

## Appendix C: Literature search strategies

C.1	Study design search terms.....	33
C.1.1	Systematic review (SR) search terms.....	33
C.1.2	Randomised controlled studies (RCTs) search terms.....	34
C.1.3	Observational studies search terms.....	34
C.1.4	Health economic search terms.....	35
C.2	Standard population search strategy.....	36
C.3	Searches by specific questions.....	40
C.3.1	Clinical assessment.....	40
C.3.1.1	Clinical assessment.....	40
C.3.1.2	Urodynamics.....	42
C.3.1.3	Information and Support.....	43
C.3.2	Treatment to improve bladder storage.....	51
C.3.2.1	Behavioural treatments.....	51
C.3.2.2	Antimuscarinics.....	52
C.3.2.3	Botulinum toxin.....	53
C.3.2.4	Augmentation cystoplasty.....	54
C.3.3	Treatment for stress incontinence.....	55
C.3.3.1	Pelvic floor treatments.....	55
C.3.3.2	Urethral tape and sling surgery.....	56
C.3.3.3	Artificial urinary sphincter.....	58
C.3.4	Treatment to improve bladder emptying.....	58
C.3.4.1	Alpha andrenergic antagonists.....	58
C.3.5	Management with catheter valves <u>AND</u> Potential complications: providing information and initial management.....	60
C.3.5.1	Catheter valves <u>AND</u> Intermittent Catheteriation, Indwelling Catheters and Penile Sheath Urine Collection.....	60
C.3.6	Management with Ileal conduit diversion.....	65
C.3.6.1	Ileal conduit diversion.....	65
C.3.7	Treatment to prevent urinary tract infections.....	67
C.3.7.1	Antibiotic prophylaxis.....	67
C.3.8	Monitoring and surveillance protocols.....	74
C.3.8.1	Monitoring and surveillance protocols.....	74
C.3.8.2	Search using STANDARD population.....	74
C.3.8.3	Search using ADJUSTED population.....	77
C.3.9	Access to and interaction with services.....	78

<b>C.3.9.1</b>	<b>Access to and interaction with services .....</b>	<b>78</b>
<b>C.3.9.2</b>	<b>Transfer from child to adult services .....</b>	<b>82</b>
<b>C.4</b>	<b>Economic searches.....</b>	<b>86</b>

## Introduction

Search strategies used for the **Incontinence in Neurological Disease guideline** were run in accordance with the NICE Guidelines Manual 2009:

[http://www.nice.org.uk/media/5F2/44/The\\_guidelines\\_manual\\_2009\\_-\\_All\\_chapters.pdf](http://www.nice.org.uk/media/5F2/44/The_guidelines_manual_2009_-_All_chapters.pdf)

**All searches were run up to 10/01/12. Any studies added to the databases after this date were not included unless specifically stated in the text.**

### Clinical searches

Searches for **clinical reviews** were run in Medline (OVID), Embase (OVID), the Cochrane Library (Wiley) and Cinahl (EBSCO). Typically, searches were constructed in the following way:

- A PICO format was used for intervention searches. **Population (P)** terms were combined with **Intervention (I)** and sometimes **Comparison (C)** terms (as indicated in the tables under each individual question in Section C.3). An intervention can be a drug, a procedure or a diagnostic test. **Outcomes (O)** are rarely used in search strategies for interventions. Study type filters were added where appropriate (see Section C.1).

### Patient searches

In addition to the databases outlined above, the search for **patient information** (C.3.8.3) was run in PsycINFO (OVID).

### Economic searches

Searches for **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). NHS EED and HTA were searched via the Centre for Reviews and Dissemination (CRD) interface. For Medline and Embase an economic filter (C.1.4) was added to the standard population terms (Section C.2). All other searches were conducted using only population terms.

## C.1 Study design search terms

### C.1.1 Systematic review (SR) search terms

#### Medline search terms

1.	"Review"/ OR review.pt. OR review.ti.
2.	(systematic OR evidence* OR methodol* OR quantitative* OR analys* OR assessment*).ti,sh,ab.
3.	1 and 2
4.	meta-analysis.pt.
5.	exp Meta-analysis as topic/
6.	(meta-analy* OR metanaly* OR metaanaly* OR meta analy*).mp.
7.	((systematic* OR evidence* OR methodol* OR quantitative*) adj5 (review* OR survey* OR overview*)).ti,ab,sh.
8.	((pool* OR combined OR combining) adj (data OR trials OR studies OR results)).ti,ab.
9.	or/3-8

### Embase search terms

1.	"Review"/ OR review.pt. OR review.ti.
2.	(systematic OR evidence* OR methodol* OR quantitative*).ti,ab.
3.	1 and 2
4.	Meta-analysis/
5.	"Systematic review"/
6.	(meta-analy* OR metanaly* OR metaanaly* OR meta analy*).ti,ab.
7.	((systematic* OR evidence* OR methodol* OR quantitative*) adj3 (review* OR survey* OR overview*)).ti,ab.
8.	((pool* OR combined OR combining) adj2 (data OR trials OR studies OR results)).ti,ab.
9.	or/3-8

### C.1.2 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* 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

### C.1.3 Observational studies search terms

#### Medline search terms

1.	Epidemiologic studies/
2.	exp Case control studies/
3.	exp Cohort studies/
4.	case control.tw.
5.	(cohort adj (study OR studies)).tw.
6.	cohort analy*.tw.
7.	(follow up adj (study OR studies)).tw.

8.	(observational adj (study OR studies)).tw.
9.	longitudinal.tw.
10.	retrospective.tw.
11.	cross sectional.tw.
12.	Cross-sectional studies/
13.	or/1-12

#### Embase search terms

1.	Clinical study/
2.	Case control study/
3.	Family study/
4.	Longitudinal study/
5.	Retrospective study/
6.	Prospective study/
7.	Randomized controlled trials/
8.	6 not 7
9.	Cohort analysis/
10.	(Cohort adj (study OR studies)).mp.
11.	(Case control adj (study OR studies)).tw.
12.	(follow up adj (study OR studies)).tw.
13.	(observational adj (study OR studies)).tw.
14.	(epidemiologic* adj (study OR studies)).tw.
15.	or/1-5,8-14

### C.1.4 Health economic search terms

#### Medline search terms

1.	exp Economics/
2.	exp "Costs and cost analysis"/
3.	(economic* OR pharmacoeconomic*).ti,ab.
4.	(cost OR costs OR costed OR costly OR costing* OR price OR prices OR pricing).ti.
5.	(expenditure OR budget*).ti,ab.
6.	cost-effective*.ti,ab.
7.	(cost adj2 (effectiv* OR reduc* OR saving*)).ti,ab.
8.	(value adj2 money).ti,ab.
9.	Quality-adjusted life years/
10.	QALY*.ti,ab.
11.	or/1-10
12.	((metabolic OR energy OR oxygen) adj2 (expenditure OR cost*)).ti,ab.
13.	11 not 12

#### Embase search terms

1.	exp Economic aspect/
2.	(economic* OR pharmacoeconomic*).ti,ab.
3.	(cost OR costs OR costed OR costly OR costing* OR price OR prices OR pricing).ti.
4.	(expenditure OR budget*).ti,ab.

5.	(value adj1 money).tw.
6.	cost-effective*.ti,ab.
7.	(cost adj2 (effectiv* OR reduc* OR saving*)).ti,ab.
8.	(value adj2 money).ti,ab.
9.	exp Quality adjusted life years/
10.	QALY*.ti,ab.
11.	or/1-10
12.	((metabolic OR energy OR oxygen) adj2 (expenditure OR cost*)).ti,ab.
13.	11 not 12

## C.2 Standard population search strategy

### Medline search terms

1.	Urinary bladder, neurogenic/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinen* OR detrusor)).ti,ab.
3.	(overactiv* adj3 bladder).ti,ab.
4.	or/1-3
5.	Urinary bladder, overactive/ OR exp Enuresis/ OR exp Urinary incontinence/ OR Urinary retention/
6.	Nocturia/
7.	(lower urinary tract symptom* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia).ti,ab.
8.	((urin* OR bladder OR voiding OR micturation) adj3 (disorder* OR symptom* OR urgency OR incontinence OR dysfunction)).ti,ab.
9.	((incomplet* OR impair*) adj2 bladder empt*).ti,ab.
10.	(bladder adj (obstruct* OR control OR management)).ti,ab.
11.	(urin* adj2 (retention OR retain*)).ti,ab.
12.	resid* urine.ti,ab.
13.	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) adj3 (detrusor OR lower urinary tract OR bladder)).ti,ab.
14.	or/5-13
15.	exp Nervous system diseases/
16.	exp Nervous system neoplasms/
17.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
18.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
19.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
20.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.
21.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
22.	(neurolog* adj4 spinal).ti,ab.
23.	(diabet* adj3 neuropath*).ti,ab.
24.	or/15-23
25.	14 and 24
26.	4 OR 25
27.	Limit 26 to english language

28.	Letter/
29.	Editorial/
30.	exp Historical article/
31.	Anecdotes as topic/
32.	Comment/
33.	Case report/
34.	Animal/ not (Animal/ and Human/)
35.	Animals, Laboratory/
36.	exp Animal experiment/
37.	exp Animal model/
38.	exp Rodentia/
39.	or/28-38
40.	27 not 39

### Embase search terms

1.	Neurogenic bladder/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinen* OR detrusor OR vesical)).ti,ab.
3.	(overactive* adj3 bladder).ti,ab.
4.	or/1-3
5.	Overactive bladder/ OR exp Enuresis/ OR exp Urine incontinence/ OR Urine retention/
6.	Nocturia/
7.	((bladder OR detrusor) adj1 overactiv*).ti,ab.
8.	((bladder OR urin*) adj1 (incontinen* OR leakage OR wetting)).ti,ab.
9.	(lower urinary tract symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia).ti,ab.
10.	((urin* OR bladder OR voiding OR micturation) adj3 (disorders* OR symptom* OR urgency OR incontinence OR dysfunction)).ti,ab.
11.	((incomplet* OR impair*) adj2 bladder empt*).ti,ab.
12.	(bladder adj (obstruct* OR control OR management)).ti,ab.
13.	(urin* adj2 (retent* OR retain*)).ti,ab.
14.	resid* urine.ti,ab.
15.	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) adj3 (detrusor OR lower urinary tract OR bladder)).ti,ab.
16.	or/5-15
17.	exp Neurologic disease/
18.	exp Nervous system neoplasms/
19.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
20.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
21.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
22.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.
23.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
24.	(neurolog* adj4 spinal).ti,ab.
25.	(diabet* adj3 neuropath*).ti,ab.

26.	or/17-25
27.	16 and 26
28.	4 OR 27
29.	Limit 28 to english language
30.	letter.pt.
31.	Letter/
32.	editorial.pt.
33.	note.pt.
34.	Case report/
35.	Case study/
36.	conference abstract.pt.
37.	Animal/ not (Animal/ and Human/)
38.	Nonhuman/
39.	exp Animal studies/
40.	Animals, Laboratory/
41.	exp Experimental animal/
42.	exp Animal experiment/
43.	exp Animal model/
44.	exp Rodent/
45.	or/30-44
46.	29 not 45

#### Cinahl search terms

S1	(MH "Bladder, Neurogenic")
S2	neurogenic* n3 bladder OR neurogenic* n3 urin* OR neurogenic* n3 incontinen* OR neurogenic* n3 detrusor
S3	neurologic* n3 bladder OR neurologic* n3 urin* OR neurologic* n3 incontinen* OR neurologic* n3 detrusor
S4	overactiv* n1 bladder
S5	S1 OR S2 OR S3 OR S4
S6	MH overactive bladder OR mh enuresis+ OR mh urinary incontinence+ OR MH urinary retension
S7	lower urinary tract symptom* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia
S8	urin* n3 disorder* OR urin* n3 symptom* OR urin* n3 urgency OR urin* n3 incontinen* OR urin* n3 dysfunction*
S9	bladder* n3 disorder* OR bladder* n3 symptom* OR bladder* n3 urgency OR bladder* n3 incontinen* OR bladder* n3 dysfunction*
S10	voiding* n3 disorder* OR voiding* n3 symptom* OR voiding* n3 urgency OR voiding* n3 incontinen* OR voiding* n3 dysfunction*
S11	incomplet* n2 bladder empt* OR impair* n2 bladder empt*
S12	bladder n1 obstruct* OR bladder n1 control OR bladder n1 management
S13	urin* n2 retent* OR urin* n2 retain*
S14	resid* urine
S15	(weak OR underactiv OR overactive*) and (detrusor OR lower urinary tract OR bladder)
S16	(hyper-reflex* OR hypereflex* OR hyperreflex*) and (detrusor OR lower urinary tract OR bladder)



S17	S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16
S18	MH Nervous system diseases+ OR MH Nervous system neoplasms+
S19	neurological n2 impairment OR neurological n2 disease* OR neurological n2 disorder*
S20	spinal cord n2 injur* OR spinal cord n2 trauma OR spinal cord n2 disease*
S21	spinal n2 shock OR spinal n2 abnormalit*
S22	multiple sclerosis OR parkinson* OR stroke OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR hydronephro* OR dyssynergi* OR myelodysplas*
S23	brain n2 injur* OR brain n2 tumor* OR brain n2 tumour*
S24	neurolog* n4 spinal
S25	diabet* OR neuropath*
S26	S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25
S27	S17 and S26
S28	S5 OR S27
S29	exclude Medline records and limit to english language

### Cochrane search terms

#1	MeSH descriptor Urinary Bladder, Neurogenic explode all trees
#2	(neurogenic* OR neurologic* OR spastic OR atonic OR overactiv*) NEAR/3 (bladder OR incontinen* OR detrusor OR urin*)
#3	(#1 OR #2)
#4	MeSH descriptor Nocturia explode all trees
#5	MeSH descriptor Urinary Bladder, Overactive explode all trees
#6	MeSH descriptor Enuresis explode all trees
#7	MeSH descriptor Urinary Incontinence explode all trees
#8	MeSH descriptor Urinary Retention explode all trees
#9	("lower urinary tract symptom*" OR "urinary symptom*" OR LUTS OR "irritable bladder" OR bedwetting OR enuresis OR nocturia):ti,ab
#10	((urin* OR bladder OR voiding OR micturation) NEAR/3 (disorder* OR symptom* OR urgency OR incontinence OR dysfunction)):ti,ab
#11	((incomplete* OR impair*) NEXT "bladder emptying"):ti,ab
#12	(bladder NEXT (obstruct* OR control OR management OR compliance)):ti,ab
#13	("urinary retention" OR "residual urine"):ti,ab
#14	(Urin* NEAR/2 (retention OR retain* OR resid*)):ti,ab
#15	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) NEAR (detrusor OR "lower urinary tract" OR bladder)):ti,ab
#16	(#4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15)
#17	MeSH descriptor Nervous System Diseases explode all trees
#18	(neurological NEAR/2 (impair* OR disease* OR disorder*)):ti,ab
#19	(spinal cord NEAR/2 (injur* OR trauma* OR disease*)):ti,ab
#20	spinal NEAR/2 (shock* OR abnormalit*):ti,ab
#21	(brain NEAR/2 (injur* OR tumor* OR tumour* OR lesion*)):ti,ab
#22	myelopathy:ti,ab
#23	(neurolog* NEAR/4 spinal):ti,ab
#24	(diabet* NEAR/3 neuropath*):ti,ab
#25	(hydronephrosis OR dyssynergi* OR myelodysplas*):ti,ab
#26	("multiple sclerosis" OR parkinson* OR stroke* OR dementia OR alzheimer* OR "cerebral

	palsy" OR hydrocephalus OR "spina bifida"):ti,ab
#27	(#17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26)
#28	(#3 OR (#16 AND #27))

## C.3 Searches by specific questions

### C.3.1 Clinical assessment

#### C.3.1.1 Clinical assessment

**Q. Does the use of clinical assessment, urine culture, a residual urine estimate or a bladder diary/frequency volume chart change the management of patients with neurological disease?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Clinical tools		RCTs OR SRs OR observational studies [Medline and Embase only]	All years – 10/01/12

#### Medline search terms

1.	exp Physical examination/
2.	exp Neurologic examination/
3.	exp Medical history taking/
4.	(clinical adj assess*).ti,ab.
5.	((decision OR diagnostic) adj (rule OR rules)).ti,ab.
6.	exp Decision trees/
7.	exp Decision support techniques/
8.	exp Urinalysis/
9.	(urin* adj culture*).ti,ab.
10.	resid* urine.ti,ab.
11.	Bladder/us
12.	(ultrasound OR (non adj invasive test)).ti,ab.
13.	(frequency volume chart* OR ((bladder OR volume OR void OR urine OR urinary OR incontinence) adj (diar* OR record*))).ti,ab.
14.	or/1-13

#### Embase search terms

1.	exp Physical examination/
2.	exp Neurologic examination/
3.	exp Anamnesis/
4.	patient history*.ti,ab.
5.	(clinical adj assess*).ti,ab.
6.	((decision OR diagnostic) adj (rule OR rules)).ti,ab.
7.	exp "Decision tree"/
8.	exp Decision support system/
9.	exp Urinalysis/
10.	(urin* adj culture*).ti,ab.

