

NEPHROLOGY Blueprint

For traditional, 10-year Maintenance of Certification (MOC) exam and Longitudinal Knowledge Assessment (LKA*)

ABIM invites diplomates to help develop the Nephrology MOC blueprint

Based on feedback from physicians that MOC assessments should better reflect what they see in practice, in 2016 the American Board of Internal Medicine (ABIM) invited all certified nephrologists to provide ratings of the relative frequency and importance of blueprint topics in practice.

This review process, which resulted in a new MOC exam blueprint, will be used on a periodic basis to inform and update all MOC assessments created by ABIM. No matter what form ABIM's assessments ultimately take, they will need to be informed by front-line clinicians sharing their perspective on what is important to know.

A sample of over 400 nephrologists, similar to the total invited population of nephrologists in age, gender, geographic region, and time spent in direct patient care, provided the blueprint topic ratings. ABIM used this feedback to update the blueprint for MOC assessments (beginning with the Fall 2016 administration of the traditional, 10-year MOC exam).

To inform how assessment content should be distributed across the major blueprint content categories, ABIM considered the average respondent ratings of topic frequency and importance in each of the content categories. A second source of information was the relative frequency of patient conditions in the content categories, as seen by certified nephrologists and documented by national health care data (described further under *Content distribution* below).

To determine prioritization of specific assessment content within each major medical content category, ABIM used the respondent ratings of topic frequency and importance to set thresholds for these parameters in the exam assembly process (described further under *Detailed content outline* below).

Purpose of the Nephrology MOC Assessments

MOC assessments are designed to evaluate whether a certified nephrologist has maintained competence and currency in the knowledge and judgment required for practice. The MOC assessments emphasizes diagnosis and management of prevalent conditions, particularly in areas where practice has changed in recent years. As a result of the blueprint review by ABIM diplomates, MOC assessments place less emphasis on rare conditions and focus more on situations in which physician intervention can have important consequences for patients. For conditions that are usually managed by other specialists, the focus will be on recognition rather than on management.

Assessment format

The traditional, 10-year MOC exam is composed of 220 single-best-answer multiple-choice questions, of which approximately 50 are new questions that do not count in the examinee's score. Examinees taking the traditional, 10-year MOC exam will have access to an external resource (i.e., UpToDate®) for the entire exam.

The LKA for MOC, is a five-year cycle in which physicians answer questions on an ongoing basis and receive feedback on how they're performing along the way. More information on how exams are developed can be found at abim.org/about/exam-information/exam-development.aspx.

Most questions describe patient scenarios and ask about the work done (that is, tasks performed) by physicians in the course of practice:

- Diagnosis: making a diagnosis or identifying an underlying condition
- Testing: ordering tests for diagnosis, staging, or follow-up
- Treatment/Care Decisions: recommending treatment or other patient care
- Risk Assessment/Prognosis/Epidemiology: assessing risk, determining prognosis, and applying principles from epidemiologic studies
- Pathophysiology/Basic Science: understanding the pathophysiology of disease and basic science knowledge applicable to patient care

ABIM is committed to working toward health equity and believes that board-certified physicians should have an understanding of health care disparities. Therefore, health equity content that is clinically important to each discipline will be included in assessments, and the use of gender, race, and ethnicity identifiers will be re-evaluated.

Clinical scenarios presented take place in outpatient or inpatient settings as appropriate to a typical Nephrology practice. Clinical information presented may include patient photographs, ultrasound images, angiograms, micrographs, radiographs, electrocardiograms, and other media to illustrate relevant patient findings.

Exam tutorials, including examples of ABIM exam question format, can be found at abim.org/maintenance-of-certification/exam-information/nephrology/exam-tutorial.aspx.

Content distribution

Listed below are the major medical content categories that define the domain for the Nephrology traditional, 10-year MOC exam and the LKA. The relative distribution of content is expressed as a percentage of the total assessment. To determine the content distribution, ABIM considered the average respondent ratings of topic frequency and importance. To cross-validate these self-reported ratings, ABIM also considered the relative frequency of conditions seen in Medicare patients by a cohort of certified nephrologists. Informed by these data, the Nephrology Approval Committee and Board have determined the content category targets shown below.

CONTENT CATEGORY	Target %
Sodium and Water Abnormalities	7 %
Acid-Base and Potassium Disorders	9%
Calcium, Phosphorus, and Magnesium Disorders and Stones	4%
Chronic Kidney Disease	25%
Hypertension	10%
Tubular, Interstitial, and Cystic Disorders	4%
Glomerular and Vascular Disorders	11%
Kidney Transplantation	10%
Pharmacology	5%
Acute Kidney Injury and Intensive Care Unit Nephrology	15%
Total	100%

The Nephrology MOC assessments may cover other dimensions of medicine as applicable to the medical content categories, such as adolescent medicine, critical care medicine, clinical epidemiology, geriatric medicine, ethics, and nutrition.

How the blueprint ratings are used to assemble the MOC assessments

Blueprint reviewers provided ratings of relative frequency in practice for each of the detailed content topics in the blueprint and provided ratings of the relative importance of the topics for each of the tasks described in *Assessment format* above. In rating importance, reviewers were asked to consider factors such as the following:

- · High risk of a significant adverse outcome
- Cost of care and stewardship of resources
- Common errors in diagnosis or management
- · Effect on population health
- · Effect on quality of life
- When failure to intervene by the physician deprives a patient of significant benefit

Frequency and importance were rated on a three-point scale corresponding to low, medium, or high. The median importance ratings are reflected in the *Detailed content outline* below. The Nephrology Approval Committee and Board, in partnership with the physician community, have set the following parameters for selecting MOC assessment questions according to the blueprint review ratings:

- At least 75% of questions will address high-importance content (indicated in green)
- No more than 25% of questions will address mediumimportance content (indicated in yellow)
- No questions will address low-importance content (indicated in red)

Independent of the importance and task ratings, no more than 15% of questions will address low-frequency content (indicated by "LF" following the topic description).

Note: The same topic may appear in more than one medical content category.

Detailed content outline for the Nephrology traditional, 10-year MOC exam and the LKA

— **High Importance**: At least 75% of questions will address topics and tasks with this designation.



LF

LF

/ – **Medium Importance**: No more than 25% of questions will address topics and tasks with this designation.



