

Vocabulary / Topics / & Study Questions for Urinary System (lecture & 2 labs)

renal fraction	Explain the balance of forces involved in net filtration pressure.
filtration fraction	
filtration membrane	
NFP	What is the normal value for GFR? What determines GFR? How much can it fluctuate and maintain normal kidney function?
HPg	
OPg	
HPc	
GFR	Explain how BP, NFP, GFR, and urine conc and vol are affected by 1) hemorrhage 2) F/F situations and 3) glomerulonephritis.
Intrinsic controls (aka autoregulation)	
myogenic mechanism	
tubuloglomerular feedback mechanism	
JGA juxtaglomerular apparatus	
macula densa cells	Explain how NFP and GFR are regulated by intrinsic and extrinsic controls.
MAP	
extrinsic controls	
sympathetic impulses	Briefly explain how the countercurrent multiplier and exchanger maintain a hypertonic medullary ISF. Why is this necessary?
adrenal medulla	
Epi & NE	
renin-angiotensin-aldosterone mechanism	
ACE	When would you want to produce a larger volume but more dilute urine and how would you do it?
cortical nephrons	
juxtamedullary nephrons	
peritubular capillaries	When would you want to produce a smaller volume and more concentrated urine and how would you do it?
vasa recta	
diuresis	
diuretic	What are the 2 major categories of diuretics and how does each work? How does alcohol have a diuretic effect?
ADH & aldosterone	
caffeine, Lasix (furosemide), & HCTZ	
glucose & Mannitol	
Renal clearance (aka Plasma clearance)	
Inulin	Explain how renal fraction and filtration fraction can be calculated based on renal clearance tests.
PAH para-aminohippuric acid	
creatinine	
Tubular max (aka Transport max)	Why is it important to drink lots of liquids while you are ill? Have you thanked your mom for being so smart?
solvent drag	
micturition	
anuria	
hematuria	
glucosuria	
proteinuria	
polyuria	
dysuria	

ketonuria
acidosis
alkalosis
acid
base
osmolality
osmolarity
urea
filtrate
urine
secretion
reabsorption
renal calculi
dialysis
Chemical buffers
Respiratory adjustments
Renal adjustments
medullary ISF
hypertonic
pH
neutral
 H_2CO_3
 HCO_3^-
 NH_3
 NH_4^+
 HPO_4^{2-}
 NaHCO_3
 H_2PO_4^-
catabolism

**** See also all questions from labs 9 & 10****
There are many.