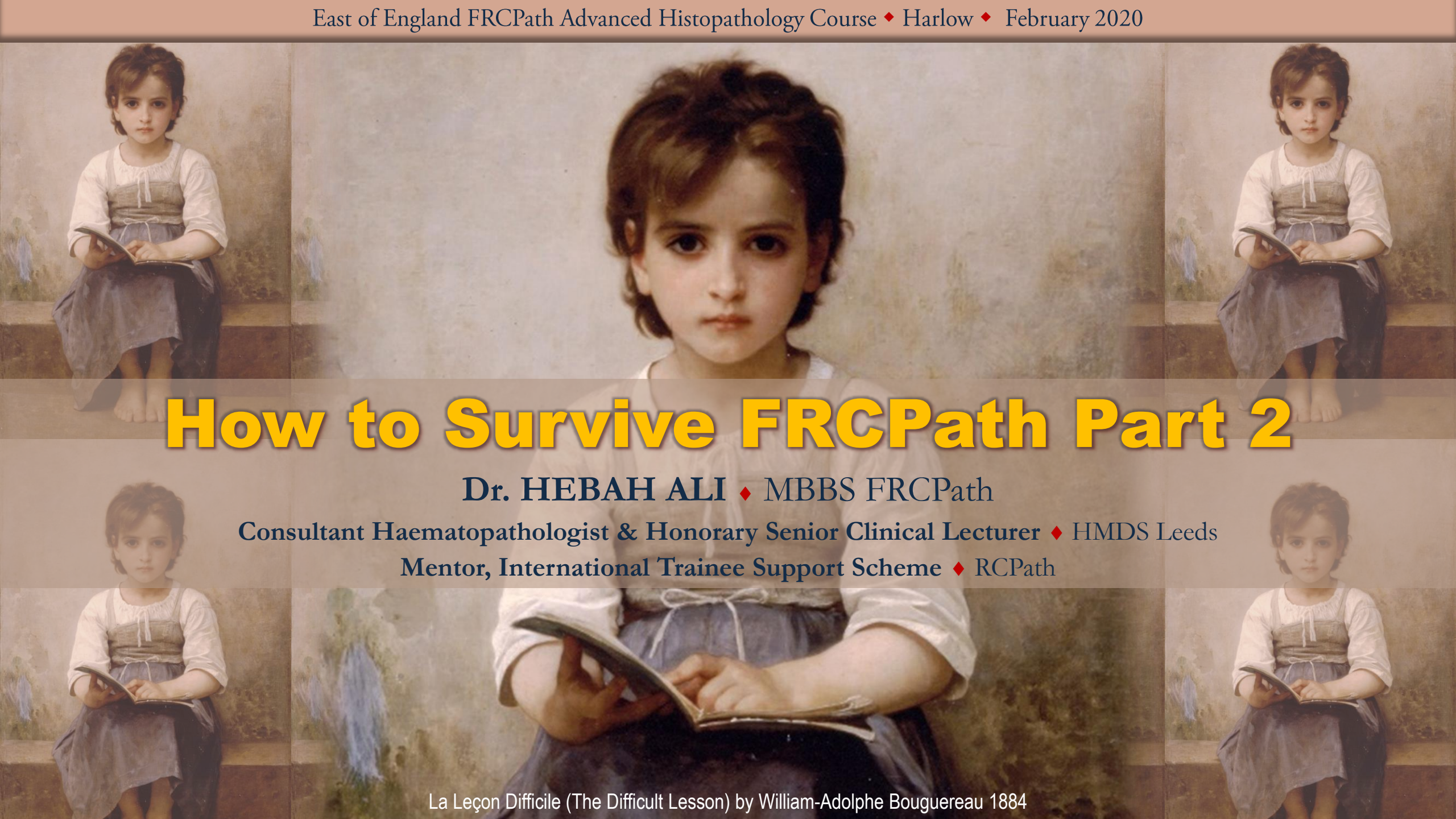


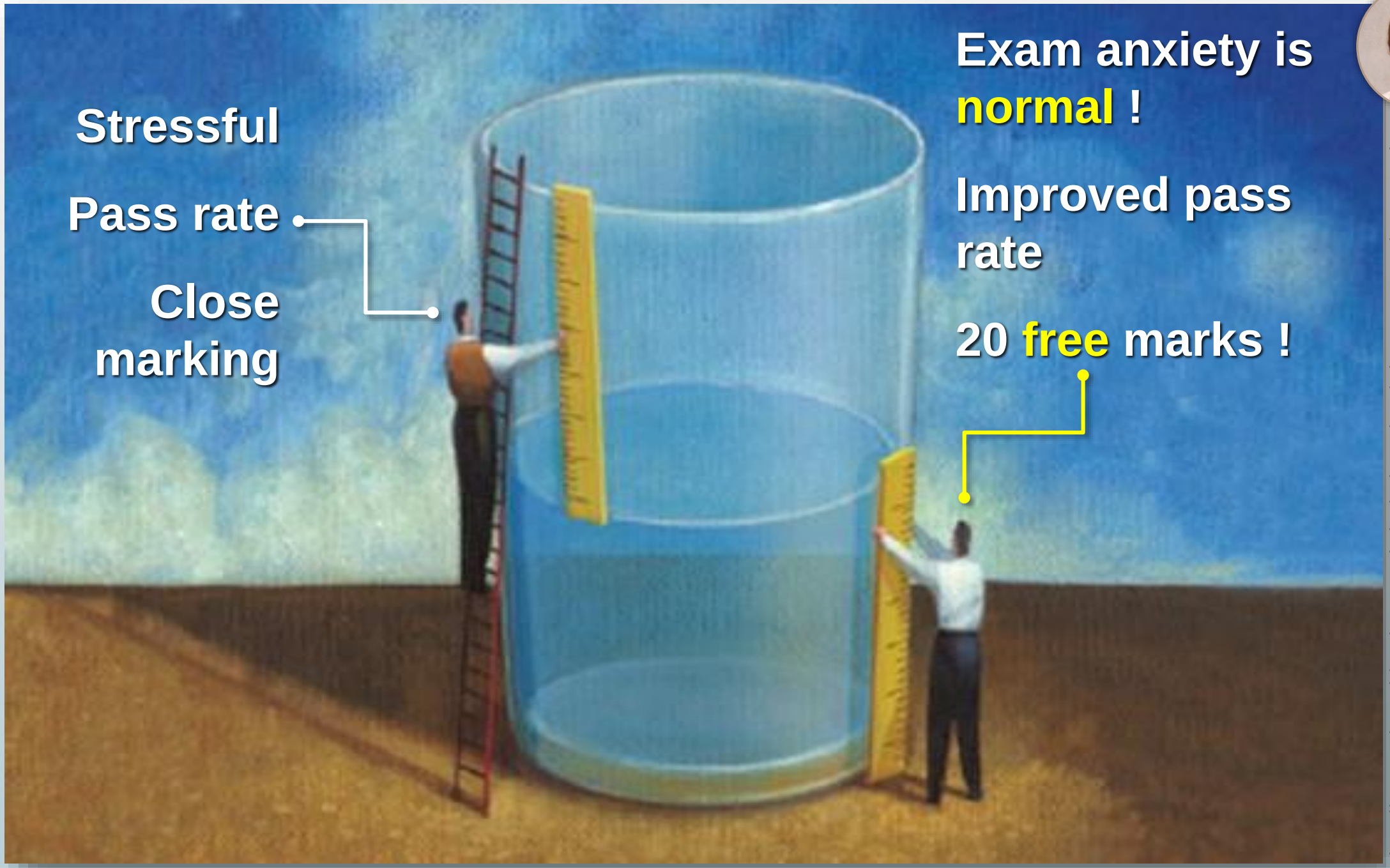
How to Survive FRCPath Part 2

Dr. HEBAH ALI ♦ MBBS FRCPath

Consultant Haematopathologist & Honorary Senior Clinical Lecturer ♦ HMDS Leeds

Mentor, International Trainee Support Scheme ♦ RCPath

La Leçon Difficile (The Difficult Lesson) by William-Adolphe Bouguereau 1884



http://www.ucl.ac.uk/student-psychological-services/other-resources/ExamAnxiety

Knowledgeable

Practical experience, reading and courses

Competent

Confident and quick

Safe

Avoid serious diagnostic errors

Exam Format

Tuesday

Non-gyn Cytopathology:
8 cases: 20 min/ pair

Long Cases:
4 cases (H&E, SHC, IHC, IF, EM, FISH):
20 min/ case

Frozen Sections:
6 cases (H&E): 20 min/ station of 3 cases
Followed by 20 min viva station

OSPE 1:
Face-to-face viva: 20 min

Wednesday

Surgical Histology:
20 cases (H&E): 20 min/ pair

Macroscopic Pathology:
4 cases (photographs): 20 min/ pair
Followed by 20 min viva station

OSPE 2:
Written exercise: 20 min

Tips for Surgical Short Cases

Close Marking System

Clear Fail
↓
1-1.5

Borderline Fail
↓
2

Correct Answer
↓
2.5

Additional marks
↓
3

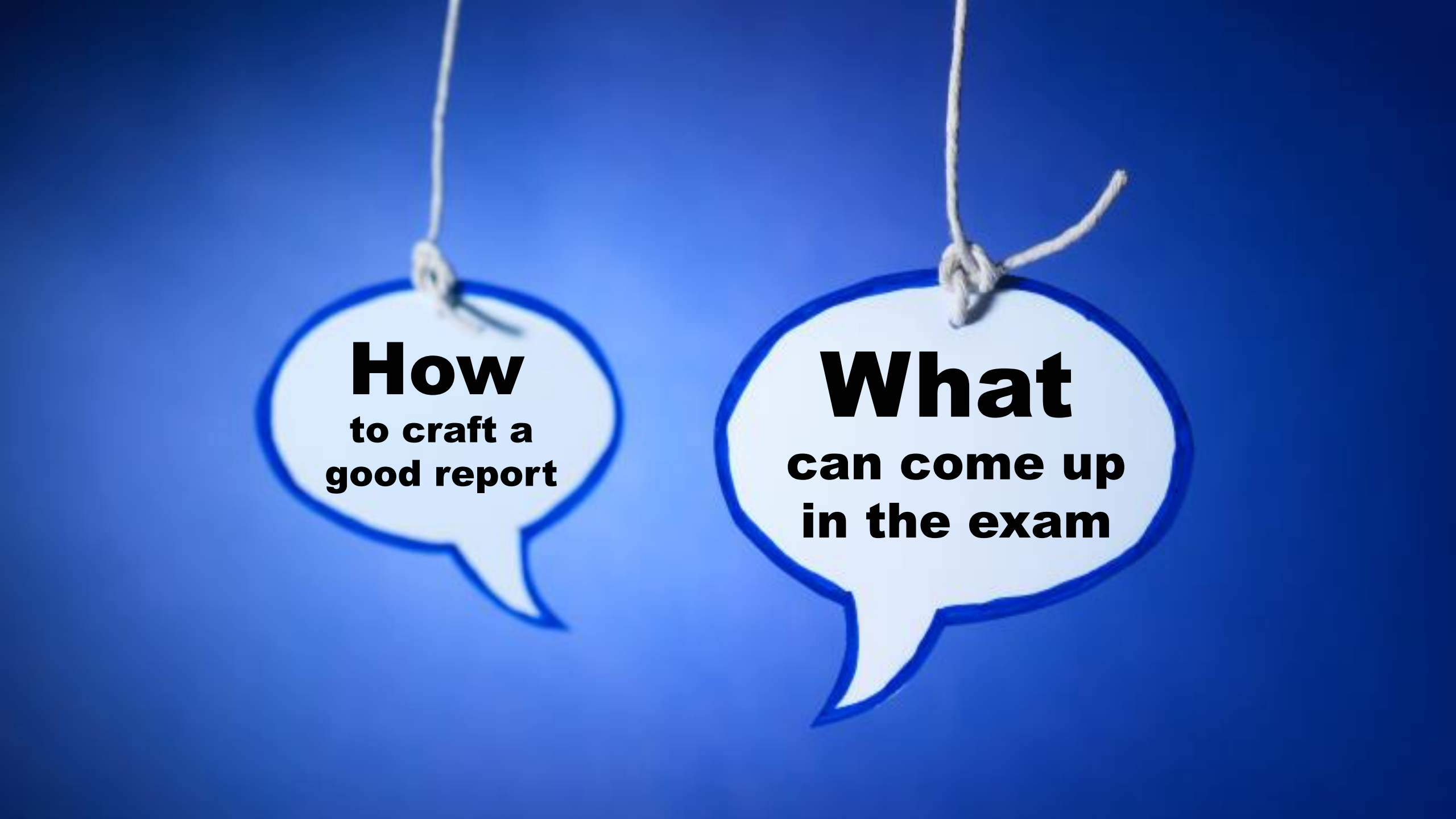
Awesome Answer
↓
3.5

10 Sets of 2 Cases

Lucky 50/100

Home and Dry 53/100

Fight for Every Mark 59/100


How
to craft a
good report
What
can come up
in the exam

Lauren V. Ackerman
1905 - 1993

Seminars in Diagnostic Pathology

VOL 20, NO 4 NOVEMBER 2003

Introduction

Dr. Lauren V. Ackerman and His Man From Istanbul

IT IS A WELL KNOWN fact that the act of recognition is greatly facilitated if the object to be recognized is in the expected surroundings. To drive the point home with a graphic example, I think most readers will agree that they are more likely to recognize Zubin Mehta on a podium holding a baton in front of an orchestra than if he is driving a Ferrari along the French Riviera or bowling in Des Moines, Iowa. Every experienced pathologist knows that this is also true in our profession. A lesion that would have represented a case of "instant pattern recognition" if located in its natural habitat (such as an endometrial stromal sarcoma in the wall of the uterus) may be hard to recognize if found as a solitary nodule in the lung and next to impossible if presenting initially as a mass in the deep soft tissues of the forearm, as I saw recently. In cases of this sort, the failure of recognition stems primarily from not having thought of the possibility. Dr. Lauren V. Ackerman, one of the most astute surgical pathologists of all time, used to say that a useful contribution of computers to

personally. In any event, my recollection of the tale is something like this:

