

At the completion of this educational activity, the documentation specialist will be able to: Identify clinical clues and indicators for complex medical conditions Discuss the importance of ensuring lesser reported diagnoses are supported in the record Describe query opportunities to facilitate accurate code capture for Respiratory failure following surgery Shock Encephalopathy ATN

Clinical and Coding Conundrums

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68yo male smoker with hypertension presents c/o acute onset RUQ pain associated with intractable nausea and vomiting.

US + for cholecystitis and cholelithiasis.

Pre-op evaluation is notable for mild, stable dyspnea on exertion. 02 Sat, exam, CXR, and EKG are unremarkable.

Patient undergoes laparoscopic cholecystectomy and is slow to awaken from anesthesia. After two hours his sats remain 90% on Venti-mask associated with lethargy. The surgeon admits him to SICU and the intensivist is consulted.

What might the intensivist document?

How Physicians Commonly Document This Condition

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Postop resp failure
Acute resp failure
Hypoxemia
Acute resp insufficiency
s/p cholecystectomy
Post-procedural
respiratory failure
Wheezing
Atelectasis
Lethargy



Clinical and Coding Conundrums

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- Clinical uncertainty especially within first 24h
 - Asymptomatic patient
 - Still under effects of anesthetics, opioids, and benzodiazepines
 - A developing condition may not produce typical symptoms in this context
 - Potential signs of acute resp failure may be related to anesthesia
 - Routine support inherent to procedure
 - ENT and thoracic surgery ... expect some ventilator time

Clinical Indi	dicators of Acute Resp Failure		
Imminent respiratory arrest	Severe respiratory distress	Objective criteria for acute resp failure	Close monitorin and intensive treatment
"Eyeball test"	Agitation	RR > 28	> 40% FI02
Depressed mental status	Retractions/use of accessory muscles	p02 < 60 or > 10 below baseline p02	Noninvasive ventilation e.g., BiP
Poor respiratory effort, i.e., "he's getting tired"	Fragmented speech	pC02 > 50 with pH < 7.35 or 10 mmHg increase in baseline pC02	Invasive ventilation e.g., intubation
Cyanosis	Diaphoresis	02 sats < 91% (if no baseline lung disease)	Continuous pulse oximetry
	Dusky skin		Determine most like cause and initiate management, e.g., steroids, Furosemid Meropenem

Clinical and Coding Conundrums

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Postop resp failure?

- In MICU, the patient develops some mild wheezing which resolved with Albuterol nebs. He is soon extubated to nasal cannula @4 liters. Oxycodone is given for pain. He gradually becomes lethargic with RR 8. An ABG is obtained: pH 7.28, p02 59, pC02 65. BiPAP is started but the patient begins vomiting and urgent intubation is required.
- What might the intensivist document?

Clinician Judgment and Coding Department Strategy

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- Correct documentation and coding
 - Postop resp failure or postprocedural resp failure (MCC)
 - Implies a surgical misadventure created the condition (+PSI)
 - Meets criteria
 - Acute resp failure with hypercapnia (MCC)
 - Meets criteria
 - Acute pulmonary/resp insufficiency following nonthoracic surgery (MCC)
 - No guidelines for diagnosis. Pulmonologist survey consider it synonymous with resp failure.
 - In practice ... less severe pulmonary issues.
 - Patient doesn't meet criteria for resp failure, e.g., no resp distress, mild hypoxemia corrects with 32% FIO2, wheezing, etc.
- Inadequate documentation and coding
 - Hypoxemia/hypoxia (not CC/MCC)
 - Symptom code! Will need clarification.
 - Aspiration pneumonitis (MCC)
 - Subsequent to respiratory decline and not primarily responsible.

What Happened in This Case?

