

# SPAP Shout Out

A monthly update for SPAP members with a purpose to educate and encourage the engagement of PAs who work with pediatric patients



## Pertussis

Elizabeth Elliott, PA-C

Elizabeth is a 2006 graduate of Baylor College of Medicine's PA Program. Since graduation, she has worked in pediatric critical care at Texas Children's Hospital in Houston, Texas. She is now also on the core faculty at Baylor's PA program and directs the didactic and clinical pediatric curriculum. She served on the Bright Futures Expert Panel with the American Academy of Pediatrics whose work involved creation of the 4th edition of the Bright Futures Guidelines. Her professional interests include breastfeeding education, child safety, child development, and promotion of well-child care. She lives in Houston with her husband and four young children.



### Introduction

Pertussis (whooping cough) is a bacterial infection caused by *Bordetella pertussis*. It is extremely contagious and spread person to person by respiratory droplets, usually when an infected person coughs or sneezes. The bacteria attach to the respiratory cilia, releasing toxins that damage the cilia and cause airway edema. It is particularly serious (even fatal) in infants and young children, especially those who are not completely immunized.

### Incidence

Pertussis is endemic to the United States with frequent outbreaks and a cyclical nature. Peaks of incidence tend to occur every 3-5 years. Overall, the incidence of pertussis has risen dramatically in the last 20 years. This is due to many factors, including improving awareness, diagnosis, reporting, and waning immunity. In recent history, the most cases reported was in 2012, with 48,277 cases reported in the United States. In 2018, over 15,000 cases were reported nationwide.

## **Clinical Manifestations**

Pertussis has three stages. Symptoms usually begin about 5-10 days after being exposed, but incubation can be as long as three weeks. The initial, or catarrhal, stage can last 1-2 weeks and is marked by rhinorrhea, mild cough, and low grade fever. In infants, the cough may be absent and replaced with apnea. During this stage, the infected individual is highly contagious. The second, or paroxysmal, stage can last up to 10 weeks and is marked by paroxysmal coughing fits followed by the characteristic “whoop” of the disease. The convalescent stage follows, lasting 2-3 weeks. During this stage, the coughing lessens, but patients are very susceptible to other respiratory infections, as their airways have not recovered from the initial insult. In fully vaccinated individuals, the course of the disease is less severe.

## **Complications**

Complications are common in pertussis, especially in the very young. About half of infants with pertussis require admission to the hospital for treatment. Apnea and pneumonia are the most common complications in infants. Death occurs in about 1% of infected babies. For teenagers, pertussis does not usually require hospital admission for treatment. But, complications such as rib fractures and syncope can occur. Complications are less severe overall in fully vaccinated individuals.

## **Diagnosis and Treatment**

Pertussis often goes unrecognized in the early stages, mistaken for a viral illness or the common cold. Confirmatory laboratory testing is most commonly done through a culture of nasopharyngeal mucus, as it is the only method that is 100% specific. Serum analysis can also detect pertussis, but these are less commonly used.

Treatment of pertussis includes antibiotics and supportive care. If the history and physical exam and highly suspicions, even with a pending or negative screen, antibiotics should be initiated. Proper handwashing and infection control precautions should be used to prevent spread of the disease to others. Infected individuals will remain contagious throughout the catarrhal stage, or until five days after initiation of antibiotic therapy. Close contacts of the infected individual will require chemoprophylaxis with antibiotics.

## **Prevention**

Infected individuals should be quarantined in their homes until they are no longer contagious to prevent spread of the disease. The pertussis vaccine is the most effective form of prevention available. Infants and children receive six doses of DTaP between 2 months and 6 years of age. Tdap booster is recommended for adolescents and adults who have waning immunity. Pregnant women

should receive one dose of Tdap during each pregnancy, as the vaccine will provide passive immunity to the developing fetus. Those who will come into close contact with infants also should receive a Tdap booster. Although the vaccine is not 100% percent effective, unvaccinated infants and children are eight times more likely to become infected if pertussis is circulating in their community.

## Bibliography

1. <http://www.cdc.gov/pertussis/index.html>



## NEW ONLINE CME OPPORTUNITIES!

SPAP is now offering online lectures that are category 1 CME credit. These online lectures are **free** for members and only \$15 per lecture for non-members. Click [here](#) to learn more. If you are interested in getting involved as an online lecturer, please email [tgharkins3@gmail.com](mailto:tgharkins3@gmail.com)



**Topic:** The Management of Sickle Cell Disease for Pediatrics

**Overview:**

Join Susan Kirk, PA-C, as she covers the important details on how to manage sickle cell disease in a Pediatric environment. She will review the types of sickle cell diseases that are present and explain the general preventative care that is recommended as well as touch on the common acute complications a provider may experience and what the therapy options are for the patient.

**Topic:** Interpreting the CBC & Other Helpful Tips

**Overview:**

Join Susan Kirk, PA-C, as she guides listeners on the best ways to interpret the CBC. In this lecture, Mrs. Kirk will provide a few helpful tips on how to review CBC parameters, understand normal ranges within the CBC, and what the limitations for testing are as well as useful and helpful tips on the CBC topic.



## STAY TUNED....

WE WILL SOON BE RELEASING APPLICATION FORMS FOR OUR 2020 STUDENT SCHOLARSHIP!

## SPAP Member Spotlight

Teri DeMille, PA-C

*Teri received her undergraduate degree from Brigham Young University in The Exercise Sciences with a minor in Japanese. After working at an orthopedic hospital in Utah for two years, she moved across the country and attended The George Washington University in Washington DC. With a concentration in Health Policy, she completed a dual degree in Physician Assistant Studies and Public Health. She then started in outpatient pediatric medicine and has working in this field for about three years.*



### **How did your career as a PA start?**

I was lucky enough to begin my career as a PA with a large pediatric practice in Northern Virginia where I was also a student for a few weeks.

### **What does your average day at work look like?**

On average, I am typically at work from 1pm until 8 or 9pm. During that time, I usually see about 20 to 25 patients which includes sick visits, newborn visits, well checks, and follow up visits.

### **How did you first hear about SPAP?**

A colleague at work was also a member and I was interested in finding professional organizations advocating for physician assistants.

**Why pediatrics?**

You can't work in pediatrics without being a kind and caring person. Kids will see right through you. Everyone I work with in pediatric medicine is friendly and welcoming. I love watching infants and toddlers grow and develop personalities and working with families who are trying to help one another be happy and healthy is satisfying.

**What is your favorite part of being a PA?**

Being able to make a meaningful difference on a daily basis. The work you can do and how you treat others matters every time you knock on a door and walk into an exam room.

**Any advice for new PAs or PA students?**

Don't be afraid to ask questions and try new things. Respect that other providers have more experience than you and can help you learn the practical medicine you don't always learn in school. When you get over your discomfort in doing something you haven't done before, it's like adding another tool to your belt that you can use in the future. You will be more confident and be able to help someone because you pushed yourself beyond a basic level.

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