

20A Kanowna St, Hastings VIC 3915 PH: (03) 5979 1600

baylinkmc.com.au

Licensing and Training Motorcyclists on the Mornington Peninsula and South East Melbourne for more than 20 years.

Baylink Motorcycle Training Centre would like to share with you an exclusive excerpt from © Complete Rider. Better, Safer, Smarter. Reprinted here with permission of the author & publisher. Chapter 9:

Motorcycle Gear



COMPLETE RIDER

Your complete guide to Better, Safer, Smarter Motorcycling. 163 Pages of vital information to make your life on a bike even more enjoyable. Presented in a modern entertaining fashion with up-to-date and detailed information on all aspects of motorcycling including Obstacle Avoidance, Braking, Cornering, Roadcraft, Human Factors, Carrying a Passenger plus much more. All finished off with a comprehensive Drills section to make sure you get it right. The eBook starts at less than a tank fuel in your bike.

Published by: Complete Rider Media Pty Ltd Copyright © 2022 by Anonymous Rider / Complete Rider Media Pty Ltd All rights reserved. Unless stated otherwise, this book excerpt and all its components (including images and text) is copyright. Apart from fair dealing for the purposes of private study, research, criticism or review as permitted under the Copyright Act 1968 (Cth), no part of this publication may be reproduced, copied, distributed, or transmitted in any form other than how it appears here. This excerpt may be shared only as it appears here. Contact: ace@acompleterider.com for permissions.

The information contained in Complete Rider, in all its forms, represents the views and opinions of the original author and creator of Complete Rider and does not necessarily represent the views and opinions of Baylink Motorcycle Training Centre. The appearance of content taken from Complete Rider on the Baylink Motorcycle Training Centre site and media platforms does not constitute endorsement by Baylink Motorcycle Training Centre. Content taken from Complete Rider has been made available to inform and educate only. Baylink Motorcycle Training Centre does not make any representation or warranty with respect to the Complete Rider content being up-to-date, accurate or complete. To the extent permitted by law, Baylink Motorcycle excludes any and all liability to any party for any damages arising directly or indirectly from any use of Complete Rider content, as is and without warranties. Baylink Motorcycle Training Centre recommends you seek advice from your state approved road authority for further information.



MOTORCYCLE GEAR

Motorcycle safety apparel, PPE, motorcycle protective clothing, your second skin, call it what you like but I just call it Motorcycle Gear.

Every single motorcyclist has their own opinion on the subject and they will all be different and I'm fine with that. I've stopped worrying, and as harsh as it sounds, caring about other riders' choices.

I do however care that their beliefs may influence other riders' ability to form their own opinions on the subject. So with that in mind I will give you my advice based on many years' riding experience, hearing way too many myths and seeing plenty of crashed bikes. It may differ from yours and that's great. I'm always up for a healthy debate on the subject, so send me an email with your thoughts. Just don't expect me to agree with you!

I'd like to make a bold but true statement:

Motorcycle gear is completely your choice. It's the one thing about our passion for riding motorcycles that we have 100% control of!

Baylink Motorcycle Training Centre. The most fun you will have doing your Licence Training.CLICK HERE TO BOOK or visit www.baylinkmc.com.au When I started riding back in the day, it was the unspoken rule that you didn't need leathers unless you had a big bike. If you were a learner on a 250cc bike you were not going fast enough to need more than, say, jeans, solid boots, a jacket, gloves if it was cold, and a helmet because it was the law. To this day I still can't believe I bought that crap but it's just the way it was.

So far in this book we have explored the roadcraft tactics we can apply to influence vehicles around us. We have also discussed how to minimise threats we still may face and we explored in great detail how to improve our bike handling skills so as to allow us to take evasive action if necessary. But we will never have 100% control of our destiny in all of these situations. And let's not forget, a mechanical failure, a one-in-a-million-part breaks and you hit the ground. Are you prepared? There may be times when you just can't control every one of those dangers, as hard as you try. Thankfully, you absolutely can control 100% how you equip yourself if it does happen.

I don't want to be like most other motorcycle training publications and quote a whole heap of statistics at this point. It's just not my style but you would have to agree that it's a good percentage more dangerous to ride motorbikes than any other form of motor vehicle, on an injury per mile basis. Bikes are less forgiving and we are physically more exposed than in any enclosed vehicle.

As we discussed earlier, "the 35km rule" or "20mph rule", cars have a heap of technology to assist what may be an 100km/h (60mph) impact to be reduced to a 35km/h (20mph) impact on our body's vital organs. Designs like crumple zones, collapsible steering columns, front/side/knee airbags, seat belts, side anti-intrusion bars etc. We don't have any of that on a bike, just our skin, muscle and bone. So it goes without saying we probably need to cover it up.

But what are we really trying to achieve? Why do we really need all of that expensive gear? Isn't it bulky and uncomfortable to wear? And I don't plan on crashing anyway!

Let's have a look at some of the different categories of safety equipment available to us. Why we might need it and some fun facts that may make a relatively comatose-inducing subject a bit more interesting.



Did you know that even in Australia where helmet use is mandatory, in the 5-year period between 1999 and 2003 28% of motorcycle deaths were either not wearing a helmet or the helmet came off in the crash. So even for a quick spin wear a helmet and do it up correctly!



THE HELMET

When we look at the basic design of a modern motorcycle helmet it's easy to see why so many people worldwide and especially in third-world countries don't feel they need wear them. Their simplicity is probably their downfall! How can a simple thin plastic/fibreglass-type shell with some foam that is the same as I use to keep my can of beer cold and a bit of foam-rubber for comfort save me from a major head injury or death?

Well, this simple device is designed to perform a multitude of functions but its main job is to stop or minimise a brain injury. It does this by not only spreading the force of the impact over a larger area, therefore creating less pin-point trauma. It also softens the brain's sudden stop or impact to the inside of the skull. If you're not already a bit squeamish, how's this? The brain like any vital organ is not designed to come to a sudden stop by whacking into the hard surface of the skull, so it has its own shock absorber surrounding it in the form of cerebrospinal fluid. But this small amount of fluid can only do so much. After that, physical injuries like bruising, swelling, bleeding and twisting or tearing of tissue may/probably will cause longlasting health issues. The long-term effects will depend on the severity of the damage. More on this in a minute.

So, why should I wear a helmet, you ask?

Well, first and foremost I'd like to try and stop a brain injury, so let's look at the consequences of not looking after our scone.

Acquired brain injury

An acquired brain injury is defined as an injury to the brain that you are not born with. Most common causes are disease, trauma to the head, alcohol and drug use/abuse or oxygen deprivation.

The brain is an incredible organ that basically controls every single thing we do. Just how

Complete Rider. All the tools you need to be a Better, Safer, Smarter rider. CLICK HERE TO BUY NOW or visit www.aCompleteRider.com amazing this part of our body is, is hard to imagine and science is really just touching the surface of what it can do.

This soft, jellylike organ has billions of neural (nerve) cross-connections, functioning using a combination of electrical and chemical means. The brain is sitting in a chemical soup called the cerebrospinal fluid. This fluid acts like a shock absorber for our brain. The brain is connected to the rest of our body by the spinal cord. These two parts make up what is called the central nervous system. The central nervous system pretty much controls everything we do, so we want to try and keep it in good working order. Unfortunately, both these parts of our body are quite exposed and quite vulnerable to damage and even more so when we crash a motorbike.



Doctors are very good at fixing bones with grafts, pins and screws. They are pretty good at stitching us up these days too (thanks to the doctor who took my advice and changed to a smaller suture than he was going to use when he stitched up my forehead – I still can't believe I had to prompt him!) and they can even grow new skin. I'll take mine with a tan thanks. But sadly, they are very limited with what they can do to repair our central nervous system.

Let's concentrate on the brain at this point, though. An acquired brain injury has many side effects, ranging from slight to severe. Without trying to belittle the subject, lets put brain injury into three categories using one of my other favourite subjects, food, as an analogy. (please keep in mind I ride motorcycles, I am not a brain surgeon or an expert on the brain, therefore please use my comments for their intended purpose which is a reference only.)

Mild Brain Injury: *The egg slicer*. The brain looks pretty normal but on closer inspection some of the nerve endings have been severed and are

not connecting or communicating with each other like they are supposed to. This can result in headaches, dizziness and fatigue, sleeping issues, difficulty with memory and concentration and blurred vision.

Moderate Brain Injury: *The Swiss cheese effect.* Parts of the brain have gone missing, lost or died creating major gaps in what the brain remembers and how it functions. You may experience slurred speech, profound confusion, seizures and migraines.

Severe Brain Injury: *The mashed potato*. This is sort of self-explanatory and is not a good outcome. The person is most likely in a vegetative state with no possibility of recovery. They may or may not be in a coma and have disabilities ranging from being unable to communicate or care for themselves to a total lack of awareness of their surroundings.

The menu is not that tasty really, but the bad taste of these dishes can be lessened by the simple act of wearing a proper fitting and approved motorcycle helmet costing as little as 100 bucks.