X – **Low Importance**: <u>No</u> questions will address topics and tasks with this designation.

LF - Low Frequency: No more than 15% of questions will address topics with this designation, regardless of task or importance.

Diagnosis	Testing	Treatment/ Care Decisions	Prognosis/ Epidemiology	Pathophysiology/ Basic Science
⊘	⊘	⊘	⊘	⊘
⊘	⊘	⊘	⊘	\bigcirc
⊘	⊘	⊘	⊘	⊘
\bigcirc	⊘	⊘	⊘	\bigcirc
			Diagnosis Testing Care Decisions Output Outp	Diagnosis Testing Care Decisions Epidemiology

HYPERNATREMIA OR SERUM HYPEROSMOLALITY (<2% of exam)

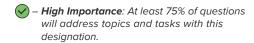
Other hypotonic (secondary

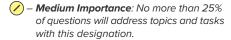
Isotonic (pseudohyponatremia)

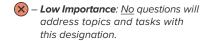
adrenal insufficiency)

Hypertonic

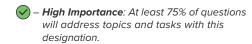
Osmotic diuresis						
Urea	LF	⊘	⊘	⊘	⊘	⊘
Glucose		\bigcirc	⊘	⊘	⊘	⊘
Water diuresis						
Central diabetes insipidus	LF	\bigcirc	⊘	⊘	⊘	⊘
Nephrogenic diabetes insipidus	LF	\bigcirc	⊘	⊘	⊘	⊘
Other water diuresis (physiologic saline diuresis)		<u>/</u>	⊘	⊘	⊘	⊘
Other hypernatremia or serum hyperosmolality (hypodipsia; extrarenal water loss)		\bigcirc	⊘	⊘	⊘	⊘

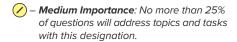






SODIUM AND WATER ABNORMALITIES						
continued (7% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
SALT EXCESS (EDEMA) (2.5% of exam)					
Heart failure		\bigcirc	⊘	⊘	\bigcirc	⊘
Cirrhosis		\bigcirc	⊘	⊘	⊘	⊘
Nephrotic syndrome		\bigcirc	⊘	⊘	⊘	⊘
Chronic kidney disease		\bigcirc	⊘	\bigcirc	\bigcirc	⊘
SALT DEPLETION (<2% of exam)						
Renal sodium losses						
Postobstructive diuresis		⊘	⊘	⊘	⊘	⊘
Post-acute kidney injury diuresis		\bigcirc	⊘	⊘	⊘	⊘
Salt-wasting nephropathy	LF	⊘	⊘	⊘	⊘	⊘
Diuretics		\bigcirc	⊘	\bigcirc	\bigcirc	⊘
Other renal sodium losses (chemotherapy-induced)	LF	⊘	⊘	⊘		
Extrarenal sodium losses		⊘	⊘	⊘	⊘	✓
POLYURIA (<2% of exam)						
Primary polydipsia	LF	\bigcirc	/	⊘	⊘	⊘
Other polyuria (iatrogenic)	LF	⊘	⊘	⊘	⊘	⊘
ACID-BASE AND POTASSIUM DISORDERS (9% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
METABOLIC ACIDOSIS (3.5% of exam)					 	
Metabolic acidosis (normal anion ga	.p)					
Renal tubular acidosis (normokalemic or hypokalemic)		\bigcirc	⊘	⊘	⊘	⊘
Renal tubular acidosis (hyperkalemic)		⊘	⊘	⊘	⊘	⊘
Nonrenal causes		\bigcirc	\bigcirc	\bigcirc	⊘	

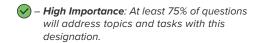




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 $\textbf{LF}-\textbf{\textit{Low Frequency}}: \textit{No more than 15\% of questions will address topics with this designation, regardless of task or importance.}$

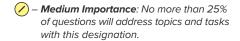
ACID-BASE AND POTASSIUM					
DISORDERS continued				Risk Assessment/	
(9% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Prognosis/ Epidemiology	Pathophysiology/ Basic Science
METABOLIC ACIDOSIS continued (3.5% o	f exam)				
Metabolic acidosis (elevated anion gap)					
Lactic acidosis	⊘	\bigcirc	⊘	\bigcirc	\bigcirc
Ketoacidosis	⊘	⊘	⊘	⊘	⊘
Toxins	⊘	⊘	⊘	⊘	✓
Uremic	⊘	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Other metabolic acidosis (low anion gap in multiple myeloma)	⊘	⊘	⊘	⊘	⊘
METABOLIC ALKALOSIS (<2% of exam)					
Associated with normal or low blood pres	ssure				
Renal origin	⊘	⊘	\bigcirc	⊘	⊘
Other metabolic alkalosis associated with normal or low blood pressure (chemotherapy- induced; hypokalemia; post- hypercapnic)	⊘	⊘	⊘	⊘	⊘
Associated with high blood pressure					
Adrenal LF	\bigcirc	\bigcirc	⊘	⊘	Ø
Other metabolic alkalosis associated with high blood pressure (malignant hypertension)	⊘	⊘	⊘	⊘	⊘
RESPIRATORY ACID-BASE DISTURBANCE	S (<2% of exam)				
Respiratory acidosis	⊘	⊘	⊘	⊘	⊘
Respiratory alkalosis	⊘	⊘	Ø	⊘	⊘
MIXED ACID-BASE DISTURBANCES (<2% of	of exam)	ı		1	1
Mixed acid-base disturbances	⊘	⊘	\bigcirc	/	\bigcirc

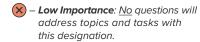


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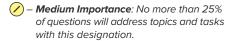
ACID-BASE AND POTASSIUM DISORDERS continued (9% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
POTASSIUM DISTURBANCES (3.5%	of exam)					
Hyperkalemia						
Pseudohyperkalemia	LF	⊘	⊘	⊘	⊘	⊘
Transcellular shifts		\bigcirc	⊘	⊘	⊘	⊘
Medication-induced		\bigcirc	⊘	⊘	\bigcirc	⊘
Genetic abnormalities	LF		⊘	⊘	⊘	×
Other tubular disorders (hepatitis-associated)	LF		⊘	⊘	×	
Postsurgical		⊘	⊘	⊘	⊘	⊘
Other hyperkalemia (peritoneal dialysis)	LF	⊘	⊘	⊘		⊘
Hypokalemia						
Pseudohypokalemia	LF	⊘	⊘	⊘	×	⊘
Transcellular shifts		⊘	⊘	⊘	⊘	⊘
Renal losses		\bigcirc	⊘	⊘	⊘	⊘
Nonrenal losses		⊘	⊘	⊘	⊘	⊘
Other hypokalemia (combined therapeutic hypothermia and barbiturate coma)	LF	⊘	⊘	⊘	(X)	×





