

Coding Kidney Disease and Treatment

Audio Seminar/Webinar
March 15, 2007

Practical Tools for Seminar Learning

Disclaimer

The American Health Information Management Association makes no representation or guarantee with respect to the contents herein and specifically disclaims any implied guarantee of suitability for any specific purpose. AHIMA has no liability or responsibility to any person or entity with respect to any loss or damage caused by the use of this audio seminar, including but not limited to any loss of revenue, interruption of service, loss of business, or indirect damages resulting from the use of this program.

CPT® five digit codes, nomenclature, and other data are copyright 2006 American Medical Association. All Rights Reserved. No fee schedules, basic units, relative values or related listings are included in CPT. The AMA assumes no liability for the data contained herein.

As a provider of continuing education, the American Health Information Management Association (AHIMA) must assure balance, independence, objectivity and scientific rigor in all of its endeavors. AHIMA is solely responsible for control of program objectives and content and the selection of presenters. All speakers and planning committee members are expected to disclose to the audience:

- 1) any significant financial interest or other relationships with the manufacturer(s) or provider(s) of any commercial product(s) or services(s) discussed in an educational presentation;
- 2) any significant financial interest or other relationship with any companies providing commercial support for the activity; and
- 3) if the presentation will include discussion of investigational or unlabeled uses of a product.

The intent of this requirement is not to prevent a speaker with commercial affiliations from presenting, but rather to provide the participants with information from which they may make their own judgments.

Faculty

Audrey G. Howard, RHIA,

Ms. Howard is a senior consultant with 3M Health Information Systems (HIS), Consulting Services, where she is responsible for performing coding research and providing support for coding questions. Audrey has over 16 years of HIM experience working in a variety of functions from coding professional to assistant director of an HIM department. She is also a regular contributor to publications on coding topics.

Simone R. Gravesande, RN,

Ms. Gravesande is a healthcare consultant for 3M HIS Consulting Services. Simone has ten years of nursing experience, including acute care manager for hemodialysis and apheresis services in a hospital setting where her responsibilities included providing training to acute and hospital staff. She also provided education to patients and their families to ensure compliance with physician's orders.

Table of Contents

Disclaimer	i
Faculty	ii
Objectives	1
Basic Kidney Information	1
Chronic Kidney Disease.....	3
NKF Quality Initiative.....	4
Signs and Symptoms	5
Diagnosis.....	6
Preventive Treatment	7
Treatment of Kidney Failure	7
Staging Kidney Disease.....	8
Complications of CKD.....	9
ICD-9-CM Coding	9
Stages Based on Severity.....	10
Diabetes Related to CKD.....	11
Kidney Transplant Status	11
Azotemia	12
Polling Question #1	12
Chronic Renal Insufficiency	13
Hypertensive Kidney Disease.....	13
Polling Question #2	16
CKD/CRF Decision Tree.....	16
Acute Renal Failure	17
Symptoms	18
Treatment	18
Acute vs. Chronic Chart.....	19
Coding ARF.....	19
Fluid Overload.....	21
Congestive Heart Failure	21
ARF and Hypertension	22
Azotemia	22
Acute on Chronic Renal Failure	23
Acute Renal Insufficiency	23
Poll #3	24
ARF Decision Tree	25
Treatment Options	25
Coding Treatment Options- ICD-9-CM and CPT	26
Hemodialysis Access	27
Coding Access Options.....	28
Peritoneal Dialysis	31
Coding Peritoneal Dialysis	32
Kidney Transplantation	33
Coding Kidney Transplant.....	34
Resources	36
Appendix	39
CKD/CRF Decision Tree.....	40
ARF Decision Tree.....	41
CE Certificate Instructions	

Objectives

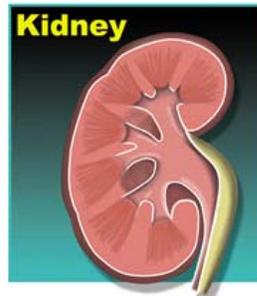
- ♦ Review clinical knowledge of kidney disease including:
 - Chronic kidney disease
 - Chronic renal insufficiency
 - Hypertensive kidney disease
 - Acute renal failure
 - Acute renal insufficiency
- ♦ Discuss complications of kidney disease
- ♦ Discuss treatment options for kidney disease
- ♦ Discuss ICD-9-CM and CPT coding of diagnoses and procedures for kidney disease



1

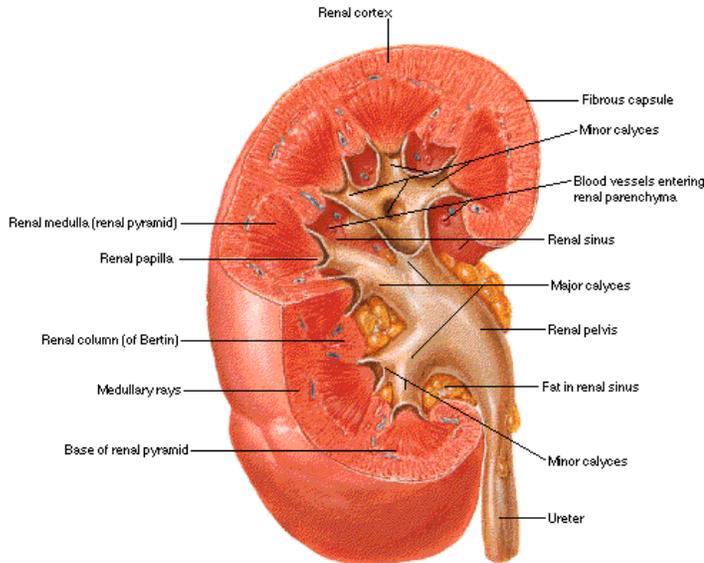
Basic Kidney Information

- ♦ Part of the urinary system
- ♦ Pair of bean-shaped organs located in the back of the abdomen below the rib cage
- ♦ Size of a fist
- ♦ Functions:
 - Filters blood through nephrons
 - Removes waste products and extra water
 - Regulates chemicals in the blood such as sodium, potassium, phosphorus and calcium
 - Produces hormones that help regulate blood pressure, make red blood cells and promote strong bones



2

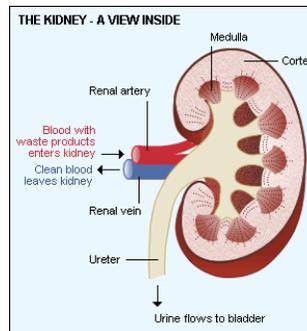
Cross Section of Kidney



3

Kidney Disease

- ◆ Results from damage to the nephrons
- ◆ Waste builds up in the blood and damages the body
- ◆ Occurs gradually over years in both kidneys
- ◆ Sudden onset from acute process or injury
- ◆ Leading causes:
 - Diabetes
 - High blood pressure
 - Heart disease
 - Heredity



4

Chronic Kidney Disease

- ◆ Permanent loss of kidney function
- ◆ Unable to properly remove waste and extra water from blood
- ◆ Defined according to the presence or absence of kidney damage and the level of kidney function based on the glomerular filtration rate (GFR)
- ◆ GRF is calculated from the results of the patient's blood creatinine test, patient's age, race, gender and other factors and is the best test to measure the level of kidney function
 - Creatinine is a waste product in the blood created by the normal breakdown of muscle cells during activity
 - Creatinine builds up in the blood when kidneys are not working well

5

Chronic Kidney Disease

- ◆ National Kidney Foundation defines CKD as follows:
 - "Kidney damage for three or more months, as defined by structural or functional abnormalities of the kidney, with or without decreased GFR, manifested by pathologic abnormalities or markers of kidney damage, including abnormalities in the composition of the blood or urine or abnormalities in imaging tests"
- ◆ GFR < 60 mL per minute per 1.73 m² for three months or more, with or without kidney damage