Yep, that's right, for as little as \$100 you could minimize or eliminate the many acquired brain injury side-effects that present themselves in even mild head trauma cases. Below I have listed a few that stood out to me while researching the subject:

Behavioural: Anger and frustration at both the brain injury itself and an often and uncontrollable anger towards others, often loved ones. Impaired self-awareness, the loss of ability to self-monitor and self-correct behaviour. Self-centredness and loss of the ability to control impulsive behaviour. You could be *that* person with no filter!

Cognitive: Some brain injuries can result in a loss of motivation with difficulty getting activities started. Impaired decision-making skills where even minor day-to-day tasks become a chore. This may include attention and concentration issues. Memory loss is very common with brain injuries, both short-term and long-term. Even routine functions like remembering basic tasks or using muscle memory may become difficult. Losing your train of thought easily, repeating yourself and misplacing objects.

Mental: People with acquired brain injuries have much higher risk of suicide with even higher risks found with alcohol or drug use, not to mention clinical depression. These are the big three of suicide risks.

Physical: Your balance can be affected as can movement, even to the point of the loss of function of some limbs themselves. It is also quite common to lose some of the body's senses like touch, sound, smell and taste. Other physical changes like epilepsy, headaches, sleep disorders and fatigue can manifest as well.



The bottom line is, your life will be changed forever but probably and most importantly you may never be able to ride a motorbike again! All for the sake of wearing a helmet. As little as \$100 is all it needs to be.

So, where to from here?

I realise most of you reading this already have a helmet but please don't brush over this section. Have a read if only to confirm you have made the right decisions or be armed with more information when discussing the subject with novice riders seeking advice. We will discuss some options to think about when it comes to your gear and most importantly what's in it for you. You can then do your own research to find out what's best for your circumstances or your buddy's, but at least you will be armed with the correct information.

Choices

When it comes to helmet types, you have two very basic choices: full-face or open-face.

A full-face helmet has a solid chin piece. I'm happy to put a modular or flip-front type helmet into this category but not one that has a flimsy mouth/chin cover that clips off easily.

An open-face helmet has no solid chin piece or at most a mouth cover that is more designed for wind and bug protection than it is for hitting the ground. It could be a half or a three-quarter style with or without a visor.

What's the real difference?

The difference between the two is pretty clear. They will both do pretty much the same job when it comes to saving your brain if the impact is sustained to the helmet shell, but the open-face style helmet has little or no protection for the chin. As stated before, I've seen many, many motorcycle crashes at all different speeds but the one common theme I keep seeing is that the chin piece of a full-face helmet keeps getting scratched. Meaning that without it, that's your chin getting scratched! So, what do I wear? I always wear a full-face helmet when I ride on the road. I do, however, wear an open-face helmet when I instruct on our training range (mainly so my voice carries better). I practise my training manoeuvres in that same open-face helmet. I also wear a modular type helmet (flip front) when I do on-road training so that I can flip it up and talk to my students more easily and clearly.

I get why some people like an open-face helmet, but I've just seen too many crashes where that simple chin piece has come in handy. Again, this is just me, you need to make your own mind up.

Once you have made your helmet decision, now the hard work really starts. The choices are endless. Price, material, colour, visors, modular, brand, graphics, approval type, strap type, fit, pinlocks and communications, just to name a few options that we will look at.

So, let's take a bit of a look at some of the options available to us.

Price

Let's start with the elephant in the room. There was once a time when price was the be-all and end-all of buying a helmet. Comments like, "How much is your head worth?" "Buy the most expensive helmet you can afford! I've even heard it said, "Spend all the money you can on a helmet and forget about the other gear!" Back in the day there may have been some truth to this but these days it's a bit different. You can get a good, safe, approved helmet for a very reasonable price.

The main benefits that come with spending more money will mainly be for comfort – lighter materials, better cooling, demisting, more

Baylink Motorcycle Training Centre. Get Licenced! CLICK HERE TO BOOK

comfortable padding and so on. You might get a better paint finish, better graphics and the more expensive brand might spend more money on research and development. But so long as you buy an approved helmet for your country, then that helmet has been deemed safe for use and will do the job it's been designed to do. Yes, you may get minor safety benefits from a more expensive helmet but they will be small percentage point differences rather than large. So, if money is no object and your head fits into a more expensive helmet, go for it, you can't lose!

Approvals

DOT, ASNZ 1698, ECE 22.05, SG or JIS and Snell, just to name a few. What does it all mean and who cares?

Most countries have their own laws pertaining to the helmets while riding in those countries and some have a crossover. In Australia we can legally use an ASNZ 1698 Australian approved helmet or a helmet that meets ECE 22.05, which is the European standard, most of which are DOT approved. However, we are not allowed to wear just the DOT approved helmet. So, the first thing you need to do is check with your local bike shop



or government authority and find out what type of helmet you need to meet your legal requirements. Do this before you buy a helmet off some website overseas. In saying that, there is a possibility that some companies are making knockoff versions of helmets, like they do with all other consumer products, watches, sunglasses, golf clubs etc. So, if it looks too good to be true, watch out. It's your brain after all.

Snell

It would go without saying that if you purchased an approved helmet it should be safe and fit for purpose. However, some countries work their approval ratings on an honour system and are not tested independently for quality assurance. Which is where Snell approval comes in. Snell is a notfor-profit independent testing facility that grants its own high-standard approval rating to helmets that the manufacturers have voluntarily submitted for testing. Manufacturers pay a testing fee and a fee per helmet sold to display this rating. Therefore, you know it is fit for purpose. They follow-up by testing a number of randomly selected, store-purchased helmets just to be sure. I believe they offer a credible service and have certainly helped lead the advancements in helmet quality over the years. Not only in motorcycle helmets but car racing, gokarting, cycling, equestrian and more. Check out their website for an interesting read about their testing facilities and philosophies. www.smf.org

Fit

This is probably the most important part of buying/ wearing a helmet. The best, most expensive helmet in the world is no good unless it fits your head properly. It's that important!

I've seen some really cheap brand-name helmets on sale and I have no problems with people buying them providing they fit well. If that's all you can afford then that's fine by me. It will still save your life in the right situation.

Most people have a slightly different shaped head and most helmet manufacturers make a slightly different shaped helmet. So, you need to try on a few different brands. This does make it hard to buy a helmet online. Though reputable online sellers do offer a swap-over service with strict conditions but they'd probably get a bit pissed by the third or fourth swap-over. So, I tend to buy my helmets from a bricks-and-mortar shop-front store. If the salesperson knows their stuff, they should be able to look at your head and recommend a helmet that suits. By all means try a few more on but keep coming back to the one that fits best as a reference.

Your helmet should be reasonably tight but not brain-numbingly tight. The inner foam padding will loosen up in the first couple of weeks and mould to the shape of your head. Most full-face helmets will

Are you enjoying this read so far? You can get the full book at www.aCompleteRider.com Click here for more information. be quite restrictive around your chin and cheeks area, so don't expect to be able to sing like Taylor Swift while wearing a helmet.

Remember, the first comment most people say when they first put on a correct fitting helmet is "wow it's tight!" Yep, but that's how it needs to be to be able to do its job!

Most manufacturers have a size guide on their website. So do some research before you buy, choose wisely and you'll get a good comfortable few years out of your investment.



Once you've decided on the one, keep it on in the store for 5 to 10 minutes. Read a magazine, keep looking around the store, because it may take a while for it to start to feel uncomfortable. Once you buy it, take it home and do the same, watch some TV for a while just to be sure. Most shops will exchange the helmet providing it still has all the tags and stickers on it, including the visor sticker, especially if it's your first ever helmet. Getting used to having a helmet on is very important for your spatial awareness, so if you have never worn a helmet before, especially a full-face style, wear it at home, make a coffee, do the dishes; this will help with getting the feel of your new world before you ride on the road.

Materials

This is one area where we have some major differences between helmets. The material a helmet is manufactured from will determine a number of important factors.

There are a number of materials used in helmet shell manufacture these days: polycarbonate (plastic), fibreglass, carbon fibre, Kevlar/aramid or a mixture of a few of these with names like; Tri-Composite or Tri-Matrix.

The material used in the construction of the helmet will mainly determine the price versus comfort equation.



For instance, carbon fibre can be used to obtain the same strength as polycarbonate with less mass, therefore less weight. If you do a 20-minute commute to work you may not need a lightweight helmet but if you're racing on a track at 300km/h the extra weight flapping about in the breeze lap after lap could have a negative effect on your neck and spine. Similarly, spend a long day's riding in a heavy helmet and you'll certainly know about it. My neck gets thicker every year because I spend so much time in a helmet. That's my excuse and I'm sticking to it!

The first question you need to ask yourself is: What type of riding will I be doing?

Colour/graphics

It all used to be so much easier when we had less choices in life. You could choose one of a couple of colours for your bike and if you were lucky you got a helmet colour to match. Jackets were black, jeans were blue etc. Now we are spoilt for choice and we get annoyed when we can't get the model we want, in the colour we want, with the graphics we want. Come to think about it, having choices isn't a bad thing! It goes without saying a bit of colour up higher on your body like your helmet may help you to be seen on the road. Wear a black helmet, black jacket and pants on a black bike and you are making the job of safety so much harder. So, think about the look of your gear, if you think you look cool you just might be tempted to wear it more often but don't choose your helmet for colour and graphics alone.



