

technology may be required by the licensee to confirm that he or she is the first and true owner of the intellectual property rights being licensed and that to the best of his or her knowledge no other agreement exists that might prejudice the licence agreement. In our case each of the four inventors was required to sign a declaration that we were the first and true inventors of the technology. This is done routinely as part of the inventor's standard agreement with the universities patent holding company. The patent examination procedures will throw up additional information, patents, and publications which go some way towards verifying the accuracy of the inventors' claims.

For American patents the inventors must bring to the patent examiner's attention any information of which they are aware that might be relevant to the patent application. In our case ownership of intellectual property had to be confronted early on because the project involved two academic institutions. There is no ideal way of doing this, but obtaining the appropriate declarations early on and going through the patenting systems helped to clarify ownership for the licensee and indeed for those managing the project on behalf of the university.

TOM O'DOWD
Professor of general practice

Trinity College,
Dublin 2,
Republic of Ireland

NICK BOURNE
Research development manager

University of Wales College of Cardiff,
Cardiff CF1 3KA

Hazards of reducing cholesterol

EDITOR,—The paper by Law and colleagues¹ has given rise to further debate on the safety of cholesterol reduction. In particular, there has been speculation concerning a disputed increase in deaths from suicide and accidents,² which might indicate detrimental effects on the central nervous system associated with lowering cholesterol.

Data gathered during the 8245 patient, 48 week, double blind, placebo controlled, parallel groups, expanded clinical evaluation of lovastatin (EXCEL) study are pertinent to this issue since concentrations of low density lipoprotein cholesterol were substantially reduced (by 24-40%) over a relatively long period.^{3,4} The table lists the most commonly occurring nervous system or psychiatric adverse effects, defined by an incidence of $\geq 1\%$ in any treatment group, regardless of severity, seriousness, or investigator's judgment of drug relatedness.

The prevalence of adverse events was similar during placebo and active treatments. Notably, depression was reported in 1.7% of those receiving placebo versus 1.4% of all those given lovastatin (20-80 mg/day). The percentage of total nervous system or psychiatric adverse effects classified as

serious (defined as life threatening, requiring hospitalisation, or resulting in substantial or permanent disability, regardless of cause) was 0.4% (7/1663) in the placebo group and 0.6% (39/6582) in all patients receiving lovastatin. The incidence of serious events within individual categories was low and did not exceed 0.2% (n=3) for any treatment group. There were two suicide attempts (one with lovastatin 20 mg once daily and one with lovastatin 40 mg twice daily) and 10 cases of serious depression (two with placebo; one with lovastatin 20 mg once daily; one with lovastatin 40 mg once daily; three with lovastatin 20 mg twice daily; three with lovastatin 40 mg twice daily). As previously reported,⁴ none of the 36 deaths occurring during the study was attributable to depression, other nervous system or psychiatric disorders, or accidental causes.

Although it is difficult to draw firm conclusions about events with a low rate of occurrence, data from this large randomised controlled trial do not support an important increase in nervous system or psychiatric adverse experiences after significant cholesterol reduction by lovastatin over a 48 week period.

CHRIS LINES
Medical programme coordinator

Merck, Sharp and Dohme Neuroscience Research Centre,
Harlow,
Essex CM20 2QR

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- 2 Muldoon MF, Manuck SB. Safety of cholesterol reduction remains in doubt. *BMJ* 1994;308:1104-5. (23 April.)
- 3 Bradford RH, Shear CL, Chremos AN, Dujovne C, Downton M, Frankling FA, et al. Expanded clinical evaluation of lovastatin (EXCEL) study results. I. Efficacy in modifying plasma lipoproteins and adverse event profile in 8245 patients with moderate hypercholesterolemia. *Arch Intern Med* 1991;151:43-9.
- 4 Dujovne CA, Chremos AN, Pool JL, Schnaper H, Bradford RH, Shear CL, et al. Expanded clinical evaluation of lovastatin (EXCEL) study results. IV. Additional perspectives on the tolerability of lovastatin. *Am J Med* 1991;91(suppl 1B):25-30S.

Cycle helmets

Deter people from cycling

EDITOR,—Leonard Evans refers to a rise in the rate of motorcycle deaths after repeal of motorcycle helmet legislation in about half of the United States.¹ However, the rise in deaths per registered motorcycle was actually greater in the states that continued to enforce the use of motorcycle helmets. These and other data strongly indicate the futility of helmet legislation.²

Two scientific problems make it difficult to describe the effect of helmets on injuries to pedal cyclists. Firstly, people who voluntarily wear helmets tend to be different from those who do not; this confounds published studies of voluntary wearing so badly that the results cannot support

arguments for helmet use. Secondly, modern road use intrinsically involves balancing risks, and people in pursuit of a goal have a strong tendency to compensate for one lowered risk by increasing exposure to other risks.³ Indeed, W Robert Pitt and colleagues' graph suggests an increase of non-head injuries due to cycle helmets.³

