the consultative documents on private practice which preceded the setting up of the Health Service Board in 1976. If his views then were as they appear to be now what attempt did he, a very eminent member of the profession, make to dissuade the Secretary of State from a course which many of us foresaw would achieve the very opposite of her proclaimed objectives? I expressed my own views as a full time NHS consultant to the chief medical officer.

It would be historically interesting to know what Sir Douglas did at the time.

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AUTHOR'S REPLY.—For once I seem to be the best person to answer the question raised by Mr Garfield.

"What were my views at the time?" is easily answered: the same as now, except that my forebodings then were necessarily conjectural, and had not yet been justified, as I believe they have been, by events.

"What did I do?" The short, and misleading, answer is nothing. I did, indeed, express my misgivings within the DHSS at the time, but I could not possibly have made a public utterance at the time, for three reasons.

Firstly, as Chief Scientist I was a civil servant, in the days when, rightly or wrongly, it was still the tradition to argue one's case and then shut up if the political decision went against it. Secondly, my job in the DHSS was with the management of research, and I would have had no status in relation to NHS policy. Thirdly, I could not, in any case, have influenced a decision which was "political," and not "based on advice."

I could, of course, have spoken out and resigned, but—rightly or wrongly—I wanted to continue my work as Chief Scientist at that time.

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working party was set up. Recommendations were made, initially on an experimental basis, for schoolboys in the United Kingdom. These were supported by other unions, particularly by the New Zealand Rugby Football Union, and subsequently adopted by the International Rugby Football Board, in an attempt to make the game safer. The law changes concentrated on keeping players on their feet, both at the set scrum and in the ruck and maul; shoulders were not to dip below waist height in the scrum. With the emphasis on the safety of players recommendations were made as follows: (a) to reduce irresponsible modes of play; (b) to match players in terms of strength and skill; (c) to instil correct attitudes; (d) to provide training for specific positions.

Despite these attempts players are still being admitted to spinal centres severely paralysed as a result of injuries sustained in rugby.

To determine the overall incidence of serious spinal injury all the spinal units in the United Kingdom were circulated (table). At Stoke Mandeville, Cardiff, and Southport there was a definite decline in the incidence of serious injuries from 1970 to 1986. The figures from Sheffield were unchanged. In the 1986-7 season there were five Rugby Union admissions compared with four Rugby League admissions. The combined figures for the United Kingdom for that season were most gratifying. A comparison of the figures for the United Kingdom and South Africa, Wales, and New Zealand showed a decline in the incidence of these injuries throughout the world apart from in South Africa.

At the school and first class level there has been a sharp reduction in the number of broken necks but they are still occurring at a junior level, both in practice and where supervision is scanty. If violence enters into the game then serious injuries are much more likely to occur.

There are many more players at risk who play Rugby Union than Rugby League so there is no support for the view that Rugby League is a safer game.

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1 Silver JR. Injuries of the spine sustained in rugby. *Br Med J* 1984;288:37-43.

trampling in a ruck while playing as a back row forward for a local club. He was unable to continue the game and within half an hour was admitted to hospital complaining of chest pains. He was found to have suffered an acute inferior myocardial infarction and had confirmatory electrocardiographic and cardiac enzyme changes. His recovery was complicated by ventricular tachycardia. Cardiac catheterisation showed an area of inferior akinesis and normal coronary arteries. His exercise electrocardiogram was normal 12 months later.

Another patient, who had been a prop forward in a first class rugby team and had received numerous chest injuries (and a spinal cord injury), was found to have a large apical left ventricular aneurysm and normal coronary arteries, though this could not be ascribed to one particular injury.

Rugby football is a contact sport, and, not surprisingly, relatively large numbers of injuries occur. Most attention has been centred on spinal damage leading to paralysis, though such cases are fortunately rare²; the most common injuries are those of the limbs. About 10% of injuries affect the chest and trunk.³ The incidence of myocardial contusion due to blunt trauma in rugby is probably far greater than our three cases would suggest. Luckily, traumatic myocardial contusion seems almost always to resolve without functional sequelae.⁴ We would suggest, however, that all players developing chest pain after chest injury should be examined thoroughly for signs of myocardial damage.

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- 1 Watt AH, Stephens MR. Myocardial infarction after blunt chest trauma incurred during rugby football that later required cardiac transplantation. *Br Heart J* 1986;55:408-10.
- 2 Silver JR. Injuries of the spine sustained in rugby. *Br Med J* 1984;288:37-43.
- 3 Sparks JP. Half a million hours of rugby football. *Br J Sports Med* 1981;15:30-2.
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The need to make rugby safer

SIR,—I was delighted to read in the leading article by Dr H C Burry and Mr C J Calcinaï (16 January, p 149) of the decline in serious rugby injuries in New Zealand and hope that these law changes will be adopted universally since injuries are still occurring in the United Kingdom.

There has been great concern about the number of cervical spine injuries sustained while playing football that result in tetraplegia. In 1984 I reported on 63 patients with serious injuries sustained in games of rugby between 1952 and 1982.¹ These results were presented to the administrators of the Rugby Union at a joint meeting of doctors, rugby players, and administrators in 1983 and as a result a

SIR,—The leading article by Dr H C Burry and Mr C J Calcinaï (16 January, p 149) emphasises the need to amend the rules of rugby football to reduce the incidence of injury, particularly to the cervical spinal cord. We wish to draw attention to another type of rugby injury that we have seen in Welsh rugby players.

In 1986 we reported the case of a 28 year old man who suffered anterolateral myocardial infarction five minutes after a blow to the chest, received during a high tackle while playing rugby football,¹ and who later required cardiac transplantation. We have recently seen a 33 year old man who suffered an injury to the chest and upper abdomen due to

More than meets the eye

SIR,—The report of A R Elkington and P T Khaw (19-26 December, p 1652), clearly indicates the need for a high index of suspicion when confronted with a periorbital perforating injury.

Initial assessment, however, must always include visual field examination of the unaffected eye, as the following case from another hospital proves.

A 33 year old man was admitted with a perforating injury to the right eye after a knife attack. The patient was fully conscious and well orientated. The right eye had no perception of light due to extrusion of the uvea and retina with a full thickness corneoscleral laceration; the left eye appeared normal and had an acuity of 6/6. The patient was being prepared for surgical repair of the lacerated globe when he himself commented on a diminution of the temporal field of vision in the left eye; confrontation field testing confirmed a left temporal hemianopia. A skull radiograph subsequently showed a posterior orbital fracture and computed tomography a long track, containing air and blood, extending from the right orbit to the right temporoparietal lobe, with blood in the lateral ventricles (figure). A neurosurgical opinion was sought, and the patient underwent repair of the globe followed by craniotomy to debride the damaged area of brain. The postoperative course was uneventful, and, though the right eye remained blind, the field defect in the left eye improved to a

Serious spinal injuries (severe paralysis) caused by rugby seen in spinal injuries units in England and Wales 1980-7

	1980-1	1981-2	1982-3	1983-4	1984-5	1985-6	1986-7
Stoke Mandeville	9	5	3	2	3	3	2
Wales			2	2	1		
Midlands	1		1	2		2	
Odstock				2	1	1	2
Wakefield			2	1		1	
Southport						1	
Sheffield		1		1	1	1	1
Stanmore					1		
Total in England:Wales	10:0	6:0	6:2	8:2	6:1	9:0	5:0

One English unit saw no severe injuries.