"There was this man by the name of John who lived in an apartment in New York City. Each morning, as he opened the door of his apartment to go to work, he found himself facing the man living in the apartment in front of his, who went to work at exactly the same time. Day after day, for decades, he would say "Good morning, Fred," hear the reply "Good morning, John," and go to his business. Until, one day, John was given an assignment in Istanbul. This was his first trip overseas and he was very excited. The trip was uneventful, he checked in his hotel, and went quickly to bed. The next morning he got up for his appointment. He opened the door of his room and he found himself facing Fred, who had just opened the door of the room across from his. Perhaps something in John's subconscious told him that this was his old friend Fred again, as he had seen him every morning for all those years, but his conscious

The Man of Istanbul

The Usual Suspects

Signet ring adenocarcinoma
Renal cell carcinoma
Papillary thyroid carcinoma
Langerhans cell histiocytosis
Endometriosis
Amyloid
Granulomatous inflammation

~~Adenoid cystic carcinoma~~
~~Metastatic~~ melanoma

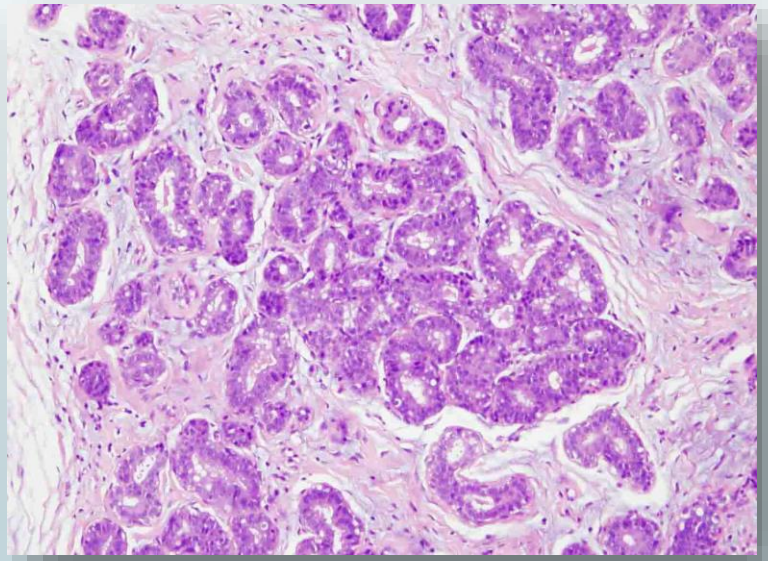
Melanocytic lesions

Melanoma
Reed naevus
Spitz naevus

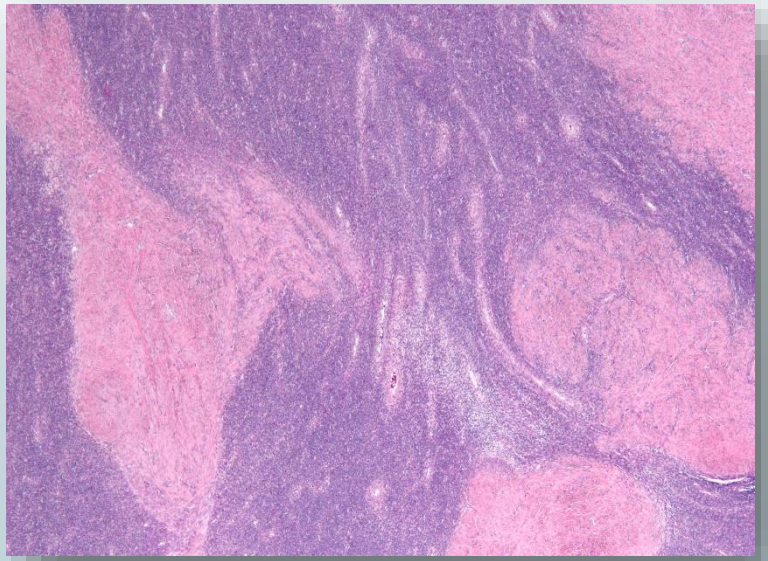
Non-melanocytic

Adnexal tumours
Inflammatory
Infections

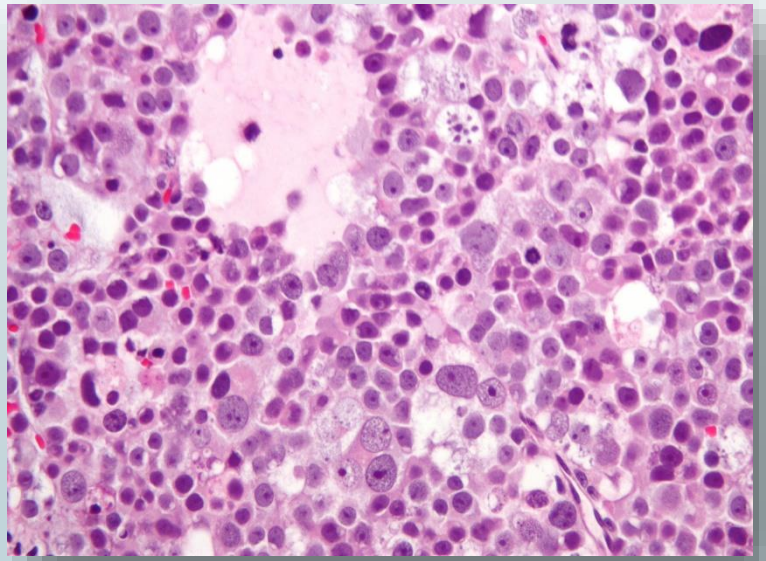
Breast



Gynaecological

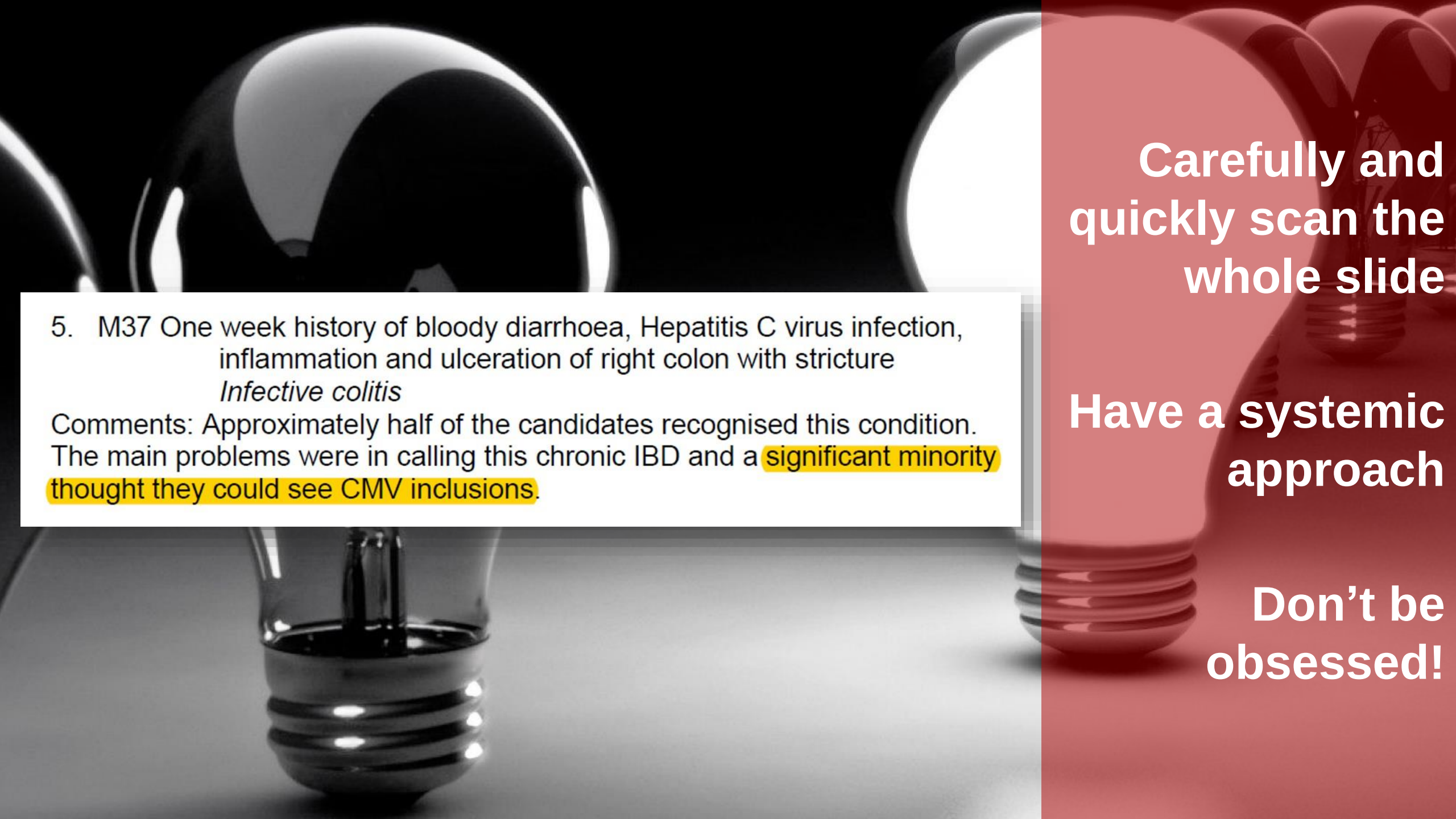


Urology



Dual Pathology

2019 S	Endometrial polyp + leiomyoma
2019 S	Anal condyloma + AIN + SCC
2018 A	Reactive hyperplasia + Infectious mononucleosis
2018 A	Hashimoto thyroiditis + Hurthle cell nodule
2018 S	Radiation enteritis + adenoma
2017 A	Mesothelioma + talc reaction
2017 A	CIN + condyloma in cervix
2016 A	CIN3 + high grade CGIN
2016 A	Nephrogenic metaplasia + post-operative spindle cell nodule
2016 A	Low grade appendiceal mucinous neoplasm + well differentiated NET
2016 S	Pneumocystis carinii/ jiroveci pneumonia + lymphoma
2015 S	Endometrial polyp + metastatic lobular breast CA
2015 S	Silicone lymphadenitis + metastatic breast CA
2014 A	Endometrioid CA + extrauterine fatty tissue
2013 A	Pleomorphic adenoma + salivary duct type CA
2013 A	CIN2 + CGIN
2013 A	B3 papillary + lesion LCIS
2012 A	Leiomyoma + placental site reaction
2009 S	B3 radial scar + fibroadeoma + FCC
2009 S	Intraductal papilloma + IDC



5. M37 One week history of bloody diarrhoea, Hepatitis C virus infection, inflammation and ulceration of right colon with stricture
Infective colitis

Comments: Approximately half of the candidates recognised this condition. The main problems were in calling this chronic IBD and a significant minority thought they could see CMV inclusions.

Carefully and quickly scan the whole slide

Have a systemic approach

Don’t be obsessed!

Trend!

Lung Pathology

2014 A	Pneumocystis carinii/ jiroveci pneumonia
2016 S	Pneumocystis carinii/ jiroveci pneumonia and lymphoma
2014 A	Organising pneumonia
2015 S	Desquamative interstitial pneumonia
2014 A	Epithelioid mesothelioma
2016 A	Epithelioid mesothelioma
2015 A	Sarcomatoid mesothelioma
2017 A	Mesothelioma + talc reaction
2019 S	Mesothelioma
2016 A	Pulmonary lymphangioleiomyomatoisis
2013 A	Pulmonary blastoma
2015 S	Solitary fibrous tumour
2018 A	Lymphangitis carcinomatosa

Trends!

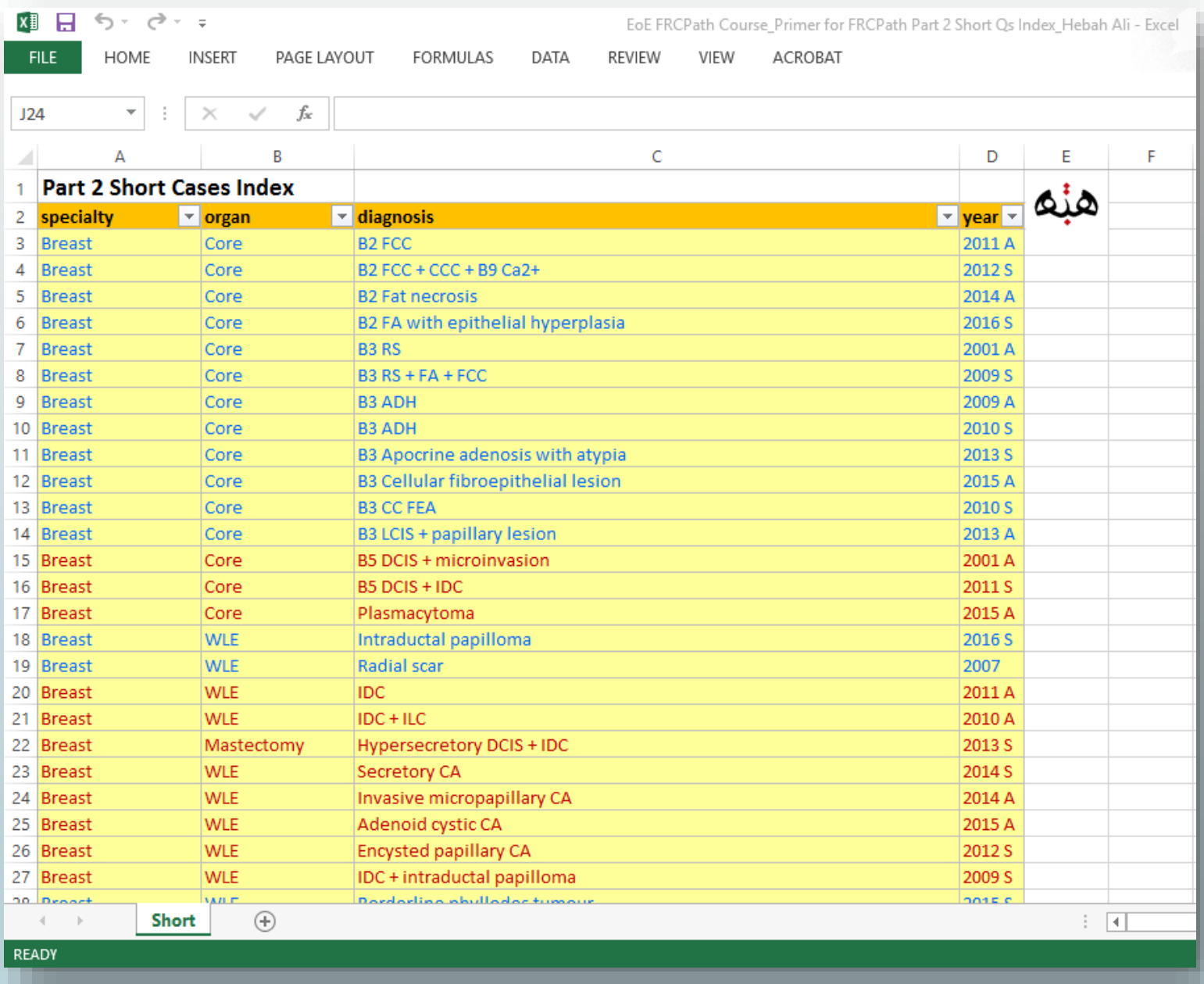
Difficult to predict.