CALCIUM, PHOSPHORUS, AND MAGNESIUM DISORDERS AND STONES (4% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science				
DISORDERS OF CALCIUM METABOLISM (<2% of exam)									
Hypercalcemia									
Primary hyperparathyroidism	⊘	⊘	⊘	⊘	⊘				
Granulomatous diseases LI		⊘	⊘	⊘	⊘				
Malignancy	⊘	⊘	⊘	⊘	⊘				
Familial hypocalciuric hypercalcemia (FHH)		⊘	Ø		⊘				
Vitamin D toxicity				⊘	⊘				
Medication and vitamin-induced				⊘	⊘				
Milk alkali syndrome		⊘	⊘	⊘	⊘				
Hypocalcemia									
Hypoparathyroidism LI		⊘	⊘	⊘	⊘				
Pseudohypoparathyroidism LI		×	×	×	×				
Medication-induced	⊘	⊘	⊘	⊘	⊘				
Tissue deposition LI		⊘	⊘	⊘	⊘				
Vitamin D deficiency	⊘	⊘	⊘	⊘	⊘				
DISORDERS OF PHOSPHATE METABOLIS	SM (<2% of exam)								
Hyperphosphatemia									
Decreased renal excretion	⊘	⊘	⊘	⊘	⊘				
Increased intake	⊘	⊘	⊘	⊘	⊘				
Tissue redistribution	⊘	⊘	⊘	⊘	⊘				
Genetic causes	Ø	⊘	\bigcirc	×	⊘				
Hypophosphatemia									
Increased renal excretion		⊘	⊘	⊘	⊘				
Decreased intake and gastrointestinal absorption		⊘	⊘	⊘	⊘				
Tissue redistribution LI		⊘	⊘	⊘	⊘				





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CALCIUM, PHOSPHORUS, AND MAGNESIUM DISORDERS AND STONES continued				_ Treatment/	Risk Assessment/ Prognosis/	Pathophysiology/
(4% of exam)		Diagnosis	Testing	Care Decisions	Epidemiology	Basic Science
DISORDERS OF MAGNESIUM METAB	OLISI	M (<2% of exam)				
Hypermagnesemia						
Decreased renal excretion		⊘	⊘	⊘	⊘	⊘
Increased intake	LF	⊘	⊘	⊘	⊘	⊘
Hypomagnesemia						
Increased renal excretion		⊘	⊘	⊘	⊘	⊘
Decreased gastrointestinal absorption			⊘	⊘	⊘	(
NEPHROLITHIASIS (<2% of exam)						
Calcium stones						
Idiopathic hypercalciuria			⊘		⊘	⊘
Hypocitraturia		\bigcirc	⊘	\bigcirc		⊘
Hyperoxaluria			⊘			⊘
Primary hyperparathyroidism		\bigcirc	⊘	⊘	⊘	⊘
Distal renal tubular acidosis		\bigcirc	⊘	\bigcirc	⊘	⊘
Other calcium stones (medullary sponge kidney; hypercalciuria in hypoparathyroidism)	LF	⊘	⊘	⊘	Ø	⊘
Uric acid stones						
Idiopathic	LF	⊘	⊘	⊘	⊘	⊘
Other uric acid (postileostomy)	LF	(⊘	⊘	Ø	⊘
Struvite stones	LF	⊘	⊘	⊘	⊘	⊘
Cystine stones	LF	⊘	⊘	⊘	⊘	⊘
Drug stones	LF	⊘	⊘	⊘	⊘	⊘



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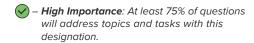
CHRONIC KIDNEY DISEASE (25% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
KIDNEY FUNCTION PARAMETERS (<2% of e	exam)				
Glomerular filtration rate (creatinine clearance; estimated glomerular filtration rate)	⊘	⊘	⊘	⊘	⊘
Proteinuria	\bigcirc	\bigcirc	⊘	⊘	⊘
Other kidney function parameters (glycemic control; biopsy)	\bigcirc	\bigcirc	⊘	⊘	⊘
ETIOLOGIES OF CHRONIC KIDNEY DISEAS	E (<2% of exam)				
Diabetic kidney disease	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Nondiabetic kidney disease					
Chronic glomerulonephritis	\bigcirc	⊘	⊘	⊘	⊘
Hypertensive nephropathy	⊘	\bigcirc	⊘	⊘	⊘
Chronic interstitial nephritis	\bigcirc	\bigcirc	⊘	⊘	⊘
Genetic diseases LF		⊘	⊘		
PROGRESSION OF CHRONIC KIDNEY DISE	ASE (<2% of exan	7)			
Progression of chronic kidney disease	\bigcirc	\bigcirc	⊘	\bigcirc	\bigcirc
CHRONIC KIDNEY DISEASE COMPLICATIO	NS (2% of exam)				
Hypertension	\bigcirc	\bigcirc	⊘	⊘	⊘
Fluid overload	⊘	\bigcirc	⊘	⊘	⊘
Anemia and iron deficiency	\bigcirc	\bigcirc	⊘	⊘	⊘
Hyperkalemia	\bigcirc	\bigcirc	\bigcirc	⊘	⊘
Acidosis	\bigcirc	\bigcirc	\bigcirc	⊘	⊘
Protein-energy wasting	⊘	⊘	⊘	⊘	⊘
Other complications of chronic kidney disease (hyperparathyroidism; hyperphosphatemia)	\bigcirc	\bigcirc	⊘	⊘	⊘