Helmet use was slow to catch on. It wasn't until 1941 that the British Army made helmet use mandatory for army dispatch riders that things started to move ahead. This was at the recommendation of Dr Hugh Cairns, an Australian (go Aussies!) neurosurgeon, who treated Thomas Edward Lawrence (Lawrence of Arabia) after his unfortunate crash while avoiding some children playing on the road in 1935 whilst riding his Brough Superior. The crash caused un-treatable head injuries which led Dr Cairns to conduct subsequent studies proving the substantial safety benefits of even the most basic type of helmet.

AND . . . did you know, just because a helmet manufacturer has eight different sizes in their range doesn't mean they have eight different shell sizes? Most shells have a couple of different foam inserts that can be fitted, therefore cutting down the manufacturing logistics and costs. This is one way some companies are able make helmet prices cheaper. It's also why some helmets look massive on some people.

At Baylink Motorcycle Training Centre our Instructors say they are the best in the business! Click here to see for yourself.

Retention Strap Type

Just to confuse things there are a couple of different types of retention straps. They fall into two main categories: Double D ring and quick release types.



Double D Ring: this is the classic tried and tested form of helmet retaining systems. It's easy to use once you get the hang of it and it should never come undone. It's lightweight, unobtrusive, comfortable and inexpensive to manufacture. You cannot open it easily with one hand or with gloves on for that matter but this has never been a problem for me.



Quick Release Style Retention Straps: these can be categorised in two main types. The seatbelt type or the micrometric type. The differences are, with the seatbelt style you adjust it once and then just clip it in or out as needed, with what looks like a seatbelt clasp. You may need to adjust it after a haircut, though you don't see many of these types around these days. Micrometric types work on an adjustable ratchet mechanism with a hard-plastic toothed tongue that slides into a clasp where it is secured in place. It's easy to adjust by pushing it one more click if needed. Then lift a lever and it releases. They are easy to use one-handed or with gloves on but they look a bit bulkier under the chin, which could be a problem with a winter jacket or a neck sock. I've never had any trouble with this type of system, and I'm more than happy to use it on a road helmet.



Interestingly at the time of writing, Snell had not approved any motorcycle helmets that didn't have the double D ring style. This is not because they have failed but because they have not been submitted for testing. I surmise that the manufacturers have done their own testing and realise they may not pass Snell's standards, therefore decided not to submit them rather than have them fail. Just my theory though. It's interesting to note that most, if not all forms of motor racing (including motorcycles) only allow the double D ring strap types.

Brand

There are so many brands to choose from and way too many to list here. Some you will know, some you may never have even heard of. The chances are slim that you will be able to walk into a bike shop and ask for brand X, style Y, in colour Z, because you like the look of it and it will fit perfectly, it's just not going to happen. You just might have to settle for not looking quite as cool as you want but it may save that mashed potato moment! As mentioned before, price and brand are not the be all and end all of helmets, although in saying that, if the high-end brand fits, don't hesitate to shell out a few more bucks to get a better brand. Your money will be well spent in the long run. Again, your choice will come down to fit in the end, not brand loyalty.

Visors

Some sort of reasonable quality eye protection is a must. Even if open-face is your go, you can still get a visor option to protect your eyes. You also

Complete Rider is presented in three convenient ways: eBook - Print Book - Online Course. Click here for samples of each or visit www.aCompleteRider.com have the option of a tinted or an iridium (mirrored) visor for sun glare and looks. These days changing a visor is an easy job but carrying a second visor for night-time riding is a pain. I don't bother anymore, I mainly use a helmet with a drop-down sun visor inside the helmet like a fighter pilot, and they are just the best. Although, when I first saw one, I said "you'd have to be a wanker to wear one of them. Are you trying to look like Tom Cruise in Top Gun?" but after using one I could never go back. 95% of the time it's down but if it gets a bit dark even during the day I can flip it up instantly. What a wanker I am!

Pinlocks®, Fog City® and anti-mist sprays

Back in the day the trick was to cut a potato in half and rub it on the inside of your visor and then buff it off. I'm serious and it sort of worked too!

Nowadays there are a few good methods of stopping the inside of the visor from fogging up in cold weather. Pinlocks® and Fog City® are a couple of brands of clear inserts that I've tried and found to be great. They tend to scratch pretty easily so be careful when cleaning. They basically stick or lock in place with pins to the inside of your standard visor and simply don't fog up.

There have always been sprays on the market that seem to get better with time so give them a go. Anything that helps you see better in the cold and wet is worth a try and has to be better than potatoes.





And while we are talking about the Pinlock[®] brand, I also use their earplugs. Mainly for long distance rides. I find they cut down the wind

noise considerably, therefore protecting my ears. I like this filter style of ear plug over the foam type as I still feel connected to the bike and I have never felt any balance issues at all, unlike other styles I've used.



Cleaning your visor. One word here, 'Plexus'. If you haven't tried it yet, do it! It's fantastic, it cleans bugs and muck off, doesn't scratch and water just beads off at speed. It's made for the aeronautical world so you know it's good stuff. But be warned once you start you won't be able to stop cleaning, your helmet, your bike and just about anything shiny you own. It costs a bomb but it's worth every cent! Again, 'Plexus'.



Helmet communications

Helmet communication is a big deal these days and many helmets are made with this in mind. Some have speakers and microphones already in place, while some are designed to be retrofitted. I do understand that some riders like to communicate with pillions or other bikes but I've got to admit, I'm no expert on this subject because I don't use them. I believe the best part about being on a motorcycle is the solitude. I have no interest in answering the phone or even listening to music while I ride. This may change in time and I might review various systems and post them on the website but for now if my passenger's not screaming, it's all good!

Modular or flip front style

I use this style of helmet regularly. The jury is still out on the strength of the chin piece compared to a solid one but I'm certainly comfortable wearing one. If BMW, who have been at the forefront of two and four-wheel safety for many years and have

At Baylink Motorcycle Training Centre we specialise in students who have never ever ridden before. In fact we love them. Click here to see our Pre-Learner Course.

5

been making modular helmets since the early '80s and still do to this day, I'm happy to use them. They certainly are convenient for my use. Many people I've spoken to also like the fact that in heavy traffic or hot weather they can flip the front up and get a bit more air in when stopped in traffic then flip it down when moving. Some modular helmets are designed so that the chin piece and visor are totally detachable. Some flip all the way around to the back to become an instant open-face helmet, giving you the best of both worlds. If this sounds like a helmet design that would suit you, then I see no reason to not give them a go.



Other worthy mentions

Second-hand helmets. No, never, don't do it, it's not worth it!

A borrowed helmet. I wouldn't!

Let your kids play with your helmet. Nope!

Leave it perched on your mirror. No. I've seen it put little in dents on the inside of helmets or fall off and hit the ground. Not good!

Put it on your seat. No. It could fall and scratch the helmet or your visor.

Put it on the tank. No. Never ever, have you ever seen what happens to polystyrene and fuel? Google it and see.

Dropping a helmet. I'll leave this to the experts, by quoting from Snell's website's FAQs.

"I dropped my helmet; do I need to buy a new one? "Generally, the answer is probably not. If your helmet drops to the ground from your hand, off a seat or handlebar, you do not have to replace it. In general, the real damage comes when the helmet contacts an object with a head inside. However, helmets are one-use items, so treat them with care. Frequent dropping or spiking a helmet on any hard surfaces may eventually degrade the helmet's performance. Similarly, if the helmet falls to the ground at highway speeds unoccupied, damage to the helmet may degrade its protective capability. Snell recommends that if you are participating in an activity that requires helmet use, you should pay attention whenever your head hits things. Without a thorough inspection by a trained professional, it can be difficult b determine if a he lmet has been damaged and its protective capabilities

compromised. Some manufacturers may provide this service or direct you to others who can perform these inspections. If you suspect your helmet may be compromised, Snell recommends that you replace it. If the helmet has been involved in an impact while in use, replace it. Even good helmets cannot provide adequate protection the second time."

What about The Anonymous Rider, I hear you ask?

What I can tell you about my helmet purchases is that I tend to buy a particular brand that is at the higher price point. This is 100% due to fit. I wish I could buy the cheaper brands but they just don't suit my head. When it's time for a new helmet I try on all the brands I can but I always come back to my usual brand. Just as well my gear purchases are tax-deductible or maybe I need a helmet sponsor?

So, we could probably best summarise the last 7 pages by saying,

"As long as a helmet fits you properly and meets your country's standards, that's all that really matters. The rest is up to you to decide, taking into consideration your needs, wants and financial situation. Make sure it fits properly and you will be just fine."



ARMOUR

When we drill down into the history of motorcycle safety, we can find only a few real game changers in the industry. I refer to innovations like the helmet, ABS, disc brakes, hydraulic suspension, alloy frames, aerodynamic fairings and radial motorcycle tyres. There is absolutely no doubt that we also need to include body armour to that list. The influence of this basic means of protecting our bodies is unfortunately often overlooked by both new and existing riders.