Your exam might be the beginning of a new era!

Review the entities in the list provided BY SPECIALTY

- For each specific diagnosis, try to cover the broad category in your preparation:
- e.g. for desquamative interstitial pneumonia, read about interstitial lung diseases

Previous Exams



EoE FRCPath Course_Primer for FRCPath Part 2 Short Qs Index_Hebah Ali - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ACROBAT

J24

	A	B	C	D	E	F
1	**Part 2 Short Cases Index**				هبه	
2	**specialty**	**organ**	**diagnosis**	**year**		
3	Breast	Core	B2 FCC	2011 A		
4	Breast	Core	B2 FCC + CCC + B9 Ca2+	2012 S		
5	Breast	Core	B2 Fat necrosis	2014 A		
6	Breast	Core	B2 FA with epithelial hyperplasia	2016 S		
7	Breast	Core	B3 RS	2001 A		
8	Breast	Core	B3 RS + FA + FCC	2009 S		
9	Breast	Core	B3 ADH	2009 A		
10	Breast	Core	B3 ADH	2010 S		
11	Breast	Core	B3 Apocrine adenosis with atypia	2013 S		
12	Breast	Core	B3 Cellular fibroepithelial lesion	2015 A		
13	Breast	Core	B3 CC FEA	2010 S		
14	Breast	Core	B3 LCIS + papillary lesion	2013 A		
15	Breast	Core	B5 DCIS + microinvasion	2001 A		
16	Breast	Core	B5 DCIS + IDC	2011 S		
17	Breast	Core	Plasmacytoma	2015 A		
18	Breast	WLE	Intraductal papilloma	2016 S		
19	Breast	WLE	Radial scar	2007		
20	Breast	WLE	IDC	2011 A		
21	Breast	WLE	IDC + ILC	2010 A		
22	Breast	Mastectomy	Hypersecretory DCIS + IDC	2013 S		
23	Breast	WLE	Secretory CA	2014 S		
24	Breast	WLE	Invasive micropapillary CA	2014 A		
25	Breast	WLE	Adenoid cystic CA	2015 A		
26	Breast	WLE	Encysted papillary CA	2012 S		
27	Breast	WLE	IDC + intraductal papilloma	2009 S		

Short

READY


Rare or
New Entities:
Covered in
preparatory courses
Hopefully!

	A	B	C	D	E
1	**Part 2 Short Cases Index**				
2	**specialty**	**organ**	**diagnosis**	**year**	
6	Breast	Core	B2 FA with epithelial hyperplasia	2016 S	
18	Breast	WLE	Intraductal papilloma	2016 S	
45	Cardiothoracic	Lung	LCH	2016 S	
48	Cardiothoracic	Lung	Pneumocystis carinii/ jiroveci pneumonia and lymphoma	2016 S	
94	GIT lower	Bowel	Inflammatory fibroid polyp	2016 S	
106	GIT lower	Colon	Traditional serrated adenoma	2016 S	
123	Pancreas		Chronic pancreatitis	2016 S	
127	Head & Neck	Tongue	Hyperplastic candidiasis	2016 S	
141	Head & Neck	Post nasal space	Nasopharyngeal CA	2016 S	
143	Head & Neck	Neck mass	Paraganglioma	2016 S	
166	Urology	Loin	RCC	2016 S	
189	Urology	Testis	Embryonal CA	2016 S	
195	Gyn	Vulva	Paget's disease	2016 S	
200	Gyn	Cervix	Benign isthmic polyp with pregnancy associated changes	2016 S	
242	Haematopath	LN	Necrotising granulomatous lymphadenitis	2016 S	
260	Soft Tissue	Ankle	Shwannoma	2016 S	
269	Soft Tissue	Omentum	Fat necrosis	2016 S	
299	Derma	Wrist	Lichen planus	2016 S	
313	Derma	Scalp	Proliferating trichilemmal tumour	2016 S	
326	Derma	Scalp	Spindle cell melanoma	2016 S	
343					

Expected

Previous Exams

New!

	A	B	C	D	E
1	**Part 2 Short Cases Index**				
2	**specialty**	**organ**	**diagnosis**	**year**	
6	Breast	Core	B2 FA with epithelial hyperplasia	2016 S	
19	Breast	WLE	Intraductal papilloma	2016 S	
47	Cardiothoracic	Lung	LCH	2016 S	
50	Cardiothoracic	Lung	Pneumocystis carinii/ jiroveci pneumonia + lymphoma	2016 S	
98	GIT lower	Bowel	Inflammatory fibroid polyp	2016 S	
112	GIT lower	Colon	Traditional serrated adenoma	2016 S	
129	Pancreas		Chronic pancreatitis	2016 S	
133	Head & Neck	Tongue	Hyperplastic candidiasis	2016 S	
148	Head & Neck	Post nasal space	Nasopharyngeal CA	2016 S	
151	Head & Neck	Neck mass	Paraganglioma	2016 S	
175	Urology	Loin	RCC	2016 S	
199	Urology	Testis	Embryonal CA	2016 S	
205	Gyn	Vulva	Paget's disease	2016 S	
210	Gyn	Cervix	Benign isthmic polyp with pregnancy associated changes	2016 S	
255	Haematopath	LN	Necrotising granulomatous lymphadenitis	2016 S	
273	Soft Tissue	Ankle	Shwannoma	2016 S	
282	Soft Tissue	Omentum	Fat necrosis	2016 S	
314	Derma	Wrist	Lichen planus	2016 S	
329	Derma	Scalp	Proliferating trichilemmal tumour	2016 S	
343	Derma	Scalp	Spindle cell melanoma	2016 S	
361					

2	specialty	organ	diagnosis	year
29	Breast		Adenoid cystic CA	2019 S
38	Breast		Fibrocystic changs	2019 S
58	Cardiothoracic	Lung	Amyloidosis	2019 S
82	Cardiothoracic	Pleura	Mesothelioma	2019 S
101	GIT upper	Stomach	Lymphocytic gastritis	2019 S
126	GIT lower	Appendix	Well differentiated NET	2019 S
151	GIT lower	Rectum	Mucosal prolapse	2019 S
156	GIT lower	Anus	Condyloma + AIN1 + SCC	2019 S
183	Head & Neck	Nose	Melanoma	2019 S
195	Endocrine	Thyroid	Papillary thyroid carcioma	2019 S
220	Urology	Bladder	Malakoplakia	2019 S
232	Urology	Bladder	Prostatic CA	2019 S
252	Urology	Testis	Diffuse large B-cell lymphoma	2019 S
286	Gyn	Endometrium	Endometrial polyp + atypical leiomyoma	2019 S
300	Gyn	Ovary	Borderline serous tumour	2019 S
302	Gyn	Ovary	Ectopic pregnancy	2019 S
335	Soft Tissue	Mesentery	Leiomyosarcoma	2019 S
346	Soft Tissue	Abdomenal wall	Fibromatosis	2019 S
401	Derma		Xanthelasma	2019 S
402	Derma		Dermatofibroma	2019 S

Expected

Previous Exams

New!

	A	B	C	D
2	specialty	organ	diagnosis	year
29	Breast		Adenoid cystic CA	2019 S
38	Breast		Fibrocystic changs	2019 S
58	Cardiothoracic	Lung	Amyloidosis	2019 S
82	Cardiothoracic	Pleura	Mesothelioma	2019 S
101	GIT upper	Stomach	Lymphocytic gastritis	2019 S
126	GIT lower	Appendix	Well differentiated NET	2019 S
151	GIT lower	Rectum	Mucosal prolapse	2019 S
156	GIT lower	Anus	Condyloma + AIN1 + SCC	2019 S
183	Head & Neck	Nose	Melanoma	2019 S
195	Endocrine	Thyroid	Papillary thyroid carcioma	2019 S
220	Urology	Bladder	Malakoplakia	2019 S
232	Urology	Bladder	Prostatic CA	2019 S
252	Urology	Testis	Diffuse large B-cell lymphoma	2019 S
286	Gyn	Endometrium	Endometrial polyp + atypical leiomyoma	2019 S
300	Gyn	Ovary	Borderline serous tumour	2019 S
302	Gyn	Ovary	Ectopic pregnancy	2019 S
335	Soft Tissue	Mesentery	Leiomyosarcoma	2019 S
346	Soft Tissue	Abdomenal wall	Fibromatosis	2019 S
401	Derma		Xanthelasma	2019 S
402	Derma		Dermatofibroma	2019 S

How to Get the Most Out of this Course?

Make sure you can recognise ALL entities!

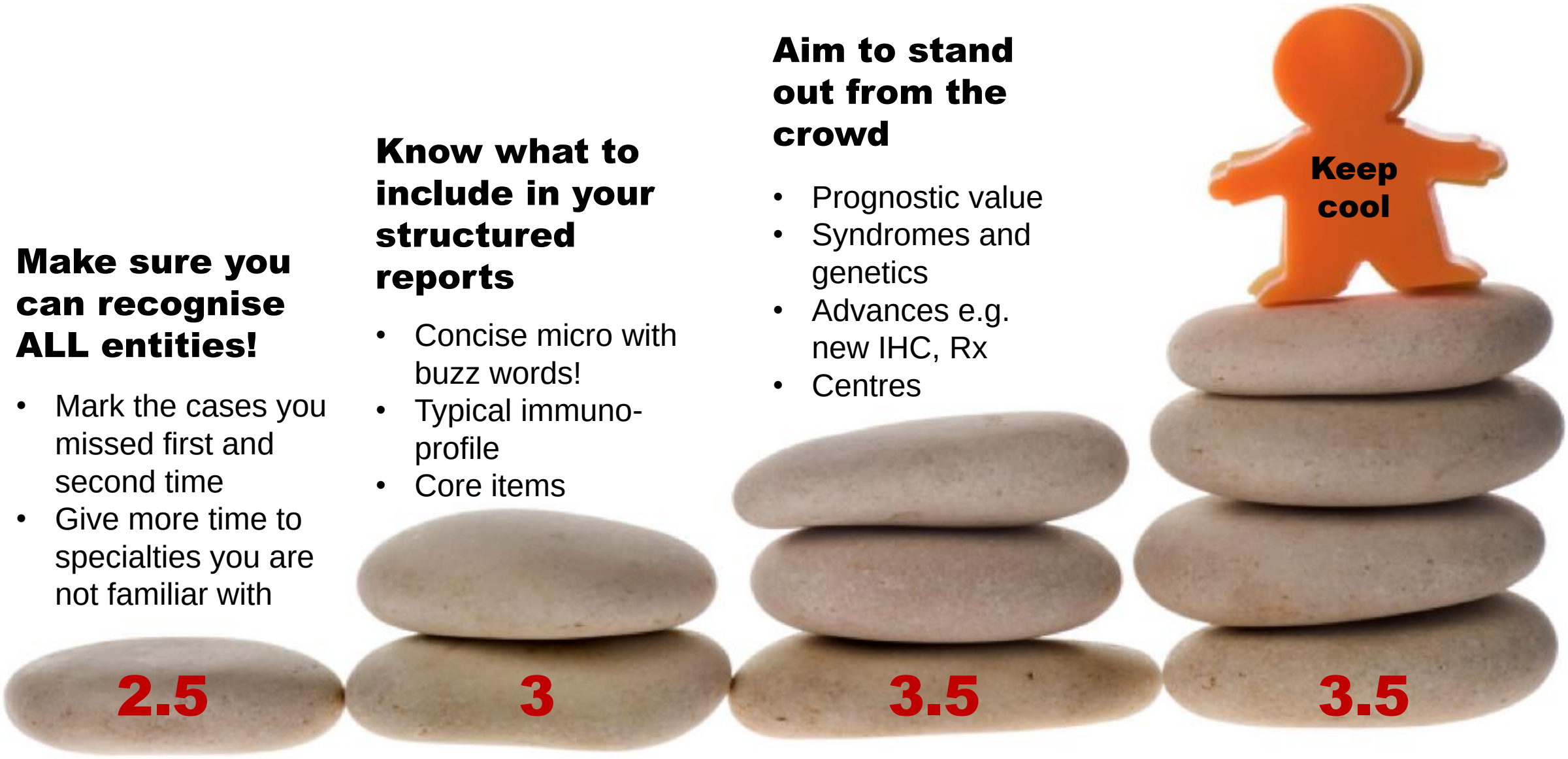
- Mark the cases you missed first and second time
- Give more time to specialties you are not familiar with

