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TRAGEDY AT FUJAIRAH: RISK MANAGEMENT AND LEGAL ISSUES ON THE DEATH OF FRAN CRIPPEN

By: John T. Wendt and John J. Miller[1]

On October 23, 2010, the city of Fujairah, United Arab Emirates ("UAE") hosted the eighth and final race of the 2010 Fédération Internationale de Natation ("FINA") 10K Marathon Swimming World Cup. Eighty-two swimmers, both men and women, entered the water. Eighty-one finished the race. Fran Crippen of the United States did not. For some time, race officials and fellow swimmers did not realize that he was missing. When the swimmers, not officials, realized he was missing, they raced back into the water in search of him. After more than a two hour search, coast guard and police divers found his body near the last buoy on the course, about 400-500 meters from land and 7-8 meters underwater.[2] Crippen was carried to shore and taken to Fujairah Hospital, where he was pronounced dead.

Crippen was an outstanding swimmer. He was a six-time U.S. National Champion, a Gold Medalist in the 10K at the 2007 Pan American Games, a Bronze Medalist in the 10K at the 2009 World Championships, a Silver Medalist in the 10K at the 2010 Pan Pacific Championships, and he finished fourth in the 10K (and fifth in the 5K) at the 2010 World Championships.[3] Crippen came from a family of accomplished swimmers: his sister, Maddy,

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[2] Tucker Reals, *U.S. Swimmer Fran Crippen Dies of "Overexertion"*, CBSNEWS.COM (Oct. 26, 2010), http://www.cbsnews.com/stories/2010/10/25/sportsline/main6988762.shtml.
[3] *Passages: Fran Crippen, 26-FINA, USA Swimming, USOC Release Statements*, USA SWIMMING WORLD MAGAZINE (Oct. 24, 2010), http://www.swimmingworldmagazine.com/lane9/news/25369.asp.

was an Olympian in 2000, and his other two sisters, Claire and Teresa, were both NCAA finalists.[4]

ISSUES AT THE RACE

Although the most severe, the death of Fran Crippen was just the culmination of a series of problems of the race. Originally, the race was supposed to be held at Sharjah, but was later moved to Fujairah. The change of venue only gave organizers five days to prepare the course and the facilities for an international competition.[5] The night before the race, coaches and managers questioned the safety of the course, including water temperature and shading.[6] Although organizers provided some safety boats, many questioned if there were enough to maintain safety standards. There were also disagreements as to the location of the boats and which ones the swimmers were to follow.[7]

Organizers were not prepared for Crippen's situation. As one witness at the scene said, "There was no response on that. It was really disorganized [sic]. It made an impact on everyone there. There was a feeling of hopelessness and a belief that no-one knew what they were supposed to be doing."[8] It was the other competitors who first took to the water to find Crippen. After two hours of searching, Crippen's body was found about 400-500 meters from the finish line. The winner of the race, Thomas Lurz of Germany, noted the dangers of the course and the lack of preparation by the organizers: "It was unacceptable that swimmers were searching for

[4] *Id.*
[5] Craig Lord, *Fran Crippen: The Questions Facing Fina*, SWIM NEWS (Jan. 26, 2011), http://www.swimnews.com/news/view/8382.
[6] *Id.*
[7] *Id.*
[8] *Id.*

another swimmer . . .swimmers go under water in seconds. There need[ed] to be more boats, jet skis, [and] canoes who can take care of every swimmer."[9]

THE IMMEDIATE AFTERMATH

FINA is the international governing body for the aquatic sports of swimming, diving, water polo, synchronized swimming, and open water swimming.[10] The President of FINA, Julio Maglione, and FINA Technical Delegate at Fujairah, Valerijus Belovas, stated that all safety rules were followed:

> The organisation [sic] of the competition in Fujairah did not differ at all from what I have been observing for as long as 15 years. I would like to emphasize that what happened during the World Cup in Fujairah could happen during any competition. We need new specifications, requirements to the organization of safety during competitions and it is namely us who have to do this. I am very sorry about what has happened and declare that there were no violations of the competition organization applied in our usual practice during the World Cup in Fujairah.[11]

FINA appointed a task force, and USA Swimming established an open water commission, to review the circumstances surrounding Fran Crippen's death and make recommendations for future events.[12]

Ideally, organizations should try to manage potential event risks because if they do not, they may be consumed by the risk.[13] Event managers must understand and appreciate the need

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[9] *Thomas Lurz Rips Race Conditions*, ESPN.COM (Oct. 25, 2010), http://sports.espn.go.com/oly/swimming/news/story?id=5722846

[10] *Structure*, FINA.ORG, http://www.fina.org/H2O/index.php?option=com_content&view=article&id=602&Itemid=359 (last visited Apr. 15, 2012).

[11] Lord, *supra* note 5.

[12] *FINA Announces Task Force to Investigate Fran Crippen's Death*, SWIMMINGWORLDMAGAZINE.COM (Oct. 28, 2010), http://www.swimmingworldmagazine.com/lane9/news/25411.asp?q=FINA-Announces-Task-Force-to-Investigate-Fran-Crippen%27s-Death; *see also* Vicki Michaelis, *USA Swimming investigating causes of Fran Crippen's death*, USATODAY.COM (Oct. 26, 2010), http://www.usatoday.com/sports/olympics/2010-10-25-fran-crippen-death-investigation_N.htm.

[13] *See generally* J. DAVIDSON FRAME, MANAGING RISK IN ORGANIZATIONS (2003).

to develop and implement a risk management plan specific to competitive open-water activities. This awareness is the first step in managing risks at such events. Sport event managers who desire for their organizations to efficiently manage risks must recognize the value of foreseeability as well as understand the participants' level of assuming the risks to lessen the chance of a catastrophic event occurring. In the following sections, the concepts of foreseeability and assumption of risk will be discussed as they pertain to managing competitive open water swimming risks. The liabilities and duties discussed are not meant to be an in-depth examination of the doctrine of assumption of risk; rather, they are meant to be discussed from the perspective of an organization conducting open water swimming competitions and the importance for the development and implementation of a risk management plan.

PART I: LEGAL FRAMEWORK

Many commentators have examined the issue of negligence in international sport.[14] Although the Crippen incident occurred overseas, open water swimming competition also takes place in the U.S., but with two major differences. The first is that competitors in U.S. competitions are counted at each turn in case someone has dropped out. Second, in U.S. championship races, organizers require all competitors to wear electronic chips, which allow organizers the capability of keeping track of competitors during the race.[15] The inherently

[14] Natasha Schot, *Negligent Liability in Sport* (2005), SPORTS LAW EJOURNAL, *available at* http://epublications.bond.edu.au/slej/2/; *see also* Mark James, *Sports Torts and the Development of Negligence in England*, 2 INT'L SPORTS L.J. 17-19 (2003); Ronald Fitzgerald, *Yacht Racing: A Legal Perspective*, 29 J. MAR. L. & COM. 267-273 (1998).
[15] *2008 USA Swimming 10K Open Water World Championship Trials*, USA SWIMMING (2008), http://www.usaswimming.org/_Rainbow/Documents/3436e65e-5802-436b-942c-b8d807fd35d5/Open%20Water%20World%20Champ%20Trials.pdf.

dangerous nature of such events is the primary reason for such precautions since it takes only a matter of seconds to lose sight of an individual in the open water.

