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Good Weekend

MARCH 16, 2019

SATURDAY
THE AGE



BRAIN STORM

The concussion class action that could punch a hole in Aussie rules football

BY *Konrad Marshall*

Melbourne's Shaun Smith, one of the ex-players threatening to sue, hits the ground after attempting a mark in 1998.



H E A D C A S E

Several former Aussie Rules stars are threatening to sue the AFL for memory loss and other cognitive issues they say stem from on-field concussion. But the science in this most emotive of areas is anything but clear.

BY *Konrad Marshall*

UNDER LIGHTS in a drifting rain, a flaccid windsock flops about as 44 footballers slip, slide, trip and collide on an oval east of Adelaide. It's a Friday night game in the South Australian National Football League (SANFL), and commercial lawyer Greg Griffin is among a crowd of a few thousand swilling Coopers Ale and scarfing Vili's Pies.

He proudly wears his red and white North Adelaide scarf, and cheers with provocative volume as his team takes a lead against Norwood. Unfazed to be the lone Rooster barracker in the Redlegs grandstand, he roars good-naturedly about incompetent umpires and unskilful players and generally makes his presence known. That's his shtick. He has been a wily player agent for decades, helped establish the SANFL Players

Association, and until recently was the dial-a-quote chairman of A-League soccer team Adelaide United.

Now, though, Griffin is angling to become a thorn in the side of the Australian Football League, this time representing ex-players - including a premiership ruckman, a Brownlow Medal-winning rover, and the man who once plucked what is commonly called "The Mark of the Century" - who are dealing with crippling memory loss, frightening mood swings and despairing cognitive issues they attribute to repeated concussions suffered throughout their careers. A lawsuit could be filed as soon as this winter, he says, which will allege that the AFL breached its duty of care by allowing players to routinely return to the field on the same day after suffering a serious hit, and almost always play again the week after such hits, leading to the devastating maladies they now endure.

The case is well timed. Concussion is big news. The finer details of a class action brought against the National Football League (NFL) in the United States were settled in 2017 with a fund to compensate thousands of damaged gridiron players; it has already handed out more than \$US629 million (\$895 million). As more claims are lodged, the estimated payout could balloon to as much as \$US1.4 billion. A similar but smaller suit, resisted at first by America's National Hockey League, was settled in November on behalf of potentially 318 players.

Meanwhile, in the modern AFL news cycle, talk of concussion is ubiquitous. Roughly five dozen concussions are recorded every season, and every "ding" creates its own reverberation of commentary and dissection over the dazed victims and scrutinised perpetrators. Not only that, but the list of young players



cutting their careers short after being hit in the head too hard or too often (or both) continues to mount. Griffin, in the top-floor office of his Adelaide law firm – a four-storey building with 35 staff, walls plastered with signed sports memorabilia – summarises the charged landscape, at least as he sees things.

“We say that AFL is an inherently physical and dangerous sport, and that there is an acceptance by the players – to a degree – of risk,” he says. “That’s the starting point.” But, he adds, pointing a finger, there are ways in which those who administer the game can and should ensure the game is not dangerously violent. “And up until the past handful of years, that has not been the case.”

In November 2017, he began building a Federal Court action, and the stories of the plaintiffs – from their playing days in the 1990s to their lives now – were trickled to media. First there was roguish Geelong and Essendon flag ruckman John Barnes, 49, now dealing with random, horrifying seizures. Then there was Hawthorn’s champion rover John Platten, 55, struggling to cope with acute memory loss. Also on board came former Melbourne and North Melbourne high-flyer Shaun Smith, 49, beset by painful mood swings,

anxiety and depression. Griffin claims close to 100 former footballers with similar issues have shown interest in the suit, although at this point only five have signed up. As the stories rolled out, a turbulent and litigious era seemed foretold for footy, at least according to headlines such as “Brain injury in sport: the new asbestos?” and “AFL facing a concussion Armageddon”.