Know what to include in your structured reports

- Concise micro with buzz words!
- Typical immuno-profile
- Core items

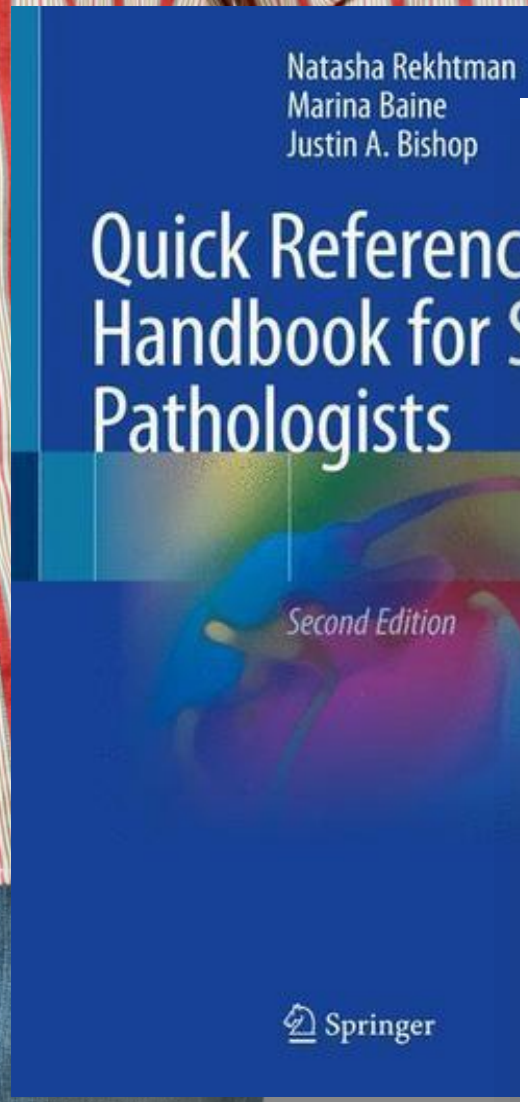
Aim to stand out from the crowd

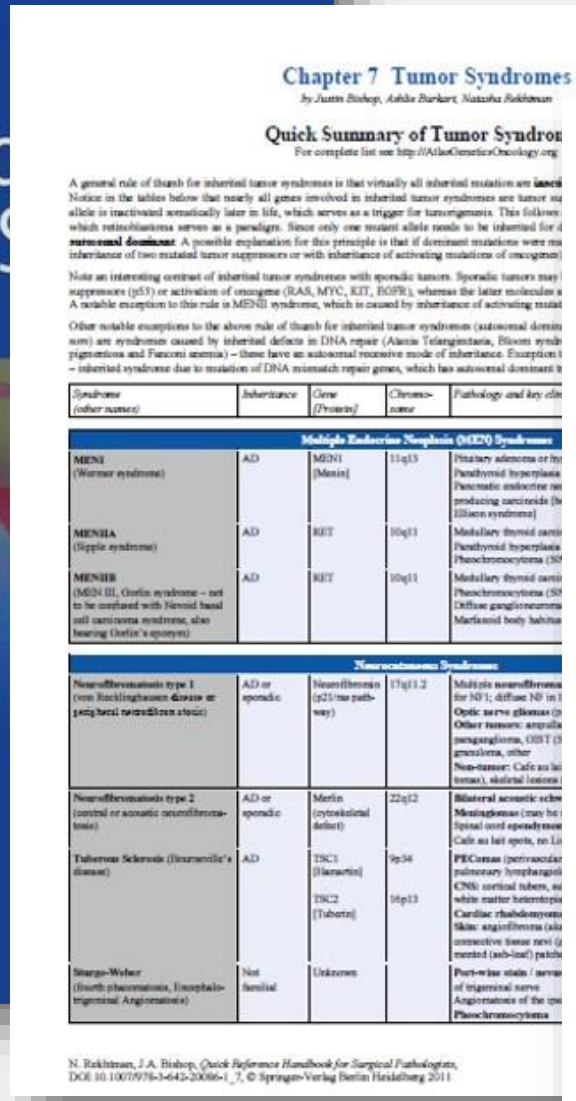
- Prognostic value
- Syndromes and genetics
- Advances e.g. new IHC, Rx
- Centres



Study Smart!

Save time, effort and money





Chapter 7 Tumor Syndromes

by Justin Bishop, Ashlie Burkart, Natasha Rekhtman

Quick Summary of Tumor Syndrom

For complete list see http://AtlasGeneticsOncology.org

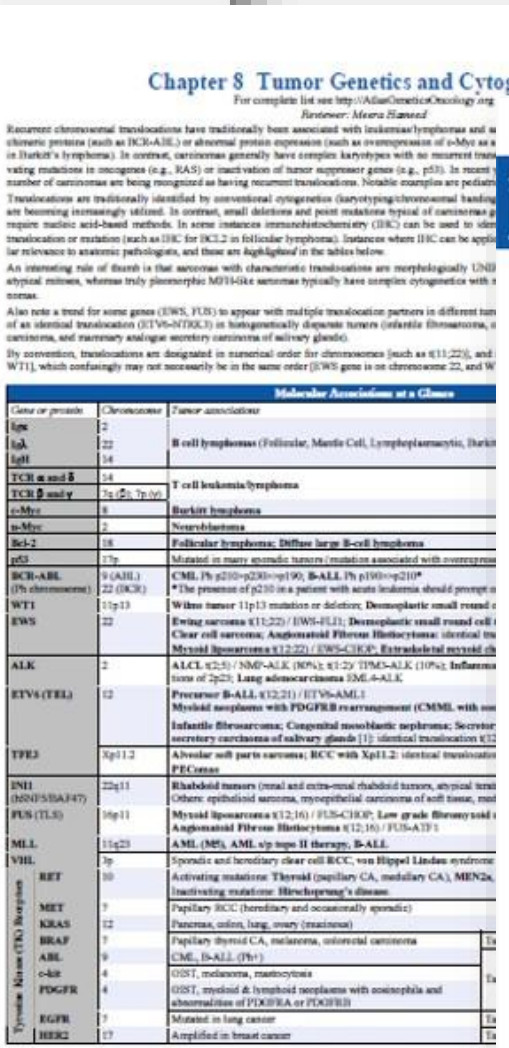
A general rule of thumb for inherited tumor syndromes is that virtually all inherited mutation are **incr**
Notice in the tables below that nearly all genes involved in inherited tumor syndromes are tumor su
allele is inactivated somatically later in life, which serves as a trigger for tumorigenesis. This follows
which retinoblastoma serves as a paradigm. Since only one mutant allele needs to be inherited for
tumoral dominant. A possible explanation for this principle is that if dominant mutations were ma
inheritance of two mutated tumor suppressors or with inheritance of activating mutations of oncogenes

Note an interesting contrast of inherited tumor syndromes with sporadic tumors. Sporadic tumors may
suppressors (p53) or activation of oncogene (RAS, MYC, KIT, EGFR), whereas the latter molecules a
A notable exception to this rule is MEN2 syndrome, which is caused by inheritance of activating mutat

Other notable exceptions to the above rule of thumb for inherited tumor syndromes (autosomal domin
som) are syndromes caused by inherited defects in DNA repair (Ataxia Telangiectasia, Bloom syndr
pigmentosus and Fanconi anemia) – these have an autosomal recessive mode of inheritance. Exception
– inherited syndrome due to mutation of DNA mismatch repair genes, which has autosomal dominant

Syndrome (other names)	*Inheritance*	*Gene [Protein]*	*Chromosome*	*Pathology and key clin*
Multiple Endocrine Neoplasia (MEN) Syndromes				
MEN1 (Wermer syndrome)	AD	MEN1 [Menin]	11q13	Pituitary adenoma or hy Parathyroid hyperplasia Pancreatic endocrine ne producing carcinoids [Z Ellison syndrome]
MENHA (Sipple syndrome)	AD	RET	10q11	Medullary thyroid carci Parathyroid hyperplasia Pheochromocytoma (50
MENHB (MEN III, Gorlin syndrome – not to be confused with Nevoid basal cell carcinoma syndrome, also bearing Gorlin's eponym)	AD	RET	10q11	Medullary thyroid carci Pheochromocytoma (50 Diffuse ganglioneuroma Marfanoid body habitus
Neurocutaneous Syndromes				
Neurofibromatosis type 1 (von Recklinghausen disease or peripheral neurofibromatosis)	AD or sporadic	Neurofibromin (p21/ras pathway)	17q11.2	Multiple neurofibroma for NF1; diffuse NF in l **Optic nerve gliomas** (2 **Other tumors:** angiofib paraganglioma, GIST (3 granuloma, other **Non-tumor:** Café au la freckling), skeletal lesions
Neurofibromatosis type 2 (central or acoustic neurofibromatosis)	AD or sporadic	Merlin (cytoskeletal deficit)	22q12	**Bilateral acoustic schw** **Meningiomas** (may be Spinal cord **ependymo** Café au lait spots, no Li
Tuberous Sclerosis (Bourneville's disease)	AD	TSC1 [Hamartin] TSC2 [Tuberin]	9p34 16p13	**PEComas** (perivascular pulmonary lymphangio CNS: cortical tubers, s white matter heterotopi **Cardiac rhabdomyom** **Skin:** angiofibroma (ada connective tissue nevi (
mented (ash-leaf) patch
Sturge-Weber (fourth phacomatosis, Encephalo-trigeminal Angiomatosis)	Not familial	Unknown		**Port-wine stain / nevu** of trigeminal nerve Angiomatosis of the sy **Pheochromocytoma**

N. Rekhtman, J.A. Bishop, *Quick Reference Handbook for Surgical Pathologists*,
DOI 10.1007/978-3-642-20086-1_7, © Springer-Verlag Berlin Heidelberg 2011



Chapter 8 Tumor Genetics and Cytogenetics

For complete list see http://AtlasGeneticsOncology.org

Reviewer: Meera Hameed

Recurrent chromosomal translocations have traditionally been associated with leukemias/lymphomas and s
chimeric proteins (such as BCR-ABL) or abnormal protein expression (such as overexpression of c-Myc as a
in Burkitt's lymphoma). In contrast, carcinomas generally have complex karyotypes with no recurrent tran
vating mutations in oncogenes (e.g., RAS) or inactivation of tumor suppressor genes (e.g., p53). In recent
number of carcinomas are being recognized as having recurrent translocations. Notable examples are pediatr

Translocations are traditionally identified by conventional cytogenetics (karyotyping/chromosomal bandin
are becoming increasingly utilized. In contrast, small deletions and point mutations typical of carcinomas
require nucleic acid-based methods. In some instances immunohistochemistry (IHC) can be used to ide
translocation or mutation (such as IHC for BCL2 in follicular lymphoma). Instances where IHC can be appli
lar relevance to anatomic pathologists, and those are *highlighted* in the tables below.

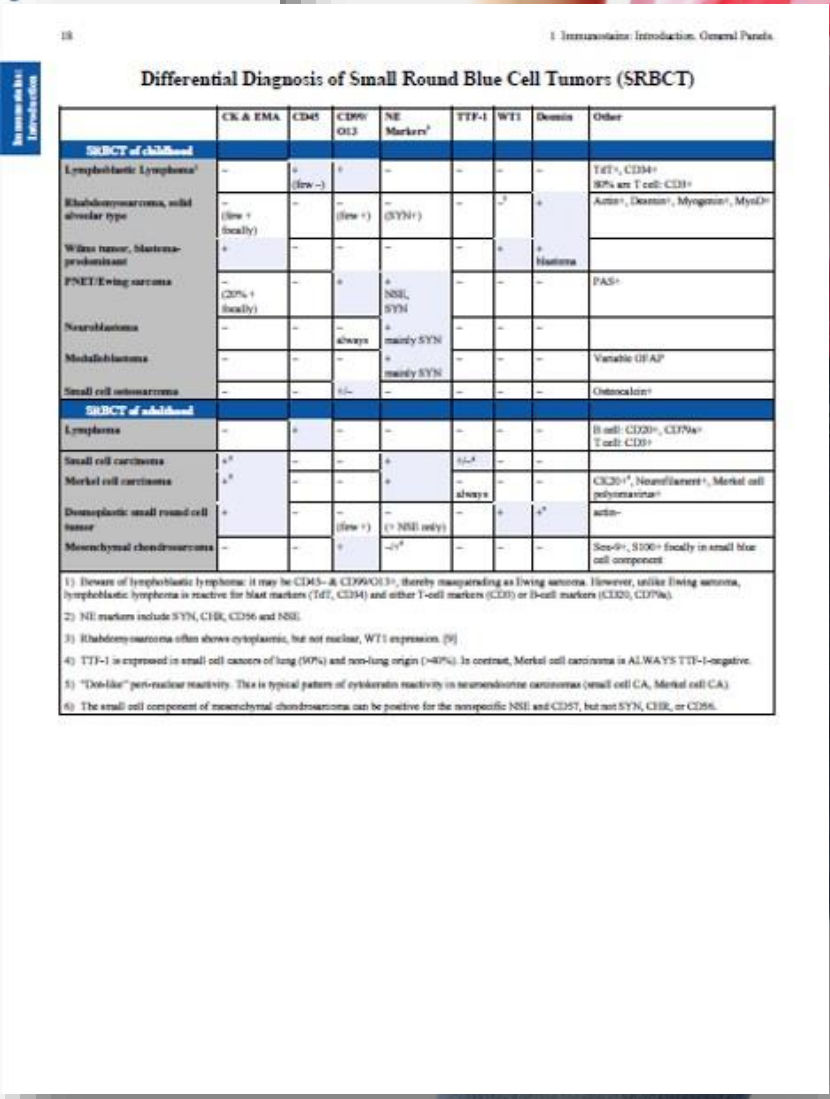
An interesting rule of thumb is that sarcomas with characteristic translocations are morphologically UNI
atypical mitoses, whereas truly pleomorphic MFH-like sarcomas typically have complex cytogenetics with
somas.