Foreseeability

Foreseeability may be regarded as the most significant consideration in determining the extent to which a person is owed a duty of reasonable care.[16] In a case such as Crippen's, foreseeability is the degree to which the organization knew, or should have known, that a participant may be exposed to the probability of injury. Foreseeable danger provides a basis by which the risk of injury to another person, and the duty to exercise care for a person injured on a premise, is determined.[17]

In *Mintz v. State of New York*, the theory of foreseeability was utilized to determine the proximate cause of the injuries.[18] If a harmful situation on a premise was foreseeable and an individual was harmed, the lack of safety may be the reason or proximate cause of the damage.[19] As a matter of foreseeability, Ayman Saad, the Executive Director of UAE Swimming, said that the water temperature (one of the issues in question) had been tested the morning of the event as well as during the actual race. The water temperature in the morning was recorded at 29°C (85°F) and had risen to 30°-31°C (86-88°F) at the time of the race, which was then deemed to be acceptable.[20]

Yet, several of the swimmers openly questioned the safety of the event in such conditions. Christine Jennings was a four-time All-American swimmer, U.S. 5K Champion, and

[16] Rodriguez v. Sabatino, 120 F.3d. 589, 592 (5th Cir. 1997).
[17] 57A Am. Jur. 2d *Negligence* § 124 (2012).
[18] 362 N.Y.S.2d 619 (App. Div. 1975).
[19] Turpen v. Granieri, 985 P.2d 669, 673 (Idaho 1999).
[20] Lord, *supra* note 5 (stating in Celsius, water freezes at 0°C and water boils at 100°C; whereas in Fahrenheit water freezes at 32°F and water boils at 212°F. The formula to convert Celsius to Fahrenheit is Tc = (5/9)* (Tf – 32) whereas the formula to convert Fahrenheit into Celsius is Tf = (9/5)*(Tc +32)).

PanPacific Games Champion and she, too, had difficulty with the conditions. [21] She became dizzy, veered off course, and vomited several times in the water.[22] During an open water race, if an athlete has difficulty and needs assistance they are instructed to roll over on their back and raise an arm in the air to signal for help. Safety boats are then supposed to come to the aid of the distressed swimmer. Jennings signaled for help, but no safety boats came to her rescue.[23] She was eventually helped by a fellow swimmer and was taken to the hospital and treated for dehydration and heat exhaustion.[24] Recounting the incident, Jennings said, "I'm floating on my back for several minutes, thinking 'Why isn't anybody checking on me?' FINA needs to understand what happened and not brush this off as some freak incident, [because] it wasn't . . . They need to make changes."[25] Moreover, Thomas Lurz, nine-time open water World Champion, stated after the incident:

> I am afraid Fina [sic] has not been addressing this aspect as much as we would have liked. Does it take a sacrifice like this one [the death of Crippen] to highlight an issue? We deserve good conditions. Nothing will bring Fran [Crippen] back to us, but we still need to question and find out why this incident happened. Fina [sic] needs to be more professional and they need to bring in the changes so as to safeguard and treat the swimmers in the right way.[26]

Assumption of Risk

The basic concept of assumption of risk is that, "A plaintiff who voluntarily assumes a risk of harm arising from the negligent or reckless conduct of the defendant cannot recover for

[21] Amy Shipley, *Fellow Competitor Blames Heat, Safety Lapses in Death of Swimmer Fran Crippen*, WASHINGTON POST (Oct. 25, 2010), http://www.washingtonpost.com/wp-dyn/content/article/2010/10/25/AR2010102503766.html.
[22] *Id.*
[23] *Id.*
[24] *Id.*
[25] *Id.*
[26] Alaric Gomes, *Top Swimmers Allege Fina Neglect*, GULF NEWS (Oct. 26, 2011), http://gulfnews.com/sport/other-sports/top-swimmers-allege-fina-neglect-1.701738.

such harm."[27] Originally stated by Judge Cardozo in *Murphy v. Steeplechase Amusement Co.*,[28] this concept has caused much confusion over the years. In *Murphy*, the plaintiff was a customer at an amusement park which featured a ride called "The Flopper," a moving conveyor belt running through a room with padded walls. As patrons stepped onto the belt they would be jostled, and would frequently fall. The plaintiff, during his participation, fell and broke his kneecap. Cardozo stated:

> One who takes part in such a sport accepts the dangers that inhere in it so far as they are obvious and necessary… The antics of the clown are not the paces of the cloistered cleric. The rough and boisterous joke, the horseplay of the crowd, evokes its own guffaws, but they are not the pleasures of tranquility… He took the chance of a like fate, with whatever damage to his body might ensue from such a fall. The timorous may stay at home.[29]

In a sports setting, *Knight v. Jewett* is the definitive case on assumption of risk.[30] *Knight* distinguished between "primary" and "secondary" assumption of the risk.[31] Regarding primary assumption of risk, the *Knight* court stated that, although the defendant owed no legal duty to the participants for the inherent risks of the sport, the defendant did have a duty not to increase those risks (over and above what was inherent in the sport). Concerning secondary assumption of risk, the court held that the defendant owed the plaintiff a duty, but after considering the respective faults of the parties, the judge directed the jury to apportion the damages. In other words, secondary assumption of risk is an assessment of comparative negligence.[32]

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[27] RESTATEMENT (SECOND) OF TORTS: ASSUMPTION OF RISK § 496A (1965).
[28] Murphy, 166 N.E. 173, 173 (N.Y. 1929).
[29] *Id.* at 174.
[30] Knight v. Jewett, 834 P.2d 696 (Cal. 1992).
[31] *Id.* at 703.
[32] *Id.* at 708; *see also* RESTATEMENT (SECOND) OF TORTS § 496A (2011); E. H. Schopler, *Distinction Between Assumption of Risk and Contributory Negligence*, 82 A.L.R.2d 1218 (1962); 57B Am. Jur. 2d Negligence § 764 (2001); 65A C.J.S. Negligence § 405 (2011).

The application of the doctrine of assumption of risk has proven to be a legal maze.[33] As a result, the doctrine has come under fire from courts and commentators,[34] although it is clear that this defense is still being shaped and applied differently in various jurisdictions.[35]

The traditional view has been that plaintiffs have a choice to participate in the activity, and assume the risk, or not participate at all. Kenneth Simons, author and Boston University law professor, has argued for a new model he calls "full risk preference."[36] Simons noted that, "In this world, difficult choices must be made."[37] Specifically applied to sports, Simons argued that, "A player will ordinarily expect to incur some risk of injury from an athletic contest, and he obviously prefers taking that risk to not playing. But what is his full preference?"[38] Simons went on to say, "We cannot simply ask whether plaintiff agreed to the limited choice to play or not. Rather, we must ask whether defendant can reasonably demand that plaintiff play on these terms if he is to play at all."[39] Ultimately, according to Simons:

> We should not simply ask whether plaintiff voluntarily and knowingly encountered the risk that defendant created, when she could have avoided that risk. Rather, we should ask whether [the] plaintiff *fully* preferred to take the risk, i.e., whether she preferred the risky alternative that she chose *to the alternative that [the] defendant tortuously* [sic] *failed to offer*.[40]

Donald Horton, author and Loyola law professor, noted extreme sports are growing in popularity, and the "penchant for recreational risk-taking may be the defining characteristic of an

[33] Tiller v. Atlantic Coast R.R., 318 U.S. 54, 58 (1943).
[34] David Horton, *Extreme Sports and Assumption of Risk: A Blueprint*, 38 U.S.F. L. REV. 599 (2004); Christ Gaetanos, *Assumption of Risk: Casuistry in the Law of Negligence*, 83 W. VA. L. REV. 471 (1981); Edward J. Kionka, *Implied Assumption of the Risk: Does It Survive Comparative Fault?*, 7 S. ILL. U.L.J. 371, 371, 376, 400-01 (1982).
[35] Keya Denner, *Taking One For The Team: The Role Of Assumption Of The Risk In Sports Torts Cases*, 14 SETON HALL J. OF SPORTS & ENT. L. 209, 236 (2004).
[36] Kenneth Simons, *Assumption of Risk and Consent in the Law Of Torts: A Theory of Full Preference*, 67 B.U.L. REV. 213, 218 (1987).
[37] *Id*, at 229.
[38] *Id.* at 274.
[39] *Id.*
[40] *Id.* at 279.