11.	resid* urine.ti,ab.
12.	exp Echography/
13.	(ultrasound OR (non adj invasive test)).ti,ab.
14.	(frequency volume chart* OR ((bladder OR volume OR void OR urine OR urinary OR incontinence) adj (diar* OR record*))).ti,ab.
15.	or/1-14

#### Cinahl search terms

S1	(MH "Neurologic Examination+")
S2	(MH "Physical Examination+")
S3	(MH "Patient History Taking+")
S4	patient history
S5	clinical n1 assess*
S6	decision n1 rule* OR diagnostic n1 rule*
S7	(MH "Decision Trees")
S8	(MH "Decision Support Systems, Clinical") OR (MH "Decision Support Techniques")
S9	urinalysis OR urin* n1 culture
S10	resid* urine
S11	(MH "Ultrasonography+")
S12	ultrasound OR non n1 invasive test
S13	frequency volume chart* OR bladder n1 diar* OR bladder n1 record* OR volume n1 diar* OR volume n1 record* OR void n1 diar* OR void n1 record* OR urine n1 record* OR urine n1 diar* OR urinary n1 record* OR urinary n1 diar*
S14	incontinence n1 diar* OR incontinence n1 record*
S15	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 OR S14

#### Cochrane search terms

#1	MeSH descriptor Medical History Taking explode all trees
#2	MeSH descriptor Physical Examination explode all trees
#3	MeSH descriptor Neurologic Examination explode all trees
#4	patient and history:ti,ab
#5	(decision OR diagnostic) NEAR (rule OR rules):ti,ab
#6	clinical NEAR assess*:ti,ab
#7	MeSH descriptor Decision Support Techniques explode all trees
#8	decision tree*:ti,ab
#9	MeSH descriptor Urinalysis explode all trees
#10	urin* NEAR culture:ti,ab
#11	resid* urine:ti,ab
#12	MeSH descriptor Ultrasonography, Interventional explode all trees
#13	(ultrasound OR (non NEAR invasive test)):ti,ab
#14	(Frequency volume chart* OR ((bladder OR volume OR void OR urine OR urinary OR incontinence) NEAR (diar* OR record*)):ti,ab
#15	#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

### C.3.1.2 Urodynamics

**Q. Does the use of urodynamics (filling cystometry, leak point pressure measurements, pressure-flow studies of voiding, video urodynamics) direct treatment or stratify risk of renal complications (such as hydronephrosis)?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Urodynamic techniques		RCTs OR SRs OR observational studies [Medline and Embase only]	All years – 10/01/12

#### Medline search terms

1.	exp Urodynamics/
2.	urodynamic*.ti,ab.
3.	(cystomet* OR videocysto* OR urethrocysto* OR cystoureth*).ti,ab.
4.	(videourodynamic* OR video urodynamic* OR video-urodynamic*).ti,ab.
5.	VCUG.ti,ab.
6.	(urinary flow rate* OR pressure flow stud* OR post void residual measurement*).ti,ab.
7.	(uroflowmet* OR profilemet*).ti,ab.
8.	leak point pressure*.ti,ab.
9.	or/1-8

#### Embase search terms

1.	exp Urodynamics/
2.	exp Cystometry/
3.	exp Urethrocystometry/
4.	exp Cystourethrography/
5.	exp Uroflowmetry/
6.	(cystom* OR cystot* OR cmg OR urethrocysto* OR cystourethro*).ti,ab.
7.	(urodynamic* OR urine voiding dynamic*).ti,ab.
8.	(videocysto* OR videourodynamic* OR video urodynamic* OR video-urodynamic*).ti,ab.
9.	VCUG.ti,ab.
10.	((video* OR void*) adj3 cystoureth*).ti,ab.
11.	((urinary flow adj (rate* OR measurement*)) OR pressure flow stud* OR post void residual measurement*).ti,ab.
12.	(uroflowmet* OR profilemet* OR urine flowmet* OR urography).ti,ab.
13.	leak point pressure*.ti,ab.
14.	or/1-13

#### Cinahl search terms

S1	(MM "Urodynamics")
S2	urodynamic* OR cystomet* OR videocysto* OR urethrocysto* OR cystoureth*
S3	videourodynamic* OR video urodynamic* OR video-urodynamic* OR vcug*
S4	urinary flow rate* OR pressure flow stud* OR post void residual measurement*
S5	uroflowmet* OR profilemet*
S6	leak point pressure*
S7	S1 OR S2 OR S3 OR S4 OR S5 OR S6

### Cochrane search terms

#1	MeSH descriptor Urodynamics explode all trees
#2	(urodynamic* OR cystomet* OR videocysto* OR urethrocycto* OR cystoureth*):ti,ab
#3	(videourodynamic* OR video urodynamic* OR video-urodynamic* OR vcug*):ti,ab
#4	(urinary flow rate* OR pressure flow stud* OR post void residual measurement*):ti,ab
#5	(uroflowmet* OR profilemet*):ti,ab
#6	leak point pressure*:ti,ab.
#7	(#1 OR #2 OR #3 OR #4 OR #5 OR #6)

### C.3.1.3 Information and Support

#### Q. Does the provision of information and support regarding the different management systems improve patient outcomes?

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological AND (incontinence OR outcomes)*	Patient information		RCTs, Systematic reviews and observational studies [Medline and Embase only]	All years – 10/01/12

\*Population differs from standard population search strategy outlined in Section C.2. The neurological component of the population has been combined (AND) with incontinence terms OR outcome terms (morbidity, quality of life, adherence to care, patient satisfaction). As a consequence both population and intervention terms have been included below for each database.

### Medline search terms

1.	Urinary bladder, neurogenic/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinen* OR detrusor)).ti,ab.
3.	(overactiv* adj3 bladder).ti,ab.
4.	or/1-3
5.	Urinary bladder, overactive/ OR exp Enuresis/ OR exp Urinary incontinence/ OR Urinary retention/
6.	Nocturia/
7.	(lower urinary tract symptom* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia).ti,ab.
8.	((urin* OR bladder OR voiding OR micturation) adj3 (disorder* OR symptom* OR urgency OR incontinence OR dysfunction)).ti,ab.
9.	((incomplet* OR impair*) adj2 bladder empt*).ti,ab.
10.	(bladder adj (obstruct* OR control OR management)).ti,ab.
11.	(urin* adj2 (retention OR retain*)).ti,ab.
12.	resid* urine.ti,ab.
13.	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) adj3 (detrusor OR lower urinary tract OR bladder)).ti,ab.
14.	Urinary tract infections/
15.	Bacteriuria/
16.	Pyuria/
17.	Pyelonephritis/

18.	exp Cystitis/
19.	Urethritis/
20.	Prostatitis/
21.	(urinary tract infection* OR UTI* OR bacteriuria* OR pyuria* OR pyelonephriti* OR cystiti* OR urethriti* OR prostatiti*).ti,ab.
22.	Renal insufficiency/
23.	exp Renal insufficiency, chronic/
24.	((renal OR kidney*) adj2 (insufficien* OR impair* OR failure*)).ti,ab.
25.	glomerul* filtration.ti,ab,hw.
26.	exp Patient compliance/
27.	Health care surveys/
28.	Patient satisfaction/
29.	Quality of life/
30.	"Continuity of patient care"/
31.	Self care/
32.	or/5-31
33.	exp Nervous system diseases/
34.	exp Nervous system neoplasms/
35.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
36.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
37.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
38.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.
39.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
40.	(neurolog* adj4 spinal).ti,ab.
41.	(diabet* adj3 neuropath*).ti,ab.
42.	or/33-41
43.	32 and 42
44.	4 OR 43
45.	limit 44 to english language
46.	Letter/
47.	Editorial/
48.	exp Historical article/
49.	Anecdotes as topic/
50.	Comment/
51.	Case report/
52.	Animal/ not (Animal/ and Human/)
53.	Animals, Laboratory/
54.	exp Animal experiment/
55.	exp Animal model/
56.	exp Rodentia/
57.	or/46-56
58.	45 not 57
59.	((client* OR patient* OR user* OR carer* OR consumer* OR customer* OR health) adj2

	(information* OR educat* OR knowledge)).ti,ab,hw.
60.	(information* adj (need* OR requirement* OR support* OR seek* OR access* OR disseminat*)).ti,ab,hw.
61.	(patient* adj3 (literature OR leaflet* OR booklet* OR pamphlet* OR questionnaire* OR survey* OR handout* OR internet OR website*)).ti,ab.
62.	Telemedicine/
63.	patient education handout.pt.
64.	Access to information/
65.	Telephone/
66.	Publications/
67.	Pamphlets/
68.	or/59-67
69.	58 and 68

### Embase search terms

1.	Neurogenic bladder/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinen* OR detrusor OR vesical)).ti,ab.
3.	(overactive* adj3 bladder).ti,ab.
4.	or/1-3
5.	Overactive bladder/ OR exp Enuresis/ OR exp Urine incontinence/ OR Urine retention/
6.	Nocturia/
7.	((bladder OR detrusor) adj1 overactiv*).ti,ab.
8.	((bladder OR urin*) adj1 (incontinen* OR leakage OR wetting)).ti,ab.
9.	(lower urinary tract symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia).ti,ab.
10.	((urin* OR bladder OR voiding OR micturation) adj3 (disorders* OR symptom* OR urgency OR incontinence OR dysfunction)).ti,ab.
11.	((incomplet* OR impair*) adj2 bladder empt*).ti,ab.
12.	(bladder adj (obstruct* OR control OR management)).ti,ab.
13.	(urin* adj2 (retent* OR retain*)).ti,ab.
14.	resid* urine.ti,ab.
15.	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) adj3 (detrusor OR lower urinary tract OR bladder)).ti,ab.
16.	exp Urinary tract infection/
17.	exp Urogenital tract inflammation/
18.	exp Urinary tract inflammation/
19.	Bacteriuria/
20.	Asymptomatic bacteriuria/
21.	Pyuria/
22.	exp Prostatitis/
23.	(urinary tract infection* OR UTI* OR bacteriuria* OR pyuria* OR pyelonephriti* OR cystiti* OR urethriti* OR prostatiti*).ti,ab.
24.	exp Kidney failure/
25.	((renal OR kidney*) adj2 (insufficien* OR impair* OR failure*)).ti,ab.
26.	glomerul* filtration*.ti,ab,hw.

27.	Health care survey/
28.	exp Self care/
29.	Patient compliance/
30.	Patient satisfaction/
31.	"Quality of life"/
32.	or/5-31
33.	exp Neurologic disease/
34.	exp Nervous system neoplasms/
35.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
36.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
37.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
38.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.
39.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
40.	(neurolog* adj4 spinal).ti,ab.
41.	(diabet* adj3 neuropath*).ti,ab.
42.	or/33-41
43.	32 and 42
44.	4 OR 43
45.	Limit 44 to english language
46.	letter.pt.
47.	Letter/
48.	editorial.pt.
49.	note.pt.
50.	Case report/
51.	Case study/
52.	conference abstract.pt.
53.	Animal/ not (Animal/ and Human/)
54.	Nonhuman/
55.	exp Animal studies/
56.	Animals, Laboratory/
57.	exp Experimental animal/
58.	exp Animal experiment/
59.	exp Animal model/
60.	exp Rodent/
61.	or/46-60
62.	45 not 61
63.	((client* OR patient* OR user* OR carer* OR consumer* OR customer* OR health) adj2 (information* OR educat* OR knowledge)).ti,ab,hw.
64.	(information* adj (need* OR requirement* OR support* OR seek* OR access* OR disseminat* OR service*)).ti,ab,hw.
65.	(patient* adj3 (literature OR leaflet* OR booklet* OR pamphlet* OR interview* OR questionnaire* OR survey* OR handout* OR internet OR website* OR web based)).ti,ab.
66.	exp Telehealth/



67.	Telephone/
68.	Access to information/
69.	or/63-68
70.	62 and 69

### Cinahl search terms

S1	(MH "Bladder, Neurogenic")
S2	neurogenic* n3 bladder OR neurogenic* n3 urin* OR neurogenic* n3 incontinen* OR neurogenic* n3 detrusor
S3	neurologic* n3 bladder OR neurologic* n3 urin* OR neurologic* n3 incontinen* OR neurologic* n3 detrusor
S4	overactiv* n1 bladder
S5	S1 OR S2 OR S3 OR S4
S6	MH overactive bladder OR mh enuresis+ OR mh urinary incontinence+ OR MH urinary retension
S7	lower urinary tract symptom* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia
S8	urin* n3 disorder* OR urin* n3 symptom* OR urin* n3 urgency OR urin* n3 incontinen* OR urin* n3 dysfunction*
S9	bladder* n3 disorder* OR bladder* n3 symptom* OR bladder* n3 urgency OR bladder* n3 incontinen* OR bladder* n3 dysfunction*
S10	voiding* n3 disorder* OR voiding* n3 symptom* OR voiding* n3 urgency OR voiding* n3 incontinen* OR voiding* n3 dysfunction*
S11	incomplet* n2 bladder empt* OR impair* n2 bladder empt*
S12	bladder n1 obstruct* OR bladder n1 control OR bladder n1 management
S13	urin* n2 retent* OR urin* n2 retain*
S14	resid* urine
S15	(weak OR underactiv OR overactive*) and (detrusor OR lower urinary tract OR bladder)
S16	(hyper-reflex* OR hypereflex* OR hyperreflex*) and (detrusor OR lower urinary tract OR bladder)
S17	(MH "Urinary Tract Infections+")
S18	(MH "Pyelonephritis")
S19	(MH "Cystitis+")
S20	(MH "Urethritis")
S21	(MH "Prostatitis")
S22	urinary tract infection* OR bacteriuria* OR pyuria* OR pyelonephriti* OR cystiti* OR urethriti* OR prostatiti*
S23	renal n2 insufficien* OR renal n2 impair* OR renal n2 failure*
S24	kidney n2 insufficien* OR kidney n2 impair* OR kidney n2 failure*
S25	glomerul* filtration*
S26	(MH "Patient Compliance+")
S27	(MH "Patient Satisfaction")
S28	(MH "Quality of Life")
S29	(MH "Continuity of Patient Care")
S30	(MH "Self Care")
S31	S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR

