

Appendix A: Literature search strategies

Search strategies used for the acute kidney injury guideline are outlined below and were run as per the NICE Guidelines Manual 2009

http://www.nice.org.uk/media/5F2/44/The_guidelines_manual_2009_-_All_chapters.pdf.

Searches for the **clinical reviews** were run in Medline (Ovid), Embase (Ovid) and the Cochrane Library. Additional searches were run in CINAHL (EBSCO) and PsychInfo (Ovid) for some questions. Usually, searches were constructed in the following way:

- A PICO format was used for **intervention** searches where population (P) terms were combined with intervention (I) and sometimes comparison (C) terms. An intervention can be a drug, a procedure or a diagnostic test. Outcomes (O) are rarely used in search strategies for interventions. Search Filters were also added to the search where appropriate.
- A PEO format was used for **prognosis** searches where population (P) terms were combined with exposure (E) terms and sometimes outcomes (O). Search filters were added to the search where appropriate.

Searches for the **health economic reviews** were run in Medline (Ovid), Embase (Ovid), the NHS Economic Evaluations Database (NHS EED), the Health Technology Assessment (HTA) database and the Health Economic Evaluation Database (HEED). HTA and NHS EED searches were carried out via the Centre for Reviews and Dissemination (CRD) interface. The HEED database was accessed via the Wiley interface. Searches in NHS EED, HTA and HEED were constructed only using population terms. For Medline and Embase an economic filter (instead of a study type filter) was added to the same clinical search strategy.

All searches were run up to 3 January 2013 unless otherwise stated. Any studies added to the databases after this date were not included unless specifically stated in the text.

The search strategies are presented below in the following order:

Section A.1	Population terms by database. The same searches were used for all questions unless otherwise indicated, and for both clinical and health economic searches.
Section A.2	Study filter terms by database. These include filters for epidemiological study designs, health economic studies, quality of life studies and excluded study designs.
Section A.3	Searches run for specific questions with the intervention or exposure terms by database. Order as presented in guideline
A.3.1	Assessing risk
A.3.2	Track and trigger systems
A.3.3	Preventing CI-AKI
A.3.4	Computerised decision tools
A.3.5	Stopping ACEi/ARB therapy
A.3.6	AKIN/RIFLE
A.3.7	Urinalysis
A.3.8	Ultrasound
A.3.9	Relieving urological obstruction
A.3.11	Loop diuretics
A.3.9	Dopamine
A.3.12	Referring for renal replacement therapy
A.3.13	Referring to nephrology
A.3.14	Information and support for patients

Section A.4	Economics searches
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A.1 Population search strategies

Medline search terms

1	exp Acute Kidney Injury/
2	((acute or early) adj (kidney or renal) adj (failure* or injur* or insufficien* or dysfunction* or impair*)).ti,ab.
3	(acute kidney necrosis or acute kidney tubul* necrosis).ti,ab.
4	or/1-3
5	limit 4 to english language

Embase search terms

1	acute kidney failure/ or acute kidney tubule necrosis/
2	((acute or early) adj (kidney or renal) adj (failure* or injur* or insufficien* or dysfunction* or impair*)).ti,ab.
3	(acute kidney necrosis or acute kidney tubul* necrosis).ti,ab.
4	or/1-3
5	limit 4 to english language

Cinahl search terms

S1	(MH "Kidney Failure, Acute+")
S2	acute kidney failure* OR acute kidney injur* OR acute kidney insufficien* OR acute kidney dysfunction* OR acute kidney impair* OR acute renal failure* OR acute renal injur* OR acute renal insufficien* OR acute renal dysfunction* OR acute renal impair*
S3	early kidney failure* OR early kidney injur* OR early kidney insufficien* OR early kidney dysfunction* OR early kidney impair* OR early renal failure* OR early renal injur* OR early renal insufficien* OR early renal dysfunction* OR early renal impair*
S4	acute kidney necrosis OR acute kidney tubul* necrosis
S5	S1 or S2 or S3 or S4

Cochrane search terms

#1	MeSH descriptor Acute Kidney Injury explode all trees
#2	((acute or early) NEAR (kidney or renal) NEAR (failure* or injur* or insufficien* or dysfunction* or impair*)):ti,ab,kw
#3	(acute kidney necrosis or acute kidney tubul* necrosis):ti,ab,kw
#4	(#1 OR #2 OR #3)

PsychInfo search terms

1	*kidney diseases/
2	*kidneys/
3	1 or 2
4	injuries/
5	3 and 4
6	((acute or early) adj (kidney or renal) adj (failure* or injur* or insufficien* or dysfunction* or impair*)).ti,ab.
7	(acute kidney necrosis or acute kidney tubul* necrosis).ti,ab.
8	or/5-7
9	limit 8 to english language

A.2 Study filter search terms

A.2.1 Systematic review search terms

Medline search terms

1	Meta-Analysis/
2	Meta-Analysis as Topic/
3	(meta analy* or metanaly* or metaanaly*).ti,ab.
4	((systematic* or evidence*) adj2 (review* or overview*)).ti,ab.
5	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7	(search* adj4 literature).ab.
8	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
9	cochrane.jw.
10	((indirect or mixed) adj2 comparison*).ti,ab.
11	or/1-10

Embase search terms

1	systematic review/
2	meta-analysis/
3	(meta analy* or metanaly* or metaanaly*).ti,ab.
4	((systematic or evidence) adj2 (review* or overview*)).ti,ab.
5	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7	(search* adj4 literature).ab.
8	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
9	((pool* or combined) adj2 (data or trials or studies or results)).ab.
10	cochrane.jw.
11	((indirect or mixed) adj2 comparison*).ti,ab.
12	or/1-11

A.2.2 Randomised controlled studies (RCTs) search terms

Medline search terms

1	randomized controlled trial.pt.
2	controlled clinical trial.pt.
3	randomi#ed.ab.
4	placebo.ab.
5	randomly.ab.
6	Clinical Trials as topic.sh.
7	trial.ti.
8	or/1-7

Embase search terms

1	random*.ti,ab.
2	factorial*.ti,ab.
3	(crossover* or cross over*).ti,ab.
4	((doubl* or singl*) adj blind*).ti,ab.
5	(assign* or allocat* or volunteer* or placebo*).ti,ab.
6	crossover procedure/
7	single blind procedure/
8	randomized controlled trial/
9	double blind procedure/
10	or/1-9

A.2.3 Diagnostic accuracy search terms

Medline search terms

1	exp "sensitivity and specificity"/
2	(sensitivity or specificity).ti,ab.
3	((pre test or pretest or post test) adj probability).ti,ab.
4	(predictive value* or PPV or NPV).ti,ab.
5	likelihood ratio*.ti,ab.
6	likelihood function/
7	(ROC curve* or AUC).ti,ab.
8	(diagnos* adj2 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
9	gold standard.ab.
10	or/1-9

Embase search terms

1	exp "sensitivity and specificity"/
2	(sensitivity or specificity).ti,ab.
3	((pre test or pretest or post test) adj probability).ti,ab.
4	(predictive value* or PPV or NPV).ti,ab.
5	likelihood ratio*.ti,ab.
6	(ROC curve* or AUC).ti,ab.
7	(diagnos* adj2 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
8	diagnostic accuracy/
9	diagnostic test accuracy study/
10	gold standard.ab.
11	or/1-10

A.2.4 Observational studies search terms

Medline search terms

1	Epidemiologic studies/
2	exp Case control studies/
3	exp Cohort studies/
4	Cross-sectional studies/

5	case control.ti,ab.
6	(cohort adj (study or studies or analys*)).ti,ab.
7	((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic*) adj (study or studies)).ti,ab.
8	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort*)).ti,ab.
9	or/1-8

Embase search terms

1	Clinical study/
2	exp Case control study/
3	Family study/
4	Longitudinal study/
5	Retrospective study/
6	Prospective study/
7	Cross-sectional study/
8	Cohort analysis/
9	Follow-up/
10	cohort*.ti,ab.
11	9 and 10
12	case control.ti,ab.
13	(cohort adj (study or studies or analys*)).ti,ab.
14	((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic*) adj (study or studies)).ti,ab.
15	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort*)).ti,ab.
16	or/1-8,11-15