Yet the concussion conundrum is not so simple. Experts in neuroscience, sports law, AFL administrators, club doctors, former players and union officials mostly agree that the science behind this issue is far from settled, while the medico-legal complexities remain unexplored. “There’s so much we don’t know – so many questions we have to answer,” says neuroscientist Dr Alan Pearce, who discovered cognitive impairments in the likes of Barnes, Platten and Smith, and dozens more, almost a decade ago, and has since seen the concussion discussion see-saw wildly between secrecy and hyperbole, sensationalism and denial. “Uncertainty – it’s driving this vast difference of opinion,” he sighs. “I just wish we had more people talking.”

IT CAN be difficult to even define the elusive condition, but let’s try.

Concussion is a transient injury caused by any jolt to the head (or body) that delivers an impulsive shock to the brain, causing it to rock back and forth in the skull, or twist on its axis. It is a “neurological disturbance” rather than a structural injury, and hides itself well. It will not show up under X-ray or CT scan or MRI, or in tests of blood and saliva. In fact, concussion is only diagnosed through an examination of overt symptoms such as dizziness and confusion. These symptoms can manifest instantaneously – or hours later. They can linger for months – or disappear within minutes.

That’s the jumbled, evolving clinical definition. For what it looks like in practice, it’s worth revisiting the Channel 7 highlights special known as *Biffs, Bumps and Brawlers*, hosted in 2001 by effervescent former footy

caller, Rex Hunt, who gleefully introduces a hits package he says “would make a 16-stone wharfie cry”. What follows is an hour of collisions from the 1960s through to the 1990s that send men to the turf, where they lie unresponsive, twitching, or groggily struggling to stand. What stands out most is the celebratory commentary. An elbow to the temple: “Bang! Got him a beauty!” A coat-hanger forearm: “Ho-ho! Fixed him up!”

“You might think we’ve been glorifying the biff here, folks. Not at all,” Hunt assures the viewer. “We’re just showing you how much the game has changed.”

And the game *has* changed, in particular in the past decade, as the AFL began instituting a series of rolling improvements in both playing rules and the strictures for treating heavy hits. In 2008, the league codified the way players need to be assessed after head knocks. In 2009 and 2010, and a handful more times since, they tweaked the laws of the game, curtailing reckless high bumps and potentially dangerous tackles. Fans wrung their hands over the sanitisation of a contact sport, but then-league CEO Andrew Demetriou remained unbowed. “The head,” he famously said, “is sacrosanct.”

As a result, the game evolved. Now, a clumsy but unintentional hit to the head can lead to a longer suspension than a spiteful punch to the body. A tackle that pins the arms of an opponent (once technically perfect) is now illegal if the tackled player’s head hits the ground. On the bench, clubs have access to the Hawk-Eye sideline vision system, so doctors can replay any blow, from seven different camera angles, on a touch-screen tablet. This coming season, “spotters” will be employed by the AFL to scan vision as games unfold, looking for potential “concussional events”.

The case that the AFL must answer, then, relates to what happened before all that, in the time of biffs, bumps and brawlers – the time of lead plaintiff John Barnes. The blond ruckman retired in 2001 after 20

games in a career that began in 1987. Sitting in his gleaming kitchen in Essendon, a few blocks from the Bombers’ old training ground, Barnes recalls cutting his teeth against “absolute monsters” as a teenage stripling from country Victoria. “You continually got the shit kicked out of you. You look at the ball and *bang*, your nose is broken. You go into a pack and *bang*, it’s broken back the other way. You can’t see because there’s blood in your eyes. Your mum asks how you’re doing and you say you’re fine, but you’re not.”

Today, when a player is hit in the head during a game, the gears of league protocol whirl into action. The club doctor approaches the dazed player and asks various questions – *What team are you playing on? What’s the score? What day is it?* – and looks for red flags such as nausea or disorientation. Then the player rests before undergoing a heavily proscribed battery of tests known as the SCAT5 (Sport Concussion Assessment Tool, fifth edition), checking everything from gross motor skills to balance, memory and recall. If they’re diagnosed with concussion, they’re out of the match. “In our day,” says Barnes, “you got hit, they ran a finger in front of your eyes, and then it’s ‘Yep, you’re right to go’. If you asked to come off the ground, the attitude was, ‘You might as well go home, weak prick.’”