Also note a trend for some genes (EWS, FUS) to appear with multiple translocation partners in different tum
of an identical translocation (ETV6-NTRK3) in histogenetically disparate tumors (infantile fibrosarcoma,
carcinoma, and mammary analogue secretory carcinoma of salivary gland).

By convention, translocations are designated in numerical order for chromosomes [such as t(11;22)], and
WT1], which confusingly may not necessarily be in the same order [EWS gene is on chromosome 22, and W

	Gene or protein	*Chromosome*	*Tumor associations*
Molecular Associations at a Glance			
	Igκ	2	
	Igλ	22	**B cell lymphomas** (Follicular, Mantle Cell, Lymphoplasmacytic, Burkit
	IgH	14	
	TCR α and δ	14	**T cell leukemia/lymphoma**
	TCR β and γ	7q (β), 7p (γ)	
	c-Myc	8	**Burkitt lymphoma**
	n-Myc	2	**Neuroblastoma**
	Bcl-2	18	**Follicular lymphoma; Diffuse large B-cell lymphoma**
	p53	17p	Mutated in many sporadic tumors (mutation associated with overexpres
	BCR-ABL (Ph chromosome)	9 (ABL) 22 (BCR)	**CML** Ph: p210>p230>>p190; **B-ALL** Ph: p190>>p210* *The presence of p210 in a patient with acute leukemia should prompt
	WT1	11p13	**Wilms tumor** 11p13 mutation or deletion; **Desmoplastic small round**
	EWS	22	**Ewing sarcoma** t(11;22) / EWS-FLI1; **Desmoplastic small round cell** **Clear cell sarcoma; Angiomatoid Fibrous Histiocytoma:** identical tra **Myxoid liposarcoma** t(12;22) / EWS-CHOP; **Extraskeletal myxoid ch**
	ALK	2	**ALCL** t(2;5) / NMP-ALK (80%); t(1;2) TPM3-ALK (10%); **Inflamma** tions of 2p23; **Lung adenocarcinoma** EML4-ALK
	ETV6 (TEL)	12	**Precursor B-ALL** t(12;21) / ETV6-AML1 **Myeloid neoplasms with PDGFRB rearrangement (CMML with so** **Infantile fibrosarcoma; Congenital mesoblastic nephroma; Secretor** **secretory carcinoma of salivary glands** [1]: identical translocation t(3
	TFE3	Xp11.2	**Alveolar soft parts sarcoma; RCC with Xp11.2:** identical translocatio **PEComas**
	INI1 (hSNF5/BAF47)	22q11	**Rhabdoid tumors** (renal and extra-renal rhabdoid tumors, atypical terat Others: epithelioid sarcoma, myoepithelial carcinoma of soft tissue, mes
	FUS (TLS)	16p11	**Myxoid liposarcoma** t(12;16) / FUS-CHOP; **Low grade fibromyxoid** **Angiomatoid Fibrous Histiocytoma** t(12;16) / FUS-ATF1
	MLL	11q23	**AML (M5), AML s/p topo II therapy, B-ALL**
	VHL	3p	Sporadic and hereditary **clear cell RCC, von Hippel Lindau** syndrome
Tyrosine Kinase (TK) Receptors	RET	10	Activating mutations: **Thyroid** (papillary CA, medullary CA); **MEN2a,** Inactivating mutations: **Hirschsprung's disease.**
	MET	7	Papillary RCC (hereditary and occasionally sporadic)
	KRAS	12	Pancreas, colon, lung, ovary (mucinous)
	BRAF	7	Papillary thyroid CA, melanoma, colorectal carcinoma
	ABL	9	CML, B-ALL (Ph+)
	c-kit	4	GIST, melanoma, mastocytosis
	PDGFR	4	GIST, myeloid & lymphoid neoplasms with eosinophilia and abnormalities of PDGFRA or PDGFRB
	EGFR	7	Mutated in lung cancer
	HER2	17	Amplified in breast cancer

N. Rekhtman, J.A. Bishop, *Quick Reference Handbook for Surgical Pathologists*,
DOI 10.1007/978-3-642-20086-1_8, © Springer-Verlag Berlin Heidelberg 2011



Immunostains: Introduction

Differential Diagnosis of Small Round Blue Cell Tumors (SRBCT)

	CK & EMA	CD45	CD99/ O13	NE Markers[2]	TTF-1	WT1	Desmin	Other
SRBCT of childhood								
Lymphoblastic Lymphoma[1]	–	+ (few –)	+	–	–	–	–	TdT+, CD34+ 80% are T cell: CD3+
Rhabdomyosarcoma, solid alveolar type	– (few + focally)	–	– (few +)	– (SYN+)	–	–[3]	+	Actin+, Desmin+, Myogenin+, MyoD+
Wilms tumor, blastema-predominant	+	–	–	–	–	+	+ blastema	
PNET/Ewing sarcoma	– (20% + focally)	–	+	+ NSE, SYN	–	–	–	PAS+
Neuroblastoma	–	–	– always	+ mainly SYN	–	–	–	
Medulloblastoma	–	–	–	+ mainly SYN	–	–	–	Variable GFAP
Small cell osteosarcoma	–	–	+/–	–	–	–	–	Osteocalcin+
SRBCT of adulthood								
Lymphoma	–	+	–	–	–	–	–	B cell: CD20+, CD79a+ T cell: CD3+
Small cell carcinoma	+[4]	–	–	+	+/–[4]	–	–	
Merkel cell carcinoma	+[5]	–	–	+	– always	–	–	CK20+[5], Neurofilament+, Merkel cell polyomavirus+
Desmoplastic small round cell tumor	+	–	– (few +)	– (+ NSE only)	–	+	+[6]	actin–
Mesenchymal chondrosarcoma	–	–	+	–/+[6]	–	–	–	Sox-9+, S100+ focally in small blue cell component

1) Beware of lymphoblastic lymphoma: it may be CD45– & CD99/O13+, thereby masquerading as Ewing sarcoma. However, unlike Ewing sarcoma, lymphoblastic lymphoma is reactive for blast markers (TdT, CD34) and either T-cell markers (CD3) or B-cell markers (CD20, CD79a).

2) NE markers include SYN, CHR, CD56 and NSE.

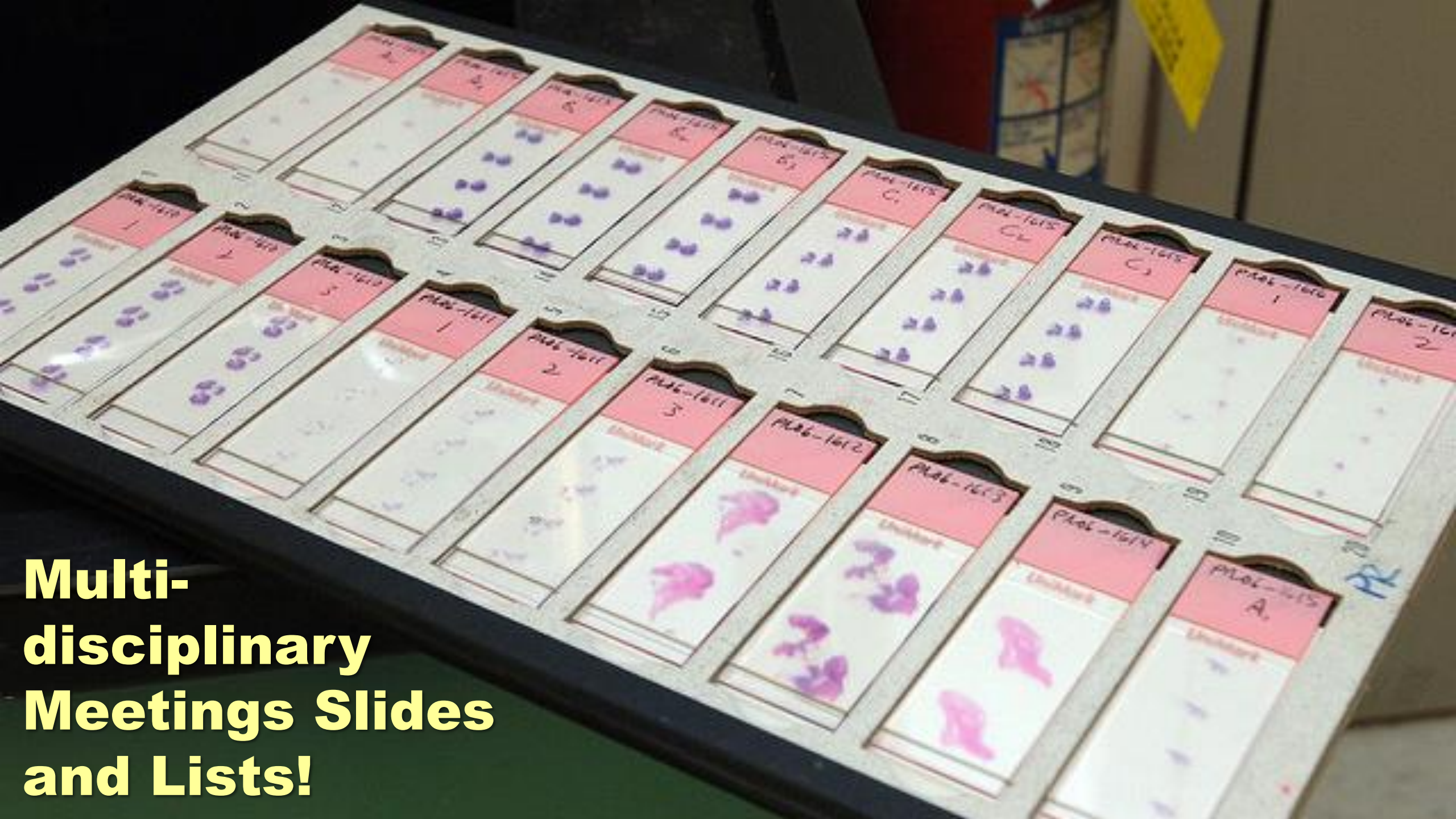
3) Rhabdomyosarcoma often shows cytoplasmic, but not nuclear, WT1 expression. [9]

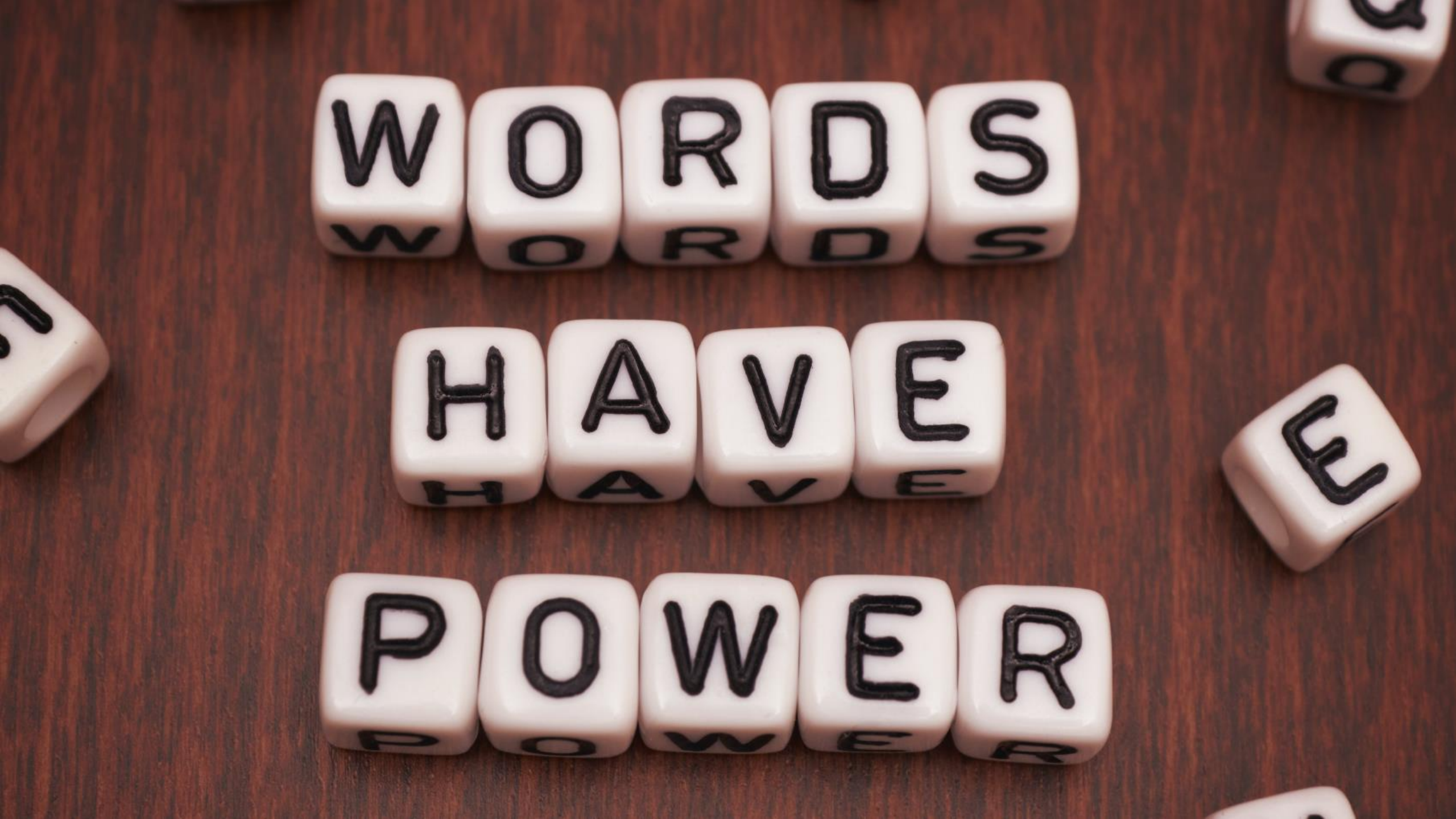
4) TTF-1 is expressed in small cell cancers of lung (90%) and non-lung origin (>40%). In contrast, Merkel cell carcinoma is ALWAYS TTF-1-negative.