A.2.5 Prognosis search terms

Medline search terms

1	Prognosis/
2	Predictive value of tests/
3	(predict* or prognos* or progression).ti,ab.
4	or/1-3

Embase search terms

1	*prognosis/
2	*predictive value/
3	*disease exacerbation/
4	(predict* or prognos* or progression).ti,ab.
5	or/1-4

A.2.6 Health economic search terms

Medline search terms

1	Economics/
2	Value of life/

3	exp "Costs and Cost Analysis"/
4	exp Economics, Hospital/
5	exp Economics, Medical/
6	Economics, Nursing/
7	Economics, Pharmaceutical/
8	exp "Fees and Charges"/
9	exp Budgets/
10	budget*.ti,ab.
11	cost*.ti.
12	(economic* or pharmaco?economic*).ti.
13	(price* or pricing*).ti,ab.
14	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
15	(financ* or fee or fees).ti,ab.
16	(value adj2 (money or monetary)).ti,ab.
17	or/1-16

Embase search terms

1	health economics/
2	exp economic evaluation/
3	exp health care cost/
4	exp fee/
5	budget/
6	funding/
7	budget*.ti,ab.
8	cost*.ti.
9	(economic* or pharmaco?economic*).ti.
10	(price* or pricing*).ti,ab.
11	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
12	(financ* or fee or fees).ti,ab.
13	(value adj2 (money or monetary)).ti,ab.
14	or/1-13

A.2.7 Quality of life search terms

Medline search terms

1	quality-adjusted life years/
2	sickness impact profile/
3	(quality adj2 (wellbeing or well being)).ti,ab.
4	sickness impact profile.ti,ab.
5	disability adjusted life.ti,ab.
6	(qal* or qtime* or qwb* or daly*).ti,ab.
7	(euroqol* or eq5d* or eq 5*).ti,ab.
8	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
9	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
10	(hui or hui1 or hui2 or hui3).ti,ab.
11	(health* year* equivalent* or hye or hyes).ti,ab.

12	discrete choice*.ti,ab.
13	rosser.ti,ab.
14	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
15	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
16	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
17	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
18	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
19	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
20	or/1-19

Embase search terms

1	quality adjusted life year/
2	"quality of life index"/
3	short form 12/ or short form 20/ or short form 36/ or short form 8/
4	sickness impact profile/
5	(quality adj2 (wellbeing or well being)).ti,ab.
6	sickness impact profile.ti,ab.
7	disability adjusted life.ti,ab.
8	(qal* or qtime* or qwb* or daly*).ti,ab.
9	(euroqol* or eq5d* or eq 5*).ti,ab.
10	(qol* or hq1* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
11	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
12	(hui or hui1 or hui2 or hui3).ti,ab.
13	(health* year* equivalent* or hye or hyes).ti,ab.
14	discrete choice*.ti,ab.
15	rosser.ti,ab.
16	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
17	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
18	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
19	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
20	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
21	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
22	or/1-21

A.2.8 Economic modelling search terms

Medline search terms

1	exp models, economic/
2	*Models, Theoretical/
3	*Models, Organizational/
4	markov chains/
5	monte carlo method/
6	exp Decision Theory/
7	(markov* or monte carlo).ti,ab.
8	econom* model*.ti,ab.
9	(decision* adj2 (tree* or analy* or model*)).ti,ab.

10	or/1-9
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Embase search terms

1	statistical model/
2	exp economic aspect/
3	1 and 2
4	*theoretical model/
5	*nonbiological model/
6	stochastic model/
7	decision theory/
8	decision tree/
9	monte carlo method/
10	(markov* or monte carlo).ti,ab.
11	econom* model*.ti,ab.
12	(decision* adj2 (tree* or analy* or model*)).ti,ab.
13	or/3-12

A.2.9 Excluded study designs and publication types

The following study designs and publication types were removed from retrieved results using the NOT operator.

Medline search terms

1	letter/
2	editorial/
3	news/
4	exp historical article/
5	Anecdotes as Topic/
6	comment/
7	case report/
8	(letter or comment*).ti.
9	or/1-8
10	randomized controlled trial/ or random*.ti,ab.
11	9 not 10
12	animals/ not humans/
13	Animals, Laboratory/
14	exp animal experiment/
15	exp animal model/
16	exp Rodentia/
17	(rat or rats or mouse or mice).ti.
18	or/11-17

Embase search terms

1	letter.pt. or letter/
2	note.pt.
3	editorial.pt.
4	case report/ or case study/

5	(letter or comment*).ti.
6	or/1-5
7	randomized controlled trial/ or random*.ti,ab.
8	6 not 7
9	animal/ not human/
10	nonhuman/
11	exp Animal Experiment/
12	exp Experimental Animal/
13	animal model/
14	exp Rodent/
15	(rat or rats or mouse or mice).ti.
16	or/8-15

Cinahl search terms

S1	PT anecdote or PT audiovisual or PT bibliography or PT biography or PT book or PT book review or PT brief item or PT cartoon or PT commentary or PT computer program or PT editorial or PT games or PT glossary or PT historical material or PT interview or PT letter or PT listservs or PT masters thesis or PT obituary or PT pamphlet or PT pamphlet chapter or PT pictorial or PT poetry or PT proceedings or PT "questions and answers" or PT response or PT software or PT teaching materials or PT website
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A.3 Searches by specific questions

A.3.1 Assessing risk

Which risk assessment tools are the most accurate for predicting AKI in at risk patients?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI	Risk assessment tools		Exclusions	No date restriction. Search run up to 03/01/2013

Risk assessment tools search terms

Medline search terms

1	((decision or predict* or assess* or screen* or score* or scoring or stratif* or prognos* or logistic*) adj2 (tool* or rule* or instrument*1 or index* or test* or technique* or analys* or model* or score*)).ti,ab.
2	(risk* adj2 (score* or stratif*)).ti,ab.
3	(logistic adj2 model).ti,ab.
4	(prognos* or predict*).ti,ab.
5	(risk* adj2 assessment*).ti,ab.
6	algorithm*.ti,ab.
7	algorithms/
8	logistic models/
9	Risk Assessment/
10	validat*.ti,ab.

11	or/1-10
12	risk*.ti,ab.
13	11 and 12

Embase search terms

1	((decision or predict* or assess* or screen* or score* or scoring or stratif* or prognos* or logistic*) adj2 (tool* or rule* or instrument*1 or index* or test* or technique* or analys* or model* or score*)).ti,ab.
2	(risk* adj2 (score* or stratif*)).ti,ab.
3	(logistic adj2 model).ti,ab.
4	(prognos* or predict*).ti,ab.
5	(risk* adj2 assessment*).ti,ab.
6	algorithm*.ti,ab.
7	validat*.ti,ab.
8	*algorithm/
9	*statistical model/
10	*risk assessment/
11	*scoring system/
12	or/1-11
13	risk*.ti,ab.
14	12 and 13

Cinahl search terms

S1	(MH "Risk Assessment")
S2	(MH "Logistic Regression+")
S3	(MH "Algorithms")
S4	validat* OR algorithm* OR risk* n2 assessment* OR prognos* OR predict* OR logistic* n2 model* OR risk* n2 score* OR risk* n2 stratif*
S5	decision n2 tool* OR decision n2 rule* OR decision n2 instrument* OR decision n2 index* OR decision n2 test* OR decision n2 technique* OR decision n2 analys* OR decision n2 model* OR decision n2 score*
S6	predict* n2 tool* OR predict* n2 rule* OR predict* n2 instrument* OR predict* n2 index* OR predict* n2 test* OR predict* n2 technique* OR predict* n2 analys* OR predict* n2 model* OR predict* n2 score*
S7	assess* n2 tool* OR assess* n2 rule* OR assess* n2 instrument* OR assess* n2 index* OR assess* n2 test* OR assess* n2 technique* OR assess* n2 analys* OR assess* n2 model* OR assess* n2 score*
S8	screen* n2 tool* OR screen* n2 rule* OR screen* n2 instrument* OR screen* n2 index* OR screen* n2 test* OR screen* n2 technique* OR screen* n2 analys* OR screen* n2 model* OR screen* n2 score*
S9	stratif* n2 tool* OR stratif* n2 rule* OR stratif* n2 instrument* OR stratif* n2 index* OR stratif* n2 test* OR stratif* n2 technique* OR stratif* n2 analys* OR stratif* n2 model* OR stratif* n2 score*
S10	prognos* n2 tool* OR prognos* n2 rule* OR prognos* n2 instrument* OR prognos* n2 index* OR prognos* n2 test* OR prognos* n2 technique* OR prognos* n2 analys* OR prognos* n2 model* OR prognos* n2 score*
S11	logistic* n2 tool* OR logistic* n2 rule* OR logistic* n2 instrument* OR logistic* n2 index* OR logistic* n2 test* OR logistic* n2 technique* OR logistic* n2 analys* OR logistic* n2 model* OR logistic* n2 score*
S12	score* n2 tool* OR score* n2 rule* OR score* n2 instrument* OR score* n2 index* OR score*

	n2 test* OR score* n2 technique* OR score* n2 analys* OR score* n2 model*
S13	scoring n2 tool* OR scoring n2 rule* OR scoring n2 instrument* OR scoring n2 index* OR scoring n2 test* OR scoring n2 technique* OR scoring n2 analys* OR scoring n2 model*
S14	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12 or S13