Rowena Barnes has been married to John for 31 years. Her mind turns to what the couple estimate were a dozen serious concussions in his career. The fallout, she believes, has been catastrophic. Beyond leaving stoves on or putting Weet-Bix in the freezer, six years ago he was diagnosed with epilepsy. Rowena recently awoke in bed as a seizure took hold, hearing him choke through convulsions. When he recovered, he remembered nothing. “He just looked around the bedroom and asked, ‘Who are these people?’” Her voice breaks now. “They were his sons!”

There is no hereditary explanation for Barnes’s epilepsy, according to Dr Mark Cook, the neurologist who treats him. But large studies of people with traumatic brain injuries, he says, show an increased risk of epilepsy. “Even through mild brain injuries, the risk is at least doubled.” Cook, a professor, is also chair of medicine at the University of Melbourne, and head of neurology at St Vincent’s Hospital in East Melbourne. He says the connection between hits and seizures is self-evident. “I don’t understand why that’s a difficult thing to accept,” Cook says, bemused. “To excuse the pun, it’s a no-brainer.”

There is a wealth of scientific inquiry establishing a connection between repeated head injuries and an increased risk of long-term neurodegenerative conditions – everything from motor neurone disease to Parkinson’s. An American study of retired professional football players from as far back as 2005 found that three or more documented concussions correlated with a five-fold prevalence of cognitive impairment later in life. The main issue Griffin’s court action hopes to address, however, is the idea that the plaintiffs were allowed (or expected) to play (and train) when they had not fully recovered – and the earliest local study into concussion offers some support for this contention. It was done by Melbourne University and was based on data gathered from 130 players at three clubs – Melbourne, Geelong and Fitzroy – between 1989 and 1992. It found that symptoms such as headache or nausea disappeared within hours or days of a hit, but decision-making and speed of processing were often impaired for weeks.

“It caused quite a ruction,” says professor Michael Saling, a co-author of the study, “because players usually would go back to play within minutes after an event, and some of them were noticeably disoriented on the field.”

And yet, it is worth considering a competing body of evidence from Dr Nathan Gibbs, head doctor for the Australian Wallabies. Gibbs compiled his own research over 12 years while club doctor for the Sydney Swans, and in 2017, published his surprising results. In the aftermath of the 140 concussions he recorded, every Swan played the following week. And their immediate



SHAUN SMITH



JOHN BARNES



JOHN PLATTEN

Three of the ex-players set to feature in a suit against the AFL for being allowed to play while injured.

performance – based on a mark out of 20 given by the coach – was unaffected. “They played *well*,” Gibbs says. “The outcomes were good.”

At every turn, the debate around concussion is mad-deningly muddled by findings and counter-findings, and perhaps also by the tendency of media to latch on to the chronic traumatic encephalopathy (CTE) story from America. CTE – a condition that can only be diagnosed post-mortem, and which was first found in boxers under the descriptor *dementia pugilistica* (also known as “punch-drunk syndrome”) – is believed to develop in gridiron players as a result of the “sub-concussive impacts” that arise when gigantic men use their helmets to butt heads thousands of times throughout a career. But that incremental, insidious damage is quite different to the big, rare blows that befall AFL players. The codes are not “concussion cousins”.

CTE MIGHT never be found in retired AFL players, but if it is, Michael Buckland will be the first to know. Buckland runs the neuropathology department of RPA Hospital, in Sydney’s inner west. He examines a few brains every week for a living, mostly for the NSW State Coroner. He is also head of the Australian Sports Brain Bank, launched a year ago. A handful of high-profile sportsmen pledged their brains to the bank that day, including retired AFL player Daniel Chick, former National Rugby League (NRL) star Ian Roberts, and former Wallaby (now journalist) Peter FitzSimons. More than 50 athletes have since pledged their brains.