5) "Dot-like" peri-nuclear reactivity. This is typical pattern of cytokeratin reactivity in neuroendocrine carcinomas (small cell CA, Merkel cell CA).

6) The small cell component of mesenchymal chondrosarcoma can be positive for the nonspecific NSE and CD57, but not SYN, CHR, or CD56.

TEXTBOOK CHAPTERS


Multi-
disciplinary
Meetings Slides
and Lists!


WORDS
HAVE
POWER

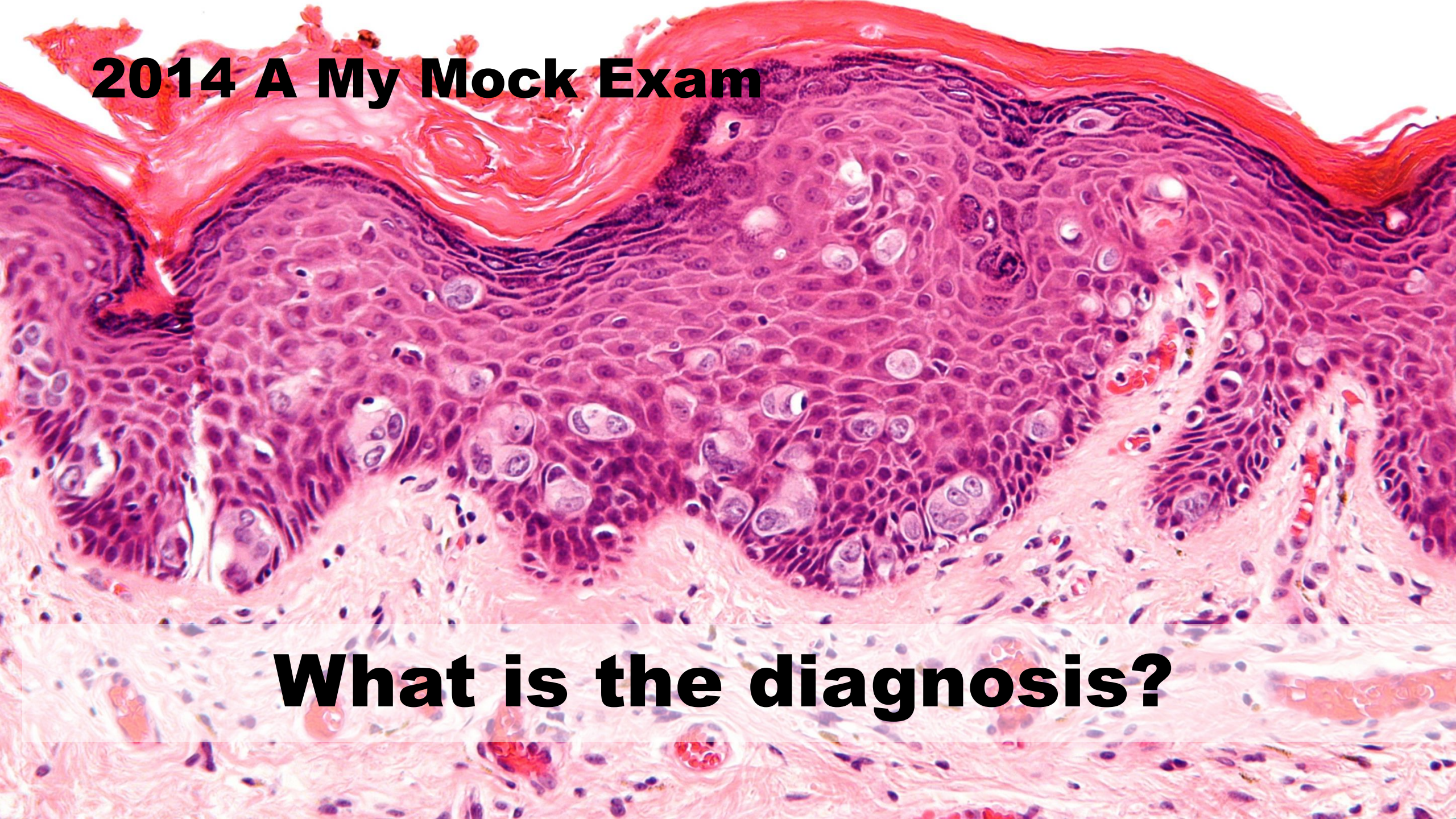
Unfortunately we are full booked and already have quite a number of people on the waiting list, so it is very unlikely a place will become available for this years course. However, if you register to go on the waiting list (no cost) then we will have your e-mail and will be able to include you in the early notifications for next years Tutorial.

Best wishes

The tutorial is fully booked and we have a waiting list. There are 24 individuals on the waiting list. Additional slots will come available as individuals currently registered cancel. As you will be 25th on the waiting list a space will not come available for you.

Regards

2014 A My Mock Exam



What is the diagnosis?

2014 A My Mock Exam

Gave competent description

Offered differential diagnoses:
Extramammary Paget
Melanoma
Pagetoid Bowen
Pagetoid actinic keratosis

Favored Paget

listed IHC in a nice table

2.5

The Royal College of Pathologists

Pathology: the science behind the cure

FRCPath Part 2 in Histopathology Spring 2014

Surgical Pathology Section

Wednesday 9am-12.40pm

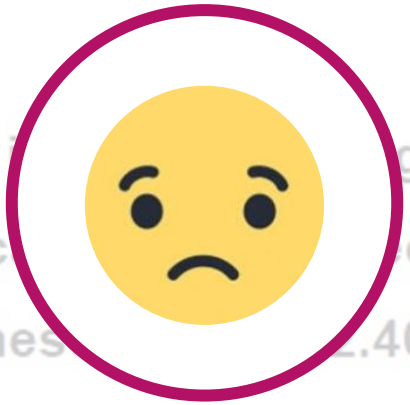
You are provided with 2 cases in each 20 minute station, which must be passed on promptly. For each case, you are given a single H&E stained section and brief clinical details.

You should provide a written report to the requesting clinician including a description and diagnosis incorporating clinical comment.

You are writing to the clinician

Confident diagnosis

Happy



Two differential diagnoses

Bored

More than two differentials

Upset

The exam is an artificial set up
No real patients!

Offered DDx & included correct answer

Gave confident diagnosis & listed other DDx with IHC

Pass mark 2.5

Additional marks

2016 S Commentary

This was a straightforward example of extramammmary Paget's disease affecting the vulva.

To gain a pass mark candidates had to give a competent description of the lesion and make a confident diagnosis of extramammary Paget's disease or offer a differential diagnosis and an indication of the immunohistochemical stains required to confirm a diagnosis of extramammary Paget's disease.

To add value candidates had to indicate the immunohistochemical stains required to prove the diagnosis. Additional marks were given to candidates indicating a deeper knowledge of the role of immunohistochemical staining in distinguishing between vulval and bladder/ anus origin.

The case was answered adequately by all candidates and many candidates managed to add significant value to their answers.

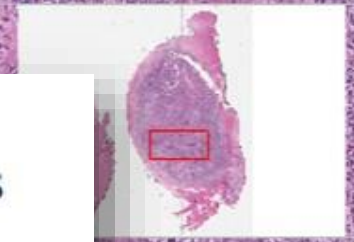
2014 A Neuroblastoma, bladder 18 m

Not every case is treated the same

2014 A Neuroblastoma, bladder 18 m

Virtual Pathology at the University of Leeds

Zoom
Fit
1X
2X
4X
5X
10X
20X
2.5X



Pass marks were given to candidates offering a sensible differential diagnosis of paediatric small round cell neoplasms (neuroblastoma, rhabdomyosarcoma, Ewing's tumour, PNET, lymphoblastic lymphoma and Wilm's tumour|) and indicating an awareness of the need for immunohistochemical staining and specialist referral.

Additional marks were awarded to candidates suggesting appropriate immunohistochemistry (NB84/ PGP 9.5, synaptophysin, chromogranin, CD99, desmin, MyoD1 and CD4) and indicating the need for genetic studies to include investigation of MYCN, and the awareness of the prognostic importance of n-myc oncogene amplification.

Borderline fails were awarded for poor and incomplete lists of differential diagnoses and confident diagnosis of small round blue cell neoplasms other than neuroblastoma. Benign diagnoses and confident diagnoses of malignant tumours other than those listed above were regarded as clear fails.


How Confident
Should I Be?

How Confident You Should Be

What does the clinician already know

Why is it sampled

Usually the pass mark

How to be helpful to clinician

Additional marks

2014 A 19F Excisional biopsy of darkly coloured mole from left forearm

Pigmented lesion
Could be benign or malignant

Rule out malignancy
Is it melanoma or not?

It is Reed or Spitz
No need for further surgery

FRCPath past examination s

- Spring 2016
- Autumn 2015
- Spring 2015
- Autumn 2014
- Spring 2014
- Autumn 2013
- Spring 2013
- Autumn 2012
- Spring 2012
- Autumn 2011
- Spring 2011

The Royal College of Pathologists
Pathology: the science behind the cure

FRCPath Part 2 Examination in Histopathology

SHORT CASES SPRING 2016

COMMENTARY

1. **Female age 50. Lesion in left breast, gradually increasing in size. Core biopsy.**
   Fibroadenoma with epithelial hyperplasia

   Mean 2.17/5

   In the opinion of the examiners this breast core biopsy was from a conventional fibroadenoma showing epithelial hyperplasia of usual type. There was considered to be no epithelial atypia and the stromal cellularity was felt to lie within the acceptable range for a fibroadenoma. The architectural features were also felt to be those of a benign fibroadenoma.

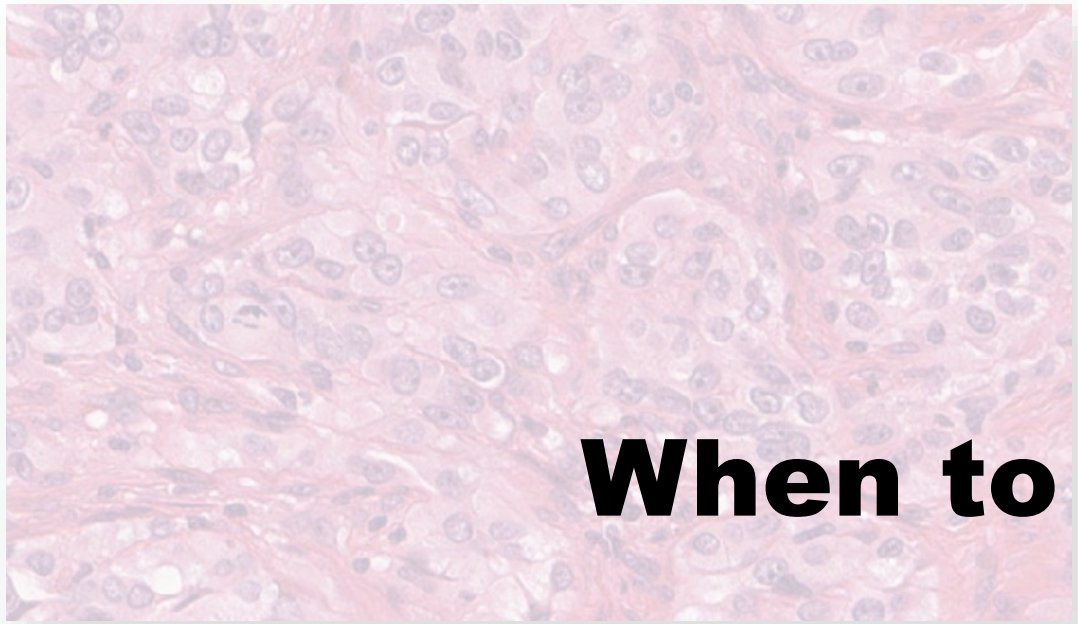
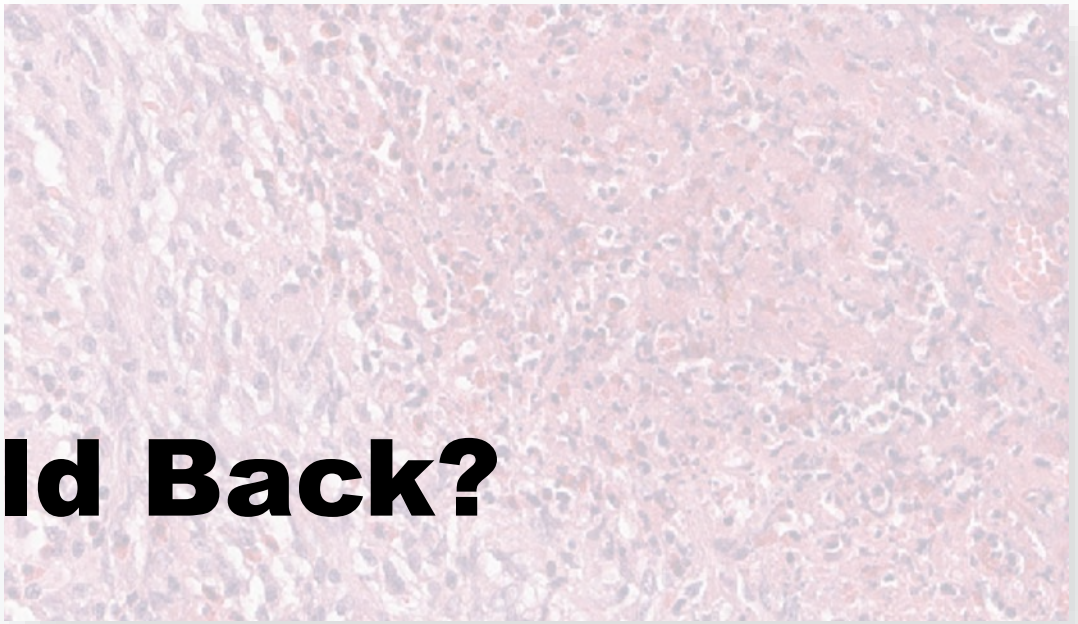
   This case prove to be unexpectedly difficult to candidates and the majority of candidates discussed a differential diagnosis of fibroadenoma and benign phyllodes tumour and were unable to come to a conclusion, many categorising the lesion as a fibroepithelial lesion of uncertain malignant potential and grading the lesion as B3.