Cochrane search terms

#1	((decision or predict* or assess* or screen* or score* or scoring or stratif* or prognos* or logistic*) NEAR/2 (tool* or rule* or instrument*1 or index* or test* or technique* or analys* or model* or score*)):ti,ab,kw
#2	(risk* NEAR/2 (score* or stratif*)):ti,ab,kw
#3	(logistic NEAR/2 model):ti,ab,kw
#4	(prognos* or predict*):ti,ab,kw
#5	(risk* NEAR/2 assessment*):ti,ab,kw
#6	algorithm*:ti,ab,kw
#7	validat*:ti,ab,kw
#8	MeSH descriptor Algorithms, this term only
#9	MeSH descriptor Logistic Models, this term only
#10	MeSH descriptor Risk Assessment, this term only
#11	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10)

A.3.2 Track and trigger systems

In acutely ill children in hospital, what is the clinical and cost effectiveness of “track and trigger” systems in detecting children who are at risk of developing acute kidney injury?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Children	Track and trigger systems		Exclusions	No date restriction. Search run up to 03/01/2013

Medline search terms

1	*Health Status Indicators/
2	exp *"Severity of Illness Index"/
3	*Sickness Impact Profile/
4	severity of illness ind*.ti,ab.
5	health status ind*.ti,ab.
6	sickness impact profile*.ti,ab.
7	((early or advance*) adj warning adj3 (tool* or score* or scoring or system*)):ti,ab.
8	(warning adj2 (scor* or system*)):ti,ab.
9	(ews or pews or pops or cpotts or pewt or paws).ti,ab.
10	(observation adj2 (score* or tool*)):ti,ab.
11	(pims or "p?ediatric ind* of mortality").ti,ab.
12	"track and trigger".ti,ab.
13	((trigger or calling or alert) adj5 criteria).ti,ab.
14	or/1-13
15	exp *Critical Care/

16	*critical illness/
17	critical care.ti,ab.
18	intensive care.ti,ab.
19	exp *Intensive Care Units/
20	exp *Emergency Service, Hospital/
21	hospital emergency service*.ti,ab.
22	medical emergency team*.ti,ab.
23	hospital emergency team*.ti,ab.
24	patient emergency team*.ti,ab.
25	exp *Patient Care Team/
26	patient care team*.ti,ab.
27	patient at risk*.ti,ab.
28	(outreach adj (service* or team*)).ti,ab.
29	shock team*.ti,ab.
30	or/15-29
31	exp child/
32	Pediatrics/
33	child*.ti,ab.
34	Infant/
35	infan*.ti,ab.
36	(baby or babies).ti,ab.
37	"Adolescent"/
38	(pediatric*1 or paediatric*1).ti,ab.
39	or/31-38
40	14 and 30 and 39

Embase search terms

1	exp *"named inventories, questionnaires and rating scales"/
2	*checklist/ or *clinical assessment tool/ or *scoring system/
3	severity of illness ind*.ti,ab.
4	health status ind*.ti,ab.
5	sickness impact profile*.ti,ab.
6	((early or advance*) adj warning adj3 (tool* or score* or scoring or system*)).ti,ab.
7	(warning adj2 (scor* or system*)).ti,ab.
8	(ews or pews or pops or cpotts or pewt or paws).ti,ab.
9	(observation adj2 (score* or tool*)).ti,ab.
10	(pims or "p?ediatric ind* of mortality").ti,ab.
11	"track and trigger".ti,ab.
12	((trigger or calling or alert) adj5 criteria).ti,ab.
13	or/1-12
14	*critical illness/
15	*intensive care/
16	critical care.ti,ab.
17	intensive care.ti,ab.
18	*intensive care unit/

19	*emergency health service/
20	hospital emergency service*.ti,ab.
21	medical emergency team*.ti,ab.
22	patient emergency team*.ti,ab.
23	hospital emergency team*.ti,ab.
24	*patient care/
25	patient care team*.ti,ab.
26	patient at risk*.ti,ab.
27	(outreach adj (service* or team*)).ti,ab.
28	shock team*.ti,ab.
29	or/14-28
30	exp child/
31	pediatrics/
32	child*.ti,ab.
33	infan*.ti,ab.
34	(baby or babies).ti,ab.
35	exp adolescent/
36	(pediatric*1 or paediatric*1).ti,ab.
37	or/30-36
38	13 and 29 and 37

Cinahl search terms

S1	(MM "Health Status Indicators") OR (MM "Severity of Illness Indices")
S2	(MM "Sickness Impact Profile")
S3	severity of illness ind* OR health status ind* OR sickness impact profile* OR ((early or advance*) n1 warning n3 (tool* or score* or scoring or system*)) OR (warning n2 (scor* or system*))
S4	ews OR pews OR pops OR cpotts OR pewt OR paws OR (observation n2 (score* or tool*)) OR pims OR pediatric ind* of mortality OR paediatric ind* of mortality OR "track and trigger" OR ((trigger or calling or alert) n5 criteria)
S5	S1 or S2 or S3 or S4
S6	(MM "Critical Care+") OR (MM "Critical Illness") OR (MM "Intensive Care Units+") OR (MM "Emergency Service+") OR (MM "Multidisciplinary Care Team+")
S7	critical care OR intensive care OR hospital emergency service* OR medical emergency team* OR hospital emergency team* OR patient emergency team* OR patient care team* OR patient at risk* OR outreach n1 service* OR outreach n1 team* OR shock team*
S8	S6 or S7
S9	S5 and S8
S10	(MH "Child+") OR (MH "Pediatrics") OR (MH "Adolescence+")
S11	child* OR infan* OR baby OR babies OR pediatric* OR paediatric*
S12	S10 or S11
S13	S9 and S12

Cochrane search terms

#1	severity of illness ind*:ti,ab
#2	health status ind*:ti,ab
#3	sickness impact profile*:ti,ab
#4	(warning NEAR/2 (scor* or system*)):ti,ab,kw

#5	"track and trigger":ti,ab,kw
#6	MeSH descriptor Health Status Indicators, this term only
#7	MeSH descriptor Severity of Illness Index explode all trees
#8	MeSH descriptor Sickness Impact Profile, this term only
#9	((early or advance*) NEXT warning NEAR/3 (tool* or score* or scoring or system*)):ti,ab,kw
#10	(ews or pews or pops or cpotts or pewt or paws):ti,ab,kw
#11	(observation NEAR/2 (score* or tool*)):ti,ab,kw
#12	(pims or "p*diatric ind* of mortality"):ti,ab,kw
#13	((trigger or calling or alert) NEAR/5 criteria):ti,ab,kw
#14	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13)
#15	MeSH descriptor Critical Care explode all trees
#16	MeSH descriptor Critical Illness, this term only
#17	critical care.ti,ab
#18	intensive care.ti,ab
#19	MeSH descriptor Intensive Care Units explode all trees
#20	MeSH descriptor Emergency Service, Hospital explode all trees
#21	hospital emergency service*:ti,ab
#22	medical emergency team*:ti,ab
#23	hospital emergency team*:ti,ab
#24	patient emergency team*:ti,ab
#25	MeSH descriptor Patient Care Team explode all trees
#26	patient care team*:ti,ab
#27	patient at risk*:ti
#28	(outreach NEXT (service* or team*)):ti,ab,kw
#29	shock team*:ti,ab,kw
#30	(#15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29)
#31	(#14 AND #30)
#32	MeSH descriptor Child explode all trees
#33	MeSH descriptor Pediatrics, this term only
#34	child*:ti,ab
#35	MeSH descriptor Infant, this term only
#36	infan*:ti,ab
#37	(baby or babies):ti,ab
#38	MeSH descriptor Adolescent, this term only
#39	(pediatric* or paediatric*):ti,ab
#40	(#32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39)
#41	(#31 AND #40)

