

Heads up

In the wake of a Government campaign to get children wearing helmets, and last issue's response from CTC, John Franklin takes a closer look at a controversial subject



Cycle helmets have been around for many years, but helmet-wearing only started to become widespread in the late 1980s when reports suggested that they could achieve substantial reductions in deaths and serious injuries to cyclists. Nationally one-in-five cyclists on busy roads, and one-in-12 on minor roads, now wear helmets, but rising to one-in-two in some towns and cities. Many cyclists have become convinced of the benefits of helmets, and from time to time CTC receives correspondence from members critical of the organisation's more cautious approach.

But there is still a great deal of controversy about whether or not helmets reduce injuries (and, if so, what types of injuries), and about the role and impact of helmet promotion campaigns. Indeed, these issues are now under the spotlight as never before. Insurance companies have attempted to reduce compensation to unhelmeted cyclists who suffer head injury, and the threat of compulsion has increased, both universally and for certain groups such as children and cycling postal workers. Members of the National Cycling Strategy Board are concerned that their plans to raise cycle use through a national marketing strategy are being undermined by helmet promotion campaigns, especially when these use scare tactics and exaggeration

To be better informed, CTC has been working with an international team of specialists, looking more closely at trends in injuries as helmets have become more common, the real risks of cycling and the wider consequences of helmet promotion.

Cycling risks

Research shows clearly that cycling is in fact a very safe activity, for the health benefits greatly outweigh risk of traffic accident, perhaps by 20-to-one. Indeed, cycling regularly to work is by far the most effective way a person can increase his or her life span. Cycling also has considerable potential to address illnesses such as obesity and heart disease that are the principal causes of premature death in Britain – they're over 500 times more likely to kill than cycling.

If the risk of injury when cycling is small, the risk of head injury is much smaller. It takes over 3,000 years of average cycling to suffer a serious head injury, and the risk of death through head injury is very small indeed. Whilst head injury is, not surprisingly, a principal factor in all premature deaths, it is a little less likely to be so for cyclists than pedestrians or car occupants, who, research shows, have potentially more to gain from helmets.

Despite this, helmet promotion

campaigns invariably brand cycling as 'dangerous', both in itself and relative to other activities. This leads thousands of people to forego a pursuit that might benefit them greatly. Cycle use has indeed fallen dramatically almost everywhere that helmets have been promoted. The effect has been particularly pronounced amongst teenagers, with falls in cycle use of up to 60%.

If people are deterred from cycling by helmet promotion, this represents a serious loss of public health benefits to society as a whole. This is bad news not only for the people who don't cycle, but also for those that do. There is now clear evidence that by far the most effective way to make cycling even safer is to increase the number of people who cycle. As cycle use doubles, the risk of injury per cyclist falls by a third. This is real risk reduction. It follows that society has far more to gain from having more people cycling without helmets than fewer people cycling with them – and that is before one takes account of other public benefits of cycle use, such as improved air quality and reduced congestion. Yet the UK Government has never analysed this.

Injury reduction

Helmet promotion campaigns claim great benefits from helmet use, but

these predictions are based on small non-randomised studies, that have never been matched by real-life evidence from whole population data, such as traffic casualty and hospital treatment records.

Across several countries where helmet use has become significant, large population sources show no discernible reduction at all in fatal or serious injuries relative to cycle use. Moreover, where injury trends have changed, the number or severity of injuries has increased. In London, for example, where some 50% of cyclists now wear helmets, injury severity was higher in 2001 than in 1981 and fatalities were at their highest since 1989. This cannot be attributed simply to traffic conditions; the severity of pedestrian casualties, which historically tracks those of cyclists, declined.

In the USA, an increase in helmet wearing from 18% to 50% of cyclists between 1991 and 2001 was associated with a 40% increase in risk of head injury. Safety experts admit to being mystified that they can't find a benefit from rising helmet use. In Australia, there have been competing claims about the effect of the country's helmet laws, but it is now clear that whilst the absolute number of head injuries fell, this was proportionately less than the decline in cycle use.

'But it saved my life'

In discussion amongst cyclists, often someone will relate their experience of a collision which leaves them to believe that a helmet has 'saved their life'. This is a very common occurrence – very much more common, in fact, than the actual number of life-threatening injuries suffered by cyclists. As previously indicated, there is no evidence that helmets save lives or serious injury at all across cyclists as a whole. This finding may at first appear counterintuitive, but there are several possible explanations.

To start with, there is a good deal of circumstantial evidence that helmeted cyclists are more likely to crash, and data from one research study found that those wearing a helmet are more than seven times likely to hit their heads if they do. This in turn could be explained in various ways, one being



'Bike users' are often not keen helmet wearers

that many falls result in arm and shoulder impacts that keep an unhelmeted head just clear of the ground. A helmeted head, being twice as big, is more likely to hit something.

Another possibility concerns so-called 'risk compensation' – the tendency of people (consciously or otherwise) to take greater risks when they feel better protected. There is clear evidence of this particularly among child cyclists, one teenager telling researchers: 'I always feel safe wearing it, because when I'm not wearing it I don't feel like I can really go top speed because if I do have an accident I'll be killed, but if I'm wearing it I'll be all right'. This makes it all the more important not to exaggerate in promotional campaigns whatever limited benefits helmets may have. If people take greater risks due to a misplaced belief that their helmet makes them safer, they could well be more likely to be injured.

Head injuries are not all the same

It is understandable that people's concerns about head injury should be dominated by fear of death or chronic intellectual disablement. But most injuries to the head are superficial and recovery is quick. As such, these injuries need be of no more concern than injuries to other areas.

A small minority of head injuries has more serious consequences, usually as a result of brain damage. Most brain injuries sustained in road crashes involve rotational forces, which cycle helmets do not mitigate. Indeed, some doctors believe that helmets may increase the likelihood of the most serious injuries by converting direct forces into rotational ones.

Promotional campaigns mislead if they do not distinguish between types of head injury and their consequences.

Government policy

The UK Government has carried out no research to measure the effects of helmet promotion on cyclist injuries or cycle use. A literature review last year has been criticised for concentrating almost exclusively on small-scale case studies and ignoring completely a great deal of evidence that is crucially relevant. To make an informed judgement about whether or not to wear a helmet, cyclists and the wider public need the full facts, placed in proper perspective.

There is now ample evidence that helmet promotion leads to fewer people cycling, without improving the risk faced by those who continue to cycle. On the other hand, increasing cycle use, by creating more attractive conditions for cycling, is a well-proven way to achieve significant benefits both for cyclists' safety and for public health. That should be the top priority for local and national Government alike.

More detailed information about cycle helmets can be obtained through www.ctc.org.uk and www.cyclehelmets.org.

The latter is the website of an international coalition seeking to make available independent information about cycle helmets.

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