

Objective: To retrospectively review patients who received tetanus vaccination in the Emergency Department and compare with data from Florida Shots on vaccination status to determine if vaccine was indicated at time of presentation to emergency department.

Background: With many children who have opted out of vaccines, or are now on a delayed vaccination schedule, medical providers in the emergency department need to confirm vaccines as up to date or not up to date. If confirmation of vaccine status could be provided by use of the immunization online registry (FL SHOTS), children could avoid repeated pain with vaccinations, staff could save time and resources with administration, and costs could also be saved with avoidance of unnecessary vaccines.

Tetanus vaccination is of importance to those that present to the emergency department with wounds such as lacerations, burns, or traumatic injuries. Practitioners must decide which patients are at risk for tetanus, and vaccination histories are often unknown, with a lack of documentation. (Eppert 2010) Tetanus recommendations have also changed due to the recent pertussis outbreaks in which the CDC now recommends that all adult patients between 19-64 years receive one tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) vaccine to replace the one booster dose of tetanus and diphtheria (Td). In addition, five years should have passed since the last vaccine. Tetanus vaccines recommended in childhood also changed to now administer the Tdap instead of Td (tetanus-diphtheria) from age 11-12 years of age. With the changes in the CDC recommendations, practitioners need to ensure that patients are in fact up to date, and with a variety of age groups such as children less than 7 or greater than 7, it is very important to administer the correct vaccine and keep children up to date. Each patient must be vaccinated as herd immunity does not play a role.

Tetanus is a life-threatening disease caused by the bacterium (*Clostridium tetani*) which usually enters and infects through an acute wound. Mortality is high (20-50%) but is now rare in the developed world due to preventative tetanus vaccination programs. *C. tetani* enters the body with contaminated objects at the time of trauma such as punctures, burns, or crush injuries. The vegetative form of *C. tetani* cannot survive in the presence of oxygen, but spores are very resistant to autoclaving, and many chemical agents. Under low oxygen conditions, spores germinate and produce the harmful toxin, with most cases of tetanus occurring within 14 days of introduction of the organism.

Tetanus vaccination is shown as a preventative measure that can be performed in the Emergency Department and use of a immunization registry is a beneficial tool to aide clinicians to confirm vaccination status.

Methods: To review retrospectively all patients who received a tetanus vaccine in the Emergency Department from Jan 1st 2011 to current date. This will included all forms of tetanus vaccines given to pediatric patients under age 18 including DTaP, Dt, DTaP Hep b polio (pediarix), Td, and Tdap. This study will be conducted at UF Health to include populations from

Gainesville and Jacksonville. Variables collected for patients will include name, age, gender, chief complaint, medical record number, insurance status, primary care provider, self reported vaccination status, and diagnosis. Florida Shots database will be accessed to determine vaccination status, information from website on patients vaccination status will be recorded.

Data Analysis: Patient demographics, tetanus vaccine type, and overall prevalence of tetanus vaccine administration in the Emergency Department will be analyzed. The prevalence of “re-vaccination,” or the administration of a tetanus vaccine to a patient who was up to date on the vaccine will be calculated by comparing the current status on the Florida Shots database to among those receiving the vaccine.

Patient demographics, vaccine type, and overall prevalence will be analyzed using one-way frequencies and percentages. prevalence of “re-vaccination” will be calculated by assessing the number of patients who were already vaccinated out of all patients receiving the vaccine. All data analysis will be completed using SAS V9.4 and SPSS software.

Bibliography

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