I'm sure that to most new riders looking at

Reading Complete Rider is not only informative it's hilarious as well. Click here to see for yourself. *Informative is guaranteed hilarity is not!



motorcycle gear for the first time, they would just assume body armour has always been there. It's only obvious isn't it? But there was a time not that long ago when it just wasn't thought of as a priority for road riding gear. Therefore many longtime riders may not be aware of just what's available in the industry today. I agree, it's not easy to keep up with all the advances taking place, especially items like armour that most of the time are hiding under apparel and can't easily be seen. However this relatively new innovation needs to be brought to our attention as it's dramatically changing motorcycle injuries for the better.

My first recollection of motorcycle armour was in motocross way back in the late '70s, early '80s. Professional riders were wearing armour over their jerseys. Before this, the kidney belt was the only real item being worn. The first of this body armour was pretty basic, consisting of padded or plastic upper body, shoulder and deltoid (shoulder) muscle coverage and a basic knee guard. About this time Dainese, an Italian bike clothing specialist, started to perfect its racing-inspired back protectors (more on this later).

Into the late '80s and '90s not only did the motocross colours get wilder and their hair get bigger but the upper body protection started to improve exponentially as well. In the mid-90s I purchased a Dainese off-road body armour suit which was basically a full upper body armour kit including elbow, shoulder, forearm, chest, a full back protector and kidney belt all fitted to a meshtype under-shirt. The ease of putting one item on for full upper body protection was unthinkable just a few years earlier.

Over that same period, motorcycle road-track safety equipment went racing along as well. Gone were the days of a basic leather suit with a double layer of leather and foam sewn into the impact points along with layered leather knee sliders. No, we had progressed into various high-density foams surrounded by plastics and even titanium (mainly for the cool sparks they made). Then all the way to viscoelastic polymers and air-bag integrated suits. As racing safety has advanced, the technology has subsequently trickled down into our road riding gear, so that nowadays you would consider any jacket without armour simply fashion apparel and not a serious motorcycle riding jacket. Realistically, in my opinion, you just wouldn't contemplate purchasing a jacket that either didn't have armour or pockets sewn in for armour if your intended use was actually riding.

Why is armour so important to our safety?

The basic concept of armour is threefold:

- Absorption of impact
- Distribution of forceAbrasion resistance

Absorption of impact

By incorporating materials in motorcycle clothing that are able to absorb shock or impact to our vulnerable body parts – that is, parts that are more exposed or at the extremities of our body – we have the means to lessen the trauma to that body part.

I've heard it said a few times, "Armour's not that good, I still broke a bone."

If the human body hits something hard enough, something's got to give, and the laws of physics say it's the weaker of the two materials that will break. Meaning if you hit something that is harder than your bone, the bone will break. The interesting point here is just how severe the break will be. There is a point where that bone will shatter rather than merely break and a shattered bone like a crush injury merely introduces many more complications. So, in some situations 'just a broken bone' is not such a bad outcome, as the injury could have been much worse. In any instance, you just won't know. So, it's better to be lying in hospital saying, I tried my best to

At Baylink Motorcycle Training Centre our office staff are the nicest people you will ever meet, why not give them a call on 03 5979 1600 and see for yourself or click here to book.

3

4

protect myself, than lying there wishing you had worn more protective gear. The other option is the morgue.

Distribution of force

Armour works on the theory similar to your helmet. By spreading the impact across a larger area the force felt at the central point will be lessened. The example is often used of a thumb tack or drawing pin. If you use it in the correct manner the thumb tack pushes into the corkboard, with no pain to your thumb. But, turn the pin around and you are now pushing a very small sharp point, the pin, into your thumb, that's going to hurt!

In motorcycle gear this has been historically achieved for us by a hard plastic outer and a soft foam inner, although the hard plastic tends to conduct quite a lot of energy, therefore leaving the foam as the impact absorber. Better than nothing but still not ideal. As the manufacturers of gear have searched for more comfort, less cumbersome look and feel in their garments, this in turn has led them to the use of some incredibly cutting-edge technology.

Better abrasion resistance

It goes without saying; if we can incorporate an extra layer of slide resistant material that is still relatively comfortable to wear, then the longer we can slide along the road without ripping into our skin. Depending on the material used, this could give us precious seconds of protection in a crash/ slide situation. Hard plastic and titanium are not

too bad at this, although it can be quite uncomfortable to wear especially on moveable joints. As discussed, there are better products for impact resistance. Any good manufacturer will work tirelessly at finding a balance between safety, comfort, style and price.

What's the point?

We talk about armour covering the impact points but just what needs to be protected on our body? Nowadays you can get almost complete body coverage. Meaning armour is commercially available for your shoulders, elbows, forearms, hips, knees, back, chest and coccyx bone.

You choose how much or how little you wear and the level and type of protection that this armour offers y ou. There is an incredible array of protective armour products on the market, so knock yourself out.

The future is here

We should consider ourselves extremely lucky that advancements in technology are helping us as riders lessen the injuries sustained in a crash. What I'm talking about here is viscoelastic polymers.

Viscoelastic polymers are cutting-edge materials that are soft and pliable, meaning comfortable to wear. But on impact they instantly turn hard so as to act as a pseudo-hard plastic material. They are able to meet all three of the criteria needed for armour safety in a comfortable to wear form, and can be made in variable thicknesses depending on the balance of comfort versus protection you want. This stuff is a real game changer for us motorcyclists.



Probably the best known of these viscoelastic brands is D30. There are other brands and no doubt there will be many more in the future but D30 does a fantastic job of marketing their products and most importantly they are by far the best at explaining how this technology works in a simple manner so that 'nonscientific' people like myself can understand.



My dumbed down version goes a bit like this. The basis of the product is a chewing-gum type substance that is an extremely pliable and soft goo. This goo is blended with other polymers to make a material that holds its shape, like body armour. It's quite comfortable to wear, but on impact instantly changes to a firmer substance to dissipate the shock of the impact. Amazingly, it is also rate-sensitive, meaning the harder the hit, the harder the D30 material will transform. Even better, it can be hit over and over again with the same result. See the attached video for more information. I use this product and I can attest to its comfort, though luckily, I haven't

tried out crashing with it!

In my opinion, these types of materials are the only type of armour I would consider purchasing in this day and age. Do some research on viscoelastic materials and I'm sure you will agree.

Click here to purchase your copy of Complete Rider. I really need a new bike. A KTM DUKE 690 would be nice. I'm not greedy! Click here to see a KTM Duke 690

Head F*\$#!

The other subject I need to visit, although I really don't want to, is that of certification, and man, did it do my head in. There is so much information out there and most of it seems designed to totally confuse the consumer. So, I will try and make this as concise and straight to the point as possible.

When it comes to armour there is one main certification s ystem t hat h as b een p retty m uch adopted worldwide and that is CE, which is the European standard abbreviated from the French words "Conformité Européenne" or European Conformity. This standard has rating Level 1 and Level 2. Level 2 being a higher rate of impact absorption than Level 1. The document number for motorcycle armour is EN1621 (EN being European Norm) but this is where it gets a bit confusing. There is EN1621-1 for limbs and joints, EN1621-2 which refers to the back and spine areas and EN1621-3 for chest protection. So, don't confuse EN1621-1 for being just Level 1.

Essentially your motorcycle body armour choices will look like this:

- EN1621-1 For limbs and joints in either Level 1 or Level 2, depending on the level of protection.
- EN1621-2 For back and spine in either Level 1 or Level 2, depending on the level of protection.
- EN1621-3 For chest protection in either Level 1 or Level 2, depending on the level of protection.

Are you still with me?

What does this mean for us?

So, this means for both limb and back armour there are two levels of CE certified protection. As a guide, for reference only, most knee and elbow protectors in Level 1 measure somewhere between 7 to 10mm (1/2 inch) thick and most Level 2 would measure 12 to 20mm (1 inch) thick. This will give you a bit of an idea of the protection levels available. Remember, this is a generalization only. It's great that Level 2 is twice as protective as Level 1 but keep in mind you might find that the armour being twice the thickness is too bulky and cumbersome for your liking. This is where a decision needs to be made about comfort versus protection. You choose! At least you will be armed with the correct information.

While we are on certification, there is now a European standard for motorcycle garments: **EN13595-1**. Of course there is Level 1 and Level 2 as well!

To close out our section on armour, it's my opinion that the best motorcycle gear from an abrasion resistance point of view, whether it be leather, nylon or Kevlar, is near on useless if it doesn't have decent armour in place. It really is that important and it's not that expensive either.



JACKETS Memory lane

In preparation for my ramblings on motorcycle gear, I wandered upstairs to a seldom used wardrobe to look for my old motorcycle jackets. No, not the special wardrobe dedicated to only my current motorcycle gear, you know the one, I'm sure you have one? I'm talking about the overflow storage wardrobe with the gear that one day I may fit back into. You probably have one of those as well. And there it was, right down the back, it hadn't seen the light of day for years. My first motorcycle jacket, an early '90s black Belstaff Eagle. What a blast from the past. This jacket, along with my ZZR 250 and cheap AGV helmet formed the basis of my ticket to ride, and ride I did. So, of course I tried it on. Not even close! I'm a bit disappointed. How cool would it have been to be reunited with that jacket and a ride again. Rider, machine and well absolutely no protection at all!