entire generation of young people."[41] Dylan Kletter, Connecticut-based litigation attorney, noted that while past research applied legal principles to traditional sports, such as football or baseball, it might not work well with new "high risk" or "extreme" sports.[42] There has been no clear definition of the term "extreme sport," and, in fact, the term is "increasingly amorphous."[43] Kletter asked, "How instructive is precedent [when] analyzing the risks associated with a pick-up football game [and] determining liability involving BASE jumping [sic] or a trek through the Andes?"[44]

Simons presented the following scenario as a critique of the tradition application of the doctrine of assumption of risk:

> Suppose I decide to engage in hang gliding. I join an outing organized by the defendant, who warns me of the serious but unavoidable risks (I can avoid the risks only by declining to engage in hang gliding altogether). I am injured in a regrettably predictable way. I cannot recover damages. Why? Because I was negligent in encountering the risk? But then defendant was presumably negligent in offering me the choice to encounter it. The dubious result is that I might recover some portion of the damages under comparative negligence. Alternatively, perhaps I cannot recover because my conduct in encountering the risk was indeed reasonable -- and so was defendant's conduct in offering me the choice to encounter it. But again, we have a difficulty. Would a reasonable person engage in such risky conduct?…No doubt, one could interpret the 'reasonable person' standard to approve of hang gliding. But it is more useful to focus on the distinctive aspect of this case. I truly prefer a risky alternative; I would rather have the opportunity to hang glide, with the necessary incidental risks, than be restricted to the opportunity of flapping my arms as I run along the ground.[45]

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[41] Horton, *supra* note 34, at 663.
[42] Dylan Kletter, *Negligence in the [Thin] Air: Understanding the Legal Relationship Between Outfitters and Participants in High Risk Expeditions Through Analysis of the 1996 Mount Everest Tragedy*, 40 CONN. L. REV. 769, 796 (2008); *see also* Darryll M. Halcomb Lewis, *After Further Review, Are Sports Officials Independent Contractors?*, 35 AM. BUS. L.J. 249, 287 (1998).
[43] Horton, *supra* note 34.
[44] *Id.*
[45] Simons, *supra* note 36, at 216-17.

Increasingly, athletes are taking on greater risks.[46] In an attempt to attract a broader youth market, Olympic organizers are adding new sports with greater risk. New Olympic sports, such as snowboarding and snowcross, attract a younger audience, but are more dangerous.[47] The 2014 Winter Olympic Games are set to introduce half-pipe skiing, while slope-style skiing and a team parallel competition in alpine are being considered.[48] All of these events could be considered high-risk sports.[49]

This is not to say that these new disciplines are more dangerous than those with longer histories. Recognized as an Olympic event in 1994, freestyle aerial skiing features athletes launching off jumps made of metal and covered in snow. The athletes propel themselves nearly fifty feet into the air, performing multiple twists and flips, before landing on a to 34°-39° hill.[50] Emily Cook is a U.S. aerialist. In pursuit of her dream to compete in the Olympics, she suffered numerous bone dislocations and fractures, as well as torn ligaments. She has endured two major surgeries, with months of rehabilitation.[51] It was the thought of walking into the 2006 Winter Olympic Games Opening Ceremonies that drove her to overcome her injuries and setbacks.[52] Using Simons' argument, would Emily Cook prefer to run down the hill and jump in the air? What risks is she willing to endure for her sport? "Extreme sports participants compete within a hierarchy where willingness to gamble with physical safety is the coin of the realm."[53]

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[46] Denner, *supra* note 35.
[47] *Death and Injuries Raise Safety Concerns at Winter Games,* PBS NEWSHOUR (Feb. 12, 2010), http://www.pbs.org/newshour/bb/sports/jan-june10/olympics_02-15.html.
[48] *Six New Events Added to the Olympic Winter Games Programme in Sochi*, INTERNATIONAL OLYMPIC COMMITTEE (Apr. 6, 2011), http://www.olympic.org/sochi-2014-winter-olympics?articlenewsgroup=-1&articleid=124134.
[49] Lars Engebretsen et al., *Sports Injuries and Illnesses During the Winter Olympic Games 2010*, 44 BRITISH J. SPORTS MEDICINE 772, 780 (2010).
[50] *Freestyle Aerial Skiing*, THE SKI CHANNEL (Nov. 11, 2011), http://www.theskichannel.com/sport_detail.php?name=Freestyle%20Aerial%20Skiing.
[51] Terry Zeigler, *Overcoming Adversity to Compete*, SPORTS MD (Mar. 28, 2011), http://www.sportsmd.com/SportsMD_Articles/id/345.aspx.
[52] *Id.*
[53] Horton, *supra* note 34, at 628.

Although open water swimming competitions have existed in some form since the ancient times, its current form as a competitive, regulated Olympic level sponsored sport is relatively young. As such, the rules as applied to traditional racing in a swimming pool may not be applicable in open bodies of water. Open water events take place in rivers, lakes, oceans, or water channels[54] and at distances of five, ten, and twenty kilometers.[55] Chloe Sutton, one of the rising stars of the U.S. National Team, recently said, "Open water is like the extreme sport of swimming; we're like the wet X Games . . . I think people see it and are like 'Wow. That's hardcore.'"[56]

In open water swimming, athletes face a number of risks. Specifically, a swimmer in open water conditions faces external hazards such as currents, rogue waves, dangerous sea life, seaweed, algae, and shifting water depth. The swimmer also faces internal hazards familiar to any swimmer, like cramping, hyperventilation, and inhalation of water, but the notable difference is that the distance of the swimmer from land amplifies the dangers. Other risks include hypothermia (dangerously low body temperature) and hyperthermia (dangerously high body temperature).[57] Hyperthermia is particularly insidious because athletes can quickly advance through heat exhaustion without recognizing its warning signs and develop heatstroke. These are risks that open water swimmers assume—these risks are integral to the essence of the sport.

At the Fujairah event, the air temperature was nearly 100°F and the water temperature was about 87°F. These temperatures made it very difficult for athletes to dissipate heat, and the salt content of the water added greatly to the dehydration risk. In addition, contestants also wore

[54] *OWS 1 Definitions*, FINA.ORG, http://www.fina.org/H2O/index.php?option=com_content&view=article&id=291:ows-1-definitions&catid=83:open-water-swimming-rules&Itemid=184 (last visited Apr. 15, 2012).
[55] *OWS 5 The Venue*, FINA.ORG, http://www.fina.org/H2O/index.php?option=com_content&view=article&id=295:ows-5-the-venue&catid=83:open-water-swimming-rules&Itemid=184 (last visited Apr. 15, 2012).
[56] Joanne C. Gerstner, *Sutton Excels in Open Waters, Pool*, SWIMMING TEAM USA (July 5, 2010), http://swimming.teamusa.org/news/2010/07/05/sutton-excels-in-open-waters-pool/37029.
[57] Mayo Clinic Staff, *Heat Stroke*, MAYO CLINIC (Sept. 2, 2011), http://www.mayoclinic.com/health/heat-stroke/DS01025.

swimming caps, which further inhibited heat dissipation. One participant reported that, "Not only were we out in midday [sic] sun in boiling water but we were getting very dehydrated from having salt water in our mouths. I could hardly speak after the race, it was so bad."[58] There is a discrepancy in the water temperatures that witnesses have provided, the figure varying between 29°C and 34°C, with many agreeing that the thermometer attached to the pontoon at the start of the race read 31°C. Needless to say, there was no apparent monitoring of surface temperatures.