   To gain a basic pass marked candidates are expected to make a confident diagnosis of fibroadenoma. Equivocation and grading as B3 was marked down slightly as a borderline fail. Any clearly malignant diagnosis or diagnosis of a primary stromal neoplasm was regarded as a clear fail.

   This case was difficult to add further value to, but candidates making more confident and clinically helpful diagnosis were given additional marks.

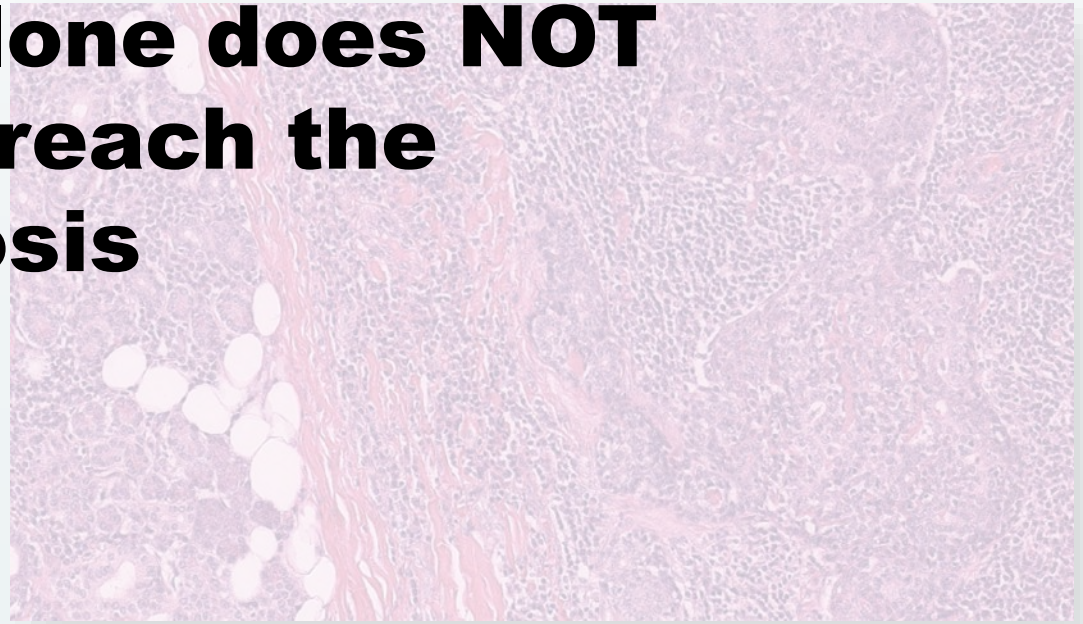
   A small number of candidates misinterpreted the usual type epithelial hyperplasia as atypical ductal hyperplasia, ductal carcinoma in situ or in situ lobular neoplasia.

FRCPath Part 2 Spring 2016 Commentaries

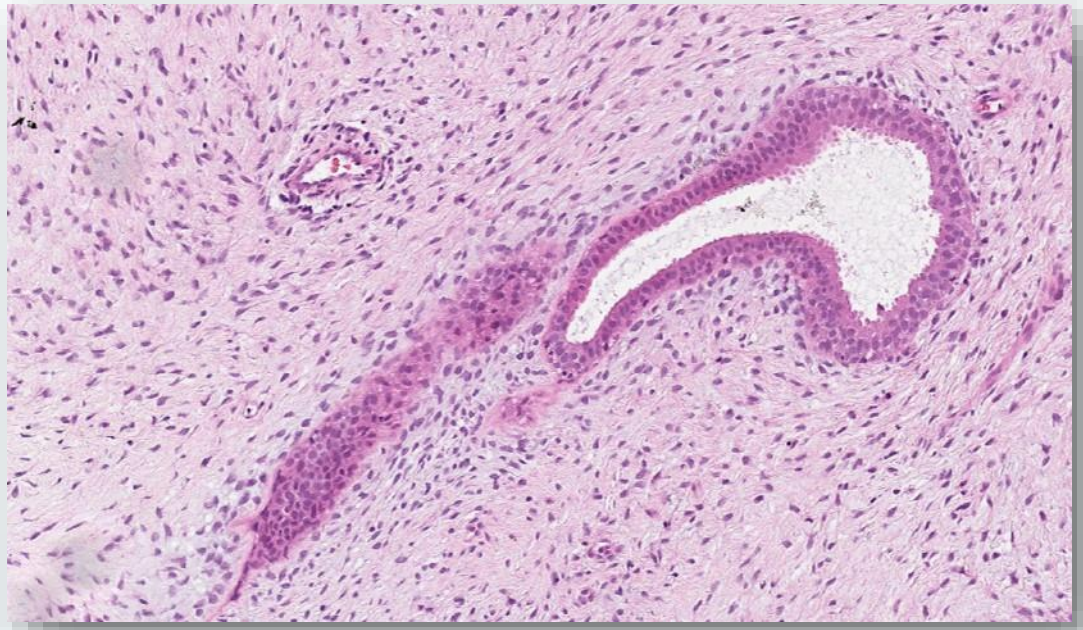
When to Hold Back?

When histology alone does NOT allow you to reach the diagnosis

problem in breast pathology in routine clinical practice. This was a cellular fibroepithelial lesion where it was not possible to distinguish on the basis of histological features between a benign fibroadenoma and a phyllodes tumour. To gain a pass mark candidates had to recognise the uncertain behaviour of this fibroepithelial lesion, and grade the lesions as "B3" (or use words to

Candidates whose approach was over-confident were penalised. Confident diagnoses of



2015 A
Breast Core 33F

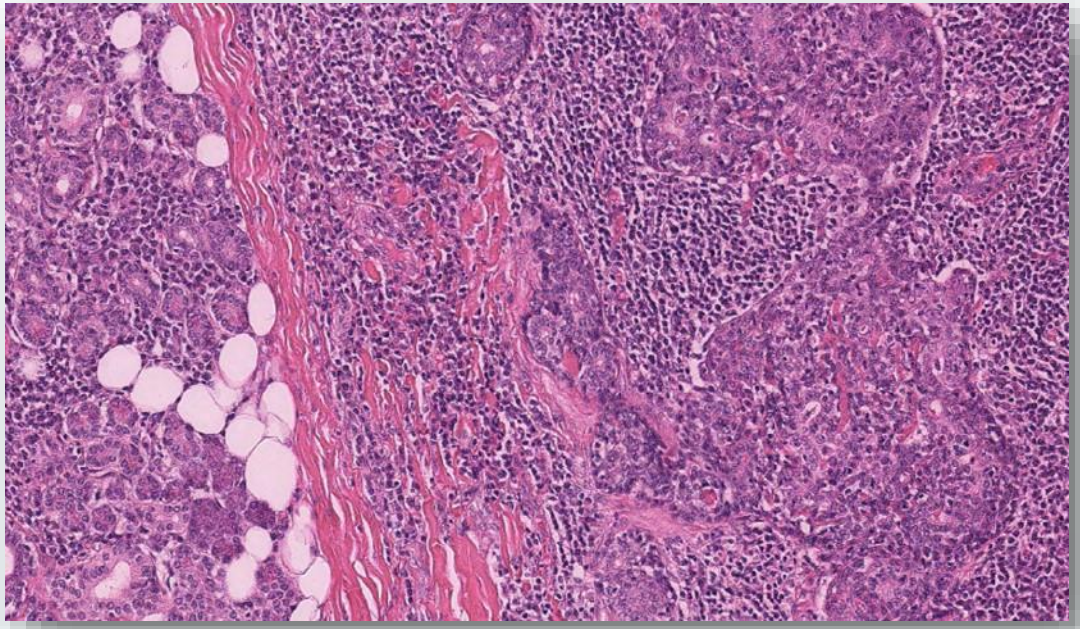
B3 Cellular fibroepithelial lesion

This was an intentionally difficult case which considered the need for caution in interpretation of lymphoid infiltrates in the context of autoimmune salivary gland disease. The case was marked

To pass candidates had to give an adequate description of the lesion and arrive at a differential diagnosis of myoepithelial sialadenitis vs lymphoma, and acknowledge that confident diagnosis is not possible on H&E section alone. Additional marks were given to candidates able to suggest

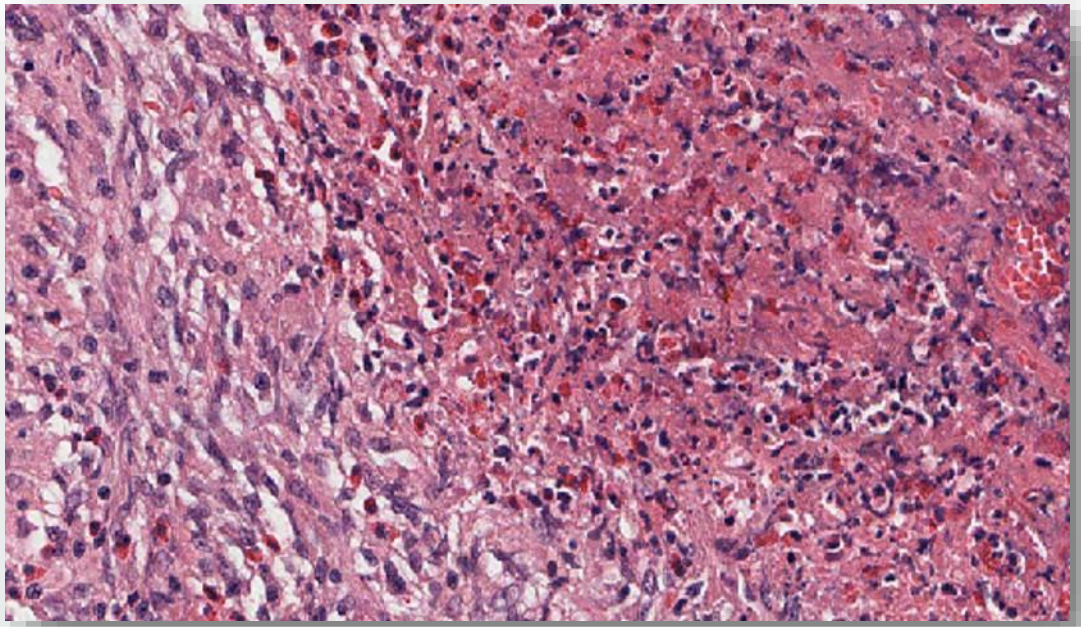
2016 A Parotid 74M H_x of Sjogren

Autoimmune sialadenitis vs. lymphoma



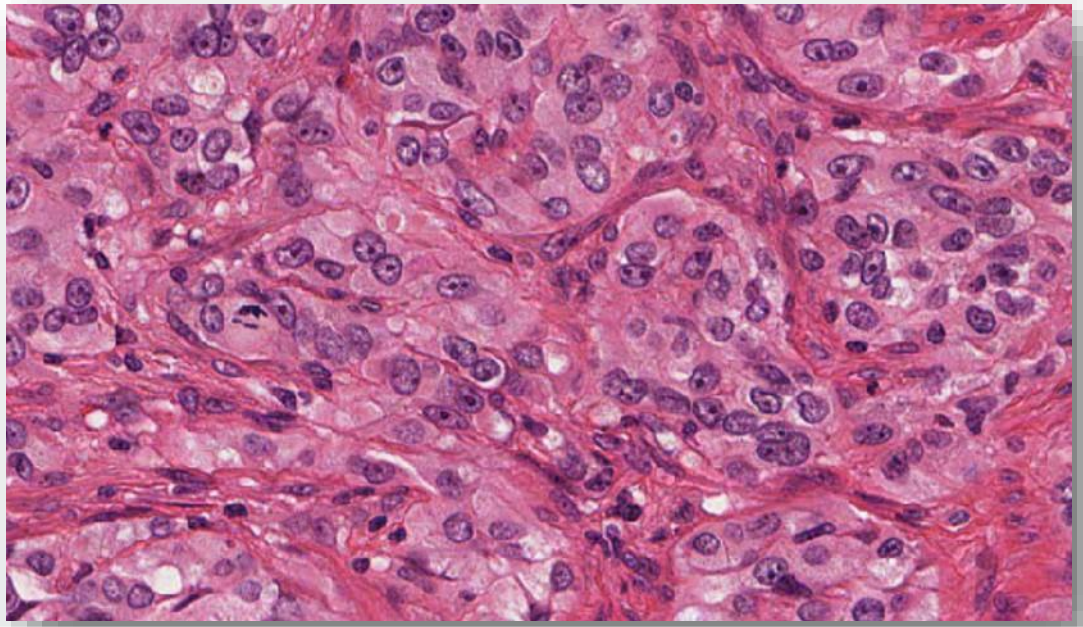
2014 S Lung 37F

Features *suggestive* of Wegener granulomatosis



This was a moderately difficult case, testing the ability of candidates to safely assess a granulomatous process in the lung and think laterally to exclude infectious aetiology as well as considering systemic disease. Candidates should have realised the need to consider the likely

Borderline fails were given to candidates who offered a single confident diagnosis of any specific form of necrotising granulomatous condition without offering a differential diagnosis or suggesting special stains or seeking clinical correlation. In the opinion of the examiners the histology suggests a variety of conditions and definite diagnosis of a single condition was not possible without additional investigation and seeking clinical correlation.



