

An Introduction to Acute Kidney Injury (AKI)

An Education Package for Healthcare
Professionals in Medical



In hospital and in the community

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What is Acute Kidney Injury (AKI)?

- AKI is now the universal term used to describe sudden deterioration of renal function, and it replaces the previous term known as Acute Renal Failure (ARF)
- AKI is detected by monitoring creatinine blood levels, and urine output
- AKI is a common condition amongst hospital inpatients and affects mortality and length of stay

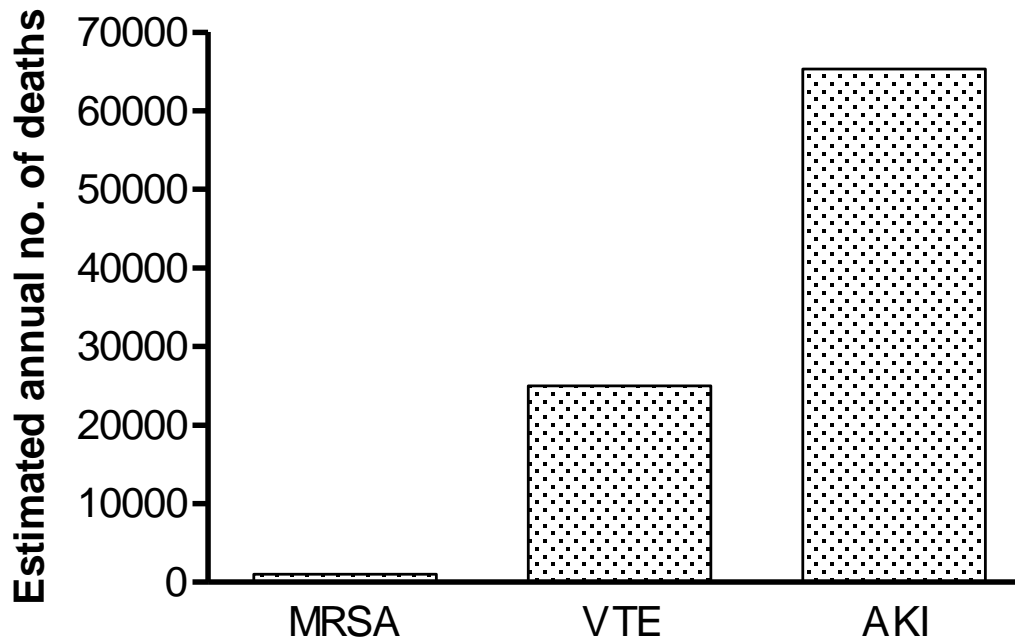
NCEPOD 'Adding Insult to Injury' Report

A 2009 report by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) found that **15% of AKI cases were avoidable** and recommended:

- All acute NHS trusts should have a policy for the management of AKI
- All acute admissions should receive adequate senior reviews (with a consultant review within 12 hours of admission)
- Predictable and avoidable AKI should never occur

AKI – Common and Serious

- 10-20% of hospital admissions
- 2-4 pts on average 20 bed ward
- Who are they and how can we identify early?



Identifying AKI

Stage	Urine Output	Relative Creatinine Rise	Absolute Creatinine / Creatinine Rise
I (Early)	Less than 0.5 ml/kg/hour for 6 hrs	1.5-2 fold rise	Greater than 26 umol/l
II (Moderate)	Less than 0.5 ml/kg/hour for 12 hrs	2-3 fold rise	
III (severe)	Less than 0.5 ml/kg/hour for 24 hrs or anuria greater than 12 hr	Greater than 3 fold rise	Greater than 350umol/l (with a greater than 44 umol/l acute increase)

Identifying AKI from Creatinine Levels!

A national algorithm standardizing the definition of AKI is now in use. The report indicates whether the patient is suspected to have AKI stage 1, 2 or 3.

This is reported on the ICE system

If a clinician determines that the patient is in any stage of AKI after reviewing the lab results and assessing the patient, then the AKI Care Bundle Checklist must be put in the notes, medical staff informed.

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Location [Clear] Show reports up to ...
 Filter by specialty Show reports from ...
 Requesting Clinician ... Show ...
 Investigation [Clear]
 Print last reports.