	S30
S32	MH nervous system diseases+ OR MH nervous system neoplasms+
S33	neurological n2 impairment OR neurological n2 disease* OR neurological n2 disorder*
S34	spinal cord n2 injur* OR spinal cord n2 trauma OR spinal cord n2 disease*
S35	spinal n2 shock OR spinal n2 abnormalit*
S36	multiple sclerosis OR parkinson* OR stroke OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR hydronephro* OR dyssynergi* OR myelodysplas*
S37	brain n2 injur* OR brain n2 tumor* OR brain n2 tumour*
S38	neurolog* n4 spinal
S39	diabet* OR neuropath*
S40	S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39
S41	S31 and S40
S42	S5 OR S41
S43	information* n2 need* OR information* n2 requirement* OR information* n2 support* OR information* n2 seek* OR information* n2 access* OR information* n2 disseminat*
S44	patient* n3 information* OR patient* n3 knowledge OR patient* n3 educat*
S45	carer* n3 information* OR carer* n3 knowledge OR carer* n3 educat* OR health* n3 information* OR health* n3 educat*
S46	patient* n3 literature OR patient* n3 leaflet* OR patient* n3 booklet* OR patient* n3 pamphlet* OR patient* n3 questionnaire* OR patient* n3 survey* OR patient* n3 handout* OR patient* n3 internet OR patient* n3 website*
S47	(MH "Access to Information+")
S48	(MH "Pamphlets")
S49	(MH "Telemedicine") OR (MH "Telehealth+")
S50	S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49
S51	S42 and S50
S52	English language and exclude Medline
S53	S51 and S52

### Cochrane search terms

#1	MeSH descriptor Urinary Bladder, Neurogenic explode all trees
#2	(neurogenic* OR neurologic* OR spastic OR atonic OR overactiv*) NEAR/3 (bladder OR incontinen* OR detrusor OR urin*)
#3	(#1 OR #2)
#4	MeSH descriptor Nocturia explode all trees
#5	MeSH descriptor Urinary Bladder, Overactive explode all trees
#6	MeSH descriptor Enuresis explode all trees
#7	MeSH descriptor Urinary Incontinence explode all trees
#8	MeSH descriptor Urinary Retention explode all trees
#9	("lower urinary tract symptom*" OR "urinary symptom*" OR LUTS OR "irritable bladder" OR bedwetting OR enuresis OR nocturia):ti,ab
#10	((urin* OR bladder OR voiding OR micturation) NEAR/3 (disorder* OR symptom* OR urgency OR incontinence OR dysfunction)):ti,ab
#11	((incomplete* OR impair*) NEXT "bladder emptying"):ti,ab
#12	(bladder NEXT (obstruct* OR control OR management OR compliance)):ti,ab
#13	("urinary retention" OR "residual urine"):ti,ab
#14	(urin* NEAR/2 (retention OR retain* OR resid*)):ti,ab

#15	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) NEAR (detrusor OR "lower urinary tract" OR bladder)):ti,ab
#16	MeSH descriptor Urinary Tract Infections, this term only
#17	MeSH descriptor Bacteriuria, this term only
#18	MeSH descriptor Pyuria, this term only
#19	MeSH descriptor Pyelonephritis, this term only
#20	MeSH descriptor Cystitis explode all trees
#21	MeSH descriptor Urethritis, this term only
#22	MeSH descriptor Prostatitis, this term only
#23	(urinary tract infection* OR bacteriuria* OR pyuria* OR pyelonephriti* OR cystiti* OR urethriti* OR prostatiti*):ti,ab
#24	MeSH descriptor Renal Insufficiency explode all trees
#25	((renal OR kidney*) NEAR/2 (insufficien* OR impair* OR failure*)):ti,ab
#26	(glomerul* NEXT filtration):ti,ab,hw
#27	MeSH descriptor Health Care Surveys, this term only
#28	MeSH descriptor Patient Compliance explode all trees
#29	MeSH descriptor Patient Satisfaction, this term only
#30	MeSH descriptor Quality of Life, this term only
#31	MeSH descriptor Continuity of Patient Care, this term only
#32	MeSH descriptor Self Care, this term only
#33	#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 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 OR #30 OR #31 OR #32
#34	MeSH descriptor Nervous System Diseases explode all trees
#35	(neurological NEAR/2 (impair* OR disease* OR disorder*)):ti,ab
#36	(spinal cord NEAR/2 (injur* OR trauma* OR disease*)):ti,ab spinal NEAR/2 (shock* OR abnormalit*):ti,ab
#37	(brain NEAR/2 (injur* OR tumor* OR tumour* OR lesion*)):ti,ab
#38	myelopathy:ti,ab
#39	(neurolog* NEAR/4 spinal):ti,ab
#40	(diabet* NEAR/3 neuropath*):ti,ab
#41	(hydronephrosis OR dyssynergi* OR myelodysplas*):ti,ab
#42	("multiple sclerosis" OR parkinson* OR stroke* OR dementia OR alzheimer* OR "cerebral palsy" OR hydrocephalus OR "spina bifida"):ti,ab
#43	(#34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42)
#44	(#3 OR (#33 AND #43))
#45	MeSH descriptor Telemedicine, this term only
#46	MeSH descriptor Telephone explode all trees
#47	MeSH descriptor Access to Information, this term only
#48	MeSH descriptor Self-Help Groups, this term only
#49	MeSH descriptor Publications, this term only
#50	MeSH descriptor Pamphlets, this term only
#51	patient education handout:pt
#52	(information* NEXT (need* OR requirement* OR support* OR seek* OR access* OR disseminat*)):ti,ab,hw
#53	((client* OR patient* OR user* OR carer* OR consumer* OR customer* OR health) NEAR/2

	(information* OR educat* OR knowledge):ti,ab,hw
#54	(patient* NEAR/3 (literature OR leaflet* OR booklet* OR pamphlet* OR questionnaire* OR survey* OR handout* OR internet OR website*)):ti,ab
#55	(#45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54)
#56	(#44 AND #55)

**PsycINFO search terms**

1.	((neurogenic* OR neurologic*) AND (bladder OR urin* OR incontinent* OR detrusor)).ti,ab
2.	(overactiv* adj3 bladder).ti,ab
3.	exp Urinary incontinence/
4.	((lower urinary tract symptom* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia)).ti,ab
5.	((incomplet* OR impair*) adj2 bladder AND empt*).ti,ab
6.	((bladder adj2 (obstruct* OR control OR management))).ti,ab
7.	((urin* adj2 (retention OR retain*))).ti,ab
8.	"resid* urine".ti,ab
9.	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) adj3 (detrusor OR lower urinary tract OR bladder)).ti,ab
10.	((renal OR kidney*) adj2 (insufficien* OR impair* OR failure*)).ti,ab
11.	"urinary tract infection*".ti,ab
12.	exp Treatment compliance/
13.	Client satisfaction/
14.	Self care skills/
15.	"Continuum of care"/
16.	"Quality of life"/
17.	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 OR 16
18.	(nervous AND system AND diseases).ti,ab
19.	exp Nervous system disorders/
20.	Nervous system neoplasms/
21.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab
22.	("spinal cord" adj2 (injur* OR trauma OR disease*)).ti,ab
23.	(spinal adj2 (shock OR abnormalit*)).ti,ab
24.	("multiple sclerosis" OR parkinson* OR stroke* OR dementia OR alzheimer* OR "cerebral palsy" OR hydrocephalus OR spina AND bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab
25.	(brain adj2 (injur* OR tumor* OR tumour)).ti,ab
26.	(neurolog* adj4 spinal).ti,ab
27.	(diabet* adj3 neuropath*).ti,ab
28.	18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27
29.	17 AND 28
30.	1 OR 29
31.	(patient* adj3 (literature OR leaflet* OR booklet* OR pamphlet* OR questionnaire* OR survey* OR handout* OR internet OR website*)):ti,ab
32.	((client* OR patient* OR user* OR carer* OR consumer* OR customer* OR health) adj3 (information* OR educat* OR knowledge)).ti,ab
33.	Client education/ OR Health knowledge/ OR Health literacy/ OR Information seeking/

34.	31 OR 32 OR 33
35.	30 AND 34 [Limit to: English Language]

### C.3.2 Treatment to improve bladder storage

#### C.3.2.1 Behavioural treatments

**Q. Do behavioural management programmes (times voiding, voiding on request, prompted voiding, bladder retraining, habit retraining, urotherapy) compared with a) each other b) usual care, improve outcomes?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Behavioural management programmes		None	All years – 10/01/12

#### Medline search terms

1.	exp Behavior therapy/
2.	exp "Conditioning (Psychology)"/
3.	Feedback, Psychological/
4.	Toilet training/
5.	urotherap*.ti,ab.
6.	(bladder adj3 (train* OR retrain*)).ti,ab.
7.	((prompt* OR timed OR program* OR request* OR schedul*) adj3 void*).ti,ab.
8.	(habit* adj2 (train* OR retrain*)).ti,ab.
9.	((behavio* OR cognitive) adj3 (train* OR management OR intervention* OR modif* OR program* OR therap*)).ti,ab.
10.	(cognitive adj behavio*).ti,ab.
11.	biofeedback.ti,ab.
12.	(toileting adj3 (assist* OR plan* OR schedule* OR program* OR train*)).ti,ab.
13.	(conservative adj (management OR treatment* OR intervention*)).ti,ab.
14.	or/1-13

#### Embase search terms

1.	Behavior therapy/
2.	Cognitive therapy/
3.	Adaptive behavior/
4.	Behavior modification/
5.	Behavior change/
6.	Behavior control/
7.	Behavioral medicine/
8.	Conditioning/
9.	Conditioned reflex/
10.	urotherap*.ti,ab.
11.	(bladder adj3 (train* OR retrain*)).ti,ab.
12.	((prompt* OR timed OR program* OR request* OR schedul*) adj3 voiding).ti,ab.
13.	(habit adj2 (train* OR retrain*)).ti,ab.

14.	((behavio* OR cognitive) adj3 (train* OR management OR intervention* OR modif* OR program* OR therap*)).ti,ab.
15.	(cognitive adj behavio*).ti,ab.
16.	biofeedback.ti,ab.
17.	(toileting adj3 (assist* OR plan* OR schedule* OR program* OR train*)).ti,ab.
18.	(conservative adj (management OR treatment* OR intervention*)).ti,ab.
19.	or/1-18

#### Cinahl search terms

S1	(MH "Behavior Therapy+")
S2	(MH "Conditioning (Psychology)")
S3	(MH "Biofeedback")
S4	(MH "Toileting")
S5	urotherap*
S6	bladder AND (train* OR retrain*)
S7	(prompt* OR timed OR request*) AND voiding
S8	habit train* OR habit retrain*
S9	behavio* train* OR behavio* management OR behavio* modif* OR behavio* therap* OR behavio* intervention*
S10	cognitive behavio* OR cognitive modif* OR cognitive therap*
S11	biofeedback
S12	toileting AND (assist* OR plan* OR schedule* OR program* OR train*)
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 Behavior Therapy explode all trees
#2	MeSH descriptor Conditioning (Psychology) explode all trees
#3	MeSH descriptor Feedback, Psychological, this term only
#4	MeSH descriptor Toilet Training, this term only
#5	urotherap*:ti,ab
#6	(bladder NEAR/3 (train* OR retrain*)):ti,ab
#7	((prompt* OR timed OR program* OR request* OR schedul*) NEAR/3 voiding):ti,ab
#8	(habit NEAR/2 (train* OR retrain*)):ti,ab
#9	((behavio* OR cognitive) NEAR/3 (train* OR management OR intervention* OR modif* OR program* OR therap*)):ti,ab
#10	(cognitive NEXT behavio*):ti,ab
#11	biofeedback:ti,ab
#12	(toileting NEAR/3 (assist* OR plan* OR schedule* OR program* OR train*)):ti,ab
#13	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12)

#### C.3.2.2 Antimuscarinics

**Q. What is the safety and efficacy of antimuscarinics compared with a) placebo or treatment as usual b) other antimuscarinics for the treatment of incontinence due to neurological disease/overactive bladder due to neurological disease?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
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Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Antimuscarinics		RCTs OR SRs [Medline and Embase only]	All years – 10/01/12

#### Medline search terms

1.	Muscarinic antagonists/ OR Cholinergic antagonists/
2.	(darifenacin OR duloxetine OR flavoxate hydrochloride OR oxybutynin hydrochloride OR propantheline bromide OR propiverine hydrochloride OR solifenacin succinate OR tolterodine tartrate OR tropsium chloride OR fesoterodine fumarate).ti,ab.
3.	(emselex OR yentreve OR cymbalta OR toviaz OR urispas 200 OR oxybutynin hydrochloride OR cystrin OR ditropan OR lyrinal OR kentera OR vesicare OR ((detrinorm OR detrusitol OR regurin) adj XL)).ti,ab.
4.	or/1-3

#### Embase search terms

1.	exp Darifenacin/ OR exp Duloxetine/ OR Flavoxate/ OR Oxybutynin/ OR exp Propantheline Bromide/ OR exp Propiverine/ OR exp Solifenacin/ OR exp Tolerodine/ OR exp Fesoterodine/
2.	(emselex OR yentreve OR cymbalta OR toviaz OR urispas 200 OR oxybutynin hydrochloride OR cystrin OR ditropan OR lyrinal OR kentera OR vesicare OR ((detrinorm OR detrusitol OR regurin) adj XL)).ti,ab.
3.	antimuscarinics.ti,ab.
4.	or/1-3

#### Cinahl search terms

S1	(MH "Muscarinic Antagonists+")
S2	(MH "Cholinergic Antagonists+")
S3	darifenacin OR duloxetine OR flavoxate hydrochloride OR oxybutynin hydrochloride OR propantheline bromide OR propiverine hydrochloride OR solifenacin succinate OR tolterodine tartrate OR tropsium chloride OR fesoterodine fumarate
S4	emselex OR yentreve OR cymbalta OR toviaz OR urispas 200 OR oxybutynin hydrochloride OR cystrin OR ditropan OR lyrinal OR kentera OR vesicare
S5	detrinorm OR detrusitol OR regurin
S6	S1 OR S2 OR S3 OR S4 OR S5

#### Cochrane search terms

#1	MeSH descriptor Muscarinic Agonists explode all trees
#2	MeSH descriptor Cholinergic Antagonists explode all trees
#3	(darifenacin OR duloxetine OR flavoxate hydrochloride OR oxybutynin hydrochloride OR propantheline bromide OR propiverine hydrochloride OR solifenacin succinate OR tolterodine tartrate OR tropsium chloride OR fesoterodine fumarate):ti,ab
#4	(emselex OR yentreve OR cymbalta OR toviaz OR urispas 200 OR oxybutynin hydrochloride OR cystrin OR ditropan OR lyrinal OR kentera OR vesicare OR ((detrinorm OR detrusitol OR regurin) adj XL)):ti,ab
#5	(#1 OR #2 OR #3 OR #4)

#### C.3.2.3 Botulinum toxin

**Q. What is the safety and efficacy of detrusor injections of Botulinum toxin type A or B compared with a) usual care b) antimuscarinics in neurological disease?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Botulinum toxin		RCTs OR SRs OR observational studies [Medline and Embase only]	All years – 10/01/12

#### Medline search terms

1.	exp Botulinum toxins/
2.	(botulinum* or onabotulinum* or rimabotulinum* or abobotulinum*).ti,ab.
3.	(dysport OR botox OR btx OR oculinum OR xeomin OR relaxin OR prosigine OR purtox OR nt201 OR mybloc OR neurobloc).ti,ab.
4.	or/1-3

#### Embase search terms

1.	exp Botulinum toxin/
2.	exp Botulinum toxin A/
3.	exp Botulinum toxin B/
4.	(botulinum* or onabotulinum* or rimabotulinum* or abobotulinum*).ti,ab.
5.	(dysport OR botox OR btx OR oculinum OR xeomin OR relaxin OR prosigine OR purtox OR nt201 OR mybloc OR neurobloc).ti,ab.
6.	or/1-5

#### Cinahl search terms

S1	(MH "botulinum toxins")
S2	(botulinum* OR onabotulinum* OR rimabotulinum* OR abobotulinum* OR dysport OR btx OR oculinum OR xeomin OR relaxin OR prosigine OR purtox OR nt201 OR mybloc OR neurobloc)
S3	S1 OR S2

#### Cochrane search terms

#1	MeSH descriptor Botulinum Toxins explode all trees
#2	(botulinum* or onabotulinum* or rimabotulinum* or abobotulinum*).ti,ab
#3	(dysport OR botox OR btx OR oculinum OR xeomin OR relaxin OR prosigine OR purtox OR nt201 OR mybloc OR neurobloc):ti,ab
#4	(#1 OR #2 OR #3)

### C.3.2.4 Augmentation cystoplasty

#### Q. What is the safety and efficacy of augmentation cystoplasty compared with a) botulinum toxin b) usual care in neurological disease c) urinary diversion?

