

Riding Hot

by Kurt Arehart, August 2023

Kurt was laying on the spotty, lumpy grass under a tree, head slightly downslope, wondering if more insects were climbing up from reddish clay or dropping down from the leaves overhead. It didn't really matter. Here he would stay until his lightheadedness eased a bit so he could wander the rest stop in search of restorative fuel and drink.

"Damn", he thought, "it had happened again." Sure, it was a hot day, and there had been a few tough climbs fully exposed to the sun. But to find himself on the point of passing out, and now down on his back under a tree, again, was alarming. "Is this where sixty-eight years has brought me?"

An ant walked his arm. A fly buzzed his ear. "Have at it boys", he murmured.

It had been a winter and spring loaded with fun travels but now the Raleigh summer stretched before him unbroken. No bike tours till September. No road trips till October. Two months of hot, humid days with no likely relief were ahead.

Into this gloomy prospect the promotional email came. CNC's (Cycle North Carolina's) annual Mountain Weekend was scheduled for early August and was to be based in Chimney Rock along Lake Lure. This is pretty, dramatic country with granite cliffs rising eleven hundred feet above the lake, and with air generally drier and ten degrees cooler than Raleigh. Sure, the area can be a tourist trap. Yes, the Chimney Rock State Park gift shop had had a fine selection of rubber tomahawks and Minnetonka moccasins when Kurt had visited with his family more that twenty years back. Yes, the little village of Chimney Rock immediately outside the gate of the state park was the usual collection of over-priced galleries, gemstone shops, amusement parks, breakfast joints and saloons found near the entrance to many popular state and national parks. But Kurt had never really toured the area by bike, and some of the roads were likely to be quite beautiful.

The empty calendar of an unbroken summer in Raleigh yawned at him, and Kurt decided to sign on. He had not done any serious road riding in steep terrain in several months. But his road bike was equipped with unusually helpful climbing gears. How hard could it be?

One week before the CNC Mountain Weekend at Lake Lure, still home in Raleigh, Kurt was out with Brian and Heidi for a Sunday morning ride, twenty-five miles to a local coffee shop and

back. A warm, humid day was expected and the group agreed to an 8:30 AM start, not always an easy sell with working friends who might enjoy a bit of a weekend sleep-in.

Five miles in, the road turned up and Kurt started to notice the heat and humidity. They hit a piece of the climb that was heavily trafficked and picked up the pace to gain a quieter road quickly. Now Kurt was really feeling the heat. He decided to maintain pace, stay on Heidi's wheel, and get off the busy road before calling a halt to take an Endurolyte, an electrolyte capsule.

Too late. When they rolled into some shade on the quiet side road, Kurt did indeed take the capsule. Then he noticed some light-headedness. And the "pre-bonk" symptoms of sore shoulders, neck and back. Not one to indulge in denial, he laid down on the grass with his head a bit down slope. In this grassy shade he rested for a few minutes and felt noticeably better. Getting up carefully, and no longer feeling light-headed, Kurt rode on with his friends and finished the ride without further incident.

Yet this was concerning. They weren't riding very hard. The terrain was hilly but not excessive. The morning was warming up, and the humidity was quite noticeable, but none of this should have put Kurt on his back under a tree. Heidi, a Physician's Assistant, had stood over him and, given Kurt's family history of heart trouble, suggested a visit to his General Practitioner for an electro-cardiogram, maybe even a stress test.

Heidi: "I use an electrolyte supplement in my water bottles. This way I am replacing these key minerals constantly. Maybe you should try that."

Kurt, still laying on his back trying to recover: "Naw, I hate how sticky that stuff can be. Gets all over my bike. Water and an occasional Endurolyte capsule ought to do the trick. I just didn't take it soon enough."

Laying on his back, Kurt missed seeing Heidi's slight eye-roll.

But he did follow her advice and call for an appointment with his General Practitioner. Dr. Foreman was out on vacation, so the visit was scheduled for the week following the CNC Mountain Weekend. Kurt would just have to go easy up there in that cool mountain air.