6

Chronic Kidney Disease

- ♦ **Facts about Chronic Kidney Disease (CKD):**
 - 20 million Americans have CKD = 1 in 9 adults
 - Early detection can help prevent the progression of kidney disease to kidney failure
 - Glomerular filtration rate (GFR) is the best estimate of kidney function
 - Hypertension causes CKD and CKD causes hypertension
 - Persistent proteinuria means CKD
 - High risk groups include those with diabetes, hypertension, and family history of kidney disease
 - African Americans, Hispanics, Pacific Islanders, Native Americans and Seniors are at increased risk
 - Three simple tests can detect CKD: blood pressure, urine and serum creatinine
- ♦ *Information obtained from National Kidney Foundation (www.kidney.org)*

7

NKF Quality Initiative

- ♦ **KDOQI™ (Kidney Disease Outcomes Quality Initiative)**
 - Address CKD and treatment modalities
 - Published new stages for kidney disease in May 2006
 - Recommended defining stages of kidney disease to facilitate clinical practice guidelines, performance measurements, evaluation of QI, and disease management
 - Classification of stages of CKD goals
 - Provide estimate of prevalence by stage
 - Develop clinical action plan for evaluation and management for each stage
 - Identify individuals at increased risk for developing CKD

8

NKF Quality Initiative

- ♦ **KDOQI™** *continued*
 - Evaluation should be based on
 - Type of kidney disease
 - Co morbid conditions
 - Severity of illness determined by kidney function
 - Complications
 - Risk for loss of kidney
 - Risk for cardiovascular disease
- ♦ Information obtained from NKF KDOQI™ Guidelines

9

Chronic Kidney Disease

- | | |
|--|---|
| <ul style="list-style-type: none"> ♦ Early signs and symptoms in early stages of CKD: <ul style="list-style-type: none"> • Fatigue • Nausea and vomiting • Weight loss (unintentional) • Frequent hiccups • Headache • Pruritus (general itching) • Malaise ♦ A patient may not develop symptoms until the kidney function has decreased to less than 25% of normal | <ul style="list-style-type: none"> ♦ Later signs and symptoms of CKD: <ul style="list-style-type: none"> • Trouble concentrating, lethargy • Poor appetite • Trouble sleeping • Nighttime muscle cramping • Swollen feet and ankles • Excessive thirst • Dry, itchy skin • Increase in urination, especially at night • Oliguria • Seizures • Uremic frost (white crystal deposits on skin) |
|--|---|

10

Chronic Kidney Disease

- ♦ Can occur at any age
- ♦ Causes of chronic kidney disease:
 - Diabetes, uncontrolled
 - Hypertension, uncontrolled
 - Polycystic kidney disease
 - Congenital malformations
 - SLE
 - Repeated urinary infections
 - HIVAN (HIV Associated Nephropathy)
 - IgA Nephropathy

11

Chronic Kidney Disease

- ♦ Diagnosis:
 - Monitor blood pressure – hypertension may be a sign that kidney damage has occurred
 - GFR – measures how efficiently the kidneys are filtering waste from the blood
 - Proteinuria (excess protein in urine) can detect a kidney problem
 - Protein-to-creatinine (albumin-to-creatinine) ratio – if ratio is greater than 30 milligrams of albumin per 1 gram of creatinine, kidneys may be failing to filter out harmful substances
 - MRI, CT scan, ultrasound, or contrast X-ray to detect kidney damage
 - Renal biopsy

12

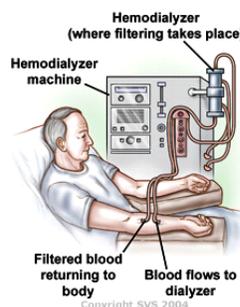
Chronic Kidney Disease

- ◆ Preventive treatment of chronic kidney disease:
 - Life style changes:
 - Control blood pressure level (below 130/80 mm Hg)
 - Control blood sugar
 - Control triglyceride and cholesterol levels
 - Control hemoglobin to prevent anemia
 - Balance levels of calcium and phosphorus in blood
 - Maintain proper diet
 - Medications

13

Chronic Kidney Disease

- ◆ Treatment of kidney failure:
 - Dialysis
 - Hemodialysis– High Flux machine or CRRT to remove toxic waste and excess fluid
 - Peritoneal dialysis
 - Kidney transplant
 - Kidney/Pancreas transplant



14

Medical Record

Patient with Kidney Failure

- ♦ HTN: **Calcium Channel Blockers: Procardia, Cardizem, bid**
- ♦ Beta Blockers: **Lopressor, Inderal, qid**
- ♦ ACE Inhibitors: **Vasotec, Capoten, bid**
- ♦ Edema: **Lasix, Bumex, bid**
- ♦ High Cholesterol: **Mevacor, qd**
- ♦ Vitamin: **Nephrocap, Nephro-Vite, Forte, Vitamin B, qd**
- ♦ Gastroparesis: **Reglan, prior to each meal**
- ♦ Itching: **Atarax, Benadryl, Vistaril prn**
- ♦ Sleep Disorders: **Halcion, qhs**
- ♦ Depression: **Ativan, Xanax, tid**
- ♦ Osteoporosis: **Calcijex, Zemplar, Hectorol, IV at Dialysis, oral calcium, tid**
- ♦ Anemia: **Epogen, Aranesp, Procrit, Ferrlecit, Venofer IV, oral iron, bid**
- ♦ Increased Phosphorous: **Basaljel, Phoslo, Renagel with meals, Tums**
- ♦ Diet: **Low Protein, Low Sodium, Low Potassium, Fluid restrictions**

15

Chronic Kidney Disease

Stage	Description	GFR (mL/min/1.73m ²)	Clinical Action Plan*
1	Slight kidney damage with normal or increased filtration	> 90ml/min	Treatment of comorbid conditions, interventions to slow disease progression, reduction of risk factors for cardiovascular disease
2	Mild decrease in kidney function	60-89ml/min	Estimation of disease progression
3	Moderate decrease in kidney function	30-59ml/min	Evaluation and treatment of disease complications
4	Severe decrease in kidney function	15-29ml/min	Preparation for kidney replacement therapy (dialysis, transplantation)
5	Kidney failure; requiring dialysis or transplantation	< 15	Kidney replacement therapy if uremia is present

*Includes action plan from preceding stages

16

Complications of Chronic Kidney Disease

- Congestive heart failure
- Hypertension
- Chronic blood loss anemia
- Electrolyte imbalances (hyperkalemia, hypercalcemia, hyperphosphatasemia)
- Metabolic acidosis and alkalosis
- Pericarditis
- Infertility, Impotence
- Infections (due to vascular access and immunosuppressive host)
- Encephalopathy
- Increased risk for hepatitis B & C
- Neuropathy
- Hyperparathyroidism
- Bone disease and calcifications
- Clotted vascular access

17

ICD-9-CM Coding Chronic Kidney Disease

- 585.1, Chronic kidney disease, Stage I
- 585.2, Chronic kidney disease, Stage II (mild)
- 585.3, Chronic kidney disease, Stage III (moderate)
- 585.4, Chronic kidney disease, Stage IV (severe)
- 585.5, Chronic kidney disease, Stage V
 - Excludes: Chronic kidney disease, stage V requiring chronic dialysis (585.6)
- 585.6, End stage renal disease
 - Chronic kidney disease requiring chronic dialysis