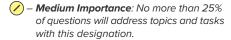


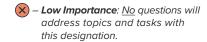
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CHRONIC KIDNEY DISEASE continued			Treatment/	Risk Assessment/ Prognosis/	Pathophysiology/
(25% of exam)	Diagnosis	Testing	Care Decisions	Epidemiology	Basic Science
STAGE 4 AND 5 CHRONIC KIDNEY DISEAS	SE (2.5% of exam)				
Advanced uremic symptoms	⊘	\bigcirc	⊘	⊘	⊘
Preparation for end-stage kidney disease	Not Applicable	\bigcirc	\bigcirc	⊘	Not Applicable
Initiation and discontinuation of maintenance dialysis	Not Applicable	\bigcirc	⊘	②	Not Applicable
Other stage 4 and 5 chronic kidney disease (parathyroid hormone monitoring)	⊘	\bigcirc	⊘	⊘	⊘
END-STAGE KIDNEY DISEASE (12.5% of ex	(am)				
Hemodialysis					
Adequacy and prescription	⊘	\bigcirc	⊘	⊘	⊘
Dialyzers and dialysate	⊘	\bigcirc	⊘	⊘	⊘
Vascular access	⊘	\bigcirc	⊘	⊘	⊘
Water treatment	\bigcirc	\bigcirc	⊘	⊘	⊘
Hemodialysis complications					
Hypertension	⊘	⊘	⊘	⊘	⊘
Hypotension	⊘	\bigcirc	⊘	⊘	⊘
Interdialytic weight gain	⊘	\bigcirc	⊘	\bigcirc	⊘
Electrolyte abnormalities	⊘	\bigcirc	⊘	\bigcirc	⊘
Vascular access complications (clotting, dysfunction, infection)	⊘	\bigcirc	\bigcirc	⊘	⊘
Other hemodialysis complications (embolism and thrombosis; heparin-induced thrombocytopenia; loss of residual renal function; hypoalbuminemia)	⊘	\bigcirc	⊘	⊘	
Peritoneal dialysis					
Adequacy and prescription	⊘	\bigcirc	⊘	⊘	⊘
Dialysate	⊘	\bigcirc	⊘	⊘	⊘
Catheters	⊘	\bigcirc	⊘	⊘	⊘
Other peritoneal dialysis issues (hypokalemia and hyperkalemia)	⊘	⊘	⊘	⊘	⊘







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CHRONIC KIDNEY DISEASE continued			Treatment/	Risk Assessment/ Prognosis/	Pathophysiology/
(25% of exam)	Diagnosis	Testing	Care Decisions	Epidemiology	Basic Science
END-STAGE KIDNEY DISEASE continued	(12.5% of exam)				
Peritoneal dialysis complications					
Peritonitis and infections	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Ultrafiltration failure	⊘	\bigcirc	\bigcirc	⊘	⊘
Other peritoneal dialysis complications (inguinal hernia; atrial fibrillation; peripheral edema)	⊘	⊘	⊘	⊘	⊘
Home hemodialysis	⊘	⊘	⊘	⊘	Ø
End-stage kidney disease complications					
Anemia	⊘	\bigcirc	⊘	⊘	⊘
Cardiovascular disease	⊘	\bigcirc	\bigcirc	⊘	\bigcirc
Blood pressure abnormalities	⊘	\bigcirc	⊘	\bigcirc	\bigcirc
Other complications (hemolysis; hypoalbuminemia; thrombosis; calciphylaxis; uremic polyneuropathy)	\bigcirc	⊘	⊘	⊘	⊘
Medical director responsibilities and conditions of coverage	Not Applicable	⊘	⊘	⊘	Not Applicable
MINERAL BONE DISEASE (3% of exam)					
Laboratory abnormalities					
Hyperphosphatemia	⊘	⊘	⊘	⊘	⊘
Hyperparathyroidism	⊘	\bigcirc	⊘	⊘	⊘
Other laboratory abnormalities (calcium balance)	⊘	\bigcirc	⊘		⊘
Renal osteodystrophy (and related patho	physiology)				
Osteitis fibrosis LF	⊘	⊘	⊘	⊘	⊘
Adynamic bone disease LF	⊘	⊘	⊘	⊘	Ø
Osteomalacia LF	⊘	⊘	⊘	⊘	⊘
Mixed uremic osteodystrophy LF	⊘	⊘	⊘	⊘	⊘
Other renal osteodystrophy, including low bone mass (osteoporosis)	⊘	<u>/</u>	⊘	⊘	⊘



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CHRONIC KIDNEY DISEASE					Risk Assessment/	
continued (25% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Prognosis/ Epidemiology	Pathophysiology/ Basic Science
MINERAL BONE DISEASE continued	. (3%	of exam)		,		
Extraosseous and vascular calcifica	tion					
Medial calcification		⊘		⊘	⊘	⊘
Calciphylaxis	LF	\bigcirc	\bigcirc	⊘	⊘	⊘
Other extraosseous and vascular calcification, including visceral organs	LF	⊘	⊘	⊘	⊘	
SPECIAL TOPICS IN CHRONIC KIDNI	EY DIS	SEASE (<2% of exa	ım)			
Epidemiology			Not Applicable		⊘	⊘
Ethical considerations		Not App	olicable	⊘	⊘	Not Applicable
Pregnancy	LF	Not Applicable	\bigcirc	⊘	⊘	⊘
Dermatology	LF	⊘		⊘	×	×
Nephrotoxicity of environmental and	d occu	pational agents		_		
Lead	LF	⊘	⊘	⊘	⊘	×
Organic solvents	LF	⊘	⊘	⊘	×	×
Other nephrotoxicity of environmental and occupational agents (cadmium; mercury)	LF	⊘	⊘	⊘	×	×
Other special topics in chronic kidney disease (obesity)		⊘	⊘	⊘	⊘	⊘
HYPERTENSION (10% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
ESSENTIAL HYPERTENSION (3.5% of	exam)					
Isolated systolic hypertension		⊘	⊘	⊘	⊘	⊘
Severe hypertension		⊘	\bigcirc	⊘	⊘	⊘
Resistant hypertension		⊘	\bigcirc	⊘	⊘	⊘
White coat hypertension		⊘	\bigcirc	⊘	⊘	⊘



