Everybody Falls

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Whenever we conduct the IPMBA Police Cyclist course at Ft. Lauderdale PD, we are fortunate to be allotted 40 hours instead of the standard 32. We use the extra eight hours for additional cone practice, urban riding, and falling techniques. We are frequently asked why we teach students to fall when the point of the class is to make them better riders. The answer is simple – for their safety. If riders know and understand the dynamics of falling, they can fall in such a manner that the risk of injury is minimized. Therefore, we conduct the falling techniques session on the first day of the course, prior to any riding.

The first step toward minimizing the risk of injury is to become familiar with the three most common fall types. The first, the sidefall, results from an attempt to push the rider off of the bike. The other two are variations of the "endo", or "end over handle bars." Most riders have already or will someday become members of the "endo club", especially those who ride outside of work. An "endo" typically results when the bike's front tire strikes an object and stops instantly, but the rider keeps going over the handle bars. The other type of "endo" occurs when the front tire gets turned sharply to the left or right, causing the bike to stop suddenly and the back end to kick up. One leg typically gets pinned between the top tube and the turned handle bars, and the rider goes over the handle bars. The difference is that the rider becomes entangled in the bike, and it falls, too.

To prepare for a sidefall, think about the dynamics of a bike falling to one side. If you allow a bike to fall over, the handlebar end and the pedal will strike the ground first, leaving a gap between the bike and the ground. This gap can be used to your advantage during a sidefall. As the bike goes down, tuck your elbow and knee in towards the bike (the side going to the ground), and attempt to lean in the opposite direction of the fall. The handlebar end and the pedal will take the brunt of the impact, and once on the ground, you can use the momentum of the fall to roll with it. We recommend that you keep your feet in/on the pedals and maintain control of the bike as you land and roll, in case your fall is caused by a shove. If you keep control of the bike, you will be able to use the bike as a barrier until you can stand and engage your attacker, or shove the bike away and go into a ground fighting maneuver if required.

To prepare for the typical endo, think about what is happening to you. You are doing an airborne somersault that you are not able to stop, so you tend to grasp the handlebars tightly as you begin to flip over them. Instead, as you are going over the handlebars, let go and bring your hand/arms to your chest and upper torso. As your legs come over your head, straighten them out, and when you land, keep them straight, allowing the rear, backs of the thighs, and calves to take the impact. If you bend your legs upon landing, you run the risk of striking your nose against your knees as your head bobs forward. Tucking your arms/hands to your body will curb the tendency to extend them to catch yourself, which can result in a broken wrist or arm.

In the case of the other type of endo, when your leg is pinned to the bike, you will not be thrown as much; rather, you will head face first into the ground and your torso will land on the bike. We teach you to reduce the impact by "bridging" your body. As you are going down, remove your feet from the pedal retention devices. Position your forearms parallel to the ground and clench your hands into fists. Clenching tightens the forearm muscles, making them bulkier. As your body comes down, land so that your toes and forearms strike the ground, forcing your rear into the air, forming a "bridge" over the bike. Angle your forearms in slightly, and turn your head to either side to prevent your face from hitting the ground or your clenched hands. This "bridge" position will prevent you from landing directly on the bike.

This all sounds like a lot to think about when you are falling, but with practice, the movements become second nature. Our students practice sidefalls by landing on wrestling mats borrowed from a high school. Endos cannot really be practiced, so we simulate them as well as we can using the wrestling mats and a high jump/pole vault mat approximately three feet thick. We practice "regular" endos by having the students run up to the mat, plant their clenched hands, flip their legs over their heads (a mid-air somersault), and land on their rears, legs straight out and arms/hands tucked to their chests. We practice the other type of endo by getting the students comfortable with the "bridging" maneuver, by falling from a standing position and landing on a mat. We then have each student straddle the bike and, maintaining control of the bike, we lift up its rear, sending the rider forward so he or she can bridge over the bike. This exercise gives the students a sense of this type of fall and landing.

We have found that teaching these maneuvers has greatly reduced injuries, especially during training. At the recent conference in Cincinnati, my partner and I were invited to conduct two sessions of *Minimizing the Impact of Bicycle Crashes*, which focuses on these falling techniques. Those who attended found the maneuvers to be very useful in learning how to react to falls and reduce the risk of injury. If you would like more information about these falling techniques, please contact me at SKHick16@aol.com. I hope to repeat the workshop at the 12th Annual Police on Bikes Conference, May 9-11, 2002, in Odgen, Utah.

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