I can't believe it. I wore this jacket thinking it was safe. The label proudly promotes 100% polyurethane nylon waterproof outer and 100% nylon inner. There appears to be a thin layer of a red nylon quilted material inside for warmth and an extra layer of slightly padded nylon on the elbows and shoulders for protection and that's it! I can only imagine sliding down the road as the melted nylon burnt into my skin, creating some kind of semipermanent red-black abstract tattoo that I'm sure far too many riders wore as a badge of honour back in the day.

Wow, how far we've come and I can't help but think how lucky we are these days. Today, there is just so much variety, so much protection and so much versatility in the jackets we can buy.

Baylink Motorcycle Training Centre offers their students the best coffee in the business. Just ask for a Soy Mocha Latte and we will gladly give you directions to the nearest Cafe. Otherwise it's Caterers Blend for you. Book now to taste for yourself.

But what are we trying to protect by wearing a jacket?

I've searched but there is nowhere near as much information on injuries caused by not wearing a jacket as there is for helmets. It's pretty obvious why, the helmet is by far the most important item of protective gear but the rest of our kit is still important. Why? Well, by wearing just a little bit of extra protective gear could drastically reduce the severity of an injury. Put simply, it could be the difference between crashing your bike, getting up brushing yourself off and heading to the pub to tell mates about how it wasn't your fault – "the car just pulled out in front of me" – versus spending a couple of weeks in hospital. It's that simple.

I'm dying to know

Fact is, riders are dying from upper body injuries, although these seem to be more 'internal organ damage' which I suspect is from high-speed crashes. I doubt if a leather or nylon jacket could help with this. So really, what's in it for me, why should I wear a jacket?

Protection

If you crash in just a t-shirt, your skin will get ripped up. Gravel rash is a bitch. It hurts, take ages to heal, scars badly and if little bits of grit and gravel get into your skin it's hard to get out. Oh, but you must get it out because it will cause an infection, which incidentally hurts more takes longer to heal and possibly leads to more scarring. Even if you slide down the road in a jacket, you may still get a friction burn (carpet burn); this may still hurt but it won't have gravel in it.

Broken bits

Fractures, compound fractures, dislocations and crush injuries are the reality of a motorcycle crash. Hitting the ground, a solid object, your bike or anything hard will cause painful injuries that can take many months to heal. If your jacket has armour in the impact points, this will lessen the impact and therefore the severity of the injury.

Contortionists

Most good jackets contain some form of back protection to either stop the spine from bending in unnatural ways or offer some form of impact protection. We'll cover back protectors in more detail later.

Comfort

Injury protection is a major selling point for modern motorcycle jackets but there's got to be more to it than that? Okay then what about comfort and protection from the elements?

Most riders I know are more than happy to ride in all kinds of conditions – cold, wet, wind. A good jacket provides insulation from these elements. As we've already discussed in the chapter on Human Factors, fatigue is a killer but it's also about not freezing to death on the winter commute to work.

What else?

Storage: It's always good to have somewhere to put your stuff. Phone, wallet, house keys, cigarettes (I thought you gave them up? It could amount to a new bike every year!).

Looking cool and sharp: Oh, I almost forgot, 'you can't polish a turd but you can candy coat it'.

From an image point of view, it will depend on what bike you ride, what your mates ride, what look you are going for or even why you are riding. You probably worked it out by now, I don't care what I look like but most people do. Although even I would cast a disapproving eye over a dude in full motocross gear on a cruiser.

What type of jacket should you buy?

This will depend very clearly on what type of riding you are doing: commuting, recreation, adventure, touring, racing or coffee-shop crawling.

The weather conditions will determine the thickness of your jacket and length of the jacket. After all, there's no point in having an exposed back in cold weather. It will even help determine the material your jacket is made from.

What you will realize quickly is you may need more than one jacket or at least a very versatile jacket, so it's best to work that out before you shell out your hard-earned cash.

The choice is simple (if only)

In the end it will come down to a very simple choice: leather versus textile.

I'm lucky enough to have both but 99% of the time I'm in a textile jacket. Nothing wrong with leather from an injury point of view, I just find for the type of riding I do a textile jacket is more versatile. I do an annual road ride with a few mates in the Victorian High Country. We have had heat, rain, snow, and wind all in the one day. I need a jacket that can handle all of that while being comfortable to do 1,000km (620 mile) a day in, then dry out and do it again the next day. That's not leather.

Leather is great if you only want to ride within a certain temperature range, with no rain. But I have to keep riding in all conditions so I find a textile jacket far more versatile. Again, that's just me and my riding type, it may not be you.

Textile jackets and pants, for that matter, have come a long way since my 100% nylon '90s version. By blending various other materials with the nylon and altering the thickness of the fibres (denier), manufacturers have been able to increase the comfort levels, breathability and strength of the

You can pick up your copy of Complete Rider at Baylink Motorcycle Training Centre and save a few bucks postage. Just ask your friendly office staff for the Coupon Code.



Here are some features I look for in my jackets.

- 1. Zip-out inner thermal and waterproof linings.
- 2. At least one waterproof pocket.
- 3. Both zippers and press studs for water and wind leakage protection.
- 4. Waterproof stitching.
- 5. Armour or at least pockets for armour including back protection.
- 6. Neck protection from bugs and wind. It must be soft and comfortable on my chins.
- Long in the waist and some form of waisttightening adjustment that won't scratch my tank.
- 8. Wrist-tightening adjustment to keep the wind out.
- 9. Vents for cool air flow.
- 10. Some form of reflective tape, conspicuous by day and bright under vehicle lights.

There are lots more features available but these are my top-10 must-haves.

In the end a motorcycle jacket is really just a comfort-providing shell that can house our must have body armour. **It's all about the armour!**

Not so Fun Fact



Just to confuse things more, there are a couple of different ways manufacturers can use the CE Approved System in their marketing BS.

CE Tested – This means the manufacturer has tested the product in 'their facility' and it meets the EN Standards.

CE Certified – This is a bit more real world; samples of the garment were tested at a 'Certified

Facility' and were found to meet Standards. In this case, you need to find out which zones of a garment was tested and which were not.

CE Approved – The garment was tested at a 'Certified Facility' and has met or surpassed the standards in all zones.

In my opinion the last one is the only real one!



BACK PROTECTORS

This simple but effective piece of motorcycle kit has saved countless lives and many more injuries over the years and is mandatory equipment at every level of road racing, pretty much anywhere around the world.

It's obvious that our back and spine are extremely vulnerable and exposed when riding a motorcycle. Therefore, the thought of having some protection in this area is an absolute given. There are a number of options available to us, ranging from basic high-density foam padding and viscoelastic polymers that slip into our jackets, to race-developed, specialised back protectors that are worn separately under your jacket. It's these, often overlooked by road riders, that I want to briefly delve into here.

Let's go back to the mid-1970s: Europe and the UK had a vibrant grand prix racing scene. The bikes were insanely powerful. Unfortunately the brakes, frames and tyres were simply light years behind these motors, as was track safety. Crashes were inevitable and a couple of hay bales surrounding solid objects trackside made little difference at the speeds these weapons were capable of doing. Enter one of my all-time heroes, the late, great Barry Sheene. This exceptional human being changed

At Baylink Motorcycle Training we have a fleet of bikes including Ducati's, Aprilia's, Harley Davidson's and BMW's but they are for the instructors not the students! We may let you sit on them though so, click here to book in for a course! motorcycle racing in so many ways that I just can't explain in the confines of this book. I'm lucky to say that before his untimely death in 2003, I had the pleasure of meeting him and spending a couple of hours chatting with this legend over dinner. Yes, I'm gushing.

Anyway, Barry was not only one of the best riders of the day, winning two world motorcycle championships, he was a great personality and was very outspoken about safety issues. Due to his popularity he was able to 'work with' or possibly 'work against' race organisers to improve the safety standards at tracks all over the world.

Barry was always at the forefront of rider safety, even when it came to personal safety equipment. He was one of the first riders to see the benefits of wearing a full-face helmet. He is credited as the first rider to wear kneepads on his leathers. He had these made in Japan in 1976 with hard plastic outside and

soft foam inside, to minimize impact on the body. Sound familiar?

But by far his greatest innovation was the back protector. The basic design was to let the spine bend forwards but not backwards, protecting the back while letting the rider comfortably maintain that 'rider crouch' position. He is quoted in *Bike* magazine as saying, "There was a chap who gave me a jockey's back protector in 1973 and that was the beginning. I modified it, formed some helmet visors onto a plastic plate and made it so it would bend forwards not backwards. I made about four or five prototypes then gave it to Dainese in 1977 and asked them to make it."