Only one Australian brain had, until that point, been diagnosed with CTE; that of former rugby union player Barry “Tizza” Taylor, who died in 2014 aged 77. His brain, studied in America, displayed all the hallmarks of severe CTE. The case became a cause célèbre. More such added minds were expected to turn up, but science moves methodically, and not always in the direction you might expect.

Buckland’s local brain bank recently finalised its first analysis of an Australian rules footballer, a deceased West Australian Football League player. The grey matter of South Fremantle rover Ross Grljusic – who sustained multiple concussions and died of dementia in a nursing home last year, aged 76 – showed no signs of CTE.

“Initially we were disappointed,” admits Buckland. “But the more I thought about it the more I thought, ‘This is good.’ It’s good that we’re not just seeing CTE everywhere we look. Many people feel like if they’ve had a couple of concussions, they’re going to get CTE. But that’s not necessarily the case, and it’s just as important to get that message out.”

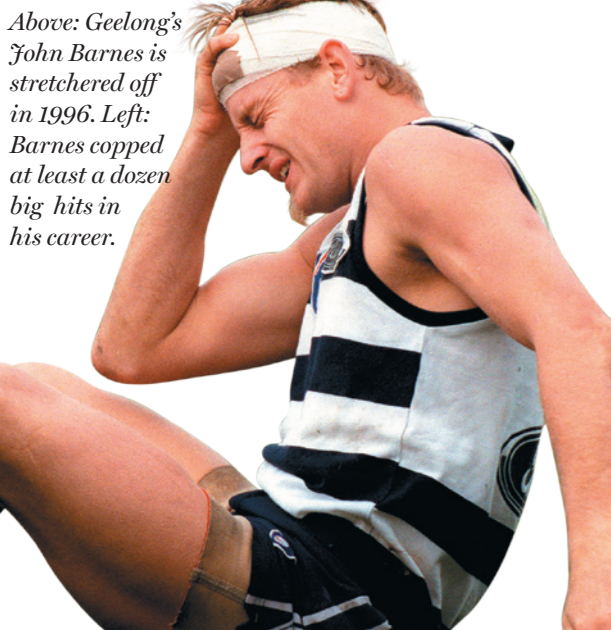
It’s not the only piece of evidence suggesting CTE might not pose an existential threat to Aussie Rules. Hannah Blaine is a neuropsychologist working with children in Queensland, but in 2013 she was a master’s student under Melbourne University’s Michael Saling, when she began a 25-year follow-up with a portion of his initial sample of players. They’re lawyers and politicians now, schoolteachers and farmers and pub owners, and Blaine had them pushing buttons on reaction-time machines. “They were all very keen to help out,” she says. “Most were pretty on edge about what the results might show.”

Yet the ex-players tracked well – within normal limits. The one who performed best had reported 20 concussions throughout his career. Within certain circles, the preliminary findings were unwelcome. Saling and Blaine remember presenting them to the International Neuropsychological Society in 2015, at a Sydney hotel. The conference room was consumed by immediate anger. Outrage. A group of North American researchers mocked the work because two members of the original sample weren’t re-tested.

“I’ve never seen anything like it at a scientific meeting,” says Saling. “One young scientist got up and began to scream that this was all invalid and incompetent.”

Blaine guesses the findings didn’t fit their narrative. “It was strange,” she adds. “I don’t think people were necessarily ready to hear that anyone was doing okay.”

WHEN IT comes to concussion and the court of public opinion, the AFL does itself no favours. Requests to interview league CEO Gillon McLachlan, or chief medical officer Dr Peter Harcourt, or a member of its concussion working group, were either ignored, or suggested as a possibility and later ignored. An official might background a journalist, but without recordings, lest the tape be subpoenaed in court. All questions were to be submitted by email. And where most AFL press issues are handled by a day-to-day media manager, on concussion *Good Weekend* was directed to Elizabeth Lukin, the general manager of corporate affairs who was, in another life, the preferred crisis manager for every footy scandal from the fall of Ben Cousins to the Essendon supplements saga.