<<< Earlier reports Later reports >>> Requesting User ICE OpenNet Reports

!	📄	🔄	📅	Status	Investigation	Requesting Clinician	Location	Sample Number	Sample Collected	Sample Received	Reported
				F	., Fungal cultu...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	MR079623N	20 Feb 2015 14:10	21 Feb 2015 09:11	23 Feb 2015 09:59
				F	Routine culture...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	MR079623N	20 Feb 2015 14:10	21 Feb 2015 09:11	23 Feb 2015 09:20
🔴	🟢	🟢		F	UE, LFT, Correc...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IB298180W	23 Feb 2015 06:00	23 Feb 2015 07:14	23 Feb 2015 08:26
🔴	🟢	🟢		F	Coag Routine Se...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IG178065G	23 Feb 2015 06:00	23 Feb 2015 07:19	23 Feb 2015 08:14
🔴	🟢	🟢		F	Full Blood Coun...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IE659838L	23 Feb 2015 06:00	23 Feb 2015 07:16	23 Feb 2015 07:41
	🟢	🟢		I	.	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	MB087562R	20 Feb 2015 14:10	20 Feb 2015 19:47	22 Feb 2015 20:01
	🟢	🟢		F	XR Chest	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	19612705	21 Feb 2015 16:09	21 Feb 2015 16:09	22 Feb 2015 12:47
	🟢	🟢		I	.	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	MU550927R	20 Feb 2015 16:30	20 Feb 2015 18:39	22 Feb 2015 09:26
🔴	🟢	🟢		F	Coag Routine Se...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IG177796G	22 Feb 2015 06:00	22 Feb 2015 07:26	22 Feb 2015 08:08
🔴	🟢	🟢		F	Full Blood Coun...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IE659401C	22 Feb 2015 06:00	22 Feb 2015 07:22	22 Feb 2015 07:53
	🟢	🟢		F	AKI STAGE	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IB297684E	22 Feb 2015 00:55	22 Feb 2015 06:58	22 Feb 2015 07:32
🔴	🟢	🟢		F	UE, LFT, Correc...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IB297684E	22 Feb 2015 00:55	22 Feb 2015 06:58	22 Feb 2015 07:26
🔴	🟢	🟢		F	Routine Biochem...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IB297772S	22 Feb 2015 06:32	22 Feb 2015 06:58	22 Feb 2015 07:23
	🟢	🟢		F	., Fungal cultu...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	MR079389C	18 Feb 2015 15:06	19 Feb 2015 12:05	21 Feb 2015 10:53
	🟢	🟢		F	AKI STAGE	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IB297219J	21 Feb 2015 04:30	21 Feb 2015 06:17	21 Feb 2015 07:02
🔴	🟢	🟢		F	UE, LFT, Correc...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IB297219J	21 Feb 2015 04:30	21 Feb 2015 06:17	21 Feb 2015 06:53
🔴	🟢	🟢		F	Coag Routine Se...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IG177537G	21 Feb 2015 04:30	21 Feb 2015 05:09	21 Feb 2015 05:47
🔴	🟢	🟢		F	Full Blood Coun...	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	IE659019Y	21 Feb 2015 04:30	21 Feb 2015 05:09	21 Feb 2015 05:44
	🟢	🟢		F	XR Chest	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	19611611	20 Feb 2015 14:20	20 Feb 2015 14:20	20 Feb 2015 16:25
	🟢	🟢		I	.	Mr JG EDWARDS (JGE) Cardiothoracic Surger	Cardiac Intensive Care NGH	MB087334K	18 Feb 2015 13:50	18 Feb 2015 14:59	20 Feb 2015 16:02

- Patient Search
- Discharge Reporting
- Cumulative Reports
- View Patient Reports
- View Ward Reports
- Latest Reports (Unfiled)
- OpenNet Patient Reports
- Requesting
- Tools
- Resources
- Log Off

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File
File & Next
>
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Cumulative
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All
Print
Audit Trail

Reported	Specialty	Location	Clinician	Status
22 Feb 2015 16:14	Chemical Pathology	Robert Hadfield 2 NGH	Dr D SELVARAJAH (DS2) Diabetes (Diabetic Medicine)	F

Additional information is available for this report

- [AKI AKI Care Bundle Checklist and Quick Ref Guide \(22 Feb 2015 16:21\)](#)
- [Nursing Care Guideline \(22 Feb 2015 16:21\)](#)

This report is linked to other reports. Click on the links below to see these linked reports:

- [UE \(22 Feb 2015 16:02\)](#)
- Filed because: Filed in accordance with departmental SOP

Reasons for Request:
Hyponatraemia and urinary retention.