Kletter noted that in traditional sports (such as baseball), there is nothing that would cause an athlete's mental faculties to be compromised because mind and bodily functions remain in their normal state.[59] However, in extreme sports, such as mountain climbing, mental acuity drop to 30% of normal levels to the point where basic arithmetic is virtually impossible and can even be accompanied by hallucinations.[60] The result is that "little errors, things that are black and white down here aren't really black and white up there. You know, the decision-making process is a little bit more muddled."[61]

The FINA task force noted that factors contributing to the death of Crippen were hyperthermia, hypo-hydration (loss of fluids), and exercised induced asthma.[62] By all accounts, Crippen was a strong, healthy young athlete. However, "[Even] healthy people can develop heat-related disorders in only moderately hot environments during heavy exercise, particularly if water and salts lost through sweat are not replenished"[63] One of the more deleterious effects of

[58] Lord, *supra* note 5.
[59] Kletter, *supra* note 42, at 779.
[60] *Id.*
[61] *Id.* at 780.
[62] *FINA Task Force Report Part 7 - Francis Crippen*, FINA.ORG, http://www.fina.org/H2O/index.php?option=com_content&view=article&id=2062:fina-task-force-report&catid=288:special&Itemid=179 (last visited Apr. 15, 2012).
[63] G.C. Donaldson et al., *Cardiovascular Responses to Heat Stress and their Adverse Consequences in Healthy and Vulnerable Human Populations*, 10 INT. J. HYPERTHERMIA 225, 235 (2003).

heatstroke is its impact on brain function.[64] The excessive heat overload Crippen suffered impaired his body's cooling system (hypo-hydration), and this overload could have led to brain dysfunction.[65] Heat induced brain injury is, after all, the third largest killer of athletes.[66]

The defense of assumption of the risk "arises when the plaintiff knows of and appreciates a risk and voluntarily chooses to encounter it."[67] However, the plaintiff's "awareness of risk is not to be determined in a vacuum. It is, rather, to be assessed against the background of [his] skill and experience . . . and in that assessment a higher degree of awareness will be imputed to a professional than to one with less than professional experience in the particular sport."[68] Crippen was a professional open water swimmer, and like Emily Cook, dreamt of competing at the Olympic Games. As a professional swimmer, he was probably aware of some of the dangers of hyperthermia. However, was that awareness diminished *by* the hyperthermia, and possible brain dysfunction, that occurred while he was competing?

Open water swimming has risks. Crippen was willing to assume those inherent risks of open water swimming. But, that is only half of the analysis. As Simons argued, the more pertinent question is whether or not the defendant can reasonably demand that the plaintiff either play on defendant's terms, or not play at all. Should FINA and UAE Swimming demand that athletes compete in salt water with an air temperature of 100°F and water temperature of 87°F? Supposedly, race organizers were to have a third station where the swimmers could rest and rehydrate. They did not. Is that a risk inherent in open water swimming? And once that race started, could Crippen, in a state of hyperthermia, continue to make the right decisions?

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[64] H.S. Sharma & P.J. Hoopes, *Hyperthermia Induced Pathophysiology of the Central Nervous System*, 19 INT. J. HYPERTHERMIA 325, 354 (2003).
[65] *Id.*
[66] *Id.*
[67] Leakas v. Columbia Country Club, 831 F. Supp. 1231, 1236 (D. Md. 1993).
[68] Maddox v. City of New York, 487 N.E.2d 553, 556-57 (N.Y. App. Div. 1985); *see also* Darryll M. Halcomb Lewis, *An Analysis Of Brown v. National Football League*, 9 VILL. SPORTS & ENT. L.J. 263, 282 (2002).

PART II: EFFECTS OF WARM WATER SWIMMING

According to noted physician and author Ken Kamler, 87° is too high of a temperature for this type of event.[69] At that temperature, water can easily cause hyperthermia or overheating of the body. When the body's temperature control system is overloaded, people experience heat-related illness. Although the body usually cools itself by sweating, under some circumstances, sweating is not sufficient. Because the body dissipates heat through the skin, it is more difficult for the body to purge this heat when the water is warm. The resulting heat build-up can lead to muscles not functioning in correct sequence, which can cause muscle spasms. As muscles cease to function properly, breathing becomes difficult, and this loss of control can result in an individual aspirating water and drowning. Additionally, the heat build-up can affect the heart, creating an arrhythmia to the point that the heart pumps inefficiently.[70]

Exercising in heat places high demands on the body's thermoregulatory centers. Heat production during exercise is 15–20 times greater than heat produced at rest, and this level is sufficient to cause dehydration.[71] If there are no thermoregulatory adjustments, muscle tissue activity can raise core body temperature 1°C every five minutes.[72] This heat, as well as any ambient heat absorbed from the outside environment, must be offset by the body's heat transfer mechanisms or else the body will experience hyperthermia. These cooling mechanisms include

[69] Madison Park & Ashley Fantz, *Swimming in Warm Water Can Take Deadly Toll on Body*, CNN (Oct. 26, 2010), http://www.cnn.com/2010/HEALTH/10/25/swim.temperature.factors/index.html.
[70] *Id.*
[71] Gary Mack et al., *Role of Cardiopulmonary Baroreflexes During Dynamic Exercise.*, 65 JOURNAL OF APPLIED PHYSIOLOGY, 1827, 1827-32 (1988).
[72] Ethan Nadel et al., *Physiological Defenses Against Hyperthermia of Exercise*, 301 ANNALS N.Y. ACADEMY OF SCI. 98, 109 (1977).

conduction, convection, evaporation (perspiration), and radiation.[73] As ambient temperature rises, the contributions of conduction, convection, and, particularly, radiation become increasingly insignificant. In these situations, the evaporation of sweat becomes the most important mechanism for temperature control.[74] Any factor that limits evaporation, such as high humidity or dehydration, will have profound effects on physiological function and athletic performance, and will increase the risk for heat illness in the exercising individual.[75]

The two most common forms of hyperthermia are heat exhaustion and heatstroke. Of the two, heatstroke is especially dangerous and requires immediate medical attention. Heat exhaustion is the most common form of heat illness and is characterized by the inability to continue exercising in the heat.[76] It typically occurs under conditions of high external temperature and dehydration.[77] Core body temperature may rise above 38°C, but will, by definition, remain lower than 40.5°C.[78] Onset of heat exhaustions are usually sudden.[79]

Heatstroke is the most serious of the heat illness syndromes. Body temperature is elevated to a level that causes damage to body tissues, affecting multiple organs.[80] Distinguishing features of heatstroke are a core body temperature elevation of greater than 40.5°C, failing sweating mechanisms—often complete cessation of sweating—and moderate to

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[73] Jurgen Werner, *Temperature Regulation During Exercise: An Overview*, EXERCISE, HEAT, AND THERMOREGULATION 49, 77 (David R. Lamb & Carl V. Gisolfi, eds., 1993).

[74] Jurgen Werner, *Temperature Regulation during Exercise: An Overview*, *in* EXERCISE, HEAT, AND THERMOREGULATION 49-77 (David R. Lamb & Carl V. Gisolfi, eds., 1993); *see also* Lawrence Armstrong & Carl Maresh, *The Induction and Decay of Heat Acclimatisation in Trained Athletes*, 12 SPORTS MED. 302, 312 (1991).

[75] Douglas Casa et al., *National Athletic Trainers' Association Position Statement: Fluid Replacement for Athletes*, 35 J OF ATHLETIC TRAINING 212, 224 (2000), *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1323420; *see also* Lawrence Armstrong et al., *Influence of Diuretic-Induced Dehydration on Competitive Running Performance*, 17 MED. & SCI. IN SPORTS & EXERCISE 456, 461 (1985).

[76] Armstrong and Maresh, *supra* note 74.

[77] Teofilo Lee-Chiong, Jr. & John Stitt, *Heatstroke and Other Heat-Related Illnesses. The Maladies of Summer*, 98 POSTGRADUATE MED. 26, 36 (1995); *see also* Randall Wexler, *Evaluation and Treatment of Heat-Related Illness*, 65 AM. FAMILY PHYSICIAN 2307, 2314 (2002).

[78] Michael Barrow & Katherine Clark, *Heat-Related Illnesses*, 58 AM. FAMILY PHYSICIAN (September 1, 1998).