Above: Geelong’s John Barnes is stretchered off in 1996. Left: Barnes copped at least a dozen big hits in his career.



Melbourne's Shaun Smith being taken off following a 1998 collision with a teammate.

Two years ago, a public push emerged for impartial medical experts to assess concussion on the sidelines, instead of leaving the decision in the hands of club doctors. (America's NFL has independent neurotrauma experts in place for exactly this reason.) The official response from the AFL at the time was encouraging: "There is no reason why we would stagnate if there are other measures that can be implemented," said then-GM of football, Simon Lethlean. "There is no sense we are sitting on our hands." But nothing has changed.

Then there is the AFL's longstanding relationship with associate professor Paul McCrory, an eminent neurologist and member of the league's Concussion Working Group. McCrory was once the Collingwood Football Club doctor and has consulted on medical policy issues for seemingly every big sporting organisation in the world (AFL, NRL, NFL and so on). He doesn't speak to the media, but a sense of his position – or scepticism – can be gleaned from a presentation he made in 2016, *The Concussion 'Crisis' – Media, Myths and Medicine*. Delivered to colleagues at Melbourne's Florey Institute of Neuroscience and Mental Health, where he is a fellow (and which also offered no comment), McCrory barely hid his contempt for the way the concussion story has unfolded in public. He dismissed the NFL's catastrophic concussion problem as "carry-on and hoo-ha". He listed characteristics that many experts include in their definition of concussion, such as the shearing of brain cells, then waved them away: "None of that occurs."

He is troubled that footy fans still revere the warriors who dole out hits, and laud the courage of the recipients. He admits that players were once routinely returned to the fray in a perilous state: "This was life," he noted. "People used to be put down in the forward pocket, swaying gently in the breeze until they could gather their wits and continue to play."

And he fears that the overwhelmingly healthy pursuit of contact sport might be demonised by our fascination with concussion and CTE. Scottish neuropathologist Dr Willie Stewart is a fierce advocate for the link between traumatic brain injury and CTE, yet wrote a piece in the current issue of *The Lancet* in which he echoed McCrory's condemnation of the inaccurate way concussion is often covered by media. He had a name for it: "science by press conference".

But the derisive tone of McCrory, along with his powerful position as chair of the international Concussion

in Sport Group, which meets every four years to thrash out the latest research on concussion and build a "consensus statement", has made him a lightning rod for those concerned about the issue. Boston University's Dr Robert Cantu, the foremost "return to play" expert in the world, is a founding member of that group, and not at all favourably disposed towards its leader. "I am amazed, quite frankly, at his traction within the academic community of Australia," Cantu says. "He is dragging the feet of science in terms of connecting the dots, in my opinion."

Adelaide lawyer Greg Griffin is blunter still: "I refer to him as head spokesman for the Flat Earth Society."

SO WHAT can be done to address concussion? Platten, Barnes and Smith are calling for awareness, education, and the most common solution put forth: that concussed players sit out the next game, or even the next few – a mandatory rest period. (According to the AFL's own figures, four out of five concussed players line up on the field a week later, a rate that shocks Cantu: "That seems ... excessively high.")

A blanket rest rule, however, is unlikely to be applied. For one thing, concussion is an individual condition. While some players might need three weeks to recover, others feel better within hours of a blow. Imagine a rule that says a healthy star midfielder can't play in the grand final on Saturday because he was concussed last Sunday. More importantly, if players know concussion will rule them out, the logical (and stated) fear of both the AFL and the AFL Players' Association is that players will conceal their symptoms to keep playing, forcing concussion underground.

Helmets are popular in junior leagues and often mentioned as a potential panacea for the senior ranks, and a handful of AFL players do wear them (often after suffering numerous concussions), but there is no evidence that they protect against anything but superficial cuts and bruises. That could be about to change, however, with a new black rubber helmet called the Hexlid, which looks somewhat like a cross between a golf ball and a spiderweb, and which should be released

later this year. Independent biomechanics expert Dr Andrew McIntosh has spent the past few years doing tests on various helmets using headforms and anvils, and says the Hexlid prototype could reduce the likelihood of concussion by half. "It could be a game-changer," McIntosh says, "but I want to see the final version, and any claim needs to be assessed in the laboratory and in a randomised control trial."