Sample IB296911N (BLOOD) Collected 22 Feb 2015 14:00 Received 22 Feb 2015 15:32

AKI STAGE

AKI Warning Stage	1
<p>The change in creatinine result suggests that this patient may have Acute Kidney Injury (AKI). Please review patient and refer to attached guidelines. In the presence of acute kidney injury, eGFR and CKD stage will be invalid.</p>	

End of report

Patient Search
Discharge Reporting
Cumulative Reports
View Patient Reports
View Ward Reports
Latest Reports (Unfiled)
OpenNet Patient Reports
Requesting
Tools
Resources
Log Off

Identifying AKI from Urine Output!

If urine output is less than the minimum required output of 0.5mls/kg/hr (oliguria) as per the identifying AKI criteria, medical staff need to be informed and the AKI Care Bundle Checklist must to be placed in the notes.

None Catheterised



- Always consider the urine output even if the patient is not catheterised.
- Explain to the patient the importance of monitoring urine output. Provide container to measure urine
- Record amount of incontinence; a little or a lot, damp or saturated
- Consider Bladder scan as a none invasive intervention or ISC if the patient has not passed urine for 6-8 hours. Record findings/residual on charts and in the patients notes.
- Consider catheterising if patient shows signs of deterioration

Stage	Urine Output
I (Early)	Less than 0.5 ml/kg/hour for 6 hrs
II (Moderate)	Less than 0.5 ml/kg/hour for 12 hrs
III (severe)	Less than 0.5 ml/kg/hour for 24 hrs or anuria greater than 12 hr

Catheterised



- If the patient is catheterised follow the SHEWs algorithm monitoring urine output 1-2 hourly and score correctly.
- Report reduced urine output (oliguria) early so that appropriate management/treatments can be implemented.

Questions-Urine Output

Why do you need to know a patients Accurate Urine Output?

- Urine output is used to Identify potential AKIs (see identifying AKI criteria)

How do you work out the patients minimum urine output requirements and what is it?

- Weight – 0.5mls/kg/hour (half a persons body weight)
- If the weight is 49.8kg. Her minimum urine output should be 25mls/hour (Record on Fluid Balance Chart)

How can you measure the patients urine output?

- Measure using jugs/bed pans/bottles
- Bladder scan
- catheter

When should you consider catheterising?

- Deteriorating SHEWs score/Acutely unwell
- To gain accurate urine output as above and/or with AKIs stages II & III

DO NOT AFFIX PATIENT STICKER

FLUID MONITORING CHART

Please see guidance overleaf before using this chart

This chart is for monitoring: Intake Output Enteral feed Drains Urine/Catheter

Name: _____
Hospital number: _____
Ward: _____

Date: ___ / ___ / ___ Fluid restriction: _____ ml Weight: _____ kg (estimated/actual) Minimum urine output/hr: _____ ml

Time	INTAKE (ML)					OUTPUT (ML)					Initials		
	Oral	Enteral Feed		IV Therapy	ACC TOTAL IN	Urine / Catheter	Drains / Bowels / Stoma / Other			Vomit / NG Asp		ACC TOTAL OUT	
		ml	pH										
07:00													
08:00													
09:00													
10:00													
11:00													
12:00													
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06:00													
Totals													
TOTAL INTAKE					ml	TOTAL OUTPUT					ml	Fluid Balance (+ / -)	ml

GUIDELINES FOR USE OF THIS CHART

Fluid intake and output are an essential element of the SHEW score. The volume of fluid a patient intakes and outputs is paramount to their care and must be recorded accurately. It is the registered nurse's responsibility to ensure the accurate recording and assessment of fluid balance.