[79] Armstrong et al., *supra* note 75.

[80] Abderrezak Bouchama & James Knochel, *Heat Stroke*, 346 NEW ENG. J. MED. 1978, 1988 (2002).

severe mental status impairment. Heatstroke is a medical emergency involving total thermoregulatory failure and will not reverse without external cooling measures. Mortality rates may exceed 10%.[81] Signs and symptoms are similar to those seen in heat exhaustion, with the addition of acute significant neurological impairment including ataxia, marked confusion, and often coma.[82]

Heatstroke can be categorized into classic and exertional forms. Classic heatstroke can develop slowly over several days and can occur with minimally elevated core temperatures. Conversely, exertional heatstroke is characterized by rapid onset—often developing in hours—and is frequently associated with high core temperatures. Exertional heatstroke can occur in healthy athletes and is commonly seen in poorly acclimatized young persons involved in strenuous physical activity in a hot environment.[83] It should be noted that while the range of water temperatures for pool competitions is 77°-82°F (25°-27.7°C), no such rule had been identified by FINA for open water races. At the time of the event in the UAE, the air temperature was 100°F (37°C) and the water temperature was 87°F (30.5°C). To put the temperature in perspective, the ideal temperature of a person passively sitting in a hot tub is 100°F for no more than 20 minutes.[84] Furthermore, not only were the competitors expending significant amounts of energy for nearly two hours in the heat, but pontoons (where they could re-hydrate themselves) were not available in the last leg of the race.

Maintaining a normal state of hydration is thought to be critical for the prevention of heat-related illness, such as heat exhaustion or heatstroke.[85] Dehydration of approximately 2-3%

[81] Barrow and Clark, *supra* note 78.
[82] *Id.*
[83] Rajat Khosla & Kalpalatha Guntupalli, *Heat-Related Illnesses*, 15 CRITICAL CARE CLINICS 251, 263 (1999).
[84] *CPSC Warns of Hot Tub Temperatures*, U.S. CONSUMER PRODUCT SAFETY COMM'N (1979), *available at* http://www.cpsc.gov/cpscpub/prerel/prhtml79/79071.html.
[85] Sandra Fowkes Godek et al., *Sweat Rate and Fluid Turnover in American Football Players Compared with Runners in a Hot and Humid Environment*, 39 BRITISH J. SPORTS MED. 205, 211 (2005).

of body mass routinely occurs in healthy patients during intermittent high-intensity exercise, especially when the ambient temperature is high.[86] This is particularly evident when thirst is relied upon to trigger fluid intake, which may not occur until the patient is already 5% dehydrated.[87] At this point, however, does the person or organization understand the risks that they may be assuming?

Under the doctrine of assumption of risk, two factors are considered: whether the defendant owed a legal duty to protect the plaintiff from a particular risk of harm that caused injury, and whether the plaintiff had both knowledge and full appreciation of the danger involved and voluntarily and deliberately exposed himself to the risk.[88] Event organizers are under no duty to protect competitors from the inherent risks associated with their respective sports. However, the organizers have a duty to use due care not to increase the risks to a participant over and above those inherent in the sport.[89] As such, it would be incumbent on a sports event manager to develop and maintain a risk management plan. This notion is further discussed in the next section.

PART III: HEAT-RELATED ILLNESS RISK MANAGEMENT

Ayman Saad, Executive Director of UAE Swimming, contended that the water temperature at the Fujairah event was 84°F, all safety measures were in place, and the race

[86] Stuart Galloway, *Dehydration, Rehydration, and Exercise in the Heat: Rehydration Strategies forAthletic Competition*, 24 CANADIAN J. APPLIED PHYSIOLOGY 188, 195 (1999).
[87] Barrow and Clark, *supra* note 78.
[88] Tacrendi v. Dive Makai Charters, 823 F. Supp. 778, 788 (D. Haw. 1993), *overruled on other grounds by* McClenahan v. Paradise Cruises, Ltd., 888 F. Supp. 120 (D. Haw. 1995).
[89] Kahn v. East Side Union High Sch. Dist., 75 P.3d 30, 38 (Ca. 2003).

protocol was approved by FINA.[90] In a chilling statement, the UAE Swimming Federation Secretary, Saeed Al Hamour, stated that, "We've organized so far 14 competitions and championships and never had any deaths."[91] If an incident has never occurred, how foreseeable are the potential risks for an individual who lacks experience and/or education? Probability is a subjective component that can vary from one person to the next depending on the individual's experience and/or education.[92] Simply because an incident has never occurred does not mean the organization is logically omniscent.[93] By having hard data, such as the effects of heat-related illness during physical activity, the organization can better develop, implement, or manage a risk management plan in a reasonable fashion.[94]

The theory of probability follows that once the frequency of an incident occurring over time becomes small enough, effectively equaling zero, the potential of the incident occurring may be viewed as outside the range of appropriate concern.[95] Thus, the notion of probability is equal to the number of cases that are directly known by the observer to be possible,[96] and the probability lies between possibility and necessity.[97] The theory of probability, in regard to the lack of the development, implementation, and management of risk management, could be the result of the respondents not having previous involvement in litigation, thereby negating the necessity of written risk management plan, even though they indicated the possibility of an injury may occur in the future.

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[90] Nick Eilerson, *Swim Standout Crippen Passes Away Mid-Race*, CAVALIER DAILY (Oct. 25, 2010), *available at* http://www.cavalierdaily.com/2010/10/25/swim-standout-crippen-passes-away-mid-race/.
[91] Craig Lord, *Fran Crippen: Inquiry Must Be Independent*, SWIM NEWS (Oct. 25, 2010), http://www.swimnews.com/news/view/8179.
[92] T.V. Reeves, *A Theory of Probability*, 39 BRITISH J. FOR THE PHILOSOPHY OF SCI. 161, 161 (1988).
[93] John Vickers, *Logic, Probability, and Coherence*, 68 PHILOSOPHY OF SCI. 95, 95 (2001).
[94] Keith Korcz, *The Causal-Doxastic Theory of the Basing Relation*, 30 CANADIAN J. PHILOSOPHY 525, 551 (2000).
[95] *See* NICHOLAS RESCHER, RISK: A PHILOSOPHICAL INTRODUCTION TO THE THEORY OF RISK EVALUATION AND MANAGEMENT (1983).
[96] Reeves, *supra* note 92, at 179.
[97] Vickers, *supra* note 93.

There is not an express legal requirement to practice risk management per se. The risk management process may be viewed as the process of deterring a risk to the point that is regarded by society as acceptable.[98] As a managerial strategy, Sharp, Moorman, and Claussen stated, "The safety and well-being of all your constituents should be one of your core values, and risk management is an important tool to carry out that imperative."[99] Risk management should be used to assist sport event managers in providing a reasonably safe environment for their patrons. As such, risk management may be perceived as constituting a fundamental way in which decisions makers solve problems.[100]

Taken in this light, the decision to conduct an open water swimming contest must fully consider both the "value" dimension and the legal dimension. The implementation of a methodical approach to risk assessment[101] and the implementation of safety measures serve to support the event manager in developing a plan to prevent legal disputes from occurring and intervening when a potentially litigious situation arises.[102] It is somewhat less clear whether having a well-defined process for assessing and addressing risks meets the legal test of reasonableness, and thus providing a valid defense for the lack of such process. It is clear, however, that a formalized approach serves as a "road map" and as evidence of the presence of a risk management plan.[103]

Operationally speaking, when there is not a clearly articulated view of the risk policy and its relationship to overall strategy and policy, risk management becomes ineffective. As such, it