A.3.3 Preventing CI-AKI

What is the comparative clinical and cost effectiveness of NAC and/or iv fluids in preventing CI-AKI in at risk patients?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
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Population	Intervention / exposure	Comparison	Study filter used	Date parameters
CI-AKI	IV fluids/NAC		Exclusions. SRs RCTs (Medline and Embase only)	No date restriction. Search run up to 03/01/2013

CI-AKI search terms

Medline search terms

1	Contrast Media/ae [Adverse Effects]
2	((contrast or radiocontrast) adj2 induc* adj2 (nephropath* or nephrotoxi* or aki or arf or acute kidney injury or acute renal failure)) or cin or ciaki or ciraf or ci-aki or ci-arf or ((contrast or radiocontrast) adj2 prophlya*).ti,ab.
3	or/1-2

Embase search terms

1	contrast induced nephropathy/
2	((contrast or radiocontrast) adj2 induc* adj2 (nephropath* or nephrotoxi* or aki or arf or acute kidney injury or acute renal failure)) or cin or ciaki or ciraf or ci-aki or ci-arf or ((contrast or radiocontrast) adj2 prophlya*).ti,ab.
3	or/1-2

Cochrane search terms

#1	MeSH descriptor Contrast Media, this term only with qualifier: AE
#2	((contrast or radiocontrast) NEAR induc* NEAR/2 (nephropath* or nephrotoxi* or aki or arf or acute kidney injury or acute renal failure)) or cin or ciaki or ciraf or ci-aki or ci-arf or ((contrast or radiocontrast) NEAR/2 prophlya*).ti,ab,kw
#3	(#1 OR #2)

IV fluids/NAC search terms

Medline search terms

1	Acetylcysteine/
2	(acetylcysteine or n-acetylcysteine or n acetyl l cysteine or parvolex).ti,ab.
3	Saline Solution, Hypertonic/
4	Bicarbonates/
5	(saline or sodium chloride or bicarbonate or ((iv or intravenous*) adj2 fluid*).ti,ab.
6	or/1-5

Embase search terms

1	acetylcysteine/
2	(acetylcysteine or n-acetylcysteine or n acetyl l cysteine or parvolex).ti,ab.
3	sodium chloride/
4	bicarbonate/
5	(saline or sodium chloride or bicarbonate or ((iv or intravenous*) adj2 fluid*).ti,ab.
6	infusion fluid/
7	or/1-6

Cochrane search terms

#1	MeSH descriptor Acetylcysteine, this term only
#2	(acetylcysteine or n-acetylcysteine or n acetyl l cysteine or parvolex):ti,ab,kw

#3	MeSH descriptor Saline Solution, Hypertonic, this term only
#4	MeSH descriptor Bicarbonates, this term only
#5	(saline or sodium chloride or bicarbonate or ((iv or intravenous*) NEAR/2 fluid*)):ti,ab,kw
#6	(#1 OR #2 OR #3 OR #4 OR #5)

A.3.4 Computerised decision tools

What is the clinical and cost effectiveness of methods for preventing inappropriate use of nephrotoxic drugs in hospital inpatients?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI OR nephrotoxicity	Computerised decision tools		Exclusions. SRs, RCTs or observational (Medline and Embase only)	No date restriction. Search run up to 03/01/2013

Nephrotoxicity search terms

Medline search terms

1	nephrotox*.ti,ab.
2	((kidney* or renal) adj2 (toxic* or toxin*)).ti,ab.
3	exp Renal Insufficiency/
4	((kidney or renal) adj (failure* or injur* or insufficien* or dysfunction* or impair*)).ti,ab.
5	or/1-4

Embase search terms

1	*nephrotoxicity/
2	nephrotox*.ti,ab.
3	((kidney* or renal) adj2 (toxic* or toxin*)).ti,ab.
4	*kidney failure/ or *chronic kidney failure/
5	((kidney or renal) adj (failure* or injur* or insufficien* or dysfunction* or impair*)).ti,ab.
6	or/1-5

Cinahl search terms

S1	(MH "Nephrotoxicity")
S2	nephrotox* OR kidney* n2 toxic* OR kidney* n2 toxin* OR renal n2 toxic* OR renal n2 toxin*
S3	(MH "Renal Insufficiency+")
S4	((kidney or renal) n1 (failure* or injur* or insufficien* or dysfunction* or impair*))
S5	S1 or S2 or S3 or S4

Cochrane search terms

#1	nephrotox*:ti,ab,kw
#2	((kidney* or renal) NEAR/2 (toxic* or toxin*)):ti,ab,kw
#3	MeSH descriptor Renal Insufficiency explode all trees
#4	((kidney or renal) NEAR (failure* or injur* or insufficien* or dysfunction* or impair*)):ti,ab,kw
#5	(#1 OR #2 OR #3 OR #4)

Computerised decision tools search terms

Medline search terms

1	Electronic Prescribing/
2	Drug Prescriptions/
3	"Drug Utilization Review"/
4	Clinical Pharmacy Information Systems/
5	*Drug Monitoring/
6	decision making, computer-assisted/ or drug therapy, computer-assisted/
7	Decision Support Systems, Clinical/
8	Pharmacists/
9	Pharmacy Service, Hospital/
10	exp Medication Systems/
11	(pharmac* adj4 (review* or monit* or prescri*)).ti,ab.
12	(electronic prescri* or eprescri* or e-prescri*).ti,ab.
13	(computer* adj3 (decision* or tool* or support* or prescri*)).ti,ab.
14	(drug* adj2 (review* or monit*)).ti,ab.
15	or/1-14

Embase search terms

1	exp computerized provider order entry/
2	*prescription/
3	*"drug use"/
4	medical information system/
5	*drug monitoring/
6	decision support system/
7	computer assisted drug therapy/
8	*pharmacist/
9	hospital pharmacy/
10	(pharmac* adj4 (review* or monit* or prescri*)).ti,ab.
11	(pharmac* adj4 (review* or monit* or prescri*)).ti,ab.
12	(electronic prescri* or eprescri* or e-prescri*).ti,ab.
13	(computer* adj3 (decision* or tool* or support* or prescri*)).ti,ab.
14	(drug* adj2 (review* or monit*)).ti,ab.
15	or/1-14

Cinahl search terms

S1	(MH "Prescribing Patterns")
S2	(MH "Drug Therapy, Computer Assisted") OR (MH "Prescriptions, Drug")
S3	(MH "Drug Utilization")
S4	(MH "Clinical Pharmacy Information Systems")
S5	(MM "Drug Monitoring")
S6	(MH "Decision Making, Computer Assisted") OR (MH "Decision Support Systems, Clinical")
S7	(MH "Pharmacists") OR (MH "Pharmacy Service")
S8	(MH "Medication Systems")
S9	pharmac* n4 review* OR pharmac* n4 monit* OR pharmac* n4 prescri*
S10	electronic prescri* OR eprescri* OR e-prescri*
S11	computer* n3 decision* OR computer* n3 tool* OR computer* n3 support* OR computer* n3

	prescri*
S12	drug* n2 review* OR drug* n2 monit*
S13	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12

Cochrane search terms

#1	MeSH descriptor Electronic Prescribing, this term only
#2	MeSH descriptor Drug Prescriptions, this term only
#3	MeSH descriptor Drug Utilization Review, this term only
#4	MeSH descriptor Clinical Pharmacy Information Systems, this term only
#5	MeSH descriptor Drug Monitoring, this term only
#6	MeSH descriptor Decision Making, Computer-Assisted, this term only
#7	MeSH descriptor Drug Therapy, Computer-Assisted, this term only
#8	MeSH descriptor Decision Support Systems, Clinical, this term only
#9	MeSH descriptor Pharmacists, this term only
#10	MeSH descriptor Pharmacy Service, Hospital, this term only
#11	MeSH descriptor Medication Systems explode all trees
#12	(pharmac* NEAR/4 (review* or monit* or prescri*)):ti,ab,kw
#13	(electronic prescri* or eprescri* or e-prescri*):ti,ab,kw
#14	(computer* NEAR/3 (decision* or tool* or support* or prescri*)):ti,ab,kw
#15	(drug* NEAR/2 (review* or monit*)):ti,ab,kw
#16	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15)

A.3.5 Stopping ACEi/ARB therapy

What is the clinical and cost effectiveness of stopping ACEi and ARB in patients at risk of AKI?

