Acute Kidney Injury Care in the Chronic Unit

BONNIE B GREENSPAN

WITH ASSIST FROM: DENISE MURCEK, JINA BOGLE, **MARY SCHIRA,**

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Objectives

At the completion of the session, engaged participants will be prepared to:

Identify reporting "counts" in which AKI patients are included and excluded

List three ways in which care of AKI patients in chronic units might differ from chronic care

Describe at least two ways in which this change might have an impact on the chronic population

The Trade Preferences Extension Act 2015

What matters to us today…

Sec. 808

Coverage and Payment for Dialysis Services

For Individuals with Acute Kidney

Its About Time

- Approved June 29, 2015
- Final Rule October 28, 2016
- Published in Federal Register November 4, 2016
- Effective January 1, 2017

Coverage and Payment
Coverage

Section 1861 Social Security Act amended to include:

"Renal dialysis services furnished on or after January 1, 2017, by a renal dialysis facility or provider of services to a patient with acute kidney injury."

The AKI Patient in TPEA 2015

INDIVIDUAL WITH ACUTE KIDNEY INJURY DEFINED:

Individual with acute kidney injury means:

- an individual who has acute loss of renal function, and
- does not receive renal dialysis services for which payment is made
- under the ESRD section of Social Security (1881)

Coverage and Payment
Payment

Section 1834 of Social Security Act amended to include

Payment for renal dialysis services* for individuals with acute kidney injury

* But not home services

Not All AKI Patients Will Be Covered

This is for patients who

- DO have Medicare
- Have not been certified for stage 5 CKD
- Might otherwise require treatment in a more acute setting
- Might have increased exposure to serious infections
- May benefit from the focus of outpatient dialysis

The Payment Will Be

- The base rate for renal dialysis services
- Determined and announced as the PPS each year
- $231.55 initial year, proposed $233.31 for 2018
- Adjusted for wage areas, just like ESRD payment rate

This Payment

- May have adjustments made by the Secretary
- Original Bill: No Network contribution

Won’t these patients cost more to treat?

- Those who can be dialyzed in centers have same treatment rate as ESRD patients
- It includes all the “bundled” supplies and services for ESRD
- Think: routine medications, hemopoietic agents, labs and supplies
- However…

Exceptional Charges May Also Be Billed

These might include:

- Dialysis more frequently than three times a week
- Additional non-routine medications
- Additional physician services billed separately
- Medications or treatments aimed at return of function

Monitoring and Monitoring

- Additional charges are expected for testing to monitor effects of renal support
- Protective immunizations will be billed separately and infectious status monitored
- Patients may initiate treatment in unit and have treatment discontinued and restarted in hospital outpatient in same day
- Medicare will be monitoring and evaluating the additional charges and the impact of the program

What We Need To Learn

1) What are the underlying etiologies of the AKI diagnosis?

2) What are the recovery rates and when does that occur?

3) What is the burden for care for these patients, for nurses, and for nephrologists?

4) Does allowing care in the outpatient setting offer a survival advantage or decreased hospital re-admissions?

5) What is the actual cost of caring for them in the outpatient setting?

Robert Provenzano, MD, FACP, FASN, Vice President of Medical Affairs in the Office of Chief Medical Officer at DaVita Kidney Care, and an NN&I Editorial Advisory Board member Neuman, Mark. (Dec 30, 2016) **AKI moves into the outpatient dialysis setting** Nephrology News and Issues

Counting Your AKI Patients

- ? for QIP: Initially only for CKD, now in proposed rule
- Yes for Low Volume Payment Adjustments

Have you been counting how many you have already dialyzed?

Slido Question

How many of you have dialyzed acute patients in your facilities? Since January 2017:

1. None for Me
2. One to Four
3. Five to Ten
4. More than Ten

Slido Question

For those of you who have treated or are treating AKI patients in your facilities:

Do they require more nursing care than your chronic population?

1)Yes, more 2)Same 3)Less

Slido Question

For those of you who have treated or are treating AKI patients in your facilities:

Are there additional costs for their care for which your facility has not been able to receive reimbursement?

1)Yes 2) No 3) Don’t know

Slido Question

For those of you who have treated or are treating AKI patients in your facilities:

Do you believe treating AKI patients in the chronic unit has had a negative impact on their care, or on the care of the chronic patients in the facility?

1) Negative on their care
2) Negative on Chronic Patients
3) Both
4) Neither

What You Observe

Each year the program will be reviewed.

- Does it increase or decrease costs?
- Does it require more resources for care than expected?
- What is patient perception of care?