18

ICD-9-CM Coding Chronic Kidney Disease

- **585.9, Chronic kidney disease, unspecified**
 - **Chronic renal disease**
 - **Chronic renal failure NOS**
 - **Chronic renal insufficiency**
 - Note: Acute renal insufficiency remains classified to code 593.9
- ♦ **ICD-9-CM code assignment is based on physician documentation of the specific stage and not the GFR**

19

Chronic Kidney Disease

- ♦ **Stages based on severity of CKD:**
 - **Stage II equates to mild CKD (585.2)**
 - **Stage III equates to moderate CKD (585.3)**
 - **Stage IV equates to severe CKD (585.4)**
 - **End stage renal disease (ESRD) (585.6)**
- ♦ **If the physician documents both a stage of CKD and ESRD, only assign code 585.6**

AHA Coding Clinic for ICD-9-CM, 2006, 4Q, p179

20

Chronic Kidney Disease

- ♦ **Diabetes related to CKD**
 - 250.4x + 585.x
 - Sequence the code from category 250 before the codes for the associated conditions
 - Documentation must link the diabetes to the condition such as diabetic nephropathy or nephropathy due to diabetes
- ♦ **Anemia in chronic kidney disease**
 - 285.21 + 585.x
 - Sequencing depends on the circumstances of admission
 - The physician has to explicitly state a cause and effect relationship between the anemia and the CKD

21

Chronic Kidney Disease

- ♦ **Kidney transplant status**
 - The presence of CKD after a kidney transplant does not indicate a transplant complication since the transplant may not fully restore kidney function
 - Appropriate to assign code V42.0, Kidney replaced by transplant, with a code from category 585 if no transplant complication is documented
 - If a transplant complication (such as transplant failure or rejection) is documented, assign code 996.81, Complications of transplanted kidney
 - Query the physician for clarification if the documentation is unclear regarding the presence of a transplant complication

22

Chronic Kidney Disease

♦ Azotemia

- If physician documents pre-renal failure or pre-renal azotemia, assign code 788.9, Symptom involving urinary system (DRG 325)
 - Code 788.9 also includes extrarenal, prerenal, and postrenal azotemia
- If physician documents azotemia, assign code 790.6, Abnormal blood chemistry (DRG 463)
- Appropriate to clarify with physician if patient presents with signs and symptoms of chronic renal failure
- For example:
 - Azotemia is documented in the ER record and history and physical. The patient presented with an elevated BUN and creatinine, anemia, nausea, and vomiting. Please clarify if the patient has chronic renal failure.

23

Poll #1

The physician documents that the patient is admitted with chronic renal failure. The H&P notes the patient has been on chronic dialysis for 5 years.

What code should be assigned on this case?

- *1 Kidney disease (593.9)
- *2 Acute renal failure (584.9)
- *3 Chronic renal failure (585.9)
- *4 End stage renal disease (585.6)



24

Chronic Renal Insufficiency

- ♦ A condition in which the kidneys gradually lose their ability to remove waste and extra fluid from the body or to regulate the amounts of vitamins and minerals, such as calcium and iron, involved in the growth process
- ♦ Slow, gradual destruction of the filtering capacity of the kidneys
- ♦ Some physicians may use the terms chronic renal insufficiency (CRI) and chronic renal failure (CRF) interchangeably
- ♦ ICD-9-CM code: 585.9

25

Hypertensive Kidney Disease

- ♦ Occurs in patients who have undetected, untreated, or poorly controlled hypertension
- ♦ Hypertension is the second leading cause of kidney failure
- ♦ Hypertension makes the heart work harder and can damage the small blood vessels in the body
- ♦ Damaged arteries result in insufficient blood flow to organs including the kidney
- ♦ Leads to kidney damage called nephrosclerosis

26

Hypertensive Kidney Disease

- ♦ Instructional note under category 403 states, "Includes: Any condition classifiable to 585, 586, 587 with any condition classifiable to 401"
- ♦ New instructional note added under category 585 which states, "Code first hypertensive chronic kidney disease, if applicable, (403.00-403.91, 404.00-404.93)"
- ♦ Instructional note located under category 586 states "Excludes: with any condition classifiable to 401 (403.0-403.9 with fifth-digit 1)"
- ♦ Instructional note under category 587 states "Excludes: with hypertension (403.00-403.91)"

27

Hypertensive Kidney Disease

- ♦ Category 403, Hypertensive chronic kidney disease (DRGs 315 and 316):
 - Fifth digit subclassification "0" states "with chronic kidney disease stage I through stage IV, or unspecified"
 - Instructional note states "Use additional code to identify the stage of chronic kidney disease (585.1-585.4, 585.9)"
 - Fifth digit subclassification "1" states "with chronic kidney disease stage V or end stage renal disease"
 - Instructional note states "Use additional code to identify the stage of chronic kidney disease (585.5, 585.6)"
- ♦ The following codes were removed from DRGs 331, 332, and 333 and added to DRGs 315 and 316 due to code title revisions (effective 10/1/06):
 - 403.00, Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage I through stage IV, or unspecified
 - 403.10, Hypertensive chronic kidney disease, benign, with chronic kidney disease stage I through stage IV, or unspecified
 - 403.90, Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage I through stage IV, or unspecified

28

Hypertensive Kidney Disease

- ♦ **Category 404, Hypertensive heart and chronic kidney disease:**
 - **0 – without heart failure and with chronic kidney disease stage I through stage IV, or unspecified (*goes to MDC 5; DRG 134*)**
 - **Use additional code to identify the stage of chronic kidney disease (585.1-585.4, 585.9)**
 - **1 – with heart failure and with chronic kidney disease stage I through stage IV, or unspecified (*goes to MDC 5; DRG 127*)**
 - **Use additional code to identify the stage of chronic kidney disease (585.1-585.4, 585.9)**
 - **2 – without heart failure and with chronic kidney disease stage V or end stage renal disease (*goes to MDC 11; DRG 316*)**
 - **Use additional code to identify the stage of chronic kidney disease (585.5, 585.6)**
 - **3 – with heart failure and chronic kidney disease stage V or end stage renal disease (*goes to MDC 5; DRG 127*)**
 - **Use additional code to identify the stage of chronic kidney disease (585.5, 585.6)**

29

Hypertensive Kidney Disease

- ♦ **Assume a cause and effect link between the hypertension and CKD unless the physician specifically documents the CKD is not due to hypertension**
- ♦ **Physician documentation of CKD and hypertension is classified to a code from category 403 and category 585**
 - **Examples:**
 - End stage renal disease and hypertension = 403.91 + 585.6
 - Chronic renal insufficiency and hypertension = 403.90 + 585.9
- ♦ **Assign a code from category 404 if the documentation supports hypertensive heart disease and hypertensive chronic kidney disease**
- ♦ **Do not assume a cause and effect relationship between heart disease and the hypertension even if CKD is present**