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HYPERTENSION continued (10% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
ESSENTIAL HYPERTENSION continu	ued (3.	5% of exam)				
Pseudohypertension	LF	⊘	⊘	⊘	⊘	⊘
Masked hypertension	LF	⊘	<u>/</u>	⊘	⊘	⊘
General essential hypertension		\bigcirc	\bigcirc	⊘	⊘	⊘
SECONDARY CAUSES OF HYPERTI	ENSION	(4% of exam)				
Pheochromocytoma	LF	\bigcirc	\bigcirc	⊘	⊘	⊘
Renal vascular disease						
Dissection	LF	⊘	\bigcirc	⊘	⊘	⊘
Atherosclerotic		\bigcirc	\bigcirc	⊘	⊘	⊘
Hyperaldosteronism						
Adrenal adenoma	LF	\bigcirc	\bigcirc	⊘	⊘	⊘
Adrenal hyperplasia	LF	(\bigcirc	Ø	⊘	⊘
Genetic causes						
Liddle syndrome	LF	⊘	⊘	⊘	⊘	⊘
Dexamethasone suppressible hyperaldosteronism	LF	⊘	⊘	⊘	⊘	Ø
Other genetic causes (fibromuscular dysplasia)	LF		✓			



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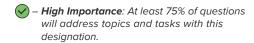
HYPERTENSION continued (10% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
SECONDARY CAUSES OF HYPERTEN	ISION	continued (4%	of exam)			
Miscellaneous causes						
Renin-secreting tumor (juxtaglomerular cell tumor)	LF	⊘	⊘	⊘	⊘	
Syndrome of apparent mineralocorticoid excess	LF	⊘	⊘	⊘	⊘	(
Coarctation	LF	⊘	⊘	⊘	⊘	⊘
Vasculitis and arteritis		\bigcirc	⊘	⊘	⊘	⊘
Tuberous sclerosis	LF	⊘	⊘	⊘	×	⊘
Sleep apnea		\bigcirc	⊘	⊘	⊘	⊘
Drug-induced		\bigcirc	⊘	⊘	⊘	⊘
Obstructive uropathy		\bigcirc	⊘	⊘	⊘	⊘
Renal compression (Page kidney)	LF	⊘	⊘	⊘	⊘	⊘
Cushing syndrome	LF	<u>/</u>	⊘	⊘	⊘	⊘
Other miscellaneous causes (chronic kidney disease; obesity; hypothyroidism)		⊘	⊘	⊘	⊘	⊘
END-ORGAN DAMAGE RESULTING F	ROM F	IYPERTENSION	(<2% of exam)			
Acute kidney injury		\bigcirc	⊘	⊘	\bigcirc	\bigcirc
Central nervous system and ophthalmologic		⊘	⊘	⊘	⊘	⊘
Cardiac (left ventricular hypertrophy; heart failure)		\bigcirc	⊘	⊘	\bigcirc	⊘
HYPERTENSION IN SPECIAL SITUATI	ONS (<	2% of exam)				
Pregnancy		\bigcirc	⊘	⊘	⊘	⊘
Stroke or subarachnoid bleeding		\bigcirc	⊘	⊘	⊘	⊘
Other hypertension in special situations		⊘	⊘	⊘	⊘	Ø



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TUBULAR, INTERSTITIAL, AND CYSTIC DISORDERS (4% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science		
RENAL TUBULAR DISORDERS AND FANCONI'S SYNDROME (<2% of exam)								
Drug-induced		\bigcirc	⊘	⊘	⊘	⊘		
Crystal deposition	LF	⊘	⊘	⊘	⊘	⊘		
Genetic	LF	⊘	⊘	⊘	×	×		
TUBULOINTERSTITIAL NEPHRITIS	6 (2% of e.	xam)						
Acute								
Drug-induced		\bigcirc	⊘	⊘	⊘	⊘		
Immune	LF	⊘	⊘	⊘	⊘	⊘		
Infectious	LF	⊘	⊘	⊘	⊘	⊘		
Other acute tubulointerstitial nephritis (multifactorial)		⊘	⊘	⊘	⊘	⊘		
Chronic								
Drug-induced		\bigcirc	⊘	⊘	⊘	⊘		
Immune	LF		⊘		⊘			
Granulomatous	LF		⊘		⊘	⊘		
Toxins	LF		⊘		⊘			
Hemoglobinopathy	LF		⊘		⊘			
Urinary tract infection		\bigcirc	\bigcirc	\bigcirc	⊘	⊘		
Other chronic tubulointerstitial nephritis (hypokalemic nephropathy; medullary cystic kidney)	LF	⊘	⊘	⊘	⊘	⊘		
RENAL CYSTIC DISEASE (<2% of e	exam)							
Autosomal dominant polycystic k	kidney dis	sease (ADPKD)						
Genetics		\bigcirc	⊘	⊘	⊘	⊘		
Renal manifestations		\bigcirc	⊘	⊘	⊘	⊘		
Nonrenal manifestations		\bigcirc	⊘	⊘	⊘	⊘		
End-stage kidney disease		\bigcirc	⊘	⊘	\bigcirc	⊘		
Drug-induced	LF	⊘	⊘	⊘	⊘	⊘		

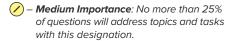


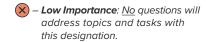
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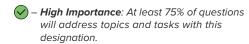
TUBULAR, INTERSTITIAL, AND CYSTIC DISORDERS continued (4% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
RENAL MASS (<2% of exam)						1
Renal mass		\bigcirc	\bigcirc	⊘	Ø	⊘
GLOMERULAR AND VASCULAR DISORDERS (11% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
NEPHRITIC GLOMERULAR DISORDERS	, VASCI	JLITIS, AND \	/ASCULOPATHY	(4.5% of exam)		
IgA nephropathy and IgA-associated vasculitis (Henoch-Schönlein purpura)		\bigcirc	\bigcirc	⊘	⊘	⊘
Vasculitis and antineutrophil cytoplasmic antibody		\bigcirc	\bigcirc	\bigcirc	\bigcirc	⊘
Anti-glomerular basement membrane disease	LF	\bigcirc	\bigcirc	②		⊘
Lupus nephritis		\bigcirc	\bigcirc	⊘	⊘	⊘
Postinfectious glomerulonephritis L	LF		\bigcirc	\bigcirc	⊘	⊘
Membranoproliferative glomerulonephritis and C3 glomerulopathies	LF	\bigcirc	\bigcirc	⊘	⊘	⊘
Cryoglobulinemic glomerulonephritis L	_F	\bigcirc	\bigcirc	⊘	⊘	⊘
Crescentic glomerulonephritis		\bigcirc	⊘	⊘	⊘	⊘
Other disorders (rapidly progressive glomerulonephritis)	_F	\bigcirc	\bigcirc	⊘	⊘	⊘
NEPHROTIC AND HEAVY-PROTEINURIC	GLOM	ERULAR DIS	ORDERS (4.5% c	of exam)		
Minimal change disease						
Primary		\bigcirc	\bigcirc	⊘	⊘	⊘
Secondary L	LF	\bigcirc	⊘	⊘	⊘	⊘
Focal segmental glomerulosclerosis						
Primary		\bigcirc	\bigcirc	⊘	\bigcirc	✓
Secondary		\bigcirc	\bigcirc	⊘	⊘	⊘
Genetic L	_F	⊘	⊘	✓	⊘	⊘

