



# CONJUNCTIVITIS OUTBREAK AMONG HEALTH CARE PROVIDERS WHILE SCUBA DIVING: A CASE REPORT

D. Olsson; W. Grant; Department of Emergency Medicine & Hyperbarics; SUNY Upstate Medical University, Syracuse, NY



## BACKGROUND:

Conjunctivitis is a highly virulent and contagious disease. We report a recent outbreak amongst recreational divers at a resort in the South Pacific. A medical conference attended by a total of twenty-seven persons was convened at a Fijian resort. All certified divers were reported healthy and in shape to dive. The group was comprised of health care providers, along with spouses/ significant others. Two persons were listed as a “non-divers”.

## EQUIPMENT:

Two dive boats were made available to the group. A maximum of eighteen divers were placed on one boat while the balance were on the other. Divers were able to move from one boat to the other over the course of the week. Equipment on the boats was stored according to type. Masks were stored in a communal container and rinsed by the dive staff nightly.

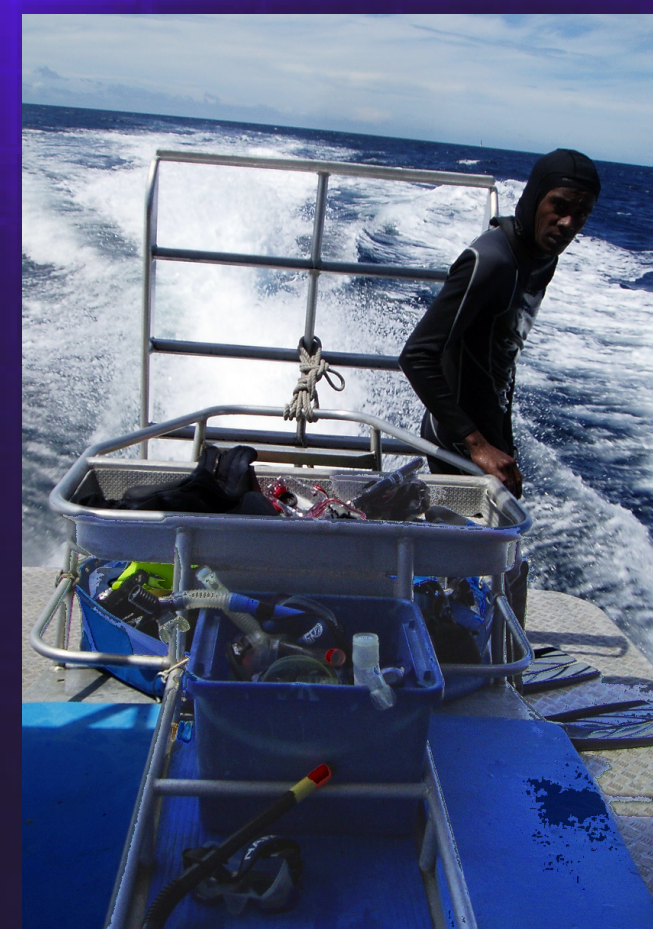
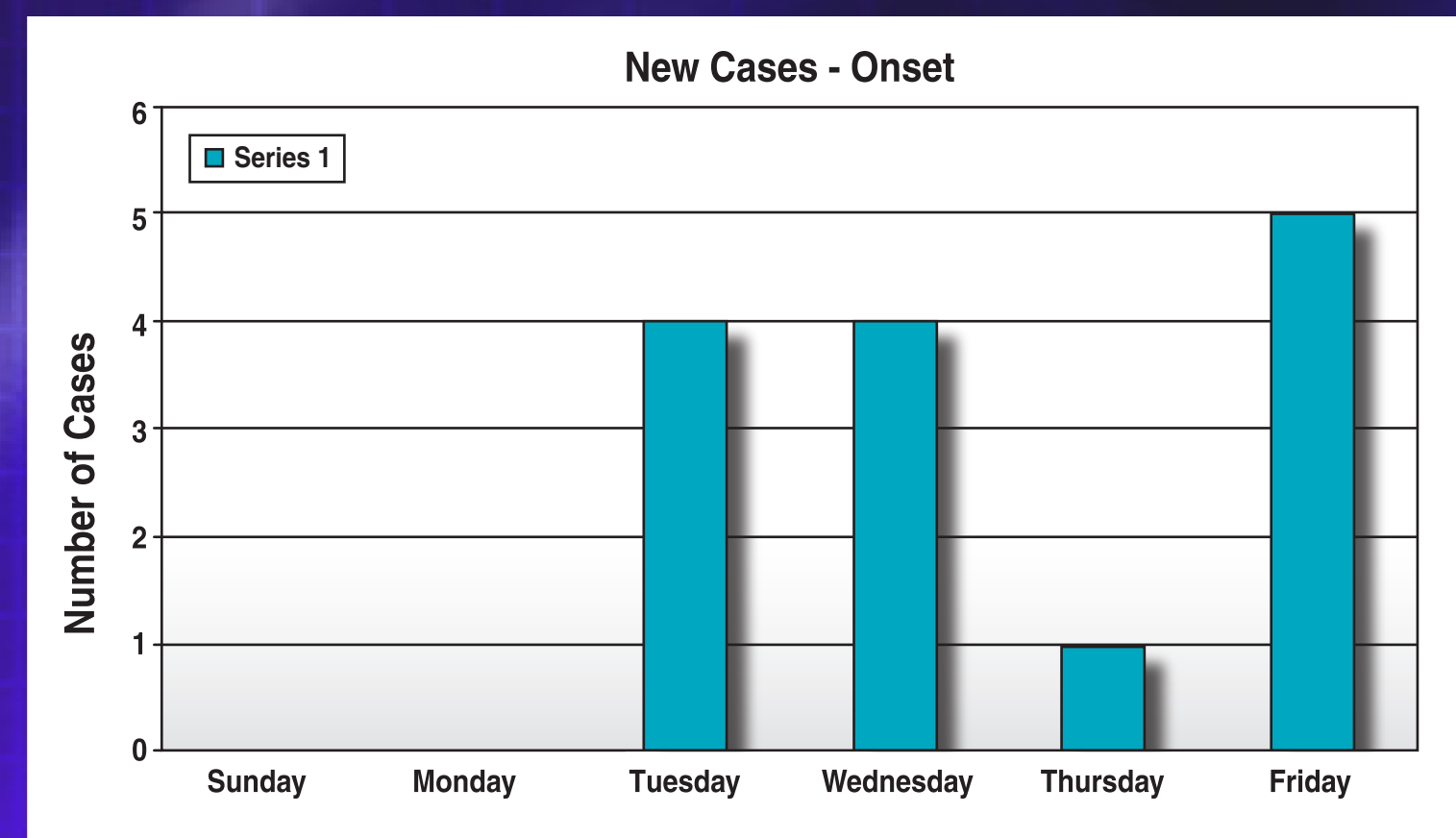
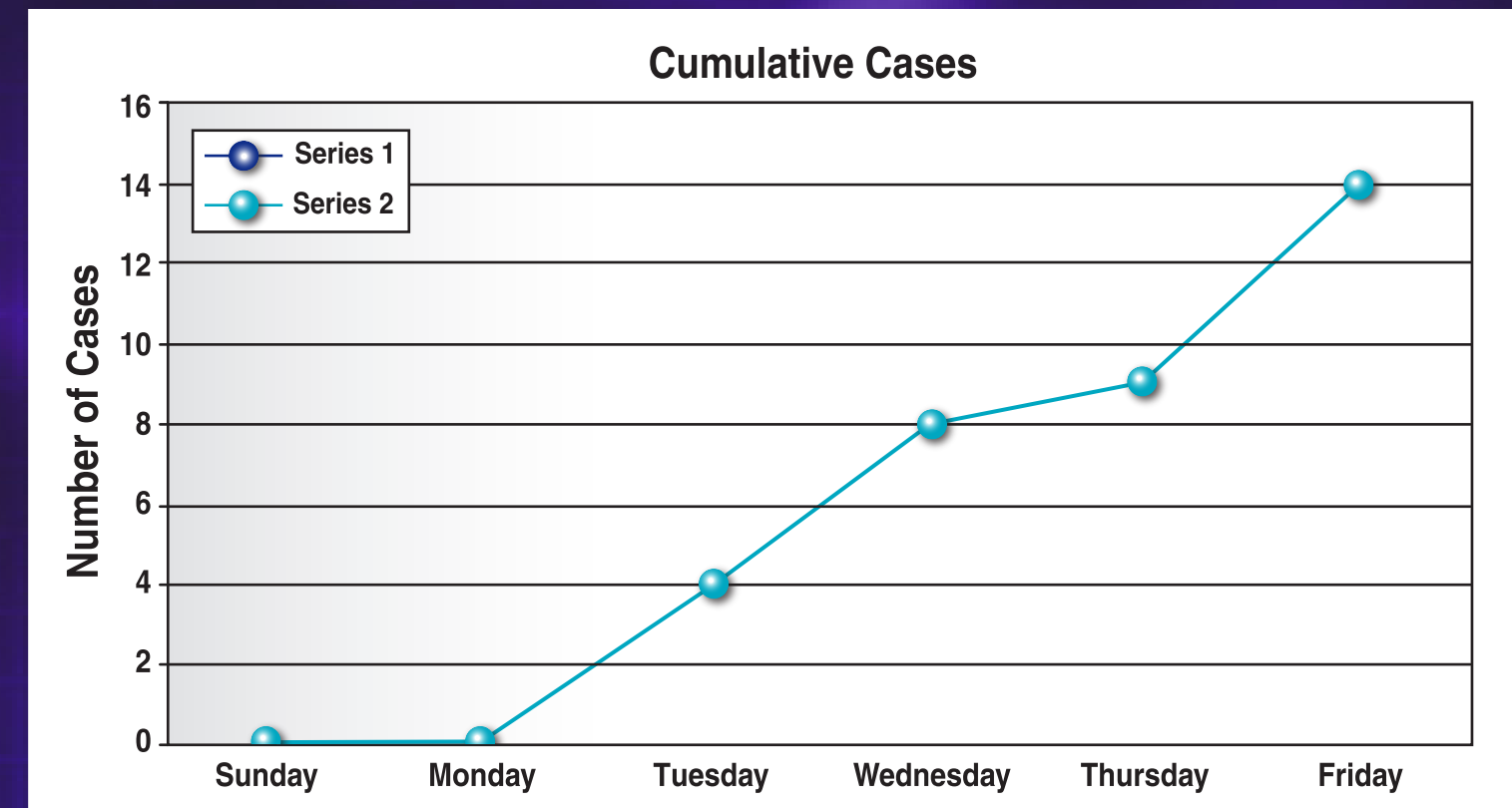
## OUTBREAK:

On the morning of day #3, a diver awoke with right eye pain and a foreign body sensation without having any known trauma or contact lens wear. Physical exam revealed moderate tearing, scleral injection, mild lid edema and small amounts of pus at the medial canthus. Cases #2 and 3 were reported shortly thereafter. The disease was spread from one boat to another over the next 24 hours. “Patient zero”, the source was identified the after the outbreak. This divemaster is a native Fijian who admitted to having an “eye problem” and placed his mask in the “communal container”. Inspection revealed his eyes were consistent with others having scleral injection.

## INTERVENTION:

The owners/operators of the resort were notified immediately. Requests were made for bleach and detergent to be supplied to each dive boat for the cleaning of masks.

Additionally, a request was made to obtain up to twenty unit doses of ophthalmic antibiotics.



## OUTCOME:

The incidence increased over the next three days. Ultimately, fourteen individuals (51.9%) were infected. Fifteen unit doses of antibiotic drops and ointment were procured.

## RESULTS:

A follow-up email survey reported that all but two cases had resolved within one week. The average duration of symptoms was 6.2 days. One reported recurrence, one required a retinal scan that combined with the corneal irritation was inconclusive for linking with the original infection, one reported vague blurred vision for three weeks, and one reported transmission to his wife after returning to the US.

## DISCUSSION:

Within the south Pacific lies Fiji, comprised of over 300 islands and a population of 800,000. The main islands are Viti Levu, Vana Levu and Taveni which contains nearly 95 percent of the population. This resort lies on the north shore of Viti Levu. As early as 1945 trachoma was noted to be endemic in Fiji along with mild papillary hypertrophy, conjunctivitis and / or nonspecific catarrhal condition of the eyes. The diagnosis in this case is presumptive. Without fluorscien stain, slit lamp, and cultures, the accuracy does come into question. However, erring on the side of conservative therapy, antibiotic therapy would certainly be reasonable. Perhaps the most important aspect would be prevention. Specifically, not placing equipment in containers that foster the spread of disease. Finally, an advance knowledge of the area to which one is going to dive would give the individual forwarning and the ability to prepare.