

Joint Theater Trauma System Clinical Practice Guideline

POST SPLENECTOMY VACCINATION

1. Goal:

All postsplenectomy and functionally asplenic trauma patients in the CENTCOM AOR will receive appropriate vaccinations in a timely fashion. All vaccinations will be documented in the patient's longitudinal medical record to include time and date of physician order and time, date, and administration by nursing personnel.

2. Background:

Overwhelming postsplenectomy sepsis (OPSS) is a rare but frequently devastating complication with a case mortality rate in most studies approaching 50%.¹ OPSS represents a lifelong risk, with the incidence in trauma patients estimated to be < 0.5%.² It is estimated that splenectomized individuals are up to 540 times more susceptible to lethal sepsis than the general population.³ The majority of trauma surgeons provide some sort of postsplenectomy vaccination to their patients, but to date, there is no consensus on the timing of initial vaccination, vaccination regimen, or future re-vaccination. In 2002, Shatz conducted a survey of trauma surgeons regarding their practices in post-splenectomy patients. Of 261 active surgeons, 99.2% immunized their splenectomized patients. All but two provided the pneumococcal vaccine, 62.8% also advocated the meningococcal vaccination, 72.4% added the Haemophilus influenzae vaccine, and 56.7% gave all three. Timing of vaccination ranged from the immediate postoperative period to as long as 6 weeks later.⁴

In the CENTCOM AOR, greater than 99% of splenic injuries are managed by total splenectomy. Since these patients are at risk for OPSS, it is imperative we establish a standardized process to provide post-splenectomy vaccinations, accurate documentation, and lifelong tracking to identify outcomes.

- 3. Indications:** All splenectomized patients and all patients deemed to be functionally asplenic (defined as < 51% normal architecture and/or vascularization in the remaining splenic segment)

4. Vaccination Regimen:

a. Streptococcus pneumoniae

Vaccine: 23-valent polysaccharide; single dose

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b. Haemophilus influenzae B

Vaccine: Polysaccharide-protein conjugate

2-6 mos old: 3 doses + booster

7-11 mos: 2 doses + booster

12-14 mos: 1 dose + booster

> 15 months old: single dose

c. Neisseria meningitidis

Vaccine: Quadrivalent; single dose

5. Timing of vaccination:

All US forces and all patients A/E to LRMC:

Administer all three vaccines in the immediate postoperative period at the first Level III facility in the continuum of the patient's care. For patients evacuated directly from Level IIb to Level IV, vaccinate at the Level IV facility

Host nation & other patients NOT A/E to LRMC:

Administer all three vaccines in the immediate postoperative period at the first Level III facility in the continuum of the patient's care and in no instance, not later than the 14th postoperative day.

6. Documentation:

- a. Timed, dated and signed physician order for all three vaccines in the "Physician's Order Sheet"

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- b. Timed, dated, and signed nursing administration of all three vaccines in the “Nursing Administration Record”.
- c. Documentation in the electronic medical record for the physician order, dispensing from the pharmacy or immunization clinic, and nursing administration, in addition to the above, is preferred.

References:

1. Prevention of pneumococcal disease: recommendations for the Advisory Committee on Immunization Practices (ACIP). *MMWR Morb Mortal Wkly Rep.* 1997;46:12-15.
2. Crivitz W. Overwhelming postsplenectomy infection. *Am J Hematol.* 1977;2:193-201.
3. O’Neal BJ, McDonald JC. The risk of sepsis in the asplenic adult. *Ann Surg.* 1981;194:775-778.
4. Shatz David V. Vaccination practices among North American trauma surgeons in splenectomy for trauma. *J Trauma.* 2002;53: 950-956.

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