Being a man of retired leisure, Kurt took his time driving west into the North Carolina mountains and up to Lake Lure. The record-breaking heat of 2023 was hard to ignore as Kurt got out of his car at Morse Park on the south shore of the lake to check-in for the weekend event. His panama hat was a life saver as he roamed the baking campground searching for the registration tent. Kurt had thought about doing a fifteen mile welcome ride Friday afternoon, but with temperatures well into the nineties at Lake Lure, that seemed a bad idea. So, he checked in, got his event bracelet clicked into place, and decided to drive up into the village of Chimney

Rock to find his motel room for the weekend. The big Saturday ride, sixty-three miles, starting from the base camp at eight A.M., would come soon enough.

An old, well-used motel room with considerable deferred maintenance can inspire a variety of emotions. Kurt felt gratitude. The window-mount air conditioner was noisy but seemed to be working. This, all by itself, was gold. Kurt thought of the hundreds of ride participants baking in their tents down at Morse Park along the lakeshore, and easily overlooked the general mustiness, inadequate water pressure and comically mis-matched utensils in the little kitchen. This was paradise.

Kurt rose Saturday morning with plenty of time to do the minimum stretching ritual, eat a decent breakfast, consider what passed for coffee in the motel office, and roll down the two mile grade to the Morse Park base camp ten minutes ahead of the ride start. There he found forty riders already astride their bikes waiting for the course to open for the day, while twice as many milled about making last minute preparations and still more were at their tents getting sorted out. Kurt had been registrant number four-hundred and ninety-three, so he expected plenty of riders on the road.

At some unseen signal the lead riders rolled out, and the day was under way. Kurt waited thirty seconds to let the most tightly-wound enthusiasts, the riders who behaved as if this was some sort of race, clear out. Even so, as Kurt eased onto Memorial Highway, eastbound along the lake shore, he found himself in with at least fifty cyclists, each an unknown entity, most carefully scanning the group, seeking to settle into a safe and comfortable starting pace.

At eight A.M. on a Saturday, Memorial Highway had little car traffic, and so the bunch of riders did not string out immediately, riding two and three abreast as the road rose and fell, curling along the lake shore or rising over a minor ridge. Some riders backed off, others surged and the group of fifty remained loosely intact and in constant flux.

A longer climb finally strung the group out and Kurt began to recognize little knots of riders who showed experience and appropriate caution. He noted a couple with matching jerseys and another strong woman in a blue sleeveless top, riding as three, clearly together. Kurt found it easy and natural to match in with them as the line of riders ebbed and flowed up and down the minor grades along the lake. Then came a longer climb followed by a fast and curving descent. Riding in close quarters with an unknown group through fast corners is a time for high alert.

Kurt, directed to the three he had marked: "Descending with ten of our best friends... that we never met before!"

Blue Sleeveless: "I know, right??"

Having survived the fast descent in close quarters, Kurt climbed along with the three.

Blue Sleeveless: "I'm Andrea, and this is Bart and Susie."

Kurt: "Oh, hi, I'm Kurt, thanks for letting me sit in with you all"

Andrea, Bart and Susie had come to the weekend from Atlanta, and continued to show good bike handling and judgment plus a tendency to ride a pace Kurt liked. It might be fun to spend the day with them.

Kurt climbed past a knot of riders and found the three did not follow immediately, and so arrived at the first rest stop a minute ahead. His sunglasses fogged-over immediately. The humidity must be quite high. Kurt took his time topping his bottles with straight water, ate a peanut butter and jelly sandwich and ducked into a portajon. He looked about for Andrea, Bart and Susie, and saw them rolling out.

"Andrea! Don't leave me!" This in a playful high wail of feigned desperation, and a hand reached out beseechingly.

Andrea: "Kurt, come on!"

"Go ahead! I'll catch on!"