- Tick appropriate boxes on front of chart.
- If patient's condition deteriorates use fluid monitoring chart in accordance with SHEWS algorithm.
- This chart should be used in conjunction with other patient documentation e.g. clinical records, prescription charts.
- The rationale for commencing the chart must be documented in the nursing care plan/pathway.
- The patient's weight and the minimum urine output that is required must be calculated and recorded. Minimum urine output must be **0.5ml/kg/hour**. If it drops below this, inform medical staff.
- When starting IV fluids, record the name of the fluid **only, and not the volume**.
- Only **actual** fluid intake or medication must be recorded i.e. do not record volume to be infused, only record volume **once it has been infused**. (A * sign can be used to indicate expected finish times of infusions).
- If an infusion is continued onto a new chart, and is not via a volumetric pump, only the amount **actually infused** must be recorded and included in the 06:00 total. The remaining amount must be carried forward and recorded on the new chart. This ensures an accurate 24 hour intake total.
- **Before** any fluids / medications are given via an NG tube the pH value of the aspirate must be checked and recorded on the chart in line with Trust protocol.
- Any drainage systems that are emptied or replaced before the end of the 24 hour period must be recorded.
- Accumulated totals must be completed as per patient's condition and reflected in the clinical records.
- Intake Grand Total, Output Grand Total and Fluid Balance (+/-) must be recorded in the appropriate space on the chart at the end of every 24 hour period at 06:00 hours. If intake is greater than output this is a positive balance, if less than output this is a negative balance.

Unless otherwise stated or required measurement volumes are:

Cup 175ml	Klix cup 150ml
Glass 100ml to first line or 200mls when full	

Beaker 200ml when full (see graduations on side of beakers)
Ice cubes 15ml each

Only abbreviations below can be used on this chart:

R	Refused
PU	Passed urine (unable to measure)
NPU	Not passed urine
ACC	Accumulative
CF	Carried Forward
NBM	Nil By Mouth

NG	Nasogastric
PEG	Percutaneous Endoscopic gastrostomy
IV	Intravenous
TPN	Total Parenteral Nutrition
Asp	Aspirated
CBD	Continuous Bladder Drainage

IVAB	Intravenous antibiotic / antiviral / antifungal
N/S	0.9% Sodium Chloride (Normal saline)
KCL	Potassium Chloride
D/S	4% Glucose and 0.18% Sodium Chloride (Dextrose Saline)

Dex	Dextrose
Hart	Hartmann's Solution
VLN	Voluven (®)
Haem	Haemacell (®)
Gelo	Gelofusine (®)

Who is at risk?

At risk patient = High risk group + Insult

High Risk Groups	Common Insults
<ul style="list-style-type: none"> • Patients age is 65 and over • Patient has heart failure, liver disease or diabetes • Chronic kidney disease – adults with an estimated glomerular filtration rate (eGFR) less than 60 ml/min/1.73 m² are at particular risk • History of AKI • Multiple Myeloma 	<ul style="list-style-type: none"> • Hypotension (absolute relative) • Sepsis • Use of iodinated contrast agents (contrast scan) within the past week. • Use of drugs with nephrotoxic potential such as: <ul style="list-style-type: none"> ○ non-steroidal anti-inflammatory drugs (NSAIDs) ○ aminoglycosides, e.g. Gentamicin ○ angiotensin-converting enzyme (ACE) inhibitors, e.g. Rampril ○ angiotensin II receptor antagonists (ARBs), e.g. Losartan ○ and diuretics

Urinalysis All Patients should have a urinalysis performed.
If protein and blood present in the urine, samples should be sent
to the labs;

Protein Creatinine Ration (PCR)
Send to Clinical Chemistry

Mid Stream Urine (MSU)
Send to Microbiology



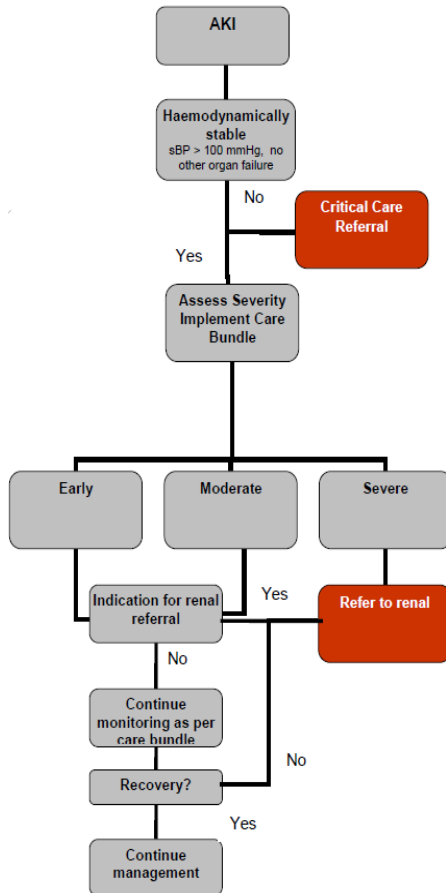
Reason.....
High PCR can suggests glomerular
disease
MSU can confirm infection



Nursing Care Guideline (NCG) and AKI Care Bundle

- Patient's from high risk groups with an identified insult are at high risk of developing AKI & need to be assessed by Medical, Nursing & Pharmacy staff which should include a review of medications, SHEWS & Urine Output monitoring. Make sure daily & post operative bloods are taken to monitor creatinine levels.