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Augmentation cystoplasty		None	All years – 10/01/12

#### Medline search terms

1.	(cystoplast* OR ileocecocystoplast* OR ileocystoplast* OR intestinocystoplast* OR enterocystoplast* OR gastrocystoplast* OR colocystoplast* OR ureterocystoplast* OR sigmoidocystoplast*).ti,ab.
2.	(bladder adj4 augment*).ti,ab.
3.	1 OR 2



### Embase search terms

1.	(cystoplast* OR ileocecocystoplast* OR ileocystoplast* OR intestinocystoplast* OR enterocystoplast* OR gastrocystoplast* OR colocytoplast* OR ureterocystoplast* OR sigmoidocystoplast*).ti,ab.
2.	(bladder adj4 augment*).ti,ab.
3.	1 OR 2

### Cinahl search terms\*

S1	(cystoplast* OR ileocecocystoplast* OR ileocystoplast* OR intestinocystoplast* OR enterocystoplast* OR gastrocystoplast* OR colocytoplast* OR ureterocystoplast* OR sigmoidocystoplast*)
S2	bladder n4 augment*
S3	S1 OR S2

\*Only intervention terms used for this search (i.e. no population) due to very small retrieval set.

### Cochrane search terms

#1	(cystoplast* OR ileocecocystoplast* OR ileocystoplast* OR intestinocystoplast* OR enterocystoplast* OR gastrocystoplast* OR colocytoplast* OR ureterocystoplast* OR sigmoidocystoplast*):ti,ab
#2	(bladder NEAR/4 augment*):ti,ab
#3	(#1 OR #2)

## C.3.3 Treatment for stress incontinence

### C.3.3.1 Pelvic floor treatments

**Q. Does pelvic floor muscle training with or without electrical stimulation or biofeedback compared with treatment as usual, improve outcomes?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Pelvic floor muscle training		RCTs OR SRs OR observational studies [Medline and Embase only]	All years – 10/01/12

### Medline search terms

1.	Pelvic floor/
2.	Exercise therapy/
3.	Biofeedback, Psychology/
4.	Muscle contraction/ph [Physiology]
5.	((pelvi* floor OR pelvi* muscle*) adj4 (train* OR retrain* OR exercis* OR rehabilit* OR strength OR stimulat* OR function OR endurance OR physical therapy OR physiotherap* OR biofeedback OR educat* OR reeducat*)):ti,ab.
6.	(palpation adj3 (digital OR vagina* OR intravaginal OR tactile)).ti,ab.
7.	PFM*.ti,ab.
8.	or/1-7

### Embase search terms

1.	Pelvis floor/
2.	Kinesiotherapy/ OR Muscle training/

3.	Muscle contraction/
4.	((pelvic floor OR pelvic muscle*) adj4 (train* OR retrain* OR exercis* OR rehabilit* OR strength OR stimulat* OR function OR endurance OR physical therapy OR physiotherap* OR biofeedback OR reeducat* OR educat*)).ti,ab.
5.	(palpation adj3 (digital OR vagina* OR intravaginal OR tactile)).ti,ab.
6.	PFM*.ti,ab.
7.	or/1-6

**Cinahl search terms**

S1	(MH "Pelvic Floor Muscles")
S2	(MH "Muscle Strengthening+")
S3	(MH "Muscle Contraction+/PH")
S4	pelvi* floor AND (train* OR retrain* OR exercis* OR rehabilit* OR strength OR stimulat* OR function OR endurance OR physical therapy OR physiotherap* OR biofeedback OR reeducat* OR educat*)
S5	PFM*
S6	palpation AND (digital OR vagina* OR intravaginal OR tactile)
S7	S1 OR S2 OR S3 OR S4 OR S5 OR S6

**Cochrane search terms**

#1	MeSH descriptor Pelvic Floor, this term only
#2	MeSH descriptor Exercise Therapy, this term only
#3	MeSH descriptor Biofeedback, Psychology, this term only
#4	MeSH descriptor Muscle Contraction, this term only
#5	((pelvi* floor OR pelvi* muscle*) NEAR/4 (train* OR retrain* OR exercis* OR rehabilit* OR strength OR stimulat* OR function OR endurance OR physical therapy OR physiotherap* OR biofeedback OR reeducat* OR educat*)):ti,ab
#6	(palpation NEAR/3 (digital OR vagina* OR intravaginal OR tactile)):ti,ab
#7	PFM*:ti,ab
#8	(#1 OR #2OR #3 OR #4 OR #5 OR #6 OR #7)

**C.3.3.2 Urethral tape and sling surgery**

**Q. What is the safety and efficacy of urethral tape and sling surgery compared with a) bladder neck closure b) usual care in neurological disease?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Urethral tape and sling surgery		None	All years – 10/01/12

**Medline search terms**

1.	Suburethral slings/
2.	exp Polytetrafluoroethylene/tu
3.	((tension* OR vagina* OR pubovagina* OR intravagina* OR transvagina* OR suburethra* OR urethra* OR midurethra* OR retropubic* OR transobturat* OR obturat* OR TOT OR rectus OR fascia*) adj5 (tape* OR sling* OR mesh*)).ti,ab.
4.	(sling adj2 (procedure* OR system* OR placement*)).ti,ab.
5.	TVT*.ti,ab.

6.	colposuspension*.ti,ab.
7.	Rectus abdominis/tr
8.	Urologic surgical procedures/mt
9.	bladder neck.ti,ab.
10.	8 and 9
11.	or/1-7, 10

#### Embase search terms

1.	exp Suburethral slings/
2.	Pubovaginal sling/
3.	Politef/
4.	((tension* OR vagina* OR pubovagina* OR intravagina* OR transvagina* OR suburethra* OR urethra* OR midurethra* OR retropubic* OR transobturat* OR obturat* OR TOT OR rectus OR fascia*) adj5 (tape* OR sling* OR mesh*)).ti,ab.
5.	(sling adj2 (procedure* OR system* OR placement*)).ti,ab.
6.	TVT*.ti,ab.
7.	colposuspension*.ti,ab.
8.	Bladder surgery/
9.	Urethra surgery/
10.	or/1-9

#### Cinahl search terms

S1	(MH "Suburethral Slings")
S2	(MH "Polytetrafluoroethylene/TU")
S3	(tension* OR vagina* OR pubovagina* OR intravagina* OR transvagina* OR suburethra* OR urethra* OR midurethra* OR retropubic* OR transobturat* OR obturat* OR TOT OR rectus OR fascia*) AND (tape* OR sling* OR mesh*)
S4	(sling n2 procedure*) OR (sling n2 system*) OR (sling n2 placement*)
S5	TVT* OR colposuspension*
S6	bladder neck
S7	S1 OR S2 OR S3 OR S4 OR S5 OR S6

#### Cochrane search terms

#1	MeSH descriptor Suburethral Slings, this term only
#2	MeSH descriptor Polytetrafluoroethylene explode all trees with qualifier: TU
#3	((tension* OR vagina* OR pubovagina* OR intravagina* OR transvagina* OR suburethra* OR urethra* OR midurethra* OR retropubic* OR transobturat* OR obturat* OR TOT OR rectus OR fascia*) NEAR/5 (tape* OR sling* OR mesh*)):ti,ab
#4	(sling NEAR/2 (procedure* OR system* OR placement*)):ti,ab
#5	TVT*:ti,ab
#6	colposuspension*:ti,ab
#7	MeSH descriptor Rectus Abdominis, this term only with qualifier: TR
#8	MeSH descriptor Urologic Surgical Procedures, this term only with qualifier: MT
#9	"bladder neck":ti,ab
#10	(#8 AND #9)
#11	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #10)

### C.3.3.3 Artificial urinary sphincter

#### Q. What is the safety and efficacy of artificial urinary sphincters compared with other treatments in neurological disease?

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Artificial urinary sphincter		None	All years – 10/01/12

#### Medline search terms

1.	Urinary sphincter, artificial/
2.	((artificial* OR prosth*) and sphincter*).ti,ab.
3.	(bladder and cuff).ti,ab.
4.	or/1-3

#### Embase search terms

1.	Bladder sphincter prosthesis/
2.	((artificial* OR prosth*) and sphincter*).ti,ab.
3.	(bladder and cuff).ti,ab.
4.	or/1-3

#### Cinahl search terms

S1	(MH "Urinary Sphincter, Artificial")
S2	(artificial* OR prosth*) and sphincter*
S3	bladder and cuff
S4	S1 OR S2 OR S3

#### Cochrane search terms

#1	MeSH descriptor Urinary Sphincter, Artificial, this term only
#2	((artificial* OR prosth*) and sphincter*).ti,ab
#3	(bladder and cuff):ti,ab
#4	(#1 OR #2 OR #3)

### C.3.4 Treatment to improve bladder emptying

#### C.3.4.1 Alpha adrenergic antagonists

#### Q. What is the safety and efficacy of alpha adrenergic antagonists compared with a) other adrenergic antagonists b) placebo/usual care for the treatment of incontinence due to neurological disease?

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Alpha antagonists		RCTs OR SRs OR observational studies [Medline and Embase only]	All years – 10/01/12

#### Medline search terms

1.	exp Adrenergic alpha-antagonists/
2.	((adrenergic OR adrenoceptor OR adrenolytic OR antiadrenergic) adj2 alpha adj2 (block* OR

	receptor* OR antagonist*).ti,ab.
3.	(alfuzosin OR alfuzosin hydrochloride OR doxazosin OR indoramin OR prazosin OR tamsulosin OR tamsulosin hydrochloride OR terazosin OR silodosin).ti,ab.
4.	(xatral OR besavar OR vasran OR cardura* OR doralese OR baratol OR minipress OR vasoflex OR pressin OR hypovase OR flomax* OR urimax OR combodart OR hytrin).ti,ab.
5.	(dibenzylchlorethamine OR dihydroergotoxine OR ergoloid mesylates idazoxan OR labetalol OR mianserin OR moxislyte OR nicergoline OR phenxybenzamine OR phentolamine OR piperoxan OR quinidine OR tolazoline OR yohimbine).ti,ab.
6.	or/1-5

#### Embase search terms

1.	exp Alpha adrenergic receptor blocking agent/
2.	((adrenergic OR adrenoceptor OR adrenolytic OR antiadrenergic) adj2 alpha adj2 (block* OR receptor* OR antagonist*).ti,ab.
3.	(alfuzosin OR alfuzosin hydrochloride OR doxazosin OR indoramin OR prazosin OR tamsulosin OR tamsulosin hydrochloride OR terazosin OR silodosin).ti,ab.
4.	(xatral OR besavar OR vasran OR cardura* OR doralese OR baratol OR minipress OR vasoflex OR pressin OR hypovase OR flomax* OR urimax OR combodart OR hytrin).ti,ab.
5.	(dibenzylchlorethamine OR dihydroergotoxine OR ergoloid mesylates idazoxan OR labetalol OR mianserin OR moxislyte OR nicergoline OR phenxybenzamine OR phentolamine OR piperoxan OR quinidine OR tolazoline OR yohimbine).ti,ab.
6.	or/1-5

#### Cinahl search terms

S1	(MH "Adrenergic Alpha-Antagonists+")
S2	alfuzosin OR alfuzosin hydrochloride OR doxazosin OR indoramin OR prazosin OR tamsulosin OR tamsulosin hydrochloride OR terazosin OR silodosin
S3	xatral OR besavar OR vasran OR cardura* OR doralese OR baratol OR minipress OR vasoflex OR pressin OR hypovase OR flomax* OR urimax OR combodart OR hytrin
S4	dibenzylchlorethamine OR dihydroergotoxine OR ergoloid mesylates idazoxan OR labetalol OR mianserin OR moxislyte OR nicergoline OR phenxybenzamine OR phentolamine OR piperoxan OR quinidine OR tolazoline OR yohimbine
S5	adrenergic OR adrenoceptor OR adrenolytic OR antiadrenergic
S6	S1 OR S2 OR S3 OR S4 OR S5

#### Cochrane search terms

#1	MeSH descriptor Adrenergic alpha-Antagonists explode all trees
#2	((adrenergic OR adrenoceptor OR adrenolytic OR antiadrenergic) NEAR/2 alpha NEAR/2 (block* OR receptor* OR antagonist*).ti,ab
#3	(alfuzosin OR alfuzosin hydrochloride OR doxazosin OR indoramin OR prazosin OR tamsulosin OR tamsulosin hydrochloride OR terazosin OR silodosin):ti,ab
#4	(xatral OR besavar OR vasran OR cardura* OR doralese OR baratol OR minipress OR vasoflex OR pressin OR hypovase OR flomax* OR urimax OR combodart OR hytrin):ti,ab
#5	(dibenzylchlorethamine OR dihydroergotoxine OR ergoloid mesylates idazoxan OR labetalol OR mianserin OR moxislyte OR nicergoline OR phenxybenzamine OR phentolamine OR piperoxan OR quinidine OR tolazoline OR yohimbine):ti,ab
#6	(#1 OR #2 OR #3 OR #4 OR #5)

### C.3.5 Management with catheter valves AND Potential complications: providing information and initial management

#### C.3.5.1 Catheter valves AND Intermittent Catheteriation, Indwelling Catheters and Penile Sheath Urine Collection

Searches for the following two questions were run as one search:

- Q1. What are the long term risks associated with the long term use of intermittent catheterisation, indwelling catheters and penile sheaths?**
- Q2. What is the safety and efficacy of catheter valves compared with urinary drainage bags in neurological disease?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological AND (incontinence OR UTI)*	Catheter OR catheter valve OR penile sheath		RCTs OR SRs OR observational studies [Medline and Embase only]	All years – 10/01/12

\*Population differs from standard population search strategy outlined in Section C.2, with additional terms included for urinary tract infection. As a consequence both population and intervention terms have been included below for each database.