New research is always underway. This coming season, players from Essendon, Carlton and the Western Bulldogs (plus four NRL clubs) will wear a new "smart" mouthguard – the Nexus A9 by HitIQ – which will record impacts in three dimensions, and one day potentially help in diagnosing concussion. For the past three years, the AFL has invested in functional MRI testing of current and former AFL players exposed to head knocks, as part of its research program. Beyond that, promising work is being led by associate professor Sandy Shultz at Monash University's department of neuroscience into concussion's holy grail: blood and saliva biomarkers being used to spot concussion.

Shultz began with "pre-clinical models", by which he means rats, which wear tiny 3D-printed helmets and are then given a concussion with a mechanical device. Now he's working with amateur football teams, and recently expanded his study to include women, a necessary field of inquiry. Women in the first two seasons of AFLW were concussed twice as often as their male counterparts, and their symptoms persisted longer. Biology could play a part – from menstruation to relative neck strength – but the disparity could be explained by honesty. (Women are considered more likely to report a concussion, and be truthful about ongoing symptoms.)

Awareness is filtering down from the professional setting, too. The AFL and NRL have both recently moved to ban tackling in some junior age groups. A new HeadCheck app, filled with identification and treatment tips, was recently shared with sporting clubs across the country. Only a few weeks ago, the Australian Institute of Sport released a cautious position statement on concussion in sport. The 30-page paper is summed up by a slogan that any athlete, from any sport, at any level, should probably adopt: "If in doubt, sit them out."

FOR THE plaintiffs, however, the way forward has little to do with rules or research but instead the establishment – or rather, reinstatement – of a safety net afforded most employees in this country yet not to

professional athletes: workers' compensation. When you or I are injured on the job, we're theoretically entitled to support through whatever workers' compensation scheme exists in our state. These schemes offer various "no fault" benefits, including lump-sum payments – but not to professional athletes.

It wasn't always this way. Things changed four decades ago, says Brendan Schwab, speaking from Switzerland, as boss of the peak body for athlete unions, the World Players Association. Schwab, an Australian labour lawyer whose family has extensive historic ties to the AFL, says local laws were amended in 1979 with the expressed goal of excluding athletes. Injury in sport, he says, was a risk that had to be borne. "And because athletes weren't organised at the time, the entire risk was put onto them," Schwab says. "They were just carved out of the legislation."

Some of the lost ground has been gained through collective bargaining by player associations. If an AFL player has to quit footy because of concussion, for instance, they can apply for a "football-ending injury payment". Later, the lifetime health-care provision helps reimburse medical expenses. There's the hardship fund for players in special, stricken circumstances, but the limit is about \$20,000. "The reality is there's a finite amount of money," says James Gallagher, the

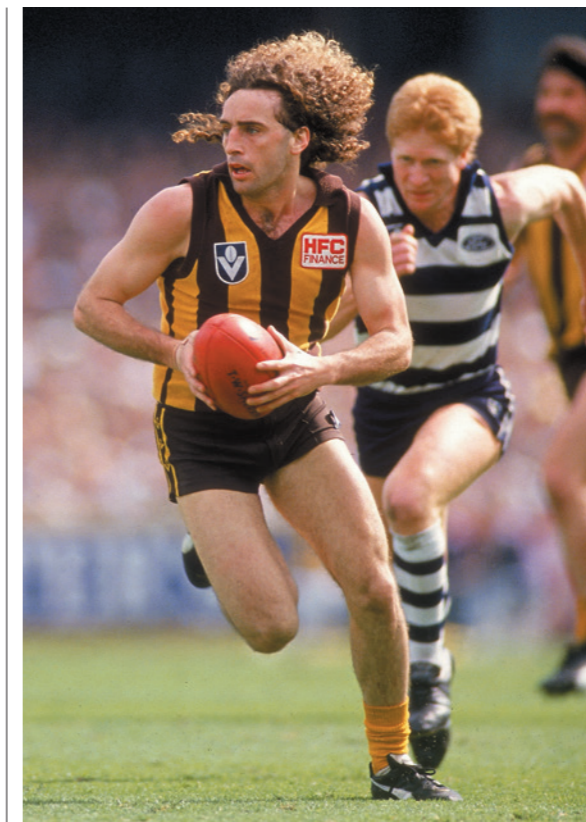
AFL Players' Association's GM of legal affairs. "We don't have never-ending pockets."

