bors with it. Hold that thought.

Water also sticks to other substances. If you stick the tip of a very thin glass tube into a pool of water, water will "climb" up into the tube because of the attraction of the water's hydrogen atoms to the oxygen atoms in the glass. This attraction is strong enough to overcome gravity up to a point, and as the first molecules make their ascent, they tug on the ones behind them. In a laboratory, these tiny glass vessels are called "capillary" tubes, just as our thinnest blood vessels are called capillaries.

You've no doubt witnessed the effect of dipping the corner of a paper towel into a puddle of water—the water flows upward into the towel's fibers until it can no longer overcome gravity. The paper towel isn't composed of glass tubes, but it is *hydrophilic*—literally, it "loves water"—and there is a similar attraction between the molecules of the towel and those of the water.

The distance water can travel upward in this fashion is a function of how much weight the surface tension at the top has to pull along. In a very thin space there is a great deal of adhesion area, relative to the amount of water dragged upward. If you look at the top of the water in a tube you can see it curving upward at the edges, where it's "trying" to crawl up the sides. A minuscule glass tube or a paper-thin plane of wood fibers maximizes upward fluid movement because more molecules are pulling and fewer are being suspended in-between. Water isn't the only liquid that behaves this way, but its stickiness makes it especially well-suited for this activity.

The problem with cotton is that all of its fuzzy little fibers create a microscopic maze of pathways through which a fluid has to find its way. The fact that this slows down the movement makes cotton wonderfully absorbent—great in a towel for mopping the bathwater off our bodies or holding water in a washcloth. But when it comes to getting rid of the absorbed water, cotton can do so only slowly. Threads of polyester, in contrast, present water with a zillion smooth, continuous surfaces, allowing it to spread out further, faster, and thinner, and evaporate much more quickly and easily. It can also be woven in such a way as to greatly multiply the surface areas and minimize the distance from one surface to the next—for instance, a single visible strand may actually be composed of numerous filaments wound together in an arrangement specifically designed for exactly this function. At the same time, advanced textile engineering can maximize airflow through the fabric to enhance evaporative cooling and reduce its tendency to suffocate the skin below (and trap water vapor).

Note the variety of cuts in these various men's briefs, which can make a big difference in their relative comfort when you ride, particularly in terms of leg room and crotch coverage. Compare these designs to your favorite cotton styles for reference.

Old school polyester wasn't built with these strategies in mind; the goals of the day had more to do with easy care (no ironing) and a satin-like appearance. The cost was clothing that felt like wearing a diver's wet suit. Modern polyester fabrics combine superior capillary action and ventilation with a variety of tactile feels, ranging from fine silk to something almost indistinguishable from cotton. They're still much more resistant to wrinkling than cotton, and survive tight packing without looking like a crumpled paper bag until their next washing. Better yet, what wrinkles do occur with these synthetics relax into invisibility from the warmth of your body within a short period. Also, if you're trying to pack light, these can be washed/rinsed and dried much more quickly and thoroughly than cotton, allowing you to take fewer changes of clothes.

However, all these advantages don't come cheaply. In fact, you may find the prices on some of these garments shocking, compared to their prosaic cotton counterparts. But if you think of them as highly engineered riding gear that will make your hot-weather rides a lot more comfortable, their higher prices simply parallel the differences between what you'd pay for a jacket meant for hanging out in the park, and one meant for braving the elements and resisting road contact during a motorcycle ride.

Be careful, though, because you might just find these garments feel so comfortable that you'll want to replace your whole underwear drawer of everyday cotton stuff with them, too.

And wicking is a wonderful characteristic for your first layer in cold weather, too, since we inevitably end up sweating inside heavy insulated clothing during times of peak exertion. Even without evaporative cooling, the polyester microfilaments will carry moisture away from your body (to be absorbed by the next layer of clothing) so you'll feel drier.

SOURCES

Columbia Sportswear Company—
www.columbia.com; 14375 NW Science Park Dr., Portland, OR 97229; (503) 985-4000.

DuoFold—
www.duofold.com; 531 Northridge Park Dr., Rural Hall, NC 27045; (800) 994-4348.

Ex Officio—
www.exofficio.com; Gateway North Corporate Park, 3314 South 116th St., Tukwilla, WA 98168; (800) 644-7303.

The North Face, Inc.—
www.thenorthface.com; 2013 Farillon Dr., San Leandro, CA 94577; (800) 447-2333.

Patagonia—
www.patagonia.com; 8550 White Fir St., P.O. Box 32050, Reno, NV 89523; (800) 638-6464.

RideHide—
www.ridehide.com; P.O. Box 855, Oaks, PA 19456; (484) 433-6802.

Wickers America, Inc.—
www.wickers.com; 340 Veterans Hwy., Commack, NY 11728; (800) 648-7024.