Two minutes later Kurt was rolling. Thinking it would be nice to latch onto the three again, he picked up his pace a little. The day was warming towards a predicted ninety-six degrees, and Kurt's sunglasses were slow clearing as the humid air allowed little evaporation. After one or two climbs a bit too fast, Kurt started to notice the heat.

Catching Andrea, Bart and Susie was no longer a priority. Now it was about staying out of heat trouble. Kurt began to notice a scorched feeling in his lungs, a noticeable drop in energy, and the beginnings of aches in neck and shoulders. Damn. Only twenty miles into a sixty-three mile day, and already he was in trouble. He backed his effort down, drank a lot, and sought to recover.

But the heat kept building, while the humidity fell too slowly. By noon, it was nearly impossible for Kurt to manage a sun-baked climb without returning to the lung scorched weakness signaling danger.

He made it to the afternoon rest stop, situated at a very nice winery with an outdoor cafe. Leaning his bike against a tree and feeling faint, he drank off his last water bottle and laid down under the shade of a tree before he fell down, ants be damned.

Kurt had the beginnings of "volume shock", where his blood volume fell to a point that his brain was not getting enough oxygen to function well.

Here are the mechanics: The fluid component of blood can migrate between vascular space (blood in the vessel), extracellular space (space between individual tissue cells) and intracellular space (space inside an individual tissue cell). As we sweat to cool ourselves, the fluid loss is pulled from vascular space into the extra- and intracellular spaces. So our blood volume falls. We can offset this by drinking plenty of water and taking in replacement electrolytes. When we don't drink enough, blood volume falls, and so the return volume to the heart, known as "preload", is reduced and the heart must pump harder to achieve less. The result: less oxygen to all tissues, with the brain being the most immediately sensitive. Pre-blackout symptoms are not far behind.

Kurt was drinking straight water, which helped the blood volume problem, but did nothing to keep his electrolytes (sodium, potassium, chloride, magnesium, calcium, phosphate, and bicarbonate, that must be present in the blood), at good levels. He was losing these key minerals and not doing enough to replace them.

The high humidity made it worse. In humid air, sweat evaporates more slowly or maybe not at all, so there is little or no evaporative cooling. The body reacts by sweating more. And blood volume plummets while more electrolytes are lost.

Kurt was well aware of sports drinks containing electrolytes, but avoided them. "I'm not racing. I always ride at a comfortable pace, so why bother with the stuff?", he reasoned. And, being a bit too German, he really didn't like sticky sports drink all over his water bottles, his bike, and himself.

Clearly it was time to rethink all this. A bit of stickiness is nothing compared to the discomfort and hazard of becoming dangerously dehydrated.

Another serious danger: when the brain gets less oxygen, higher brain function starts to slip. Personality, judgment and problem solving are impacted. Even with clear warning signs, we might choose to press on, to finish the tough hill, to reel-in that pesky riding buddy. The result: even less blood volume, less oxygen to the brain, less good judgment. And that could cause Kurt to react poorly to a surprise on the road leading to a high speed crash with catastrophic injury. Certainly nothing to play with.

Feeling a bit better, Kurt brushed off the few ants exploring him, slowly sat up, then stood up. Moving with slow care, he made his way to the rest stop's food and drink station. Still a bit foggy, Kurt selected a cold can of Coke and small bag of salty potato chips and found a shady seat at an outdoor table. These went down quickly as he chatted with riders who were giving up for the day due to the heat, and awaiting space in a shuttle back to the camp at Morse Park.

Another Coke and bag of chips sounded great, and this time Kurt added a small container of pickle juice, a sodium jolt popular with some riders. Over the course of an hour eating and

drinking in the shade, Kurt returned to feeling quite solid. No trace of the dizzy weakness that had him on his back when he first arrived. The remaining eighteen miles to the finish seemed quite reasonable, even in the ninety-six degree heat. No shuttle ride for him.

