Appendix S1. Search strategy

Search strategy

Methods

Database searches

The databases selected for the systematic review were:

- Medline (accessed by PubMed)
- Embase
- The Cochrane Library

Date of search

The searches were performed on 4th June 2014.

Search strategies

Previous Systematic Literature Reviews (SLRs) regarding the same PICOS elements were not found. For this reason, we decided to extract and analyze from the primary sources only.

The search terms that were used individually or combined included "Baclofen (MeSH and entry terms)", "Spasticity" (MeSH and entry terms), "Oral" and a string of words previously proposed. To enhance the sensibility of our search, we did not include words related to the outcomes of interest.

Hand-searching

Hand-searching was used as a supplementary measure to ensure that all relevant studies were included in the SLR.

- Reference lists of included studies were examined.
- Relevant systematic and not-systematic reviews of the last five years were identified, if available, and the studies included examined.

Inclusion and exclusion criteria

Studies included in the review had to include the PICOS elements listed below.

PICOS	Inclusion criteria	Exclusion criteria
Population	Patients with spasticity of any origin (included mixed indication)	Non-human or in-vitro studies
Interventions	Oral Baclofen	Other treatment
Comparators	Not Relevant	
Outcomes	Research questions #1 and #3: Efficacy & effectiveness; Function and quality of life assessment Research questions #2 and #3: Safety	None
Study types	Randomized controlled trials (RCTs) Quasi-experimental studies Prospective and retrospective Observational studies Registries Systematic and Non-Systematic Literature Reviews	Pooled population studies across countries Conference abstracts Case report Pilot study

The following additional inclusion criteria were defined during the development of the study protocol:

- **Languages**
  Publications in English and European languages that could be easily translated by the research team were considered
- **Publication status**
  Unpublished, non- peer reviewed sources (such as conference abstracts) were not included

The initial selection criteria were broad to ensure that as many studies as possible were assessed as to their relevance to the review. Then one reviewer independently screened the titles and abstracts of the identified references, and a 10% sample of the abstracts were reviewed by a second reviewer.

Studies that did not meet the criteria according to the titles or abstracts were excluded. Any discrepancies were resolved through discussion. For studies that appeared to meet the inclusion criteria, or in cases when a definite decision couldn't be made based on titles or abstracts alone, the full paper was obtained and the reviewer established the eligibility of the study using exclusion coding criteria (table below, based pre-defined criteria in previous table).

Study exclusion coding for Full text Assessment

Patient population Excluding for: *Patients without spasticity or with spasticity of un-clear or unknown origin*	EX 1
Intervention Excluding for: *Intrathecal Baclofen OR other Antispastic drugs treatment (no Baclofen)*	EX 2
Outcomes reported Excluding for: ***Research questions #1 and #3:*** *NOT efficacy and effectiveness outcome OR NOT functional or quality of Life assessment* ***Research questions #2 and #3:*** *NOT safety evaluation*	EX 3
Study type Excluding for: *Pooled population studies across countries* *Conference abstracts* *Case Report* *Pilot study*	EX 4
Language Excluding for: *Languages that cannot be easily translated in Western Europe*	EX 5
Repeat publication (in cases where unique citations -e.g. in different journals, conference abstracts – had identical content)	EX 6

Data abstraction strategy

A data extraction form has been designed according to specific characteristics of this SLR and PICOS elements. A form has been completed by the reviewer for each study selected. The data extraction form includes the following items:

1. Bibliographic information (Author, Title, Journal, Year)
2. Study characteristics: type of study, outcome assessed and comparators, duration of spasticity etc.
3. Patient characteristics: number of patients, origin of spasticity, sex and age
4. Outcome results
5. Results of critical appraisal

For SLRs, a specific data extraction form has been created.

Quality assessment

Two review authors have independently assessed the risk of bias in included studies by using the Critical Appraisal Skills Program (CASP) Checklists and by considering a score classification. The checklists contain from 10 to 12 items, allowing a rapid evaluation and it is suitable to be applied for different types of studies:

- CASP Checklist for Review
- CASP Checklist for cohort studies
- CASP Checklist for randomized controlled trials

Review authors' judgments were categorized as "Low risk" of bias, "High risk" of bias or "Unclear risk" of bias based on the score reached. In particular, articles with a total scores between 0 and 3 (3.5 for cohort studies) have been considered at "High Risk", articles with a total score between 3.5 (4 for cohort studies) and 6.5 (8 for cohort studies) have been considered at "Unclear risk" while articles with a total score between 7 (8.5 for cohort studies) and 10 (12 for cohort studies) have been considered at "Low Risk". For each entry, the judgment has been followed by a text box for a description of the design, conduct or observations that underlie the judgment. When reviewers' conclusions over the validity of a study differ, the study has been reviewed jointly.