

## Berkoff Blastoff: Backstroke Revolution

> **T**he Olympics, 1988, Seoul. In the 100-meter backstroke, American David Berkoff – who a month previously at the U.S. Olympic Trials had been the first to swim the distance in less than 55 seconds – lost the race to Japan’s Daichi Suzuki. Spectators were astonished not by Berkoff’s defeat (Suzuki slipped past him in 55.05; Berkoff finished in 55.18) but by the American’s extended underwater kick at the start.

“It’s only natural for swimmers to try the underwater kick,” Berkoff tells *SWIMMER*, “but it was never used in an Olympic race before.”

In a 2007 interview for the online news site, “Timed Finals,” Berkoff said that as a freshman at Harvard, he discovered he could swim backstroke faster by starting with an underwater kick rather than kicking atop the water. “I was goofing around in [an] intrasquad meet,” Berkoff remembers. “I did a 15-meter kick out off the start just to be a goof, and I looked back and saw that I had just smoked everyone.”

Berkoff adds now, “I noticed the difference immediately.”

So how did Berkoff, an above-average swimmer in high school, become the very best in college? “Training,” Berkoff replies. “I always liked to race, but not train.” When he began developing his underwater kick, however, “training became exciting because that was something new. The underwater portion made it fun for me.”

“Dave Berkoff was the most focused and driven athlete I’ve ever coached,” affirms Dick Shoulberg, who first coached Berkoff when the swimmer was an 8-year-old student at Germantown Academy in Fort Washington, Pa. After Berkoff changed schools and eventually attended Harvard, he “came back here in the summers



“**DAVID BERKOFF** methodically knew what to do to be a world-class athlete,” his former coach Dick Shoulberg says. “His intuition was excellent.”

Photo courtesy of Harvard Athletic Communications

to train with me,” explains Shoulberg, head coach of the academy’s swim team since 1969.

The summer of 1987 changed everything for Berkoff, and Shoulberg knew it. “That summer, I gave Dave a tremendous amount of backstroke training, so that he’d be ready for the Trials in August 1988,” Shoulberg says. “Dave built a good base for backstroke; it was his major foundation for Seoul. I told my wife – and I rarely talk to her about swimming – ‘Dave Berkoff will make the Olympics.’”

When asked what training Berkoff did to perfect his underwater kick, Shoulberg demurs. “The credit there goes to Joe Bernal, Dave’s coach at Harvard.”

“The first time Dave tried the underwater kick,” reflects Bernal – now director and head coach of Bernal’s Gator Swim Club in the Greater Boston area – “was

at the NCAA championships in 1986, in Indianapolis. He wasn’t as exceptional as we thought he’d be. In fact, another coach said to me, ‘Joe, what are you trying to do – kill him?’”

When Berkoff later injured his shoulder during weight training, Bernal focused Berkoff’s training on kicking exercises. “I had Dave do butterfly kick, then breaststroke kick and then backstroke kick,” Bernal says. “It was then that we started to explore the possibility of how far you could kick [underwater during backstroke], with no limit on the distance. It became a training regimen.”

Perfecting the underwater kick took “lots of practice, and a lot of trial and error,” Berkoff says. “We figured out the best speed at underwater effort levels.” Only after “a slow progression and evolution” did Berkoff achieve optimal performance with the technique.

After the 1988 Olympics, FINA banned the underwater kick as Berkoff had done it, limiting the amount of time underwater to 10 meters off the start and each turn, at which point the swimmer must surface (the rule has since been changed to 15 meters off the start).

FINA blamed safety concerns for the Berkoff blastoff ban. But Berkoff thought otherwise, as he told *Timed Finals*: “At that time, FINA was dominated by Eastern Bloc/European countries that had been completely left behind in the dolphin kick revolution ... I think it was very clear the ruling was against American swimming and was an attempt by officials to try and control swimming instead of leaving it to the swimmers and coaches.”

Despite the ban, Berkoff’s underwater blastoff persists in swimming history as a technique revolution. <<<

### BLAST FROM THE PAST

>>> Born in 1966 near Philadelphia, David Berkoff began swimming at about 6.

>>> Berkoff perfected his blastoff technique until he was able to kick out, underwater, up to 35 meters. Joe Bernal says, “I saw one other backstroker kick underwater, Jesse Vassallo (the first Puerto Rican inducted into the International Swimming Hall of Fame), but it was nothing to the degree of what Dave did.”

>>> “The underwater kick was prevalent in high school and USA Swimming from about 1982 on,” *SWIMMER* Editor Bill Volckening remarks. “All of the backstrokers on the Peddie School swim team (my school) in Highstown, N.J., did it, and it was usually accompanied by a stand-up backstroke start, which is now illegal.”

>>> Bernal notes that the truly unique element of the Berkoff blastoff was Berkoff’s underwater turn. “He turned on his side, not vertically.”

>>> Bernal’s training regimen for Berkoff included trips to the Boston Aquarium, where coach and swimmer looked at how porpoises angled their kicks to generate speed at the bottom of their tank, as well as conversations with the U.S. Coast Guard, at that time studying how submarines are submerged and angled for forward movement. “Dave went through a great deal of training,” Bernal says.

>>> “We were breaking new ground,” Berkoff says. “It’s well-known now how fast the underwater kick should be, because we did it. We started from scratch.” He adds, “New discoveries that can be made, like that, make swimming fun.”

>>> Today, Berkoff practices law in Missoula, Mont.