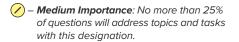


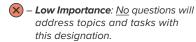




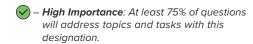
GLOMERULAR AND VASCULAR DISORDERS continued (11% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science		
NEPHROTIC AND HEAVY-PROTEINUR	IIC GI							
Membranous nephropathy								
Primary	Primary							
Secondary		⊘	⊘	⊘	\bigcirc	⊘		
Paraprotein-related disorders								
Primary amyloidosis	LF	⊘	⊘	⊘	⊘	⊘		
Secondary amyloidosis	LF	⊘	⊘	⊘	⊘	⊘		
Light chain deposition disease and myeloma		⊘	⊘	⊘	⊘	(
Other paraprotein-related disorders	LF	⊘	⊘	⊘	⊘	⊘		
Fibrillary and immunotactoid glomerulonephritis	LF	⊘	⊘	⊘	⊘	⊘		
Fabry's disease	LF	⊘	⊘	⊘	⊘	×		
Other disorders (biopsy complication)	LF	⊘	⊘	⊘		×		
THIN BASEMENT MEMBRANE NEPHR	ROPA	THY AND ALPOR	T'S SYNDROME	(<2% of exam)				
Thin basement membrane nephropathy and Alport's syndrome	LF	Ø	⊘	⊘	⊘	⊘		
THROMBOTIC MICROANGIOPATHIES	(<2%	of exam)						
Thrombotic microangiopathies		\bigcirc	⊘	⊘	⊘	⊘		
HEMOLYTIC UREMIC SYNDROME (<2	% of	exam)				,		
Shiga toxin-mediated hemolytic uremic syndrome	LF	⊘	\bigcirc	⊘	⊘	⊘		

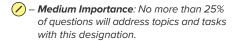


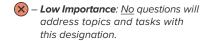




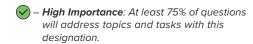
GLOMERULAR AND VASCULAR DISORDERS continued			T	Risk Assessment/	Dath advantage (
(11% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Prognosis/ Epidemiology	Pathophysiology/ Basic Science		
HEMOLYTIC UREMIC SYNDROME continue	ed (<2% of exam)						
Complement-mediated thrombotic micro	angiopathy (atypi	cal hemolytic ur	emic syndrome)				
Drug-associated complement- mediated thrombotic microangiopathy (atypical hemolytic uremic syndrome) (anticancer drugs, clopidogrel, interferon, hemolytic uremic syndrome)	<	Θ	€				
Other complement-mediated thrombotic microangiopathy (atypical hemolytic uremic syndrome) (pregnancy-associated)	⊘	⊘	⊘	⊘	⊘		
SCLERODERMA RENAL DISEASE (<2% of exam)							
Scleroderma renal disease LF	⊘	\bigcirc	⊘	⊘	⊘		
KIDNEY TRANSPLANTATION (10% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science		
PRE-TRANSPLANTATION (<2% of exam)							
Transplant immunology							
Detection of pre-transplant alloreactivity and immunologic evaluation of transplant candidates	⊘	⊘	Not Applicable	⊘	⊘		
Potential kidney transplant recipient evalu	uation						
Glomerular filtration rate listing requirements	Not App	olicable	⊘	⊘	Not Applicable		
Cancer concerns	Not Applicable	\bigcirc	⊘	⊘	⊘		
Infection concerns	Not Applicable	\bigcirc	⊘	⊘	Ø		
Cardiac concerns	Not Applicable	\bigcirc	⊘	⊘	⊘		
Age concerns	Not App	olicable	⊘	⊘	Not Applicable		
Comorbidities	Not Applicable	⊘	⊘	⊘	⊘		
Other potential kidney transplant recipient evaluation (recurrent autoimmune kidney disease)	Not Applicable						

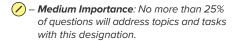






KIDNEY TRANSPLANTATION continued			Treatment/	Risk Assessment/ Prognosis/	Pathophysiology/
(10% of exam)	Diagnosis	Testing	Care Decisions	Epidemiology	Basic Science
PRE-TRANSPLANTATION continued (<2%	of exam)				
Potential living kidney donor					
Donor evaluation	Not Applicable	⊘		Not Applicable	
Risks		Not Applicable			Not Applicable
Ethics	Not Ap	plicable	⊘	Not Ap	plicable
Organ allocation					
Deceased donor wait list	Not Ap	plicable	⊘	Not Ap	plicable
Organ shortage strategies	Not Ap	plicable	⊘	Not Ap	plicable
Paired kidney donation and chains LF	Not Ap	plicable	Not Applicable		
TRANSPLANTATION (<2% of exam)					
Indications	Not Applicable	⊘	⊘	⊘	⊘
Contraindications	Not Applicable	\bigcirc	\bigcirc	\bigcirc	
Deceased donor kidney transplantation					
Types	Not Applicable	⊘	⊘	⊘	⊘
Outcomes	Not Applicable	\bigcirc	\bigcirc	\bigcirc	⊘
Living donor kidney transplant					
Types	Not Applicable	⊘	⊘	⊘	⊘
Outcomes	Not Applicable	\bigcirc	\bigcirc	⊘	⊘
POST-TRANSPLANTATION (7% of exam)					
Immunosuppression					
Induction LF	⊘	⊘	⊘	⊘	×
Maintenance	\bigcirc	⊘	⊘	⊘	⊘
Short-term post-transplantation manager	nent				
Perioperative management and complications	Ø	⊘	⊘	⊘	Ø
Graft dysfunction	\bigcirc	\bigcirc	\bigcirc	⊘	⊘

