The Dialysis Unit: Behind Closed Doors

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NOVEMBER 21, 2015
Actually,

The Doors are Wide Open
Disclosures

None
Self Assessment Questions

1. Benefits of preserving residual kidney function in dialysis patients include:
   A. Less dietary restriction
   B. Better quality of life
   C. Better survival
   D. All of the above

2. It is not necessary to avoid nephrotoxins, such as NSAIDs, if patient is on dialysis and has residual kidney function.
   T
   F
Learning Objective

Describe the role of the interdisciplinary team in the management of patients in dialysis units
Outline

Structure of the outpatient dialysis unit and the interdisciplinary team
Quality and safety in ESRD facilities
Differences between outpatient and inpatient units
When do we see the patients and how often?
Communication barrier
Getting patient information/contacting dialysis units
Who Works In A Dialysis Unit?

Medical director
Other nephrologists who have privileges
Clinic manager
Facility Administrator (F.A.)
RN(s)
Dialysis technicians
Dietitian
Social worker
Biomedical engineer
Facility Administrator Role

Responsible for the management of the facility and provision of all dialysis services, including, but not limited to:

• Staff appointments
• Fiscal operations
• The relationship with End-Stage Renal Disease (ESRD) networks
• Allocation of necessary staff and other resources for Quality Assessment and Performance Improvement (QAPI) program
RN works closely with the Medical Director and Interdisciplinary Team (IDT) to ensure quality patient care and outcomes. Such responsibilities include:

- Overseeing the dialysis treatment from start to finish
- Reviewing the patients' lab work, home medications and activities and letting the doctors know about changes in their patients' conditions
- Leadership in QAPI program
- Assessments/Plans of Care with IDT
- Outcomes Management (anemia, adequacy, etc.)
- Patient and staff education
- Medication administration
- Patient care conferences
Dialysis Technician Role

• Patient Care Technicians (PCTs) are responsible for performing dialysis treatments
• PCTs initiate, monitor, terminate, and document dialysis under the supervision of the Charge Nurse
• PCTs may also be cross-trained to perform other functions in the unit, such as:
  • Reuse of dialyzers
  • Administrative duties
  • Inventory
Dietitian Role

The Renal Dietitian is part of the IDT (core team) of the facility. They participate in the QAPI meetings and patient care conferences. Other responsibilities include:

• Nutritional counseling and support
• Monitoring dialysis prescription and outcome on nutritional parameters
• Management of mineral bone disease
• Assessment and plan of care
Social Worker Role

Social workers are part of interdisciplinary care team. They participate in the QAPI meetings and patient care conferences. Other responsibilities include:

• Psychosocial support, including assessment using the Kidney Disease Quality of Life (KDQOL) Assessment/Plan of Care
• Financial counseling/insurance support
• Transportation and travel arrangements
Biomedical Engineer Role: “The Water” and “The Machine”
Question 1

A female PCT has been caring for a male patient for several months. The patient tells the technician that he is lonely and depressed. He asks her out on dinner date. In addition to politely declining the invitation, which of these actions, if any, should be taken?

A. Refer the patient to the social worker and other members of the IDT
B. Recommend an over-the-counter antidepressant, such as St. John’s wort
C. Encourage patient to socialize with other patients
D. No further action is needed
Quality and Safety in ESRD Facilities

**Conditions for coverage**

- CMS rules and standards governing ESRD facilities
- Defines 16 conditions which must be met for facilities to receive Medicare coverage
- Requires participation in network activities and pursuit of network goals
- Failure to meet one or more of the conditions may lead to closure of the facility
- Encompasses:
  - Quality Improvement and Performance Improvement (QAPI) program
  - Safety
  - Policy and procedure
  - Training and education
  - Patient assessments
  - Patient rights

QAPI monthly. Patient care conference held at least quarterly.
QAPI is a Data-Driven Search for Problems

- Monitor
- Trend
- Identify
- Analyze
- Plan to Correct

Percent of Patients

Jan  Mar  May  Jul  Sep  Nov
Question 2

Which of these are performance measures for Medicare reimbursement and followed closely by the IDT and QAPI program?

A. Hemoglobin A1c and LDL
B. Hemoglobin
C. Adequacy
D. Number of patients in the dialysis unit
E. Both B & C
Dialysis Units (“In-Center”)

Most units in Minnesota are owned by DaVita or Fresenius

Approximately 120 units in Minnesota
  ◦ About half of these are located in the Twin Cities metro area
  ◦ More coming....

Over 6,000 units nationwide

Typically scheduled MWF or TTS
  ◦ Not all units are open all 6 days

Time on dialysis varies – 3-4 hours

Patients generally are scheduled in 1 of 3 shifts

Nocturnal dialysis at a few units as well
Home Modalities

Peritoneal dialysis (PD) and Home Hemodialysis (HHD)

Sprinkled throughout metropolitan and rural areas

Additional responsibilities:
- Space and appropriate home environment
- Home health advocate (“helper”) though not obligatory
- Patient education and training
- Coordination of patients’ needs (fluid, diet, equipment, troubleshooting, epogen, iron, active vitamin D and antibiotics)

Provider assessment
- Once monthly
- Similar to in-center visits
# Outpatient vs Inpatient In-Center Dialysis Units

<table>
<thead>
<tr>
<th></th>
<th>Outpatient Units</th>
<th>Inpatient Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RN:Tech</td>
<td>1:4-5</td>
<td>3-5:0-1</td>
</tr>
<tr>
<td>Blood transfusions</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Dialyzer reuse</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Frequent blood pressure monitoring</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Telemetry</td>
<td>No</td>
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</table>
Nephrologist Role

Timing is everything...