And the rest, as they say, is history. Dainese called it the Lobster, as it mimicked a lobster's

They even made the first shell. ones with red plastic to match. Now it is an accepted part of our riding kit in some way, shape or form. The design has evolved and been perfected by various manufacturers over the years, so that now it's offered with CE Level 2 safety, in a comfortable, wearable package that offers protection in the three main armour objectives of impact absorption and dissipation as well as abrasion resistance. I even know of a few guys who wear them especially on long-distance jaunts to offer support for their spine, therefore easing back pain that could have stopped them riding years ago.

Our spine is extremely vulnerable

on a bike and loss of limb movement is a real gamechanger. Quadriplegia and paraplegia are issues I can't even begin to contemplate. Back protectors and airbags (more on these soon) are designed to lessen this trauma, but at the end of the day your body is not designed to bend in unusual directions at speed.

If you have never tried a back protector, I recommend giving one a go, you've got nothing to lose but a lot to gain.



Don't be one of those riders that has all the gear and no idea! After reading this gear excerpt purchase the full book and pick it up when you do your course! Just ask for the coupon code, pay on-line and grab it there and then! CLICK HERE





GLOVES

Degloving: "A degloving injury is where an extensive section of skin is completely torn off the underlying tissue, severing its blood supply."

Well, that's food for thought. Degloving injuries are no laughing matter and are generally not associated with hands either, although, in the case of industrial accidents, like a hand, caught in a conveyor belt or motorcycle crashes, they can be. It's also the reason I don't wear my wedding ring most days; as I'm always playing with something mechanical, it can get caught deglove and your finger. My wife doesn't seem to care, she knows no other woman would put up with me, anyway.

No, it's called degloving because of the analogy of 'the

process of removing a glove, but it fits with the theme of this chapter and it gets your attention without showing gory photos of degloving injuries like I've had to witness researching this section.

Hands first

I don't know if you've ever fallen over on the road or a concrete surface while walking, running, skateboarding or cycling, but it generally hurts and what part of the body normally hits the ground first? That's right: your hands and it can mess up your hands pretty badly too. Why? Because it's a natural instinct (Fight, Flight and Freeze) to immediately put your hands down. Your brain isn't designed to do 80, so even at that speed, without thinking, you will put your hands down first, too. It's completely unavoidable. It's going to happen anyway, unless you are really lucky or really skilled at crashing.

Putting your hands down first may be unavoidable but you certainly can avoid a major injury to your mitts by simply wearing a pair of motorcyclespecific gloves.

Do I really need to wear gloves?

For me, motorcycles and gloves go together. I never ride without them but I see plenty of riders who do even on cold days. I saw a classic a while back this dude was riding his sports bike, no gloves, I was commuting so there was quite a bit of traffic around and it wasn't that warm. Mr. Cool's hands obviously got a bit cold so he takes one hand off the bars and puts it in his jacket pocket! A definite nomination for the Darwin Awards!

She loves me, she loves me not!

I remember in one learners' class, years ago, I was talking about motorcycle gear and in particular gloves. I try to be interactive with the group and have a bit of fun, if not just for my own sake, so I asked the question of this young 'loved up' couple in the class. How long have you been together? The girl answered, 12 months. I could see them wondering WTF. And do you live together? Again, the girl answered yes, but you could see them thinking, where is this going? I asked her, do you think he is 'the one'? She starting to blush and very tentatively said, Yes, with a look of "who is this sicko"!

I then asked what do you think would happen if you crashed a motorcycle at 60km/h (35mph) with no gloves on? The young guy jumped in and suggested confidently that your hands would get ripped up pretty badly. I agreed with him and wondered if he knew how the hospital would fix that? They both suggested that they would need to bandage them up for a couple of weeks. Then the whole group agreed, that's what they would

Do your training at Baylink Motorcycle Training Centre in Hastings. It's only a leisurely 20 minute drive from Frankston. Click here for more info.



probably do after they had scrubbed the wounds clean, with someone adding a story of the clichéd scrubbing brush and Dettol! (Sometimes called Lysol in the USA.) I turned back to our in-love girl and asked if she sees any problems having both hands in bandages from a bodily function point of view? It's then that the penny dropped. Toileting could be a problem, mainly from the view of who would have to do the wiping. It was at that point the girl turned to her partner and suggested that if he didn't wear gloves, she was out of there.

No gloves, no love!

The Administrative Assistant

In another class, a young 20-year-old guy admitted that he had that exact same scenario happen to him on a dirt bike a couple years before. Unfortunately, at the time he was living at home and guess who had to do the 'paperwork' on that job? Embarrassingly it was his mother.

No BS

I think of gloves virtually the same way as I think of helmets. I never ride without them. It's that simple. You don't need to spend a fortune on gloves to be relatively safe, but like a helmet, fit and comfort are extremely important.

Money to burn

Yes, you can spend a lot of money on gloves and if you have it to burn, go for it, lucky you. You can get some amazing features these days like better looks and colour, better longevity, better brand names, titanium knuckle protectors, kangaroo hide, waterproofing, just to name a few. But will you get better safety? Yes, you may, but probably not huge amounts and of course it could depend on how you crash. So, spend if you have it, but if you don't, at least wear a reasonable pair of motorcycle-specific gloves that will still have you adequately covered and won't max out the credit card.

So, why don't I spend big bucks on gloves? It's mainly because I don't have big bucks to spend but I definitely want to protect my hands, I certainly need them in day to day life.

These days you can get a very comfortable leather glove with Kevlar[®]/aramid stitching, a double layer of leather or aramid on the palm, some carbon fibre on the knuckles and a high wrist coverage (gauntlet style) adding to wind and water protection, all for a very reasonable cost.

Two's fine, three's fantastic!

Keep in mind you're probably going to need a couple of pairs of gloves. Think about it, if you commute to work in the rain your gloves will get saturated, they probably won't dry in time for the ride home (leather gloves should dry naturally and slowly). On even a mild day in wet gloves the wind chill factor will freeze your hands to the bone. You may also need winter gloves for a couple months of the year. So, you will need to save some budget for a couple of pairs of gloves rather than only one of the best of the best.

Fits like a glove

Fit and comfort are absolutely vital. You need to be 100% comfortable in the use of the controls of

Do you want to look like a cool rider right from the start? I can't promise you'll look any better with your helmet off but I can guarantee you will with your helmet on! Click here and Complete Rider will help! your bike wearing any glove you choose, summer or winter. If you reach out for the brake and fumble, you could hit that car at twice the speed, so the wrong glove could be just as bad as a wet, coldfatigued hand when it comes to reaction time.

Too tight for comfort

My first few pairs of gloves were way too tight. I'd try them on in the shop, push them down into the webbing of my fingers then probably say, "Yep, they fit like a glove," but when I made a grip like when you hold the bars, they were way too restrictive. I would be using muscle energy just to make a grip. Therefore, fatigue would set in sooner and that could end in disaster. So now when I try on gloves, I find a bike to sit on, preferably my own, and confirm that I'm happy with my choice.

Ultimately you want your gloves to be 'unrestrictive' while on the bike. I have to admit I much prefer my gloves to be bigger than smaller, but in saying that, you don't want an extra two inches longer in the fingers flapping around. Like helmets, try on a few pairs, don't be vain and buy the best-looking ones if they don't fit you well. And if you can't find the right ones, keep looking, you eventually will. But please don't be tempted to ride without gloves for the sake of your mother, wife, boyfriend, girlfriend or flatmate. Trust me, they don't need your shit in their life!



It's a Euro frenzy, EN13594 is the standard for motorcycle gloves, of course it is. Gloves are tested for abrasion resistance, impact resistance, main seam resistance to tearing and cut resistance. With both Level 1 and Level 2 standards. However, there is no EC intelligence test for people who don't wear them. That would be EN not smart, Level 2.



PANTS

Soft Tissue Injury: A soft tissue injury is damage to the muscles, ligaments, tendons, cartilage, blood vessels, skin, fat and other tissues that connect, support and surround the bones and organs of the body. These include sprains, strains or contusions, most often resulting in pain, swelling and bruising.

What we do know is that soft tissue Injuries (it just doesn't sound right to call them STI's) to the legs are one of the most common motorcycling injuries. Now, I do agree you probably won't die from them but you will feel pain and the type of damage done by falling off a motorcycle at any speed will probably cause lots of pain, for a good couple of weeks too. Unfortunately, the older we get the more it hurts and the longer we take to heal.

I like to think of myself as tough Aussie guy, but to be honest, I try my best to protect myself with motorcycle-specific gear.

We have already looked at textile and leather as materials when discussing jackets. I did suggest that I prefer textiles to leather for jackets, due mainly to the fact that we can protect our upper body and its

WHAT WE DO KNOW IS THAT SOFT TISSUE **INJURIES (IT JUST** DOESN'T SOUND RIGHT TO CALL THEM STI'S) TO THE LEGS ARE ONE OF THE MOST COMMON MOTORCYCLING INJURIES.



vital organs from the elements like cold, wet and wind. But this is not the case for pants. There are no real vital organs carried in our lower body, well, not that I use regularly anyway! So, I more often than not ride in my leather pants and I find them to be comfortable in both hot or cold conditions. If it gets really cold and wet, I can put a basic plastic over-pant on for an extra layer of protection. These roll up very small and can often fit under your seat. I love the safety that leather affords to my legs because I've seen the consequences of inappropriate pants far too many times.