The AKI Care Bundle is for AKI Management and should be included in the notes for Patients Identified as having AKI at any stage



Approval Date: Nov 2014
Review Date: Nov 2017

STH Acute Kidney Injury (AKI) Project

Acute Kidney Injury Care Bundle Checklist

(For full guidance - see Acute Kidney Injury Policy, section 3.4)

Name: _____
Date of Birth: _____
Hospital No: _____
NHS No: _____
Consultant: _____

Patient details or sticker

Action	Signature/ date
Haemodynamic stability achieved (if not, fluid resuscitation, senior review, critical care review as appropriate)	
Treat life threatening hyperkalaemia	
Commence strict fluid monitor charting	
Urinalysis Blood <input type="checkbox"/> Protein <input type="checkbox"/> Nitrites <input type="checkbox"/> Leukocytes <input type="checkbox"/> Is this a catheter sample? Yes <input type="checkbox"/> No <input type="checkbox"/> PCR sent if protein +? Yes <input type="checkbox"/> No <input type="checkbox"/> MSU sent if nitrites/leukocytes +? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Ultrasound Completed <input type="checkbox"/> Requested <input type="checkbox"/> Deferred <input type="checkbox"/> - reason: _____	
Bloods Request renal profile (include bone chemistry and bicarbonate,) FBC, CRP <input type="checkbox"/> Daily renal profile requested <input type="checkbox"/> Other tests requested <input type="checkbox"/> (please list): _____	
Medications review 1. Stop nephrotoxic medications <input type="checkbox"/> Examples: NSAIDs (stop) Aminoglycosides (stop - d/w microbiology alternative antibiotics) Metformin (stop) 2. Anti-hypertensives <input type="checkbox"/> ACE-I/ARBs (stop) Diuretics - stop in dehydrated and euvoelaemic patients, continue in fluid overloaded patients Stop all antihypertensives if SBP less than 120 mmHg) 3. Renally excreted medications <input type="checkbox"/> Reduce prophylactic LMWH (Dalteparin) to 2,500 units Discuss with haematologists if on therapeutic LMWH Review all other renally excreted medications e.g. antibiotics (consult ward pharmacist, or medicines information and if in doubt, omit non-essential medications)	
Senior Review taken place	
Indication for Renal Replacement Therapy Hyperkalaemia Fluid overload Severe acidosis Other	
Renal referral Completed <input type="checkbox"/> Not indicated <input type="checkbox"/>	

PD7621
PRC.003914

Date of issue: January 2014
review date: January 2017

CARING FOR PATIENTS WITH OR AT INCREASED RISK OF ACUTE KIDNEY INJURY (AKI)

Nursing Care Guideline no. 20

DEFINITION: Acute Kidney Injury (AKI) is characterised by a rapid reduction in kidney function, resulting in a failure to maintain fluid, electrolyte and acid-base haemostasis. AKI complicates a range of illnesses; the estimated incidence is 7-18% of all hospital admissions.

GOAL:-

- To increase the early recognition of AKI and to prevent avoidable kidney injury.
- To improve the management of patients with AKI by ensuring that all who are at risk has an AKI Care Bundle Checklist (PD 7621) put in place.

GUIDELINE TO NURSING ACTION:-

Assessment of patient's condition:

- A) Review with medical staff on admission or with every change in clinical status the patients past and current medical history and consider if the patient has any 'predisposing risk factors to AKI'.
- Aged 65 and over.
 - Heart failure, liver disease or diabetes.
 - Chronic kidney disease (adults with an estimated glomerular filtration rate [eGFR] less than 60 ml/min/1.73 m² are at particular risk)
 - History of acute kidney injury.
 - Sepsis.
 - Use of iodinated contrast agents (contrast scan) within the past week.
 - Use of drugs with nephrotoxic potential, (such as non-steroidal anti-inflammatory drugs [NSAIDs], aminoglycosides - e.g. Gentamicin, angiotensin-converting enzyme [ACE] inhibitors, angiotensin II receptor antagonists [ARBs] and diuretics).

