ACTIVITY: Surfing
CASE GSAF 1988.02.13 / SA-363
DATE: Saturday February 13, 1988
LOCATION: The attack took place in the Indian Ocean at Mtunzini, Zululand, 125 kilometres northeast of Durban, KwaZulu-Natal, South Africa. This resort, situated about four kilometres south of the open mouth of the Mlalazi River, has no shark nets.
28°58’S, 31°46’E

NAME: Belinda van Schalkwyk
DESCRIPTION: The surfer, a 15-year-old female, is 1.5 metres tall and weighs 46 kilograms. She did not have her menstrual period and had no injuries before the attack. Clad in a full-piece iridescent black swimsuit, she wore a thin silver chain bracelet and necklace and had a luminous green and orange leash attached to her left ankle.

SURFBOARD: The surfboard, a 1.93-metre trifin, was manufactured by KAS Boards. The upper-surface is white and had three longitudinal stripes in the centre: red, green and yellow. The under-surface is also white with black stripes at the rear of the board. The fins are white.

BACKGROUND
WEATHER: The sky was clear, and there was no wind at the time of the attack.
SEA CONDITIONS: The water was reported to be clear, but “clear” at Mtunzini simply indicates there was no floating debris; water visibility was about two metres. The water was glassy and calm with a 1.2-metre swell, and the attack took place about two hours after mean low tide. The current was flowing in a north-to-south direction and the estimated water temperature was 29.6ºC.
ENVIRONMENT: A deep channel lies between the beach and shorebreak for a distance of ten kilometres at Mtunzini. The attack occurred seaward of the channel, which was estimated to be more than 1.7 metres deep. No dolphins were observed and, although no one was fishing when the incident took place, fishermen had been chumming there for sharks during the previous night and a considerable amount of fish activity was observed just prior to the incident.

As early as 1966 the Mtunzini Town Board entered into correspondence with the Natal Sharks Board requesting shark nets at their beach. At that date there was some confusion regarding the legality of Mtunzini in terms of the Sea Shore Act because the Natal Parks, Game and Fish Preservation Board owned the area adjacent to the Mlalazi Lagoon.

In June 1984 the Mtunzini Town Board once again requested that the Natal Sharks Board install nets. Between October 26 and 12 November 12, 1984 six double shark nets were installed at Mtunzini. During the 18-day period 182 sharks were netted. While it was...
expected that shark catches would be high when the nets were first installed, the number of
sharks caught exceeded all expectations. For example, when nets were first installed at
Richards Bay 237 sharks were caught during the first ten months, an average of 22 sharks
per month.

The Mlalazi estuary, situated three to four kilometres north of Mtunzini, is one of the few
estuaries on the KwaZulu-Natal coast which has an open mouth throughout most of the
year. This allows juvenile fish to move between their nursery area within the estuary out to
the offshore breeding grounds. The rich food supply, higher water temperatures and
comparative protection from predators inside the estuary ensure a high survival rate for a
number of fish species.

This estuary, undamaged by pollution or siltation, has a higher productivity than that of
larger systems such as Richards Bay or Durban. In fact, apart from St Lucia, Mtunzini
represents the only viable inter-estuarine feeding/breeding ground on the north coast of
KwaZulu-Natal/Zululand.

The high productivity of the Mlalazi estuary, combined with the large numbers of
sandsharks and rays which appear on the sandbanks during summer, makes the Mtunzini
nearshore environment attractive to feeding sharks. Of the 33 sharks released alive by the
Natal Sharks Board at Mtunzini during the 18-day period, only three were recaptured which
suggested that there was continual movement of sharks into and out of the area.

The Natal Sharks Board's record of protection has been helped by the fact that along the
KwaZulu-Natal coast the sharks tend to move inshore at night and move out to the deeper
reefs during the day. Most of the sharks caught in the nets are caught at night. This
situation did not apply at Mtunzini, however, where sharks were caught alive in the nets as
late as 11h00 in the morning, possibly due to the fact that they did not have to return to the
deeper reefs to feed during the day because of the vast quantities of food available in the
area.

The species of sharks that were captured, the Java, Zambesi and sandbar, are known to be
inshore sharks prone to frequent inshore channels and estuaries. It was considered highly
probable that nets would not prevent these sharks from entering the channel anywhere
along its length and it was physically impossible to install nets across the channel.

Analysis of stomach contents of netted sharks indicated that they were feeding on scianid
and other estuarine fishes. The sharks were attracted to the estuary mouth to feed, and
once inside the netted area the chances of their moving down the deep channel behind the
shore break and coming into contact with a swimmer or surfer was considered high. The
destruction of the estuarine environment and thereby eliminating its rich food supply would
make the area less attractive to sharks but this was considered to be ecologically
untenable.

Even were nets to be installed, sea conditions at Mtunzini would prevent them from being
adequately maintained. The launch, either from shore or the river mouth, is hazardous, and
when adverse sea conditions prevail no boat can be launched. The commercial fishermen
based at Mtunzini reported that on more than 50 percent of the occasions on which the
Natal Sharks Board had meshed the nets, it was too dangerous for them to go to sea. Only
because of the experienced boat operators of the Board (ie. Senior Field Staff) was it
possible to service the nets 15 out of the 18 days.

Thus no nets were permanently installed at Mtunzini because it was felt that nets would give

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a false sense of security to swimmers; nets would encourage swimmers to venture further into the ocean and stay for longer periods. The installation of nets would entice swimmers to venture through the channel and expose themselves to danger in an area which could not be protected.