AHA Coding Clinic for ICD-9-CM, 2006, 4Q, p 172-174

30

P
O
I
I

#2

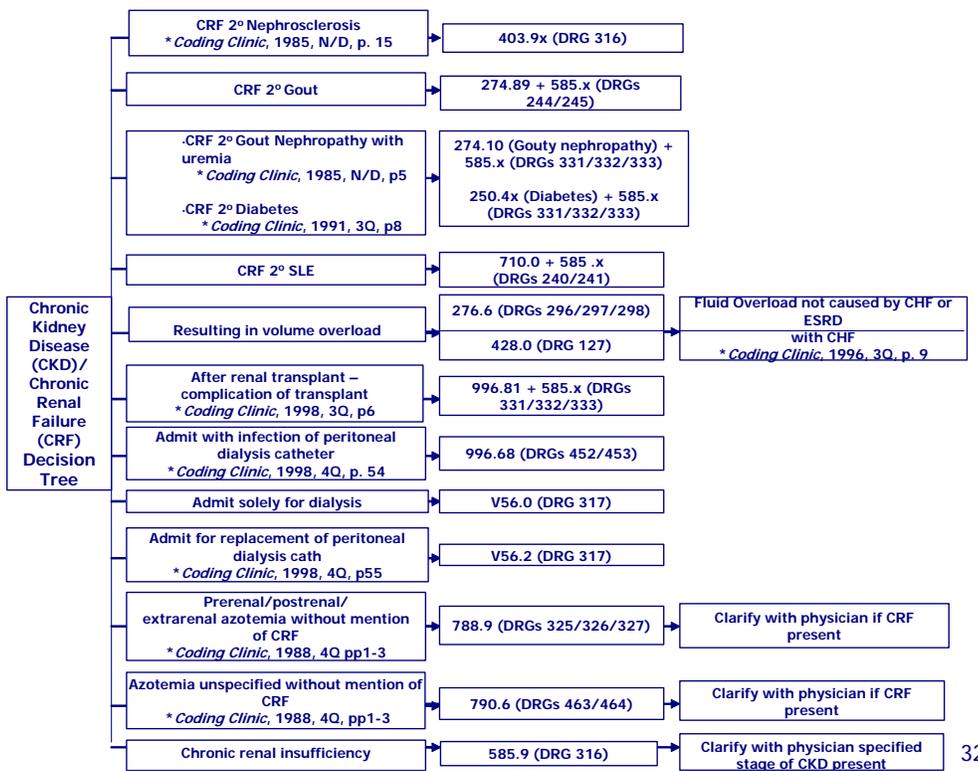
A patient is admitted with pneumonia. In the past medical history section of the H&P, the physician documents the patient has CHF, ESRD and hypertension. The patient is on dialysis on Monday, Wednesday and Friday. The patient receives lasix during the hospitalization.

What codes should be assigned as secondary diagnoses?

- *1 Congestive heart failure (428.0) and hypertensive chronic kidney disease with chronic kidney disease stage V or end stage renal disease (403.91)
- *2 Hypertensive heart and chronic kidney disease with heart failure and chronic kidney disease stage V or end stage renal disease (404.93), congestive heart failure (428.0) and ESRD (585.6)
- *3 Congestive heart failure (428.0), hypertensive chronic kidney disease with chronic kidney disease stage V or end stage renal disease (403.91) and ESRD (585.6)
- *4 Congestive heart failure (428.0), ESRD (585.6), and hypertension (401.9)



31



32

(see Appendix for full page version of CKD Decision Tree)

Acute Renal Failure

- ♦ Sudden loss of kidney function that occurs when the kidneys stop filtering waste products from the blood
- ♦ Accumulation of metabolic waste products, such as urea
- ♦ Defined as the significant (>50%) decrease in glomerular filtration rate (GFR) over a period of hours to days, with an accompanying accumulation of nitrogenous wastes in the body
- ♦ Results from:
 - Drastic drop in blood pressure that prevents enough blood from reaching the kidneys
 - Blockage from the blood vessels leading to the kidneys
 - Obstructed urine flow after it leaves the kidneys

33

Acute Renal Failure

- ♦ Common causes:
 - Blood loss after a complicated surgery or severe injury
 - Dehydration
 - Shock
 - Heat stroke
 - Hydronephrosis
 - Nephritis
 - Hemolytic uremic syndrome (HUS)
 - Injuries to the kidneys
 - Toxins
 - Goodpasture Syndrome
 - Thrombotic thrombocytopenic purpura (TTP)
 - Kidney stones, tumors, or enlarged prostate that cause obstruction
 - Post-op (CABG, cardiac cath)
 - Infectious process (sepsis)
 - Poisonings (antifreeze, drug overdose)
 - Rhabdomyolysis
 - Medications:
 - Contrast agents used in x-ray tests
 - Non steroidal anti-inflammatory drugs (NSAIDs)
 - Antibiotics such as gentamicin, neomycin, or streptomycin

34

Acute Renal Failure

- ♦ Symptoms depend on the severity of kidney failure, the rate of progression, and its underlying cause
- ♦ Common signs and symptoms:
 - Decreased urine output
 - Increase in creatinine level
 - Increase in blood urea nitrogen (BUN) level
 - BUN:creatinine ratio may be >20 in pre-renal failure
 - Electrolyte imbalances (acidosis, hyperkalemia, hyponatremia)
 - Skin rash
 - Confusion
 - Seizures
 - Coma

35

Acute Renal Failure

- ♦ Treatment:
 - Treat underlying cause
 - Restrict water intake
 - Modify diet to include high carbohydrate, low protein and low potassium
 - Dialysis if kidney failure is severe
 - Prevent further damage to other organs
 - Kidney transplantation if kidneys were badly damaged

36

Acute Renal Failure vs. Chronic Renal Failure

	<i>Acute</i>	<i>Chronic</i>
Onset:	Sudden rapid onset of decreasing renal function	Slow progressive loss of renal function over a period of years
Causes:	Nephrotoxins; renal hypoperfusion	Polycystic kidney disease; diabetes; HTN; systemic lupus
Treatment:	Keep alive	Rx: To decrease loss of renal function; alter diet; blood sugar control; hypertension control
Mortality rate:	Approximately 50% of patients who survive have good return of renal function	Would be 100% without dialysis or transplant.

37

Acute Renal Failure

- ◆ **Category 584, Acute renal failure:**
 - **584.5, Acute renal failure with lesion of tubular necrosis**
 - Lower nephron nephrosis
 - Renal failure with (acute) tubular necrosis
 - Tubular necrosis, NOS
 - Acute tubular necrosis
 - **584.6, Acute renal failure with lesion of renal cortical necrosis**
 - **584.7, Acute renal failure with lesion of renal medullary [papillary] necrosis**
 - Necrotizing renal papillitis
 - **584.8, Acute renal failure with other specified pathological lesion in kidney**
 - **584.9, Acute renal failure, unspecified**

38

Acute Renal Failure

- ♦ Patients may develop acute renal failure during hospital stay
 - Sequence a code from category 584, Acute renal failure, as secondary diagnosis
- ♦ Patients may be admitted with acute renal failure due to an underlying condition
 - Sequence a code from category 584, Acute renal failure, as principal diagnosis with a code for the underlying condition as a secondary diagnosis
- ♦ Example:
 - A patient is admitted with acute renal failure secondary to dehydration and was treated appropriately with IV fluids. The rehydration corrected the acute renal failure, and the patient did not require dialysis.
 - Code 584.9, Acute renal failure, NOS, would be sequenced as the principal diagnosis with code 276.51, Dehydration, as a secondary diagnosis

39

Acute Renal Failure

- ♦ "This would be consistent whether the acute renal failure was due to dehydration or another condition." (*AHA Coding Clinic for ICD-9-CM, 2003, 1Q, p22*)
 - Acute renal failure secondary to rhabdomyolysis = 584.9 + 728.88
 - Acute renal failure secondary to BPH and urinary obstruction = 584.9 + 600.01 + 599.69
- ♦ In most instances, the acute renal failure is the more significant problem, which occasions the admission to the hospital
- ♦ Therefore, since the admission is for treatment of the acute renal failure and not the underlying cause, it should be sequenced as the principal diagnosis. (*AHA Coding Clinic for ICD-9-CM, 2002, 3Q, p28*)