N.B: The more risk factors the patient has the greater the chance the patient will develop AKI.

- B) Ensure all patients who have been identified as at risk of AKI have an AKI Care Bundle Checklist completed by the medical and nursing staff.
- C) Record the patient's observations as per STHFT SHEWS score at least 3 times a day or as the SHEWS score indicates. (Core Risk Screening and Assessment Record Long Stay Patients [PD6556] or Short Stay Patients [PD6097]).
- D) Monitor the patient's blood pressure closely and report any hypotensive episodes (systolic blood pressure less than 100 mmHg or a fall in systolic blood pressure greater than 30 mmHg). Ensure any antihypertensive medication is **not** given if prescribed until the medical staff have reviewed the patient.
- E) Commence a strict fluid monitoring chart (PD3741) and report if no urine has been passed for more than 6 hours.
- F) **Carry out a urinalysis**, record the results on the patient's Amber Care Bundle checklist and report any abnormalities to medical staff. Ensure urine samples (midstream [MSU] or catheter specimen of urine [CSU]) are sent to the laboratory as detailed below:
- If the urinalysis is positive for leukocytes or nitrites – send for microscopy, culture and sensitivity (MC and S)
 - If the urinalysis is positive for protein – send for protein to creatinine ratio (PCR).
- G) Record the patient's weight daily and report any rapid increase in weight to medical staff.
- H) Ensure the patient has daily bloods for renal profile to monitor renal function. Report any abnormalities, including a sudden rise in creatinine; greater than 26µmol/L or if the patient is hyperkalaemic (potassium greater than 5.5mmol) to the medical staff.
- I) Monitor the patient for signs of fluid overload (raised respiratory rate, a fall in SPO₂, oedema), report these signs to the medical staff, and / or apply the 'Deteriorating Patient pathway' as appropriate.

Continued overleaf

GUIDELINE TO NURSING ACTION continued:-

Treatment:-

- J) Consider scanning the bladder or catheterising the patient to monitor their urine accurately.
- K) Patients may require an ultrasound of their kidneys as part of their management.
- M) Administer oxygen therapy if prescribed on the Oxygen Prescription and Monitoring Chart (PD3786). See also Nursing Care Guideline 65, Nursing the Breathless Patient.
- N) Ensure the current medication is reviewed as indicated by the AKI Care Bundle Checklist, and administer medication as prescribed on the Drug Prescription and Administration Record (SHO17009).
- O) Administer intravenous fluids if prescribed on the Drug Prescription and Administration Record (SHO17009) and monitor their effects.

N.B: The patient's medication must be reviewed to ensure no nephrotoxic drugs have been prescribed and the doses of prescribed medications are appropriately reduced for the renal function.

Psychological care and patient education: Give the patient and their family / carers ongoing information and education on their condition and progress. Where appropriate refer to the Acute Renal Practitioner (bleep 2663).

PREFERRED OUTCOME:-

- The patient's renal function is maintained and AKI is avoided.
- AKI is managed and renal function returns to the patient's baseline.
- Timely referral to the Renal Team, for advice / transfer for Renal Replacement Therapy (RRT).

