

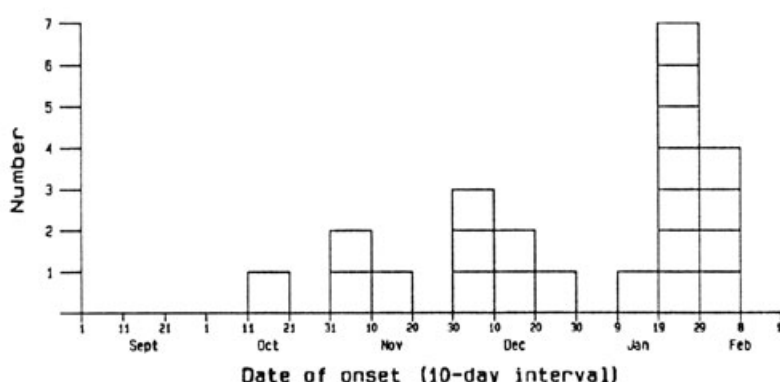
Bulletin No. 9  
March 4, 1993  
Ringworm Pins Wrestlers

On February 1, 1993 a Wasilla physician called the Section of Epidemiology to report that several boys on the Wasilla High School wrestling team had skin rashes. An Anchorage dermatologist had evaluated three team members and identified fungal elements on potassium hydroxide (KOH) treated skin scrapings from each boy and obtained a skin culture positive for *Trichophyton tonsurans* on one.

### Epidemiologic Investigation

We interviewed and examined all 28 boys on the team. Twenty-two boys (79%) reported having one or more skin lesions lasting at least 5 days since September 1, 1992. The first case occurred in October 1992 and there was a marked increase in cases during January 1993 (Figure 1). A total of 76 lesions were documented among 21 wrestlers who had visible lesions when examined by us; one had 18 distinct lesions. Lesions were found almost exclusively on the upper body (Table 1) and no scalp or nail lesions were observed. Many lesions had the typical appearance of tinea corporis - scaly, annular, erythematous plaques 1-3 cm in diameter with central clearing. However, some lesions were atypical (generally <1 cm in diameter, erythematous papules) and did not resemble tinea.

Figure 1. Cases of rash among high school wrestling team; Wasilla, AK, September 1992-February 1993



We obtained skin scrapings for KOH examination and fungal culture from 17 boys with suspicious lesions. Nine preliminary culture results were positive for possible *Trichophyton tonsurans*. Scrapings from both typical and atypical lesions had positive cultures, but not all typical lesions were positive.

### Recommendations

1. Outbreaks of fungal skin infections ("ringworm") among wrestlers have been called "tinea gladiatorum." Most likely, fungus is spread from person-to-person by direct skin-to-skin contact during wrestling. This outbreak could spread to other schools if it is not controlled.
2. Every wrestler should be checked before each practice or competition and those with skin lesions should not be allowed to participate. Lesions should not be covered with a bandaid or other dressing. If new lesions appear or if old lesions enlarge, recur, or do not appear to be responding to treatment, wrestling should not be allowed even if medical clearance was already given.
3. Wrestlers with rashes should be evaluated by a health-care provider for possible fungal skin infection. This should include skin scrapings for KOH and fungal cultures.
4. Griseofulvin microsize (250 mg po BID for 4 weeks) should be used to treat persons with tinea having either any facial lesion(s) or more than two lesions (any location).
5. Topical antifungal creams (ketoconazole or econazole) should be prescribed for persons with tinea who are not taking griseofulvin. Cream should be applied once a day and should cover the lesion(s) and a surrounding area of about the same size. Treatment should continue for 4 weeks.
6. Persons with resolving skin lesions who have not received treatment as described above may still be infectious. These wrestlers should be referred to a health-care provider and have the lesions treated with a topical antifungal medicine for 4 weeks.
7. Topical steroid-containing medication (for example, Lotrisone®, hydrocortisone) should not be prescribed. Fluconazole (Diflucan®) has not been approved by the U.S. Food and Drug Administration to treat dermatophytes. All treatment should be under medical supervision.
8. **Ten days of topical treatment or 15 days of oral treatment should be completed before a person is allowed to resume wrestling.** Clinical judgement must be used to determine if lesions are adequately responding to treatment - skin scrapings alone are not sufficient. Medical clearance should not be given if lesions are not responding to treatment. Although we received different recommendations for how long a wrestler should be treated before resuming wrestling, these guidelines are the best way to control this outbreak.
9. Wrestlers should shower with soap and running water as soon as possible after every practice or competition. Showering

should not be delayed until the wrestler goes home. Running in a plastic garbage bag (to lose weight) may contribute to the growth of skin fungus and should not be done. Clothing used in wrestling or physical education should be laundered after every use.

Table 1. Skin lesions of 21 wrestlers, by location; Wasilla, AK, February 1993

Location	Frequency	(%)
Upper arm	21	(28)
Lower arm	14	(18)
Trunk - front	16	(21)
Trunk - rear	16	(21)
Head or neck	8	(11)
Leg	1	(1)
Total	76	(100)

(Note: This Bulletin updates an interim report on the outbreak [2-11-93]. Although the numbers in the Bulletin differ slightly from the interim report, our recommendations were not affected. Reported by Charles Layman, MD. Thanks to Jayne Fortson, MD; Michael Cusack, MD; John Schultz, DO; Jay Caldwell, MD; Joani Welch, RN; and Karen Jordan Glass, State Public Health Laboratory-Juneau. Contributed by Michael Beller, MD and Brad Gessner, MD)