INJURIES IN COMPETITIVE SWIMMING

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The Amateur Sports Act of 1978 resulted in the separation of most of the Olympic sports into separate national governing bodies (NGB). United States Swimming (USS) officially took over administration (from the Amateur Athletic Union) of all competitive swimming in the United States following the 1980 Olympics Games; at that time, USS obtained the “franchise” for the United States from FINA, the international governing body.

The “heart” of competitive swimming is the many swimming clubs across the United States. This is the source and strength of the athletes who end up swimming for American colleges or on the US Olympic teams. One of the critical issues to be resolved by all clubs is that of providing accident and liability insurance for club members and their coaches while they are participating in the sport. Although one would not predict serious injury in a “noncontact” sport, serious injury is always possible around a pool and insurance premiums are high.

In 1987, USS became self-insured, and now provides accident and liability coverage for all its coach and athlete members. The obvious benefit was to lift the burden of insurance premiums from the individual clubs. It also has had the benefit of requiring coach education, training, and certification to ensure safety around the pool. Further, it has meant that United States Swimming has kept records of injuries occurring to its members.

In order to become a certified coach member of United States Swimming, the applicant is required to show proof of training in first aid, cardiopulmonary resuscitation, and safety training for swim coaches. The full Safety Training Program for Swim Coaches is an 8-hour course designed to prevent injury on or around the pool deck. Persons without a coach membership are not allowed to participate in any coaching capacity at any USS sanctioned competition.

As an example of the range of injuries occurring in competitive swimming,
statistics are available for the 1997 calendar year and are shown in the following figures, based upon 886 reported accidents. These statistics closely mirror those of previous years and are, therefore, representative of the injury patterns among competitive swimming. Because it is likely that many injuries go unreported to, and are treated outside, the USS insurance program, it is difficult to extrapolate the absolute injury rate among competitive swimmers from this data; suffice it to say that, if one assumes a participation of 150,000 athletes and coaches, that rate is quite low.

Most reported injuries are, indeed, classified as "minor" (78%), including bumps and bruises, small lacerations, and falls around the pool deck (Fig. 1). It is interesting to note that the injuries were well spread-out among all age groups (Fig. 2). Age group swimming in this country begins at about 8 years old, and
"ends" when the swimmer becomes of college age and either quits swimming or competes for his or her college (in which case, that institution assumes liability for injury); therefore, the majority of swimmers "at risk" are between the ages of 8 and 18 years.

Nearly half the injuries were in the water (42%)(Fig. 3); many injuries, however, occurred to athletes around the pool deck and to those attending swimming meets ("guests and nonathletes," Fig. 4). It may be surprising to some that 54% of the injuries occurred during competition (Fig. 5), when so much more of the swimmer's time is spent in practice sessions (31%). One also might reasonably assume that "overuse" injuries ("swimmer's shoulder," "swimmer's knee") are not being reported under this insurance system.

Although many of the injuries were true accidents, having nothing to do with the actual act of swimming either in practice or at a meet, some of the injuries were directly a result of the sport itself. For example, freestyle swimmers...
routinely complete a "flip" ("tumble") at the end of each lap (except the finish); this is proved to be a faster turn and, of course, there will be nearly twice as many turns for the same event swum over a short course (25 meter) rather than a long course (50 meter) pool. Injuries to the heel (fractures of the calcaneus, open wounds to the overlying skin) are not uncommon, as the athlete accidentally hits the heel on the end wall while doing a flip turn; this is even more prevalent when there are gutters at the end of the pool (by Olympic standards, there are no end gutters at "official" events for competitive swimming).

Twenty-six percent of injuries were to the head and neck or the ears, nose, throat and mouth (Fig. 6). As described later in this issue (see article by Ferrell, pp 389–393), fractures and dislocations of the cervical spine and skull are the most catastrophic injuries in swimming.

In summary, although the sport of swimming is a sport of low injury
prevalence, the national governing body has taken active steps to decrease the incidence of injuries around, and in, the pool. The NGB has instituted an enforceable rule of coach training which should, in time, lead to a decrease in the injury statistics for competitive swimming.

Reference


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