Peter Gordon, the Western Bulldogs president and a class action lawyer, concedes that the financial burden of permanent damage to AFL players has not been adequately addressed, especially in relation to concussion. "For a player who was going to be a teacher, but can't [be one] anymore, we need to look after them for the entire period they're affected," says Gordon, "which may be decades." (Barnes, for instance, loves working as a garbage collector, but his epilepsy means he can no longer drive the heavy trucks, instantly cutting his annual income by \$30,000.)

Speaking to Peter Jess, the accountant and player agent responsible for bringing the plaintiffs together for Griffin's potential class action, one gets the sense that a better-funded income-protection scheme might be the long-game goal of the proposed lawsuit. "I keep telling the AFL, 'We shouldn't have to sue you to get proper rights for players. You should be taking care of them. Don't make us use the courts as a battering ram.'"

He might want to take his own advice, too. Using the courts will be difficult. Before the legal action even begins, it will need financial backing for expensive research and pricey barristers. "It's a commercial investment, so any litigation funder will be vigilant," says one expert. "They're not a charity." The court will then need to be satisfied that this group of plaintiffs – a diverse cohort of ageing footballers – can even be certified as a class. "Did the harm arise in the same era? Did some of the damage happen in junior football? Were they playing in a state league?" asks Annette Greenhow, a sports law expert at Bond University. "Whether they can be grouped is a very real threshold issue."

Then there's the question of whether the league is even the appropriate body to sue, rather than the clubs



Hawthorn's John Platten in the 1989 grand final against Geelong. After he was hit late in the first quarter, he couldn't remember any of the play.

themselves. But the biggest potential hurdle is what lawyers call causation – establishing a link between old injuries and new symptoms – which will involve wading through the testimony of doctors, the scientific work of Saling and Cantu, Shultz and Buckland, Blaine and

Pearce, Stewart and McCrory and many more, before deciding what weight to give their various correlations and associations, or refutations. Professor Jack Anderson, director of sports law at the University of Melbourne, says the mesothelioma class actions of the 1980s come to mind: "You had these asbestos companies saying, 'We did the best we could, given the knowledge we had at the time.' Is that going to be replayed now, in the AFL?"

If a creeping sense of doubt surrounds the lawsuit, it is exacerbated by the delay. Fourteen months have passed since the suit was mooted, and no statement of claim has been lodged. No tidal wave of former players with similar stories has publicly emerged. Gordon, perhaps uniquely qualified to comment as both a football administrator and someone who ran class actions against Big Tobacco and the Catholic Church, can't see a way forward. "I do think it's unfair to place the league's conduct in the area of wrongful, because I don't think it is," Gordon says. "Honestly, I think a class action would struggle."

None of this, however, spells doom for change in the way football deals with concussion. In the US, the NFL and the National Hockey League spoiled for a fight before ultimately settling. And being underestimated will not dent Griffin's enthusiasm or zeal. Perhaps it's reading too much into the simple act of supporting a team, but even the phrases the lawyer roars from the grandstand at Norwood Oval tonight seem connected to the class action. "High contact!" A plea to protect the players? "Where's his head, umpire?!" A man seeking a judgement? "Have a shot!" needs no explanation.

Griffin tells me his father, a cricket fan, used to say that not many centuries are made from the pavilion. "Dad was right. You've gotta get involved," he says, smiling as the half-time siren sounds. "You don't kick any goals from the grandstand either." ■