Searches for this question were run as two separate searches: one looking for patients on ACEi/ARBs and with sepsis, diarrhoea or vomiting; the other for patients with CKD or left ventricular failure and on ACEi/ARBs undergoing surgery or contrast.

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Sepsis, diarrhoea, vomiting	ACEi/ARB		Exclusions	No date restriction. Search run up to 03/01/2013

ACEi/ARB search terms

Medline search terms

1	exp angiotensin ii type 1 receptor blockers/ or angiotensin ii type 2 receptor blockers/
2	((angiotensin adj3 (receptor* adj2 (antagonist* or blocker*))) or arb or arbs).ti,ab.
3	(candesartan or amias or eprosartan or teveten or irbesartan or aprovel or coaprovel or losartan or cozaar or cozaar-comp or olmesartan or olmetec or sevkar or telmisartan or micardis or valsartan or diovan or co-diovan).ti,ab.
4	exp Angiotensin-Converting Enzyme Inhibitors/
5	((ace or acei or ((angiotensin adj converting adj2 enzyme*) or ace or kininase)) adj2 (inhibit* or antagonist*)).ti,ab.
6	(captopril or ecopace or kaplon or capoten or co-zidocapt or capto-co or capozide or cilazapril

	or vascace or enalapril or ednyt or innovace or innozide or fosinopril or imidapril or tanatril or lisinopril or zestril or carace or zestoretic or moexipril or perdix or perindopril or coversyl or quinapril or quinil or accupro or accuretic or ramipril or tritace or triapin or trandolapril or gopten or tarka).ti,ab.
7	or/1-6

Embase search terms

1	exp *angiotensin receptor antagonist/
2	((angiotensin adj3 (receptor* adj2 (antagonist* or blocker*))) or arb or arbs).ti,ab.
3	(candesartan or amias or eprosartan or teveten or irbesartan or aprovel or coaprovel or losartan or cozaar or cozaar-comp or olmesartan or olmetec or sevikar or telmisartan or micardis or valsartan or diovan or co-diovan).ti,ab.
4	exp *dipeptidyl carboxypeptidase inhibitor/
5	((ace or acei or ((angiotensin adj converting adj2 enzyme*) or ace or kininase)) adj2 (inhibit* or antagonist*).ti,ab.
6	(captopril or ecopace or kaplon or capoten or co-zidocapt or capto-co or capozide or cilazapril or vascace or enalapril or ednyt or innovace or innozide or fosinopril or imidapril or tanatril or lisinopril or zestril or carace or zestoretic or moexipril or perdix or perindopril or coversyl or quinapril or quinil or accupro or accuretic or ramipril or tritace or triapin or trandolapril or gopten or tarka).ti,ab.
7	or/1-6

Cochrane search terms

#1	MeSH descriptor Angiotensin II Type 1 Receptor Blockers explode all trees
#2	MeSH descriptor Angiotensin II Type 2 Receptor Blockers, this term only
#3	((angiotensin NEAR/3 (receptor* NEAR/2 (antagonist* or blocker*))) or arb or arbs):ti,ab
#4	(candesartan or amias or eprosartan or teveten or irbesartan or aprovel or coaprovel or losartan or cozaar or cozaar-comp or olmesartan or olmetec or sevikar or telmisartan or micardis or valsartan or diovan or co-diovan):ti,ab
#5	MeSH descriptor Angiotensin-Converting Enzyme Inhibitors explode all trees
#6	((ace or acei or ((angiotensin NEXT converting NEAR/2 enzyme*) or ace or kininase)) NEAR/2 (inhibit* or antagonist*)):ti,ab
#7	(captopril or ecopace or kaplon or capoten or co-zidocapt or capto-co or capozide or cilazapril or vascace or enalapril or ednyt or innovace or innozide or fosinopril or imidapril or tanatril or lisinopril or zestril or carace or zestoretic or moexipril or perdix or perindopril or coversyl or quinapril or quinil or accupro or accuretic or ramipril or tritace or triapin or trandolapril or gopten or tarka):ti,ab
#8	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7)

Sepsis, diarrhoea, vomiting search terms

Medline search terms

1	sepsis/ or exp bacteremia/ or shock, septic/
2	(sepsis or septic).ti,ab.
3	((toxic or endotoxic) adj shock*).ti,ab.
4	septic?emi*.ti,ab.
5	(blood stream adj2 infect*).ti,ab.
6	Diarrhea/
7	(diarrhoea* or diarrhea*).ti,ab.
8	Vomiting/
9	(vomit* or emesis).ti,ab.

10	or/1-9
----	--------

Embase search terms

1	exp *sepsis/
2	(sepsis or septic).ti,ab.
3	((toxic or endotoxic) adj shock*).ti,ab.
4	septic?emi*.ti,ab.
5	(blood stream adj2 infect*).ti,ab.
6	(diarrhoea* or diarrhea*).ti,ab.
7	(vomit* or emesis).ti,ab.
8	exp *diarrhea/
9	*vomiting/
10	or/1-9

Cochrane search terms

#1	MeSH descriptor Sepsis explode all trees
#2	(sepsis or septic):ti,ab
#3	((toxic or endotoxic) NEXT shock*):ti,ab
#4	septic*mi*.ti,ab
#5	(blood stream NEAR/2 infect*):ti,ab
#6	MeSH descriptor Diarrhea, this term only
#7	MeSH descriptor Vomiting, this term only
#8	(diarrhoea* or diarrhea*):ti,ab
#9	(vomit* or emesis):ti,ab
#10	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9)

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
CKD, left ventricular failure patients undergoing surgery, contrast	ACEi/ARBs		Exclusions SRs, RCTs, observational (Medline and Embase only)	No date restriction. Search run up to 03/01/2013

CKD, left ventricular failure AND surgery, contrast search terms

Medline search terms

1	Renal insufficiency, Chronic/
2	exp Kidney failure, Chronic/
3	Kidney diseases/ and chronic.ti,ab.
4	((chronic or progressive) adj2 (renal or kidney)).ti,ab.
5	(chronic adj (kidney or renal) adj insufficienc*).ti,ab.
6	(end stage adj2 (kidney or renal)).ti,ab.
7	(CKD or ESRD).ti,ab.
8	Diabetic nephropathies/
9	exp Proteinuria/
10	exp Hypertension, Renal/
11	(diabetic adj (kidney or renal) adj (disease* or failure)).ti,ab.

