

In one of the instances where our airbag deployed and the rider benefited, the gentleman was not wearing a helmet, jacket, boots or gloves when he went down. Though he walked away without a scratch, we strongly advise against having so little physical protection, because you could be hit by another vehicle, run over radiator fluid and slide or lose traction riding over gravel. Not getting hurt is also key to enjoying your vehicle. I imagine that we, and possibly others, will introduce airbags to more products in the future, but the market will ultimately decide. So far there haven't been many deployments, so there are not a lot of people walking into a shop and saying my next bike will have an airbag, because I know three people whose lives they've saved.

While we do plan on putting airbags in other models, it isn't practical to put it in every motorcycle. A touring bike is the easiest and most logical, since a rider racks up lots of miles, is exposed to more traffic and rides upright. There are also lots of places to store an airbag on a touring vehicle. On a super sport motorcycle, for instance, your chest would be directly over the airbag, so we'd have to figure out a different place to put it and have it still do the job we intended.

I've been riding since 1967. I'm also an off-roader, which requires periodic "soil sampling." Though I can't comment on them professionally, some of the new safety equipment has me quite fascinated, such as inflatable jackets, or these foams that you can put on that conform to your body shape. If you push on them slowly, they'll deform, but hit them with a hammer or sharp instrument and they're quite hard. I've gotten bruised, banded and beat up, so I'm exploring all the protection I can get.

When I got married 13 years ago, my wife to be, Sheri, and I rode up to our wedding at South Coast Plaza on GoldWings. She was on a white one as a passenger driven by my friend and coworker, and I arrived on a black one. Then she and I rode into the sunset or something like that—on my black Gold Wing. Sheri is also a motorcycle enthusiast. On the professional side, I've worked in the motorcycle division at Honda for 34 years. It's been a good ride. ■

by Jon Row

Jon Row is the manager of Honda Motorcycle's Press Division.

For information visit:  
Motorcycle Industry Council in Irvine  
[www.mic.org](http://www.mic.org)  
Motorcycle Safety Foundation  
[www.msf-us.org](http://www.msf-us.org)

## USE YOUR HEAD

It's fairly obvious why wearing a helmet is a good idea when riding off on your iron horse. Helmets are a key element of your gear. They represent your last line of defense when all your skill, training and luck fail to keep you out of harm's way.

Crash helmets work by absorbing the impact generated by a fall, reducing the shock transmitted to the brain. In the process, they crush and crack, and are themselves destroyed in order to protect your precious cargo. A good helmet is like a good braking system: It's job is to bring you to a gentle stop, rather than an abrupt one, and avoid having your brain slam against your skull, potentially causing severe injury.

Motorcycle crash helmet design has been around more than 50 years. While design philosophies remain fairly constant, advances in materials as well as manufacturing techniques, have resulted in helmets that are lighter, more protective and comfortable.

Picking the best one for you can be challenging. Over my 20 years of working with helmets and head safety, I find that there are a number of questions that often come up in the search for the right helmet. With some basic knowledge and research, you can choose the best one for you.

## SAYS WHO?

A helmet's primary duty is protection, so it stands to reason that how it will perform in a crash should be a top priority. All helmets sold in the United States for use while riding a motorcycle on public roadways and lands are required to meet the specifications of the U.S. Department of Transportation's Federal Motor Vehicle Safety Standard 218 (DOT FMVSS218). These standards were put into effect in 1973, and are considered to be the most minimal requirements. The other major helmet standards in the US are published and monitored by the Snell Memorial Foundation, which is where I've worked these last 20 years.

A non-profit organization, Snell has been testing protective headgear, and publishing helmet standards for more than five decades. We're considered one of the world's leading experts in this arena. We reevaluate, revise and republish our helmet standards roughly every five years, which we hope will encourage manufacturers to continually improve their products. Our most recent Snell

standard for protective motorcycle headgear (M2005) was published in 2005.

So what's the difference between a helmet that meets DOT standards and one that meets ours? First off DOT's testing requirements are less rigorous, particularly in the area of impact management. In short, Snell hits the helmet harder and insists that less energy impact the brain. DOT tends to operate on the honor system: A helmet manufacturer determines if a helmet meets DOT standards, and is supposed to be able to show that that helmet has been tested—*if* DOT ever asks them to. Snell, on the other hand, demands extensive certification, as well as follow-up testing, to ensure that helmets continue to meet standard requirements.

### FASHION FORWARD

Helmets come in a range of styles, based on the type of rider who will use them, and the environments in which they'll be used. There are full-face helmets, open-face helmets, off-road or dirt-bike helmets and flip-up or modular-style helmets. Many riders wear full-face or full-coverage helmets, because they offer facial protection through the addition of an integral chin guard. They are also generally equipped with face shields to protect them from small projectiles, such as rocks that get kicked up by other vehicles, dust, wind and rain. Some riders still opt for open-face styles. These come in open face three quarter helmet and half helmet coverage, as well as beanie style, but offer no facial protection. Snell certifies some open-face styles, but only DOT certifies half helmet coverage. For the increased air flow, open-face helmets are sometimes preferred during hot weather. Most beanie-type helmets are not 'street legal,' as they do not even meet DOT requirements.

Dirt-bike or off-road-style helmets are used for many types of off-road activities on bikes and All Terrain Vehicles (ATVs). These are generally equipped with a chin guard as are full-face helmets, but are made to be used with goggles and do not have integral face shields.

Finally, there are the newest designs: the modular or flip-up type helmet. This style is designed to give the rider the best of both worlds: the cooling of an open face style with the added protection of a full-face chin guard. At the moment, these styles comply with DOT standards only.