#### Medline search terms

1.	Urinary bladder, Neurogenic/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinen* OR detrusor)).ti,ab.
3.	(overactiv* adj3 bladder).ti,ab.
4.	or/1-3
5.	Urinary bladder, overactive/ OR exp Enuresis/ OR exp Urinary incontinence/ OR Urinary retention/
6.	Nocturia/
7.	(lower urinary tract symptom* urinary tract infection* OR UTI* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia).ti,ab.
8.	((urin* OR bladder OR voiding OR micturation) adj3 (disorder* OR symptom* OR urgency OR incontinence OR dysfunction)).ti,ab.
9.	((incomplet* OR impair*) adj2 bladder empt*).ti,ab.
10.	(bladder adj (obstruct* OR control OR management)).ti,ab.
11.	(urin* adj2 (retention OR retain*)).ti,ab.
12.	resid* urine.ti,ab.
13.	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) adj3 (detrusor OR lower urinary tract OR bladder)).ti,ab.
14.	or/5-13
15.	exp Nervous system diseases/
16.	exp Nervous system neoplasms/
17.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
18.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
19.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
20.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.

21.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
22.	(neurolog* adj4 spinal).ti,ab.
23.	(diabet* adj3 neuropath*).ti,ab.
24.	or/15-23
25.	14 and 24
26.	4 OR 25
27.	Limit 26 to english language
28.	Letter/
29.	Editorial/
30.	exp Historical article/
31.	Anecdotes as Topic/
32.	Comment/
33.	Case report/
34.	Animal/ not (Animal/ and Human/)
35.	Animals, Laboratory/
36.	exp Animal experiment/
37.	exp Animal model/
38.	exp Rodentia/
39.	or/28-38
40.	27 not 39
41.	Catheterization/
42.	Urinary catheterization/
43.	Catheters, indwelling/
44.	Catheter-related infections/
45.	((urin* OR ureter* OR urethra* OR suprapubic OR indwelling) adj catheter*).ti,ab.
46.	(intermittent adj2 catheter*).ti,ab.
47.	(catheter adj valve*).ti,ab.
48.	(sheath* OR condom*).ti,ab.
49.	or/41-48
50.	40 and 49

#### Embase search terms

1.	Neurogenic bladder/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinen* OR detrusor OR vesical)).ti,ab.
3.	(overactive* adj3 bladder).ti,ab.
4.	or/1-3
5.	Overactive bladder/ OR exp Enuresis/ OR exp Urine incontinence/ OR Urine retention/
6.	Nocturia/
7.	((bladder OR detrusor) adj1 overactiv*).ti,ab.
8.	((bladder OR urin*) adj1 (incontinen* OR leakage OR wetting)).ti,ab.
9.	(lower urinary tract symptom* OR urinary tract infection* OR UTI* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia).ti,ab.
10.	((urin* OR bladder OR voiding OR micturation) adj3 (disorders* OR symptom* OR urgency OR incontinence OR dysfunction)).ti,ab.

11.	((incomplet* OR impair*) adj2 bladder empt*).ti,ab.
12.	(bladder adj (obstruct* OR control OR management)).ti,ab.
13.	(urin* adj2 (retent* OR retain*)).ti,ab.
14.	resid* urine.ti,ab.
15.	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) adj3 (detrusor OR lower urinary tract OR bladder)).ti,ab.
16.	or/5-15
17.	exp Neurologic disease/
18.	exp Nervous system neoplasms/
19.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
20.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
21.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
22.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.
23.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
24.	(neurolog* adj4 spinal).ti,ab.
25.	(diabet* adj3 neuropath*).ti,ab.
26.	or/17-25
27.	16 and 26
28.	4 OR 27
29.	limit 28 to english language
30.	letter.pt.
31.	Letter/
32.	editorial.pt.
33.	note.pt.
34.	Case report/
35.	Case study/
36.	conference abstract.pt.
37.	Animal/ not (Animal/ and Human/)
38.	Nonhuman/
39.	exp Animal studies/
40.	Animals, Laboratory/
41.	exp Experimental animal/
42.	exp Animal experiment/
43.	exp Animal model/
44.	exp Rodent/
45.	or/30-44
46.	29 not 45
47.	Catheter/
48.	exp Urinary catheter/
49.	Ureter catheter/
50.	Indwelling catheter/
51.	exp Catheter complication/
52.	Catheterization/



53.	Ureter catheterization/
54.	exp Bladder catheterization/
55.	((urin* OR ureter* OR urethra* OR suprapubic OR indwelling) adj catheter*).ti,ab.
56.	(intermittent adj2 catheter*).ti,ab.
57.	(catheter adj valve*).ti,ab.
58.	sheath* OR condom*.ti,ab.
59.	or/47-58
60.	46 and 59

### Cinahl search terms

S1	(MH "Bladder, Neurogenic")
S2	neurogenic* n3 bladder OR neurogenic* n3 urin* OR neurogenic* n3 incontinen* OR neurogenic* n3 detrusor
S3	neurologic* n3 bladder OR neurologic* n3 urin* OR neurologic* n3 incontinen* OR neurologic* n3 detrusor
S4	overactiv* n1 bladder
S5	S1 OR S2 OR S3 OR S4
S6	MH overactive bladder OR mh enuresis+ OR mh urinary incontinence+ OR MH urinary retention
S7	lower urinary tract symptom* OR urinary tract infection* OR UTI* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia
S8	urin* n3 disorder* OR urin* n3 symptom* OR urin* n3 urgency OR urin* n3 incontinen* OR urin* n3 dysfunction*
S9	bladder* n3 disorder* OR bladder* n3 symptom* OR bladder* n3 urgency OR bladder* n3 incontinen* OR bladder* n3 dysfunction*
S10	voiding* n3 disorder* OR voiding* n3 symptom* OR voiding* n3 urgency OR voiding* n3 incontinen* OR voiding* n3 dysfunction*
S11	incomplet* n2 bladder empt* OR impair* n2 bladder empt*
S12	bladder n1 obstruct* OR bladder n1 control OR bladder n1 management
S13	urin* n2 retent* OR urin* n2 retain*
S14	resid* urine
S15	(weak OR underactiv OR overactive*) and (detrusor OR lower urinary tract OR bladder)
S16	(hyper-reflex* OR hypereflex* OR hyperreflex*) and (detrusor OR lower urinary tract OR bladder)
S17	S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16
S18	MH nervous system diseases+ OR MH nervous system neoplasms+
S19	neurological n2 impairment OR neurological n2 disease* OR neurological n2 disorder*
S20	spinal cord n2 injur* OR spinal cord n2 trauma OR spinal cord n2 disease*
S21	spinal n2 shock OR spinal n2 abnormalit*
S22	multiple sclerosis OR parkinson* OR stroke OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR hydronephro* OR dyssynergi* OR myelodysplas*
S23	brain n2 injur* OR brain n2 tumor* OR brain n2 tumour*
S24	neurolog* n4 spinal
S25	diabet* OR neuropath*
S26	S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25
S27	S17 and S26
S28	S5 OR S27

S29	(MH "Catheterization")
S30	(MH "Urinary Catheterization+")
S31	(MH "Catheters, Urinary+")
S32	(MH "Catheter-Related Infections")
S33	(urin* OR ureter* OR urethra* OR suprapubic OR indwelling OR valve OR intermittent) and catheter*
S34	(sheath* and pen*) OR condom*
S35	S29 OR S30 OR S31 OR S32 OR S33 OR S34
S36	S28 and S35

### Cochrane search terms

#1	MeSH descriptor Urinary Bladder, Neurogenic explode all trees
#2	(neurogenic* OR neurologic* OR spastic OR atonic OR overactiv*) NEAR/3 (bladder OR incontinen* OR detrusor OR urin*)
#3	(#1 OR #2)
#4	MeSH descriptor Nocturia explode all trees
#5	MeSH descriptor Urinary Bladder, Overactive explode all trees
#6	MeSH descriptor Enuresis explode all trees
#7	MeSH descriptor Urinary Incontinence explode all trees
#8	MeSH descriptor Urinary Retention explode all trees
#9	("lower urinary tract symptom*" OR "urinary tract infection*" OR "urinary symptom*" OR LUTS OR "irritable bladder" OR bedwetting OR enuresis OR nocturia):ti,ab
#10	((urin* OR bladder OR voiding OR micturation) NEAR/3 (disorder* OR symptom* OR urgency OR incontinence OR dysfunction)):ti,ab
#11	((incomplete* OR impair*) NEXT "bladder emptying"):ti,ab
#12	(bladder NEXT (obstruct* OR control OR management OR compliance)):ti,ab
#13	("urinary retention" OR "residual urine"):ti,ab
#14	(urin* NEAR/2 (retention OR retain* OR resid*)):ti,ab
#15	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) NEAR (detrusor OR "lower urinary tract" OR bladder)):ti,ab
#16	(#4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15)
#17	MeSH descriptor Nervous System Diseases explode all trees
#18	(neurological NEAR/2 (impair* OR disease* OR disorder*)):ti,ab
#19	(spinal cord NEAR/2 (injur* OR trauma* OR disease*)):ti,ab
#20	spinal NEAR/2 (shock* OR abnormalit*):ti,ab
#21	(brain NEAR/2 (injur* OR tumor* OR tumour* OR lesion*)):ti,ab
#22	myelopathy:ti,ab
#23	(neurolog* NEAR/4 spinal):ti,ab
#24	(diabet* NEAR/3 neuropath*):ti,ab
#25	(hydronephrosis OR dyssynergi* OR myelodysplas*):ti,ab
#26	("multiple sclerosis" OR parkinson* OR stroke* OR dementia OR alzheimer* OR "cerebral palsy" OR hydrocephalus OR "spina bifida"):ti,ab
#27	(#17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26)
#28	(#3 OR (#16 AND #27))
#29	MeSH descriptor Catheterization, this term only
#30	MeSH descriptor Urinary Catheterization, this term only

#31	MeSH descriptor Catheters, Indwelling, this term only
#32	MeSH descriptor Catheter-Related Infections, this term only
#33	((urin* OR ureter* OR urethra* OR suprapubic OR indwelling) NEXT catheter*):ti,ab
#34	(intermittent NEAR/2 catheter*):ti,ab
#35	(catheter NEXT valve*):ti,ab
#36	sheath* OR condom* :ti,ab
#37	(#29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36)
#38	(#28 AND #37)

### C.3.6 Management with Ileal conduit diversion

#### C.3.6.1 Ileal conduit diversion

**Q. What is the efficacy of the ileal conduit diversion compared with usual care in neurological disease?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Ileal conduit diversion		RCTs OR SRs OR observational studies [Medline and Embase only]	All years – 10/01/12

#### Medline search terms

1.	Urinary diversion/
2.	Cystostomy/
3.	Ureterostomy/
4.	Cystectomy/
5.	Ileostomy/
6.	Urinary reservoirs, continent/
7.	*Ileum/su [Surgery]
8.	(conduit* adj5 (ile* OR urin* OR diversion* OR continen* OR Bricker)).ti,ab.
9.	(diversion* adj5 (urin* OR continen* OR ile*)).ti,ab.
10.	(reservoir* adj5 (ile* OR urin* OR continen* OR sigmoid* OR uret*)).ti,ab.
11.	(bladder adj2 (reconstruct* OR replac* OR substitut*)).ti,ab.
12.	(neobladder* OR urostom* OR cystectom* OR ureterostom* OR ileostom* OR cystostom* OR vesicostom*).ti,ab.
13.	(anastomo* adj5 ureter*).ti,ab.
14.	Colonic pouches/
15.	(pouch* OR ostom*).ti,ab.
16.	or/1-15

#### Embase search terms

1.	exp Urinary diversion/
2.	Cystectomy/
3.	Cystostomy/
4.	Ureterostomy/
5.	Ileostomy/
6.	Ileum pouch/

7.	exp Intestine anastomosis/
8.	*Ileum/su [Surgery]
9.	(conduit* adj5 (ile* OR urin* OR diversion* OR continen* OR Bricker)).ti,ab.
10.	(diversion* adj5 (urin* OR continen* OR ile*)).ti,ab.
11.	(reservoir* adj5 (ile* OR urin* OR continen* OR sigmoid* OR uret*)).ti,ab.
12.	(bladder adj2 (reconstruct* OR replac* OR substitut*)).ti,ab.
13.	(neobladder* OR urostom* OR cystectom* OR ureterostom*OR ileostom* OR cystostom* OR vesicostom*).ti,ab.
14.	(anastomo* adj5 ureter*).ti,ab.
15.	(pouch* OR ostom*).ti,ab.
16.	or/1-15

### Cinahl search terms

S1	(MH "Urinary Diversion+")
S2	(MH "Cystectomy")
S3	(MH "Cystostomy")
S4	(MH "Ureterostomy")
S5	(MH "Ileostomy")
S6	(MH "Ileoanal Reservoir")
S7	(MH "Ileum+/SU")
S8	conduit* AND (ile* OR urin* OR diversion* OR continen* OR Bricker)
S9	diversion* AND (urin* OR continen* OR ile*)
S10	reservoir* AND (ile* OR urin* OR continen* OR sigmoid* OR uret*)
S11	neobladder* OR urostom* OR cystectom* OR ureterostom* OR ileostom* OR cystostom* OR vesicostom*
S12	anastomo* AND ureter*
S13	pouch*
S14	bladder AND (reconstruct* OR replac* OR substitut*)
S15	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 OR S14

### Cochrane search terms

#1	MeSH descriptor Urinary Diversion, this term only
#2	MeSH descriptor Cystectomy, this term only
#3	MeSH descriptor Cystostomy, this term only
#4	MeSH descriptor Ureterostomy, this term only
#5	MeSH descriptor Ileostomy, this term only
#6	MeSH descriptor Urinary Reservoirs, Continent, this term only
#7	MeSH descriptor Colonic Pouches, this term only
#8	MeSH descriptor Ileum, this term only with qualifier: SU
#9	(conduit* NEAR/5 (ile* OR urin* OR diversion* OR continen* OR Bricker)):ti,ab
#10	(diversion* NEAR/5 (urin* OR continen* OR ile*)):ti,ab
#11	(reservoir* NEAR/5 (ile* OR urin* OR continen* OR sigmoid* OR uret*)):ti,ab
#12	(bladder NEAR/2 (reconstruct* OR replac* OR substitut*)):ti,ab
#13	(neobladder* OR urostom* OR cystectom* OR ureterostom*OR ileostom* OR cystostom* OR vesicostom*):ti,ab
#14	(anastomo* NEAR/5 ureter*):ti,ab

#15	(pouch* OR ostom*):ti,ab
#16	(#1OR #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)

### C.3.7 Treatment to prevent urinary tract infections

#### C.3.7.1 Antibiotic prophylaxis

**Q. Do prophylactic antibiotics compared with a) no treatment b) other antibiotic reduce the risk of symptomatic urinary tract infections?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological AND (incontinence OR UTI)*	Prophylactic antibiotics		RCTs OR SRs [Medline and Embase only]	All years – 10/01/12

\*Population differs from standard population search strategy outlined in Section C.2, with additional terms included for urinary tract infection. As a consequence both population and intervention terms have been included below for each database.