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- Patient remained on ventilator overnight
- · Nebulizers administered
- Opioids and sedation withdrawn the next morning
- Patient extubated after an additional 8h on the ventilator
- Now has a headache!
- J95.821, acute postprocedural resp failure, coded at discharge



More About Postop Resp Failure

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Resp failure following trauma and surgery

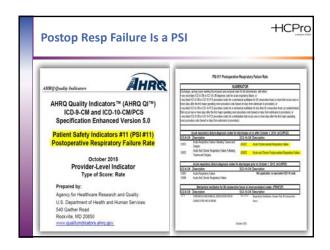
- Coding Clinic Fourth Quarter 2011
- Acute resp failure is a common postop complication
 - Often requires mechanical ventilation > 48 hours after surgery
 - Reintubation with mechanical ventilation after postop extubation
 - Impaired gas exchange: Hypoxemia or hypercarbia
 - Requires more than just supplemental oxygen or intensified observation
 - Risk factors
 - Specific to the patient's general health
 - Trauma to chest wall can lead to inadequate gas exchange
 - Type of anesthetic
 - Incision near diaphragm

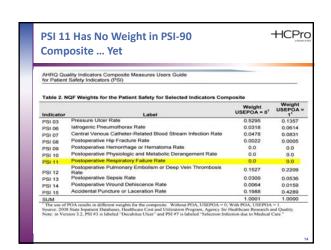
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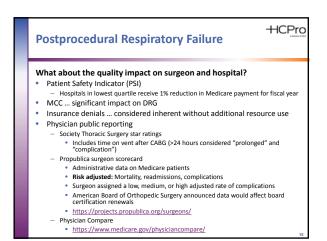
Clinical and Coding Conundrums

Postprocedural resp failure: Who's at risk?

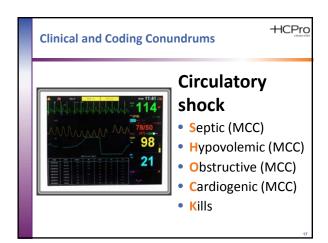
- Plastic Reconstructive Surg. 2013 Nov; 132 (5)
 - Validated Model for Predicting Postop Resp Failure: Analysis of 1,706 Abd Wall Reconstructions
 - 6% developed postop resp failure
 - Longer LOS and higher mortality rates
 - 8 variables significantly associated with postop resp failure
 - History of COPD
 - Dyspnea at rest
 - Dependent functional status
 - Malnutrition
 - $-\,$ Recurrent incarcerated hernia or concurrent intraabd. procedure
 - ASA score > 3 (patient with severe systemic disease with constant threat to life)
 - Prolonged operative time

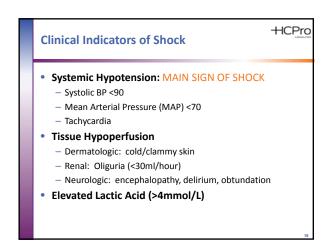






Patient presented with AAA and underwent operative repair. Postoperatively, patient was weaned from ventilator to venturi mask. He remained tachypneic with hypoxemic and an ABG showed: pH 7.312, pC02 38.9 and p02 of 69.5 on FIO2 .50. After study, was the patient being treated for: Postoperative respiratory failure as complication of surgery Postoperative pulmonary insufficiency as complication of surgery Acute respiratory failure unrelated to surgery Acute respiratory insufficiency unrelated to surgery Other No further specification can be provided





Hypotension indicators	Shock indicators
Transient	Persistent without intervention
Mild or absence of symptoms e.g., lucid, up in chair, eating breakfast, etc.	Symptoms, e.g., acute delirium, lethargi cool extremities, chest pain
Normal urine output	Reduced urine output
Normal lactic acid level	Elevated lactic acid level (> 4mmol/L)
Observed or offending medications not administered	Requires RBCs, IV antibiotics, pressors, steroids, ICU management
Walk from hospital	Carried out of hospital

Types of Shock			HCF
Septic (distributive or vasogenic)	Hypovolemic	Obstructive	Cardiogenic
Septic Bacterial, fungal, viral, parasitic	Hemorrhagic Trauma, GI bleed, postop, vaginal	Pulmonary vascular Large PE, severe pulmonary artery Htn	Cardiomyopathic MI, severe HF, stunned myocardium, myocardi
SIRS Burns, pancreatitis, trauma	Other volume loss Vomiting, diarrhea, heat stroke, third space losses	Mechanical Tension pneumothorax, cardiac tamponade	Arrhythmogenic Atrial or ventricular
Neurogenic Spinal cord injury, traumatic brain injury			Mechanical Severe mitral or aortic valve disease, ruptured ventricular aneurysm
Anaphylactic Bee stings, food and drug allergies			

Indications That Shock Was Treated • VIP rule - Ventilate: 02, intubate early - Infuse rapidly • Fluids with normal saline or lactated ringers • Sepsis Core Measure (SEP-1) ... 30ml/kg bolus • Albumin – occasionally • RBCs - Pump (or Pressors) • Norepinephrine • Dopamine • Dobutamine

Persistent Hypotension Documented. Is a Query Needed for Shock?