C Maimaris and colleagues studied helmet use among injured cyclists.⁴ They suggest that pedal cyclists should be compelled to wear helmets. Three assertions are fundamental to their argument, all denying the likelihood that people who voluntarily wear helmets accept different levels of risk. Firstly, they state that "Cyclists who wore safety helmets were just as likely to be involved in accidents." However, they give no relevant information on cyclists who did not have accidents, and so they cannot estimate the relative likelihood of having an accident with or without a helmet. Secondly, they argue from the premise that cyclists who own helmets but do not wear them would behave as cautiously as helmet wearers. This idea is also unsupported by evidence. Thirdly, they reject the idea of greater caution among cyclists voluntarily wearing helmets because their non-head injuries were similar to those of cyclists without helmets. However, Maimaris *et al* give no reason to expect that injuries to more cautious cyclists, when they occur, will be intrinsically different. Finally, risk compensation behaviour is not mentioned, although it could nullify any benefits of enforcing helmet use. Their conclusions are therefore not based on a scientific argument from evidence.

Cycle helmets strongly deter people from cycling and are no help to any desirable public aim. They should remain a matter for personal choice. However, reducing hazards on the road would make each journey a safer experience. Gilbert and McCarthy indicate why heavy goods vehicles, at least, should be restricted.⁵ Cycle helmets do not offer effective protection against impact from a car, let alone a heavy goods vehicle.

RICHARD KEATINGE
Consultant in public health medicine

Gwynedd Health Authority,
Bangor LL57 4TP

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- 2 Adams J. *Risk and freedom*. Cardiff: Transport Publishing Projects, 1985.
- 3 Pitt WR, Thomas S, Nixon J, Clark R, Battistutta D, Acton C. Trends in head injuries among child cyclists. *BMJ* 1994;308:177. (15 January.)
- 4 Maimaris C, Summers CL, Browning C, Palmer CR. Injury patterns in cyclists attending an accident and emergency department: a comparison of helmet-wearers and non-wearers. *BMJ* 1994;308:1537-40. (11 June.)
- 5 Gilbert K, McCarthy M. Deaths of cyclists in London 1985-92; the hazards of road traffic. *BMJ* 1994;308:1534-7. (11 June.)

Do not separate bicycles from motor vehicles

EDITOR,—As a member of the American National Standards Institute Z90 Committee on Vehicular Head Protection, I agree fully with Katie Gilbert and Mark McCarthy¹ and C Maimaris and colleagues² that, while wearing a helmet can prevent or mitigate many cycling injuries, injuries must also be reduced by preventing accidents from occurring. Among other measures, Gilbert and McCarthy call for more bicycle tracks, Maimaris and colleagues recommend more cycling facilities separating cyclists from other vehicles, and in the Editor's Choice Richard Smith argues that many more people would cycle if they could be separated from motor traffic.

It seems intuitively plausible that cycle paths or pavements separated from motor traffic would remove the risk of collision with motor vehicles. Casual cyclists and non-cyclists usually consider these to be the safest facilities, and this opinion surfaces occasionally in the medical literature. The evidence, however, contradicts it. Medical research has not addressed this question, and

Number (percentage) of patients given lovastatin or placebo reporting clinical nervous system or psychiatric adverse experiences

Most common experiences ($\geq 1\%$ of patients in any treatment group)	Lovastatin (mg/day)					Total (n=6582)
	Placebo (n=1663)	Once daily		Twice daily		
		20 mg (n=1642)	40 mg (n=1645)	20 mg (n=1646)	40 mg (n=1649)	
Anxiety disorders	18 (1.1)	14 (0.9)	14 (0.9)	16 (1.0)	19 (1.2)	63 (1.0)
Depression	28 (1.7)	17 (1.0)	17 (1.0)	26 (1.6)	31 (1.9)	91 (1.4)
Dizziness	101 (6.1)	113 (6.9)	111 (6.7)	90 (5.5)	92 (5.6)	406 (6.2)
Headache	366 (22.0)	362 (22.0)	338 (20.5)	360 (21.9)	351 (21.3)	1411 (21.4)
Insomnia	43 (2.6)	35 (2.1)	39 (2.4)	41 (2.5)	55 (3.3)	170 (2.6)
Migraine	14 (0.8)	21 (1.3)	16 (1.0)	19 (1.2)	26 (1.6)	82 (1.2)
Nervousness	23 (1.4)	11 (0.7)	17 (1.0)	18 (1.1)	16 (1.0)	62 (0.9)
Paraesthesia	72 (4.3)	48 (2.9)	52 (3.2)	66 (4.0)	54 (3.3)	220 (3.3)
Sleep disorders*	11 (0.7)	4 (0.2)	18 (1.1)	15 (0.9)	11 (0.7)	48 (0.7)
Somnolence	11 (0.7)	13 (0.8)	20 (1.2)	13 (0.8)	24 (1.5)	70 (1.1)
Spasm	10 (0.6)	21 (1.3)	14 (0.9)	17 (1.0)	15 (0.9)	67 (1.0)

*Non-specific complaints, excluding insomnia.