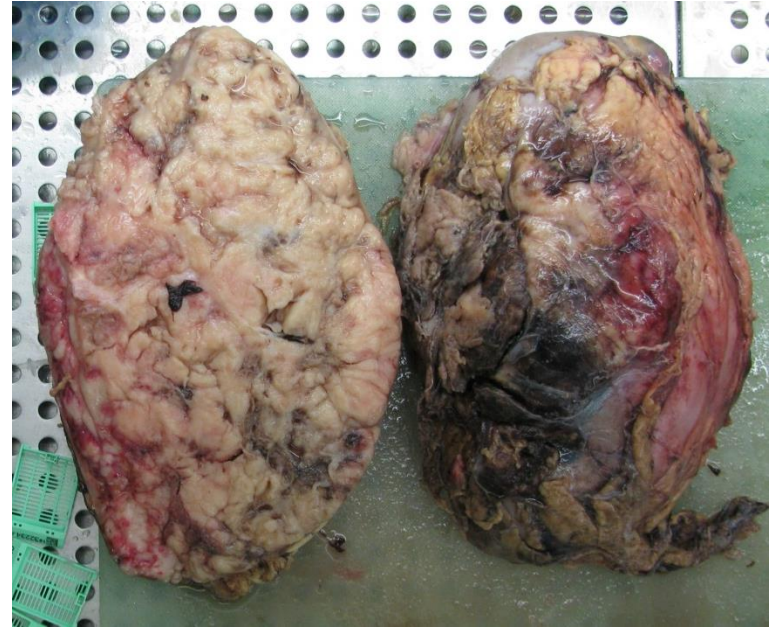


Kidney





Kidney





Kidney



Clear cell renal cell carcinoma invades to adrenal gland



Kidney

T Category	T Criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
T1	Tumor \leq 7 cm in greatest dimension, limited to the kidney
T1a	Tumor \leq 4 cm in greatest dimension, limited to the kidney
T1b	Tumor $>$ 4 cm but \leq 7 cm in greatest dimension limited to the kidney
T2	Tumor $>$ 7 cm in greatest dimension, limited to the kidney
T2a	Tumor $>$ 7 cm but \leq 10 cm in greatest dimension, limited to the kidney
T2b	Tumor $>$ 10 cm, limited to the kidney
T3	Tumor extends into major veins or perinephric tissues, but not into the ipsilateral adrenal gland and not beyond Gerota's fascia
T3a	Tumor extends into the renal vein or its segmental branches, or invades the pelvicalyceal system, or invades perirenal and/or renal sinus fat but not beyond Gerota's fascia
T3b	Tumor extends into the vena cava below the diaphragm
T3c	Tumor extends into the vena cava above the diaphragm or invades the wall of the vena cava
T4	Tumor invades beyond Gerota's fascia (including contiguous extension into the ipsilateral adrenal gland)

1. Kidney, L't/R't, radical nephrectomy --- Renal cell carcinoma, conventional (clear cell type), grade .
2. Renal capsule, ditto --- Free of tumor invasion / Tumor invasion.
3. Perirenal fat, ditto --- Free of tumor invasion / Tumor invasion.
4. Gerota fascia, ditto --- Free of tumor invasion / Tumor invasion.
5. Ureter cutting end, ditto --- Free of tumor invasion / Tumor invasion.
6. Adrenal gland, ditto --- Free of tumor invasion / Tumor invasion.
7. Regional lymph nodes, dissection --- Free of tumor metastasis (/) / Metastatic carcinoma (/).
8. Extracapsular extension of metastatic node --- Absent / Present (/).
9. Renal vessel (vein/ artery) --- Free of tumor invasion / Tumor invasion.
10. Lymphovascular space invasion --- Identified / Not identified.
11. AJCC pathological staging --- pT N (correlate with clinical M), stage at least.

Pathologic examination:

- (A) Specimen: Kidney, measuring cm in length, cm in width, cm in thickness; gm.
- (B) Tumor site:
 - ___ upper pole
 - ___ middle part
 - ___ lower pole
- (C) Tumor size : x x cm in greatest dimension.
- (D) Tumor invasion:
 - ___ confined within the kidney
 - ___ extends into major veins
 - ___ invades adrenal gland
 - ___ invades perirenal fat, but not beyond Gerota's fascia
 - ___ invades beyond Gerota's fascia
- (E) Ureter: in length, in diameter.
- (F) Adrenal gland: x x cm.
- (G) Histopathologic description:
- (H) Additional information:
 - (1) main tumor lesion was embedded in blocks .
 - (2) metastatic lymph node was embedded in blocks .



Renal pelvis & Ureter

Definition of Primary Tumor (T)

T Category	T Criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Ta	Papillary noninvasive carcinoma
Tis	Carcinoma <i>in situ</i>
T1	Tumor invades subepithelial connective tissue
T2	Tumor invades the muscularis
T3	For renal pelvis only: Tumor invades beyond muscularis into peripelvic fat or into the <u>renal parenchyma</u> . For ureter only: Tumor invades beyond muscularis into periureteric fat
T4	Tumor invades adjacent organs, or through the kidney into the perinephric fat

Renal pelvis cancer checklist - T7 44

1. Renal pelvis, R/t/Lt, radical nephrectomy --- Urothelial cell carcinoma, low/high grade, invasion to subepithelial connective tissue/muscularis/peripelvic fat.
2. Ureter cutting end (Bladder cuff), ditto --- Free of tumor invasion.
3. Renal vessel (artery / vein), ditto --- Tumor invasion/ Free of tumor invasion.
4. Renal parenchyma, ditto --- Tumor invasion/ Free of tumor invasion.
5. Regional lymph nodes, dissection --- Tumor metastasis (/) Free of tumor invasion (/).
6. Extracapsular extension of metastatic node --- Absent / Present (/).
7. Lymphovascular space invasion --- Identified/ Not identified.
8. AJCC pathological stage --- pT N Mx, stage at least. ↓

Pathologic examination:

(A) Size of kidney: x x cm in size; gm in weight.

(B) Ureter: cm in length; cm in circumference.

(C) Tumor characteristics:

(1) size: x x cm.

(2) extent of invasion: subepithelial connective tissue / muscularis/peripelvic fat / renal parenchyma.

(3) appearance: papillary/ulcerated.

(4) multifocal lesions (absent/present).

(D) Pathologic findings:

(E) Additional information:

(1) main tumor lesion was embedded in blocks .

(2) metastatic lymph node was embedded in blocks .



Thank you