



## Effective Health Care

### Treatment of Spina Bifida

#### Results of Topic Selection Process & Next Steps

The nominator, Congress of Neurological Surgeons (CNS), was interested in an Agency for Healthcare Research and Quality (AHRQ) evidence review to examine pre- and post-natal treatment options for Spina Bifida. However, due to timeline constraints, CNS has withdrawn this nomination from consideration for an AHRQ evidence review. No further activity will be undertaken on this topic.

#### Topic Brief

**Topic Name:** Treatment of Spina Bifida

**Topic #:** 0701

**Nomination Date:** 08/29/2016

**Topic Brief Date:** October 2016

**Nominator:** Congress of Neurological Surgeons (CNS)

#### Summary of Nomination

The Congress of Neurological Surgeons (CNS) is interested in an AHRQ evidence review to examine pre- and post-natal treatment options for Spina Bifida (SB). Generally, they are interested in which treatments are effective, when it is most effective, what the immediate and long-term harms of various surgical interventions are, and what the best personnel approach to treatment is.

#### Proposed Key Questions

Key Question 1. Is the rate of treatment for hydrocephalus (HC) in children with SB, who have a myelomeningocele (MM), higher or lower in infants who underwent fetal closure? Compared to standard, post-natal closure? Does in-utero closure of myelomeningocele decrease the rate of shunt placement in children with SB?

Key Question 2. Does in utero closure affect or improve ambulatory status as compared to post-natal closure for infants with SB with MM?

Key Question 3. Does Chiari II decompression in children with SB improve outcome?

Key Question 4. Does closure of the MM defect within 24 - 48 hours reduce the rate of infection for infants with SB?

Key Question 5. Is persistent ventriculomegaly (VM) associated with cognitive impairment in children with SB?

Key Question 6. Does shunt placement at the time of closure decrease the rate of cerebrospinal fluid (CSF) leak or infection in infants with MM with SB?

Key Question 7. Does a team approach to closure with skin and/or muscle flaps of MM affect the rate of CSF leak or wound healing?

Key Question 8. Is the risk/rate of tethering for infants/children with SB higher in infants who had in utero closure than in infants with MM closed post-natally?

Key Question 9. Does placode amputation decrease the risk of tethering of the spinal cord in infants with SB and an open spinal defect?

Key Question 10. Does de-tethering really improve bladder function/urinary dysfunction in children with SB or MM?

### Background and Clinical Context

According to an NIH fact sheet, 1,500 to 2,000 babies born in the United States every year are born with spina bifida.<sup>1</sup> Approximately 166,000 individuals currently live with spina bifida in the US. While there is no cure for spina bifida, surgery is typically performed during the first few days of life in children born with spina bifida to close the defect and minimize risk of infection and further trauma.<sup>1</sup>

### Selection Criteria Summary

Selection Criteria	Supporting Data
<b>1. Appropriateness</b>	
1a. Does the nomination represent a health care drug, intervention, device, technology, or health care system/setting available (or soon to be available) in the U.S.?	Yes, this topic represents a health care drug and intervention available in the U.S.
1b. Is the nomination a request for a systematic review?	Yes, this nomination is a request for a systematic review.
1c. Is the focus on effectiveness or comparative effectiveness?	Yes, this nomination focuses on effectiveness and comparative effectiveness.
1d. Is the nomination focus supported by a logic model or biologic plausibility? Is it consistent or coherent with what is known about the topic?	Yes, it is biologically plausible. Yes, it is consistent with what is known about the topic.
<b>2. Importance</b>	
2a. Represents a significant disease burden; large proportion of the population	Yes, this topic represents a significant disease.
2b. Is of high public interest; affects health care decision making, outcomes, or costs for a large proportion of the US population or for a vulnerable population	Yes, his topic affects health care decision making or costs for a large proportion of the US population.
2c. Represents important uncertainty for decision makers	Yes, this topic represents important uncertainty for decision makers.
2d. Incorporates issues around both clinical benefits and potential clinical harms	Yes, this nomination addresses benefits and harms.
2e. Represents high costs due to common use, high unit costs, or high associated costs to consumers, to patients, to health care systems, or to payers	Yes, this nomination represents high cost to consumers, patients, health care systems, or payers.

### References

1. National Institute of Neurological Disorders and Stroke, National Institutes of Health. (June 2013). Spina Bifida. NIH, Publication No. 13-309. Retrieved from [http://www.ninds.nih.gov/disorders/spina\\_bifida/detail\\_spina\\_bifida.htm](http://www.ninds.nih.gov/disorders/spina_bifida/detail_spina_bifida.htm).