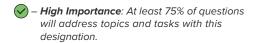


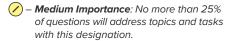


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KIDNEY TRANSPLANTATION continued				Treatment/	Risk Assessment/ Prognosis/	Pathophysiology/
(10% of exam)		Diagnosis	Testing	Care Decisions	Epidemiology	Basic Science
POST-TRANSPLANTATION continued	d (7% d	of exam)				
Long-term post-transplantation ma	anagem	ent				
Graft dysfunction		\bigcirc	\bigcirc	⊘	\bigcirc	⊘
Complications		\bigcirc	\bigcirc	⊘	\bigcirc	⊘
Other long-term post-transplantation management (graft failure)		\bigcirc	⊘	⊘	⊘	⊘
Rejection						
Hyperacute	LF	⊘	⊘	⊘	⊘	×
T cell	LF	⊘	⊘	⊘	⊘	⊘
Antibody-mediated		⊘	⊘	⊘	Ø	⊘
Male and female fertility						
Pregnancy	LF	Not App	plicable	⊘	⊘	⊘
Male fertility	LF	Not App	plicable	⊘	⊘	×
MULTIORGAN AND EXTRARENAL T	RANSPI	LANTATION (<2%	of exam)			
Multiorgan and extrarenal transplantation	LF	⊘	Ø	⊘	⊘	×
ETHICS, SOCIETY, AND PUBLIC PO	LICY (<2	?% of exam)				
Ethics, society, and public policy		Not App	plicable		(Not Applicable
PHARMACOLOGY (5% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
BASIC PHARMACOLOGY (<2% of ex	ram)					
Pharmacokinetics and other basic concepts		⊘	⊘	⊘	⊘	⊘
Renal handling of drugs		\bigcirc		⊘	⊘	⊘
Principles of dialytic drug removal		Not App	plicable	\bigcirc	⊘	⊘

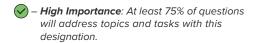


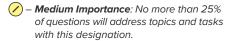


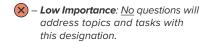
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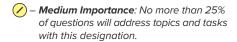
PHARMACOLOGY continued (5% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
DRUG SELECTION IN KIDNEY DISEAS	SE (<29	% of exam)				
Antibiotics						
Vancomycin		Not App	olicable	\bigcirc	\bigcirc	⊘
Aminoglycosides		Not App	olicable	⊘	⊘	⊘
Other antibiotics (cephalosporins)		Not App	olicable	⊘	⊘	⊘
Antineoplastic agents		Not App	olicable	⊘	<u>/</u>	⊘
Antiviral agents		Not App	olicable	⊘	⊘	⊘
Other drug selection in kidney disease (metformin; fentanyl)		Not App	olicable	⊘	⊗	⊘
NEPHROTOXICITY OF MEDICATIONS	(2% 01	f exam)				
Principles and mechanisms of nephrotoxicity		Not App	olicable	⊘	⊘	⊘
Antibacterial agents						
Aminoglycosides		⊘	⊘	⊘	⊘	⊘
Vancomycin		\bigcirc	\bigcirc	⊘	⊘	⊘
Antiviral agents		⊘	⊘	⊘	⊘	⊘
Antifungal agents	LF	/	⊘	⊘	⊘	⊘
Antiparasitic agents	LF	×	×	×	×	×
Additional antimicrobials		✓	⊘	⊘	⊘	×
Pain medications						
Nonsteroidal anti-inflammatory drugs		⊘	⊘	⊘	⊘	⊘
Fentanyl	LF	⊘	⊘	⊘	⊘	×
Gabapentin		⊘	⊘	⊘	⊘	⊘
Tramadol		⊘	⊘	⊘	Ø	⊘
Propofol		⊘	⊘	⊘	⊘	⊘

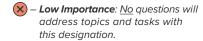




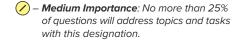


PHARMACOLOGY continued				Tractment/	Risk Assessment/	Dath anhusiala m/
(5% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Prognosis/ Epidemiology	Pathophysiology/ Basic Science
NEPHROTOXICITY OF MEDICATIONS	continue	ed (2% of exa	m)			
Renin-angiotensin-aldosterone system	n (RAA	AS) blockade				
Angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, and renin inhibitors		\bigcirc	⊘	⊘	⊘	⊘
Aldosterone antagonists		\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Antihypertensive agents						
Beta-adrenergic blockers		⊘	⊘	\bigcirc	⊘	⊘
Calcium channel blockers		⊘	⊘	⊘	⊘	⊘
Minoxidil	LF	⊘	⊘	⊘	⊘	⊘
Antineoplastic chemotherapy agents						
Interferon	LF	⊘	×	⊘	×	×
Cisplatin	LF	⊘	⊘	⊘	⊘	⊘
Methotrexate	LF	\bigcirc	⊘	⊘	⊘	\otimes
Vascular endothelial growth factor inhibitors	LF	⊘	⊘	⊘	⊘	⊘
Immune checkpoint inhibitors	LF	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
lodinated contrast and other imaging agents		⊘	⊘	⊘	⊘	Ø
Lithium		\bigcirc	\bigcirc	\bigcirc	\bigcirc	⊘
Supplements and herbs						
Aristolochic acid	LF	(⊘	⊘	⊘	×
SGLT2 inhibitors	LF	\bigcirc	⊘	⊘	⊘	⊘
Other nephrotoxicity of medications (cardiac glycosides; bisphosphonates)		⊘	Ø	⊘	Ø	⊘
NEPHROTOXICITY OF ILLICIT DRUGS	(<2% o	f exam)				
Heroin and other intravenous drugs		⊘	⊘	⊘	⊘	⊘
Ecstasy	LF	⊘	⊘	⊘	⊘	⊘
Cocaine	LF	⊘	⊘	⊘	⊘	⊘