[98] Rao Kolluru, *Risk Assessment and Management: A Unified Approach*, *in Risk Assessment and Management Handbook for Environmental, Health, and Safety Professionals*, 1.3-1.4 (1995).
[99] Linda Sharp et al., SPORT LAW: A MANAGERIAL APPROACH (2007).
[100] Ronald Baron, RISK MANAGEMENT MANUAL (2004).
[101] Betty van der Smissen, *Tort Liability and Risk Management in the Management of Sport: Its Foundation and Application*, 177-98 (Bonnie Parkhouse eds. 2001).
[102] John Miller et al., *Fourth Amendment Considerations and Application of Risk Management Principles for Pat-Down Searches at Professional Football Games*, 20 J. LEGAL ASPECTS OF SPORT 108, 125 (2010).
[103] John Miller & Frank Veltri, *Security Issues in Public Recreation Centers*, 13 J. LEGAL ASPECTS OF SPORT 265, 265 (2003).

is important to emphasize that present-day risk management is developed and implemented as a broad process for assessing and addressing risks—a process in which operational risk management is but one part. Risk management practices identify and assess the broadest possible range of risks in less structured settings.[104] Thus, risk management offers the organizational decision-makers an opportunity to advance a wide-ranging organizational policy for managing risks. Governing bodies of the sports medicine community have published recommendations for minimizing heat illness risk.[105] Yet, although FINA rules set a minimum water temperature for which competitions may be held (16°C, 60.8°F), FINA does not list a maximum temperature. Thus, an event may be cancelled if the water is too cold, but the rules do not provide for a cancellation if the water is too hot.

Risk management institutes a course of action for the continual assessment of risks with the final goal of making it an accepted part of the organizational culture.[106] To accept risk management as part of the organizational culture, there are three key characteristics to consider for its effective application regarding heat-related illnesses. First, top management, such as the FINA rules committee, must be engaged in the establishment of the risk policy. In order to determine the level of safety needed to protect a swimmer's well-being, the upper management should assess a wide number of factors related to the event. Risk factors that may increase the likelihood of experiencing heat-related illness include:

1. Environment - air temperature, combined with humidity, wind speed, and the amount of radiant heat can decrease heat dissipation;

2. Dehydration - thirst is a poor indicator of hydration;

3. Pre-activity hydration status - if alcohol or supplements were consumed;

[104] Miller et al., *supra* note 102, at 108.
[105] Armstrong et al., *supra* note 75.
[106] Miller et al., *supra* note 102; *see also* Peter Young & Steven Tippins, MANAGING BUSINESS RISK: AN ORGANIZATION-WIDE APPROACH TO RISK MANAGEMENT (2000).

4. Acclimatization/fitness levels - individuals not yet acclimatized to the heat or inadequately conditioned are at increased risk;

5. Febrile Illness – athletes who currently or recently exhibit a fever may be at increased risk;

6. Medications – diuretics and stimulants may increase risk; and

7. Sickle Cell Trait **-** presents an increased susceptibility to heat illness.[107]

Second, when attaching responsibility to a risk management decision-making model, administrators must analyze several assessments. The first assessment to be analyzed is the significance of the threat (threat assessment). The second assessment relates to the potential vulnerabilities in and around the sport facility (vulnerability assessment). The third assessment prioritizes the vulnerabilities and implements action to diminish the likelihood of harmful incidences (criticality assessment). Once these assessments have been analyzed, the upper administrator should be able to apply appropriate risk management measures. Should organizational decision-makers overlook the perceived importance of these assessments, lack risk awareness, or simply ignore the need to develop, implement, and enforce safeguards, it may be only a matter of time before an incident, such as Crippen's, happens.[108]

The third key characteristic to consider for risk management application regarding heat-related illnesses involves the risk policies being communicated regularly to all coaches and athletes, especially if they are impacted by outside environmental conditions such as heat. Early recognition and prompt treatment are essential elements to the prevention of morbidity and mortality from heat illness. Although coaches may observe athletes vomiting, becoming fatigued, confused, or agitated, individuals with heatstroke often progress through heat

[107] American Academy of Orthopaedic Surgeons, *Heat Injury and Heat Exhaustion*, http://orthoinfo.aaos.org/topic.cfm?topic=A00319 (last visited Oct. 11, 2011).
[108] Greg Alston, HOW SAFE IS SAFE ENOUGH?, 9 (2003).

exhaustion without recognition of the condition. Coaches and event organizers have a responsibility to not *increase* the risks inherent in the sport.[109] In order to do so, they must be able to foresee potential exposure of harm to the athlete, understand the elements of the risk management plan, as well as how to implement it. This last statement is important because heat illnesses occur most frequently while practicing or playing a sport.[110]

Thematically, risks are often a highly interconnected assortment of items that need to be managed—not just in response to the individual characteristics of a particular risk, but with a specific eye on understanding the interrelationships of all risks in question.[111] Various models of risk management have been put forth to epitomize the relationships between risk perceptions and behavior.[112] For example, John Adams, Emeritus professor at University College London, explored the perception of risk management actions and the response to them.[113] Whereas the traditional, operational view of risk management has tended to consider responses to be uniformly favorable (athletes perceiving that coaches recognize the symptoms of heat-illness), Adams has also shown that perceptions can lead to undesirable responses (athletes eschewing water because they perceive the coach will recognize if they are in trouble and pull them out of the competition).[114]

In the case of heat-related illness, the undesirable responses would most likely be risk mitigation due to misperceptions (athletes do not drink to toughen themselves) or risk shifting

[109] Kahn v. East Side Union H.S. Dist., 75 P.3d at 38 (Cal. 2003).
[110] James Gilchrist et. al., *Heat Illness Among High School Athletes — United States, 2005–2009*, 59 CTRS. FOR DISEASE CONTROL & PREVENTION MORBIDITY AND MORTALITY WEEKLY REPORT 1009, 1009; *see also* Frederick Mueller & Robert Cantu, *Catastrophic Sports Injury Research: Twenty-Sixth Annual Report,* UNIV. N. C. AT CHAPEL HILL NATIONAL CTR. FOR CATASTROPHIC SPORT INJURY RESEARCH (2008), http://www.unc.edu/depts/nccsi/AllSport.pdf; Frederick Mueller & Bob Colgate, *Annual Survey of Football Injury Research: 1938-2008,* UNIV. OF N. C. AT CHAPEL HILL NATIONAL CENTER FOR CATASTROPHIC SPORT INJURY RESEARCH (2009), http://www.unc.edu/depts/nccsi/.
[111] Torben Andersen & Peter Schröder, STRATEGIC RISK MANAGEMENT PRACTICE (2010).
[112] John Adams, RISK (2001); *see also* Paul Slovic & Ellen Peters, *Risk Perception and Affect*, 15 PSYCHOLOGICAL SCI. 322, 322-25 (2006).
[113] *Id.*
[114] *See id.*

from the coaches to the athletes (athletes know how much they should drink, so no supervision is necessary). This insight tends to emphasize that modern risk management not only entails the consideration of the interconnectedness of risks, but also anticipation of what is called "risk reflexivity"—that is, responses to risk management measures do not just occur in favorable terms. Thus, a kind of multi-dimensional game-theory approach to risk management becomes necessary.