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Physician thoughts:

- What is the baseline BP?
- Does the patient appear ill?
- Is there a condition present which might cause shock?



Shock vs. Hypotension

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Doubt shock

- 77 yo male with chronic systolic failure (25% EF) s/p right femur fracture repair. SBP 82/40.
 Patient alert, conversant, asymptomatic. Lisinopril held.
- 29 yo female has intractable migraine with status migrainosus. SBP 79/55. Lethargic, in bed.

Probable shock

- **56yo** male s/p CABG. POD #1. SBP 85, receiving 2 units RBCs for hemoglobin 6.9, on norepinephine.
- 52yo female has right pneumonia with effusion. SBP 89, HR 107, mild delirium, given 2000 ml bolus.

What About Coding Postprocedural Shock?

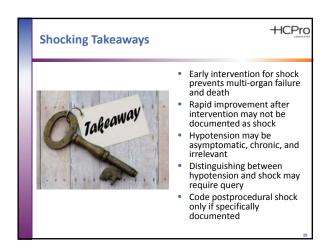
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T81.1, postprocedural shock

- Shock during or resulting from a procedure, not elsewhere classified
 - Something happened in the OR to create the condition
 - Use of the term "postop"
- Complication must be clearly stated, cause/effect
 - Query provider if any doubt
 - Postprocedure shock unspecified (T8110XA) or postprocedure septic shock (T8112XA) result in a PSI. (postop sepsis 13)
 - Risk adjusted
 - $-\ \mbox{Exclusions}$ may apply e.g., severe malnutrition, colon cancer

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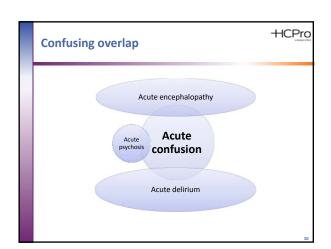
What About Coding Postprocedural Shock? Examples from Coding Clinic, Fourth Quarter 2011 Pages: 150-153	HCP <u>ro</u>
Question:	
 The patient developed refractory cardiogenic shock that required temporary extracorpore membrane oxygenation (ECMO) support after undergoing aortic valve replacement due to aortic stenosis. The provider documented that the patient developed postoperative shock valve replacement surgery. What are the code assignments? 	o severe
Answer: * Assign code 424.1, Aortic valve disorders, as principal diagnosis. Assign code 998.01 (/CD-781.11X4), Postoperative shock, cardiogenic, as an additional diagnosis. Assign codes 35. replacement of aortic valve, and 39.65, Extracorporeal membrane oxygenation [ECMO], fi	22, Other
procedures. Question: A 53-year-old male patient status post coronary artery bypass graft (CABG) was readmitted.	-
A 33-year-out male patient status post corrollarly artery opposas graft (LABA) was readmitted hospital after he developed redness and purulent drainage from the sternal wires. The padeteriorated after admission, became septic and went into shock two days after admission aggressive intravenous antibiotic management, the patient improved and was later discholyriscian also documented Methicillin resistant Stophylococcus aureus sepsis and postop physician also documented Methicillin resistant Stophylococcus aureus sepsis and postop	tient quickly n With arged. The
septic shock. How should this case be coded? Answer:	
 Assign code 998.59, Other postoperative infection, as the principal diagnosis for the infective rives. Assign codes, 038.12, Methicillin resistant Staphylococcus Aureus septicemis; 995. sepsis; 998.02 (ICD-10 code T81.12XA), Postoperative shock, septic; and V45.81, Aortocor bypass status, as secondary diagnoses. Code assignment is supported by the Official Guid Coding and Reporting, Section IC.13 	92, Severe onary
coung and reporting section related.	ω.
	LICDes
Query Examples	HCPro
The patient had a drop in blood pressure during the cardiac cat procedure and LV function "dropped" as well. In the op note, I	BP was
noted to be in the low 60s and an IABP was placed. The next d progress note stated "BP improved with treatment."	<u> </u>
Can the above clinical findings and treatment be further clarified	d as:
Hypotension due to cardiogenic shock	
 Hypotension due to other type of shock Hypotension without shock 	
Other Unable to determine	
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Query Examples	HCPro
Query Examples	
Patient admitted for STEMI. The patient underwent of	
cath and percutaneous intervention with a drug-eluti stent. Operative report describes hypotension which required treatment with dopamine. BPs recorded we	
61/44 and 77/43.	
Based on this information, can the patient's hypotension b further specified as:	e
 Hypotension due to cardiogenic shock Hypotension due to other type of shock 	
Hypotension without shock Other	
Unable to determine	