Evidence Link:-

Crowley, L, & Ostermann, M, (2013) *Acute Kidney Injury (AKI)*, available via: <http://www.renalmed.co.uk/database/>
Lewington, A, & Kanagasundaram, S, (2011) *Acute Kidney Injury Guidelines*, London, The Renal Association, available via: <http://www.renal.org/Clinical/GuidelinesSection/AcuteKidneyInjury.aspx>
NCEPOD, (2009) *AKI: Adding insult to Injury. A review of the care of patients who died in hospital with a primary diagnosis of acute kidney injury (acute renal failure)*, available via: http://www.ncepod.org.uk/2009report1/Downloads/AKI_report.pdf
NICE, (2013) *Clinical Guideline No. 169: Acute kidney injury: Prevention, detection and management of acute kidney injury up to the point of renal replacement therapy*, available via: <http://guidance.nice.org.uk/CG169/NICEGuidance/pdf/English>
STHFT, (2012) *Consent to Examination or Treatment Policy*, available via: http://www.sth.nhs.uk/STHcontDocs/STH_Pol/ClinicalGovernance/Consent/ConsentPolicy.doc
STHFT, (2012) *Infection Prevention and Control Standard Precautions, Prevention of Sharps Injuries and Prevention of Exposure to Blood and Body Fluids Policy*, available via: http://www.sth.nhs.uk/STHcontDocs/STH_Pol/HumanResources/BloodExposurePolicy.doc
STHFT, (2013) *Acute Kidney Injury Policy*, available via: http://www.sth.nhs.uk/STHcontDocs/STH_Pol/ClinicalGovernance/AcuteKidneyInjuryPolicy.doc
STHFT, (2013) *Acute Kidney Injury – Quick reference summary sheet and referral flow chart*, available via: http://www.sth.nhs.uk/STHcontDocs/STH_CGP/RenalServices/AKI_SummaryAndReferralFlowChart.doc
STHFT, (2014) *Acute Kidney Injury care bundle and checklist*, available via: http://www.sth.nhs.uk/STHcontDocs/STH_CGP/PRC/documents/PRC%20003-14.pdf
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STHFT, (2013) *Medicines Code – Prescribing of Medicines*, available via: http://www.sth.nhs.uk/STHcontDocs/STH_Pol/ClinicalGovernance/MedicineCode/MedicineCode.htm
STHFT, (2014) *SHEWS – Frequently asked questions*, available via: http://www.sth.nhs.uk/STHcontDocs/STH_CGP/CriticalCare/SHEWS/SHEWSFrequentlyAskedQuestions.doc
STHFT, (2014) *Collecting and labelling clinical samples*, available via: http://www.sth.nhs.uk/STHcontDocs/STH_Pol/ClinicalGovernance/CollectingAndLabellingClinicalSamples.doc
STHFT, (2014) *Nursing Care Guideline No. 65: Nursing the Breathless Patient*, available via: http://www.sth.nhs.uk/STHcontDocs/STH_CGP/Nursing/NursingCareGuidelines/ncg65_Dyspnoea-NursingTheBreathlessPatient.doc
Walsh, M, & Crumble, A, (2007) *Watson's Clinical Nursing and Related Sciences*, 7th Edition, Edinburgh, Baillière Tindall.

**NCG (No.20)
helps nurses
caring for
patients
with or at
increased
risk of AKI**

Acute kidney injury

 **Information for patients**
Sheffield Kidney Institute (Renal Unit)

Give all Patients Identified as having an AKI a Patient Information Leaflet
Empower patients to understand what has happened to them & to be aware of risks in the future which may prevent another occurrence of AKI (part of past medical history, alerts staff)



In hospital and in the community

proud to make a difference

How can you assess for AKI in your everyday practice?

- Nursing Care Guidelines for AKI (NO. 20) Risk factors and Identified AKI's
- Care Rounding
- SHEWs monitoring
- Deteriorating Patient Stickers
- Accurate fluid balance monitoring
- Hydration & Nutrition monitoring (HANAT)
- AKI Care Bundle Checklist To be put in the Notes for the management of all Identified AKI's

Based on this information why are the following interventions necessary?

Increased frequency of SHEWS

- A- to monitor Clinical response, high early warning scores give greater risk of developing AKI

Encourage fluids, IV Fluid challenge, monitor input

- A- Optimise hydration and improve kidney perfusion

Catheterise

- A- Accurate Urine Output (Minimum requirements of 0.5mls/kg/hr)

Urinalysis

- A- Intrinsic renal disease if no obvious cause of AKI could suggest underlying disease process also infection

Review medications

- A- for nephrotoxicity dose adjustment or to stop

Send blood samples U&Es/Full Renal Profile

- A- To monitor kidney function and complications such as hyperkalaemia

Daily weights

- A- To assess hydration

Pain relief

- A- Adjust doses for kidney function, aid recovery

Nausea medication

- A- Aid eating and drinking

Points to remember

- Remember the AKI risk factors
- Always consider urine output even if the patient isn't catheterised (strict I&O, monitor SHEWs regularly)
- Daily U&Es or Full Renal Profile. Repeat bloods post invasive procedure or surgery
- Urinalysis; If protein present send PCR & MSU urine samples
- Ensure the AKI NCG is adhered to
- Ensure all patients at risk of AKI have been assessed
- Ensure all patients identified as having AKI have an AKI Care Bundle in their notes

Prevention, early identification and early management is key to stopping avoidable AKI, reducing mortality and length of stay.

Remember ...



Thank you for your time