**DISTANCE FROM SHORE:** 100 metres  
**DEPTH:** Two metres  
**TIME:** 07h40

**NARRATIVE:** Belinda van Schalkwyk had been in the water for about two and a half hours. She was one of a group of eight surfers resting behind the backline of the surf. One surfer was to her right, the rest were on her left. She was just to the north of the official bathing area and facing seaward. Belinda was relaxing on her board but, because she feared sharks, she was lying motionless on her stomach, her head resting on her arms and her feet up on the board. “I thought if my legs were out of the water, I was safer,” said Belinda, “but now I know that's a joke.”

Suddenly she felt a hard bump on the rear of her board. Thinking that one of the other surfers had bumped her, she turned her head to look. At that moment her board was rammed again and she was flung into the water. The shark bit her left leg, Belinda describes it as three consecutive bites, as if the shark was trying to get a better grip. She screamed, fought and kicked out at the shark as it shook its head and tried to pull her beneath the water. All of the other surfers headed for shore, except two: Andre and Philippe Thevenau. Andre helped Belinda on to her board and shouted to his brother Philippe to help push her to shore.

There is no doubt that what happened next saved Belinda's life. A year earlier Andre had taken a first-aid course at the Natal Technikon and, because so many of the students were surfers, the treatment of a shark attack was included. “Her femoral artery had been severed; blood was pumping out of her leg, and when I put my hand there to feel the wound, the hand just slid down and down. There was hardly any thigh, knee or calf left,” said Andre. “I had to stop the bleeding, but I couldn't get my hand in under her leg to apply pressure at the top of the artery. So I stuck my finger up her leg and into the artery.”

Andre and Philippe paddled Belinda towards the beach, their boards on each side of hers. Andre paddled with his left hand, his right hand, with his finger plugging Belinda's femoral artery, remained in her wound.

“There was a huge shorebreak”, says Belinda, “and we were dumped off our boards.” Swept off her board Belinda was tumbled in the surf; weakened from loss of blood she was unable to swim. “The board's leash nearly snapped my finger and got wound around Belinda's leg”, said Philippe. She was swept seawards but Andre reached her, then waded through metre-deep water carrying her towards the beach. “I wanted to carry her the correct way. I tried to keep her head down but there was no-one to help me, and I kept stumbling”, said Andre.

**INJURY:** The femoral artery had been severed and the hamstrings and gastrocnemius muscles of the surfer's left leg had been removed; along the back of her leg the entire neurovascular bundle had been removed to the bone. The dorsal surface of her right foot was lacerated and there was a series of puncture marks on the sole.
DAMAGE TO SURFBOARD:
There was a small pressure indentation to the rear underside of the surfboard.

FIRST AID: Andre and Belinda reached the shore at 07h45. “We lay her head down with her head towards the waves”, he said, “but her lips were transparent; she looked dead”. He told his brother to bring towels to pack under her leg, “I remember telling him to shake out the sand”. Andre had changed his grip on the wound and used both hands to apply pressure to the artery in her groin. (He exerted so much pressure that he could hardly use his right hand for a week afterwards.) Philippe elevated her left leg to minimize bleeding and, when she complained of thirst, he wet her lips. Someone else held a towel above her face to protect her from the sun. Belinda began to get drowsy but Andre and Philippe shouted at her to stay awake. And although they tried to shield Belinda from the sight of her injury, she saw what remained of her leg. “I’m glad I saw it then,” says Belinda, “I knew at once it could not be saved.”

At 08h00 Lionel van Schoor, the Natal Parks Board warden at Mlalazi, arrived with a shark attack pack and applied a field dressing. Drs Willem Reinecke and Ernst Eiselen arrived a few minutes later and set up intravenous drips. After a 30-minute stabilization period, Belinda was carried to the Parks Board vehicle and taken to the doctors’ consulting rooms. “We had to wait a long time for the ambulance,” she remembers. “The first ambulance sent out lacked oxygen and plasma and we had to wait for another.”

At first Belinda felt no pain. “I was completely numb. It was only when I was taken to the doctor’s rooms, more than 30 minutes after the attack, that my leg began to hurt for the first time, especially when they moved me, and there was a lot of pain as I waited at the hospital for surgery.” Surgery was delayed until she had received six units of blood.

TREATMENT: Belinda was taken to Empangeni War Memorial Hospital where, after receiving blood replacement, her left leg was surgically amputated above the knee. She remained in the hospital for two weeks, during which time she received prophylactic antibiotics. She showed exceptional strength and determination after the attack. “What helped to lessen the shock was realizing, as I lay on the beach, that my leg would probably
have to be amputated."

Within two days of the attack, Belinda took her first step on crutches and by the end of the week she was able to walk up and down stairs. She was discharged from the hospital on February 26, 1988. Her only complaint has been of the phantom pain she experiences. “At times it feels like the toes on my left foot are crossed and I want to untangle them although there is nothing there and sometimes it feels like I have cramps in my missing leg.”

**SPECIES INVOLVED:** No one saw the shark that bit Belinda and she recalls only a grey shape beneath the water, however, tooth fragments, recovered from the wound by NSB researcher Robert Wilson, identified the attacker was a Zambesi shark.

**COMMENT:** Andre and Philippe Thevenau were awarded Wolraad Woltemade Medals for conspicuous bravery.

**SOURCES:** Interviews with Belinda v.Schalkwyk, Philippe Thevenau, Robert Rathgeber, M.D., and Richard Dunning.

**CASE INVESTIGATORS:** Graeme Charter, Beulah Davis, Marie Levine, and Robert B. Wilson.

Belinda Van Schalkwyck & Philippe Thevenau on Belinda’s 16th birthday, one month after the attack

Photo by Marie Levine

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