I also regularly wear a Cordura[®] type adventure pant, especially if it is excessively hot. I find the vents that zip open do a great job of letting a little extra air flow in especially as we sit on a hot engine, cooling system and exhaust. I do worry that these vents, more so in pants than jackets, may be the weak link that causes the garment to fail and peel open like a banana, but this is a compromise I'm willing to live with for comfort. My current adventure pants have knee and hip armour, Kevlar[®] on the butt, and the leg bottoms zip over the boots for water ingress protection.

The one material that we have yet to cover and is probably the most widely used and purchased for motorcycle pants is Kevlar[®]/aramid.

Kevlar[®] is the trademarked name of a heatresistant para-aramid synthetic fibre that was developed by DuPont. It's also known as aramid. This is the generic or proprietary name used for a similar substance but not sold by DuPont. Meaning if it's not a DuPont-made product it can't use the registered and trademarked name Kevlar[®], it must be called aramid. So, from now on, to save confusion and to not piss off DuPont, I will refer to this product as aramid unless I am specifically referring to the DuPont product.

This man-made product has the same strength as steel but is five times lighter in weight. So, it can be woven into a material that is comfortable to wear but offers high-strength abrasion and cut resistance.

Aramid has many applications apart from motorcycle gear, including car tires, bicycle tires, yacht sails, bullet-proof vests, 4x4 winch cable, industrial PPE, military armour and automotivestrength panels. It's also made into thread for stitching seams which is widely used in our motorcycle gear to keep things together when we impact with the road. Just about any application where strength is needed and weight is not, you will find aramid.

It was developed by Stephanie Kwolek at DuPont in 1965. Stephanie was an early pioneer in polymer research and I would suggest a pioneer of women in science too. Today we almost take women's achievements for granted but it was a very different world when she started at DuPont in 1946. In her long career she accumulated several patents and many awards. In 1964 she began searching for a lightweight yet strong material to replace steel in automotive tyres. Kevlar[®] was first used in car racing tires but has since spread to so many applications it's hard to imagine a world without it.

What does it do for us motorcyclists?

Aramid in its woven form has a very high abrasive resistance. Great for us if we are sliding along the road. It's also cut-resistant for both impact with the ground or a sharp object, like our bike contacting us in a crash. It can also tolerate the high heat that friction creates, yet still be comfortable, light and unobtrusive to wear.

Does aramid breathe?

For motorcycle application the aramid is woven into a material that still offers reasonable air flow, it may be marginally hotter than normal jeans, just like having an extra layer on, although not as hot as leather.

What happens in rain?

Aramid is not water-resistant as such, so just like your jeans, it will get wet. It can be manufactured to be water-resistant and this is done for other applications like textile pants and jackets, but as most aramid layers are sewn into the inside of the jeans, there is no point.

Strength

It does depend on what statistics, tests or advertising BS you read or believe but aramid motorcycle pants have reasonably good abrasion resistance, although it is generally accepted that they are *not* equal to or better than leather. However not all leather products are equal and not all aramid products are equal either. Aramid jeans certainly do have a place in situations where you don't want to wear leathers, maybe to an appointment, shopping or out to dinner etc. They are definitely a better compromise than cotton pants if you'll be riding.

Value for money

If the budget is tight or you just don't like the look of leather, aramid jeans are a great alternative but in the long run leathers are probably better value for money. I've had my leathers for over 20 years now (I've never washed them either) and they still have plenty of years left in them. Over that time, I have had many pairs of various aramid jeans, to the point where I've probably spent five times more on them and I know which one I feel safer in.

Coverage

There are a few options to consider when buying aramid jeans. One major decision you will have to

make is how much coverage you want. Some brands have aramid on only the impact points, i.e. knees, hips and butt. Some offer three-quarter coverage or full coverage. As aramid is pretty expensive, it goes without saying that the more aramid there is, the more expensive the product will be. So, price may drive this decision. As far as safety is concerned, this one is pretty obvious, full is safer than threequarter, but impact coverage is still going to be safer than nothing at all. You choose, after all, they are your legs!

Armour

I think you probably know my theory by now, I believe aramid motorcycle jeans have a place in our world but without hip and knee armour you may as well just be in shorts. So, make sure that any brand of aramid jeans you buy has pockets in place to put good viscoelastic armour. They are a marriage made in heaven for us motorcyclists.



Don't be tempted to bleach your aramid jeans to clean up that brown undie stain. Bleach is like kryptonite to aramid and your \$200 jeans will turn into aramid soup!



BOOTS

One often forgotten piece of motorcycle gear is boots, so, we are going to jump in, boots and all and consider the reasons why a good pair of motorcycle boots are a necessity for motorcycle riding.

If you are at all interested, Google *'motorcycle leg and foot injury statistics*.' You can bet your boots that one of the most common forms of injury is to the lower limbs, i.e. legs and feet. My most serious bike injury was when I shattered the cuboid bone in my foot. This required six weeks in a moon

boot with no weight-bearing to see if it fixed itself. It didn't, so this was followed by a bone-graft operation with some staples and another six weeks in a cast. The worst part about it was that I didn't even fall off the bike!

So, just for a moment put yourself in my boots; it's the mid 1990s, I was on my dirt bike in the Victorian High Country and was having a blast out in the middle of nowhere, just me and my trusty TT350. I came around a tight dirt corner, obviously a little bit too quick, I didn't turn my head, which at this time I hadn't worked out yet and nobody had bothered to tell me. Well, my heart sank into my boots as I ran wide and sideswiped a dirt embankment. My foot dug in, as the bike kept going which in turn snapped the front half of my foot sideways at an unnatural angle of about 90°, thereby blowing a little bone in the outside of my foot to smithereens. The thing is, I kept it upright and was able to ride on, except for the excruciating pin-point pain that only a broken bone gives. The problem was, I was about an hour's ride away from my car, all by myself. I'm as tough as old boots, so I rode on back to the car. Now, to really stick the boot in, I had to put the bike on the trailer by myself and drive two-and-a-half hours home as my foot swelled to the size of a football.

Now, before you get all too big for your boots and say I didn't have proper motocross boots on, I did. But I will admit they were a few years old, like my TT350 and not quite as strong as they could have been. I should have updated my boots to newer ones with a tougher sole. So, I for one have a great deal of respect for motorcycle boots.

I don't want to be a bossy boots and tell you what to do, but if I was you, I'd spend at least one hundred bucks or more on a pair of motorcyclespecific boots. Why, you ask?

One of the best reasons is to protect your ankles and feet. When I hit the dirt embankment, I was probably doing about 25km/h (15mph), that's it. Imagine the damage I would have done if I had been doing 60km/h (35mph)?

Not only do you chance shattering bones but it's not uncommon to lose toes in a motorcycle crash. No, you don't misplace them as such, they get cut or ground off! I don't know if you know much about toes but they do come in handy for both balance and walking. You will eventually learn to walk again but you'll have to pull yourself up by your bootstraps and work your butt off in rehab to do it.

Kick your boots off

One of the many design briefs of the modern motorcycle boot is to try and get them to stay on in a crash situation. A motorcycle crash is an extremely violent incident and there is no doubt there have been many cases of runners, elastic-

At Baylink Motorcycle Training Centre we also have Scooters. If you want to ride a Scooter click here. 5

LONG DAYS IN THE SADDLE MEAN YOU NEED COMFY BOOTS. DESPITE WHAT THE SONG SAYS, MOST MOTORCYCLE BOOTS AREN'T MADE FOR WALKING, ESPECIALLY RACE-INSPIRED BOOTS, THEY CAN BE SHAPED FOR A CERTAIN RIDING POSITION



sided work boots, Velcro slip-ons or loafers (does anyone still wear them?) just flying off and unless you had the forethought to wear your aramid socks you are in big trouble. No, a motorcycle-specific boot will have two or three ways to attach them to your body like Velcro, zippers, buckles or laces. Most motorcycle boots have the laces hidden so they don't get caught on foot pegs or levers. So, give all those other shoes the boot and wear a pair of motorcycle-specific boots.

The Anny mars Rider

Motorcycle fairings do more than just look good. They keep your feet dry as well. The first time I rode a naked bike in the rain after many years of only owning fully-faired machines I couldn't believe how waterlogged my feet got. Then when I first started training, I wanted to experience scooters, as I was training people on them. I then realized just how dry and warm your feet stayed on them!

What else do motorcycle-specific boots do?

Comfort: Long days in the saddle mean you need comfy boots. Despite what the song says, most motorcycle boots aren't made for walking, especially race-inspired boots, they can be shaped for a certain riding position. So, pick a boot that will complement your genre of riding.

Water resistant: I've never had a motorcycle boot that is 100% completely waterproof but most seem to be pretty good in light showers. Cold, wet feet increase fatigue levels and make riding uncomfortable and unpleasant.