PHARMACOLOGY continued			Treatment/	Risk Assessment/	Pathophysiology/
(5% of exam)	Diagnosis	Testing	Care Decisions	Epidemiology	Basic Science
DRUG-DRUG INTERACTIONS AND ADVE	RSE EFFECTS OTH	ER THAN NEPH	ROTOXICITY (<2%	of exam)	
Drug-drug interactions and adverse effects other than nephrotoxicity	⊘	⊘	⊘	⊘	⊘
DIALYSIS AND OTHER TREATMENT OF TO	OXIC SUBSTANCES	6 (<2% of exam)			
Ethylene glycol LF	Not Applicable	\bigcirc	⊘	⊘	⊘
Methanol LF	Not Applicable	\bigcirc	\bigcirc	\bigcirc	⊘
Other alcohols LF	Not Applicable		⊘	⊘	⊘
Lithium LF	Not Applicable	\bigcirc	\bigcirc	\bigcirc	⊘
Other dialysis and treatment of toxic substances (salicylates; dialysis duration prescription)	Not Applicable	②	⊘	⊘	⊘
ACUTE KIDNEY INJURY AND INTENSIVE CARE UNIT NEPHROLOGY (15% of exam)	, Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
HEMODYNAMIC (PRERENAL) ACUTE KID	NEY INJURY (4% o	f exam)			
True volume depletion					
Renal fluid losses	⊘	\bigcirc	\bigcirc	⊘	⊘
Extrarenal fluid losses	⊘	\bigcirc	\bigcirc	\bigcirc	⊘
Effective volume depletion					
Heart failure	⊘	\bigcirc	⊘	⊘	⊘
Cirrhosis	⊘	\bigcirc	⊘	<	⊘
Nephrotic syndrome	⊘	\bigcirc	⊘	⊘	⊘
Drugs					
Nonsteroidal anti-inflammatory drugs	⊘	⊘	⊘	⊘	⊘
Calcineurin inhibitors	⊘	\bigcirc	⊘	⊘	⊘
Angiotensin-converting enzyme inhibitors and angiotensin receptor blockers	⊘	⊘	⊘	⊘	⊘
Radiocontrast agents	⊘	⊘	⊘	⊘	⊘
Other drugs (tenofovir, cisplatin) LF	⊘	⊘	⊘	⊘	⊘



Low Importance: No questions will address topics and tasks with this designation.

LF – **Low Frequency**: No more than 15% of questions will address topics with this designation, regardless of task or importance.

ACUTE KIDNEY INJURY AND						
INTENSIVE CARE UNIT NEPHROLO continued	DGY			Treatment/	Risk Assessment/ Prognosis/	Pathophysiology/
(15% of exam)		Diagnosis	Testing	Care Decisions	Epidemiology	Basic Science
HEMODYNAMIC (PRERENAL) ACUTE	KIDNI	EY INJURY contin	nued (4% of exa	am)		
Abdominal compartment syndrome	LF	\bigcirc	\bigcirc	\bigcirc	⊘	⊘
PARENCHYMAL (INTRINSIC) ACUTE R	(IDNE	Y INJURY (4.5%	of exam)			
Vascular						
Systemic diseases and vasculitis		\bigcirc	⊘	⊘	⊘	⊘
Atheroemboli	LF	\bigcirc	\bigcirc	⊘	⊘	⊘
Renal vein thrombosis	LF	\bigcirc	⊘	\bigcirc	⊘	⊘
Glomerular						
Drug-induced		\bigcirc	⊘	⊘	⊘	⊘
Infectious		\bigcirc	⊘	⊘	⊘	⊘
General glomerular parenchymal acute kidney injury	LF	⊘	⊘	⊘		⊘
Tubular						
Ischemic		\bigcirc	⊘	⊘	⊘	⊘
Nephrotoxic		\bigcirc	\bigcirc	\bigcirc	\bigcirc	⊘
Systemic disease		\bigcirc	\bigcirc	\bigcirc	✓	⊘
Interstitial						
Drugs		\bigcirc	⊘	⊘	⊘	⊘
Systemic disease		\bigcirc	\bigcirc	\bigcirc	⊘	⊘
Malignancy (infiltrative)	LF		⊘	⊘	⊘	⊘
POSTRENAL ACUTE KIDNEY INJURY	(<2%	of exam)				
Retroperitoneal and ureteral						
Idiopathic retroperitoneal fibrosis	LF	⊘	⊘	⊘	⊘	⊘
Malignancy		⊘	⊘	⊘	⊘	⊘
Crystals and stones		\bigcirc	⊘	⊘	⊘	⊘
Bleeding (intrarenal hemorrhage)	LF	⊘	⊘	⊘	⊘	⊘



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ACUTE KIDNEY INJURY AND INTENSIVE CARE UNIT NEPHROLOGY continued (15% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
POSTRENAL ACUTE KIDNEY INJURY continued (<2% of exam)					
Bladder, bladder outlet, and benign prostatic hyperplasia	⊘	\bigcirc	⊘	⊘	⊘
KIDNEY REPLACEMENT THERAPY (4.5% of exam)					
Indications					
Solute accumulation (potassium, hydrogen ions, phosphate, urea)	⊘	\bigcirc	⊘		
Hemodynamic	⊘	\bigcirc	\bigcirc	\bigcirc	⊘
Acute kidney injury associated with intoxication	⊘	\bigcirc	\bigcirc	\bigcirc	
Tumor lysis syndrome	⊘	\bigcirc	⊘	\bigcirc	⊘
Techniques					
Intermittent hemodialysis	Not Applicable	\bigcirc	⊘	\bigcirc	\bigcirc
Continuous kidney replacement therapy	Not Applicable	⊘	⊘	⊘	\bigcirc
Kidney replacement therapy prescription					
Dialysate and replacement fluid	Not Applicable	\bigcirc	⊘	\bigcirc	\bigcirc
Anticoagulation	Not Applicable	\bigcirc	\bigcirc	\bigcirc	⊘
Complications					
Hemodynamic	⊘	\bigcirc	⊘	⊘	⊘
Other complications (dialysis disequilibrium syndrome, LF electrolyte abnormalities)	⊘	⊘	⊘	⊘	⊘
INTENSIVE CARE UNIT NEPHROLOGY (<2% of exam)					
Hemodynamic measures	Not Applicable	\bigcirc	⊘	⊘	⊘
Intravenous fluids and volume status	Not Applicable	⊘	⊘	⊘	⊘
Ethics and palliative care	Not Applicable		\bigcirc	\bigcirc	Not Applicable