#### Medline search terms

1.	Urinary bladder, neurogenic/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinen* OR detrusor)).ti,ab.
3.	(overactiv* adj3 bladder).ti,ab.
4.	or/1-3
5.	Urinary bladder, overactive/ OR exp Enuresis/ OR exp Urinary incontinence/ OR Urinary retention/
6.	Nocturia/
7.	(lower urinary tract symptom* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia).ti,ab.
8.	((urin* OR bladder OR voiding OR micturation) adj3 (disorder* OR symptom* OR urgency OR incontinence OR dysfunction)).ti,ab.
9.	((incomplet* OR impair*) adj2 bladder empt*).ti,ab.
10.	(bladder adj (obstruct* OR control OR management)).ti,ab.
11.	(urin* adj2 (retention OR retain*)).ti,ab.
12.	resid* urine.ti,ab.
13.	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) adj3 (detrusor OR lower urinary tract OR bladder)).ti,ab.
14.	Urinary tract infections/
15.	Bacteriuria/
16.	Pyuria/
17.	Pyelonephritis/
18.	exp Cystitis/
19.	Urethritis/
20.	Prostatitis/
21.	(urinary tract infection* OR UTI* OR bacteriuria* OR pyuria* OR pyelonephriti* OR cystiti* OR urethriti* OR prostatiti*).ti,ab.
22.	or/5-21
23.	exp Nervous system diseases/

24.	exp Nervous system neoplasms/
25.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
26.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
27.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
28.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.
29.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
30.	(neurolog* adj4 spinal).ti,ab.
31.	(diabet* adj3 neuropath*).ti,ab.
32.	or/23-31
33.	22 and 32
34.	4 OR 33
35.	limit 34 to english language
36.	Letter/
37.	Editorial/
38.	exp Historical article/
39.	Anecdotes as Topic/
40.	Comment/
41.	Case report/
42.	Animal/ not (animal/ and human/)
43.	Animals, Laboratory/
44.	exp Animal experiment/
45.	exp Animal model/
46.	exp Rodentia/
47.	or/36-46
48.	35 not 47
49.	Antibiotic prophylaxis/
50.	Anti-infective agents, urinary/
51.	((antibiotic* OR antimicrobial* OR anti-infective*) and (prevent* OR prophyla*)).ti,ab.
52.	exp Amdinocillin/
53.	exp Amoxicillin/
54.	exp Cephalosporins/
55.	exp Quinolones/
56.	Amoxicillin-potassium clavulanate combination/
57.	Carfecillin/
58.	Cycloserine/
59.	Carbapenems/
60.	exp Nitrofurans/
61.	exp Gentamicins/
62.	exp Mandelic acids/
63.	Methenamine/
64.	Pipemidic acid/
65.	Piromidic acid/
66.	exp Sulfonamides/

67.	exp Trimethoprim/
68.	(amdinocillin OR amifloxacin OR amoxicillin OR amoxiclav OR cinoxacin OR cephalosporin* OR cefalexin OR enoxacin OR levofloxacin OR nifurtinol OR lomefloxacin OR cefotaxime OR cefuroxime OR difloxacin OR quinolone* OR flouroquinolone* OR ciproflax* OR cotrimoxazole OR carfecillin OR cycloserine OR carbapenem* OR doripenem* OR nitrofurans OR furaltadone OR flumequine OR fleroxacin OR furagin OR fosfomycin* OR furazolidone OR isepamicin OR nitrofurantoin OR gentamicin* OR mandelic acid* OR nitroxoline OR methenamine* OR nalidixic acid* OR norfloxacin OR ofloxacin OR oxolinic acid OR pipemidic acid OR pefloxacin OR piromidic acid OR pivmecillinam OR sulphanilamide* OR sulfacetamide OR sulfachlorpyridazine OR sulfadoxin OR sulfalene OR sulfamet* OR sul?onamide* OR trimethoprim* OR TMP-SMX).ti,ab.
69.	or/49-68
70.	48 and 69

### Embase search terms

1.	Neurogenic bladder/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinen* OR detrusor OR vesical)).ti,ab.
3.	(overactive* adj3 bladder).ti,ab.
4.	or/1-3
5.	Overactive bladder/ OR exp Enuresis/ OR exp Urine incontinence/ OR Urine retention/
6.	Nocturia/
7.	((bladder OR detrusor) adj1 overactiv*).ti,ab.
8.	((bladder OR urin*) adj1 (incontinen* OR leakage OR wetting)).ti,ab.
9.	(lower urinary tract symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia).ti,ab.
10.	((urin* OR bladder OR voiding OR micturation) adj3 (disorders* OR symptom* OR urgency OR incontinence OR dysfunction)).ti,ab.
11.	((incomplet* OR impair*) adj2 bladder empt*).ti,ab.
12.	(bladder adj (obstruct* OR control OR management)).ti,ab.
13.	(urin* adj2 (retent* OR retain*)).ti,ab.
14.	resid* urine.ti,ab.
15.	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) adj3 (detrusor OR lower urinary tract OR bladder)).ti,ab.
16.	exp Urinary tract infection/
17.	exp Urogenital tract inflammation/
18.	exp Urinary tract inflammation/
19.	Bacteriuria/
20.	Asymptomatic bacteriuria/
21.	Pyuria/
22.	exp Prostatitis/
23.	(urinary tract infection* OR UTI* OR bacteriuria* OR pyuria* OR pyelonephriti* OR cystiti* OR urethriti* OR prostatiti*).ti,ab.
24.	or/5-23
25.	exp Neurologic disease/
26.	exp Nervous system neoplasms/
27.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
28.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.

29.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
30.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.
31.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
32.	(neurolog* adj4 spinal).ti,ab.
33.	(diabet* adj3 neuropath*).ti,ab.
34.	or/25-33
35.	24 and 34
36.	4 OR 35
37.	limit 28 to english language
38.	letter.pt.
39.	Letter/
40.	editorial.pt.
41.	note.pt.
42.	Case report/
43.	Case study/
44.	conference abstract.pt.
45.	Animal/ not (Animal/ and Human/)
46.	Nonhuman/
47.	exp Animal studies/
48.	Animals, Laboratory/
49.	exp Experimental animal/
50.	exp Animal experiment/
51.	exp Animal model/
52.	exp Rodent/
53.	or/38-52
54.	37 not 53
55.	Antibiotic prophylaxis/
56.	exp Urinary tract antiinfective agent/
57.	((antibiotic* OR antimicrobial* OR anti-infective*) and (prevent* OR prophyla*)).ti,ab.
58.	Mecillinam/
59.	Amoxicillin/
60.	exp Cephalosporin derivative/
61.	exp Quinolone derivative/
62.	exp Quinoline derived antiinfective agent/
63.	Carfecillin/
64.	Cycloserine/
65.	Carbapenem/
66.	exp Carbapenem derivative/
67.	exp Nitrofurantoin derivative/
68.	Gentamicin/
69.	Mandelic acid derivative/
70.	exp Sulfonamide/
71.	Trimethoprim/



72.	Trimethoprim derivative/
73.	(amdinocillin OR amifloxacin OR amoxicillin OR amoxiclav OR cinoxacin OR cephalosporin* OR cefalexin OR enoxacin OR levofloxacin OR nifurtinol OR lomefloxacin OR cefotaxime OR cefuroxime OR difloxacin OR quinolone* OR flouroquinolone* OR ciproflax* OR cotrimoxazole OR carfecillin OR cycloserine OR carbapenem* OR doripenem* OR nitrofurans OR furaltadone OR flumequine OR fleroxacin OR furagin OR fosfomycin* OR furazolidone OR isepamicin OR nitrofurantoin OR gentamicin* OR mandelic acid* OR nitroxoline OR methenamine* OR nalidixic acid* OR norfloxacin OR ofloxacin OR oxolinic acid OR pipemidic acid OR pefloxacin OR piromidic acid OR pivmecillinam OR sulphanilamide* OR sulfacetamide OR sulfachlorpyridazine OR sulfadoxin OR sulfalene OR sulfamet* OR sul?onamide* OR trimethoprim* OR TMP-SMX).ti,ab.
74.	or/55-73
75.	54 and 74

### Cinahl search terms

S1	(MH "Bladder, Neurogenic")
S2	neurogenic* n3 bladder OR neurogenic* n3 urin* OR neurogenic* n3 incontinen* OR neurogenic* n3 detrusor
S3	neurologic* n3 bladder OR neurologic* n3 urin* OR neurologic* n3 incontinen* OR neurologic* n3 detrusor
S4	overactiv* n1 bladder
S5	S1 OR S2 OR S3 OR S4
S6	MH overactive bladder OR mh enuresis+ OR mh urinary incontinence+ OR MH urinary retention
S7	lower urinary tract symptom* OR urinary symptom* OR LUTS OR irritable bladder OR bedwetting OR enuresis OR nocturia
S8	urin* n3 disorder* OR urin* n3 symptom* OR urin* n3 urgency OR urin* n3 incontinen* OR urin* n3 dysfunction*
S9	bladder* n3 disorder* OR bladder* n3 symptom* OR bladder* n3 urgency OR bladder* n3 incontinen* OR bladder* n3 dysfunction*
S10	voiding* n3 disorder* OR voiding* n3 symptom* OR voiding* n3 urgency OR voiding* n3 incontinen* OR voiding* n3 dysfunction*
S11	incomplet* n2 bladder empt* OR impair* n2 bladder empt*
S12	bladder n1 obstruct* OR bladder n1 control OR bladder n1 management
S13	urin* n2 retent* OR urin* n2 retain*
S14	resid* urine
S15	(weak OR underactiv OR overactive*) and (detrusor OR lower urinary tract OR bladder)
S16	(hyper-reflex* OR hypereflex* OR hyperreflex*) and (detrusor OR lower urinary tract OR bladder)
S17	S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16
S18	MH nervous system diseases+ OR MH nervous system neoplasms+
S19	neurological n2 impairment OR neurological n2 disease* OR neurological n2 disorder*
S20	spinal cord n2 injur* OR spinal cord n2 trauma OR spinal cord n2 disease*
S21	spinal n2 shock OR spinal n2 abnormalit*
S22	multiple sclerosis OR parkinson* OR stroke OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR hydronephro* OR dyssynergi* OR myelodysplas*
S23	brain n2 injur* OR brain n2 tumor* OR brain n2 tumour*
S24	neurolog* n4 spinal
S25	diabet* OR neuropath*

S26	S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25
S27	(MH "Urinary Tract Infections+")
S28	(MH "Pyelonephritis")
S29	(MH "Cystitis+")
S30	(MH "Urethritis")
S31	(MH "Prostatitis")
S32	urinary tract infection* OR bacteriuria* OR pyuria* OR pyelonephriti* OR cystiti* OR urethriti* OR prostatiti*
S33	S27 OR S28 OR S29 OR S30 OR S31 OR S32
S34	(S17 OR S33) and S26
S35	S5 OR S34
S36	(MH "Antibiotic Prophylaxis")
S37	(antibiotic* OR antimicrobial* OR anti-infective*) and (prevent* OR prophyla*)
S38	(MH "Antiinfective Agents, Urinary+")
S39	amdinocillin OR amifloxacin OR amoxicillin OR amoxiclav OR cinoxacin OR cephalosporin* OR cefalexin OR enoxacin OR levofloxacin OR nifurtinol OR lomefloxacin OR cefotaxime OR cefuroxime OR difloxacin OR quinolone* OR flouroquinolone* OR ciproflax* OR cotrimoxazole OR carfecillin OR cycloserine OR carbapenem* OR doripenem* OR nitrofurans OR furaltadone OR flumequine OR fleroxacin OR furagin OR fosfomycin* OR furazolidone OR isepamicin OR nitrofurantoin OR gentamicin* OR mandelic acid* OR nitroxoline OR methenamine* OR nalidixic acid* OR norfloxacin OR ofloxacin OR oxolinic acid OR pipemidic acid OR pefloxacin OR piromidic acid OR pivmecillinam OR sulphaniamide* OR sulfacetamide OR sulfachlorpyridazine OR sulfadoxin OR sulfalene OR sulfamet* OR sul?onamide* OR trimethoprim* OR TMP-SMX
S40	S36 OR S37 OR S38 OR S39
S41	S35 and S40
S42	English Language; Exclude MEDLINE
S43	S41 and S42

### Cochrane search terms

#1	MeSH descriptor Urinary Bladder, Neurogenic explode all trees
#2	(neurogenic* OR neurologic* OR spastic OR atonic OR overactiv*) NEAR/3 (bladder OR incontinen* OR detrusor OR urin*)
#3	(#1 OR #2)
#4	MeSH descriptor Nocturia explode all trees
#5	MeSH descriptor Urinary Bladder, Overactive explode all trees
#6	MeSH descriptor Enuresis explode all trees
#7	MeSH descriptor Urinary Incontinence explode all trees
#8	MeSH descriptor Urinary Retention explode all trees
#9	("lower urinary tract symptom*" OR "urinary symptom*" OR LUTS OR "irritable bladder" OR bedwetting OR enuresis OR nocturia):ti,ab
#10	((urin* OR bladder OR voiding OR micturation) NEAR/3 (disorder* OR symptom* OR urgency OR incontinence OR dysfunction)):ti,ab
#11	((incomplete* OR impair*) NEXT "bladder emptying"):ti,ab
#12	(bladder NEXT (obstruct* OR control OR management OR compliance)):ti,ab
#13	("urinary retention" OR "residual urine"):ti,ab
#14	(urin* NEAR/2 (retention OR retain* OR resid*)):ti,ab
#15	((overactiv* OR weak OR underactiv* OR hyperreflex* OR hyper-reflex*) NEAR (detrusor OR

	"lower urinary tract" OR bladder)):ti,ab
#16	(#4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15)
#17	MeSH descriptor Nervous System Diseases explode all trees
#18	(neurological NEAR/2 (impair* OR disease* OR disorder*)):ti,ab
#19	(spinal cord NEAR/2 (injur* OR trauma* OR disease*)):ti,ab
#20	spinal NEAR/2 (shock* OR abnormalit*):ti,ab
#21	(brain NEAR/2 (injur* OR tumor* OR tumour* OR lesion*)):ti,ab
#22	myelopathy:ti,ab
#23	(neurolog* NEAR/4 spinal):ti,ab
#24	(diabet* NEAR/3 neuropath*):ti,ab
#25	(hydronephrosis OR dyssynergi* OR myelodysplas*):ti,ab
#26	("multiple sclerosis" OR parkinson* OR stroke* OR dementia OR alzheimer* OR "cerebral palsy" OR hydrocephalus OR "spina bifida"):ti,ab
#27	(#17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26)
#28	MeSH descriptor Urinary Tract Infections, this term only
#29	MeSH descriptor Bacteriuria, this term only
#30	MeSH descriptor Pyuria, this term only
#31	MeSH descriptor Pyelonephritis, this term only
#32	MeSH descriptor Cystitis explode all trees
#33	MeSH descriptor Urethritis, this term only
#34	MeSH descriptor Prostatitis, this term only
#35	(urinary tract infection* OR bacteriuria* OR pyuria* OR pyelonephriti* OR cystiti* OR urethriti* OR prostatiti*):ti,ab
#36	(#28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35)
#37	(#16 OR #36)
#38	(#3 OR (#27 AND #37))
#39	MeSH descriptor Antibiotic Prophylaxis, this term only
#40	MeSH descriptor Anti-Infective Agents, Urinary, this term only
#41	((antibiotic* OR antimicrobial* OR anti-infective*) and (prevent* OR prophyla*)):ti,ab
#42	MeSH descriptor Amdinocillin explode all trees
#43	MeSH descriptor Amoxicillin explode all trees
#44	MeSH descriptor Cephalosporins explode all trees
#45	MeSH descriptor Quinolones explode all trees
#46	MeSH descriptor Amoxicillin-Potassium Clavulanate Combination, this term only
#47	MeSH descriptor Carfecillin, this term only
#48	MeSH descriptor Cycloserine, this term only
#49	MeSH descriptor Carbapenems, this term only
#50	MeSH descriptor Nitrofurans explode all trees
#51	MeSH descriptor Gentamicins explode all trees
#52	MeSH descriptor Mandelic Acids explode all trees
#53	MeSH descriptor Methenamine, this term only
#54	MeSH descriptor Pipemidic Acid, this term only
#55	MeSH descriptor Piromidic Acid, this term only
#56	MeSH descriptor Sulfonamides explode all trees
#57	MeSH descriptor Trimethoprim explode all trees