40

Acute Renal Failure

- ♦ **Fluid overload due to acute renal failure**
 - Sequence the acute renal failure as the principal diagnosis
- ♦ **Fluid overload due to noncompliance with dialysis. Patient has ESRD**
 - Sequence code 276.6, Fluid overload, as principal diagnosis with codes 585.6, End stage renal disease, and V45.1, Renal dialysis status, and V15.81, Noncompliance with medical treatment as secondary diagnoses
 - *AHA Coding Clinic for ICD-9-CM, 2006, 4Q, p136*

41

Acute Renal Failure

- ♦ **Congestive heart failure resulting from fluid overload due to noncompliance with dialysis. The patient also had acute renal failure and chronic renal failure**
 - Sequence 428.0, Congestive heart failure, as principal diagnosis followed by codes 584.9, Acute renal failure, 585.9, CRF, V15.81 and V45.1
 - *AHA Coding Clinic for ICD-9-CM, 1996, 3Q, p9*
- ♦ **Admitted with fluid overload with no documented cause**
 - Code 276.6, Fluid overload, may be sequenced as the principal diagnosis
 - Appropriate to get further clarification from physician for underlying cause of fluid overload

42

Acute Renal Failure

- ♦ **Acute renal failure and hypertension**
 - **Documentation of acute renal failure and hypertension in same medical record:**
 - 584.9 + 401.9
 - **Do not assume a cause and effect relationship between *acute* renal failure and hypertension**

43

Acute Renal Failure

- ♦ **Azotemia**
 - **If physician documents pre-renal failure or pre-renal azotemia, assign code 788.9, Symptom involving urinary system (DRG 325)**
 - Code 788.9 also includes extrarenal, prerenal, and postrenal azotemia
 - **If physician documents azotemia, assign code 790.6, Abnormal blood chemistry (DRG 463)**
 - **Appropriate to clarify with physician if acute renal failure or chronic renal failure is present**
 - **For example:**
 - **Prerenal failure is documented in the history and physical. The laboratory values show that the BUN to creatinine ratio is greater than 20. The patient also is experiencing electrolyte imbalance and dehydration. For accurate reflection of the patient's severity of illness, please clarify if the patient has acute renal failure.**

44

Acute Renal Failure

- ♦ **Acute on chronic renal failure**
 - Exacerbation of chronic status
 - Rise in creatinine level
 - Other condition (e.g., dehydration) may have caused the exacerbation
 - Appropriate to assign a code for both acute renal failure and chronic renal failure
- ♦ **Acute renal failure with ESRD**
 - Once a patient develops ESRD and goes on chronic dialysis, acute renal failure is no longer an option
 - No functioning nephrons remaining in patients with ESRD
 - Certain conditions (e.g., rhabdomyolysis, GI bleeding) may cause significant increases in creatinine which requires more frequent dialysis, but does not constitute acute renal failure as kidneys are essentially dead

45

Acute Renal Insufficiency

- ♦ Refers to the early stages of renal impairment
- ♦ Sudden decrease of normal kidney function
- ♦ Basically, it is an abnormal laboratory results
 - Mildly abnormal elevated values of serum creatinine or BUN
 - Diminished creatinine clearance
- ♦ Treatment directed toward treating underlying cause without it progressing to renal failure
- ♦ Do not assign a code based on abnormal laboratory results alone
 - Code assignment is based on physician documentation of a diagnosis
- ♦ **ICD-9-CM code:** 593.9

46

Acute Renal Insufficiency

- ♦ **Acute renal insufficiency vs. acute renal failure**
 - Physicians use the terms interchangeably
 - The physician should document the condition he/she believes is most appropriate based on the patient's clinical picture
 - From a coding perspective, acute renal failure provides a more thorough description
 - The coder may need to ask the physician for clarification if the documentation is inconsistent or conflicting among the attending and consulting physicians
 - For example:
 - Both acute renal insufficiency and acute renal failure are documented in the progress notes and consultation reports. For an accurate reflection of patient's true severity of illness, please clarify the appropriate final diagnosis.

47

Poll #3

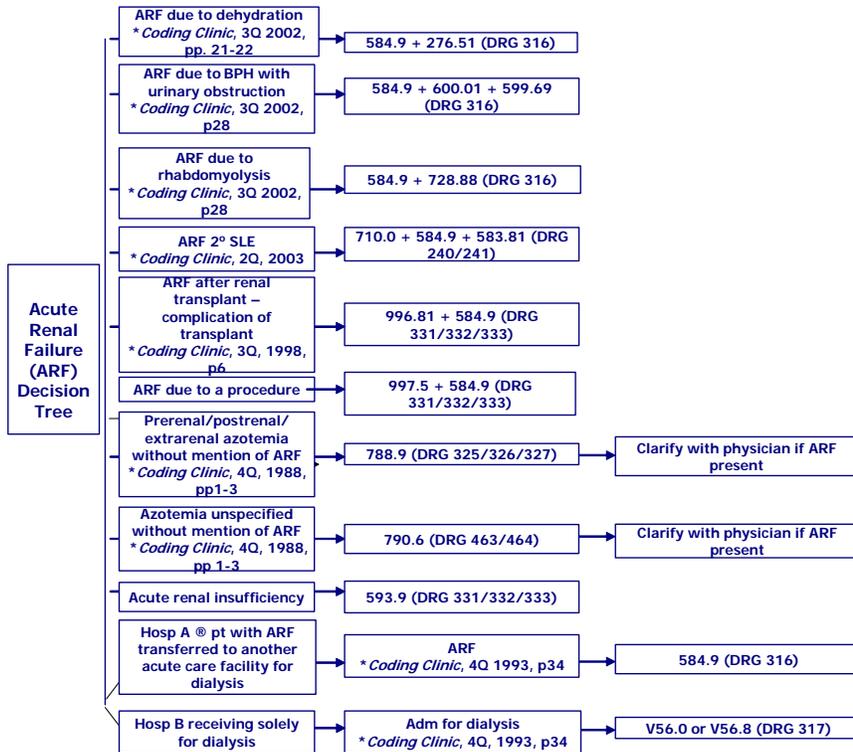
A patient is admitted to the hospital after an office visit with an increased BUN and creatinine for a diagnostic workup. The patient has a past medical history of type I diabetes for 18 years. The physician documents acute renal insufficiency due to type I diabetes. The patient also has diabetic retinopathy that is treated with eye drops during the hospital stay.

Which diagnosis should be sequenced as the principal diagnosis?

- *1 Acute renal insufficiency (593.9)
- *2 Diabetes with renal manifestations, type I (250.41)
- *3 Diabetic retinopathy, type I (250.51)
- *4 Abnormal blood chemistry (creatinine and BUN) (790.6)



48



49

(Note: Full page version of ARF Decision Tree is available in Appendix)

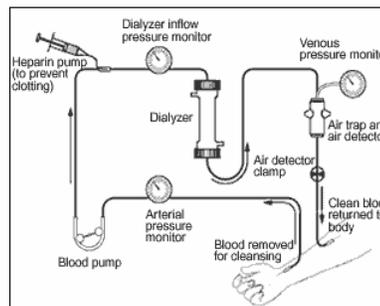
Treatment Options

♦ Hemodialysis

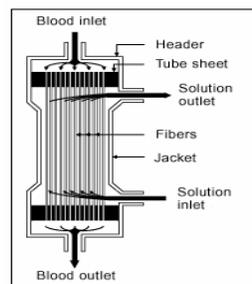
- Process of removing waste products and excess water from vascular system
- Balances blood chemistry

♦ Process

- Blood flows from vascular access via blood pump on machine through special filter (artificial kidney) which contains fibers. As blood moves across membrane of filter, machine exerts negative pressure resulting in removal of excess fluid. Dialysis solutions travels in opposite direction of blood, waste molecules such as creatinine & electrolytes moves across the gradient by process of osmosis resulting in a balanced blood chemistry.