Acute Confusion, Delirium, and Encephalopathy

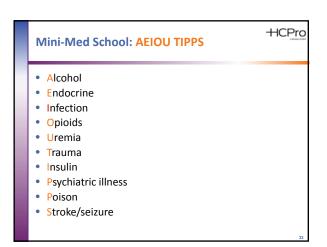
- Inability to maintain a coherent stream of thought or action
- 30% of hospitalized older adults
- What is baseline?
- Mild cases are often undiagnosed
- Heralding symptom of major illness
- Cause is usually outside the brain
- Brain is vulnerable
- 33% persist at 6 monthsMortality rate 20%–40%
- Clinical diagnosis, i.e., opinion of the clinician
 - No "troponin" to measure
- Terms used synonymously
- Lack of clear guidelines

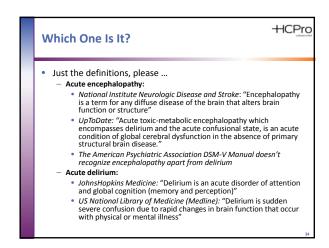


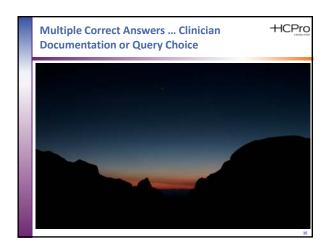


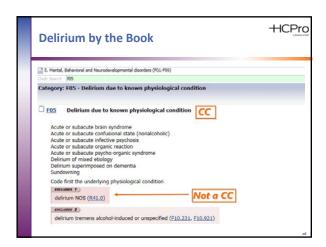
Clinical Ir	ical Indicators for Types of Confusion			
	Acute encephalopathy (MCC)	Acute delirium d/t known physio. cond. (CC)	Acute psychosis (CC)	Dementia (w behaviora disturbance (Not CC/MC
Onset	Sudden	Sudden	Sudden	Insidious
Disturbance in attention	Globally disordered	Globally disordered	May be disordered	Normal
Disturbance in cognition	Globally muddled	Globally muddled	May be impaired	Globally reduce
Hallucinations	May be present	Often. Visual or visual and auditory.	Usually auditory	Usually absent
Level of alertness	Usually reduced	Variable: Reduced to increased	Variable: Reduced to severe hyperactivity	Often normal
Involuntary movements	Often present	Often present	Usually absent	Usually absent

	ephalopathy			
Metabolic causes	Drugs and toxins	Infections	Brain disorders	Multi-organ failure
Electrolytes: Na+, K+, Ca++	Prescribed psychoactives	Sepsis	CNS infection	Heart
Endocrine: thyroid, pituit.	OTC: antihistamines	Fever-related delirium	Seizures	Liver
Glucose	Drugs of abuse: heroin, Mojo	UTI	Htn encephalopathy	Renal
CO2 narcosis	Withdrawals	Pneumonia	Psych disorders	Respiratory
Hypoxemia	Side effects: Cipro, anti- epileptics		Tumor	Hematologic catastrophe, e. AML blast crisis
Wernicke's	Poison: MeOh, CO, inhalations		Stroke	
B12 deficiency			ICH	
Wilson's disease				