#58	(amdinocillin OR amifloxacin OR amoxicillin OR amoxiclav OR cinoxacin OR cephalosporin* OR cefalexin OR enoxacin OR levofloxacin OR nifurtinol OR lomefloxacin OR cefotaxime OR cefuroxime OR difloxacin OR quinolone* OR flouroquinolone* OR ciproflax* OR cotrimoxazole OR carfecillin OR cycloserine OR carbapenem* OR doripenem* OR nitrofurans OR furaltadone OR flumequine OR fleroxacin OR furagin OR fosfomycin* OR furazolidone OR isepamicin OR nitrofurantoin OR gentamicin* OR mandelic acid* OR nitroxoline OR methenamine* OR nalidixic acid* OR norfloxacin OR ofloxacin OR oxolinic acid OR pipemidic acid OR pefloxacin OR piromidic acid OR pivmecillinam OR sulphanimide* OR sulfacetamide OR sulfachlorpyridazine OR sulfadoxin OR sulfalene OR sulfamet* OR sul?onamide* OR trimethoprim* OR TMP-SMX):ti,ab
#59	(#39 OR #40 OR #41 OR #42 #OR #43 OR #44 OR #45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55 OR #56 OR #57 OR #58)
#60	(#38 AND #59)

### C.3.8 Monitoring and surveillance protocols

#### C.3.8.1 Monitoring and surveillance protocols

##### Q. Does monitoring, or do surveillance protocols, improve patient outcomes?

Two searches were run for this question. Both searches used the same intervention terms (as outlined in C.3.7.1), but the population was adjusted for the second search (C.3.7.2).

#### C.3.8.2 Search using STANDARD population

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence	Clinical monitoring and surveillance techniques		None	All years – 10/01/12

#### Medline search terms

1.	exp Kidney function tests/
2.	exp Ultrasonography/ and (renal OR kidney* OR bladder).ti,ab.
3.	Urodynamics/
4.	Urography/
5.	Urinalysis/
6.	Diagnostic techniques, Urological/
7.	Radiography, Abdominal/
8.	Reagent strips/
9.	(cystometr* OR CMG* OR cystoscop*).ti,ab.
10.	(renogra* OR DMSA OR renal scan* OR kidney scan*).ti,ab.
11.	(blood adj (test* OR pressure* OR chemistry)).ti,ab.
12.	((ultrason* OR ultrasound) adj3 (renal OR kidney* OR bladder)).ti,ab.
13.	(intravenous adj (urogram* OR pylogram*)).ti,ab.
14.	(videourodynamic* OR VUDS).ti,ab.
15.	(uroflowmetr* OR flowmetr*).ti,ab.
16.	(urodynamic* adj2 (stud* OR evaluat* OR test* OR monitor*)).ti,ab.
17.	((abdominal OR abdomen OR urinary tract OR LUT) adj3 (x ray* OR imag* OR radiograph*)).ti,ab.

18.	(glomerul* adj filtrat*).ti,ab.
19.	((reagent* OR test*) adj2 (strip* OR tape*)).ti,ab.
20.	(dipstick* OR dip stick* OR urine culture* OR urinalys*).ti,ab.
21.	(creatinin* adj (ratio* OR clearance*)).ti,ab.
22.	or/1-21
23.	Monitoring, Physiologic/
24.	(self monitor* OR monitor* OR track* OR surveillance OR screen* OR diari* OR diary* OR history tak*).ti,ab.
25.	((medical OR care OR follow up) adj4 (plan* OR protocol* OR review* OR management OR polic* OR program*)).ti,ab.
26.	((regular OR routine* OR periodic* OR specialist* OR consultant* OR outpatient* OR out patient*) adj3 (review* OR visit* OR examin* OR attend* OR check up* OR recall* OR follow up* OR investigation* OR test*)).ti,ab.
27.	(visit* adj5 clinic*).ti,ab.
28.	or/23-27
29.	22 and 28

#### Embase search terms

1.	Kidney function test/
2.	Echography/ and (renal OR kidney* OR bladder).ti,ab.
3.	exp Glomerulus filtration/
4.	Urodynamics/
5.	Uroflowmetry/
6.	exp Urinalysis/
7.	exp Urography/
8.	exp Bladder examination/
9.	Abdominal radiography/
10.	Test strip/
11.	(cystometr* OR CMG* OR cystoscop*).ti,ab.
12.	(renogra* OR DMSA OR renal scan* OR kidney scan*).ti,ab.
13.	(blood adj (test* OR pressure* OR chemistry)).ti,ab.
14.	((ultrason* OR ultrasound) adj3 (renal OR kidney* OR bladder)).ti,ab.
15.	(intravenous adj (urogra* OR pylogra*)).ti,ab.
16.	(videourodynamic* OR VUDS).ti,ab.
17.	(uroflowmetr* OR flowmetr*).ti,ab.
18.	(urodynamic* adj2 (stud* OR evaluat* OR test* OR monitor*)).ti,ab.
19.	((abdominal OR abdomen OR urinary tract OR LUT) adj3 (x ray* OR imag* OR radiograph*)).ti,ab.
20.	(glomerul* adj filtrat*).ti,ab.
21.	((reagent* OR test*) adj2 (strip* OR tape*)).ti,ab.
22.	(dipstick* OR dip stick* OR urine culture* OR urinalys*).ti,ab.
23.	(creatinin* adj (ratio* OR clearance*)).ti,ab.
24.	or/1-23
25.	exp Monitoring/
26.	(self monitor* OR monitor* OR track* OR surveillance OR screen* OR diari* OR diary* OR history tak*).ti,ab.

27.	((medical OR care OR follow up) adj4 (plan* OR protocol* OR review* OR management OR polic* OR program*)).ti,ab.
28.	((regular OR routine* OR periodic* OR specialist* OR consultant* OR outpatient* OR out patient*) adj3 (review* OR visit* OR examin* OR attend* OR check up* OR recall* OR follow up* OR investigation* OR test*)).ti,ab.
29.	(visit* adj5 clinic*).ti,ab.
30.	or/25-29
31.	24 and 30

### Cinahl search terms

S1	(MH "Kidney Function Tests+")
S2	(MH Ultrasonography+) and (renal OR kidney* OR bladder)
S3	(MH "Urodynamics")
S4	(MH "Urography")
S5	(MH "Urinalysis")
S6	(MH "Diagnosis, Urologic+")
S7	(MH "Radiography, Abdominal")
S8	(MH "Reagent Strips")
S9	(cystometr* OR CMG* OR cystoscop*)
S10	(renogra* OR DMSA OR renal scan* OR kidney scan*)
S11	("blood test" OR "blood pressure" OR "blood chemistry")
S12	(ultrason* OR ultrasound) and (renal OR kidney* OR bladder)
S13	(intravenous and (urogra* OR pylogra*))
S14	(videourodynamic* OR VUDS)
S15	(uroflowmetr* OR flowmetr*)
S16	(urodynamic* and (stud* OR evaluat* OR test* OR monitor*))
S17	((abdominal OR abdomen OR urinary tract OR LUT) and (x ray* OR imag* OR radiograph*))
S18	("glomerul* filtrat*")
S19	(reagent strip* OR reagent tape* OR test strip* OR test tape*)
S20	(dipstick* OR dip stick* OR urine culture* OR urinalys*)
S21	(creatinin* ratio* OR creatinin* clearance*)
S22	(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 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21)
S23	(MH "Monitoring, Physiologic+")
S24	(self monitor* OR monitor* OR track* OR surveillance OR screen* OR diari* OR diary* OR history tak*)
S25	((medical OR care OR follow up) AND (plan* OR protocol* OR review* OR management OR polic* OR program*))
S26	((regular OR routine* OR periodic* OR specialist* OR consultant* OR outpatient* OR out patient*) AND (review* OR visit* OR examin* OR attend* OR check up* OR recall* OR follow up* OR investigation* OR test*))
S27	(visit* n5 clinic*)
S28	(S23 OR S24 OR S25 OR S26 OR S27)
S29	S22 AND S28

### Cochrane search terms

#1	MeSH descriptor Ultrasonography explode all trees
----	---

#2	(renal OR kidney* OR bladder):ti,ab
#3	(#1 AND #2)
#4	MeSH descriptor Kidney Function Tests explode all trees
#5	MeSH descriptor Urodynamics, this term only
#6	MeSH descriptor Urography, this term only
#7	MeSH descriptor Urinalysis, this term only
#8	MeSH descriptor Diagnostic Techniques, Urological, this term only
#9	MeSH descriptor Radiography, Abdominal, this term only
#10	MeSH descriptor Reagent Strips, this term only
#11	(cystometr* OR CMG* OR cystoscop*):ti,ab
#12	(renogra* OR DMSA OR renal scan* OR kidney scan*):ti,ab
#13	(blood NEXT (test* OR pressure* OR chemistry)):ti,ab
#14	((ultrason* OR ultrasound) NEAR/3 (renal OR kidney* OR bladder)):ti,ab
#15	(intravenous NEXT (urogram* OR pylogram*)):ti,ab
#16	(videourodynamic* OR VUDS):ti,ab
#17	(uroflowmetr* OR flowmetr*):ti,ab
#18	(urodynamic* NEAR/2 (stud* OR evaluat* OR test* OR monitor*)):ti,ab
#19	((abdominal OR abdomen OR urinary tract OR LUT) NEAR/3 (x ray* OR imag* OR radiograph*)):ti,ab
#20	(glomerul* NEXT filtrat*):ti,ab
#21	((reagent* OR test*) NEAR/2 (strip* OR tape*)):ti,ab
#22	(dipstick* OR dip stick* OR urine culture* OR urinalys*):ti,ab
#23	(creatinin* NEXT (ratio* OR clearance*)):ti,ab
#24	(#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 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23)
#25	MeSH descriptor Monitoring, Physiologic, this term only
#26	(self monitor* OR monitor* OR track* OR surveillance OR screen* OR diari* OR diary* OR history tak*):ti,ab
#27	((medical OR care OR follow up) NEAR/4 (plan* OR protocol* OR review* OR management OR polic* OR program*)):ti,ab
#28	((regular OR routine* OR periodic* OR specialist* OR consultant* OR outpatient* OR out patient*) NEAR/3 (review* OR visit* OR examin* OR attend* OR check up* OR recall* OR follow up* OR investigation* OR test*)):ti,ab
#29	(visit* NEAR/5 clinic*):ti,ab
#30	(#25 OR #26 OR #27 OR #28 OR #29)
#31	#24 OR #30

### C.3.8.3 Search using ADJUSTED population

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

Population	Intervention	Comparison	Study filter used	Date parameters
Multiple sclerosis OR spinal cord injury OR spina bifida	Clinical monitoring and surveillance techniques		None	All years – 10/01/12

For this additional search the interventions outlined in C.3.7.1 were run with the following adjusted populations:

### Medline search terms

1.	exp Multiple sclerosis/
2.	exp Spinal dysraphism/
3.	exp Spinal cord injuries/
4.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
5.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
6.	(multiple sclerosis OR spina bifida).ti,ab.
7.	(neurolog* adj4 spinal).ti,ab.
8.	or/1-7

### Embase search terms

1.	Spinal cord injury/
2.	exp Spina bifida/
3.	exp Multiple sclerosis/
4.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
5.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
6.	(multiple sclerosis OR spina bifida).ti,ab.
7.	(neurolog* adj4 spinal).ti,ab.
8.	or/1-7

### Cinahl search terms

S1	(MH "Multiple Sclerosis")
S2	(MH "Spina Bifida")
S3	(MH "Spinal Cord Injuries+")
S4	S1 OR S2 OR S3

### Cochrane search terms

#1	MeSH descriptor Multiple Sclerosis explode all trees
#2	MeSH descriptor Spinal Dysraphism explode all trees
#3	MeSH descriptor Spinal Cord Injuries explode all trees
#4	(spinal cord NEAR/2 (injur* OR trauma* OR disease*)):ti,ab
#5	spinal NEAR/2 (shock* OR abnormalit*):ti,ab
#6	(neurolog* NEAR/4 spinal):ti,ab
#7	("multiple sclerosis" OR "spina bifida"):ti,ab
#8	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7)

## C.3.9 Access to and interaction with services

### C.3.9.1 Access to and interaction with services

**Q. For people with lower urinary tract dysfunction associated with neurological disorders, and their carers, what are the experiences of access to and interaction with services that address these issues?**

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease OR	Patient experience AND access to services		None	All years – 10/01/12



Population	Intervention	Comparison	Study filter used	Date parameters
incontinence*				

\*Population differs from standard population search strategy outlined in Section C.2. A more limited neurological component has been combined (OR) with incontinence terms. As a consequence both population and intervention terms have been included below for each database.