Hemodialysis.



Structure of a typical hollow fiber dialyzer. 50

Treatment Options

◆ Hemodialysis: Code assignments

- ICD-9-CM
 - 39.95, Hemodialysis
- CPT
 - Inpatient setting for ESRD and non-ESRD dialysis services and for outpatient setting for non-ESRD dialysis services:
 - 90935 Hemodialysis procedure with single physician evaluation
 - 90937 Hemodialysis procedure requiring repeated evaluation(s) with or without substantial revision of dialysis prescription

51

Treatment Options

◆ Hemodialysis: Code assignments

- CPT *continued*
 - Outpatient setting for ESRD dialysis services:
 - 90918 ESRD related services per full month for patients younger than two years of age to include monitoring for the adequacy of nutrition, assessment of growth and development and counseling of patients
 - 90919 for patients between two and eleven years of age
 - 90920 for patients between twelve and nineteen years of age
 - 90921 for patients twenty years of age and older
 - Describes a *full* month of ESRD services provided in outpatient setting
 - The above codes are not to be used if the physician also submits hospitalization codes during the month

52

Treatment Options

♦ Hemodialysis: Code assignments

• CPT *continued*

- **Outpatient setting for ESRD dialysis services:**
 - 90922 ESRD related services less than full month, per day; for patients younger than two years of age
 - 90923 for patients between two and eleven years of age
 - 90924 for patients between twelve and nineteen years of age
 - 90925 for patients twenty years of age and older
- **Above codes are reported when outpatient ESRD-related services are not performed consecutively during an entire full month. For example:**
 - When the patient spends part of the month as a hospital inpatient
 - When the outpatient ESRD-related services are initiated after the first of the month
- **The appropriate age-related code is reported daily less the days of hospitalization**
- **For reporting purposes, each month is considered 30 days**

53

Treatment Options

♦ Hemodialysis access

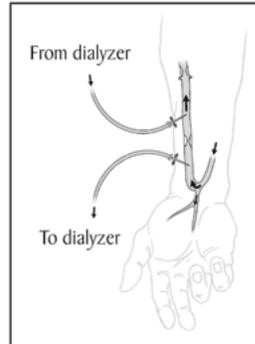
- **Efficient way for blood to be carried from the body to the dialyzer**
- **Created weeks to months before first treatment**
- **May require an overnight stay in hospital but typically placed on an outpatient basis**
- **Three types of vascular access:**
 - **Arteriovenous (AV) Fistula**
 - **AV Graft**
 - **Venous Catheter**

54

Treatment Options

♦ Arteriovenous (AV) fistula

- Surgically created connection between an artery and a vein
- Artery is connected directly to a vein
- Usually located in the forearm
- Increased blood flow makes the vein grow larger and stronger to be ready for repeated needle insertions
- May take weeks to months to mature
- Less likely to form clots or become infected



55

Treatment Options

♦ AV fistula: Code assignments

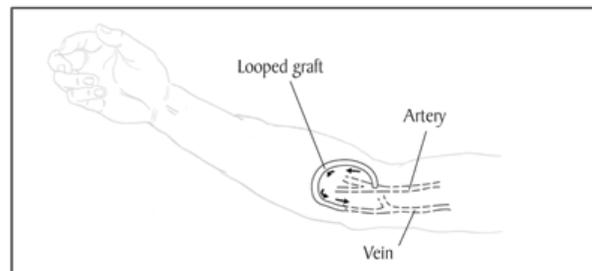
- ICD-9-CM
 - 39.27, Arteriovenostomy for renal dialysis
- CPT
 - 36818 Arteriovenous anastomosis, open; by upper arm cephalic vein transposition
 - 36819 by upper arm basilic vein transposition
 - 36820 by forearm vein transposition
 - 36821 direct, any site (e.g., Cimino type) (separate procedure)

56

Treatment Options

♦ AV graft

- Connects an artery to a vein by using a synthetic tube
- May be used within 2 to 3 weeks after placement
- More likely to develop clots or infection than an AV fistula



57

Treatment Options

♦ AV graft: Code assignments

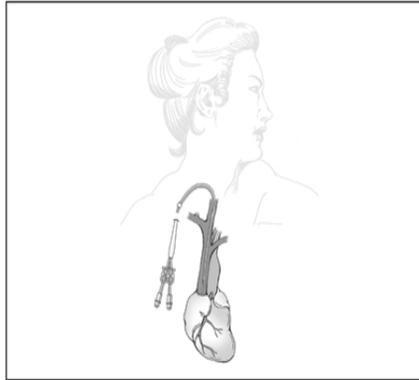
- ICD-9-CM
 - 39.27, Arteriovenostomy for renal dialysis
- CPT
 - 36825 Creation of arteriovenous fistula by other than direct arteriovenous anastomosis (separate procedure); autogenous graft
 - 36830 nonautogenous graft (e.g., biological collagen, thermoplastic graft)

58

Treatment Options

♦ Catheter for temporary access

- Catheter inserted into a vein in the patient's neck, chest or leg
- Has two chambers to allow two-way flow of blood
- Can be used for several weeks or months while permanent access develops
- May be used for long-term access



59

Treatment Options

♦ Catheter for temporary access: Code assignments

- ICD-9-CM
 - 38.95, Venous catheterization for renal dialysis
 - 86.07, Insertion of totally implantable vascular access device (VAD)
- CPT
 - 36555 Insertion of non-tunneled centrally inserted central venous catheter; under 5 years of age
 - 36556 age 5 years or older
 - 36557 Insertion of tunneled centrally inserted central venous catheter, without subcutaneous port or pump; under 5 years of age
 - 36558 age 5 years or older
 - 36560 Insertion of tunneled centrally inserted central venous access device, with subcutaneous port; under 5 years of age
 - 36561 age 5 years and older

60

Treatment Options

♦ Catheter for temporary access: Code assignments

- CPT *continued*

- 36563 Insertion of tunneled centrally inserted central venous access device with subcutaneous pump
- 36565 Insertion of tunneled centrally inserted central venous access device, requiring two catheters via two separate venous access sites; without subcutaneous port or pump (e.g., Tesio type catheter)
- 36566 with subcutaneous port(s)
- 36568 Insertion of peripherally inserted central venous catheter (PICC), without subcutaneous port or pump; under 5 years of age
- 36569 age 5 years or older
- 36570 Insertion of peripherally inserted central venous access device, with subcutaneous port; under 5 years of age
- 36571 age 5 years and older

61

Treatment Options

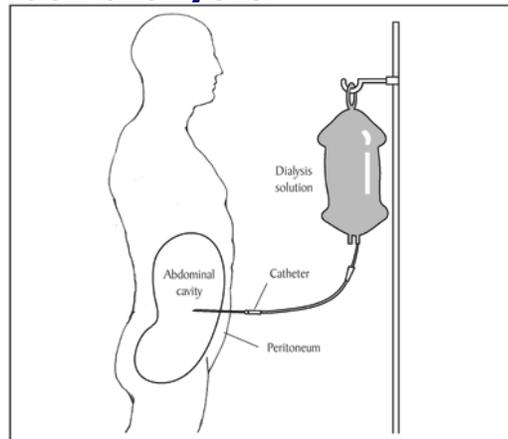
♦ Peritoneal dialysis

- Fluid containing a special mixture of glucose and salts is infused into the abdominal cavity where it draws toxic substances from the tissues
- Fluid is then drained out, discarded and replaced with fresh fluid
- Uses the peritoneum in the patient's body to act as a permeable filter
- Catheter inserted through the abdominal wall into the peritoneal space within the abdomen
- Types of peritoneal dialysis:
 - Continuous ambulatory peritoneal dialysis (CAPD) – fluid infused into abdomen and remains for several hours. Typically drained and replenished four to five times a day
 - Continuous cycler-assisted peritoneal dialysis (CCPD) – uses a machine called a cycler to fill and empty your abdomen 3 to 5 times during the night. Longer exchanges will be done without the cycler during the day
 - Combination of CAPD and CCPD