The PPS was posted for comment (in July) did you share your observations from the frontlines?

KDIGO Defines AKI

As Any One of the Following:

- Increase in serum creatinine by 0.3mg/dL or more within 48 hours
- Increase in serum creatinine to 1.5 times baseline in last 7 days
- Urine output less than 0.5mL/kg/h for 6 hours

Acute Kidney Injury

Pre Renal:

Most Common

Blood loss, hypotension, heart failure,

dehydration, burns, liver, stenosis

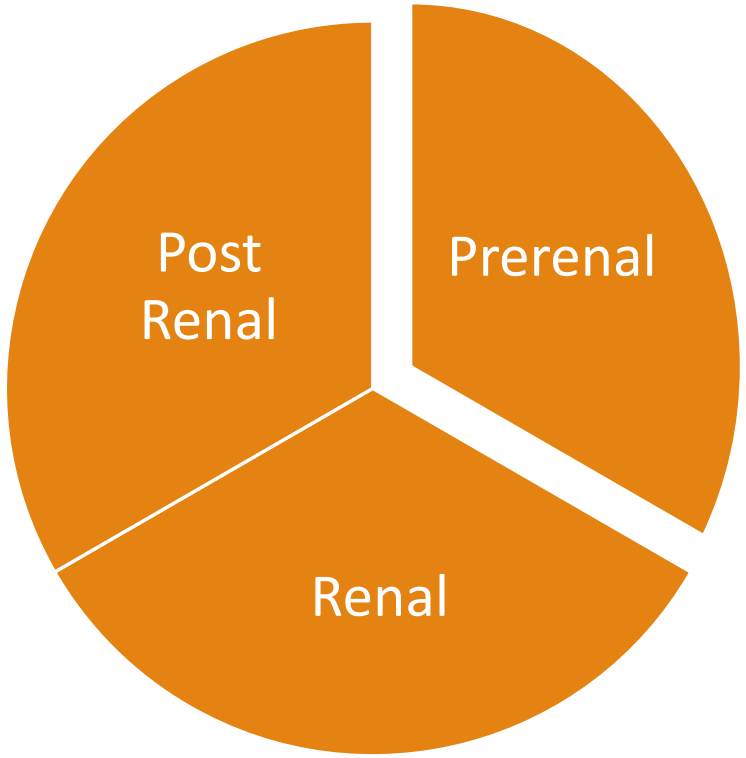
Renal:

Structural or functional damage to the kidney,

Toxic, inflammatory , ischemic

Post Renal:

Blockage



Not Often an Isolated Cause

Increased Risk in Patients with

Progressing Chronic Kidney Disease

Cardiac Disease

Diabetes

Severe Infection

Shock

Major Surgery

Exposure to toxic agents

What is Recovery?

Often difficult to determine

- Independence from Renal Replacement Therapy?
  - AKI associated with CKD
- Return to baseline?
  - May be difficult to identify, no baseline additional risk
- The path to “recovery” varies in
  - Length of time and detours
- Long term follow up required

Renal Recovery After CKD

Clin J Am Soc Nephrol. 2014 Jun 6;9(6):1015-23. doi: 10.2215/CJN.11141113. Epub 2014 Apr 17

