

Outbreak of Impetigo among High School
Football Players,
Shawnee County, August 2016



Background

On August 19, 2016 at 10:50 AM, the Infectious Disease Epidemiology and Response section at the Kansas Department of Health and Environment (KDHE) was notified by a local physician at an urgent care clinic of 12 high school football players with skin infections, diagnosed as impetigo that presented to the clinic on August 18, 2016 and August 19, 2016. KDHE notified Shawnee County Health Agency (SCHA) and an outbreak investigation was initiated on August 19, 2016 at 11:00 AM to determine the cause, scope of illness and appropriate measures for control and prevention. A special questionnaire was developed and submitted to parents and students.

Key Investigation Findings

- A confirmed case was defined as presence of rash and/or fluid filled sores appearing between August 7th and August 24th in a person on the football team or a person that had contact with a football player.
 - A probable case was defined as individual who visited doctor for symptoms of impetigo between August 7th and August 24th in a person on the football team or a person that had contact with a football player with missing clinical information.
- Questionnaires were distributed by the football coach and SCHA to ill players and families.
- 45 of 62 questionnaires were returned.
- 39 individuals met case definition, including two persons that were not on the football team but had contact with a player.
 - 10 met confirmed case definition, including two with laboratory confirmation.
 - 29 met probable case definition.
- Demographics:
 - 100% were male
 - 100% were residents of Shawnee County, Kansas
 - Median age: 15 years (range 4 years – 17 years)
- Onset dates were obtained for 18 cases.
- Onset of illness ranged from August 12 – August 24, 2016 (Figure 1).
- Median duration of illness: 5 days (range was 1 – 19 days)
- The most common symptom was the presence of fluid filled sores (94%), followed by sores that rupture easily (90%) and rash (67%) (Table 1).
- Two specimens were collected and tested. Both tested positive for *Staphylococcus aureus*. One of the bacterial species identified to cause impetigo.
- First day of football practice was August 15, 2016. Field equipment was cleaned the evening of August 18, 2016.

- Exposure information available, a majority used arm shield and/or tackling dummies during the first week of practice (Table 2).

Figure 1: Number of Cases by Illness Onset (n=18)

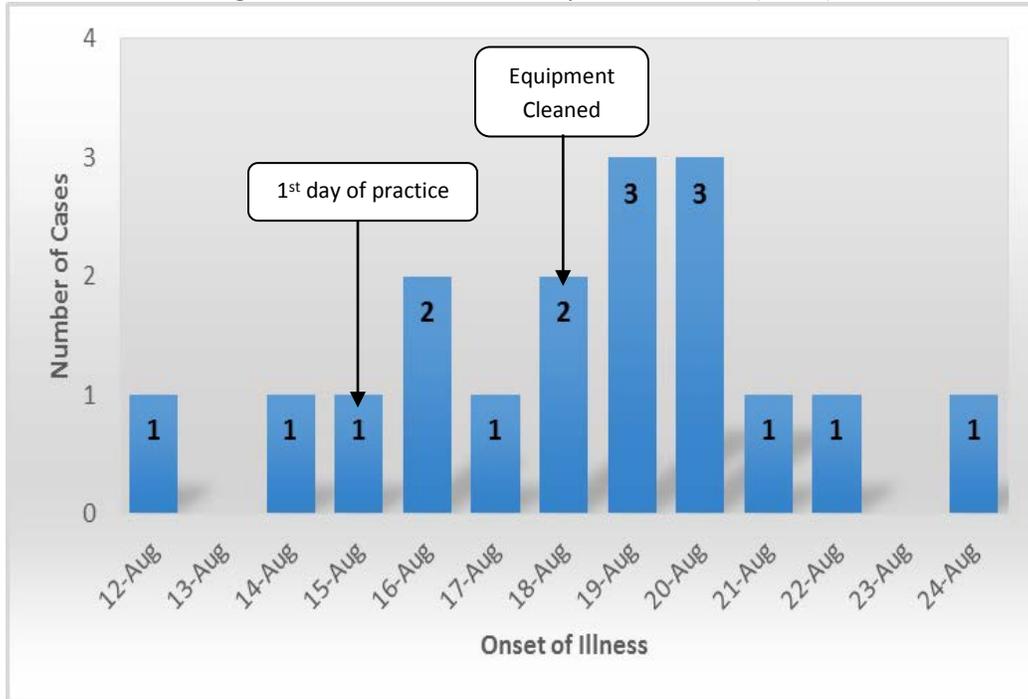


Table 1: Symptoms Reported among Cases

Clinical Information	# Cases with Symptom	# of Cases Reporting*	% of Cases with Symptom
Fluid Filled Sores	15	16	94
Sores that Rupture Easily	9	10	90
Rash	8	12	67

*"Unknown" responses were removed

Table 2: Environmental Exposure among Cases

Equipment Used	# Cases Exposed	# of Cases Reporting*	% of Cases with Exposure
Arm Shields	21	24	81
Tackling Dummies	15	24	63
School Laundered Towels	12	27	44
Weight Room	10	25	40

*"Unknown" responses were removed

Conclusions and Recommendations

This outbreak of impetigo was associated with the football team at a high school in Topeka, KS. The epidemiologic and clinical data collected was insufficient to determine an environmental source of illness, if illness was spread person-to-person, or both. Two cases had symptom onset 3 days prior to the first day of practice and nine cases had onset of illness 1 to 6 days after cleaning of field equipment with cleaner specific for *Staphylococcus*. This suggests exposure may be from a person and not an environmental source; with further transmission being person-to-person.

Cases of impetigo peak during the hot, humid summer months and can be spread person-to-person or through shared items such as clothes or equipment. Impetigo can be prevented through good hygiene practices and covering weeping wounds until healed. KDHE has a toolkit to assist in the control and prevention of staph infections. This toolkit provides information on *Staphylococcus*, policy recommendations for schools, cleaning procedures and educational material for students and parents. This toolkit is available online at www.kdheks.gov/epi/download/KS_MRSA_in_Sports_Toolkit.doc.

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