62

Treatment Options

◆ Peritoneal dialysis



63

Treatment Options

◆ Peritoneal dialysis: Code assignments

- ICD-9-CM
 - 54.93, Creation of cutaneoperitoneal fistula
 - 54.98, Peritoneal dialysis
- CPT
 - 49324 Laparoscopy, surgical; with insertion of intraperitoneal cannula or catheter, permanent
 - 49419 Insertion of intraperitoneal cannula or catheter, with subcutaneous reservoir, permanent
 - 49420 Insertion of intraperitoneal cannula/catheter for drainage/dialysis; temporary
 - 49421 Insertion of intraperitoneal cannula/catheter for drainage/dialysis; permanent

64

Treatment Options

◆ **Peritoneal dialysis: Code assignments**

- CPT *continued*

- 49435 Insertion of subcutaneous extension to intraperitoneal cannula/catheter with remote chest exit site
- 49421 Insertion of intraperitoneal cannula/catheter for drainage/dialysis; permanent
- 90945 Dialysis procedure other than hemodialysis (e.g., peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies), with single physician evaluation
- 90947 Dialysis procedure other than hemodialysis (e.g., peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies) requiring repeated physician evaluations, with or without substantial revision of dialysis prescription

65

Treatment Options

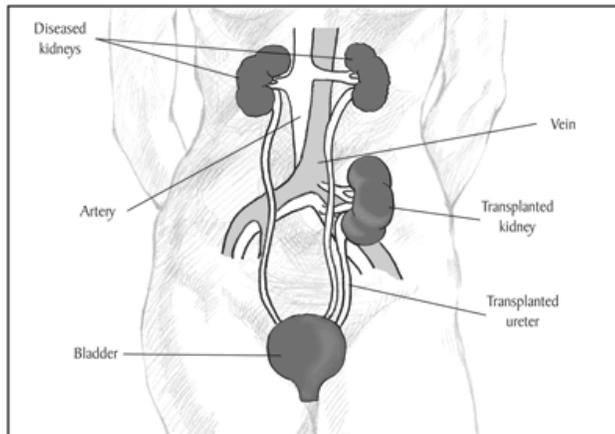
◆ **Kidney transplantation**

- Surgical procedure that places a healthy kidney from a donor into the patient's body
- Connects the artery and vein from donated kidney to patient's artery and vein
- Newly transplanted kidney will be able to function just as patient's own kidneys
- Unless patient's kidneys are causing infection or high blood pressure, they are left in place

66

Treatment Options

◆ Kidney transplant



67

Treatment Options

◆ Kidney transplantation: Code assignments

• ICD-9-CM

- 55.69, Kidney transplantation

- 00.91, Transplant from live related donor
- 00.92, Transplant from live non-related donor
- 00.93, Transplant from cadaver

- 55.51, Nephroureterectomy
- 55.52, Nephrectomy of remaining kidney
- 55.53, Removal of transplanted or rejected kidney
- 55.54, Bilateral nephrectomy

68

Treatment Options

- ♦ **Kidney transplantation: Code assignments**
 - **CPT**
 - **50360** Renal allotransplantation, implantation of graft; without recipient nephrectomy
 - **50365** with recipient nephrectomy

 - **50300** Donor nephrectomy (including cold preservation); from cadaver donor, unilateral or bilateral
 - **50320** open, from living donor
 - **50323** Backbench standard preparation of cadaver donor renal allograft prior to transplantation, including dissection and removal of perinephric fat, diaphragmatic and retroperitoneal attachments, excision of adrenal gland, and preparation of ureter(s), renal vein(s), and renal artery(s), ligating branches, as necessary

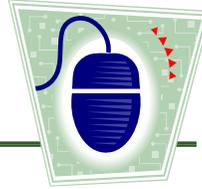
69

Treatment Options

- ♦ **Kidney transplantation: Code assignments**
 - **CPT *continued***
 - **50325** Backbench standard preparation of living donor renal allograft (open or laparoscopic) prior to transplantation, including dissection and removal of perinephric fat and preparation of ureter(s), renal vein(s), and renal artery(s), ligating branches, as necessary
 - **50327** Backbench reconstruction of cadaver or living donor renal allograft prior to transplantation; venous anastomosis, each
 - **50328** arterial anastomosis, each
 - **50329** ureteral anastomosis, each

70

Resources



- ♦ The Merck Manual of Medical Information Home Edition, Merck Research Laboratories, 1997, pages 593-601
- ♦ The Journal of the American Medical Association, "Hypertensive Kidney Disease," November 20, 2002 – Volume 288, No. 19 – downloaded from www.jama.com
- ♦ National Kidney Disease Education Program, http://nkdep.nih.gov/patients/kidney_disease_information.htm
- ♦ National Kidney Foundation, <http://www.kidney.org>
- ♦ <http://familydoctor.org>
- ♦ National Kidney and Urologic Diseases Information Clearinghouse (NKUDIC), <http://kidney.niddk.nih.gov/kudiseases/pubs/chronickidneydiseases/>

71

Audience Questions



Audio Seminar Discussion



***Following today's live seminar
Available to AHIMA members at
www.AHIMA.org***

*Click on Communities of Practice (CoP) – icon on top right
AHIMA Member ID number and password required – for members only*

Join the **Coding Community** from your Personal Page then under Community Discussions, choose the **Coding Kidney Disease and Treatment Audio Seminar**
You will be able to:

- Discuss seminar topics
- Network with other AHIMA members
- Enhance your learning experience

AHIMA Audio Seminars

Visit our Web site

<http://campus.AHIMA.org>

for information on the
2007 seminar schedule.

While online, you can also register
for seminars or order CDs and
pre-recorded Webcasts of
past seminars.



Upcoming Audio Seminars



New Date

Understanding and Using ICD-10-PCS

♦ **April 10, 2007**

Impact of Medicare COP Changes on HIM

♦ **March 29, 2007**

Thank you for joining us today!

**Remember – sign on to the
AHIMA Audio Seminars Web site
to complete your evaluation form
and receive your CE Certificate online at:**

<http://campus.ahima.org/audio/2007seminars.html>

**Each person seeking CE credit must complete the
sign-in form and evaluation in order to view and
print their CE certificate**