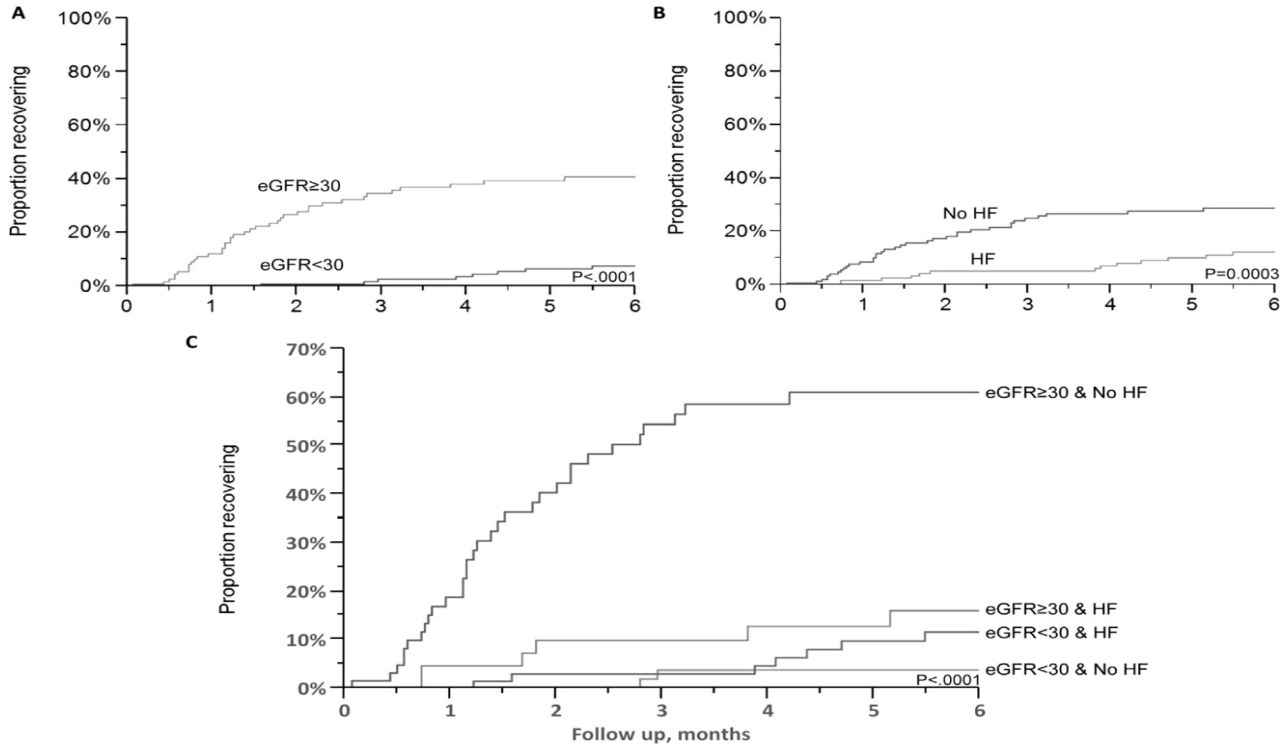
Study on Recovery

Correlation with negative outcomes:

- Presence of CHF
- Prior episode of AKI
- Poor baseline renal function

- Gautum et al. Predictors and outcomes of post-hospitalization dialysis dependent acute kidney injury. Nephron Clinical Practice 2015;131:185-190.

Study on Recovery from AKI



Hickson et al. Predictors of outpatient kidney function recovery among patients who initiate hemodialysis in the hospital. Am J Kidney Dis. 65(4):592-602

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Goals of Care

Protection

- From nephrotoxins
- From hypotension, dehydration
- From original cause of AKI

Monitoring for return or deterioration of function

- Urine output
- Labs

Support

Physiologic:

- Acid Base Balance
- Electrolyte Levels, Waste Removal
- Fluid Management

Psycho-social

- Critical education for safety
- Listen for patient, family needs

Key Questions

- **How has RRT been delivered in-patient? How long on CRRT? IHD?**
- **How has the patient tolerated intermittent dialysis?**
- **Last hemodialysis treatment?**
- **Most recent lab studies?**
- **When was access placed (expect a central venous catheter)? Complications with access to date?**
- **Nutrition status?**
- **Discharge medications?**
- **Psychological/emotional status of patient and family?**

Slide by Mary Schira, PhD, RN, ACNP-BC

ARF Case Study in the Outpatient Setting

PATIENT FOLLOWED BY **JINA BOGLE** MSN APRN, CNN-NP
NURSE PRACTITIONER, DIVISION OF NEPHROLOGY,
UNIVERSITY OF NEBRASKA MEDICAL CENTER

Hospital Admission and Hospital Course

54 Y/O male admitted due to sepsis secondary to pneumonia complicated by AKI secondary to ATN.

Past Medical HX:HTN, central spinal cord syndrome status post multiple back surgeries, chronic pain disorder.

Initially presented with Acute Mental Status changes and Hemoptysis.

Admitted to ICU, pneumonia required mechanical ventilation, severe sepsis, acute hepatitis secondary to shock liver. ARF secondary to ATN required CVVHD. Further complicated with a Type 2 NONSTEMI

Hospital Admission Status

Weight (kg)	102.9 kg
Weight (lbs)	226 lbs 14 oz
Systolic	133
Diastolic	60
Pulse	69

Majority of his hospitalization was in the ICU

Hospital Course (Kidney)

Hospital Admision 11/25/16

Hospital Discharge 12/3/16

No known history of renal disease

Granular casts found in urine pointing to ATN likely due to sepsis and hypotension

Was oliguric during hospitalization requiring CVVHD transitioned to HD

Tunneled HD line placed 12/1/16

At this point, considering his renal failure to be prolonged AKI due to ATN and less than a 3 month renal failure HX would not yet consider his renal status ESKD

Outpatient dialysis set up and initiated 12/4/16

Labs, November 24,2016

- Sodium, Blood: 142
- Potassium, Blood: 6.9 (HH)
- Chloride, Blood: 102
- Anion Gap: 24 (H)
- CO2: 16 (L)
- Glucose, Blood: 94
- BUN: 39 (H)
- Creatinine: 3.98 (H)
- BUN/Creatinine Ratio: 9.8 (L)
- Calcium: 8.1
- Albumin: 4.0
- GFR Non African American: 16 (L)

2 months labs prior to hospitalization show normal renal function.