Grip: On both the pegs and the road surface, it's an important feature of any motorcycle boot that they have a slip-resistant sole.

Strong construction: This is important for a number of reasons. The boot's shell needs to be stiff enough to resist folding, crushing or twisting, all of which can cause severe injuries. A boot needs to do this while still giving you good feel on the controls.

Height: I'm not a fan of the new-style of 'shorty' boots (the ones that look like a runner but are a bit harder and only have protection for your heel and toe). Call me old-fashioned but high up over the ankle protection is vital for motorcycle boots. A motorcycle boot should offer good torsional stiffness, shin and tibia protection and some lower-calf muscle protection. These 'shortys' are not for me, but they are still better than joggers.

Gear lever protection: Whether it be leather, plastic or rubber, you need that extra layer on top of your foot for the gear shift lever. If you do decide to ride in that trendy pair of Doc Martens or new white runners, you will quickly scuff them up on that shift point.

Heat resistance: Your feet can sit very close to either the exhaust pipes or the engine. They can get hot and very uncomfortable. Most manufacturers keep this in mind when designing their boots.

Stitching: A motorcycle-specific boot is generally very solidly stitched, using either double or triple stitching. You don't want them falling apart if they impact with the road.

Heal, ankle and toe protection: Motorcyclespecific boots will have some kind of extra protection for your heel, ankle and toes. It may be extra layers of leather, moulded plastic or titanium. This is vital, though.

Abrasion resistance: This too is vital in a motorcycle boot. It is not unrealistic to slide down the road with your foot and leg stuck under the bike. At any reasonable speed it won't take too long to grind away a thin layer of nylon on your joggers and an inch or so off your foot.

Fun Fact: Complete Rider is written anonymously, no one would own up to writing some of those jokes! CLICK HERE to see for yourself!



Surprise, surprise, those crazy Europeans have an EC Standard for motorcycle boots too, well actually it's a good thing. EN13634:2017 is the latest version at the time of print. It involves four mandatory tests and six optional ones. The first one is not really a test but it determines if the boot is ankle or shin height. Then they are tested for abrasion residence, impact cut, transverse rigidity. The optional tests are for impact protection for ankle and toe, resistance to water penetration, resistance to fuel and oil on the sole, slip resistance of the sole, breathability (can moisture escape?) and water absorption. Of course, there also Level 1 and Level 2

AIRBAG JACKETS AND VESTS

The future is definitely here now, sort of!

Airbags in cars have been the norm for many years and since the mid to late '90s they have been mandatory in many countries. They are just an excepted part of motoring now and you wouldn't dream of putting your loved ones in a vehicle that didn't have at least one air bag or seven as my latest 4x4 pickup has. Same goes for ABS, stability control and traction control; these electronic aids have had a massive impact on vehicle safety in recent years. It's taken a while but finally, ABS, stability control and traction control have started to make their way onto many of our bikes – but what about airbags?

Will airbags ever be on bikes?

There probably will be a time when we look back and wonder why the hell we didn't have airbags on motorbikes sooner. When my young son writes the 21st edition of this book long after I've gone, he'll say "what were they thinking back in the 20s? How come they couldn't work out how to fit airbags to bikes properly?"

But sadly, currently the jury is out on whether it can be done effectively. Some issues designers are grappling with are size and weight limitations, where to deploy the airbag, what part of the body are we trying to protect, what will happen when the rider is thrown clear of the bike, will it deploy quickly enough to be effective, can it withstand the exterior elements present on a motorcycle and will it be effective with a passenger? Honda has been fitting airbags to its massive Gold Wings for a number of years but whether that technology can cross over to small commuter bikes is unknown, although in my opinion it's more a matter of when rather than if. There's also a price issue, being that the Gold Wing's price is higher than a lot of cars on the market at the moment. I would suspect the airbag system alone would cost more than most entry-level bikes. Again, I'm

sure airbags on bikes will happen but sadly it's not going to be tomorrow.

It's up to us then

All this means that the onus is on us to look at the alternatives for our individual safety and at this stage that looks to be an airbag jacket or vest system. These have been around for many years as well but they are now starting to grow in popularity. Advancements are making them quicker to deploy, less bulky, more robust with greater upper body coverage, better compatibility with armour and of course better value for money. I won't say cheap but certainly comparable to a top-quality helmet, which makes them within the reach of any truly committed motorcyclist.

Full of cold air

Most modern personal airbag systems seem to deploy within a quarter of a second or so. This means that if you are thrown from the bike, they are able to inflate before you hit the ground or a solid object. Upper-body coverage seems quite good and evolution is making this even better. I certainly love the support that is offered, especially to the neck and upper spine area. Enduro and motocross riders have been using neck braces for many years now but for us road riders they tend to restrict the head-turning movement too much, therefore making them impractical for our use.

I like to have options

At the moment the market is split into two very different, distinct technologies. One uses a mechanical system to deploy the airbag and the other uses an electronic-based computer system with various sensors and algorithms triggering the system. Both have their pros and cons and both have very sound reasons behind their technology. I certainly trust both, so it will depend on your personal preferences.

It's impossible to keep up

As this technology is moving so quickly at present, I will refrain from going into too much detail but there is plenty of information out there on the internet for you to research. The following will hopefully help break the ice for you.

Mechanical deployment

This method uses a lanyard or cord to attach the jacket or vest you are wearing to the bike. When it is pulled hard enough – and no, it won't deploy if you just forget to unclip it getting off the bike – a canister of air instantaneously inflates the airbag to protect your upper body. It's easy to use, pretty much fool-proof and it can be reloaded and reused straight away by simply fitting a new CO_2 canister. The system comes either integrated into a jacket

Who are the instructors at Baylink Motorcycle Training Centre? What experience do they have? Click here to find out.

or as a standalone vest that can go over any jacket you already own. It has no batteries to recharge and no electronics to stress about. There are a number of brands to choose from, and with the price tags being more than reasonable, they are well within the reach of the average rider. Extra C0₂ canisters can be purchased and only cost about \$30, so it is recommended that one extra canister is carried on long-distance rides, though more can be carried if you plan on crashing multiple times!

Electronically deployed

This technology uses sensors and electronics to determine when and if to inflate the airbags. Computer-based algorithms take information from sensors that communicate with the computer at a ridiculously quick rate (200 times a second), triggering the airbags if needed. There are different algorithms for the road and the track, as these crashes are very different. Some models allow you to swap between road and track use, some have a separate road or track versions. This is cutting-edge technology but it does come at a financial cost of course, although not as much as you are probably thinking. These systems look less cumbersome than their mechanical brothers, being as they are a smaller type vest zipped into a jacket with most of the electronics and C0₂ system housed in the CE-approved Level 2 back protector. At present they only seem to be paired with that particular manufacturer's compatible jackets, although some day I believe this will change and a manufacturer will offer a generic style inner vest using this same type of technology. It may take some time, though. Unfortunately, if deployed, they can only be reset by the manufacturer at a cost of around \$250. There is also a small turnaround time where you will be without the airbag inner vest throughout this process. The inbuilt batteries also need to be recharged, but battery life gives around about 30 hours riding time. The big positive with this technology is there is no lanyard or cord attached to the bike.

Again, both systems have their pros and cons but overall, it's got to be a massive advantage to have an extra level of cushioning if you hit the ground or a solid object. Both systems will get cheaper in time as more riders take advantage of this type of safety aid. I believe they are both well worth looking at for any level of rider. So, please go and do some research, you may be pleasantly surprised at just what is available in the market today.

WHAT SHOULD WE TAKE FROM THIS CHAPTER ABOUT MOTORCYCLE GEAR?

I could very easily have written 100,000 words on motorcycle gear alone and I've really only just scratched the surface. It's a bit of a minefield, with so many products and issues to go into. The motorcycle safety apparel world is always evolving and this information will probably be outdated by the time you've finished reading it. So, do your own research to make sure you get exactly what you need. Spend your money wisely, after all it's your body you are protecting. The best way to think about it is to buy motorcycle-specific gear and fit it out with good-quality armour.

It's important that we all keep up to date with the latest innovations in motorcycle protective gear. Please, always try to remember the quote we started this section with:

Motorcycle gear is completely your choice. It's the one thing about our passion for riding motorcycles that we have 100% control of!

I'd like to finish on a lighter note with a couple of lines by one of the funniest comedians of our time, Mr. Jerry Seinfeld from his series Comedians in Cars Getting Coffee. They sum up perfectly the two main reasons why we need to wear appropriate gear on a bike:

"There was a guy that worked at my dad's shop, he was a motorbike guy and he came in one day. It was pouring with rain and he was soaking wet. I looked at him, I was like 17 years old at the time and I said, so today don't you wish you had a car? He answered no, I just wish it wasn't raining!"

And, "If I get the cancer diagnosis and the Doc gives me six weeks, I'm going straight to the Ducati store."

In all seriousness, please give Baylink Motorcycle Training Centre the chance to train you to the highest standard possible for your Learner Permit, Check Ride and Licence. You won't regret it! And don't forget to check out Complete Rider to up your riding game by reading or completing the online course at www.aCompleteRider.com