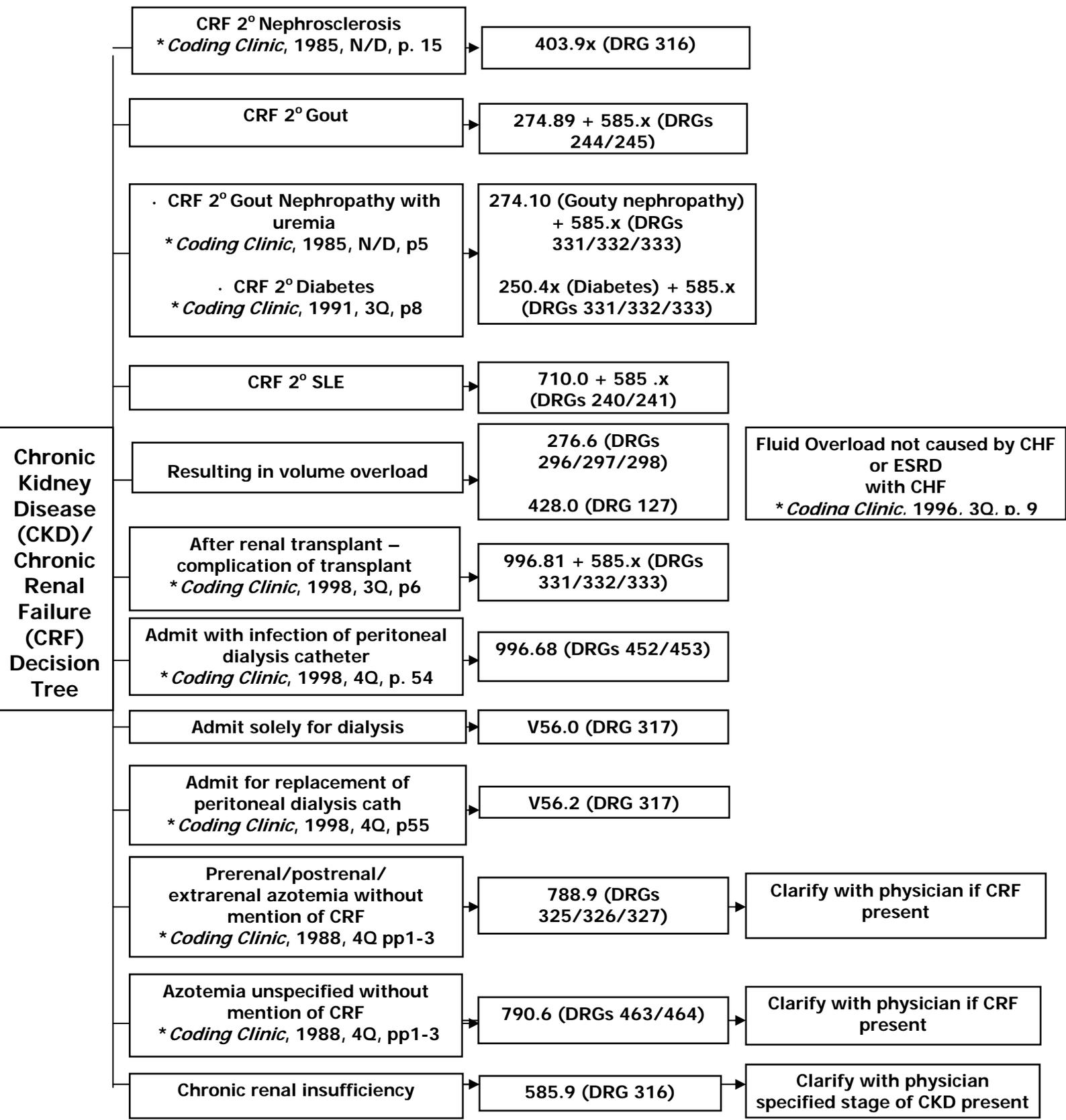
**Certificates will be awarded for
AHIMA and ANCC
Continuing Education Credit**



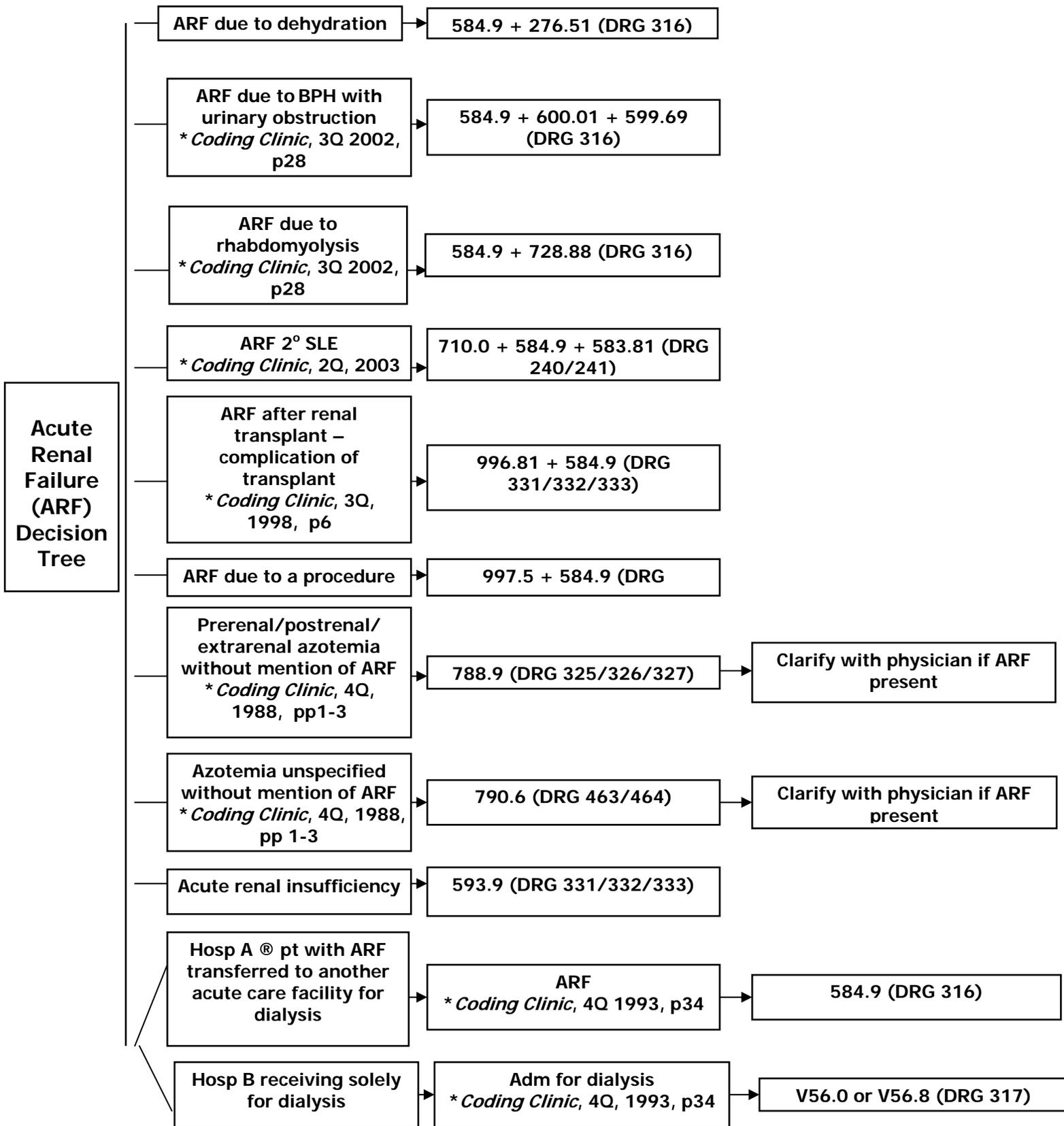
Appendix

CKD/CRF Decision Tree.....	40
ARF Decision Tree	41
CE Certificate Instructions	

Appendix



Appendix





To receive your

AHIMA CE Certificate

2 AHIMA CEUs or 1.8 Nursing Contact Hours

Please go to the AHIMA Web site

<http://campus.ahima.org/audio/2007seminars.html>

click on the link "Sign-in" next to today's audio seminar and complete the form then click "Complete Online Evaluation"

You will be find a link (Certificate>>) to the CE certificate for this seminar at the end of the evaluation. The certificate should appear and a screen should pop-up allowing you to print the certificate

You must complete the sign-in information and the seminar evaluation in order to validate your CE credit