Findings of the Commissions

The USA Swimming Commission, chaired by former International Olympic Committee Vice President Richard Pound, was very critical of the non-cooperative attitude of FINA. Issued on April 12, 2011, the essential premise of the USA Commission's report was that, "There must be immediate recognition when a swimmer is struggling or loses consciousness; there must be immediate rescue when loss of consciousness occurs; and there must be immediate resuscitation to address medical emergencies."[115] The report stated no open water plan should be sanctioned unless there was an approved safety plan.[116] Included in that safety plan would be: certified lifeguards with open water experience, the ability to reach distressed swimmers within twenty seconds, a minimum of one safety craft per every twenty swimmers, a communications system with water-to-water, water-to-land, and land-to-water communications, and tracking devices to track athletes in open water races.[117] Finally, regarding temperatures, the USA Commission

[115] *Open Water Review Commission Recommendations,* USA SWIMMING (Apr. 12, 2011), *available at* http://www.usaswimming.org/_Rainbow/Documents/7446603a-b37d-44eb-b8c2-18b5eece7ca3/Open%20Water%20Review%20Commission%20Recommendations.pdf.
[116] *Id.*
[117] *Id.* at 2-3.

recommended the implementation of minimum and maximum water temperatures for open water swimming:

1. If the water temperature is below 16°C (60.8°F), no race can be held;
2. For races of 5K and above, if the water is above 31°C (87.8°F), no race can be held;
3. If the air temperature and water temperature added together in Celsius are less than a total of 30°C, no race can be held; and
4. If the air temperature and water temperature added together in Celsius are greater than 63°C , no race can be held.[118]

Recall, the Fujairah 10K contest was held with water temperature of 31°C (87°F) and air temperature of 38°C (100F°). Thus, the combined water-plus-air temperature for the contest was 69°C, where the new maximum requires cancellation at or about 63°C. Many of the swimmers have concerns over the maximum 31°C. Christine Jennings, who competed at Fujairah said, "Crazy. . . [e]ven 86 degrees is pushing it. You're able to do it if you prepare well. They have some homework to do."[119] Alex Meyer, who led the search for Crippen at Fujairah said, "Outrageous . . . like a lukewarm hot tub."[120]

The FINA Commission noted that the current open water rules were "rather general and should be revised to keep up with the evolution of the sport[.]"[121] For example, under the current rules, there is no mention of the minimum requirements or certifications of safety personnel.[122] Additionally, under the current rules, the host committee are required to provide safety boats, but again there is no mention of the quality of the boats or the certifications and qualifications of the

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[118] *Id.* at 5-6.
[119] Bonnie Ford, *FINA's Lack of Cooperation in Fran Crippen Investigation Leaves Mark*, ESPN.COM (Apr. 13, 2011), http://sports.espn.go.com/oly/swimming/columns/story?columnist=ford_bonnie_d&id=6347356.
[120] *Id.*
[121] *Report: FINA Task Force Report Part 2 - Open Water Swimming in FINA*, FINA.ORG, http://www.fina.org/H2O/docs/report/FCrippen/Report_FC_2.pdf (last visited Apr. 15, 2012).
[122] *Id.*

personnel in charge of the safety boats. The FINA Commission concluded that "the inadequate surveillance and safety measures made it difficult, at times impossible, to recognize and act upon an athlete in distress."[123]

The FINA Commission specifically recommended that FINA should develop a working group to address risk assessment, including developing disaster plans, relocation contingency plans, safety and emergency plans, escort boats and safety boats ratio, safety personnel qualifications, search and rescue plans, and a medical action plan.[124] Presumably, either there were no such plans at Fujairah, or they failed. FINA also addressed maximum and minimum temperatures, recommending a minimum temperature of 18°C (64.4°F) and a maximum temperature of 28°C (82.4°F), with the temperature taken at a depth of 40 cm..[125] Importantly, in order to create a system of checks and balances, the temperature should be measured in the presence of randomly selected coaches, swimmers, or delegates at three different places on the course the day before the race and again before its start.[126] Finally, FINA should look at the combination of the water and air temperature ratios and demand a water quality report from the site to be confirmed by international health organizations.[127] The Task Force noted that the open water rules and regulations need to be revised immediately with an organizational commitment to athlete safety as a top priority stating, "This commitment to athlete safety as a priority extends also to the responsibility of the Federations and needs to be embraced at the level of the coaches and athletes themselves to receive the proper training and education to both demand appropriate race safety measures as well as recognize risk warnings."[128]

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[123] *Report: FINA Task Force Report Part - Francis Crippen*, FINA.ORG, http://www.fina.org/H2O/docs/report/FCrippen/Report_FC_8.pdf (last visited Apr. 15, 2012).
[124] *Id.*
[125] *Id.*
[126] *Id.*
[127] *Id.*
[128] *Id.*

In light of numerous rules "inadequately fulfilled" at Fujairah, FINA has now dropped the UAE from the 10K Marathon Swimming World Cup.[129] FINA may also be taking more actions in light of the tragedy at Fujairah, as FINA, on May 7, 2011, decided to cancel the Grand Prix event at Sumidero Canyon, relying on the recommendation of the FINA Sports Medicine Committee to "not expose its swimmers to unsafe water conditions."[130] This was the first time an event like this was cancelled due to event conditions.

The heat also caused havoc at the recent 2011 FINA World Championships in China. The open water event was conducted in Jinshan City Beach, southwest of Shanghai.[131] The start of the race was moved up, to 6:00 A.M., because of the heat.[132] At the time the race started, the water temperature was already 30.5°C (87°F), just under the suggested guideline maximum of 88°F.[133] When the race ended, the air temperature was 90°F with 68% humidity.[134]

Of the thirty-five men that entered the race, six decided not to start, ten pulled out before the end, and only nineteen finished.[135] Seven of the twenty female starters withdrew.[136] U.S. officials literally forced U.S. swimmer Claire Thompson to stop swimming in fear that she could succumb to heat exhaustion.[137] Valerio Cleri, of Italy, the defending 25K champion, withdrew after four hours saying it was "too hot and too dangerous" to continue.[138] Cleri went on to say,

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[129] Anna Zacharias, *UAE Will not Hold World Swim Meet*, THE NATIONAL (Apr. 24, 2011), http://www.thenational.ae/thenational/news/uae-news/uae-will-not-hold-world-swim-meet.
[130] *PR 26 - Sumidero Canyon leg has been cancelled*, FINA.ORG (Apr. 24, 2011), http://www.fina.org/H2O/index.php?option=com_content&view=article&id=2087:pr-26-sumidero-canyon-leg-has-been-cancelled&catid=275:2011&Itemid=246.
[131] *Jinshan City Beach: Shanghi Sports*, FINA.ORG (Feb. 11, 2010), http://www.shanghai-fina2011.com/13/2011/0210/121.html.
[132] Justin Bergman, *Heat Plays Havoc With Open-Water Racing in China*, ASSOCIATED PRESS (July 23, 2011), http://abcnews.go.com/Sports/wireStory?id=14140704.
[133] *Id.*
[134] *Id.*
[135] *Organisers Criticised for Allowing Races in "Too Hot and Dangerous" Water*, BBC SPORT (July 23, 2011), http://news.bbc.co.uk/sport2/mobile/swimming/14260705.stm.
[136] *Id.*
[137] Mark Ralston, *Officials Drag US Swimmer from 25km Marathon at Worlds*, AFP (July 23, 2011), http://my.news.yahoo.com/officials-drag-us-swimmer-25k-marathon-worlds-053148476.html.
[138] Bergman, *supra* note 132.

"There's not enough attention on the athletes…[t]here should not have been a race here. The jury was irresponsible."[139] Women's champion, Linsy Heister, of the Netherlands, also withdrew. Her coach Marcel Wouda said, "After a long discussion with medical staff, we decided to withdraw Linsy…[i]t is irresponsible to swim for five to six hours in water of about thirty degrees. Besides that its life threatening, it would take a very long recovery afterwards."[140] Wouda also went on to say, "You'd think FINA would have learned an important lesson [with Fran Crippen's death]…I, as a coach, am of the opinion that the swims should be cancelled. This is irresponsible, and I hope other coaches will [follow suit]."[141] Alex Meyer, of the U.S., also pulled out of the race before it began. Meyer, a teammate of Fran Crippen, said, "What's the point in making rules and recommendations if you're just going to blow them off at events like this. . . [i]t's like, did you not learn your lesson? Do you not remember what happened last time?"[142]

Cornel Marculescu, FINA Executive Director, denied any allegations that the conditions were dangerous saying, "In general, in 25K races you have swimmers pulled out. The race was completed in a perfect manner."[143] Julio Maglione, FINA President, dismissed the criticism saying, "All necessary safety measures were taken within the regulations."[144] FINA's liaison for open water swimming, Dennis Miller, also dismissed the criticism saying, FINA has "to take into account how the swimmers are actually looking in the water, how the coaches are feeding the swimmers. It is really the coach's responsibility, their duty to care for their athletes. There were