HCPro Encephalopathy Has Greater Impact on DRG and Risk Than Delirium Types of encephalopathy Encephalopathy, unspecified G93.40 (MCC) Metabolic encephalopathy G93.41 (MCC) Other encephalopathy G93.49 (MCC) Toxic encephalopathy G92 (MCC) · Code first toxic agent Encephalopathy due to diabetic hypoglycemia (MCC) • Coding Clinic, Third Quarter ICD-10 2015 Page: 21 Assign code E11.649, Type 2 diabetes mellitus with hypoglycemia without coma, as the principal diagnosis. Assign also code G93.41, Metabolic encephalopathy, as an additional diagnosis. Alcoholic encephalopathy G31.2 (not a CC/MCC) • Degeneration of nervous system due to alcohol Hypertensive encephalopathy I67.4 (CC) Hepatic encephalopathy ... See Failure, hepatic Hepatic failure, unspecified without coma K72.90 (not a CC/MCC) Hepatic failure, unspecified with coma K72.91 (MCC) (must have coma documented) Wernicke's encephalopathy E51.2 (CC) Thiamine deficiency usually assoc. with alcoholism

Coding Clinic Help!

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- Metabolic encephalopathy (G93.41)
 - Coding Clinic, Fourth Quarter 2003 Pages: 58 to 59
 - Metabolic encephalopathy is always due to an underlying cause. There are many causes of metabolic encephalopathy, such as <u>brain tumors</u>, <u>brain metastasis</u>, <u>cerebral infarction or hemorrhage</u>, <u>cerebral ischemia</u>, <u>uremia</u>, <u>poisoning</u>, <u>systemic infection</u>, <u>etc</u>. Metabolic encephalopathy is also a common finding in 12-33% of patients suffering from multiple organ failure. The development of metabolic encephalopathy may be the first manifestation of a critical systemic illness and may be caused by various reasons—one of the most important being sepsis.

What Is Not Considered Encephalopathy?

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- Postictal confusion following a seizure
 - Coding Clinic, Fourth Quarter 2013 Pages: 89-90
 - Encephalopathy due to postictal state is not coded separately since it is integral to the condition
- Coma
- DTs and drug withdrawals
- Dementia ... unless there is a transient period of confusion reversed to baseline with treatment of acute illness. The baseline must be clearly documented.

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Query Examples

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73yo female presents with acute confusion and lethargy. ED documented the cause of confusion to be drug-induced delirium. HP and progress notes documented encephalopathy, acute respiratory failure, and COPD exacerbation. Patient treated with IV fluids, oxygen, nebulizers, steroids, and discontinuation of Clonazepam. Her confusion resolved by discharge.

After study, could the etiology of the patient's confusion be specified as:

- Toxic encephalopathyDrug-induced delirium only
- Other
- · Unable to determine

Query Examples

HCPro

The patient is an 82yo female with a history of mild dementia but normally conversant and ambulatory per neighbor. The patient developed acute vomiting with diarrhea and was found down. The ED doc noted her to be poorly arousable without focal neurologic deficits. Admit labs included a sodium of 152, BUN 43, and creatinine of 1.2. In the H&P she was diagnosed with gastroenteritis, severe hydration, and delirium. Her delirium was reported as resolved on day 3 of her hospitalization and at baseline mental status.

After study, can the delirium be further specified as:

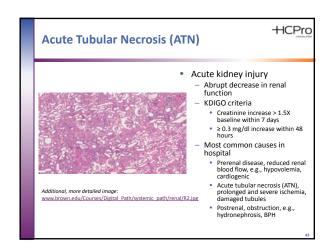
- Metabolic encephalopathy
- · Acute delirium only due to hydration
- · Exacerbation of dementia only
- Other_
- Unable to determine

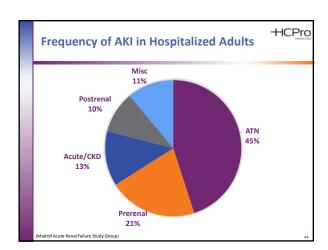
Lucid Takeaways

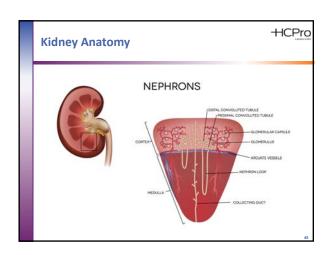
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- · Acute confusion often indicates systemic illness and risk of mortality
- Physicians often consider acute confusion, acute delirium, and acute encephalopathy to be synonymous
- Ask the physician to be specific about what type of acute confusion, AMS, or ALOC
- Query physician for suspected cause, e.g., UTI, Lorazepam, AKI, etc