12	((renal or renovascular) adj2 hypertensi*).ti,ab.
13	(nephropath* or proteinuria*).ti,ab.
14	exp Ventricular Dysfunction, Left/
15	(left adj1 ventric* adj3 (fail* or dysfunction* or insufficien*)).ti,ab.
16	or/1-15
17	exp Surgical Procedures, Operative/
18	(surger* or surgical or operation* or operativ*).ti,ab.
19	exp Contrast Media/
20	(radiocontrast* or contrast*).ti,ab.
21	or/17-20
22	16 and 21

Embase search terms

1	Chronic kidney disease/
2	Chronic kidney failure/
3	(kidney failure/ or kidney disease/) and chronic.ti,ab.
4	((chronic or progressive) adj2 (renal or kidney)).ti,ab.
5	(chronic adj (kidney or renal) adj insufficienc*).ti,ab.
6	(end stage adj2 (kidney or renal)).ti,ab.
7	(CKD or ESRD).ti,ab.
8	Diabetic nephropathy/
9	exp Proteinuria/
10	Renovascular hypertension/
11	(diabetic adj (kidney or renal) adj (disease* or failure)).ti,ab.
12	((renal or renovascular) adj2 hypertensi*).ti,ab.
13	(nephropath* or proteinuria*).ti,ab.
14	heart left ventricle failure/
15	(left adj1 ventric* adj3 (fail* or dysfunction* or insufficien*)).ti,ab.
16	or/1-15
17	exp *surgery/
18	(surger* or surgical or operation* or operativ*).ti,ab.
19	exp contrast medium/
20	(radiocontrast* or contrast*).ti,ab.
21	or/17-20
22	16 and 21

Cochrane search terms

#1	MeSH descriptor Renal Insufficiency, Chronic explode all trees
#2	MeSH descriptor Kidney Diseases, this term only
#3	chronic*:ti,ab,kw
#4	(#2 AND #3)
#5	((chronic or progressive) NEAR/2 (renal or kidney)):ti,ab
#6	(chronic NEAR (kidney or renal) NEAR insufficienc*):ti,ab
#7	(end stage NEAR/2 (kidney or renal)):ti,ab
#8	(CKD or ESRD):ti,ab
#9	MeSH descriptor Diabetic Nephropathies, this term only

#10	MeSH descriptor Proteinuria explode all trees
#11	MeSH descriptor Hypertension, Renal explode all trees
#12	(diabetic NEAR (kidney or renal) NEAR (disease* or failure)):ti,ab
#13	((renal or renovascular) NEAR/2 hypertensi*):ti,ab
#14	(nephropath* or proteinuria*):ti,ab
#15	MeSH descriptor Ventricular Dysfunction, Left explode all trees
#16	(left NEAR ventric* NEAR/3 (fail* or dysfunction* or insufficien*)):ti,ab
#17	(#1 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16)
#18	MeSH descriptor Surgical Procedures, Operative explode all trees
#19	(surger* or surgical or operation* or operativ*):ti,ab
#20	MeSH descriptor Contrast Media explode all trees
#21	(radiocontrast* or contrast*):ti,ab
#22	(#18 OR #19 OR #20 OR #21)
#23	(#17 AND #22)

A.3.6 AKIN/RIFLE

What is the clinical evidence that the staging elements of RIFLE/AKIN/pRIFLE are useful in predicting patient outcomes?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI	AKIN/RIFLE		Exclusions, Observational (Medline and Embase only)	No date restriction. Search run up to 03/01/2013

AKIN/RIFLE search terms

Medline search terms

1	(Acute Kidney Injury Network or akin).ti,ab.
2	rifle.ti,ab.
3	prifle.ti,ab.
4	or/1-3

Embase search terms

1	(Acute Kidney Injury Network or akin).ti,ab.
2	rifle.ti,ab.
3	prifle.ti,ab.
4	or/1-3

Cochrane search terms

#1	(Acute Kidney Injury Network or akin):ti,ab
#2	rifle:ti,ab
#3	prifle:ti,ab
#4	#1 or #2 or #3

A.3.7 Urinalysis

What is the sensitivity and specificity of urine dipstick compared to urine microscopy and/or biopsy in the detection of proteinuria and haematuria as indicators of glomerulo nephritis in AKI patients?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI OR glomerulonephritis	Urinalysis		Exclusions	No date restriction. Search run up to 03/01/2013

Glomerulonephritis search terms

Medline search terms

1	exp Glomerulonephritis/
2	((glomerul* adj nephriti*) or glomerulonephriti*).ti,ab.
3	or/1-2

Embase search terms

1	((glomerul* adj nephriti*) or glomerulonephriti*).ti,ab.
2	exp glomerulonephritis/
3	or/1-2

Cinahl search terms

S1	(MH "Glomerulonephritis+")
S2	glomerul* n1 nephriti* OR glomerulonephriti*
S3	S1 or S2

Cochrane search terms

#1	((glomerul* NEXT nephriti*) or glomerulonephriti*):ti,ab,kw
#2	MeSH descriptor Glomerulonephritis explode all trees
#3	(#1 OR #2)

Urinalysis search terms

Medline search terms

1	Urinalysis/
2	Reagent Strips/
3	urinalys*.ti,ab.
4	(dipstick* or ((dip or reagent) adj (stick* or strip*))).ti,ab.
5	or/1-4

Embase search terms

1	*urinalysis/
2	test strip/
3	urinalys*.ti,ab.
4	(dipstick* or ((dip or reagent) adj (stick* or strip*))).ti,ab.
5	or/1-4

Cinahl search terms

S1	(MH "Urinalysis")
S2	(MH "Reagent Strips")
S3	urinalys* OR dipstick* OR dip n1 stick* OR dip n1 strip* OR reagent n1 stick* OR reagent n1 strip*
S4	S1 or S2 or S3

Cochrane search terms

#1	MeSH descriptor Urinalysis, this term only
#2	MeSH descriptor Reagent Strips, this term only
#3	(urinalys* or dipstick* or ((dip or reagent) NEAR (stick* or strip*))) :ti,ab,kw
#4	(#1 OR #2 OR #3)

A.3.8 Ultrasound

Which patients should have US for the diagnosis of the cause of AKI?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI	Ultrasound		Exclusions	No date restriction. Search run up to 03/01/2013

Ultrasound search terms

Medline search terms

1	Ultrasonography/
2	(ultrasound* or ultrason* or sonograph* or echograph*).ti,ab.
3	or/1-2

Embase search terms

1	echography/
2	(ultrasound* or ultrason* or sonograph* or echograph*).ti,ab.
3	or/1-2

Cinahl search terms

S1	(MH "Ultrasonography+")
S2	ultrasound* OR ultrason* OR sonograph* OR echograph*
S3	S1 or S2

Cochrane search terms

#1	MeSH descriptor Ultrasonography explode all trees
#2	(ultrasound* or ultrason* or sonograph* or echograph*) :ti,ab,kw
#3	(#1 OR #2)

A.3.9 Relieving urological obstruction

In adults and children with AKI and upper tract urological obstruction, what is the clinical and cost effectiveness of early compared to delayed relief of obstruction by nephrostomy or stenting on mortality, severity of AKI, need for RRT and length of hospital stay?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Urological obstruction	Time factors		Exclusions. SRs RCTs and observational (Medline and Embase only)	No date restriction. Search run up to 03/01/2013

Medline search terms

1	Ureteral Obstruction/
2	((obstruct* or block* or occlu*) adj3 (urin* or ureter* or urethra* or pelviuret* or renal or kidney)) or uto or puj or hydronephros*).ti,ab.
3	exp hydronephrosis/
4	or/1-3
5	Nephrostomy, Percutaneous/
6	Stents/
7	(nephrostom* or nephrolithotom* or stent*).ti,ab.
8	(relief or relieve* or remov*).ti,ab.
9	or/5-8
10	4 and 9
11	Time Factors/
12	(early or earlier or late* or time or timing or initiat* or criteri* or hour*).ti,ab.
13	or/11-12
14	10 and 13

Embase search terms

1	ureter obstruction/ or ureteropelvic junction obstruction/ or urethra obstruction/
2	hydronephrosis/
3	((obstruct* or block* or occlu*) adj3 (urin* or ureter* or urethra* or pelviuret* or renal or kidney)) or uto or puj or hydronephros*).ti,ab.
4	or/1-3
5	nephrostomy/ or percutaneous nephrostomy/
6	stent/ or ureter stent/
7	(nephrostom* or nephrolithotom* or stent*).ti,ab.
8	(relief or relieve* or remov*).ti,ab.
9	or/5-8
10	therapy delay/
11	time/
12	(early or earlier or late* or time or timing or initiat* or criteri* or hour*).ti,ab.
13	or/10-12
14	4 and 9
15	14 and 13

