AKI: Patient pathways, audit and commissioning

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Improving outcomes from AKI

• AKI remains under recognised
  – Community AKI (c-AKI)
    • More elderly population
    • Polypharmacy
    • AKI often first develops in the community
  – Hospital AKI (h-AKI)
    • AKI develops following admission
    • Risk factors may be over-looked
    • Role for e-alerts
Improving outcomes from AKI

AKI intimately linked with acute patient illness (hypoperfusion)

– marker of vascular dysfunction
  • Pre-renal (functional process-allegedley)
  • Intrinsic (structural damage)
Improving outcomes from AKI

AKI can be related to clinical care/patient safety agenda

– fluid status/nutritional status
  • failure to address appropriately results in not only AKI
    – Risk of falls
    – Risk of pressure sores

– recognition and treatment of sepsis
  • prompt vs delayed

– medicine management
  • avoidance of nephrotoxins
  • dose adjustment
Improving outcomes from AKI

• Not all hospitals have renal units/nephrologists
  – Delays in
    • Referral and appropriate review
    • Transfer
  – Patient pathways required
    • Agreement between different hospitals and specialists
    • Facilitate early treatment and transfer
    • Patient follow up after an episode of AKI
    • Patient information
    • ↑ risk of CKD
    • Longer term management of blood pressure
Improving outcomes from AKI

• There is a need to engage with a wider audience
  – Healthcare professionals
    • Clinicians/nurses/pharmacists
      – Hospital-based
      – Community-based
  – Academic researchers
    • Potential for collaboration
  – Patients
    • Patients with pre-existing risk factors/previous episode of AKI
    • Patient voice
  – Politicians
    • Increased funding
Improving outcomes from AKI

• Proposals to National Institute of Health and Clinical Excellence (NICE)
  – AKI guideline – October 2013
  – Intravenous fluid quality standard – October 2013
    • Wide range of stakeholders signed up to provide input – patients

• These guidelines will have a significant impact on NHS practice
  – already seeing changes in anticipation
Improving outcomes from AKI

• Department of Health AKI Delivery Board
  – Group of experts representing a range of specialties
    • Medical and surgical societies
    • Radiology
    • Clinical Biochemistry
    • Hospital managers
    • General practitioners
    • Pharmacists
    • Nursing colleges
    • Patient group representatives
Improving outcomes from AKI

- AKI Delivery Board Projects
  - AKI core competencies
  - AKI Capacity audit
  - National vascular database
  - Educational seminars
  - Costing exercise
  - UK AKI consensus conference RCPE
ACUTE KIDNEY INJURY: A COMPETENCY FRAMEWORK

DEFINING THE ROLE OF THE CLINICIAN

NOVEMBER 2011
# AKI core competencies

<table>
<thead>
<tr>
<th>Health care Assistant</th>
<th>Staff Nurse</th>
<th>Resident</th>
<th>Fellow</th>
<th>Attending</th>
</tr>
</thead>
</table>

- Recorder
- Recogniser
- Primary Responder
- Secondary Responder
- Tertiary Responder

**Communication and Handover**
Improving outcomes from AKI

• Cost - NHS Kidney Care
  – £434-£630M in England
  – 4.7 days longer stay

• Captured imagination of commissioners
  – Will start funding for patients with AKI that receive dialysis
  – Interested in AKI patient pathways
    • Locally West Yorkshire AKI Patient Pathway
    • Identify obstacles to providing prompt transfer of patients with AKI
AKI Patient Pathways

• London Network launched on World Kidney Day 8th March 2012
• Collaboration between all London Hospitals
• Required Medical Directors support
• Clinicians have agreed pathways
• Website [www.londonaki.net](http://www.londonaki.net)
  – Guidelines
  – Audit tools
West Yorkshire Critical Care Network

Acute Kidney Injury Patient Pathway (AKIPP)

January 2012 (DRAFT v1.4)
Acute Kidney Injury

Causes of Acute Kidney Injury (PIP)
- Pre-renal
- Intrinsic-renal
- Post-renal

Rising creatinine
= 
↑morbidity and ↑mortality

↑Cr > normal range
= 
> 50% loss of kidney function
INSTITUTE FOR ALL PATIENTS WITH
1.5 x rise in creatinine **or**
Oliguria (<0.5mls/kg/hr) for >6 hours **or**
Suspected AKI (elevated creatinine > 150 µmol/L but no baseline creatinine available)

**IMMEDIATE ACTION REQUIRED**

Full set of physiological observations
Use MEWS to identify patient requiring critical care outreach/ICU referral
Medical review to identify the **cause** of AKI
Perform the following:

<table>
<thead>
<tr>
<th><strong>Volume status assessment</strong></th>
<th><strong>Monitoring</strong></th>
<th><strong>Investigation</strong></th>
<th><strong>Other Care</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>capillary refill time</td>
<td>Volume status assessment</td>
<td>FBC - if platelets low</td>
<td>Treat complications (page 6)</td>
</tr>
<tr>
<td>HR, BP, JVP, Heart sounds, peripheral/pulmonary oedema, fluid balance chart, urine output daily weights</td>
<td>Observation charts MEWS</td>
<td>request blood film/LDH (HUS/TTP*)</td>
<td>Treat sepsis</td>
</tr>
<tr>
<td><strong>Fluid therapy</strong></td>
<td>Fluid balance chart</td>
<td>LFTs (hepatorenal)</td>
<td>Administer antibiotics</td>
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<tr>
<td>If hypovolaemic give 250-500 mls 0.9% sodium chloride or colloid until volume replete with regular review of clinical response</td>
<td>Hourly urine volume</td>
<td>Ca²⁺/PO₄⁻(myeloma)</td>
<td>&lt; 1 hr after recognition</td>
</tr>
<tr>
<td>Fluids should be stopped if there are signs of pulmonary oedema</td>
<td>Daily weight</td>
<td>Creatine Kinase (rhabdomyolysis)</td>
<td>Review drug chart and drug doses (opiates accumulate)</td>
</tr>
<tr>
<td>If patient is hypotensive in setting of pulmonary oedema request senior medical review for consideration for vasopressors</td>
<td>Consider urinary catheter</td>
<td>Blood cultures if sepsis suspected</td>
<td><strong>If hypotensive stop</strong></td>
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<tr>
<td></td>
<td>U&amp;Es twice daily (initially)</td>
<td>Urinalysis- if blood, protein, leucocytes or nitrates send MSU</td>
<td>Diuretics e.g. Loop diuretics, Spironalactone</td>
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<tr>
<td></td>
<td>Assess acid/base status</td>
<td>USS renal tract</td>
<td>Anti-hypertensives e.g. ACE-I, ARB</td>
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<td></td>
<td>Venous bicarbonate</td>
<td>If obstruction suspected &lt; 24 hrs</td>
<td><strong>Avoid</strong></td>
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<tr>
<td></td>
<td>Arterial Blood Gas (ABG) and lactate</td>
<td>If pyelonephritis suspected &lt; 6 hrs</td>
<td>Contrast</td>
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<td>Gentamicin</td>
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<td>NSAIDs</td>
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<td>Metformin</td>
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*HUS = Haemolytic Uraemic Syndrome
*TTP = Thrombotic Thrombocytopenic Purpura
Improving outcomes from AKI

• Challenges
  – How to get consensus
  – How to implement effectively
    • E-alerts, linked to guidelines

• Opportunities
  – Improve patient care, utilisation of services
  – Collect data (National Audit)
  – Inform commissioners
NICE

• Quality standard pathways being developed
• These will inform commissioners
• Improve implementation of guidelines
• Renal Association guidelines have received accreditation from NHS Evidence
• NHS Evidence will be overseen by NICE in the near future
Acute Kidney Injury: Recording, coding and commissioning

AKI delivery meeting
5th March 2012
Why project focussed on commissioning of AKI?

• High NHS spend by providers on treating AKI (£1.64bn in 09/10)

• Unknown impact on commissioning

• Lack of understanding around current coding of AKI, leading to...

• Lack of clarity around current commissioning of AKI

• Commissioners need to be engaged — they can drive improvements through commissioning processes
Initial project objectives

- To define elements of the AKI pathway
- To determine how elements across the pathway would be clinically coded
- To map this clinically coded activity to healthcare resource groups (HRGs) – used in commissioning
- To clarify how AKI is currently commissioned
Approach to the project
Project approach

• Define the pathway: build on work already done within North Central London

• Identify elements across the pathway that would be clinically coded (working with NHS Connecting for Health)

• Map the clinically coded elements to defined HRGs (working with the NHS information Centre)
Findings to date
Findings to date

• Clinical coding of AKI is driven by diagnoses
• Length of stay, combined with clinical interventions in treating AKI, drive the HRG grouping
• Clinical coding doesn't distinguish between patient admitted with AKI and hospital AKI (h-AKI) (but sequencing of codes will be different)
• Some h-AKI is not identified in commissioning
The Coding Journey – AKI
(simplified summary!)

1. Patient admitted with primary diagnosis of AKI

   **OR**

2. Patient admitted with other primary diagnosis and develops AKI whilst in hospital

   - Recording by clinician of scenario 1. auto results in AKI HRG being generated (for costing and commissioning purposes)
   - Recording of scenario 2 (?) could result in above – depending on severity of AKI? but likely to result in ‘other’ HRG, with complications (depending what patient was admitted for originally)
Proposed next steps
Proposed next steps

• Further work with NHS IC to clarify if there is a point at which an AKI secondary diagnosis becomes primary

• Develop some clinical examples - from recording on patient notes by clinician...through to HRG generated for commissioning purposes (working with NHS CfH and IC):
  – Where patient is admitted with AKI
  – Where patient acquires AKI in hospital
  – AKI with complications

• Develop guide to recording and clinical coding of AKI:
  – For primary use by clinicians/information/clinical coders/commissioners
  – Include the examples to show how accurate recording...flows through to commissioning (HRG and national tariff)
Possible next steps (longer term)  

For comments and discussion

- Make the guide a discussion document – gather feedback
- Set up AKI coding working group to review the current appropriateness of AKI HRGs ie are they sufficiently granular... (note issue Re: loss of visibility in commissioning where AKI is hospital acquired and patient recovers renal function)
- Leading to recommendations on new AKI HRG codes
Recording, coding and commissioning of AKI

Feedback and discussion
Thank you