2014 S Scalp 62M

Metastatic renal cell carcinoma

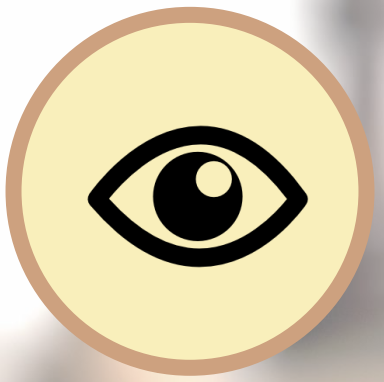
This case was set to test candidates' ability to deal with cutaneous malignancy, and test the ability of candidates to consider appropriate differential diagnoses rather than jump to conclusions based on H&E sections alone. This is a common diagnostic dilemma faced by all consultant histopathologists in

This question was answered variably by candidates. Many candidates offered appropriate differential diagnoses and ancillary investigations. A significant minority of candidates were more specific than the histology allowed, and offered confident diagnoses of primary or metastatic

Strategy T M P Approach

Topography

Where is the specimen from?



Morphology

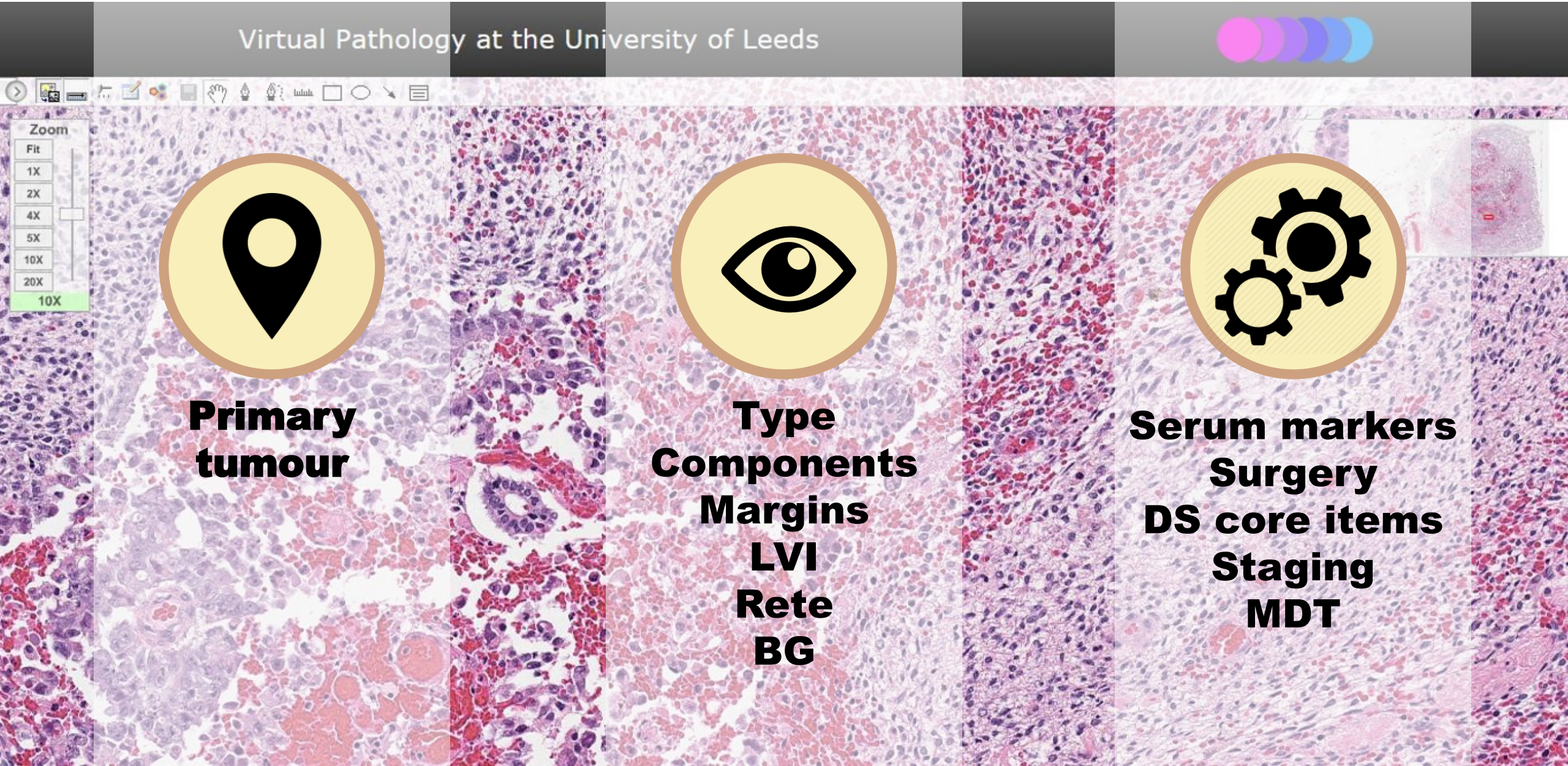
What does it look like?

Procedure

Any relevant clinical/ previous?

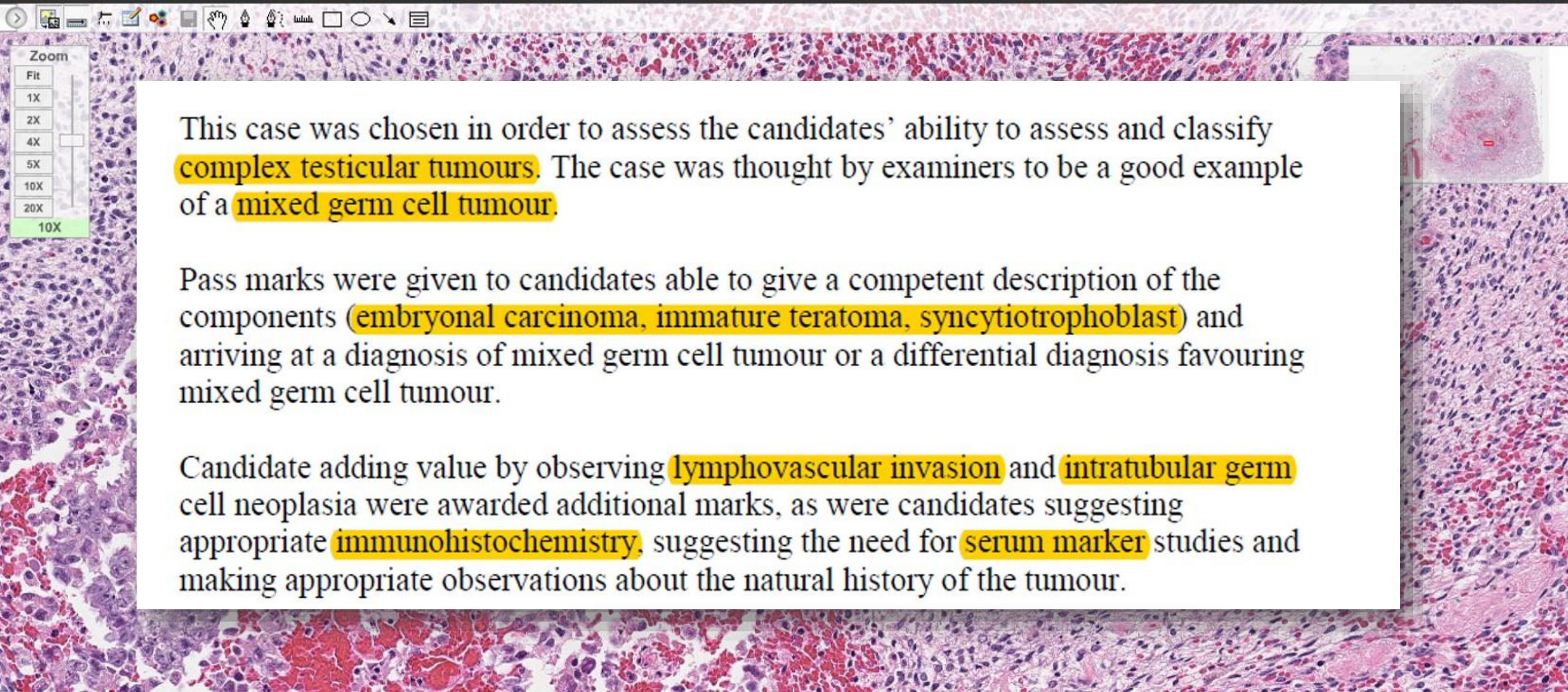
What happens next to the patient?

2014 A 19M Left Orchidectomy



2014 A 19M Left Orchidectomy

Virtual Pathology at the University of Leeds

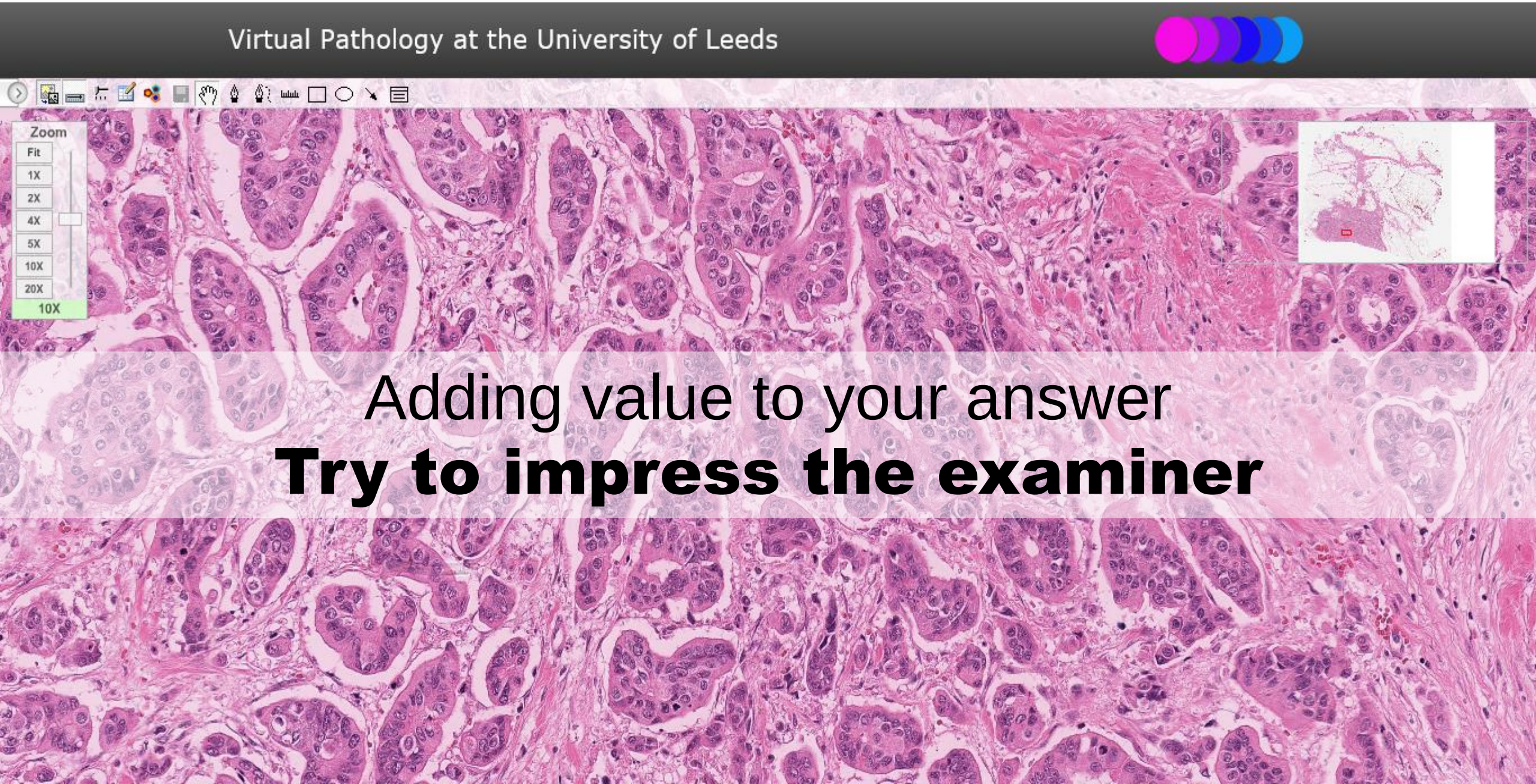


This case was chosen in order to assess the candidates' ability to assess and classify complex testicular tumours. The case was thought by examiners to be a good example of a mixed germ cell tumour.

Pass marks were given to candidates able to give a competent description of the components (embryonal carcinoma, immature teratoma, syncytiotrophoblast) and arriving at a diagnosis of mixed germ cell tumour or a differential diagnosis favouring mixed germ cell tumour.

Candidate adding value by observing lymphovascular invasion and intratubular germ cell neoplasia were awarded additional marks, as were candidates suggesting appropriate immunohistochemistry, suggesting the need for serum marker studies and making appropriate observations about the natural history of the tumour.

2014 A Invasive micropapillary CA, breast



2014 A Invasive micropapillary CA, breast

~~**The case will be discussed at the MDM.**~~

The findings that will be discussed at the postoperative MDM:

The subtype: Very aggressive and carries a poorer prognosis than other types of breast cancer.
The histological grade on excision.
The presence of lymph-vascular space invasion.
The status of margins and completion of excision.
The stage of the disease.
The hormone receptor and HER2 status (most likely performed on the pre-operative core) for management options.
Correlation with pre-operative core/ triple assessment.

The Ro
Pathology

F

During the mid sessio speak to

Make it clear

- Have a neat handwriting
- Headings: micro, diagnosis and comments
- Write full sentences
- Bullet format is optional
- Write every other line

Don’t be Mock-aholic!

Good mock:

- Timed
- Set by an examiner or trainer
- Feedback

Practice and test yourself using Leeds Website

Read the commentary

Last Advice!

Plan your preparation schedule in *weeks* not months

Please take my survey

www.surveymonkey.co.uk/r/NN2PXQ7

www.surveymonkey.co.uk/r/FKZG39H

Good Luck!