Cochrane search terms

#1	MeSH descriptor Ureteral Obstruction explode all trees
#2	MeSH descriptor Hydronephrosis explode all trees
#3	((obstruct* or block* or occlu*) NEAR/3 (urin* or ureter* or urethra* or pelviuret* or renal or

	kidney)) or uto or puj or hydronephros*):ti,ab,kw
#4	(#1 OR #2 OR #3)
#5	MeSH descriptor Nephrostomy, Percutaneous explode all trees
#6	MeSH descriptor Stents, this term only
#7	(nephrostom* or nephrolithotom* or stent*):ti,ab,kw
#8	(relief or relieve* or remov*):ti,ab,kw
#9	(#5 OR #6 OR #7 OR #8)
#10	(#4 AND #9)
#11	MeSH descriptor Time Factors, this term only
#12	(early or earlier or late* or time or timing or initiat* or criteri* or hour*):ti,ab,kw
#13	(#11 OR #12)
#14	(#10 AND #13)

A.3.10 Loop diuretics

In patients with AKI, what is the clinical and cost effectiveness of loop diuretics compared to placebo on mortality, number of RRT sessions, length of RRT, pulmonary oedema or other defined fluid overload and hearing loss?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI	Loop diuretics		Exclusions SRs RCTs (Medline and Embase only)	No date restriction. Search run up to 03/01/2013

Loop diuretic search terms

Medline search terms

1	exp Sodium Potassium Chloride Symporter Inhibitors/
2	(Furosemide or lasix or frusene or frusol or bumetanide or burinex or torasemide or torsemide or torem).ti,ab.
3	Furosemide/
4	Bumetanide/
5	loop diuretic*.ti,ab.
6	or/1-5

Embase search terms

1	exp loop diuretic agent/
2	(Furosemide or lasix or frusene or frusol or bumetanide or burinex or torasemide or torsemide or torem).ti,ab.
3	loop diuretic*.ti,ab.
4	or/1-3

Cochrane search terms

#1	MeSH descriptor Sodium Potassium Chloride Symporter Inhibitors explode all trees
#2	MeSH descriptor Furosemide, this term only
#3	MeSH descriptor Bumetanide, this term only
#4	(Furosemide or lasix or frusene or frusol or bumetanide or burinex or torasemide or torsemide

	or torem):ti,ab,kw
#5	(loop diuretic*):ti,ab,kw
#6	(#1 OR #2 OR #3 OR #4 OR #5)

A.3.11 Dopamine

In patients with AKI, what is the clinical and cost effectiveness of low dose dopamine compared to placebo on mortality, numbers needing RRT and adverse events such as tachyarrhythmias, myocardial ischaemia) as well as HRQoL, length of critical care and hospital stay?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI	Dopamine		Exclusions SRs RCTs (Medline and Embase only)	No date restriction. Search run up to 03/01/2013

Dopamine search terms

Medline search terms

1	Dopamine/
2	dopamine.ti,ab.
3	1 or 2

Embase search terms

1	dopamine/
2	dopamine.ti,ab.
3	1 or 2

Cochrane search terms

#1	MeSH descriptor Dopamine explode all trees
#2	dopamine:ti,ab,kw
#3	(#1 OR #2)

A.3.12 Referring for renal replacement therapy

In patients with AKI, what is the clinical and cost effectiveness of initiating early RRT compared to delayed RRT in reducing mortality and major complications of AKI such as hyperkalaemia, pulmonary oedema or other defined fluid overload?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI	RRT		Exclusions SRs, RCTs, observational (Medline and Embase only)	No date restriction. Search run up to 03/01/2013

RRT search terms

Medline search terms

1	exp renal replacement therapy/
2	(((kidney or renal) adj1 replacement therap*) or RRT or CRRT or dialys* or h?emodialys* or h?emofiltrat* or h?emodiafiltrat* or CVVH or CAVH).ti,ab.
3	or/1-2
4	Time factors/
5	3 and 4
6	(((kidney or renal) adj1 replacement therap*) or RRT or CRRT or dialys* or h?emodialys* or h?emofiltrat* or h?emodiafiltrat* or CVVH or CAVH) adj5 (Early or earlier or late* or time or timing or initiat*).ti,ab.
7	or/5-6

Embase search terms

1	exp renal replacement therapy/
2	(((kidney or renal) adj1 replacement therap*) or RRT or CRRT or dialys* or h?emodialys* or h?emofiltrat* or h?emodiafiltrat* or CVVH or CAVH).ti,ab.
3	or/1-2
4	time/
5	therapy delay/ or early intervention/
6	or/4-5
7	3 and 6
8	(((kidney or renal) adj1 replacement therap*) or RRT or CRRT or dialys* or h?emodialys* or h?emofiltrat* or h?emodiafiltrat* or CVVH or CAVH) adj5 (Early or earlier or late* or time or timing or initiat*).ti,ab.
9	or/7-8

Cochrane search terms

#1	MeSH descriptor Renal Replacement Therapy explode all trees
#2	(((kidney or renal) NEAR replacement therap*) or RRT or CRRT or dialys* or h*modialys* or h*mofiltrat* or h*modiafiltrat* or CVVH or CAVH):ti,ab,kw
#3	MeSH descriptor Time Factors, this term only
#4	(#1 OR #2)
#5	(#3 AND #4)
#6	(((kidney or renal) NEAR replacement therap*) or RRT or CRRT or dialys* or h*modialys* or h*mofiltrat* or h*modiafiltrat* or CVVH or CAVH) NEAR/5 (Early or earlier or late* or time or timing or initiat*):ti,ab,kw
#7	(#5 OR #6)

A.3.13 Referring to nephrology

In patients with or suspected of having AKI, what is the clinical and cost effectiveness of early (as defined by stage or increased creatinine levels) compared to late referral to nephrologist?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI	Referring to nephrology		Exclusions	No date restriction. Search run up to 03/01/2013

Referring to nephrology search terms

Medline search terms

1	"referral and consultation"/ or remote consultation/
2	*nephrology/
3	((refer* or consult* or second opinion) adj5 (nephrolog* or renal)).ti,ab.
4	or/1-3

Embase search terms

1	*patient referral/
2	*nephrologist/
3	nephrology/ and patient referral/
4	((refer* or consult* or second opinion) adj5 (nephrolog* or renal)).ti,ab.
5	or/1-4

Cinahl search terms

S1	(MH "Referral and Consultation+") OR (MM "Nephrology")
S2	((refer* or consult* or second opinion) n5 (nephrolog* or renal))
S3	S1 or S2

Cochrane search terms

#1	MeSH descriptor Referral and Consultation, this term only
#2	MeSH descriptor Nephrology, this term only
#3	((refer* or consult* or second opinion) NEAR/5 (nephrolog* or renal)):ti,ab
#4	(#1 OR #2 OR #3)

A.3.14 Information and support for patients

In patients with AKI what is the effectiveness of patient information and support in improving outcomes such as mortality and worsening of AKI?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI OR nephrotoxicity OR RRT	Patient information		Exclusions Qualitative	No date restriction. Search run up to 03/01/2013

Nephrotoxicity search terms

Medline search terms

1	nephrotox*.ti,ab.
2	((kidney* or renal) adj2 (toxic* or toxin*)).ti,ab.
3	or/1-2

Embase search terms

1	*nephrotoxicity/
2	nephrotox*.ti,ab.
3	((kidney* or renal) adj2 (toxic* or toxin*)).ti,ab.
4	or/1-3

Cinahl search terms

S1	(MH "Nephrotoxicity")
S2	nephrotox*
S3	((kidney* or renal) n2 (toxic* or toxin*))
S4	S1 or S2 or S3

Cochrane search terms

#1	nephrotox*:ti,ab
#2	((kidney* or renal) NEAR/2 (toxic* or toxin*)):ti,ab
#3	#1 OR #2

PsychInfo search terms

1	nephrotox*.ti,ab.
2	((kidney* or renal) adj2 (toxic* or toxin*)):ti,ab.
3	or/1-1

RRT search terms

Medline search terms

1	exp renal replacement therapy/
2	(((kidney or renal) adj1 replacement therap*) or RRT or CRRT or dialys* or h?emodialys* or h?emofiltrat* or h?emodiafiltrat* or CVVH or CAVH).ti,ab.
3	or/1-2
4	acute*.ti,ab.
5	3 and 4

Embase search terms

1	exp renal replacement therapy/
2	(((kidney or renal) adj1 replacement therap*) or RRT or CRRT or dialys* or h?emodialys* or h?emofiltrat* or h?emodiafiltrat* or CVVH or CAVH).ti,ab.
3	or/1-2
4	acute*.ti,ab.
5	3 and 4