A final note on style: It is very important that you like your helmet. While helmets are a safety device, they double as an article of clothing, and, for some, a real fashion statement. Buying a helmet in a particular style and color, with a graphic that you like, or one that matches your bike, will make it more likely that you'll

want to be seen in it. A helmet that you leave on a hook in your garage, offers you no protection at all.

### SHOP AROUND

Start by trying on helmets. Most manufacturers try to accommodate a wide range of potential wearers with a variety of shapes, sizes and designs, which means they'll fit each wearer differently.

If at all possible, try a helmet on for a while. Fit is the one area where the consumer knows more about which helmet is best than anyone else, and this is crucial to both rider safety and satisfaction. If a helmet is too large, it may not be in place when needed. It will also slide around and rattle on your head. This is not only annoying, but potentially dangerous. A helmet that's too small can hinder the rider's vision, creating a distraction.

How do you know what's a good fit? The helmet should be snug. Not so snug that you start to feel your eyes bulging, but secure enough that once you have it on, it doesn't slide around at all. A good test is to put the helmet on and feel for pressure points on your forehead, back of your head or on the sides. These 'hot spots' suggest the helmet is too small or the wrong shape.

If the helmet fits snugly and there are no hot spots, try to slide the helmet around on your head, side to side and front to back. If the helmet slides easily, it is likely too big or the wrong shape. Try again. Once you've found a good fit, buckle it up. Though the chin strap should be snug, it shouldn't be difficult to open your mouth. You must properly adjust the strap every time, to insure the helmet will be there for you when you need it.

Once you've found the right fit, color and style, then consider the price. Resist buying something that is a poor match for you, but a good match for your wallet. I'm frequently asked what is the difference between a \$100 helmet and a \$600 helmet, aside from the \$500. Helmets are priced according to what the market demands. You will pay more for certain brands or styles, and there are distinct differences in how well a helmet is constructed, the paint and graphics quality, and even comfort.

As far as safety is concerned, the helmet should always meet the standards it claims to uphold. Helmets in our program are vetted frequently through random testing.

While there are tons of helmet choices available online, you should always try on the one you intend to buy. This is much harder to do online than at your local bike shop. If you do order a helmet from an online dealer, make sure they have a liberal return or

exchange policy should it not fit properly. Give the local shop a chance too. Sometimes they will meet the online price, while offering the instant gratification of buying stuff at a real store.

## YOUR NEXT HELMET

Most manufacturers recommend that you replace your helmet every five years. Snell recommends that as well, but more important than using time as a guideline, go by the amount of use. Helmets do not degrade on the shelf, if they are stored carefully. So, occasionally riders can squeeze a few more years out of a helmet that has not been used as frequently.

You will want to replace your helmet if the straps and D rings are sufficiently worn and tattered, or if they loosen up while you're using the helmet. If the fit padding no longer keeps the helmet snug on your head, or if any goes missing, it's a good time to buy a replacement. Ditto, if the padding or liner is loose and moves, or the helmet has taken any reasonable hard hits with a head inside.

Helmets are essentially one-time-use items. After a crash, their protective capacity is diminished. They've done their job. On the other hand, some people say that if you drop a helmet you must automatically replace it. This is not generally the case. However, if the helmet flies off the back of your bike at 55 mph, and is knocked about a bit, common sense says buy a new one.

Even if a helmet is well cared for, after a period of time, technological advances make them less protective than newer models, which may also be lighter and provide greater comfort.

Always wear your helmet, every time. Some of the worst motorcycle crash stories I've heard start out, "They were just going up the street..." ■

by Stephen Johnson

Stephen Johnson is the general manager of the non-profit Snell Memorial Foundation in North Highlands, CA.

## PROTECT YOUR NECK

I have worked in many disciplines including emergency medicine, trauma surgery and orthopedics. Four years ago I resigned from my post as a neurosurgical trainee to put all my efforts into creating the Leatt-Brace. It was a huge decision at the time.

Leatt Corporation, based in Nevada, is the global distributor of the brace, which is a neck-protection system for all helmeted sports.

I used to race Supersport (600cc track) and Off-Road (Enduro), where I took quite a few falls, mostly fracturing ribs, collar bones and suffering soft tissue injuries. It was the combination of being a doctor and a motorcycle racer, both important aspects of my life, that led me to believe that I could solve the age-old problem of neck injuries.

Then one day, I was at an Enduro race meeting with my young son, Matthew, when a rider that I knew crashed, broke his neck and died. Matthew watched as I tried in vain to resuscitate the man, who left behind a wife and young children. It moved me deeply and I could not accept the notion that there was nothing that I could do to help other motorcyclists.

Together with a number of experts, I studied the neck to determine how to protect it from catastrophic injury in the most efficient manner. We built prototypes and used a hybrid III crash-test dummy.

We used Motorcycle Specific Crash Dummies for tests at BMW in Germany, and later relied on software to simulate crash events that were based on real-life accidents. We relied upon actual physical testing to calibrate our computer model. These concepts and test results were constantly evaluated and discussed with the world's leading neck injury and biomechanical experts.

Fit and comfort of the brace were finally perfected on the world's top riders. We constantly seek to improve our product, while researching other gear that could make the sport safer.

■ ABILITY



by Chris Leatt, MD

Chris Leatt, MD, is the CEO of the Leatt Corporation. He studied medicine at the University of Cape Town, South Africa, where he is currently based. He still actively participates in motorcycle racing.

[www.leattbrace.com](http://www.leattbrace.com)