Clinical Indicators Used to Differentiate AKI				
	Pre-renal AKI (>21%)	ATN induced AKI (>45%)	Other intra- renal AKI (4%)	Post-renal A (10%)
Volume status	Reduced	Usually reduced	Variable	Variable
Clinical scenario	Diarrhea, hemorrhage, systolic heart failure, cirrhosis	Sepsis, shock, Gentamicin, IV contrast, may follow surgery	Glomeruloneph- ritis, TTP/HUS	Voiding complaints, anu
Urinalysis	Normal	Granular and epithelial cell casts, muddy appearance	Hematuria, proteinuria, schistocytes	Normal to some debris
Urine sodium mEq/L	< 20	> 20	> 20	> 20
Fractional excretion of sodium (FENA)	< 1% (i.e., 99% of urine Na is resorbed)	> 2%	> 2%	> 2%
Renal ultrasound	Normal	Normal	Normal	Hydronephrosis
Response to IVF	Normalization of creatinine < 72h	Sluggish improvement	No improvement	No improvemen

Typical Conditions Associated With ATN Causes of ATN Renal ischemia Any prerenal condition exacerbated by hypotension and/or surgery Sepsis Hypotension, cytokines, inflammation Nephrotoxins (kidney poisons) Aminoglycosides, e.g., gentamicin Heme pigments, i.e., myoglobin from rhabdomyolysis Chemotherapeutic agents, e.g., cisplatin IV contrast for radiologic studies IV immunoglobulin Vancomycin (toxic levels)

What About AKI With Cortical and Medullary HCPro Necrosis? (MCC) Similar to ATN but much less common • Acute kidney failure with acute cortical necrosis (N17.1) Ischemia to renal cortex - 80% have no urine output - Obstetric catastrophe (56%) Abruptio placentae, septic abortion, DIC - Snake bite 14% Hemolytic-uremic syndrome 12% - CT appearance may show cortical lucency Renal biopsy definitive Acute kidney failure with medullary (papillary) necrosis (N17.2) Pvramid ischemia and necrosis - > 2 risk factors: Pyelo, urinary obstruction, sickle cell, salicylates - IVP and MRI characteristic appearance of abnormal papilla Renal biopsy definitive

Query Examples

HCPro

The patient presented with CHF. Creatinine increased from 1.11 to 2.54 within 48 hours. Nephrology was consulted. Acute kidney injury due to diuresis vs ATN associated with ARB/diuretic use vs poor perfusion with hypotension was noted.

At the time of discharge was the patient felt to have AKI with ATN?

- Yes
- No
- Other_
- Unable to provide any further information

Query Examples

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Patient underwent an anterior lumbar fusion and was noted to have a rise in creatinine. Documentation stated patient had transient hypotension and creatinine was recorded as: 5/6 of 0.71, 5/7 of 1.77, 5/9 of 2.72, 5/12 of 1.76. Physician reported the patient had brown urine, normal UA, FENA > 2. Renal US was normal. Patient was documented to have acute kidney injury.

After study, can the patient's renal status be further specified as:

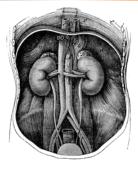
- Acute kidney injury due to ATN
- Acute kidney injury only
- Other
- Unable to provide additional information

So ... Now What?

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- ATN and pre-renal account for approximately 80% cases of inpatient AKI
- Seek an etiology from the physician
 - Obscure causes may be an MCC
 - Acute glomerulonephritis, rapidly progressive nephritic syndrome, AKI with acute cortical necrosis
 - Other acute kidney failure (N17.8) is a CC

 - Unspecified ... not a CC/MCC
 Unspecified kidney failure, uremia, renal insufficiency, acute renal disease, nephropathy



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Thank you. Questions?	
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