Patients are seen at least once per month by MD/DO
- Required for compensation
- Comprehensive visit vs limited visit

Patients can be seen additional times by MD/DO or Advanced Practice Practitioners (APP)
- Additional compensation for total of 2-3 visits
- Maximal compensation for 4+ visits

Significant variation – approximately 40-60 patients per nephrologist
Nephrologist Role

What are we assessing?

- **Adequacy** (Kt/V > 1.2, URR > 65%)
- **Access** (Fistula?, complications)
- **Hypertension/Volume status** (EDW, IDW <5%, BP target?)
- **Nutrition** (albumin, nPCR)
- **Electrolyte balance** (K, Na)
- **Mineral and bone disorders** (Ca, phos and vit D wnl, PTH goal ~150-600)
- **Anemia** (Hgb 10-11.5 g/dL, %iron sat, Ferritin)
- **Medication reconciliation**
- **Transplant issues, if applicable** (listed?, remain on immunosuppression?)
- **Dialysis specific issues** (cramping, hypotension, etc.)
- **Other issues** (treating acute issues, referrals, coordination with PCP/other providers)

Other labs/medical issues often monitored?

- Hemoglobin A1c
- Lipids (LDL, HDL)
- Liver function tests (LFT)s
- INR
- CBC
- Blood cultures
- Drug levels (e.g. antibiotics)
- Residual kidney function (creatinine clearance)
### Patient Review

<table>
<thead>
<tr>
<th>Date</th>
<th>Test Value</th>
<th>Units</th>
<th>Reference Range</th>
<th>Result</th>
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<th>Second Prior</th>
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<tbody>
<tr>
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<td>mmHg</td>
<td>90-120</td>
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<td>135</td>
<td>mmHg</td>
<td>90-120</td>
<td>Normal</td>
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#### BP & Fluid Management

- **Time Series Chart**
  - Dates: 01/01/2014 to 01/16/2014
  - Graphs showing trends in blood pressure and fluid intake.

#### Nutritional Status

- **Current Weight**: 87.6 kg
- **Target Weight**: 85.0 kg
- **Weight Loss %**: 3.6%
- **Achieving Dry Weight**: Yes
- **Acceptable Interanalytic Weight Gain**: No

#### Overall Patient Assessment

- **KTV Satisfactory**: Yes
- **KTV Dissatisfactory**: No
So Where Do We Document?

Varies by the health care system

- Handwritten notes
- Some groups will use EPIC/local EHR
- Many groups use EHR of DaVita or Fresenius – **NOT VISIBLE TO PCP’S**
Gaps In Care: Communication Barriers

- Redundancy in labs
- Redundancy in medical management
- Management of key medical issues and comorbidities are presumed to be the other’s responsibility
- “Mixed” messages (e.g. diet, blood pressure, medications, care plan)
- Medication error! Especially between the dialysis unit and hospital admission and discharge (“cyclic” problem)
- Difficulty integrating multiple providers (e.g. primary care, cardiology, endocrinology, infectious disease, heme/onc, pulmonology, surgery, etc.)
- Difficulty integrating palliative care
Actually,

The Doors are Wide Open
Getting Info ("Breaking the Barrier")

So how can we talk?
- Not always connected by EHR (e.g. EPIC)
- Conversation is always better anyway!

Call the dialysis unit
- [http://www.dialysisunits.com](http://www.dialysisunits.com)
- Numbers for nephrologist
- Labs (ESKD and otherwise)
- Is the patient showing up for dialysis
- Dietary adherence
- Blood pressures, weights, episodes of hypotension
- Medication reconciliation
- Psychosocial issues – unit SW
PCP Role: A Member of the Core Team

- Diabetes management
- Blood pressure co-management
- Health care screenings
- Pertinent referrals
- Pain issues
- Acute medical issues (co-management)
- Psychosocial care
- End of life care
1. Benefits of preserving residual kidney function in dialysis patients include:

   A. Less dietary restriction
   B. Better quality of life
   C. Better survival
   D. *All of the above*

   Rationale: residual kidney function contributes to removal of potential uremic toxins, helps regulate fluid and electrolyte imbalance, and may enhance nutritional status and QOL.

2. It is not necessary to avoid nephrotoxins, such as NSAIDs, if patient is on dialysis and has residual kidney function.

   True
   
   *False*

   Rationale - As indicated above, residual kidney should be maintained if possible, thus the importance of avoiding nephrotoxins as part of this strategy.
Questions and Answers
Additional Resources

National Kidney Foundation- Dialysis Patient Bill of Rights

Dialysis Outcomes and Practice Patterns Study (DOPPS): http://www.dopps.org