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[139] *Id.*
[140] *Marcel Wouda Pulls World Champion From World Championships*, OPEN WATER SOURCE (July 21, 2011), http://www.dailynewsofopenwaterswimming.com/2011/07/marcel-wouda-pulls-world-champion-from.html.
[141] *FINA World Championships, Open Water: Swann Oberson, Thomas Lurz Capture 5K Crowns*, SWIMMING WORLD MAGAZINE (July 21, 2011), http://www.swimmingworldmagazine.com/lane9/news/27609.asp.
[142] BBC Sport, *supra* note 135.
[143] Press Association, *Tom Daley and Pete Waterfield in Final at World Championships*, THE GUARDIAN (July 23, 2011), http://www.guardian.co.uk/sport/2011/jul/23/tom-daley-diving-world-championships.
[144] BBC Sport, *supra* note 135.

obviously a group of athletes who were better prepared than others…[t]he majority of the swimmers finished."[145] Meyer, Crippen's teammate, fired back, "And if these Fina [sic] guys say, 'Oh you're not in good shape, you're not a good enough swimmer'…[n]o, it's not because I'm not a good swimmer, it's because it's too hot."[146]

Needless to say, there is a need to revisit the temperature controversy. Dennis Miller, of FINA, emphasized that 88°F degrees was a "guideline…not a rule."[147] After the race, Cornel Marculescu, FINA Executive Director, announced that FINA and the International Olympic Committee are working with a New Zealand university to refine the temperature limits.[148] Marculescu said, "The target is to be ready by the end of this year and it will be included in the rules for 2012 and the Olympics."[149] One can only hope.

PART IV: CONCLUSION

Fujairah was a disaster waiting to happen and happened as a backdrop of warnings went largely unheeded. Unfortunately, it did not result in any changes demanded by coaches, managers, and the swimmers themselves. Although Fran Crippen is the only competitive open water swimmer to have died during a competition, his death was most likely due to the effects of exertional heatstroke.[150] Additionally, heat-related illnesses can incapacitate a person by permanently injuring the brain and other organs. Many similar incidences, including Fran

[145] *Heat Plays Havoc with 25K Open Water Events at World Championships: Open Water Contenders Withdraw*, ASSOCIATED PRESS (June 23, 2011), http://espn.go.com/olympics/swimming/story/_/id/6795536/heat-plays-havoc-25k-open-water-events-world-championships.
[146] BBC Sport, *supra* note 135.
[147] ASSOCIATED PRESS, *supra* note 145.
[148] *Controversy at World Open Water Swimming*, RTE SPORT (July 24, 2011), http://www.rte.ie/sport/swimming/2011/0723/swimming.html.
[149] *Id.*
[150] *Report: FINA Appointed Task Force Part 7—Francis Crippen*, FINA.ORG, http://www.fina.org/H2O/docs/report/Fcrippen/Report_FC_7.pdf.

Crippen's death, may have been preventable if the organizers had understood the foreseeable aspects that indicated that heat-related illnesses would most likely occur. While FINA should have addressed the heat issues and should have been better prepared, Crippen, by all accounts, was a thoughtful and intelligent individual who was concerned about the elevated air and water temperatures in which he and his fellow swimmers had to compete. When he started the race he may have assumed some of the risks, but his decision-making capacity was likely compromised by hyperthermia and hypo-hydration. When assigning responsibility, risk management tends to employ a prospective decision-making model. This model is often applied retrospectively and constructs a moment of decision to draw the "right" conclusions. Dick Pound, former Vice President of the International Olympic Committee, former President of the Canadian Olympic Committee, and Olympic swimmer himself, commented:

> An athlete should never lose his or her life in a sport competition, but when such an incident occurs, it is the duty of the sport community to conduct a thorough and complete review of the situation and factors that may have caused or failed to prevent such a tragedy.[151]

Many of the elite open water swimmers have signed a petition calling for a maximum of 28°C (82.4°F), believing that 31°C is too high.[152] After the fiasco at the 25K event at the 2011 FINA World Championships in Shanghai, U.S. Swimming revised their standards. United States Aquatic Sports ("USAS") is the recognized member federation of FINA and is responsible for the sports of swimming, diving, synchronized swimming, and water polo in the U.S.[153] At the

[151] *Richard Pound to Chair Open Water Review Commission*, USA SWIMMING, (Nov. 9, 2010) http;//www.usaswimming.org/ViewNewsArticle.aspx?Tabld=1&itemid=3045&mid=8712; *Swimming USA Swimming Makes Safety Recommendations after Crippen Death*, ASSOCIATED PRESS, http://www.universalsports.com/news-blogs/article/newsid=529511.html#usa+swimming+releases+report (last visited Apr. 15, 2012).
[152] Bonnie Ford, *Open Water Safety Still an Issue at Worlds*, ESPN.COM (July 18, 2011), http://espn.go.com/blog/olympics/post/_/id/995/open-water-safety-still-an-issue-at-worlds.
[153] *USAS - Who We Are!*, UNITED STATES AQUATIC SPORTS , http://www.usaquaticsports.org/pages/aboutus.htm (last visited Apr, 9, 2012).

2011 USAS Convention, the House of Delegates lowered the maximum temperature from 31°C to 29.45°C (85°F) for all USA Swimming open water events of 5K or longer.[154] Additionally, all host committees are required to have an Independent Safety Monitor to assure that the approved safety plan is implemented and that adequate safety precautions are in place.[155] The Independent Safety Monitor has the authority to withdraw an official sanction if conditions change and become a concern.[156]

The rub in this problem is that, as Dennis Miller of FINA said, the 31°C maximum is a "guideline . . . not a rule."[157] Do the athletes have a "full preference" choice? In order to qualify for the Olympic Games, they have to compete in FINA events. Christine Jennings put it into perspective, "We can't fight it at this point…it sucks. But it's Olympic qualifying and we can't boycott it."[158] Risk management provides a fundamental way in which decision-makers solve problems.[159] Additionally, the duty to provide emergency care requires the education and training of coaches, athletes, and event organizers to be prepared for the foreseeable heat-related illness that happened in the Fujairah open water swimming competition. This requirement creates an emphasis on the top management, such as FINA, to make certain that a reasonably safe environment is provided for the competitors. Thus, risk management generates a cycle of responsibility in the development and effective implementation of risk management. The most tragic fact surrounding heat-related deaths, such as Fran Crippen's, is that the condition can be

[154] *USA Swimming Institutes Open Water Maximum Temperature Requirement*, SWIMMING WORLD MAGAZINE (Sept. 17, 2011), http://www.swimmingworldmagazine.com/lane9/news/OpenWater/28073.asp?q=USA-Swimming-Institutes-Open-Water-Maximum-Temperature-Requirement.
[155] *USA Swimming Passes Open Water Safety, Athlete Petition Legislation at USAS Convention*, SWIMMING WORLD MAGAZINE (Sept. 20, 2011), http://www.swimmingworldmagazine.com/lane9/news/USA/28084.asp?q=USA-Swimming-Passes-Open-Water-Safety,-Athlete-Protection-Legislation-at-USAS-Convention.
[156] *USA Swimming 2012 Rule Book*, USA SWIMMING, http://www.usaswimming.org/_Rainbow/…/2012%20Rule%20Book.pdf (last visited Apr. 15, 2012).
[157] ASSOCIATED PRESS, *supra* note 145.
[158] Ford, *supra* note 152.
[159] Miller et al., *supra* note 102, at 125.

totally averted. Ironically, the preventable nature of heat-related deaths among open water swimmers provides the opportunity to prepare for the potential occurrences and decrease their frequency.