Still insisting on straight water in his bottles, Kurt took his third Endurolyte capsule of the day and set out alone under a hard sun. The rest stop at the winery involved a hilly gravel track and Kurt noted several riders just arriving as he and a handful of others made their way back out to the paved road to continue the day's route.

Shade was sparse and the sun hard, so Kurt was very careful with the following climbs. He had no desire to return to the weakened state he had suffered just an hour before. After four miles came a serious climb with very little shade. Kurt spied a patch of shade and decided to stop for a breather. This game was all about managing heat. Conquering the hill without a stop seemed a silly goal under these conditions.

Another rider climbed by and Kurt thought he might stop in the shade too. There was certainly space enough. But, in obvious discomfort he chugged on.

Kurt called out in comic, high nasally petulance, "MY shade-patch! MINE!" The climber gave no sign of amusement. He might even have thought Kurt serious in his turf claim. Here was a fellow maybe on his way to volume shock. But he was no quitter.

A few minutes more and Kurt clicked-in, resuming the sun-baked climb, curling sharply up and to the right to gain a notch into the next valley west. Near the top the road curved left and Kurt saw another shade patch, this one with a rider standing by his bike, cooling down. As he climbed nearer he saw a second rider, down on the grassy shoulder. Kurt stopped. He took note of the bike lying on its side beside its owner. A longish wheelbase and treaded forty-millimeter tires. On top of the high heat and humidity this poor chap was pushing a heavy gravel bike around the route. No surprise he was on the ground.

"How we doin'? Need any help?"

The standing rider: "He's just a little light-headed. I think he'll be OK."

"Need any water? I've a spare Endurolyte capsule if you want one."

Rider on the ground: "Naw, I just need to cool down for a little while longer."

Kurt could see that this fellow didn't really know what he needed, but might be hard to reason with in his current state. "If you swing around so your head is down-slope, you'll feel better sooner. Got to get some blood into that head."

The rider on the ground considered this for a few seconds, then shifted himself accordingly.

“I was on my back in the shade at the winery, so I know how you are feeling.”

Rider on the ground, with head down-slope: “Yeah, this does feel better. Thanks.”

Kurt: “A few years back I took a one-week Wilderness First Responder course, and I learned when you sweat a lot and don’t drink enough you lose blood volume and not enough oxygen gets to your brain.”

The rider on the ground accepted this without comment.

Kurt: “Take your time here and wait until you feel really solid before getting up. You guys gonna be OK here?”

Standing rider: “Yeah, I think we’re good. Thanks!”

Kurt clicked in, feeling stronger with the extra break in the shade. He climbed past a few more riders struggling with the grade, topped out, and continued carefully on the rolling terrain toward the finish.

The heat at the Morse Park finish was oppressive. Kurt looked around for a cold drink. He still had a two mile climb back up to the village of Chimney Rock and his motel room, and as the heat worked on him, this loomed as a big effort. He found an aid shelter where an on-duty mechanic lounged in the shade of a tree along with an event support staffer. The staffer offered a cold bottle of sports drink and an energy bar and Kurt gratefully accepted both, sitting down in the grass to swap stories and pass a little time.

Twenty minutes later Kurt was back to feeling strong, and the two mile rise up into Chimney Rock sounded easy enough. Approaching the village, traffic was stopped dead as huge SUV’s hovered for scarce parking. The heat radiating off the asphalt had to be near one-hundred and thirty degrees and the idling vehicles made it hotter still as Kurt threaded through the stopped tourist’s cars on his bike.

He cringed to imagine how he’d have felt had he not rested and refueled down at Morse Park before absorbing this last heat insult for the day.

A week earlier, as he lay on the grass, Heidi had told him about Nuun, the electrolyte supplement she used in her bottles when riding. And a week after, Dr. Foreman spoke of Liquid IV, the supplement he uses in his hydration pack when mountain biking.

Kurt ordered-up a supply of both.

They ARE a bit sticky. And Kurt has been riding strong in heat and humidity ever since.