Transitions: Hospital to Outpatient Dialysis and CKD Clinic Follow up

Dialysis Clinic Rounds	CKD Clinic	Recovery labs
12/12/16 Outpatient dialysis rounds: ▪ 12/3/16 Cr peaked at 11 and dropped to 5 a week later. ▪ he is having increased UOP of a liter + a day, ▪ 12/12/16 BUN 10 /CR 1.9 eGFR 37mls/min. ▪ Last HD treatment 12/12/16 will see Nephrology in 2 weeks	CKD Nephrology Clinic 12/27/16 ▪ He states he is a "bit dizzy and ready to be done with dialysis for good" ▪ BP 98/54, P 58 Wt 95.7Kg (211lbs). He has mild hypokalemia K of 3.3, ▪ he states he has picked up eating with a good appetite, reports eating potato soup and drinking 1 can of ensure daily. ▪ HD line pulled by Nephrologist. Seen collaboratively by Nephrology NP and Nephrologist. Followed primarily by NP in outpatient Dialysis. ▪ He will Followup with PCP in 2 weeks for renal labs and to start physical therapy, will see Nephrology in 1 year.	12/26/2016 ▪ Sodium, Blood: 140 ▪ Potassium, Blood: 3.3 (L) ▪ Chloride, Blood: 103 ▪ Anion Gap: 8 ▪ CO2: 29 ▪ BUN: 10 ▪ Creatinine: 1.91 (H) ▪ Glucose, Blood: 140 (H) ▪ Calcium: 9.0 ▪ GFR Non African American: 37 (L)

Patient's Management in Chronic Setting

Seen weekly by Nephrology Nurse Practitioner

Labs:

- Admission labs same as ESRD
- Weekly Metabolic Panel and Phosphorous
- Anemia protocol initiated.
- No bone mineral protocol

Recovering patient likely to require 3 Potassium dialysate bath

The Ins and Outs of AKI in Chronic Program

- Patient may be oliguric or non oliguric.
- May be encouraged to eat a fairly liberal diet
- May be on oral nutritional supplement program or drinking Ensure at home.
- No fluid restriction
- Given a urinal (Women get the white hat to help them collect) to record urinary output . When necessary they may estimate urinary output.
- At University of Nebraska patients are not asked to record intake, the focus is on are most interested 24 hour urinary output trend.
- UF orders based on fluid assessment. Generally little to no UF. Imperative to no drop BP's, frequent tapering off BP meds.

Dialysis units may need to need to order in urinals, white urine collection hats and 24 hour urine collection containers.

Target Organ Damage and Recovery

- **Renal Recovery followed by Primary Care Physician**

- ARF secondary to ATN from Septic event November 2016
- Has had a second AKI secondary to volume depletion in March 2017, episode of gastroenteritis- he responded to volume resuscitation.
- Currently followed by Primary Care Physician (PCP),PCP will refer back to Nephrology if renal function further shows CKD progression.

Target Organ Damage and Recovery

Labs	Labs
5/29/2017	5/29/2017
Sodium 141	WBC 14.5 (H)
Potassium 3.4 (L)	RBC 4.22 (L)
Chloride 113 (H)	Hemoglobin 11.7 (L)
CO2: 23	Hematocrit 34.4 (L)
BUN 3 (L)	Glucose 88
Creatinine 0.91	Calcium 7.3 (L)
BUN/Creatinine Ratio 3.3 (L)	
GFR Non African American: >60	

Now Lets Talk about Your Experience

Slido Question

For those of you who have dialyzed AKI patients in your facilities, have you had patients who:

1) Regained Function?

2) Were determined to be in End Stage Kidney Disease?

Slido Question

For those of you who have dialyzed AKI patients in your facilities, please describe your response to that experience:

1) Did not feel prepared to meet the patient's needs.

2) Did not have sufficient time to meet the patient's needs

3) Felt well prepared and had ample resources to meet the patient's needs

4) Had too little contact to respond

5) Other

Do you have experiences to share?


Thank you for all you do!