### Medline search terms

1.	Urinary bladder, neurogenic/
2.	((neurogenic* or neurologic*) adj3 (bladder or urin* or incontinent* or detrusor)).ti,ab.
3.	(overactiv* adj3 bladder).ti,ab.
4.	Urinary bladder, overactive/ or exp Enuresis/ or exp Urinary incontinence/ or Urinary retention/
5.	Nocturia/
6.	(lower urinary tract symptom* or urinary symptom* or LUTS or irritable bladder or bedwetting or enuresis or nocturia).ti,ab.
7.	((urin* or bladder or voiding or micturation) adj3 (disorder* or symptom* or urgency or incontinence or dysfunction)).ti,ab.
8.	((incomplet* or impair*) adj2 bladder empt*).ti,ab.
9.	(bladder adj (obstruct* or control or management)).ti,ab.
10.	(urin* adj2 (retention or retain*)).ti,ab.
11.	resid\$ urine.ti,ab.
12.	((overactiv* or weak or underactiv* or hyperreflex* or hyper-reflex*) adj3 (detrusor or lower urinary tract or bladder)).ti,ab.
13.	(multiple sclerosis or parkinson* or stroke* or dementia or alzheimer* or cerebral palsy or hydrocephalus or spina bifida or myelopath* or hydronephro* or dyssynergi* or myelodysplas*).ti,ab.
14.	or/1-13
15.	((client* or patient* or user* or carer* or consumer* or customer*) adj2 (attitude* or priorit* or perception* or preferen* or belief* or expectation* or choice* or perspective* or view* or satisfact* or experience* or opinion* or concern* or feeling* or advoca*)).ti,ab,hw.
16.	((patient* or satisfaction*) adj2 (questionnaire* or survey*)).ti,ab.
17.	Patient acceptance of health care/
18.	Health care surveys/
19.	*Questionnaires/
20.	Quality of health care/
21.	or/15-20
22.	Health services accessibility/
23.	"Continuity of patient care"/
24.	Patient-centered care/
25.	access*.ti.
26.	(patient* adj3 (access* or pathway* or continuity)).ti,ab.
27.	or/22-26
28.	14 and 21 and 27
29.	letter/
30.	editorial/
31.	news/
32.	exp Historical article/

33.	Anecdotes as topic/
34.	Comment/
35.	Case report/
36.	(letter or comment* or abstracts).ti.
37.	or/29-36
38.	37 not (Randomized controlled trial/ or random*.ti,ab.)
39.	Animals/ not Humans/
40.	exp Animals, Laboratory/
41.	exp Animal experimentation/
42.	exp Models, Animal/
43.	exp Rodentia/
44.	(rat or rats or mouse or mice).ti.
45.	or/38-44
46.	28 not 45

### Embase search terms

1.	Neurogenic bladder/
2.	((neurogenic* or neurologic*) adj3 (bladder or urin* or incontinen* or detrusor or vesical)).ti,ab.
3.	((spinal or spastic) adj1 bladder).ti,ab.
4.	Overactive bladder/ or exp Enuresis/ or exp Urine incontinence/ or Urine retention/
5.	Nocturia/
6.	((bladder or detrusor) adj1 overactiv*).ti,ab.
7.	((bladder or urin*) adj1 (incontinen* or leakage or wetting)).ti,ab.
8.	(lower urinary tract symptom* or LUTS or irritable bladder or bedwetting or enuresis or nocturia or nycturia).ti,ab.
9.	((urin* or bladder or voiding or micturation) adj3 (disorders* or symptom* or urgency or incontinence or dysfunction)).ti,ab.
10.	((incomplet* or impair*) adj2 bladder empt*).ti,ab.
11.	(bladder adj (obstruct* or control or management)).ti,ab.
12.	(urin* adj2 (retent* or retain*)).ti,ab.
13.	resid* urine.ti,ab.
14.	((overactiv* or weak or underactiv* or hyperreflex* or hyper-reflex*) adj3 (detrusor or lower urinary tract or bladder)).ti,ab.
15.	(multiple sclerosis or parkinson* or stroke* or dementia or alzheimer* or cerebral palsy or hydrocephalus or spina bifida or myelopath* or hydronephro* or dyssynergi* or myelodysplas*).ti,ab.
16.	or/1-15
17.	((client* or patient* or user* or carer* or consumer* or customer*) adj2 (attitude* or priorit* or perception* or preferen* or belief* or expectation* or choice* or perspective* or view* or satisfact* or experience* or opinion* or concern* or feeling* or advoca*)).ti,ab,hw.
18.	((patient* or satisfaction*) adj2 (questionnaire* or survey*)).ti,ab.
19.	Health care survey/
20.	exp Attitude to health/
21.	exp *Questionnaire/
22.	*Health care quality/
23.	or/17-22

24.	Health care access/
25.	Health care availability/
26.	*Health care delivery/
27.	access*.ti.
28.	(patient* adj3 (access* or pathway* or continuity)).ti,ab.
29.	or/24-28
30.	Conference abstract.pt.
31.	letter.pt. or Letter/
32.	note.pt.
33.	editorial.pt.
34.	Case report/ or Case study/
35.	(letter or comment* or abstracts).ti.
36.	or/30-35
37.	36 not (Randomized controlled trial/ or random*.ti,ab.)
38.	Animal/ not Human/
39.	Nonhuman/
40.	exp Animal experiment/
41.	exp Experimental animal/
42.	Animal model/
43.	exp Rodent/
44.	(rat or rats or mouse or mice).ti.
45.	or/37-44
46.	16 and 23 and 29
47.	46 not 45
48.	limit 47 to english language

### Cochrane search terms

#1	MeSH descriptor Urinary Bladder, Neurogenic explode all trees
#2	(neurogenic* or neurologic* or spastic or atonic or unihibited or overactiv*) NEAR/3 (bladder or incontinen* or detrusor or urin*):ti,ab
#3	MeSH descriptor Nocturia explode all trees
#4	MeSH descriptor Urinary Bladder, Overactive explode all trees
#5	MeSH descriptor Enuresis explode all trees
#6	MeSH descriptor Urinary Incontinence explode all trees
#7	MeSH descriptor Urinary Retention explode all trees
#8	("lower urinary tract symptom*" or "urinary symptom*" or LUTS or "irritable bladder" or bedwetting or enuresis or nocturia):ti,ab
#9	((urin* or bladder or voiding or micturation) NEAR/3 (disorder* or symptom* or urgency or incontinence or dysfunction)):ti,ab
#10	((incomplete* or impair*) NEXT "bladder emptying"):ti,ab
#11	(bladder NEXT (obstruct* or control or management or compliance)):ti,ab
#12	("urinary retention" or "residual urine"):ti,ab
#13	(Urin* near/2 (retention or retain* or resid*)):ti,ab
#14	((overactiv* or weak or underactiv* or hyperreflex* or hyper-reflex*) NEAR (detrusor or "lower urinary tract" or bladder)):ti,ab
#15	("multiple sclerosis" or parkinson* or stroke* or dementia or alzheimer* or "cerebral palsy" or

	hydrocephalus or "spina bifida"):ti,ab
#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
#17	((client* or patient* or user* or carer* or consumer* or customer*) NEAR/2 (attitude* or priorit* or perception* or preferen* or belief* or expectation* or choice* or perspective* or view* or satisfact* or experience* or opinion* or concern* or feeling* or advoca*)):ti,ab,hw
#18	((patient* or satisfaction*) NEAR/2 (questionnaire* or survey*)):ti,ab
#19	MeSH descriptor Patient Acceptance of Health Care, this term only
#20	MeSH descriptor Health Care Surveys, this term only
#21	MeSH descriptor Quality of Health Care, this term only
#22	#17 OR #18 OR #19 OR #20 OR #21
#23	MeSH descriptor Health Services Accessibility, this term only
#24	MeSH descriptor Continuity of Patient Care, this term only
#25	MeSH descriptor Patient-Centered Care, this term only
#26	access*:ti
#27	(patient* NEAR/3 (access* or pathway* or continuity)):ti,ab
#28	#23 OR #24 OR #25 OR #26 OR #27
#29	#16 AND #22 AND #28

### C.3.9.2 Transfer from child to adult services

#### Q. What interventions or configuration of services improve outcomes when a patient is transferred from child to adult services?

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease*	Transition services		None	All years – 10/01/12

\*Population differs from standard population search strategy outlined in Section C.2, with terms focused on a neurologically impaired (rather than neurologically incontinent) population. As a consequence both population and intervention terms have been included below for each database.

#### Medline search terms

1.	Urinary bladder, neurogenic/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinent* OR detrusor)).ti,ab.
3.	(overactiv* adj3 bladder).ti,ab.
4.	exp Nervous System Diseases/
5.	exp Nervous System Neoplasms/
6.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
7.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.
8.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
9.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.
10.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
11.	(neurolog* adj4 spinal).ti,ab.
12.	(diabet* adj3 neuropath*).ti,ab.
13.	or/1-12

14.	limit 13 to english
15.	Letter/
16.	Editorial/
17.	exp Historical article/
18.	Anecdotes as topic/
19.	Comment/
20.	Case report/
21.	Animal/ not (Animal/ and Human/)
22.	Animals, Laboratory/
23.	exp Animal experiment/
24.	exp Animal model/
25.	exp Rodentia/
26.	or/15-25
27.	14 not 26
28.	Adolescent health services/og, st [Organization & Administration, Standards]
29.	((p?ediatric OR adolescen* OR child* OR teenager* OR young people OR young person OR young adult*) adj5 (transition* OR transfer* OR handover* OR hand over* OR handoff* OR continuity OR interface*)).ti,ab.
30.	((transition* OR transfer* OR pathway* OR continuity OR interface*) and (adult OR care OR service*)).ti.
31.	or/28-30
32.	Adolescent/
33.	Young adult/
34.	(adolescen* OR teenager* OR young people OR young person OR young adult*).ti.
35.	OR/32-34
36.	"Continuity of patient care"/
37.	*Health services accessibility/
38.	Interinstitutional relations/
39.	Models, Organizational/
40.	Interdisciplinary communication/
41.	Long-term care/og, st [Organization & Administration, Standards]
42.	Patient-centered care/og, st [Organization & Administration, Standards]
43.	Patient transfer/mt, og, st [Methods, Organization & Administration, Standards]
44.	or/36-43
45.	31 OR (35 and 44)
46.	27 and 45

**Embase search terms**

1.	Neurogenic bladder/
2.	((neurogenic* OR neurologic*) adj3 (bladder OR urin* OR incontinen* OR detrusor OR vesical)).ti,ab.
3.	((spinal OR spastic) adj1 bladder).ti,ab.
4.	exp Neurologic disease/
5.	exp Nervous system neoplasms/
6.	(neurological adj2 (impairment OR disease* OR disorder*)).ti,ab.
7.	(spinal cord adj2 (injur* OR trauma OR disease*)).ti,ab.

8.	(spinal adj2 (shock OR abnormalit*)).ti,ab.
9.	(multiple sclerosis OR parkinson* OR stroke* OR dementia OR alzheimer* OR cerebral palsy OR hydrocephalus OR spina bifida OR myelopath* OR hydronephro* OR dyssynergi* OR myelodysplas*).ti,ab.
10.	(brain adj2 (injur* OR tumo?r*)).ti,ab.
11.	(neurolog* adj4 spinal).ti,ab.
12.	(diabet* adj3 neuropath*).ti,ab.
13.	or/1-12
14.	letter.pt.
15.	Letter/
16.	editorial.pt.
17.	note.pt.
18.	Case report/
19.	Case study/
20.	conference abstract.pt.
21.	Animal/ not (Animal/ and Human/)
22.	Nonhuman/
23.	exp Animal studies/
24.	Animals, Laboratory/
25.	exp Experimental animal/
26.	exp Animal experiment/
27.	exp Animal model/
28.	exp Rodent/
29.	or/14-28
30.	13 not 29
31.	limit 30 to english
32.	((p?ediatric OR adolescen* OR child* OR teenager* OR young people OR young person OR young adult*) adj5 (transition* OR transfer* OR handover* OR hand over* OR handoff* OR continuity OR interface*)).ti,ab.
33.	((transition* OR transfer* OR pathway* OR continuity OR interface*) and (adult OR care OR service*)).ti.
34.	32 OR 33
35.	Adolescence/
36.	Adolescent/
37.	Adolescent health/
38.	Child health care/
39.	or/35-38
40.	Patient care planning/
41.	Health care planning/
42.	Health care access/
43.	Clinical pathway/
44.	Interdisciplinary communication/
45.	Integrated health care system/
46.	*Patient care/
47.	or/40-46

48.	39 and 47
49.	34 OR 48
50.	31 and 49

### Cinahl search terms

S1	(MH "Bladder, Neurogenic")
S2	neurogenic* n3 bladder OR neurogenic* n3 urin* OR neurogenic* n3 incontinen* OR neurogenic* n3 detrusor
S3	neurologic* n3 bladder OR neurologic* n3 urin* OR neurologic* n3 incontinen* OR neurologic* n3 detrusor
S4	neurological n2 impairment OR neurological n2 disease* OR neurological n2 disorder*
S5	spinal cord n2 injur* OR spinal cord n2 trauma OR spinal cord n2 disease*
S6	spinal n2 shock OR spinal n2 abnormalit*
S7	multiple sclerosis OR parkinson* OR stroke OR cerebral palsy OR hydrocephalus OR spina bifida
S8	brain n2 injur* OR brain n2 tumor* OR brain n2 tumour*
S9	neurolog* n4 spinal
S10	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9
S11	(MH "Adolescent Health Services/OG/ST")
S12	(pediatric OR paediatric OR adolescen* OR child* OR teenager* OR young people OR young person OR young adult*) and (transition* OR handover* OR hand over* OR handoff* OR continuity OR interface*)
S13	transition* and (adult* OR care OR service*)
S14	S10 OR S11 OR S12
S15	S10 and S14

### Cochrane search terms

#1	(neurogenic* OR neurologic* OR spastic OR atonic OR uninhibited OR overactiv*) NEAR/3 (bladder OR incontinen* OR detrusor OR urin*)
#2	MeSH descriptor Nervous System Diseases explode all trees
#3	(neurological NEAR/2 (impair* OR disease* OR disorder*)):ti,ab
#4	(spinal cord NEAR/2 (injur* OR trauma* OR disease*)):ti,ab
#5	spinal NEAR/2 (shock* OR abnormalit*):ti,ab
#6	(brain NEAR/2 (injur* OR tumor* OR tumour* OR lesion*)):ti,ab
#7	myelopathy:ti,ab
#8	(neurolog* NEAR/4 spinal):ti,ab
#9	(diabet* NEAR/3 neuropath*):ti,ab
#10	(hydronephrosis OR dyssynergi* OR myelodysplas*):ti,ab
#11	("multiple sclerosis" OR parkinson* OR stroke* OR dementia OR alzheimer* OR "cerebral palsy" OR hydrocephalus OR "spina bifida"):ti,ab
#12	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11)
#13	MeSH descriptor Adolescent Health Services, this term only with qualifier: OG
#14	MeSH descriptor Adolescent Health Services, this term only with qualifier: ST
#15	((p?ediatric OR adolescen* OR child* OR teenager* OR young people OR young person OR young adult*) NEAR/5 (transition* OR handover* OR hand over* OR handoff* OR continuity OR interface*)):ti,ab
#16	((transition* OR pathway* OR continuity OR interface*) and (adult OR care OR service*)):ti

#17	(#14 OR #15 OR #16)
#18	MeSH descriptor Adolescent, this term only
#19	(adolescen* OR teenager* OR young people OR young person OR young adult*):ti
#20	MeSH descriptor Continuity of Patient Care, this term only
#21	MeSH descriptor Patient-Centered Care, this term only
#22	MeSH descriptor Health Services Accessibility, this term only
#23	MeSH descriptor Interinstitutional Relations, this term only
#24	MeSH descriptor Models, Organizational, this term only
#25	MeSH descriptor Interdisciplinary Communication, this term only
#26	MeSH descriptor Patient Transfer, this term only with qualifier: OG
#27	MeSH descriptor Long-Term Care, this term only with qualifier: OG
#28	(#18 OR #19)
#29	(#20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27)
#30	(#17 OR (#28 AND #29))
#31	(#12 AND #30)

## C.4 Economic searches

Economic searches were run in Medline and Embase by combining the standard population with the economic filter and limiting by date range. Economic searches were executed in the NHS EED and HTA (CRD) databases by simply running the standard population without a date limitation. Search terms for the CRD and HEED databases are given below.

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

Population	Intervention	Comparison	Study filter used	Date parameters
Neurological disease AND incontinence			Economic [only Embase and Medline]	2009 – 10/01/12 (Medline and Embase) All years – 10/01/12 (CRD and HEED)

### HEED search terms

1.	AX=neurogenic* OR neurologic*
2.	AX=bladder OR urin* OR incontinent* OR detrusor
3.	CS=1 AND 2

### CRD search terms

1.	MeSH Urinary Bladder, Neurogenic EXPLODE
2.	(neurogenic* OR neurologic* ) AND ( bladder OR urin* OR incontinen* OR detrusor)
3.	( overact* OR obstruct* OR control OR manage* OR complian*) AND bladder
4.	#1 OR #2 OR #3