Cinahl search terms

S1	(MH "Renal Replacement Therapy+")
S2	(((kidney or renal) n1 replacement therap*) or RRT or CRRT or dialys* or haemodialys* or hemodialys* or haemofiltrat* or hemofiltrat* or haemodiafiltrat* or hemodiafiltrat* or CVVH or CAVH)
S3	S1 or S2
S4	acute*
S5	S3 and S4

Cochrane search terms

#1	MeSH descriptor Renal Replacement Therapy explode all trees
#2	(((kidney or renal) NEAR replacement therap*) or RRT or CRRT or dialys* or h*modialys* or h*mofiltrat* or h*modiafiltrat* or CVVH or CAVH):ti,ab,kw
#3	#1 OR #2
#4	acute*:ti,ab
#5	#3 AND #4

PsychInfo search terms

1	exp dialysis/
2	(((kidney or renal) adj1 replacement therap*) or RRT or CRRT or dialys* or h?emodialys* or h?emofiltrat* or h?emodiafiltrat* or CVVH or CAVH).ti,ab.
3	or/1-2
4	acute*.ti,ab.
5	3 and 4

Patient Information AND qualitative search terms

Medline search terms

1	"patient acceptance of health care"/ or exp patient satisfaction/
2	Patient Education as Topic/
3	(information* adj3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*)).ti,ab.
4	((client* or patient* or user* or carer* or consumer* or customer* or parent* or guardian*) adj2 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion*)).ti,ab.
5	or/1-4
6	qualitative research/
7	exp Interviews as Topic/
8	exp Questionnaires/
9	health care surveys/
10	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*).ti,ab.
11	or/6-10
12	5 and 11

Embase search terms

1	patient attitude/ or patient preference/ or patient satisfaction/ or consumer attitude/
2	patient information/ or consumer health information/
3	patient education/
4	(information* adj3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*)).ti,ab.
5	((client* or patient* or user* or carer* or consumer* or customer* or parent* or guardian*) adj2 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion*)).ti,ab.
6	or/1-5
7	qualitative research/
8	exp interview/
9	exp questionnaire/
10	health care survey/
11	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*).ti,ab.
12	or/7-11
13	6 and 12

Cinahl search terms

S1	(MH "Consumer Satisfaction+") OR (MH "Patient Education+")
S2	(information* n3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*))

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Literature search strategies

S3	((client* or patient* or user* or carer* or consumer* or customer* or parent* or guardian*) n2 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion*))
S4	S1 or S2 or S3
S5	(MH "Qualitative Studies+") OR (MH "Interviews+") OR (MH "Focus Groups") OR (MH "Surveys") OR (MH "Questionnaires+")
S6	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*)
S7	S5 or S6
S8	S4 and S7

Cochrane search terms

#1	MeSH descriptor Patient Acceptance of Health Care, this term only
#2	MeSH descriptor Patient Satisfaction explode all trees
#3	MeSH descriptor Patient Education as Topic, this term only
#4	(information* NEAR/3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*)):ti,ab
#5	((client* or patient* or user* or carer* or consumer* or customer* or parent* or guardian*) NEAR/2 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion*)):ti,ab
#6	#1 OR #2 OR #3 OR #4 OR #5
#7	MeSH descriptor Qualitative Research, this term only
#8	MeSH descriptor Interviews as Topic explode all trees
#9	MeSH descriptor Questionnaires explode all trees
#10	MeSH descriptor Health Care Surveys, this term only
#11	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*):ti,ab
#12	#7 OR #8 OR #9 OR #10 OR #11
#13	#6 AND #12

PsychInfo search terms

1	client education/
2	health education/
3	exp client attitudes/
4	(information* adj3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*)):ti,ab.
5	((client* or patient* or user* or carer* or consumer* or customer* or parent* or guardian*) adj2 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience or experiences or opinion*)):ti,ab.
6	or/1-5

A.4 Economics search

Economic searches were conducted in Medline, Embase, HEED and CRD for NHS EED and HTA.

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
AKI or CI-AKI			Economic, Quality of life, Economic modelling (Medline and Embase only)	No date restriction. Search run up to 03/01/2013

CRD search terms

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#1	MeSH Kidney Failure, Acute EXPLODE 1 2 3 4
#2	"acute kidney injur**"
#3	"acute renal injur**"
#4	"acute kidney failure**"
#5	"acute renal failure**"
#6	"acute kidney insufficiency**"
#7	"acute renal insufficiency**"
#8	"acute kidney tubular necrosis**"
#9	"acute tubular necrosis**"
#10	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9
#11	MeSH DESCRIPTOR contrast media WITH QUALIFIER AE
#12	(contrast NEAR induc*) OR (radiocontrast NEAR induc*)
#13	(ciaki or ciraf or ci-aki or ci-arf) OR (contrast NEAR prophlya*) OR (radiocontrast NEAR prophlya*)
#14	#11 OR #12 OR #13
#15	#10 OR #14

HEED search terms

1	AX=(kidney injury or kidney injuries or renal injury or renal injuries)
2	AX=(kidney failure or kidney failures or renal failure or renal failures)
3	AX=(kidney insufficiency or renal insufficiency)
4	AX=tubular necrosis
5	CS=1 or 2 or 3 or 4
6	AX=acute
7	CS=5 and 6
8	AX='contrast induced' within 2
9	AX='radiocontrast induced' within 2
10	AX=ciaki or ciraf or ci-aki or ci-arf
11	AX=contrast AND prophlya*
12	AX=radiocontrast AND prophlya*
13	CS=8 or 9 or 10 or 11 or 12
14	CS=7 or 13

An additional economic search was carried out for the computerised decision tools question, using the same population and intervention as the clinical search combined with an economic filter in Medline and Embase. For CRD and HEED the search terms were as listed below.

Computerised decision tools search terms

CRD search terms

#1	MeSH DESCRIPTOR renal insufficiency EXPLODE ALL TREES
#2	("kidney injur**") OR ("renal injur**") OR ("kidney failure**") OR ("renal failure**") OR ("kidney insufficiency**")
#3	("renal tox**")
#4	("renal tox**") OR (("renal insufficiency**")) OR (("kidney impair**")) OR (("renal impair**")) OR ((nephrotox**))
#5	#1 OR #2 OR #3 OR #4
#6	MeSH DESCRIPTOR electronic prescribing

#7	MeSH DESCRIPTOR Drug Prescriptions
#8	MeSH DESCRIPTOR Drug Utilization Review
#9	MeSH DESCRIPTOR Clinical Pharmacy Information Systems
#10	MeSH DESCRIPTOR Drug Monitoring
#11	MeSH DESCRIPTOR decision making, computer-assisted
#12	MeSH DESCRIPTOR drug therapy, computer-assisted
#13	MeSH DESCRIPTOR Decision Support Systems, Clinical
#14	MeSH DESCRIPTOR Pharmacists
#15	MeSH DESCRIPTOR Pharmacy Service, Hospital
#16	MeSH DESCRIPTOR Medication Systems EXPLODE ALL TREES
#17	((pharmac* adj4 (review* or monit* or prescri*)))
#18	((electronic prescri* or eprescri* or e-prescri*) OR ((computer* adj3 (decision* or tool* or support* or prescri*))) OR ((drug* adj2 (review* or monit*)))
#19	#6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18
#20	#5 AND #19

HEED search terms

1	AX=kidney injury OR kidney injuries OR renal injury OR renal injuries
2	AX=kidney failure OR kidney failures OR renal failure OR renal failures
3	AX=kidney insufficiency OR renal insufficiency OR kidney impairment OR renal impairment
4	AX=tubular necrosis
5	AX=nephrotox*
6	CS=1 OR 2 OR 3 OR 4 OR 5
7	AX=electronic prescriptions OR electronic prescribing or eprescri* or e-prescri*
8	AX=decision* or tool* or support* or prescri*
9	AX=computer*
10	CS=8 AND 9
11	AX='drug review' within 2
12	AX='pharmacist review' within 2
13	AX= monit* or prescri*
14	AX=drug* or pharmac*
15	CS=13 AND 14
16	CS=7 OR 10 OR 11 OR 12 OR 15
17	CS=6 AND 16